

Lucent Technologies
Bell Labs Innovations



DACS II Network Director (DND) Release 1.0 User's Manual

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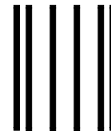
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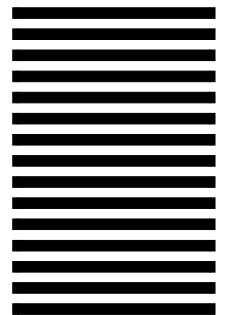
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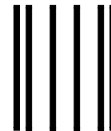
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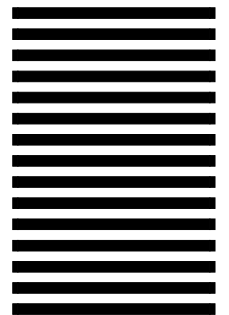
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Contents

	About This Manual	xxix
	■ Overview	xxxix
	■ About This Release	xxxii
	■ Manual Contents	xxxiv
	■ Additional Documentation	xxxviii
	■ How to Order Documentation	xl
	■ How to Comment on This Manual	xli

1	Introduction	1-1
	■ Background	1-3
	■ Network Description	1-4
	■ Minimum Setup Requirements	1-9
	■ DND Features	1-11

2	Getting Started	2-1
	■ Background	2-3
	■ Configuring the DACS	2-4
	■ The Common Desktop Environment (CDE)	2-5
	■ The Netscape Browser	2-7
	■ Login Ports	2-10
	■ Time Zone	2-11
	■ Network Printing	2-12
	■ Summary of Menus and Forms	2-14

Contents

3	DND Main Window and Form Navigation	3-1
	■ Background	3-4
	■ The DND Main Window	3-5
	■ Navigating through the DND Main Window	3-15
	■ DND GUI Forms	3-17
	■ Parts of a Form	3-18
	■ Navigating through Forms	3-22
	■ Control Options Box	3-26

4	Equipment Views	4-1
	■ Background	4-3
	■ Using Equipment Views	4-4
	■ Displaying Equipment Views	4-6

5	DACS Provisioning	5-1
	■ Background	5-3
	■ X.25 Link	5-5
	■ SNIDER Link	5-8
	■ DACS Provisioning Verification	5-10
	■ Changing the Site Name of a DACS	5-11
	■ Deleting a DACS	5-12
	■ Field Descriptions	5-13

Contents

6	End User Provisioning	6-1
	■ Background	6-2
	■ The End User Provisioning Form	6-3

7	Intertie Provisioning	7-1
	■ Background	7-2
	■ The Intertie Provisioning Form	7-3
	■ Intertie Features	7-8

8	NPC Provisioning	8-1
	■ Background	8-3
	■ General Information	8-5
	■ NPC Types	8-6
	■ DND Supported NPC Addressing	8-9
	■ Performance Monitoring	8-13
	■ The NPC Provisioning Form	8-17
	■ NPC Provisioning ERP	8-34

9	Circuit Provisioning	9-1
	■ Background	9-5
	■ General Information	9-7
	■ TS0 Circuit Feature	9-10
	■ Circuit Types	9-12
	■ Circuit Packs and Related Circuit Types	9-25
	■ Alternate Routing	9-27

Contents

■ Preempting Conditions	9-29
■ Normalizing	9-31
■ Circuit Trace	9-32
■ Circuit Provisioning Form	9-36
■ Circuit Provisioning ERP	9-61

10	Database Audit/Synchronization	10-1
	■ Background	10-3
	■ Database Audit	10-5
	■ NPC Audit	10-6
	■ Channel Audit	10-8
	■ Database Synchronization	10-10
	■ NPC Synchronization	10-11
	■ Channel Synchronization	10-13
	■ Upload	10-19
	■ Other Features and Constraints	10-21
	■ Audit/Synchronization Form	10-22

11	DACS Message	11-1
	■ Background	11-2
	■ DACS Message Functionality	11-3
	■ The DACS Message Form	11-5

Contents

12	Report Operations	12-1
	■ Background	12-4
	■ Using Report Forms	12-5
	■ Alarm Log Report Form	12-7
	■ Circuit Alarms Report Form	12-14
	■ NPC Alarms Report Form	12-20
	■ Common Equipment Alarms Report Form	12-24
	■ Circuit Report Form	12-26
	■ Channel Report Form	12-34
	■ NPC Report Form	12-38
	■ Database Audit/Synchronization Report Form	12-43
	■ Echoed Response Processing Report Form	12-47
	■ Intertie Reports	12-50
	■ New Alarm Summary Report	12-51

13	Test Access	13-1
	■ Background	13-3
	■ Test Groups	13-5
	■ Monitor Test Access	13-6
	■ Monitor Test Access	13-7
	■ Split Test Access	13-10
	■ HUB Test Access	13-14
	■ The LOOP Action	13-16
	■ Test Access Form	13-17

Contents

14 **Getting Started General Tasks**

- Logging In to the DND GUI System GT 20-1
- Logging Out of the DND GUI System GT 21-1
- Setting the Time Zone GT 22-1

15 **DND Workspace General Tasks**

- Replacing the DND Workspace Background Image GT 30-1

16 **DACS Provisioning General Tasks**

- Creating a DACS, X.25 Link GT 50-1
- Creating a DACS, SNIDER Link GT 51-1
- Restoring a DACS GT 52-1
- Restoring an X.25 Backup Link GT 53-1
- Modifying a DACS GT 54-1
- Changing the Site Name of a DACS GT 55-1
- Removing a DACS GT 56-1
- Deleting a DACS GT 57-1

17 **End User Provisioning General Tasks**

- Creating an End User GT 60-1
- Modifying an End User GT 61-1
- Deleting an End User GT 62-1

Contents

18 Intertie Provisioning General Tasks

- Creating an Intertie GT 70-1
 - Modifying an Intertie GT 71-1
 - Adding NPCs to an Intertie GT 72-1
 - Deleting NPCs from an Intertie GT 73-1
 - Deleting an Intertie GT 74-1
-

19 NPC Provisioning General Tasks

- Creating an NPC GT 80-1
 - Creating a DSPU NPC GT 81-1
 - Restoring an NPC on a DACS GT 82-1
 - Modifying an NPC GT 83-1
 - Removing an NPC from a DACS GT 84-1
 - Deleting an NPC from a DACS GT 85-1
 - Placing an NPC in Loopback Mode GT 86-1
 - Removing an NPC from Loopback Mode GT 87-1
-

20 Circuit Provisioning General Tasks

- Activating or Pending a New Circuit, Full or Half Duplex GT 90-1
- Activating or Pending a New Circuit, Digital Multipoint Bridge GT 91-1
- Modifying a Circuit GT 92-1
- Combining Multiple Circuits GT 93-1
- Adding a Leg to a Broadcast Circuit (BCON) GT 94-1
- Deleting a Leg to a Broadcast Circuit (BCON) GT 95-1
- Changing the Return Path for a Broadcast Circuit GT 96-1
- Creating an Alternate Route Circuit for an Existing Circuit GT 97-1
- Normalizing a Circuit GT 98-1

Contents

- Deactivating a Circuit GT 99-1
- Deleting a Circuit GT 100-1
- Performing a Circuit Trace GT 101-1

21 Database Audit/Synchronization General Tasks

- Performing an Alarm Synchronization GT 103-1
- Performing a Channel Audit GT 104-1
- Performing an NPC Audit GT 105-1
- Performing a Channel Synchronization GT 106-1
- Performing an NPC Synchronization GT 107-1
- Performing an Upload GT 108-1
- Performing an Abort GT 109-1

22 DACS Message General Task

- Sending a Message to the DACS GT 110-1

23 Report Operations General Tasks

- Generating Reports GT 120-1
- Generating an Alarm Summary Report GT 121-1

Contents

24	Test Access General Tasks	
	■ Performing Circuit Test Access in Monitor Mode	GT 130-1
	■ Performing an Unmapped Test Access in Monitor Mode	GT 131-1
	■ Performing Test Access in Split Mode	GT 132-1
	■ Performing a HUB Test Access Connection	GT 133-1
	■ Terminating or Underterminating the Test Group Signal	GT 134-1
	■ Releasing a Test Access Connection	GT 135-1
	■ Looping a Test Group Signal	GT 136-1

A	Summary of Fields for Customized Reports	A-1
	■ Background	A-3
	■ ALARM LOG Reports	A-4
	■ CIRCUIT ALARMS Report	A-6
	■ NPC ALARMS Report	A-9
	■ COMMON EQUIPMENT ALARMS Report	A-11
	■ CIRCUIT Report	A-12
	■ CHANNEL Reports	A-17
	■ NPC Report	A-19
	■ ALTROUTES/PREEMPTIONS Reports	A-30
	■ RECONFIGURATION PLANSReports	A-31
	■ RECONFIGURATION PLAN ALTRROUTE Reports	A-32
	■ AUTO RECONFIGURATION PLAN Reports	A-34
	■ OUTAGES Reports	A-36
	■ TEST PORT Reports	A-37
	■ TEST ACCESS Reports	A-39
	■ FRAMES/LINKS Reports	A-41
	■ USER ADMINISTRATION Reports	A-43
	■ LOST RESPONCE LOG Reports	A-44
	■ 24-HOUR PERFORMANCE MONITORING STATISTICS Reports	A-45

Contents

B	Error Messages	B-1
	■ Background	B-2
	■ Status Error Messages	B-3
	■ Troubleshooting	B-12

C	Getting Started - DND Forms Interface	C-1
	■ Introduction	C-1
	■ Configuring the Frame	C-1
	■ Setting/Changing Default Form Values for NPC and Circuit Provisioning	C-6
	■ Time Zone	C-8
	■ Logging Into the DND Forms Interface	C-10
	■ The Common Desktop Environment (CDE)	C-12
	■ Administering X.25 Links	C-14
	■ Administering Frames	C-14
	■ Configuring Login Ports	C-14
	■ Changing Passwords	C-15
	■ Using the System	C-16
	■ Summary of Menus And Forms	C-34

D	System Administration	D-1
	■ Introduction	D-1
	■ SYSTEM ADMINISTRATION Menu	D-2
	■ LOGIN PORTS	D-3
	■ X.25 LINK ADMINISTRATION	D-7
	■ FRAME ADMINISTRATION	D-11
	■ PRINTER ADMINISTRATION	D-32

Contents

■ SHUTDOWN	D-41
■ DATE and TIME	D-45
■ SYNCHRONIZE FRAME DATE & TIME	D-48

E	NPC Provisioning - DND Forms Interface	E-1
	■ Introduction	E-1
	■ NPC PROVISIONING Form	E-2
	■ NPC Provisioning Examples	E-19

F	Test Port Provisioning	F-1
	■ Introduction	F-1
	■ Test Port	F-2
	■ TEST PORT PROVISIONING Form	F-3

G	Circuit Provisioning - DND Forms Interface	G-1
	■ Introduction	G-1
	■ CIRCUIT PROVISIONING Form	G-2
	■ CIRCUIT PROVISIONING Form	G-3
	■ Field Descriptions	G-4
	■ Circuit Provisioning Examples	G-20
	■ Altrouting	G-45
	■ Altrouting and Normalizing Examples	G-51
	■ High-rate Circuits	G-57
	■ Multipoint Circuits	G-61
	■ NPC ROLL	G-62
	■ TS0 to Non-TS0 Circuits	G-68

Contents

H	Reconfiguration Plans	H-1
	■ Introduction	H-1
	■ Single Plans	H-3
	■ Reconfiguration Plan Examples	H-10
	■ Modification Plan Examples	H-14
	■ Automatic Plans	H-17
	■ Automatic Reconfiguration Plan Examples	H-21

I	Database Administration - DND Forms Interface	I-1
	■ Introduction	I-1
	■ Database Administration Menu	I-2
	■ Backing Up and Restoring DND Databases	I-19
	■ Entering and Retrieving Outage Data	I-32
	■ Moving a Database from One DND to Another	I-38

J	Task Administration	J-1
	■ Introduction	J-1
	■ TASK ADMINISTRATION Menu	J-2

K	User Administration	K-1
	■ Introduction	K-1
	■ Constraints	K-2
	■ USER ADMINISTRATION Menu	K-2

Contents

L	Passthrough	L-1
	■ Introduction	L-1
	■ Passthrough	L-2
	■ Multiplexed Passthrough	L-3
	■ Full Passthrough	L-7
	■ Using Passthrough Selections	L-9
	■ Frame Command Script	L-12

M	Report Operations - DND Forms Interface	M-1
	■ Introduction	M-1
	■ REPORT OPERATIONS Menu	M-2
	■ Report Categories	M-9
	■ Custom Report Formats	M-18

N	Test Access - DND Forms Interface	N-1
	■ Introduction	N-1
	■ TEST ACCESS Form	N-2
	■ Test Access Examples	N-9

O	Fault Management	O-1
	■ Introduction	O-1
	■ Alarm Notification Feature	O-2

Contents

P	24-Hour Performance Monitoring	P-1
	■ Introduction	P-1
	■ Scheduling Performance Monitoring Reports	P-4
	■ Scheduling Performance Monitoring Reports	P-5
	■ 24-Hour Performance Form	P-6
	■ 24-Hour Performance Monitoring Examples	P-10

AB	Abbreviations and Acronyms	AB-1

GL	Glossary	GL-1

IN	Index	IN-1

Figures

1-1.	Example DND Network Configuration	1-5
1-2.	PDN X.25 Configuration	1-6
1-3.	Point-to-point SNIDER Configuration	1-8
2-1.	Login/Logout Window	2-8
2-2.	Network Printing Setup	2-12
3-1.	Sample DND Main Window	3-6
3-2.	DACS Icon Menu	3-12
3-3.	Sample DND GUI Form	3-17
3-4.	Stage 1: Select Action and Site	3-23
3-5.	Stage 2: Enter Information	3-23
3-6.	Stage 3: Review Entered Information; Execute Action	3-24
3-7.	Stage 4: Action Completed; Perform Next Action	3-24
3-8.	The Control Options Box: with SCHEDULE selected	3-27
4-1.	DACS II Equipment View - High Level	4-7
4-2.	DACS II Equipment View - IFTU	4-8
4-3.	DACS II Equipment View - DSPU	4-9
4-4.	DACS II Equipment View - DS3U	4-10
4-5.	DACS II Equipment View - ECCN	4-11
4-6.	DACS II Equipment View - MC	4-12
4-7.	DACS II ISX Equipment View - High Level	4-13
5-1.	DACS Provisioning Form, X.25 Link	5-7
5-2.	DACS Provisioning Form, SNIDER Link	5-8
5-3.	DACS Provisioning Form, CHGSITE Action	5-11
5-4.	The CONFIRM Checkbox	5-12
6-1.	End User Provisioning Form, CREATE Action	6-3
7-1.	INTERTIE PROVISIONING Form, DACS-to-DACS	7-3
7-2.	Intertie Provisioning Form, DACS-to-End User	7-4
7-3.	Intertie Provisioning Form, ADDNPCS Action	7-5
7-4.	Intertie Menu	7-9
8-1.	Hierarchical Number Example	8-9
8-2.	NPC Provisioning Form, Section 1: CREATE Action	8-17
8-3.	NPC Provisioning Form, Section 2: NPC XYZ Options (PA Type)	8-18

Figures

8-4.	NPC Provisioning Form, Section 3: Performance Monitoring Options (PA Type)	8-19
9-1.	Circuit Provisioning Example—Two Sequential Time Frames	9-10
9-2.	Sample Full-duplex Circuit	9-13
9-3.	Sample Clear DS1 Full-duplex Circuit	9-14
9-4.	Sample Half-duplex Circuit	9-15
9-5.	Sample BCON Circuit	9-16
9-6.	Sample Half-Duplex Loopback Circuit	9-17
9-7.	Sample Full-Duplex Loopback Circuit	9-17
9-8.	Sample Symmetric Voice Circuit	9-19
9-9.	Implemented Symmetric Voice Circuit	9-19
9-10.	Sample Polling Data Circuit	9-20
9-11.	Implemented Polling Data Circuit	9-20
9-12.	Cascaded Symmetric Voice Circuit	9-22
9-13.	BBL-to-BBL Cascaded Polling Data Circuit	9-23
9-14.	BBL-to-BRD Cascaded Polling Data Circuit	9-24
9-15.	ALTRROUTE CIRCUIT ENDPOINTS Box	9-28
9-16.	Preempting Table and Fields	9-30
9-17.	A Sample Circuit Trace Table	9-33
9-18.	A Sample Circuit Trace Map	9-34
9-19.	The CIRCUIT PROVISIONING Form, ACTIVATE Action	9-36
10-1.	Virtual Multipoint Circuit	10-16
10-2.	Stage 1 of the UPLOAD Action: NPC SYNC	10-19
10-3.	Stage 2 & 3 of the UPLOAD Action: CHANNEL SYNC	10-20
10-4.	Audit/Synchronization Form, NPC SYNC Action	10-22
11-1.	DACS MESSAGE form	11-5
11-2.	DACS COMMAND RESPONSE Window	11-5
12-1.	ALARM LOG REPORT Form- All Alarms	12-7
12-2.	Sample ALARM LOG Report	12-13
12-3.	CIRCUIT ALARMS REPORT Form	12-14
12-4.	Sample CIRCUIT ALARMS Report	12-19
12-5.	NPC ALARMS REPORT Form	12-20
12-6.	Sample CIRCUIT ALARMS Report	12-23

Figures

12-7.	COMMON EQUIPMENT ALARMS Report Form	12-24
12-8.	Sample COMMON EQUIPMENT ALARMS Report	12-25
12-9.	CIRCUIT REPORT Form	12-26
12-10.	Sample CIRCUIT Report - CIRCUIT AVAILABILITY Format	12-32
12-11.	Sample CIRCUIT Report - CIRCUIT INFORMATION Format	12-32
12-12.	Sample CIRCUIT Report - CIRCUIT OPTIONS Format	12-33
12-13.	Sample CIRCUIT Report - CIRCUIT CONNECTIONS Format	12-33
12-14.	CHANNEL REPORT Form	12-34
12-15.	Sample CHANNEL Report	12-37
12-16.	Sample CHANNEL REPORT Form - Generic	12-38
12-17.	Sample NPC Report - NPC NUMBERS Format	12-42
12-18.	Sample NPC Report - NPC IDS Format	12-42
12-19.	DATABASE AUDIT/SYNCHRONIZATION REPORT Form	12-43
12-20.	Sample DATABASE AUDIT/SYNCHRONIZATION Report	12-46
12-21.	ECHOED RESPONSE PROCESSING REPORT Form	12-47
12-22.	Sample ECHOED RESPONSE PROCESSING Report	12-49
12-23.	Sample INTERTIE NPC Report	12-50
12-24.	Sample INTERTIE ALARM Report	12-50
12-25.	New Alarm Summary Button	12-51
12-26.	Alarm Summary Window	12-52
13-1.	Illustration Of Mapped Monitor Test Access	13-6
13-2.	Illustration Of Unmapped Monitor Test Access	13-7
13-3.	Illustration Of Monitor Test Access, TLA Applied in T Direction	13-8
13-4.	Illustration Of Monitor Test Access, TLA Applied in F Direction	13-9
13-5.	Illustration Of Monitor Test Access, TLA Applied in B(oth) Directions	13-9
13-6.	Illustration Of Split Test Access	13-10
13-7.	Illustration Of Split Test Access, TLA Applied in T Direction	13-11
13-8.	Illustration Of Split Test Access, TLA Applied in F Direction	13-12
13-9.	Illustration of Split Test Access, TLA Applied in B(oth) Directions	13-13
13-10.	Illustration Of Hub Test Access	13-14
13-11.	TEST ACCESS Form, MONITOR Mode	13-17
C-1.	Sample ui_dval.eng File	C-7
C-2.	MAIN MENU	C-16

Figures

C-3.	Command Response Pop-up Window	C-25
C-4.	Confirmation Window	C-26
C-5.	Select Schedule or Confirm Window	C-27
C-6.	Task Scheduling Window	C-28
C-7.	Database Selection Window	C-32
D-1.	SYSTEM ADMINISTRATION Menu	D-2
D-2.	LOGIN PORT ADMINISTRATION Form	D-4
D-3.	X.25 LINK ADMINISTRATION Form	D-7
D-4.	Fully Backed-up Configuration (DACS II)	D-12
D-5.	Backup of Link to Frame Only (DACS II)	D-13
D-6.	Backup of DND Link Only	D-14
D-7.	FRAME ADMINISTRATION Form	D-16
D-8.	Creating a Frame Using X.25	D-23
D-9.	Change Site Name	D-26
D-10.	Creating a Frame, Using SNIDER	D-27
D-11.	DND NAME CHANGE Form	D-30
D-12.	PRINTER MANAGEMENT Form	D-34
D-13.	Sample Print-Job Status	D-38
D-14.	SHUTDOWN TIME Pop-up Menu	D-41
D-15.	SHUTDOWN TYPE Pop-up Menu	D-43
D-16.	TIME and DATE ADMINISTRATION Form	D-46
E-1.	PROVISIONING Menu	E-2
E-2.	CEPT NPC Provisioning Form (Types PB/PC)	E-3
E-3.	Subrate NPC Provisioning Form (Type SD)	E-4
E-4.	Enhanced CEPT NPC Provisioning Form (Type PA)	E-5
E-5.	NAS NPC Provisioning Form (Types DE/TE)	E- 6
E-6.	Enhanced NAS NPC Provisioning Form (Types DA/TA)	E-6
E-7.	Clear DS1 NAS NPC Provisioning Form (Type DE9y9)	E-7
E-8.	Clear DS1 Through DS3 NAS NPC Provisioning Form (Type TE9y9)	E-8
E-9.	DMB NPC Provisioning Form (Type MB)	E-8
E-10.	CEPT NPC Query For PB Type	E-25
E-11.	CEPT NPC Query Form, PA, First Page	E-26
E-12.	CEPT NPC Query Form, PA, Second Page	E-27

Figures

E-13.	NAS NPC Query Form	E-28
E-14.	NPC Browse Screen	E-30
F-1.	TEST PORT PROVISIONING Form	F-3
G-1.	CIRCUIT PROVISIONING Form	G-2
G-2.	CIRCUIT PROVISIONING SEARCH CRITERIA Form	G-3
G-3.	Sample Full-duplex Circuit	G-20
G-4.	Sample Clear DS1 Full-duplex Circuit	G-22
G-5.	Sample Half-duplex Circuit	G-23
G-6.	Sample Half-Duplex Loopback Circuit	G-24
G-7.	Ideal Broadcast Circuit	G-29
G-8.	Sample Broadcast Circuit	G-30
G-9.	Sample Symmetric Voice Circuit	G-32
G-10.	Sample Polling Data Circuit	G-35
G-11.	CIRCUIT PROVISIONING Form, Adding a LEG for Contiguous Circuits	G-38
G-12.	CIRCUIT PROVISIONING Form, Adding a LEG for Random Circuits	G-40
G-13.	CIRCUIT PROVISIONING Form, Adding a BKB for E1 Circuits	G-42
G-14.	CIRCUIT PROVISIONING Form, Modifying a BKB E1 Circuits	G-44
G-15.	CIRCUIT PROVISIONING Form	G-45
G-16.	ALTRROUTE Screen	G-46
G-17.	Example of Altrouting	G-52
G-18.	NPC ROLL Form	G-63
G-19.	CIRCUIT PROVISIONING Form, Deleting a LEG from a BKB Circuit	G-66
G-20.	CIRCUIT PROVISIONING Form, Changing the Return G-Xath of a BCON Circuit	G-67
H-1.	RECONFIGURATION PLAN (RP) PROVISIONING Form	H-3
H-2.	AUTOMATIC RECONFIGURATION PLAN PROVISIONING Form	H-17
I-1.	DATABASE ADMINISTRATION Menu	I-2
I-2.	DATABASE AUDIT/SYNCHRONIZATION Form	I-3
I-3.	Two Two-point, One-way Circuits	I-7
I-4.	A Two-point, Two-way Circuit	I-7
I-5.	DATABASE AUDIT/SYNCHRONIZATION Form	I-9

Figures

I-6.	AUDIT/SYNCRONIZATION SEARCH CRITERIA Form	I-11
I-7.	NPC Range Fields	I-12
I-8.	BACKUP/RESTORE Menu	I-20
I-9.	DATABASE BACKUP/RESTORE (TAPE) Form	I-21
I-10.	DATABASE BACKUP/RESTORE (TAPE) Form	I-22
I-11.	LOG BACKUP/RESTORE (TAPE) Form	I-25
I-12.	LOG BACKUP/RESTORE (DISKETTE) Form	I-28
I-13.	Insert Disk Prompt	I-29
I-14.	OUTAGE LOG Form	I-33
J-1.	TASK ADMINISTRATION Menu	J-2
J-2.	TASK ADMINISTRATION Form	J-3
J-3.	A Displayed Task	J-5
J-6.	Sample Print-job Status	J-11
K-1.	USER ADMINISTRATION Menu	K-2
K-2.	USER MANAGEMENT Form	K-3
K-3.	PASSWORD CHANGE Form	K-8
L-1.	PASSTHROUGH Choices Menu	L-4
L-2.	Output Choices Menu for MULTIPLEXED PASSTHROUGH	L-5
L-3.	MULTIPLEXED PASSTHROUGH Screen	L-6
L-4.	Passthrough Screen	L-8
L-5.	Passthrough Form	L-11
L-6.	FRAME COMMAND SCRIPT Form	L-13
L-7.	FRAME COMMAND SCRIPT Screen	L-18
M-1.	REPORT OPERATIONS MENU	M-2
M-2.	CHANNEL USAGE SEARCH CRITERIA Form	M-4
M-3.	REPORT TO DOS DISKETTE Form	M-7
M-4.	RECONFIGURATION SUB-MENU	M-15
M-5.	Selection of Report Format Category	M-18
M-6.	Sample Edit Custom Report Format Form	M-19
M-7.	Sample Report Format	M-23
N-1.	TEST ACCESS Form	N-2
O-1.	Sample Alarm Report	O-4
P-1.	Intervals when Performance Monitoring Reports are Expected	P-5

Figures

P-2.	PROVISIONING Menu	P-6
P-3.	24-HOUR PERFORMANCE Form	P-7
P-4.	24-HOUR PERFORMANCE Browse Screen	P-10
P-5.	24-HOUR PERFORMANCE Reset Screen	P-11

Tables

3-1.	DND GUI Task Bar Buttons	3-9
3-2.	Alarm State Descriptions	3-11
3-3.	DACS Color Scheme	3-11
3-4.	Intertie Color Scheme	3-13
3-5.	Key Navigation Buttons on GUI Forms	3-19
3-6.	Scheduling Options Field Descriptions	3-28
4-1.	Alarm Status Indicator Color Scheme	4-5
5-1.	X.25 Line Port Numbers	5-6
5-2.	SNIDER Line Port Numbers	5-9
5-3.	Field Descriptions for the DACS PROVISIONING Form	5-13
6-1.	Field Descriptions for the END USER PROVISIONING Form	6-4
7-1.	Field Descriptions for the INTERTIE PROVISIONING Form	7-6
8-1.	NPC Types	8-6
8-2.	NPC Provisioning Types	8-7
8-3.	NPC Number Equivalents for DACS II FTU Type Units	8-11
8-4.	NPC Number Equivalents for DACS II DSPU Type Units	8-11
8-5.	NPC Number Equivalents for DACS II DS3U Type Units	8-12
8-6.	Alarms for CEPT NPC Performance Parameters for PB/PC Types	8-14
8-7.	Alarms For CEPT NPC Performance Parameters For Type PA	8-15
8-8.	Alarms For NAS NPC Performance Parameters	8-16
8-9.	Field Descriptions for the NPC PROVISIONING Form	8-21
9-1.	DMB Conference Information	9-21
9-2.	Field Descriptions for the CIRCUIT PROVISIONING Form	9-37
9-3.	Summary of CIRCUIT PROVISIONING Field Values	9-58
9-4.	ERP Messages	9-63
10-1.	NPC Parameters Audited	10-7
10-2.	Circuit Parameters Audited	10-9
10-3.	Field Descriptions for the DATABASE AUDIT/SYNCHRONIZATION Form	10-23
11-1.	DACS MESSAGE Form Field Descriptions	11-6
12-1.	Field Descriptions for the ALARM LOG Report Form	12-8
12-2.	Field Descriptions for the CIRCUIT ALARM Report Form	12-15
12-3.	Field Descriptions for the NPC ALARM Report Form	12-21

Tables

12-4. Field Descriptions for the COMMON EQUIPMENT ALARM Report Form	12-24
12-5. Field Descriptions for the CIRCUIT Report Form	12-27
12-6. Field Descriptions for the CHANNEL Report Form	12-35
12-7. Field Descriptions for the NPC Report Form	12-39
12-8. Field Descriptions for the AUDIT/SYNCHRONIZATION Report Form	12-44
12-9. Field Descriptions for the ECHOED RESPONSE PROCESSING Report Form	12-48
13-1. Field Descriptions for the TEST ACCESS Form	13-18
13-2. Allowed Test State Sequences	13-23
A-1. ALARM LOG Report Fields	A-4
A-2. CIRCUIT ALARMS Report Fields	A-6
A-3. NPC ALARMS Report Fields	A-9
A-4. COMMON EQUIPMENT ALARMS Report Fields	A-11
A-5. CIRCUIT Report Fields	A-12
A-6. CHANNEL Report Fields	A-17
A-7. NPC Report Fields	A-19
A-8. ALTROUTES/PREEMPTIONS Report Fields	A-30
A-9. RECONFIGURATION PLANS Report Fields	A-31
A-10. RECONFIGURATION PLAN ALTRROUTE Report Fields	A-32
A-11. AUTO RECONFIGURATION Report Fields	A-34
A-12. OUTAGES Report Fields	A-36
A-13. TEST PORT Report Fields	A-37
A-14. TEST ACCESS Report Fields	A-39
A-15. FRAMES/LINKS Report Fields	A-41
A-16. USER ADMINISTRATION Report Fields	A-43
A-17. LOST RESPONSE LOG Report Fields	A-44
A-18. 24-HOUR PERFORMANCE MONITORING STATISTICS Report Fields	A-45
B-1. Status Error Messages	B-3
C-1. Menu Control Keystrokes	C-18
C-2. Form Control Keystrokes	C-19
C-3. Passthrough Control Keystrokes	C-21

Tables

C-4.	Preprogrammed Function Keys	C-24
C-5.	TASK SCHEDULING Field Descriptions	C-29
C-6.	Screen Contents	C-31
C-7.	Summary of Menus and Forms	C-34
D-1.	LOGIN PORT ADMINISTRATION Field Descriptions	D-5
D-2.	X.25 LINK ADMINISTRATION Field Descriptions	D-8
D-3.	FRAME ADMINISTRATION Field Descriptions	D-18
E-1.	NPC PROVISIONING Field Descriptions	E-10
F-1.	Test Port Groups Supported, By Frame	F-2
F-2.	TEST PORT PROVISIONING Field Descriptions	F-4
G-1.	ALTRROUTE Field Descriptions	G-48
G-2.	Sample Provisioned NPCs	G-51
G-3.	Sample Provisioned Circuits	G-51
G-4.	NPC ROLL Field Descriptions	G-64
I-1.	Outage Log Field Descriptions	I-34
I-2.	Record Number Field Descriptions	I-37
J-1.	Task Administration Field Descriptions	J-4
J-2.	TASK ADMINISTRATION Field Descriptions	J-6
J-3.	PRINTER QUEUE STATUS Descriptions	J-9
K-1.	USER MANAGEMENT Field Descriptions	K-4
L-1.	Full PASSTHROUGH Control Keys	L-9
L-2.	MULTIPLEXED PASSTHROUGH Control Keys	L-10
L-3.	FRAME COMMAND SCRIPT Field Descriptions	L-14
M-1.	REPORT TO DOS DISKETTE Field Descriptions	M-8
M-2.	Edit Custom Report Format Field Descriptions	M-20
N-1.	Test Access Field Descriptions	N-3
N-2.	Allowed Test State Sequences	N-8
O-1.	Error Status Register <i>field1</i> Bit Mask	O-10
O-2.	Error Status Register <i>field2</i> Bit Mask	O-11
O-3.	Error Status Register <i>field1</i> Bit Mask	O-11
O-4.	Error Status Register <i>field2</i> Bit Mask	O-12
P-1.	24-HOUR PERFORMANCE Field Descriptions	P-8

About This Manual

Contents

■ Overview	xxxi
Purpose	xxxi
Scope	xxxi
Intended audience	xxxi
Reason for issue	xxxi
■ About This Release	xxxii
Overview	xxxii
What's New?	xxxiii
■ Manual Contents	xxxiv
Overview	xxxiv
General Tasks and Supporting Elements	xxxiv
Part 1: Reference Material	xxxiv
Part 2: General Tasks	xxxvi
Appendices	xxxvi

(Continued on next page)

Contents (Continued)

■ Additional Documentation	xxxviii
Overview	xxxviii
Documents	xxxviii
Documents, Continued	xxxix
Netscape and CDE Reference Information	xxxix
■ How to Order Documentation	xl
■ How to Comment on This Manual	xli

Overview

Purpose	This manual was produced to assist users in performing tasks on the DACS II Network Director (DND) for DACS II.
Scope	This manual describes how to interpret and operate the DND Graphical User Interface (GUI) and Forms Interface by providing reference material and step-by-step procedures.
Intended audience	This manual is intended for customers who have experience with: ■ DACS II operation and maintenance ■ I-2000 Controller for DACS II user interface ■ Basic Netscape navigation ■ Mouse button operations ■ Basic UNIX navigation in a GUI environment (i.e. OpenWindows, Solaris, etc.)
Reason for issue	This is the first issue of this document. DND is a new product in the DACS II family of products.

About This Release

Overview

The DACS II Network Director (DND) system enables you to manage a DACS network from a UltraSparc 30 workstation using a Netscape browser.

DND provides a Graphical User Interface (GUI). With the GUI, you use simple point-and-click mouse operations to manage the DACS network. DND also provides access to the Forms Interface interface which was available with the I-2000 Controller.

The complete DND system (GUI and Forms Interface) include all core functionality of the existing I-2000 Controller for DACS II system and provides additional graphical functionality.

About This Release (Continued)

What's New?

The overall system functionality of the DACS II Network Director Graphical User Interface include the following:

- **Graphical User Interface**

- System is accessed using an UltraSparc 30 workstation and the Netscape browser.
- Use of icons to represent DACS and non-DACS equipment.
- Use of lines to represent trunks (interties) between DACS and non-DACS equipment.
- Customization of graphic displayed on the DND workspace screen (.GIF file format only).

- **Simple Network Management Functionality**

- Preservation of all core I-2000 Functionality
- Provisioning, Reports and Alarm Reports Management
- Network and Alarm Status Capability
- Operator and Administrative Functions
- Assignment of NPCs to interties
- Circuit Trace
- Equipment Views

- **GUI Form Enhancement**

- Easy-to-use forms with fill-in and pull-down menu selection fields.
 - New GUI forms include: Provisioning, New Alarms Summary, and Reports.
-

Manual Contents

Overview

This manual is divided into two parts:

- Part 1: The DND GUI Reference Material
- Part 2: The DND GUI General Tasks

The book is divided in this fashion to allow expert users a way of quickly accessing procedural information. Novice Netscape and DND users are advised to read over the reference material prior to beginning any procedures.

Appendix C through Appendix P contain some reference material, procedures and examples for the DND Forms Interface.

General Tasks and Supporting Elements

The DND GUI General Tasks provide procedural information. The chapters in Part 2 are divided into General Tasks (GT) and Supporting Elements (SE). GTs are the major tasks performed by users, while SEs are sub-tasks within a GT.

The GTs are grouped into chapters of similar tasks; for example, Chapter 16 will include all GTs related to End User Provisioning. The numbering of the GTs will follow the chapter numbering as closely as possible, for example, the End User Provisioning GTs will begin with GT 60.

SEs are associated with a GT and are typically located immediately after the GT. However, many SEs are reusable in other GTs in that particular chapter and in the GTs of other chapters. So, to reduce redundancy, when GT steps require an SE, the Reference column of the GT Instructions table will note which GT to locate that particular SE. For example, *SE 40-3* indicates the third SE in GT 40.

Part 1: Reference Material

Part 1: The DND GUI Reference Material contains the following sections:

- **About This Manual** - provides information on manual content, related documentation, ordering documentation, and a description of the new features for this release
 - **Chapter 1: Introduction** - provides information on the DND system and its features
 - **Chapter 2: Getting Started** - provides information on logging in and out of the GUI system, printer administration, and using the DND GUI system
-

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Manual Contents (Continued)

Part 1: Reference Material, Continued

- **Chapter 3: DND Workspace and Form Navigation** - provides general information on using the DND GUI system
 - **Chapter 4: Equipment Views** - provides information on displaying and interpreting the equipage and alarm severity of DACS sites and units in the DACS network
 - **Chapter 5: DACS Provisioning** - provides information on different DACS systems and its provisioning form
 - **Chapter 6: End User Provisioning** - provides information on how End Users fit into the DACS network and its provisioning form
 - **Chapter 7: Intertie Provisioning** - provides information on the different types of interties and its provisioning form
 - **Chapter 8: NPC Provisioning** - provides information on NPC provisioning actions, such as creating, restoring, modifying, and deleting NPCs from a DACS, and its provisioning form
 - **Chapter 9: Circuit Provisioning** - provides information on circuit provisioning actions, such as activating, modifying, deleting, alternate routing, and performing a circuit trace for your DACS network
 - **Chapter 10: Database Audit/Synchronization** - provides information on database audit and synchronization actions to monitor and sync the DACS and DND databases, and its provisioning form
 - **Chapter 11: DACS Message** - provides information on using the DACS Message feature to communicate directly to the DACS using MML commands
 - **Chapter 12: Report Operations** - provides information on generating and displaying reports
 - **Chapter 13: Test Access** - provides information on Test access, such as setting up connections in Monitor, Split, and Hub modes to test potentially faulty circuits
-

Manual Contents (Continued)

Part 2: General Tasks

Part 2: The DND GUI General Tasks include procedures to support the actions described in the reference material chapters for the following topics:

- **Chapter 14: Getting Started General Tasks (GT 20 - GT 22)**
- **Chapter 15: DND Workspace General Task (GT 30)**
- **Chapter 16: DACS Provisioning General Task (GT 50 - GT 58)**
- **Chapter 17: End User Provisioning General Tasks (GT 60 - GT 62)**
- **Chapter 18: Intertie Provisioning General Tasks (GT 70 - 74)**
- **Chapter 19: NPC Provisioning General Tasks (GT 80 - 85)**
- **Chapter 20: Circuit Provisioning General Tasks (GT 90 - 101)**
- **Chapter 21: Database Audit/Synchronization General Tasks (GT 103 - GT 109)**
- **Chapter 22: DACS Message General Task (GT 110)**
- **Chapter 23: Report General Tasks (GT 120 and GT 121)**
- **Chapter 24: Test Access General Tasks (GT 130 - GT 136)**

Appendices

- **Appendix A: Summary of Fields for Customized Reports** - provides information on Forms Interface and GUI report form fields that can be customized using the DND Forms Interface
- **Appendix B: Error Messages** - provides a full listing of the error messages that can appear on the **Command Response** field located on each form or the Status Summary window located on the DND Main screen
- **Appendix C through Appendix P** - contains the reference material, procedures, and examples for the DND Forms Interface:
 - **Appendix C: Getting Started - DND Forms Interface**
 - **Appendix D: System Administration**
 - **Appendix E: NPC Provisioning - DND Forms Interface**
 - **Appendix F: Test Port Provisioning**
 - **Appendix G: Circuit Provisioning - DND Forms Interface**

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Manual Contents (Continued)

Appendices, Continued

- **Appendix H: Reconfiguration Plans**
 - **Appendix I: Database Administration - DND Forms Interface**
 - **Appendix J: Task Administration**
 - **Appendix K: User Administration**
 - **Appendix L: Passthrough**
 - **Appendix M: Report Operations - DND Forms Interface**
 - **Appendix N: Test Access - DND Forms Interface**
 - **Appendix O: Fault Management**
 - **Appendix P: 24-Hour Performance Monitoring**
 - **Abbreviations and Acronyms** - provides the definitions for the acronyms used throughout this document
 - **Glossary** - defines the terms used throughout this document
 - **Index** - allows you to quickly locate information on topics covered in the document. To use the index, look up a topic you want and turn to the page references listed by that topic
-

Additional Documentation

Overview

The following documents provide additional information on DND, DACS II, and DACS II ISX. These documents may prove useful when using the DACS II Network Director with DACS II and DACS II ISX.

Some documents are not specifically relevant to DND features but may be useful to expert users.

Documents

DACS II Network Director (DND):

Document Number	Document Title
10824509	<i>DACS II Network Director Software Release Description</i>
365-353-860	<i>DACS II Network Director Installation Manual</i>

DACS II:

Document Number	Document Title
365-353-131	<i>DACS II Operation and Maintenance, Release 8.0 MML, 1.544-Mbit/s Interface</i>
365-353-151	<i>DACS II Operation and Maintenance, Release 8.0 MML, 2.048-Mbit/s Interface</i>
365-353-132	<i>DACS II Commands and Messages, Release 8.0 MML, 1.544-Mbit/s Interface</i>
365-353-152	<i>DACS II Commands and Messages, Release 8.0 MML, 2.048-Mbit/s Interface</i>
365-353-133	<i>DACS II Quick Reference Guide, Release 8.0 MML, 1.544-Mbit/s Interface</i>
365-353-153	<i>DACS II Quick Reference Guide, Release 8.0 MML, 2.048-Mbit/s Interface</i>
IPH903	<i>DACS II Installation Procedures Handbook (DACS II CEF and Non-CEF)</i>
IPH903I	<i>DACS II Installation Procedures Handbook (DACS II ESBF and ECEF)</i>

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Additional Documentation (Continued)

Documents, Continued

DACS II ISX:

Document Number	Document Title
365-359-073	<i>DACS II ISX Operations and Maintenance, Release 3.0 MML</i>
365-359-074	<i>DACS II ISX Commands and Messages, Release 3.0 MML</i>
365-359-075	<i>DACS II ISX Quick Reference Guide, Release 3.0 MML</i>
365-359-080	<i>DACS II ISX Installation Manual, Release 2.0 and 3.0</i>
365-059-079	<i>DACS II ISX Installation Manual, Expansion Shelf</i>

**NOTE:**

Be sure to obtain the documents that support the release (if any) that is running with your DND system.

Netscape and CDE Reference Information

Netscape offers on-line context sensitive and content help. Sliding the mouse over fields and buttons on the Netscape toolbars will reveal very brief descriptions of the toolbar element. For more detailed help, click [Help...](#) in the DND Task Bar to reveal a table of contents of Netscape topics.

The Common Desktop Environment (CDE) has content on-line help. On the lower left hand side of the control panel at the bottom of the screen, click the “?” icon to reveal a table of contents of CDE topics.

How to Order Documentation

Documentation for the DND, DACS II, and DACS II ISX, can be ordered through the Customer Information Center (CIC). Many documents are available in hard copy and on compact disk. For more information, **call:**

1-888-LUCENT-8 (1-888-582-3688)
1-317-322-6416 (Outside North America)

OR write:

Customer Information Center
ATTN: Customer Service Representative
2833 N. Franklin Road
Indianapolis, IN 46219

OR access via the WWW at:

[/http://www.cic.lucent.com/](http://www.cic.lucent.com/)

Click Documents. This selection will take you to the area where numerous types of information products can be accessed.



NOTE:

For automatic updates (for one year), request that the document be given "standing order" status.

How to Comment on This Manual

A comment form is located after the title and legal pages in front of this document. If you have comments, please do the following:

- Fill out the form (name, company, address, and telephone number are optional).
- Remove the form from the binder.
- Fold it in half so that the address can be seen by the postal service (tape the ends together at the bottom).
- Mail the form to:

Lucent Technologies
Documentation Services
2400 Reynolda Road
Winston-Salem, NC 27199-2029

Part I:

*DND GUI Reference
Material*

Introduction

1

Contents

■ Background	1-3
Introduction	1-3
Objectives	1-3
Related information	1-3
■ Network Description	1-4
Network Overview	1-4
DND Advantages	1-4
DACS System	1-4
Network Diagram	1-5
Network Configuration	1-6
PDN X.25 Diagram	1-6
DND and the PDN X.25 Network	1-7
X.25 Link Protection	1-7
DND and the SNIDER Network	1-8
SNIDER Diagram	1-8

(Continued on next page)

Contents (Continued)

■ Minimum Setup Requirements	1-9
Overview	1-9
Server Requirements	1-9
Client Requirements	1-10
■ DND Features	1-11
Overview	1-11
Network Monitoring Features	1-11
Provisioning Features	1-12
Operational Features	1-12
Echoed Response Processing	1-13
Database Audit and Synchronization	1-13
Network Security	1-13

Background

Introduction

This section provides some basic DND overview information.

Objectives

This chapter provides information to enable the user to:

- Describe the management and display of DACS networks by DND
 - Describe how the DND is networked to DACS systems and users
 - State the features and functions of the DND GUI
 - State the types of provisioning supported by the DND GUI
-

Related information

For related information refer to these documents:

- *DACS II and DACS II ISX Operation and Maintenance Guide*
 - *DACS II Network Director Installation Manual*
 - *DACS II Network Director Software Release Description*
-

Network Description

Network Overview

The Lucent Technologies DND is a computing system configuration that allows up to 16 users, which includes the console, to simultaneously manage multiple DACS frames through a user-friendly Graphical User Interface (GUI). The DND supports up to 30 DACS and/or 15,360 NPCs, whichever is less.

DND Advantages

The DND software has the following advantages:

- DND allows you to take advantage of DACS capabilities in a more user-friendly way. Now, in addition to the use of the ASCII-based menus of the Forms Interface, users can use the point-and-click functionality of the mouse for displaying and filling out GUI forms, revealing pull-down menus, and performing simple network management. Users can also navigate between fields on a GUI form using the tab key. Once on a GUI form, the DND helps walk users through the completion of the form
 - DND adds a control interface to generate DACS commands while maintaining all I-2000 functionality. Provisioning operations appear as menus and are selected from buttons appearing in the browser-supported (Netscape) environment. Forms display all DND options while automatically generating the appropriate DACS commands and sending them to the selected DACS
 - DND provides basic network management and alarm monitoring for small networks (less than 30 elements) of DACS II and DACS II ISX elements. A network map displays element location, DACS-to-DACS connection information, and alarm summary information
-

DACS System

A Digital Access and Cross-connect System (DACS) is a device for cross-connecting, or switching, between transmission lines that have been time-division multiplexed. DACS is used for cross-connecting DS0 and N x 64 Kbps signals.

The term *DACS* refers to any supported configured cross-connect system - either DACS II or DACS II ISX. The terms *frame* and *DACS* may be used interchangeably or together, as in describing more than one DACS.

For additional information on the DACS system, refer to the *DACS II* or *DACS II ISX Operation and Maintenance Guides*.

Network Description (Continued)

Network Diagram The elements of the configuration are the DACS frames and the DND GUI. Figure 1-1 illustrates how DND connects to the DACS and user terminals.

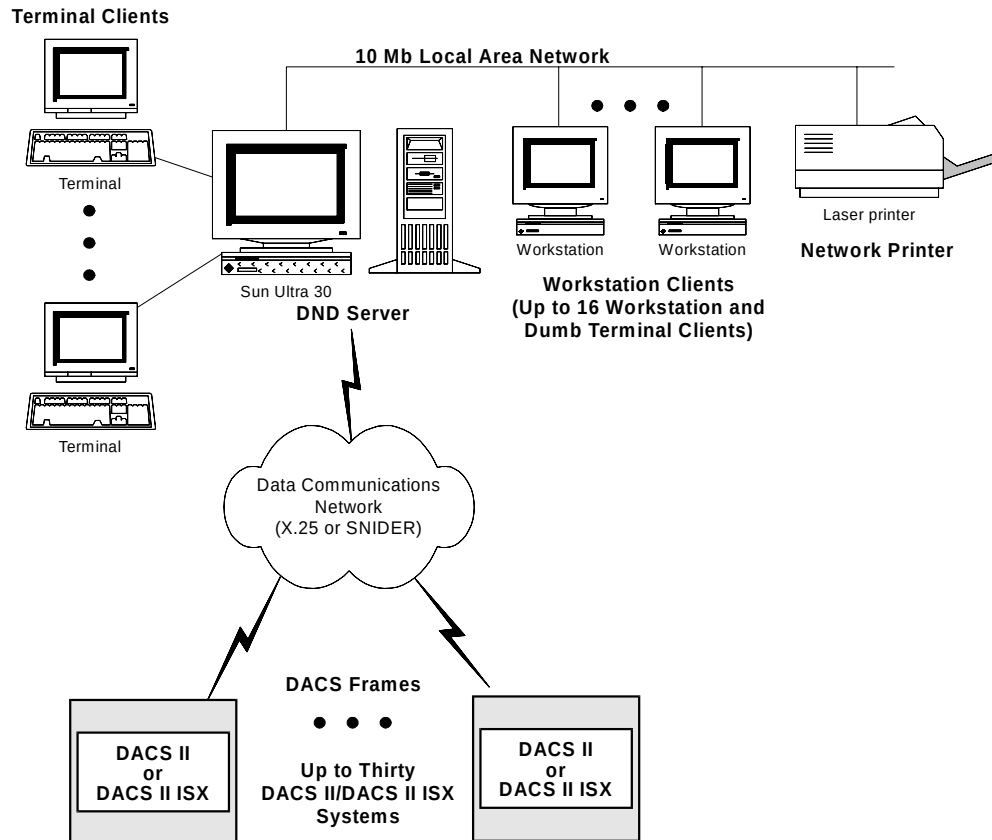


Figure 1-1. Example DND Network Configuration

Network Description (Continued)

Network Configuration

The DND allows you to configure DACS frames and establish either synchronous or asynchronous communications links to the DACS network.

**NOTE:**

Ensure that all network connections are in place before installing the DND GUI and Forms Interface.

The two possible connections between the DND and the DACS it controls are:

- X.25 Packet Data Network (PDN)
- SNIDER direct

PDN X.25 Diagram

Figure 1-2 shows the PDN X.25 configuration.

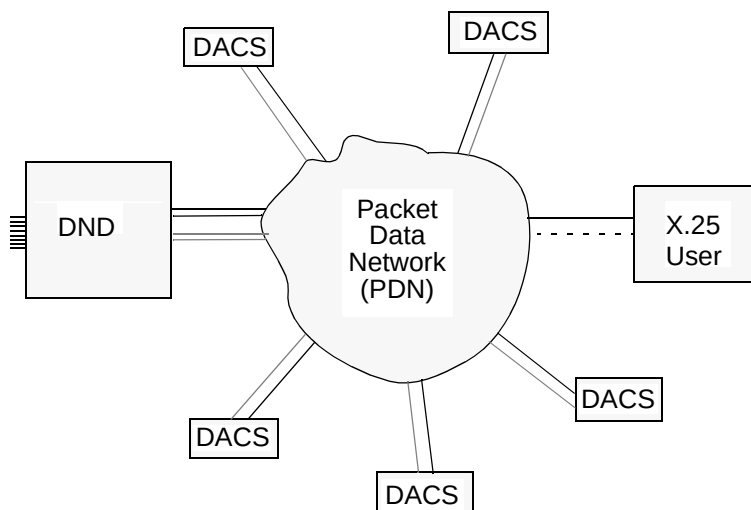


Figure 1-2. PDN X.25 Configuration

Network Description (Continued)

DND and the PDN X.25 Network

In the X.25 network, each DACS and the DND become nodes. The user terminals are peripheral to DND. Communication between DND and a DACS is defined by the International Telecommunication Union (ITU-T) standard X.25 Data Terminal Equipment/Data Circuit-terminating Equipment (DTE/DCE) interface.

X.25 Link Protection

The X.25 network supports link protection. You can provision the DACS to provide link protection and use one to four links to distribute traffic. You can designate any two of the four X.25 links as Primary or Secondary links to the DACS.

If the Primary link fails, the DND will automatically switch to the Backup link, but it will not automatically switch back when the Primary is fixed. The Backup link will need to fail for the DND to switch back to the fixed Primary or it can be manually configured to switch back.

Network Description (Continued)

DND and the SNIDER Network

Figure 1-3 shows a direct configuration that uses the SNIDER protocol (asynchronous data link), instead of the X.25. The DACSs can be directly connected to DND or accessed remotely by modems.

SNIDER Diagram

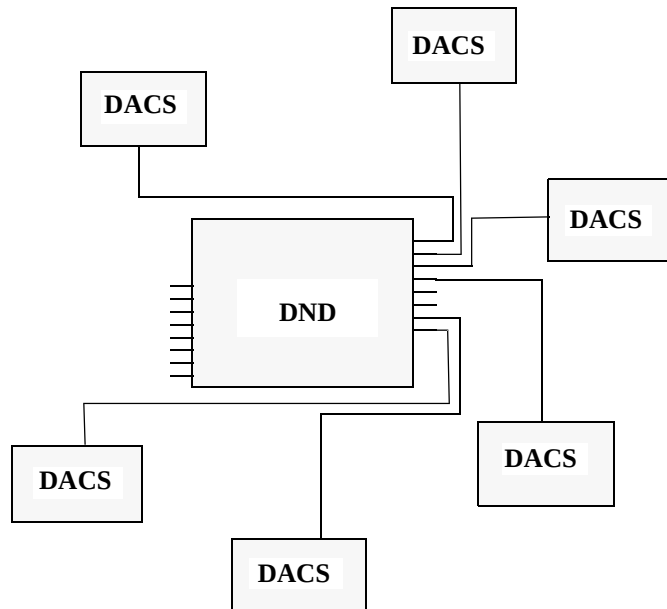


Figure 1-3. Point-to-point SNIDER Configuration

Minimum Setup Requirements

Overview

The DND will only be supported with the specified hardware platform. All customers, therefore, currently on any I-2000 platform will be required to upgrade their hardware.

Server Requirements

The DND server has the following minimum hardware and software requirements:

- Sun Ultra 30 Model 300
 - 256 Mb RAM
 - 4 Gb UltraSCSI Internal Hard Disk Drive
 - Creator Graphics Video Card
 - 20-inch Color Workstation Monitor
 - Sun Solaris 2.6 Operating System
 - Netscape Communicator 4.04 and Java Toolkit (per license)
 - FastTrack 3.01 Web Server
 - Informix Standard Engine 5.10
 - HP LaserJet 4000N Printer
 - For X.25 option:
 - HSI
 - SunLink 9.1, X.25 software
 - 16-port central data serial expansion unit
 - For SNIDER option:
 - 32-port central data serial expansion unit
 - 16-port central data serial expansion unit
-

Minimum Setup Requirements (Continued)

Client Requirements

The DND client has the following minimum hardware and software requirements:

- Sun Ultra 5
 - 247 Mhz Ultra-ii Processor
 - 4.3 Gb Hard Disk Drive
 - 64 Mb RAM
 - 1.44 Mb Floppy Drive
 - Tech-Source Raptor GFX Graphics Card
 - 21-inch Color Workstation Monitor
 - Sun Solaris 2.6 Operating System
 - Netscape Communicator 4.04 per client (maximum of 16) and Java Toolkit
-

DND Features

Overview

DND features are packaged into basic configurations called releases. Future releases are anticipated to be released on a periodic basis for support of improved graphical features and new DACS features.

Network Monitoring Features

The network monitoring features in the DND are:

- Network management and graphical display
 - Equipment views of the DACS and its units
 - User-defined names (IDs) for DACS circuits and NPCs.
 - New Alarms Summary indication.
 - Audit and synchronization of the database:
 - Upload DND database with DACS provisioning data
 - NPC and channel audit
 - Scheduled NPC, channel or alarm synchronization between the DND and a DACS
 - DND Workspace used to create, modify, and save network maps
-

DND Features (Continued)

Provisioning Features

The provisioning features in the DND are:

- Facility (NPC) provisioning
- Cross-connections for a combined total of up to 15,360 DACS II NPCs. For example, 20 DACS II frames of 512 NAS NPCs per DACS would make available approximately 10,240 digroups and 345,760 channel ends, supporting 123,880 full-duplex circuits
 - Two-point circuits
 - Contiguous, Alternating, and Random N x 64 Kbps circuits
 - One-way cross-connections
 - Virtual broadcast (one-way) circuits
 - Symmetric voice circuits
 - Polling data circuits
 - TS0 to Non-TS0 CEPT circuits
- Altrouting, preempting, and normalizing
- Test Access connection capability

Operational Features

The operational features in the DND are:

- Point and click to select menu choices and field values
 - Login and password protection. Support of up to 16 simultaneous sessions and 128 different logins. Each window counts as a user session
 - Selection of communication with individual DACS through the X.25 or SNIDER interfaces
 - Network-based printing of reports
 - Control of 1 through 30 DACS in DACS II Releases 6 and higher, and DACS II ISX Releases 1.1 and higher
 - DACS alarm logging and notification.
 - DACS Messages - sends an MML message directly to the DACS and displays the DACS output, (expert DACS user mode)
 - Querying of database from report forms
 - Context-sensitive and Content help
-

DND Features (Continued)

Echoed Response Processing

Real-time Echoed Response Processing (ERP) is the automatic response of the DND to provisioning changes made in the DACS through the DACS console, or through other frame administrative links. These changes cause messages to be sent to the DND. The DND processes these messages and may make changes to the DND database to reflect the changes that have been made to the DACS.

Database Audit and Synchronization

The DND maintains its own databases in order to track its operations and record the state of its circuits. You can back up or restore databases to or from tape.

The information in the databases is accessible by the operator as printed or displayed reports. The report generation functions of the DND are very flexible and let you create report templates (using the Forms Interface) and individual reports as required.

There are occasions when the DND and DACS databases may not correspond; that is, they can have become inadvertently out of synchronization. As part of its repertoire of administrative functions, the DND Forms Interface supports automatic or scheduled synchronization of:

- NPC provisioning data
 - Circuit provisioning data
 - Alarm data
-

Network Security

The security of the network is an important concern, especially because it can contain so many elements and, therefore, has a greater risk of intrusion. Within DND, the system administrator assigns logins and passwords. In addition, access to the network is also limited.

A customer also has the ability to restrict intranet/internet access into their DACS. How this is performed depends on who is providing the LAN connection and is beyond the scope of this document. Many third party sources can be contracted to configure and setup LAN configurations and internet services.

Contents

■ Background	2-3
Purpose	2-3
Objectives	2-3
Related tasks	2-3
Related information	2-3
■ Configuring the DACS	2-4
Before You Begin	2-4
■ The Common Desktop Environment (CDE)	2-5
Overview	2-5
Logging on the CDE	2-5
CDE Toolbar	2-5
Virtual Workspaces	2-6
Console Window	2-6

(Continued on next page)

Contents (Continued)

■ The Netscape Browser	2-7
Overview	2-7
Loading Netscape	2-7
Netscape Toolbars	2-7
Loading the DND GUI	2-8
Logging In the DND GUI	2-8
Logging Out of the DND GUI	2-9
■ Login Ports	2-10
Login Port Configuration	2-10
■ Time Zone	2-11
Overview	2-11
Time Zone Changes	2-11
Interface Software	2-11
■ Network Printing	2-12
Printer Setup	2-12
Netscape Printing	2-13
■ Summary of Menus and Forms	2-14
Overview	2-14
Task Table	2-14

Background

Purpose

The purpose of this chapter is to familiarize users with typical DND start-up information, the Common Desktop Environment (CDE) and the DND GUI. Users will be able to navigate through the CDE and open Netscape, and log in to the DND GUI.

**NOTE:**

Getting Started information on the DND Forms Interface can be found in Appendix C.

Objectives

After reading this chapter, you should be able to:

- Log in and out of the CDE and DND GUI
- Select the proper login ports
- Describe the printer setup

Related tasks

For related tasks, see the following general task(s) in Part 2:

- GT 20: Logging In to the DND System
- GT 21: Logging Off from the DND System
- GT 22: Setting the Time Zone

Related information

For related information refer to the:

- *DACS II and DACS II ISX Operation and Maintenance Manuals*
 - *DACS II Network Director Installation Manual*
 - Appendix C
-

Configuring the DACS

Before You Begin

Before you can provision DACS systems, NPCs, or circuits on the DND, you must first configure the DACS port(s) that will be connected to it. Configuration is performed directly at the DACS using the DACS commands. For additional information on configuring the DACS system, its ports and 24-hour Performance Monitoring capabilities, refer to "Configuring the Frame" in Appendix C.

The Common Desktop Environment (CDE)

Overview

The CDE used by the DND is Sun's Solaris 2.6. The CDE is the window management system for DND. It manages the login and displays for the user.

Logging on the CDE

When operators or administrators operate at a client workstation (connected via a LAN), there are two levels of user logins required for operation of the DND GUI:

- CDE Login
- DND server Login (discussed later)

The DND server Login is needed to set up a CDE Login.

When the DND server workstation or the client workstation is turned on, the screen immediately prompts the user for a login and then a password. Once these are entered, the user enters the CDE.

CDE Toolbar

The CDE toolbar appears by default at the bottom of the monitor screen. Window colors, backdrop wallpaper and mouse operation defaults can be changed easily via the mouse icon, fourth from the right on the toolbar.

The clock is displayed on the right hand side of the toolbar. This time is local to the workstation. The date is displayed to the right of the clock. Double-clicking on the date will bring up the CDE calendar manager, which may be useful, but is not needed for the DND.

Additional help can be obtained by clicking the ? icon, second icon from the right (just to the left of the garbage can).

The Common Desktop Environment (CDE) (Continued)

Virtual Workspaces

Four default virtual workspaces are defined by the CDE and are named One, Two, Three and Four, respectively. To enter a virtual work environment, click on the associated button, located in the middle of the CDE toolbar.

The name of the virtual workspace can be changed by double-clicking on the name in the box and editing the name on the button.

Console Window

When using the DND, it is recommended that a console window remain open. System status messages are often displayed in the console. Right-click anywhere on the CDE "wallpaper" to reveal a pull-down menu. Select the **Console** option, and the console window will appear on the screen. Allow it to run in the background as you are using the DND.

The Netscape Browser

Overview

The Netscape browser is used to access the DND GUI. A link to the URL address of your DND server (link button in the Netscape Personal Toolbar) has already been established at installation time.

When logged into the DND, it is recommended that the DND Main window is displayed in all virtual workspaces. This is done by clicking the Window Menu icon in the upper left hand corner of the DND Main Window (which is displaying the network map), and selecting the choice *Occupy All Workspaces*.

Loading Netscape

To access Netscape, right-click anywhere on the CDE workspace to reveal a pull-down menu. Select the **Programs** option, which will reveal another pull-down menu. Select the **DND GUI** option. The Netscape browser will automatically start up on the workstation. Click [dnd user interface](#) to start the DND GUI on the Netscape browser.



NOTE:

If you receive an error message from the DND that states "DND class not found" then the DND has not been installed correctly on your workstation. Consult your next level of support.

Netscape Toolbars

The default Netscape environment will display only the Personal Toolbar. On the Personal Toolbar, two buttons are provided - one to connect to the Netscape Server Selector (for turning the server on/off), and the other to connect to the DND server and start the DND GUI.

The other toolbars, the Location Toolbar and Navigation Toolbar, are minimized by default. These are not required for DND operation and should not be used ordinarily. These would be used for visiting other web sites.

Moving to another web site will log the user off of the DND. Other operations, normal to "browsing" such as "Back", "Forward" are not to be used while connected to the DND.

The **File** pull-down menu on the top of the Netscape browser may be used for printing and/or saving reports files. Preferences can also be set for font size preferences and other browser preferences. These are not necessary for DND operation.

The Netscape Browser (Continued)

Loading the DND GUI

To access the DND GUI, click **dnd user interface** located on Netscape's Personal Toolbar. The URL address to the DND server is linked to this button, and the DND Main Window with Login screen will appear.

Logging In the DND GUI

The DND GUI can not be utilized until the user has entered a DND login name and password. Default logins and passwords are set for dacsadm (administrator) and ems (generic operator) at installation. Other logins/passwords are set up by the system administrator.

Before logging in, the DND Workspace (discussed in the DND Main Window and Form Navigation chapter) will not display the DACS network map or alarm indications. Figure 2-1 displays what the screen looks like before logging in the DND GUI.



Figure 2-1. Login/Logout Window

The Netscape Browser

Logging Out of the DND GUI

When you log out of the DND GUI, you will receive the same screen as is pictured in Figure 2-1. The DND pictured is waiting for a user to log in. Click **File** from the top of Netscape window to reveal a pull-down menu. Selecting the **Exit** option will exit you from the Netscape browser and returns you back to the CDE workspace.

In addition to logging out from the DND GUI, the DND GUI will automatically log off a user if the following conditions exist:

- The browser loses communication with the DND server for a couple of minutes
 - A different URL address is entered in the **Netsite:** field in Netscape's Location Toolbar
-

Login Ports

Login Port Configuration

The default DND hardware configuration comes equipped with a 16-port Serial Expansion Unit (SEU). Up to 16 ports can be configured for terminal login. An optional 32-port SEU is available, but its use is reserved for SNIDER communications to a DACS and its ports are not available for terminals. The 16-port SEU can be used for DACS SNIDER communications, but at an obvious loss of terminal login capability.

The ports are numbered 1 through 16 on the unit. The ports are made available for login via the LOGIN PORTS form on the DND Forms Interface. Ports that are *RESTORED* via this form can be connected to a “dumb” terminal and the Forms Interface can be accessed from this terminal. A DACS can be configured for SNIDER communications via the FRAME ADMINISTRATION form using the DND Forms Interface, and from the DACS ADMINISTRATION form using the DND GUI.

Time Zone

Overview

The UNIX operating system automatically keeps track of time. The system administrator can obtain the current time and time zone information by using the **date** command. Internally, all time is maintained at Greenwich Mean Time (GMT), and adjusted to local time according to the time zone setting.

Time Zone Changes

Generally, the time zone information is set on the workstation at installation time and regional Alternate Time Zone (ATZ) adjustments take place accordingly. For example, Daylight Savings Time (DST) is an ATZ. The start and end dates and times at which an ATZ begins and ends may vary from country to country and from region to region. The UNIX operating system generally maintains this information accurately and adjusts the time properly for the ATZ transitions.

Interface Software

If, however, time is not correctly adjusted to the ATZ automatically for your region, or you wish to change the time zone according to a different country/region, then a DND tool will allow for direct correction of that. The **timezone** command is provided to do this. Once the time zone information is adjusted this way, then the time zone will need to be adjusted for each year, in January, or as soon thereafter as is practical.

Network Printing

Printer Setup

The printer configuration was set at installation time. A single default printer is defined for the system. The **jetadmin** command is supplied by Hewlett-Packard (HP) and installed on each workstation and aids in the definition of printers or additional printers. This tool can only be run by root users.

The printer is automatically enabled, but can be disabled using the DND Forms Interface's PRINTER ADMINISTRATION form. Individual printer jobs can also be listed and cancelled from this form.

The recommended printer is capable of printing both ASCII (ordinary files) and postscript files. From the DND Forms Interface, only ASCII-based printing is required. From the DND GUI (i.e. Netscape browser), postscript files are sent to the printer.

The DND server, client machines and the network printer are connected via a LAN connection, as shown in Figure 2-2.

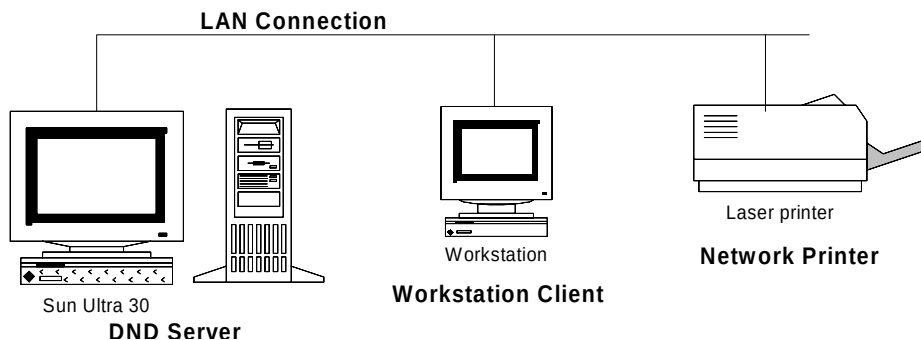


Figure 2-2. Network Printing Setup

Network Printing

Netscape Printing

To print the contents of a Netscape window, click **File** from the top of Netscape window to reveal a pull-down menu. Select the **Print** option. The following items below are the ONLY items that can be printed from a Netscape window:

- Response to a DACS Message
- Response to a Report
- A Circuit Trace Table or an Altroute Table

**WARNING:**

Do not attempt to print the DND GUI forms or the DACS network map. The DND system will freeze.

Summary of Menus and Forms

Overview

The table below includes a comprehensive listing of menu selections, from the highest level on the left (the buttons on the DND Task Bar) and moving to the lowest level to the right. At the lowest level is typically a form. Nearly all forms include a **Action:** field. The Action identifies the task you want to perform. The table summarizes the **Actions** available.

Task Table

The DND GUI tasks are organized as follows:

DND Task Button	Second Level	Action/Third Level
ALARM SUMMARY	INDIVIDUAL BUTTONS TO OBTAIN DACS ALARM SUMMARIES	ALARM SUMMARY REPORT
PROVISIONING	CIRCUIT	ACTIVATE DELETE MODIFY PEND DEACTIVATE COMBINE ALTROUTE NORMALIZE ADDLEG DELLEG CHGRPATH TRACE
	NPC	CREATE RESTORE MODIFY REMOVE DELETE LOOPBACK
	INTERTIE	CREATE DELETE MODIFY ADDNPCS DELNPCS

(Continued on next page)

Summary of Menus and Forms (Continued)

Task Table, Continued

Main Task Button	Second Level	Action/Third Level
PROVISIONING, Continued	DATABASE AUDIT/SYNC	ALARM SYNC CHANNEL AUDIT CHANNEL SYNC NPC AUDIT NPC SYNC SUBRATE AUDIT SUBRATE SYNC UPLOAD ABORT
	TEST ACCESS	MONITOR SPLIT HUB TERMINATE UNTERMINATE RELEASE LOOP
	DACS*	CREATE RESTORE BRESTORE MODIFY REMOVE DELETE MODIFY
	END USER*	CREATE DELETE MODIFY
	DACS MESSAGE	
REPORTS	ALARM LOG	
	CIRCUIT ALARMS	
	NPC ALARMS	

(Continued on next page)

Summary of Menus and Forms (Continued)

Task Table, Continued

Main Task Button	Second Level	Action/Third Level
REPORTS, Con't	COMMON EQUIPMENT ALARMS	
	CIRCUIT	CIRCUIT CONNECTIONS CIRCUIT OPTIONS CIRCUIT INFORMATION CIRCUIT AVAILABILITY
	CHANNEL	
	NPC	NPC IDS NPC NUMBERS
	AUDIT/SYNCHRONIZATION	ALARM SYNC CHANNEL AUDIT CHANNEL SYNC NPC AUDIT NPC SYNC UPLOAD
	ECHOED RESPONSE PROCESSING	CIRCUIT NPC TEST ACCESS
WORKSPACE	SAVE TO SERVER*	
	REVERT TO SAVED	
SESSION	USER LOGIN	
	LOGOFF	
HELP	HELP TABLE OF CONTENTS	HELP TOPIC
* System Administrative functions only		

DND Main Window and Form Navigation

3

Contents

■ Background	3-4
Purpose	3-4
Objectives	3-4
Related tasks	3-4
Related information	3-4
■ The DND Main Window	3-5
Overview	3-5
Background Picture	3-5
DND Main Window	3-6
Window Menu Icon	3-7
Window Name	3-7
Minimize Icon	3-7
Maximize Icon	3-7
Netscape Menu Bars	3-7

(Continued on next page)

Contents (Continued)

DND Task Bar	3-7
DND Logo	3-8
DND Task Bar Buttons	3-9
DND Workspace	3-10
Network Map	3-10
New Icon Area	3-10
End User Icons	3-10
DACS Icons	3-10
DACS Icon Menu	3-12
Intertie	3-13
Intertie Bubble	3-13
Status Summary Window	3-14
Connection and Display Status Line	3-14
■ Navigating through the DND Main Window	3-15
Using the Mouse	3-15
Using the Tab Key	3-15
Icon/Node Pull-down Menus	3-16
On-line Help	3-16
DND Main Window Usage	3-16
Additional Netscape Help	3-16
■ DND GUI Forms	3-17
Overview	3-17
DND GUI Sample Form	3-17

(Continued on next page)

Contents (Continued)

Alarm Status Indicator (ASI)	3-18
New Alarm Indicator	3-18
Box; Field Box	3-18
Combo Box Field	3-18
Text Field	3-18
Radio Button Field	3-19
Checkbox Field	3-19
Navigation Buttons	3-19
Context-Sensitive Help	3-21
Command Response Field	3-21
■ Navigating through Forms	3-22
The Expansion of Forms	3-22
Modifying Information on a Form	3-22
Executing an Action	3-22
Form Expansion Example	3-23
Selecting a What's Next Option	3-25
Displaying Provisioning Forms	3-25
■ Control Options Box	3-26
Description	3-26
The Reconcile Mode	3-26
The Scheduling Mode	3-27
Scheduling Options Field Descriptions	3-28

Background

Purpose

The purpose of this chapter is to familiarize users with the DND GUI. Users will be able to recognize text, buttons, field names, and other relevant information relating to the DND GUI.

Objectives

After reading this chapter, you should be able to:

- Identify a DACS network map
 - Identify the DACS network alarm severity of DACS icons and interties
 - Use the mouse to click and drag DACS and End User icons across the DND Workspace
 - Navigate through GUI form fields using the mouse or tab key
-

Related tasks

For related tasks, refer to the following General Task:

- GT 30: Replacing the DND Workspace Background Graphic
-

Related information

For related information refer to the:

- *DACS II and DACS II ISX Operation and Maintenance Guide*
 - *DACS II Network Director Installation Manual*
-

The DND Main Window

Overview

The DND Main window is a Netscape browser window displaying the DND Workspace. The DND Workspace displays the DACS network map, a collection of DACS icons, End User icons and interties illustrating the connections and elements that exist in the DACS network. The DND GUI 's straight-forward interface allows users to manipulate these network elements to the configuration of their DACS networks.

All DND tasks start from this window by:

1. Clicking the specified task button located in the DND Task Bar
 2. Selecting the appropriate, specific task which appears on the pull-down menu.
-

Background Picture

The DND Workspace displays the DACS network map on a background picture in .gif format. The image on the DND Workspace is a .gif file. This image can be changed to any .gif figure you choose.

Ideally, the replacement image you choose should have the same dimensions as the original image. Otherwise, the size of the replacement image may affect or warp the size of the DND Workspace.

The DND Main Window (Continued)

DND Main Window

Figure 3-1 displays a DND Main window and an example of a DACS Network Map.

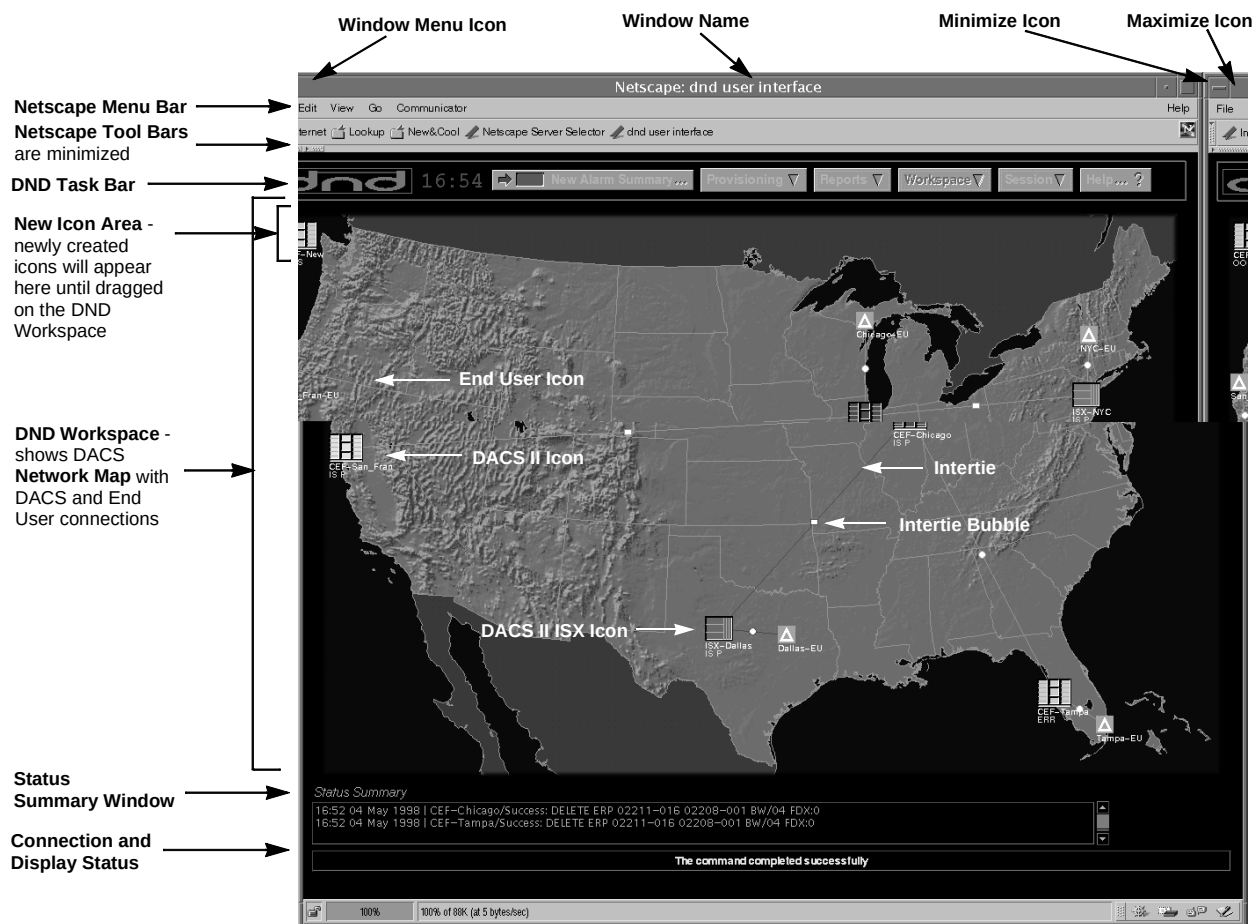


Figure 3-1. Sample DND Main Window



NOTE:

The Window Menu Icon, Window Name, Minimize Icon, and Maximize Icon apply only to the recommended CDE. Use of OpenLook or any other window manager may change the window frame decoration.

Parts of the DND Main Window

Window Menu Icon

Click the Window Menu Icon to reveal a pop-up menu of actions for the window. Double-click this icon to close the window and exit the DND GUI.

Window Name

The title of the Netscape window. The Window Name also appears on every form and report display.

Minimize Icon

Click the Minimize Icon to minimize the window.

Maximize Icon

Use the Maximize Icon for the following:

- If the square icon is raised, click it to maximize the window to full screen
 - If square icon is recessed, click it to make the window smaller
-

Netscape Menu Bars

The Netscape Menu bars are used for Netscape operations, but are, however, not necessary for DND activation. By default, these bars will appear minimized to conserve screen space. To display a tool bar, click the triangle of the minimized tool bar

DND Task Bar



The DND Task Bar is composed of the DND logo, system time (24 hour clock), and system task buttons. The task buttons will be used to perform provisioning, report operation, and other DND GUI tasks.

Parts of the DND Main Window (Continued)

DND Logo



The DND logo acts as a processing indicator for the system. When a user logs on to the DND GUI, a red line will appear as part of the logo. The line indicates connectivity between the GUI (front end) and the DND server (back end). The connectivity line will flash a light from left (front end) to right (back end), indicating the connection is being activated.

Periodically, the server sends polling information (current alarm status and time of day information) to the DND GUI. This is indicated by a flash of light along the connectivity line from right to left.

When the DND is retrieving a form, a light flashes from left to right, indicating a request from the GUI to the server for the form. This is also indicated by the "Logged in to DND server" message that appears in the Main Status field on the DND GUI Main Window. Once the form has been retrieved, the bright light quickly flashes back from right to left, sending the form from the server to the GUI. The polling flashes from right to left will begin appearing again.

The logo display is an indicator of approximate message activity between the front-end and back-end, and is not necessarily synchronized with actual messages, i.e. message transactions may be completed before indicated on the logo display.

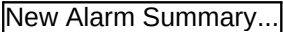
When a user is logged off, the red line disappears from the DND logo and the flashing light is discontinued.

Parts of the DND Main Window (Continued)

DND Task Bar Buttons

The descriptions of the DND Task Bar buttons are in Table 3-1.

Table 3-1. DND GUI Task Bar Buttons

Button	Description
 	Displays the New Alarm Summary window.
 	Displays the menu for ALL provisioning-related tasks.
 	Displays the menu for ALL reports, except intertie reports.
 	Displays the Workspace menu, which allows changes in the layout of DACS icons to be saved (for all users) or discarded. Button remains inactive until a change in the Workspace occurs (i.e., a DACS icon is dragged to a different location in the window).
 	Displays the menu with choices for login and logoff.
 	Displays on-line content help for the DND GUI in a separate window.

Parts of the DND Main Window (Continued)

DND Workspace The area of the DND Main window where the Network Map is created, modified, and monitored for alarm status.

Network Map The collection of elements such as DACS and End User icons and interties used to illustrate the graphical representation of the DACS network. The color of the interties and DACS icons indicate alarm status.

New Icon Area Area on the DND Workspace where a newly created icon initially appears. Drag and drop the icon to the appropriate place on the DND Workspace. Click **Workspace** in the DND Task Bar to save the Workspace change to the DND server.

End User Icons



Customer1

End User icons represents End User/non-DACS equipment. All End Users have in the same color and design. The status of End User equipment cannot be monitored by the DND.

For additional information, refer to Chapter 6.

DACS Icons

The DACS icons represent existing DACS systems grown and restored in the DND network. The properties of the icons are:

- Distinguishable icons for the DACS II and DACS II ISX.



CEF2
IS P



ISX-1
IS P

- Icons can be moved within the DND Workspace
 - The icon will change to the color of the highest existing alarm severity detected on that frame.
 - Underneath the icon is the DACS name (user-defined) and its DACS state:
-

(Continued on next page)

Parts of the DND Main Window (Continued)

DACS Icons, Continued

The DACS state is described in Table 3-2.

Table 3-2. Alarm State Descriptions

DACS State	Description
IS P	In-Service, Primary
IS B	In-Service, Backup is "primary" line
OOS	Out-of-Service
AS	An Audit/Synch command is in progress
QRY	A Query command is in progress
ERR	Error - Provisioning error due to databases being out of synch
ALM	DACS in alarm

The DACS icon color indicates the system's highest alarm state. The color scheme is described in Table 3-3.

Table 3-3. DACS Color Scheme

Color	State of DACS
Green	No alarms on the DACS
Yellow	Highest alarm state on the DACS is a Minor alarm
Red	Highest alarm state on the DACS is a Major alarm
Magenta	Highest alarm state on the DACS is a Critical alarm
Grey	The DACS is indicating Out-of-Service (OOS), Query (QRY), Error (ERR), or Alarm (ALM).

Parts of the DND Main Window (Continued)

DACS Icon Menu You can obtain perform DACS and other provisioning actions directly from the DACS icon. Right-click and hold the mouse button on the icon to display a pull-down menu, as shown in Figure 3-2, with the following choices:

If you select...	...Then DND will display...
Circuit Provisioning...	The CIRCUIT PROVISIONING form with the appropriate DACS name automatically filled in
NPC Provisioning...	The NPC PROVISIONING form with the appropriate DACS name automatically filled in
Intertie Provisioning...	The INTERTIE PROVISIONING form with the appropriate DACS name automatically filled in as SITE 1
Database Audit/ Synchronization...	The DATABASE AUDIT/SYNCHRONIZATION form with the appropriate DACS name automatically filled in
DACS Provisioning...	The DACS PROVISIONING form with the appropriate DACS name and information automatically filled in
End User Provisioning...	The END USER PROVISIONING form with the appropriate DACS name automatically filled in
Alarm Log Report...	An Alarm Log Report for the DACS
Equipment View	The Equipment View for the DACS

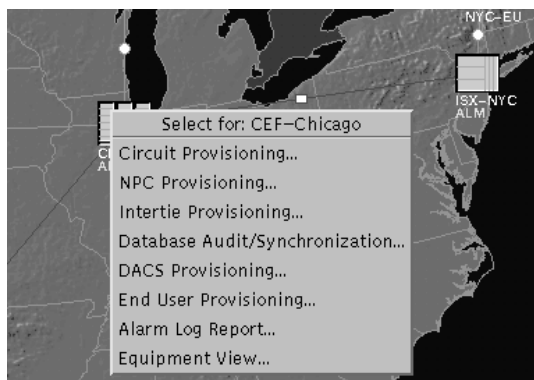


Figure 3-2. DACS Icon Menu

Parts of the DND Main Window (Continued)

Intertie

Interties represent connections, or trunk lines, between network elements. NPCs are provisioned on either side of the intertie to define the physical connection, however, NPCs cannot be provisioned on the side of the intertie connected to an End User.



Interties change color if at least one NPC connected to it is in alarm. The color reflects the highest alarm state of an NPC on the intertie. The color scheme is described in Table 3-4.

Table 3-4. Intertie Color Scheme

Color	State of DACS
Green	No alarms on any NPCs on the intertie
Yellow	Highest alarm state of an NPC on the intertie is a Minor alarm
Red	Highest alarm state of an NPC on the intertie is a Major alarm
Magenta	Highest alarm state of an NPC on the intertie is a Critical alarm

Intertie Bubble

Each intertie has an intertie bubble (circular or square) located in the center. A circular bubble indicates a direct trunk connection, and the square bubble indicates an indirect connection (i.e. SONET ring, etc.). The bubble is used to easily select the intertie with the mouse pointer to reveal the intertie's pull-down menu.

Parts of the DND Main Window (Continued)

**Status Summary
Window**

The Status Summary Window displays all system status messages, audit/sync statistics, echoed response messages, error messages, etc.

**Connection and
Display Status
Line**

The Connection and Display Status Line displays the server connection and user interface status.

Navigating through the DND Main Window

Using the Mouse

While navigating through the DND Workspace or forms, the following terms are used throughout this manual to distinguish mouse functions from one another:

- **Select** or **Click** - implies a quick press and release of the left mouse button.
 - **Right-click** - implies a quick press and release of the right mouse button.
 - **Drag** - implies a **Click** on a icon and hold of the left mouse button, while sliding the mouse pointer across the screen. This will move the icon across the screen with the mouse.
 - **Drop** - implies letting go of the left mouse button after performing a **Drag**.
 - **Enter** (information in a field) - implies placing the mouse cursor in a field to type information.
-

Using the Tab Key

The General Tasks in this manual are written assuming you will use your mouse to navigate through the fields and buttons on the form. Alternatively, you can use the **Tab** key on your keyboard to move between fields and buttons.

The field or button that is active will be highlighted by a dotted rectangle around it (in the case of combo boxes and text fields, a slightly heavy rectangle will be shown on around the inner border of the field). If a text field is highlighted, you can type into the field. When a button is highlighted, you can press the **RETURN** key or the spacebar on your keyboard to activate it. For other fields, you will still need the mouse to perform selections.

Navigating through the DND Main Window (Continued)

Icon/Node Pull-down Menus

When a network element (icon or intertie node) is right-clicked, a pull-down menu appears in the DND Workspace next to the element. The menus contain provisioning actions and/or report operations to perform for that particular element.

Additionally, from a DACS pull-down menu, you can obtain the Equipment View for that DACS. This is the only way you can display an Equipment View. For additional information on Equipment Views, refer to Chapter 4.

On-line Help

There are two types of on-line help:

1. The **Context-Sensitive** Help - On each form, when the cursor is clicked within a field, or the Tab key is used to move from field to field, a brief field description, or helpful tip, appears just above the form's Message field to aid users in completing the forms.
 2. The **Content** Help - When the [Help...](#) button, located in the DND Menu Bar, is clicked, a table of contents will appear listing similar DND topics as covered in this manual. Clicking on the topic names will reveal its help information.
-

DND Main Window Usage

The Netscape window used for the DND Main window should only be used for DND operations. If you need to use a Netscape window for another purpose, open a separate Netscape window to avoid being logged out of the DND Main window.

Additional Netscape Help

For additional assistance with Netscape, click *Help* located on the Netscape Menu bar to display a menu of help items.

DND GUI Forms

Overview

In this section, you will be introduced to the form conventions used in the DND GUI.

DND GUI Sample Form

Figure 3-3 illustrates the parts of a typical DND GUI form.

New Alarm Indicator - a new alarm has entered the system

Alarm Status Indicator (ASI) - indicates overall alarm status of DACS

Combo Box Field - click anywhere on field to display a list of choices

Text Field - click in field and type text

Field Box - group of related fields

Checkbox Field - can choose as many choices as displayed

Radio Button Field - can only select one

Navigation Buttons - move through form

Context-Sensitive Help - describes active field or button

Command Response Field - displays completion/denial/request acknowledgment messages

CIRCUIT PROVISIONING SEARCH CRITERIA

dnd

Site Name: CEF-San_Fran Available Formats: CIRCUIT CONNECTIONS

Circuit ID: Bandwidth: Bandwidth Type:

Status: * Ckt Class: * DMB Mode: *

NPC

NPC Specifier: ☒ ID ☐ Hier ☐ Extd Range: ☒ = ☐ > ☐ <

NPC: CHANNELS

Channel: Range: ☒ = ☐ > ☐ <

CIRCUIT INFORMATION

Circuit Options

No Transmit (NTR): * NAM: ☐ AIS: ☐ RDLN: ☐ OOS: ☐ INCL: ☐ DCC: ☐ TLA: ☐

Channel Options

Trunk Conditioning: * Insertion Word: * Signaling Conversion: Framing:

Circuit Data

Location A: Location Z: Customer Name: Priority:

Remarks:

Service Date

Day: * Month: * Year: * Range: ☒ = ☐ > ☐ <

Continue ... Restart Close

? Continue with next section of the form

Unsigned Java Applet Window

Figure 3-3. Sample DND GUI Form

Parts of a Form

Alarm Status Indicator (ASI)

The Alarm Status Indicator (ASI) shows the overall alarm status of the DACS. This will appear at the top of every DND GUI form.

ASIs appear also on Equipment View subassemblies (for a DACS II), indicating the overall alarm status for a particular subassembly. On the Equipment View of individual circuit packs, the ASIs appear as "LEDs."

New Alarm Indicator

The New Alarm Indicator is a red arrow which indicates that a new alarm has occurred somewhere in the DACS network. This appears on the top of every DND GUI form and on the New Alarm Summary... button in the DND Task Bar.

An alarm is no longer considered new when it has been displayed in a report retrieved from the Alarm Summary window. After all new alarms have been viewed in this manner, the red arrow (ASI) disappears until more new alarms occur.

Box; Field Box

A Field Box is a collection of related fields, i.e., The **Control Options** box, indicated by a thin border drawn around the related fields, usually with a caption in the top left corner.

Combo Box Field

A Combo Box field is a field with a down arrowhead located to the far right. Clicking anywhere on the field will display a pull-down dialog window containing the choices for that field.

The field automatically contains a default value. To change the field entry, select a choice from the pull-down list. Only ONE choice can be selected.

Text Field

A field where the user can type in text. Select the field to make it active and begin typing in desired information into the field.

Parts of a Form (Continued)

Radio Button Field A Radio Button Field is an on/off button field that appears as a group of checkboxes. Click once to select/turn on a choice (a check appears), and click again to deselect the choice. You can only select ONE of the choices from a Radio button field.

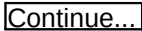
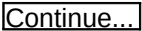
Checkbox Field A Checkbox Field is an on/off button field. Click once to select/turn on a choice (an "X" appears in the field), and click again to deselect the choice. You can select as many choices as are available in the field.

Navigation Buttons

The Navigation buttons are used to navigate through the form, execute commands, and close the form.

Table 3-5 describes the key navigation buttons found on various forms.

Table 3-5. Key Navigation Buttons on GUI Forms

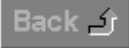
Button	Description
 	 moves the user forward through the DND GUI form, retaining all previously selected and entered information on the form. As the form transitions, the following message appears in the Command Response field: <i>"Request sent to server, please stand by"</i> Field defaults are displayed as you move forward. If mandatory fields have incorrect, insufficient, or no data, a denial message will appear in the Command Response field and forward movement is terminated.
 	 exits the form. If  is clicked in the middle of an action, all selected and entered data is lost.

(Continued on next page)

Parts of a Form (Continued)

Navigation Buttons, Continued

Table 3-5. Key Navigation Buttons on GUI Forms, Con't

Part	Function
Close Con't	 NOTE: When you select Execute and then Close, the form clears, processes, then reappears displaying the appropriate message in the Command Response field.
Execute 	When Execute is clicked, the command on the form is sent to DND to perform the action. When processing is completed on the specified action: ■ If data entered is error-free, the new data is entered into the DND and the completion message is displayed in the Command Response field, or... ■ If any of the data is incorrect, a denial message is displayed in the Command Response field. The new status of the system will be updated on the network map.
Back 	Back moves the user one transition stage backward. All previously selected and entered information is retained on the form. Clicking Back continuously will move the user backward one stage at a time until the initial form window appears. Back disappears when the initial stage of the form is reached.
Restart 	Restart returns the form back to its initial state. All previously entered and selected data is lost.
New Action 	New Action appears on Provisioning forms only. New Action is displayed in the What's Next? box AFTER an Action has been executed. New Action provides a means to perform the next logical Action, retaining all previously selected and entered information on the form.

Parts of a Form (Continued)

Context-Sensitive Help

The Context-Sensitive Help provides a brief description of the active field or button. Help is displayed if it is defined for a particular field or button and the form object (field or button) accepts input focus (is active). Input focus is moved by either clicking on a form object or tabbing through the form objects.

Command Response Field

The **Command Response** field will contain the following sample messages:

- Immediately after clicking **Execute**, the following message will appear in the **Command Response** field:

Request sent to server, please stand by.

Wait for the DND to complete its processing.

- When a command is processed successfully by the DND, the completion message displays in this field.

The command completed successfully

- When the command can not be processed, this field becomes red and displays an appropriate denial message.

You entered incorrect data into the Circuit ID field. The valid length is 1 to 41.

- If a command is being processed in the background, the following message appears in the **Command Response** field:

The command will be executed in the background.

Navigating through Forms

The Expansion of Forms

The forms are designed to walk you through each stage of the form, the form, expanding as needed as the information is filled into it. Clicking **Continue...** moves the user to the next stage of the form if the information has been correctly supplied.

The expansion of the form depends on the complexity of the action performed and varies between different forms. For example, creating an NPC (GT 80) requires more stages and intermediate processes than creating an intertie (GT 71). By the same token, the actions within the same form can require a different number of stages. For instance, creating a DACS (GT 50/GT 51) requires more stages and intermediate processes than modifying a DACS (GT 54).

Modifying Information on a Form

Most forms transition through several sections before a complete action is ready to be executed. Transitions are effected by clicking **Continue** if the information already entered is acceptable to the DND. Once **Continue** is clicked, all previously completed fields will appear in read-only mode. These fields cannot be changed unless you click **Back** "n" times until you reach the section of the form you want to edit. Once you have made your changes, click **Continue** "n" times to reach the section of the form where you left off. The information on the form will be preserved.

Executing an Action

By entering data through the form, you set up an action to be performed on a DACS (or whichever database(s) is selected). The DND will not allow you to perform an improperly timed or ill-prepared operation, so it incorporates a number of consistency checks after clicking **Execute**, and in some cases, when moving between form stages. Wait for the DND to complete this process before proceeding with another **Action**.

DND will execute the command immediately or in the background (i.e., Audit/Synchronization **Actions** (Chapter 10)). If the command is executed immediately, the form is frozen until the system returns a response. If the command is executed in the background, then the form is available to perform another **Action**.

Navigating through Forms (Continued)

Form Expansion Example

The following set of screens illustrate the expansion of the *CREATE* Action for the END USER PROVISIONING form.

There are four transition stages to the expansion form. Most forms begin similarly to this one. Press **Continue...** to progress to the next stage.



Figure 3-4. Stage 1: Select Action and Site

The number of these stages varies depending on complexity of form and action.

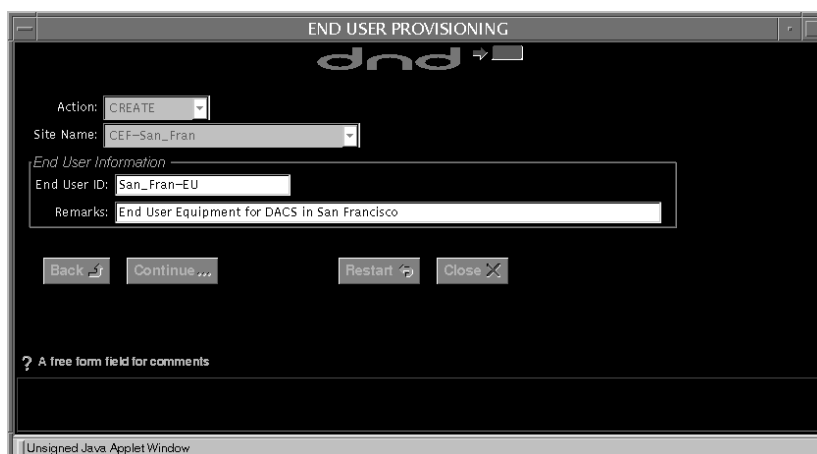


Figure 3-5. Stage 2: Enter Information

(Continued on next page)

Navigating through Forms (Continued)

Form Expansion Example, Continued

The appearance of the **Execute** button indicates that all of the necessary information is entered, and the DND is ready to process this action.

The screenshot shows the 'END USER PROVISIONING' window. At the top, there's a 'dnd' logo. Below it, the 'Action' dropdown is set to 'CREATE'. The 'Site Name' dropdown is set to 'CEF--San_Fran'. Under the 'End User Information' section, the 'End User ID' is 'San_Fran-EU' and the 'Remarks' field contains 'End User Equipment for DACS in San Francisco'. At the bottom, there are four buttons: 'Back', 'Execute' (which is highlighted with a checkmark), 'Restart', and 'Close'. Below the buttons, there's a section titled '? Execute the action on this form' with a large empty text area. The status bar at the bottom says 'Unsigned Java Applet Window'.

Figure 3-6. Stage 3: Review Entered Information; Execute Action

Each provisioning form provides New Action navigation button(s) to direct you to the next logical action for the current form. The Report forms do not provide this feature.

The screenshot shows the 'END USER PROVISIONING' window after the action has been completed. The 'Action' dropdown is still 'CREATE', 'Site Name' is 'CEF--San_Fran', 'End User ID' is 'San_Fran-EU', and 'Remarks' is 'End User Equipment for DACS in San Francisco'. The buttons now are 'Back', 'Restart', and 'Close'. A new section titled 'WHAT'S NEXT' has appeared, containing 'New Action' and 'Intertie' buttons. Below this, the text '? Execute the action on this form' is followed by 'The command completed successfully'. The status bar at the bottom says 'Unsigned Java Applet Window'.

Figure 3-7. Stage 4: Action Completed; Perform Next Action

Navigating through Forms (Continued)

Selecting a What's Next Option

The What's Next options help users choose the next logical **Action** after the current **Action** is executed. Most provisioning forms offer a What's Next box displaying special buttons to guide users to the next **Action**, which may or may not be on the same provisioning form.

Most General Tasks will have a What's Next step at the end of its task. These What's Next options will be similar for all the General Tasks in the same chapter.

Displaying Provisioning Forms

All General Tasks in the manual assume you will display a provisioning form by clicking [\[Provisioning\]](#) from the DND Task Bar. You can also display provisioning forms by right-clicking on a DACS icon (or the Intertie Bubble for the INTERTIE PROVISIONING form) and selecting the desired provisioning form from the pull-down menu.

If you right-click on the desired DACS icon or intertie bubble, the DND will display some of the provisioning form for you with the information of the particular DACS/ intertie. This can save you a few keystrokes and mouse clicks.

Control Options Box

Description

Located on some provisioning forms, the Control Options box is a group of checkbox fields used for specifying the following command information:

- The Reconcile Mode
 - The Scheduling Options Mode
-

The Reconcile Mode

The **Reconcile Mode** determines the database(s) in which to store the new information generated by the current **Action**. The **Reconcile Mode** choices are as follows:

- **DND and DACS** - (default) Updates both the DACS and DND databases
- **DND only** - Updates only the DND (local) database
- **DACS only** - Updates only the DACS (facility) database

Ideally, the DACS and DND databases should be kept consistent, however, there may exist situations where you would only want to change the DACS or DND databases individually. For example, if you are installing the DND at a site where NPCs have already been provisioned, you can perform NPC Provisioning **Actions** (Chapter 8) and specify the **DND only** option, provisioning those NPCs in the DND database as well.

Control Options Box (Continued)

The Scheduling Mode

The **Scheduling Mode** (sometimes called the **Execution Mode**) determines when an **Action** is executed. The Scheduling Mode choices are as follows:

- **Immediate** - (default) Performs the current Action immediately after pressing **Execute**.
- **Schedule** - Performs the current Action at the date and time specified.

When **Schedule** is selected, a Scheduling Options box appears on the form

The screenshot shows a 'Control Options' dialog box. It has two main sections: 'Reconcile' and 'Execution Mode'. The 'Reconcile' section has a 'Mode' label with three radio buttons: 'DND and DACS' (selected), 'DND only', and 'DACS only'. The 'Execution Mode' section has a 'Mode' label with two radio buttons: 'Immediate' and 'Schedule' (selected). Below these is a 'Scheduling Options' section. It contains a 'DATE' section with 'Day' (09), 'Month' (Apr), and 'Year' (1998) dropdowns. To the right is a 'TIME' section with 'Hour' (14) and 'Minute' (31) dropdowns. At the bottom is a 'Repeat' section with 'Number of times' (01), 'Interval' (00), and 'Scale' (None) dropdowns.

Figure 3-8. The Control Options Box: with *SCHEDULE* selected

Control Options Box (Continued)

Scheduling Options Field Descriptions

Table 3-6 describes the fields and values in SCHEDULING OPTIONS:

Table 3-6. Scheduling Options Field Descriptions

Field	Description
DATE	(Combo box) The date of the first scheduled execution. The fields are: Day - day of the Month (1 through 31) Month - month in the Year (Jan through Dec) Year - The year (1990 through 2037) The default is the current date and time.
TIME	(Combo box) The time of the first scheduled execution. The fields are: Hour - The hour on a 24 hour clock (00 through 23) Minute - The minute (00 through 59)
Number of times	(Text field) Two numerical digits. A value specifying the number of times the task is to execute. (default=01). The value 00 obtains indefinitely repeated execution.
Interval	(Text field) The number of Scale units between successive executions of the Action . (01 through 99)
Scale	(Combo box) The type of units in which the Interval is expressed. The choices are: Minutes - increments of Interval minutes Hours - increments of Interval hours Days - increments of Interval days

Contents

■ Background	4-3
Purpose	4-3
Objectives	4-3
Related information	4-3
■ Using Equipment Views	4-4
Description	4-4
NPC Numbering	4-4
The Alarm Status Indicator	4-5
Common Equipment Alarm Indication	4-5
The Half LED Alarm Indicator	4-5
Power Alarms	4-5

(Continued on next page)

Contents (Continued)

■ Displaying Equipment Views	4-6
Overview	4-6
Using the Back Button	4-6
Using the Refresh Button	4-6
Using the Close Button	4-6
DACS II High Level View	4-7
DACS II IFTU View	4-8
DACS II DSPU View	4-9
DACS II DS3U View	4-10
DACS II ECCN View	4-11
DACS II MC View	4-12
DACS II ISX High Level View	4-13

Background

Purpose

The purpose of this chapter is introduce users with the equipment view concept. Users will be able to visually monitor the alarm status and equipage of a DACS.

Objectives

After reading this chapter, you should be able to:

- Display an equipment view of a DACS and a DACS unit
 - Identify the equipage and alarm severity status of a DACS or its subassemblies
-

Related information

For related information refer to the:

- *DACS II and DACS II ISX Operation and Maintenance Manuals*
-

Using Equipment Views

Description

An equipment view displays the equipage and alarm status of a DACS. The DACS II ISX has one view of its high-level system components (NPCs, power units, timing references, etc.). The DND supports the following equipment views:

- High-level view of the DACS II and entities
- Detailed view of the various DACS II sub-assemblies and units:
 - Facility Terminating Unit (IFTU) (The FTU and IFTU2 views are displayed in the IFTU 2 format)
 - Digital Signalling Processing Unit (DSPU)
 - Digital Signal 3 Unit (DS3U)
 - Cross-Connect Network (E/CCN) sides 0 and 1
 - Main Controller (MC)
- High-level view of DACS II ISX

The unit views are provided for both CEF and Non-CEF frames. Each unit equipment view displays the NPC and/or other circuit pack equipage on that unit. NPCs are shown in a slot if either one or both NPCs in the slot is equipped. Dark grey spaces in either the high-level or sub-assembly views, indicate a vacant slot(s) between circuit packs or units which are not equipped on the DACS.

The MC and CCN equipment views are not available for Non-CEF frames. The overall alarm status of these entities can be viewed from the high-level view. The MC and CCN entities are not clickable from the high-level view.

NPC Numbering

The NPC slots in all equipment views are numbered, whether they occupy the space on the DACS or not. The numbers are displayed in either hierarchical or extended, depending on how the DACS is provisioned.

The NPC slot numbers on the DACS II are typically displayed in the hierarchical numbering scheme, while the DACS II ISX is typically displayed in the extended numbering scheme. However, you can change the way the NPC numbers appear on the view by modifying a DACS to use the desired NPC Numbering scheme (refer to GT 54 - Modifying a DACS).

Using Equipment Views (Continued)

The Alarm Status Indicator

Each high-level view or sub-assembly view has an Alarm Status Indicator (ASI), either a colored rectangle on the sub-assemblies in the high-level view, or a colored "LED" circle on circuit packs in the unit views. With the exception of the MC alarm indicators, the LEDs do not physically appear on the circuit packs. The alarm color scheme is identical to that of the DACS and intertie alarm colors.

Table 4-1. Alarm Status Indicator Color Scheme

Color	Alarm Status
Green	In-Service, No Alarms
Yellow	Minor
Red	Major
Magenta	Critical
Grey	Out-of-Service

Common Equipment Alarm Indication

Common Equipment provisioning is not processed by the DND. However, circuit packs for common equipment on the DACS will appear in the equipment view. The ASI does not show the service state (i.e., will never appear grey), but the ASI will show alarm status.

The Half LED Alarm Indicator



When an NPC circuit pack is pulled from the DACS while the DACS is In-Service, or if an NPC failed a diagnostics test and is autonomously removed, the alarm indicator color becomes what is referred to as a "Half LED." Half of the LED displays the alarm color, while the other half of the LED is grey (OOS).

Power Alarms

Power alarms are stored as a single alarm entity on a DACS II and DACS II ISX. For the DACS II CEF, the power alarm status is displayed on the MC equipment view.

Displaying Equipment Views

Overview

To display an equipment view:

- Right-click and hold on a DACS icon from the DND network map on the DND Workspace window. A menu appears along side the icon.
- Select *Equipment View* from the menu. The EQUIPMENT VIEW window appears with a high-level view of the DACS selected or the full-view of the DACS II ISX. If displaying a DACS II, click on the sub-assembly displayed to get a detailed view of the particular sub-assembly.

Using the **Back** Button

Back jumps from a sub-assembly view to the high-level DACS view. If currently on the high-level view, **Back** is inoperable.

Using the **Refresh** Button

If changes occur in the DND database (i.e., new provisioning information or alarm status changes for a particular DACS), the DND does not perform equipment view updating in real-time. In other words, these changes will not be illustrated on an equipment view which is currently being displayed. Clicking **Refresh** updates the equipment view with any new alarm or equipage information which occurred since the view was displayed or the last **Refresh** was performed.

Using the **Close** Button

Close exits the Equipment View window.

Displaying Equipment Views (Continued)

DACS II High Level View

Figure 4-1 is a high-level depiction of a DACS II (CEF or Non-CEF) including the MC, CCN, and equipped units. The alarm state of each entity as well as the alarm summary is displayed on this view. The lower level view of these entities can be obtained by clicking on the entity in this view.

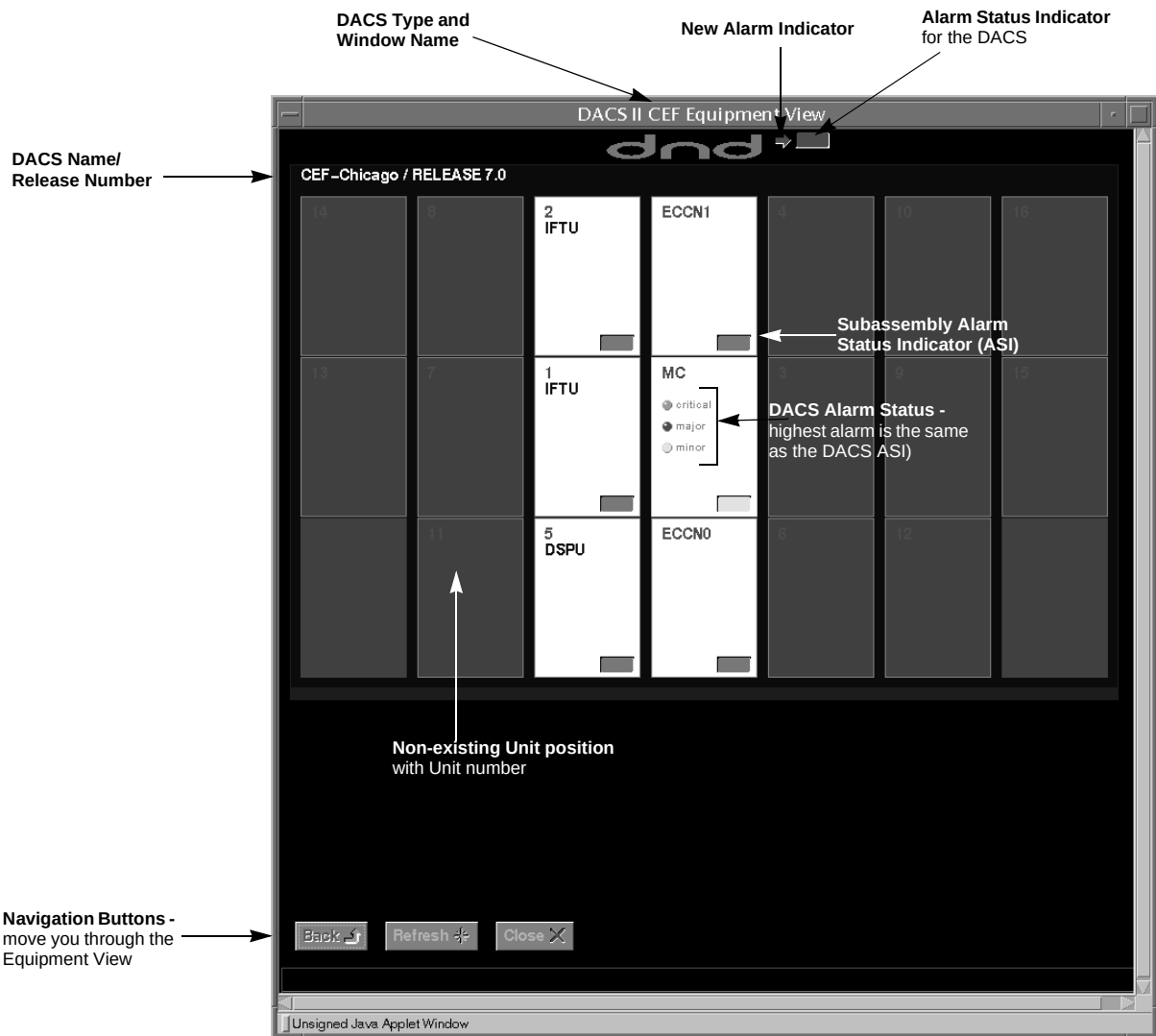


Figure 4-1. DACS II Equipment View - High Level

Using Equipment Views (Continued)

DACS II IFTU View

Figure 4-2 depicts the circuit pack positioning of a DACS II Facility Terminating Unit (FTU/IFTU/IFTU 2).

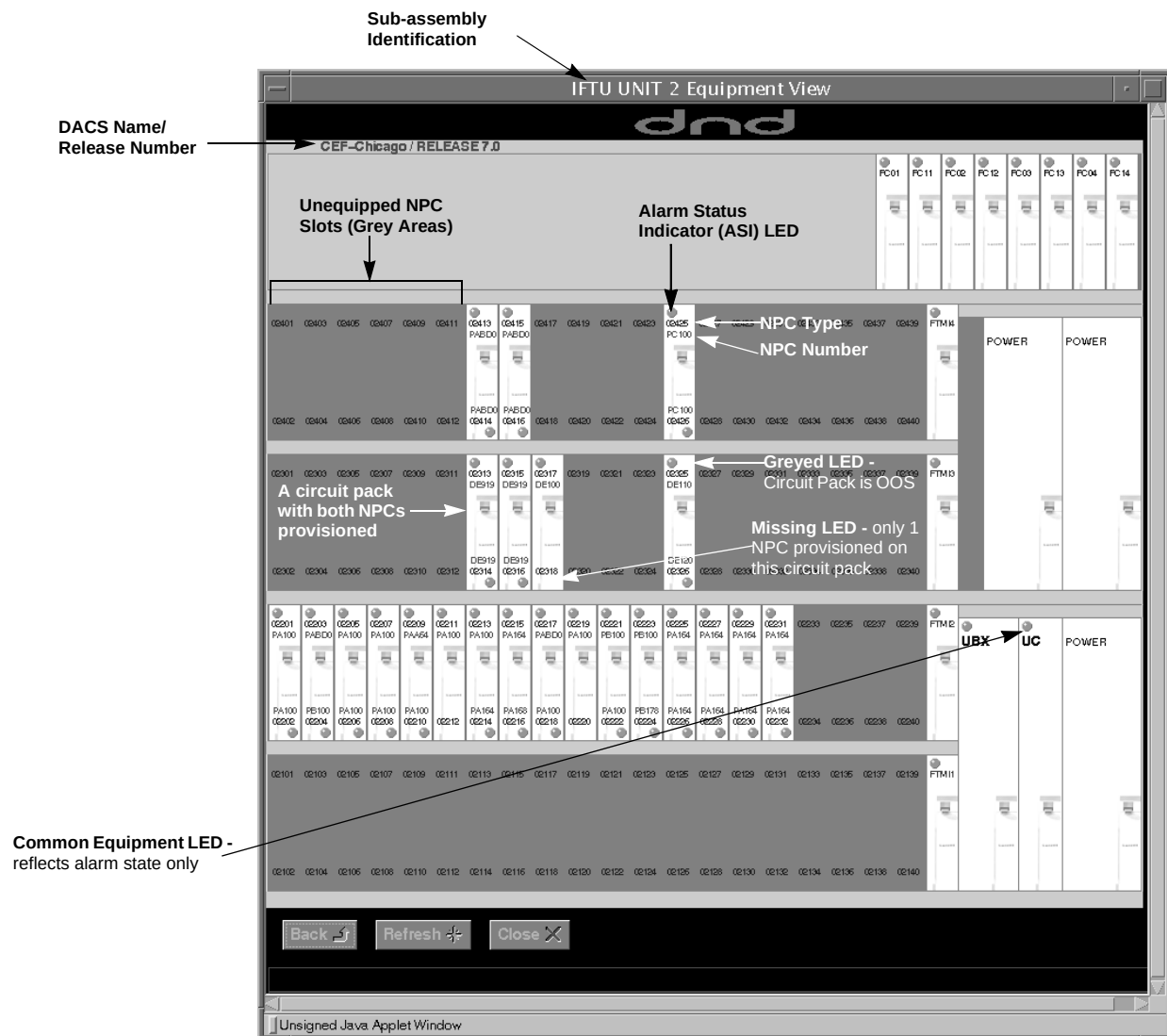


Figure 4-2. DACS II Equipment View - IFTU

Using Equipment Views (Continued)

DACS II DSPU View

Figure 4-3 is a depiction of a DACS II Digital Signal Processing Unit (DSPU).

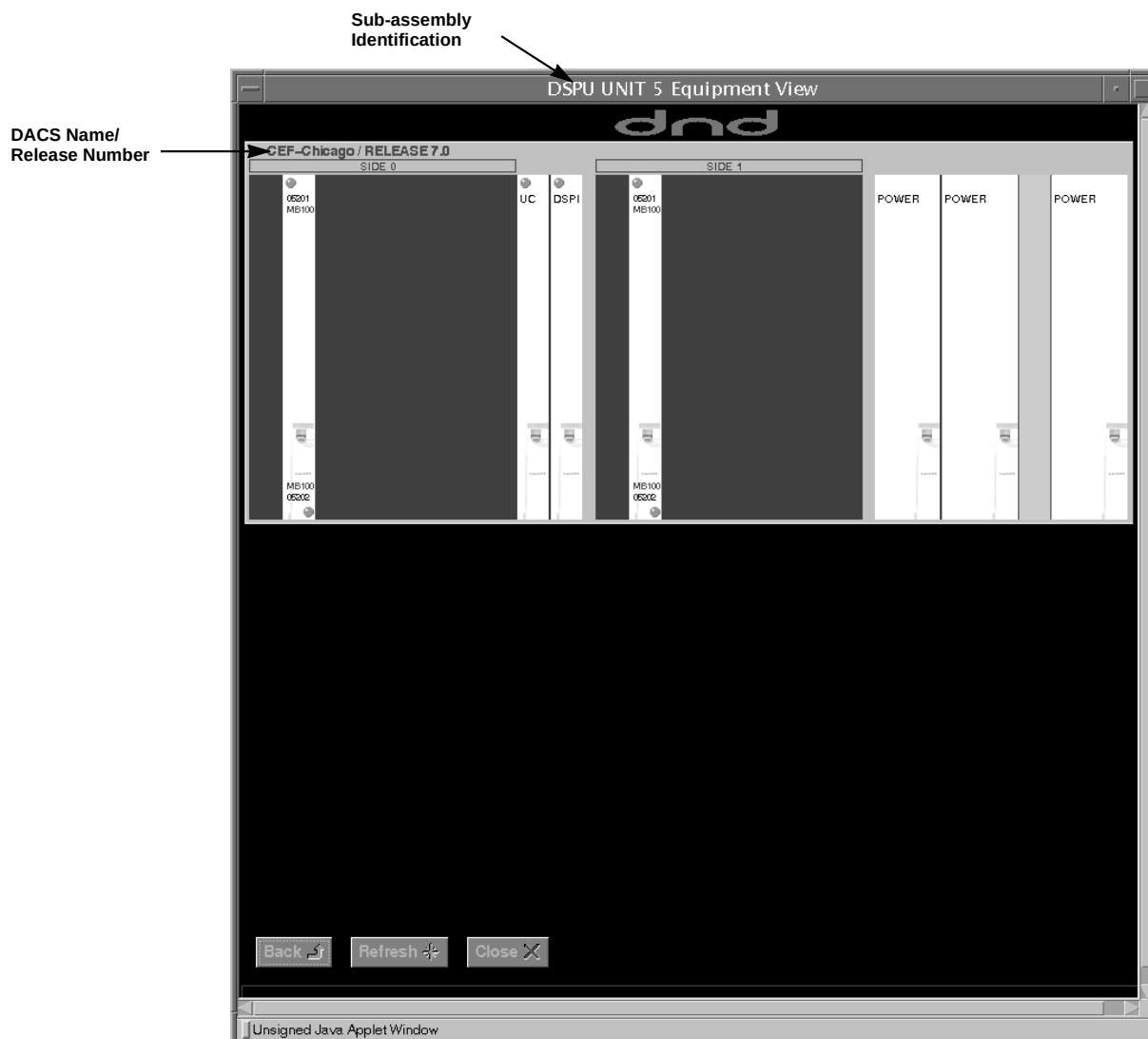


Figure 4-3. DACS II Equipment View - DSPU

Using Equipment Views (Continued)

DACS II DS3U View

Figure 4-4 is a depiction of a DACS II Digital Signal 3 Unit (DS3U).

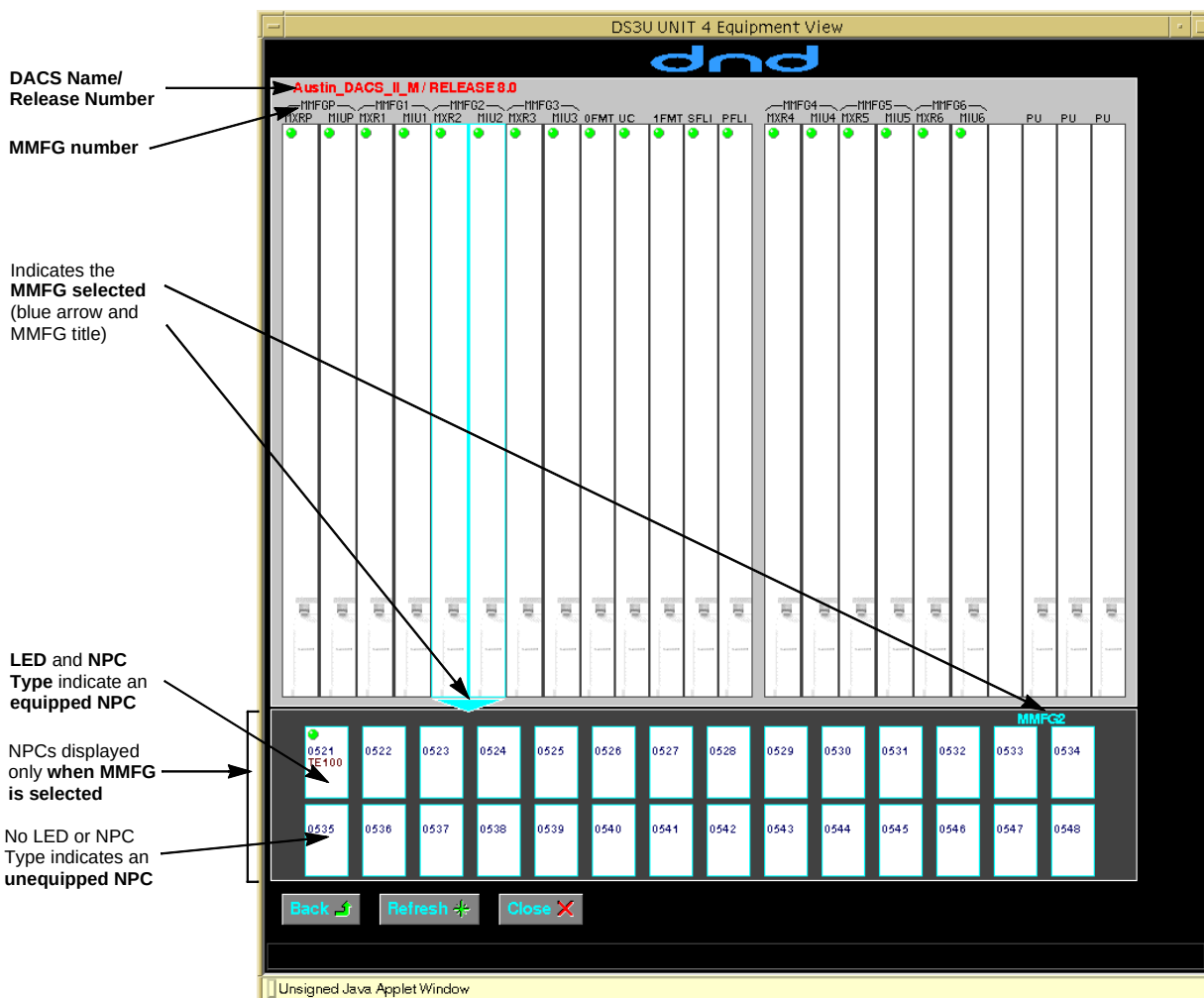


Figure 4-4. DACS II Equipment View - DS3U



NOTE:

Alarms occur on an MMFG unit. The equipment view does not indicate which pack (MIU or MXR) in the MMFG is in alarm.

Using Equipment Views (Continued)

DACS II ECCN View

Figure 4-5 is a depiction of a DACS II CEF Cross-Connect Network (ECCN). The Non-CEF CCN view is not provided.

DACS Name/
Release Number

No LED - no alarm data
monitored for this element
in the DND. Element is
displayed for physical
representation only

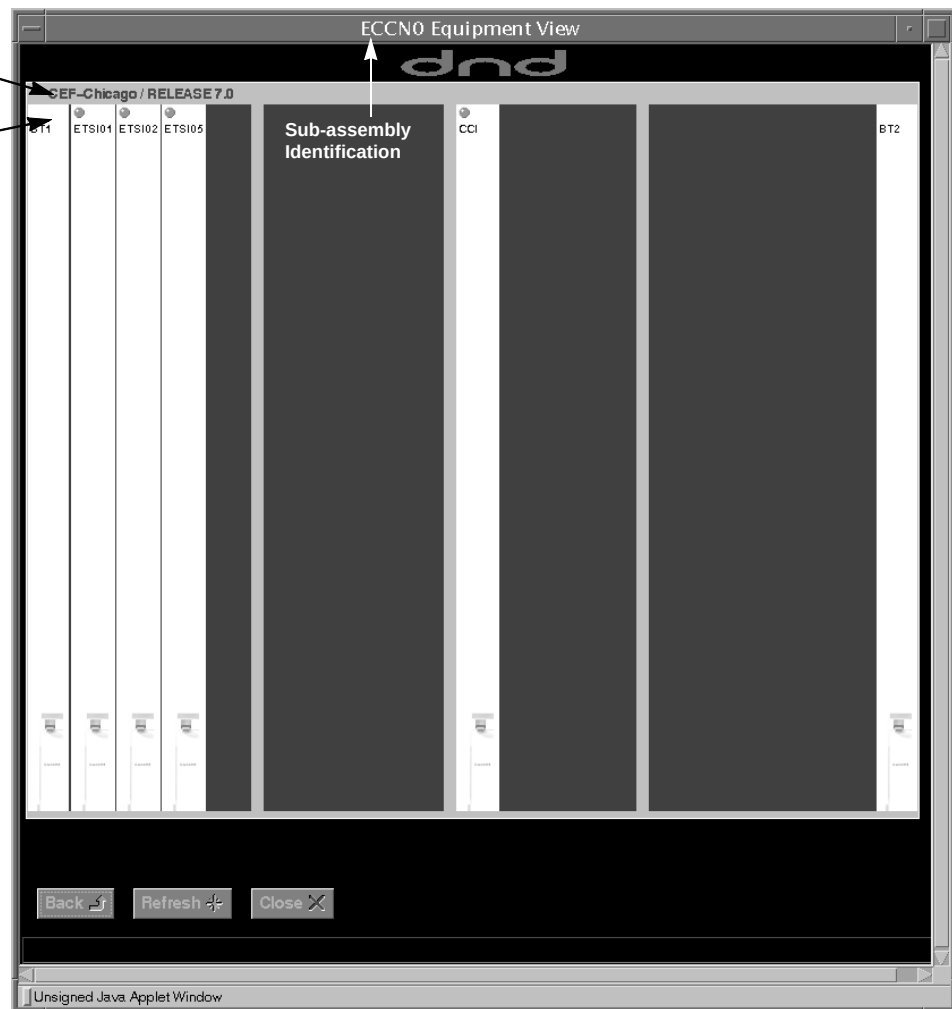


Figure 4-5. DACS II Equipment View - ECCN



NOTE:

DND does not monitor alarms for circuit packs that are displayed without an LED.

Using Equipment Views (Continued)

DACS II MC View

Figure 4-6 is a depiction of a DACS II CEF Main Controller (MC) shelf. The Non-CEF MC view is not provided.

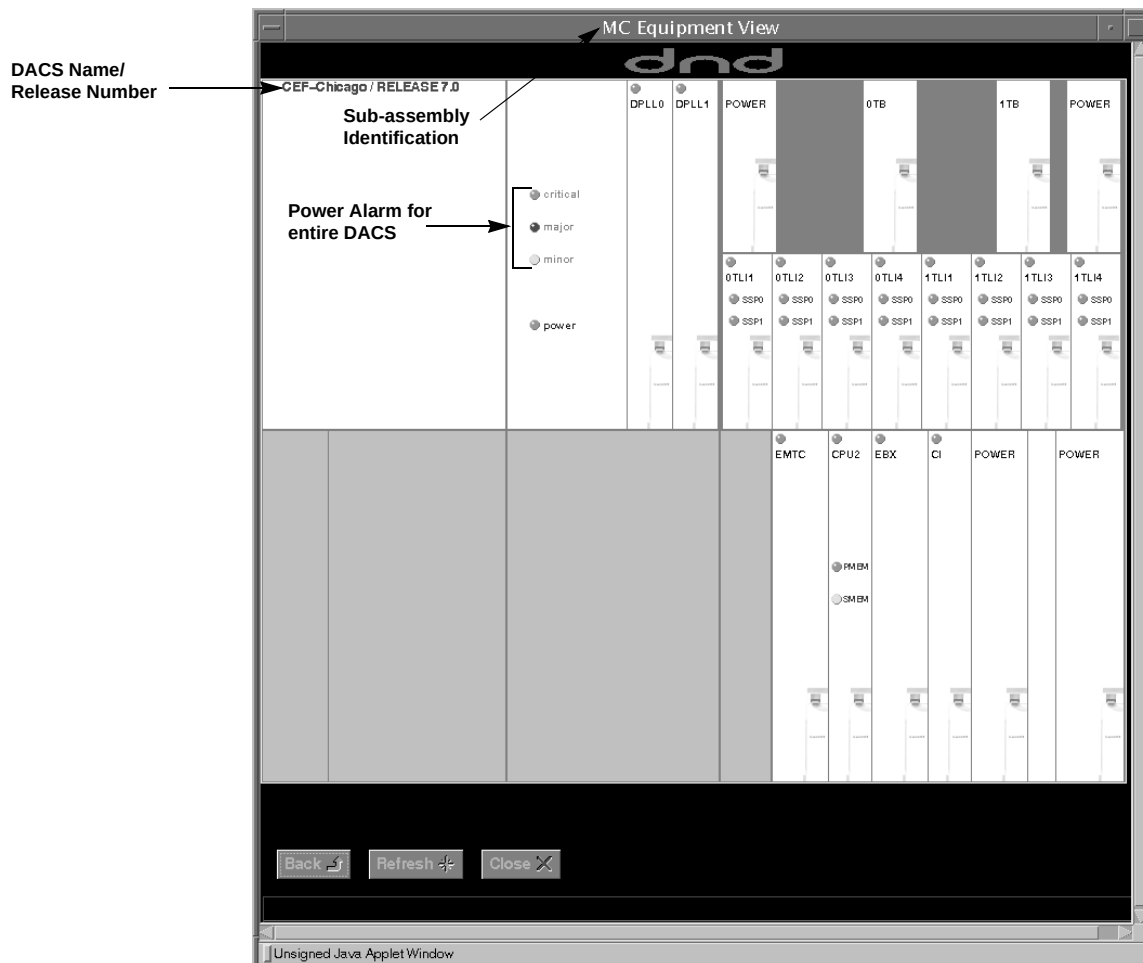


Figure 4-6. DACS II Equipment View - MC

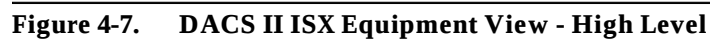


NOTE:

If your MC shelf has a disk and tape (DACS systems prior to Release 7.0), then the disk alarms are mapped to the PMEM LED, the tape alarms are mapped to the SMEM LED, and the SSC alarms are mapped to both the PMEM and SMEM LEDs.

DACS II ISX High Level View

Optional Expansion Shelf



Contents

■ Background	5-3
Introduction	5-3
Objectives	5-3
Related tasks	5-4
Related information	5-4
DACS Links	5-4
■ X.25 Link	5-5
Creating a DACS with a X.25 Link	5-5
X.25 Setup	5-5
X.25 Line Numbering Scheme	5-6
Link Assignment and Link Redundancy	5-6
Provisioning X.25 at the DACS	5-6
DACS Provisioning Form, X.25 Link	5-7
■ SNIDER Link	5-8
Creating a DACS with a SNIDER Link	5-8
DACS Provisioning Form, SNIDER Link	5-8

(Continued on next page)

Contents (Continued)

SNIDER Line Numbering Scheme	5-9
■ DACS Provisioning Verification	5-10
Site Status	5-10
■ Changing the Site Name of a DACS	5-11
The CHGSITE Action	5-11
DACS Provisioning Form, CHGSITE Action	5-11
■ Deleting a DACS	5-12
The DELETE Action	5-12
■ Field Descriptions	5-13
Fields	5-13

Background

Introduction

The DACS PROVISIONING form is used to identify each DACS that will be managed by DND. The information you enter is used to set up communications between DACS and DND. The type of information specified into the form includes such items as:

- DACS Site Name
- DACS Type (DACS II or DACS II ISX)
- Network Protocol (X.25 or SNIDER)

Use the DACS PROVISIONING form to create, modify, and delete DACS information in the DND and/or DACS database. Depending on the action and the control communication status of the DACS configuration, the fields on the DACS PROVISIONING form will differ.

To obtain the DACS PROVISIONING form, select the **Provisioning** button from the DND task bar or select the DACS icon.

**NOTE:**

Frame Provisioning on the DND Forms Interface can be found in Appendix D.

Objectives

This chapter provides reference information to help you perform the following:

1. Create a DACS (with X.25 or SNIDER links)
 2. Restore a DACS
 3. Restore a backup link for a DACS (for X.25 only)
 4. Modify a DACS
 5. Change the site name of a DACS
 6. Remove a DACS
 7. Delete a DACS
-

Background (Continued)

Related tasks

For related tasks, see the following General Tasks:

- GT 50: Creating a DACS, X.25 Link
 - GT 51: Creating a DACS, SNIDER Link
 - GT 52: Restoring a DACS
 - GT 53: Restoring a Backup Link (X.25 Only)
 - GT 54: Modifying a DACS
 - GT 55: Changing the Name of a DACS
 - GT 56: Removing a DACS
 - GT 57: Deleting a DACS
-

Related information

For related information, see:

- *DACS II Network Director Software Release Description*
 - *DACS II and DACS II ISX Operation and Maintenance Manuals*
 - Appendix D
-

DACS Links

A DACS can be connected to the DND system via one of the two types of links:

- X.25 link
 - SNIDER link
-

X.25 Link

Creating a DACS with a X.25 Link

The X.25 link is a synchronous connection from the DND to the DACS. The configuration is assumed to be a PDN connection. The lines between the DND and the DACS must be identified. You must enter a primary Network Address for the primary line and an optional backup line.

There are up to four lines between the DND and the PDN, identified in the DACS network. The lines must physically exist. At initial system start-up, all 4 lines are OOS.

Additionally, you can provision X.25 lines in the X.25 PROVISIONING form in the DND Forms Interface.

X.25 Setup

The X.25 transmission parameters as assigned at installation. The default settings of the X.25 path, as provided by the X.25 software package, are used and should provide acceptable service for most configurations. If these need to be changed, this can be done with the "x25tool" provided with the X.25 package. This tool can only be run by the root user and should only be used with the aid of Lucent Technical Support and your X.25 service provider.

Assignment of network addresses for each of the DACS X.25 links must be available when the DACS connection is provisioned. These are provided by your X.25 service provider.

X.25 Link (Continued)

X.25 Line Numbering Scheme

Numbering of the X.25 links from the DND begins with the number 1, but the physical line ports, however, begin with port 0. The following table shows the mapping of the physical port numbering (as provided on the X.25 cable at the workstation) and the DND link numbering (as provided on the forms):

Table 5-1. X.25 Line Port Numbers

X.25 Physical Port Number	DND Link Number
0	1
1	2
2	3
3	4

Link Assignment and Link Redundancy

The choice of which X.25 link to assign to a DACS should be made such that traffic is distributed across all available links for best performance. One or two local X.25 links can be assigned for communications to a DACS. The second link provides redundancy in case the first link should fail. Switching of service is non-revertive in the case of failure.

Provisioning X.25 at the DACS

The X.25 line at the DACS must be properly provisioned at the DACS. Refer to "Configuring Frame Using X.25 Protocol" in Appendix C.

X.25 Link (Continued)

DACS Provisioning Form, X.25 Link

Figure 5-1 shows an example of a DACS PROVISIONING form for a DACS with an X.25 link.

DACS PROVISIONING FORM

Action:

New Site Name:

DND Processing Options

Conditional ERP: ☒ NO ☐ YES Programmable Priority: ☒ NO ☐ YES

Alarm Sync:

DACS Information

Dacs Type: ☒ DACS II ☐ DACS II ISX

NPC Addressing: ☒ HIER ☐ EXT3 ☐ EXT4 Generic:

Protocol: ☒ X.25 ☐ SHDER Location:

X.25 Communications Protocol Information

X.25 Link Status Information

Line1: Line2: Line3: Line4:

Primary Line: ☒ 1 ☐ 2 ☐ 3 ☐ 4 Network Address:

Backup Line: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☒ none Network Address:

Buttons: Back, Continue, Restart, Close

? DACS network address

Unsigned Java Applet Window

Figure 5-1. DACS Provisioning Form, X.25 Link

SNIDER Link

Creating a DACS with a SNIDER Link

The SNIDER link is a direct link between the DND and the DACS. You must select a line and enter the line **Baud Rate** to identify the connection line. It is suggested that SNIDER links be provisioned from highest to lowest number, as indicated in the **Line Number:** dialog box.

DACS Provisioning Form, SNIDER Link

Figure 5-2 shows an example of a DACS PROVISIONING form for a DACS with a SNIDER link.

The screenshot displays the 'DACS PROVISIONING FORM' with the following sections:

- Action:** A dropdown menu set to 'MODIFY'.
- Current Site Choices:** A dropdown menu set to 'fisk'.
- DND Processing Options:**
 - Conditional ERP:** Radio buttons for 'NO' (checked) and 'YES'.
 - Programmable Priority:** Radio buttons for 'NO' (checked) and 'YES'.
 - Alarm Sync:** A text field set to '00'.
- DACS Information:**
 - Dacs Type:** Radio buttons for 'DACS II' and 'DACS II ISX' (checked).
 - NPC Addressing:** Radio buttons for 'HIER', 'EXT3' (checked), and 'EXT4'.
 - Generic:** A text field set to '3.0'.
 - Protocol:** Radio buttons for 'V.25' and 'SNIDER' (checked).
 - Location:** A text field set to 'Holmdel'.
- SNIDER Communications Protocol Information:**
 - Line Number:** A dropdown menu set to '48'. An arrow points to this field with the label 'Enter SNIDER Line Information'.
 - Baud Rate:** Radio buttons for '9600' (checked), '4800', '2400', and '1200'.

At the bottom, there are buttons for 'Back', 'Restart', and 'Close'. A 'Line Number' dialog box is open, showing a list of line numbers from 40 to 48, with 48 selected. An arrow points to this dialog box with the label 'Line Number dialog box'.

Figure 5-2. DACS Provisioning Form, SNIDER Link

SNIDER Link (Continued)

SNIDER Line Numbering Scheme

If you have chosen the SNIDER connection, then you must have a 32-port Serial Expansion Unit (SEU). Before you create the DACS in the DND database, the SNIDER link at the DACS needs to be provisioned properly or it will not work. The following table shows the corresponding line port numbers as displayed on the DACS and how they are numbered in the DND.

Table 5-2. SNIDER Line Port Numbers

SEU Port Number	DND Line Port Number
1 to 16	1 to 16
1 to 32	17 to 48

DACS Provisioning Verification

Site Status

When a DACS is restored, DND queries the DACS for the language, generic, and NPC addressing format as entered on the DACS PROVISIONING form. During this time, the **Site Status** for the DACS is set to *QRY* (query).

If the DACS and DND databases match, the **Site Status** will change to *IS P* or *IS B*. If there are differences between the DACS and DND databases, the **Site Status** will change to *ERR* (error). The errors will appear on the Status Summary window on the DND Main window.

In both the *QRY* and *ERR* conditions, the DACS continues to process echo responses and DACS alarms. Provisioning commands, however, cannot be processed, such as cross connect. Non-provisioning commands, such as reports and DACS Message are allowed.



NOTE:

If you modify the Type, Protocol, Language, NPC Addressing, Generic, or Line Information on the FRAME ADMINISTRATION form, first remove the DACS from service, enter the modifications, then restore the DACS to service. You must also remove the DACS from service before switching to a backup X.25 link, or from a backup link to a primary link.

Changing the Site Name of a DACS

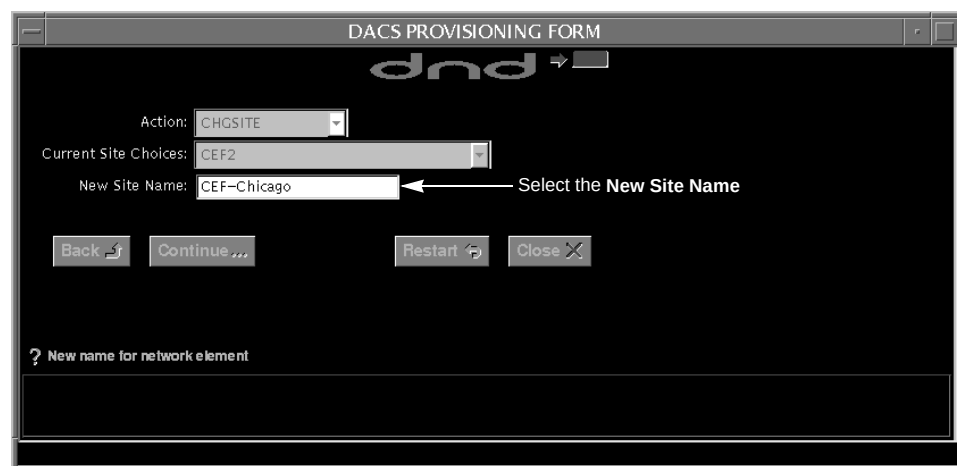
The CHGSITE Action

The CHGSITE Action allows users to change the site name of the DACS. The DACS PROVISIONING form looks different for the *CHGSITE* Action. The form only prompts you for the following information:

- Select the DACS from the **Current Site Choices:** field.
- Enter a **New Site Name:** for the DACS.

DACS Provisioning Form, CHGSITE Action

Figure 5-3 shows the CHGSITE action on the DACS PROVISIONING form. Choose CHGSITE to rename the DACS.



The screenshot shows a window titled "DACS PROVISIONING FORM" with the "dnd" logo. The "Action:" dropdown menu is set to "CHGSITE". The "Current Site Choices:" dropdown menu is set to "CEF2". The "New Site Name:" text field contains "CEF-Chicago". An arrow points from the text "Select the New Site Name" to the "New Site Name:" field. Below the fields are four buttons: "Back", "Continue...", "Restart", and "Close". At the bottom, there is a section titled "? New name for network element" with a large empty text area below it.

Figure 5-3. DACS Provisioning Form, CHGSITE Action

Deleting a DACS

The DELETE Action

The *DELETE Action* removes the DACS from the DND and/or the DACS database(s). When performing the *DELETE Action*, the following field will appear on the form:



Confirm DELETE Action
Confirm: ☒

Figure 5-4. The CONFIRM Checkbox

If the **Confirm:** check box is not selected before clicking **Execute**, the DND will display a denial message informing you to confirm the action by checking the **Confirm:** box. Click **Back** to select the **Confirm:** box and click **Execute** to complete the action.



NOTE:

You cannot *DELETE* a site if it is connected to an intertie.

Field Descriptions

Fields

The table below describes in detail the fields and field values on the DACS PROVISIONING form.

Table 5-3. Field Descriptions for the DACS PROVISIONING Form

Field Name	Description
Action	(Combo box) Mandatory. Valid choices are: ■ <i>CREATE</i> - Provisions a new DACS in DND with the name New Site Name and sets the DACS Status to OOS. The DACS database is created. ■ <i>RESTORE/BRESTORE</i> - Establishes the administrative link to the DACS using the Network Address specified on the form. <i>RESTORE</i> uses the Primary Line first and <i>BRESTORE</i> uses the Backup Line first. <i>BRESTORE</i> is not available for the SNIDER Protocol. ■ <i>REMOVE</i> - Disconnects the administrative link between the DND and the DACS specified in Current Site Choices. ■ <i>DELETE</i> - Deletes the DACS and related data from the DND database. ■ <i>MODIFY</i> - Changes the DACS provisioning information. The DACS must be OOS to change the following fields: DACS Type, Protocol, Primary Line, Backup Line, Network Address and Baud Rate; to change other fields, the DACS can be IS. The <i>MODIFY Action</i> cannot change the Site Name. ■ <i>CHGSITE</i> - Changes the Site Name for the selected DACS.

(Continued on next page)

Field Descriptions (Continued)

Fields, Continued **Table 5-3. Field Descriptions for the DACS PROVISIONING Form, Continued**

Field Name	Description
New Site Name	(Text field - For <i>CREATE</i>) Mandatory. 1 through <i>n</i> characters (as specified in the <i>SITENAME_SIZE</i> environment variable in the DND Forms Interface) from the set 0-9, A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name.
Current Site Choices	(Combo box - For all Actions except <i>CREATE</i>) The name of the DACS where the requested Action will take place. Clicking this field will display a list of DACS names. By default, the list appears alphabetically. To change the sorting order, modify the setting with the <i>SORT_NAME_BY</i> variable using the DND Forms Interface.
Conditional ERP	(Radio buttons) The selection or nonselection of conditional echoed response processing for this DACS. ■ <i>YES</i> - Process NPC and circuit echoed response messages only on condition that all NPCs cited in the message are already in the DND database. ■ <i>NO</i> - Process echoed response messages unconditionally (the DND will respond to all provisioning echoed responses).
Programmable Priority	(Radio buttons) This field allows you to specify whether to activate/deactivate the Programmable Priority feature for a DACS. When an NPC or another hardware component goes down, there are many DACS alarm messages that are generated and queued based on the order they are received. When Programmable Priority is set to <i>ON</i> , any MML command entered from the DACS with the keyword " <i>PRIOUT</i> " is automatically prioritized and placed before other messages in the DACS queue. This request only impacts the order of the output and does not change the execution of commands.

(Continued on next page)

Field Descriptions (Continued)

Fields, Continued **Table 5-3. Field Descriptions for the DACS PROVISIONING Form, Continued**

Field Name	Description
Programmable Priority, Continued	The choices are: ■ <i>NO</i> - Default value ■ <i>YES</i> - Activates this feature on a frame-by-frame basis Available for DACS II, Release 7.0 and above.
Alarm Sync	(Text field) 2 numeric digits, where <i>nn</i> = 00 to 99. Enables an optional automatic alarm sync to take place when communications to a DACS is restored. The number <i>nn</i> represents the number of hours between autonomous alarm sync actions. ■ <i>00</i> - Option is disabled; no alarm sync if the DACS Status becomes <i>IS</i>, <i>IS P</i> or <i>IS B</i>. ■ <i>nn</i> - Provided more than <i>nn</i> hours have elapsed since last auto alarm sync, when the DACS Status becomes <i>IS</i>, <i>IS P</i> or <i>IS B</i> again, query the DACS and update the Alarm State information for the DACS. For more information, refer to the NPC PROVISIONING chapter. Example: If <i>nn</i>=01 and communications to the DACS are down for more than one hour, then an alarm sync takes place when communications to the DACS are restored.
DACS Type	(Radio buttons) Mandatory. Specifies the type of DACS. ■ <i>DACS II</i> - The DACS is a DACS II, Releases 6.0 and higher. ■ <i>DACS II ISX</i> - The DACS is a DACS II ISX, Releases 1.1 and higher.

(Continued on next page)

Field Descriptions (Continued)

Fields, Continued **Table 5-3. Field Descriptions for the DACS PROVISIONING Form, Continued**

Field Name	Description
NPC Addressing	(Radio buttons) Mandatory. Specifies the type of NPC addressing to be used in DACS commands generated by DND. You must independently insure that this value conforms to the way the DACS is configured. ■ <i>HIER</i> - Use hierarchical addressing ■ <i>EXT3</i> - Use 3-digit extended addressing ■ <i>EXT4</i> - Use 4-digit extended addressing For the CREATE Action, this field defaults to the appropriate value for the Type of DACS. The default for DACS II ISX is <i>EXT3</i>, which also is the only valid choice for those systems. Changing to some other value will prevent DND from communicating properly with the DACS.
Generic	(Text field) Mandatory. Two significant characters. Enter the generic in the form x.y. For example, for Release 7.0.3, enter 7.0.
Protocol	(Radio buttons) Mandatory. The transmission protocol to be used over the path between DND and the frame. ■ <i>SNIDER</i> - Serial asynchronous communication; the configuration is direct. You must enter a line Speed ■ <i>X.25</i> - Synchronous communication. You must enter a Network Address for the primary line and for the backup line if one was configured
Location	(Text field) Optional. Up to 13 characters. States the physical location of the DACS. This is an informational field only.

(Continued on next page)

Field Descriptions (Continued)

Fields, Continued **Table 5-3. Field Descriptions for the DACS PROVISIONING Form, Continued**

Field	Description
Primary Line	(Read-only fields - X.25 Only) One numerical character (1-4). The number of the line that will be used for communication between the DND computer and the network or DACS. The read-only field to the right of it indicates the connection status of the line (IS or OOS). The Service State is set by the X.25 ADMINISTRATION form in the DND Forms Interface.
Backup Line	(Read-only fields - X.25 Only) One numerical character (1-4). The number of the backup line to be used for communication between the DND computer and the network or DACS. The read-only field to the right of it indicates the connection status of the line (IS or OOS). This link must be <i>IS</i>.
Network Address	(Text field) Appears only for the X.25 Protocol. A maximum of 15 numeric characters. Contains the PDN address for the X.25 connection to the DACS. This must be provided for the Primary Line and the Backup Line, if a Backup Line is specified.
Line Number	(Combo box - SNIDER Only) Two numeric characters. Select the tty port number on the DND ports card for this connection. If a line is being used as a login port or for another DACS, it will not be displayed as a Line Number choice.
Baud Rate	(Radio buttons - SNIDER Only) The baud rate for this DND SNIDER port. Values are 1200, 2400, 4800, and 9600. You must independently insure that this value conforms to the way the DACS is configured.

Contents

■ Background	6-2
Introduction	6-2
Objectives	6-2
Related tasks	6-2
Related information	6-2
■ The End User Provisioning Form	6-3
End User Provisioning Form	6-3
End User Information	6-3
Field Descriptions	6-4

Background

Introduction

An End User is the term used for the equipment the DACS frame is connected to (i.e. customer equipment, switching equipment, etc.) that the DND does not control. Hence, the amount of functionality capable is limited. Alarms that the DACS received are processed, but provisioning of End Users is not supported on the DND.

Graphically, the End User equipment is represented by one icon, but the End User equipment can represent multiple pieces of equipment.

**NOTE:**

You cannot delete an End User if it is connected to an intertie.

Objectives

This chapter provides background information to help you perform the following:

1. Create an End User
 2. Modify an End User
 3. Delete an End User
-

Related tasks

For related tasks, see the following task(s):

- GT 60: Creating an End User
 - GT 61: Modifying an End User
 - GT 62: Deleting an End User
-

Related information

For related information see:

- Chapter 7: Intertie Provisioning
-

The End User Provisioning Form

End User Provisioning Form

Figure 6-1 shows an example of an END USER PROVISIONING form

Enter End User Information →

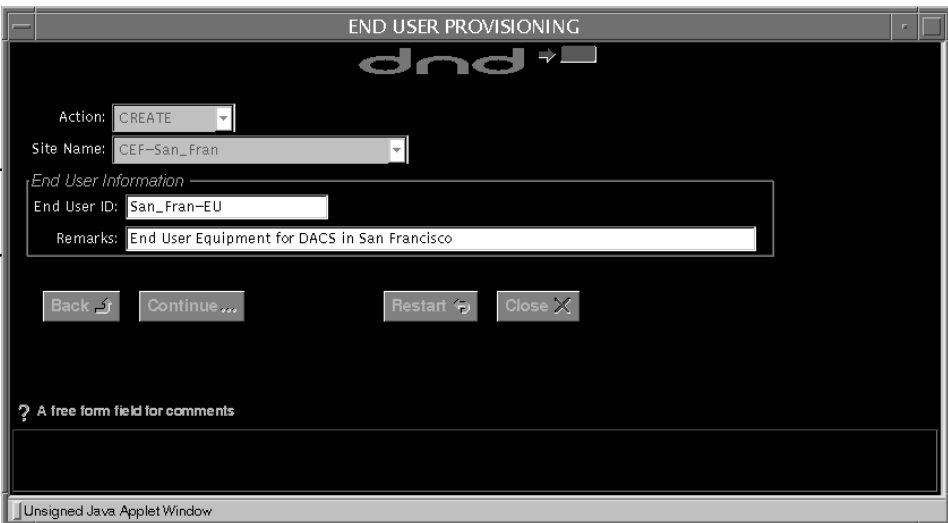


Figure 6-1. End User Provisioning Form, *CREATE* Action

End User Information

End User equipment is associated with a corresponding DACS. End User equipment is typically located at customer sites, and is therefore, not controlled by the DND. However, they are a part of the DACS network, and the DND GUI provides a graphical representation of them. End User icons are distinguishable from DACS icons.

NOTE:
Graphically, only one End User equipment icon is allowed per DACS.

End User Provisioning Form (Continued)

Field Descriptions The table below describes in detail the fields and field values on the END USER PROVISIONING form:

Table 6-1. Field Descriptions for the END USER PROVISIONING Form

Field Name	Description
Action	(Combo box) Mandatory. Valid choices are: ■ <i>CREATE</i> - Establish an End User in the DND database. The End User corresponds to a particular DACS. Cannot create more than one End User icon per DACS ■ <i>MODIFY</i> - Change End User Information, such as End User ID and Remarks ■ <i>DELETE</i> - Remove an End User from the DND database
Site Name	(Combo box) Mandatory. Select the DACS name to which the End User corresponds. By default, the list appears alphabetically. To change the sorting order, modify the setting for the SORT_NAME_BY variable using the DND Forms Interface.
End User ID	(Text field) Mandatory. Must be unique. 1 through 24 characters from the set 0-9, A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name. Enter a name for the End User in the <i>CREATE</i> action; will be carried over to the <i>MODIFY</i> and <i>DELETE</i> actions. This name is the label of the End User icon on the network map.
Remarks	(Text field) Optional. Free field to enter information about the End User, such as location, usage, etc.

Contents

■ Background	7-2
Introduction	7-2
Objectives	7-2
Related tasks	7-2
■ The Intertie Provisioning Form	7-3
Intertie Types	7-3
Intertie Provisioning Form, Sample #1	7-3
Intertie Provisioning Form, Sample #2	7-4
Intertie NPCs	7-4
Intertie Provisioning Form, Sample #3	7-5
Field Descriptions	7-6
■ Intertie Features	7-8
Features	7-8
Intertie Alarms	7-8
Intertie Menu	7-9

Background

Introduction

An intertie is the graphical representation of a physical connection (trunk lines, DS1/E1, DS3 lines, etc.) between either two DACS frames or between a DACS frame and an End User. The connection is depicted by a straight line between the two entities with a circular or rectangular “bubble” point in the center of the line (refer to the DND Main Window and Form Navigation chapter) for selection purposes.

Objectives

This chapter provides reference information to help you perform the following:

1. Create an intertie
 2. Modify an intertie
 3. Add and Delete NPCs from an intertie
 4. Delete an intertie
-

Related tasks

For related tasks, see the following General Tasks:

- GT 70: Creating an Intertie
 - GT 71: Modifying an Intertie
 - GT 72: Adding NPCs to an Intertie
 - GT 73: Deleting NPCs from an Intertie
 - GT 74: Deleting an Intertie
-

The Intertie Provisioning Form

Intertie Types

There are two different types of interties:

- Direct interties - a trunk from one DACS has a direct connection to another DACS or End User. All interties between a DACS and an End User will default to the **DIRECT Intertie Type**. You will not be able to change this default. Direct interties are displayed graphically with a circular “bubble” in the middle.
- Indirect interties - a trunk from one DACS is indirectly connected to another DACS through another network, i.e., through a SONET ring. The trunk information is routed through the network, and comes out of the network on a different trunk line. Indirect interties are displayed graphically with a rectangular “bubble” in the middle.

**NOTE:**

Interties cannot be created between two End Users.

Intertie Provisioning Form, Sample #1

Figure 7-1 shows an INTERTIE PROVISIONING form for a DACS-to-DACS intertie.

Figure 7-1. INTERTIE PROVISIONING Form, DACS-to-DACS

The Intertie Provisioning Form (Continued)

Intertie Provisioning Form, Sample #2

Figure 7-2 shows an INTERTIE PROVISIONING form for a DACS-to-End User intertie.

Figure 7-2. Intertie Provisioning Form, DACS-to-End User

Intertie NPCs

NPCs are assigned to and deleted from (via *ADDNPC* and *DELNPC* actions) interties at either DACS node to create network paths of information flow throughout the DACS network. On the form, the intertie information will appear in read-only mode, and can only be changed by performing a *MODIFY* action.

For a DACS-to-DACS intertie, NPCs are assigned in pairs - one for each DACS site. For a DACS-to-End User intertie, NPCs are assigned only to the DACS site. NPCs assigned in pairs should be restricted to NPCs of the same channel type, i.e., either both 24-channel (domestic) NPCs, or both 32-channel (CEPT) NPCs. Figure 7-3 provides an example.



NOTE:

NPCs need not be provisioned in the DACS when they are added to the intertie.

To display the circuit network path, perform a Circuit Trace (Chapter 9).

The Intertie Provisioning Form (Continued)

Intertie Provisioning Form, Sample #3

Figure 7-3 shows an example of using the INTERTIE PROVISIONING form to add NPCs to the intertie.

The screenshot displays the "INTERTIE PROVISIONING" window with the "dnd" logo. The "Action:" dropdown is set to "ADDNPCS".

SITE 1

Site Name: CEF-Chicago

NPC 1

NPC Specifier: ☒ ID ☐ Hier ☐ Extd

NPC: [Text Field]

SITE 2

Site Name: CEF-San_Fran

NPC 2

NPC Specifier: ☒ ID ☐ Hier ☐ Extd

NPC: [Text Field]

Intertie Information

Intertie ID: CEF-San_Fran to CEF-Chicago

Intertie Type: ☐ DIRECT ☒ INDIRECT

Remarks: Intertie bet San Francisco DACS and Chicago DACS

Buttons: Back, Continue, Restart, Close

Unsigned Java Applet Window

Annotation: Enter the NPC1 and NPC2 name or number here (pointing to the NPC input fields)

Figure 7-3. Intertie Provisioning Form, ADDNPCS Action

The Intertie Provisioning Form (Continued)

Field Descriptions The table below describes in detail the fields and field values on the INTERTIE PROVISIONING form:

Table 7-1. Field Descriptions for the INTERTIE PROVISIONING Form

Field Name	Description
Action	(Combo box) Mandatory. Valid choices are: ■ <i>CREATE</i> - Establishes an intertie between two DND site entities, DACS-to-DACS or DACS-to-End User connection. ■ <i>DELETE</i> - Deletes the intertie and related data from the DND database. ■ <i>MODIFY</i> - Change the Intertie Information, which includes the Intertie ID, Intertie Type and Remarks. ■ <i>ADDNPCS</i> - Adds NPCs (in pairs for DACS-to-DACS, a single NPC for DACS-to-End User) to the intertie. ■ <i>DELNPCS</i> - Deletes the NPCs (in pairs for DACS-to-DACS, a single NPC for DACS-to-End User) from the intertie.
Site Name	(Combo box) Mandatory. (For SITE 1 and SITE 2, if SITE 2 is a DACS) Name of the Site entity. If SITE 2 is an End User, select the End User check box. By default, the list appears alphabetically. To change the sorting order, modify the setting for the SORT_NAME_BY variable using the DND Forms Interface.
Intertie ID	(Text field) Mandatory. Enter the name you create for the intertie. Must be unique. 1 through 24 characters from the set 0-9, A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name.

(Continued on next page)

The Intertie Provisioning Form (Continued)

Field Descriptions Continued **Table 7-1. Field Descriptions for the INTERTIE PROVISIONING Form, Continued**

Field Name	Description
Intertie Type	(Radio buttons) Mandatory. Types are: ■ <i>Direct</i> - direct connection between nodes; DACS-to-End User interties default to Direct. ■ <i>Indirect</i> - connection between two DACS nodes via a network, such as a SONET ring.
Remarks	(Text field - Optional) Free field to enter information about the intertie.
Intertie Bandwidth	(Read-only field) Appears on the form after NPCs have been added/deleted from it, indicates the bandwidth size (number of NPCs assigned to each side).
NPC Specifier/NPC	(Radio buttons and text field) Mandatory. Three choices for entering NPC data: ■ <i>ID</i> - If selected, Enter the NPC name in the NPC: field ■ <i>Hier</i> - If selected, enter the NPC's hierarchical number in the NPC: field ■ <i>Extd</i> - If selected, enter the NPC's extended number in the NPC: field.

Intertie Features

Features

Interties allow you to perform the following:

- Graphically monitor intertie NPC alarm status
 - Perform actions using the intertie "bubble"
-

Intertie Alarms

Similar to DACS frames, interties can have alarms if an NPC connected to it at either DACS node goes into alarm. Intertie alarms are indicated by the color of the intertie line.

Alarm Color	Explanation
Green	No NPC alarms
Yellow	The highest alarm state of any NPC on the entire intertie is a Minor alarm.
Red	The highest alarm state of any NPC on the entire intertie is a Major alarm.
Magenta	The highest alarm state of any NPC on the entire intertie is a Critical alarm.

Intertie Features (Continued)

Intertie Menu

With the intertie “bubble,” you can obtain intertie information or perform intertie actions directly from the intertie graphic. Right-click and hold the mouse button on the intertie “bubble” to display a pull-down menu, as shown in Figure 7-4, with the following choices:

If you select...	...Then DND will display...
Intertie Provisioning...	The INTERTIE PROVISIONING form to perform an action on the intertie
Intertie NPC Report...	A report on the NPCs associated with the intertie
Intertie Alarm Report...	An alarm report for the NPCs associated with the intertie



Figure 7-4. Intertie Menu

Contents

■ Background	8-3
Introduction	8-3
Objectives	8-3
Related tasks	8-4
Related information	8-4
■ General Information	8-5
Major Actions	8-5
Modifying NPCs	8-5
NPC Type and Parameters	8-5
■ NPC Types	8-6
NPCs	8-6
NPC Types Table	8-7
NPC Availability	8-8
■ DND Supported NPC Addressing	8-9
NPC Specifiers	8-9
Specifying New or Existing NPCs	8-9

(Continued on next page)

Contents (Continued)

Specifying Conditions	8-10
NPC Number Display	8-10
NPC Number Conversion	8-11
■ Performance Monitoring	8-13
Description	8-13
Data Sets	8-13
CEPT Threshold Setting	8-13
CEPT Performance Parameters	8-14
CEPT Performance Parameters, PA-Type NPCs	8-15
NAS Threshold Setting	8-16
■ The NPC Provisioning Form	8-17
NPC Provisioning Form	8-17
NPC XYZ Options Form	8-18
Performance Monitoring Specification Form	8-19
Field Descriptions	8-21
■ NPC Provisioning ERP	8-34
Description	8-34
Controlling ERP	8-34
NPC ID ERP Assignment	8-35
ERP Messages	8-36

Background

Introduction

Network Processing Circuits (NPCs), circuit building blocks, must be provisioned before circuits can be created. Provisioning takes place on two different levels:

- **Physical Provisioning** -- Individual lines are brought to a DACS and are terminated there at circuit cards. Make sure unit and shelf equipment is In-Service and proper type of cards are insert before beginning. This level is beyond the scope of this manual, and must have already taken place before the DND can create service.
- **Logical Provisioning** -- This action takes place on the DND. One of the primary functions of the DND is to simplify this operation for you. When an NPC is provisioned, you identify the operational characteristics of the NPC by using a form. These characteristics include the NPC type xyz values (e.g. E1 vs. DS1, signaling type), Performance Monitoring threshold information, and others. These characteristics are sent to the DACS in the form of MML commands and also saved in the local DND database. Once an NPC is provisioned at the DND and at the DACS, the channels of that NPC are available for cross connect.

**NOTE:**

NPC Provisioning procedures and examples for DND Forms Interface can be found in Appendix E.

Objectives

This chapter provides background information to help you perform the following:

1. Create DS1/E1, DS3U, and DSPU NPCs
 2. Restore an NPC
 3. Modify an NPC
 4. Remove an NPC
 5. Delete an NPC
 6. Place an NPC in Loopback Mode
-

Background (Continued)

Related tasks

For related tasks, see the following procedure(s):

- GT 80: Creating an NPC
 - GT 81: Creating a DSPU NPC
 - GT 82: Restoring an NPC
 - GT 83: Modifying an NPC
 - GT 84: Removing an NPC
 - GT 85: Deleting an NPC
 - GT 86: Placing an NPC in Loopback Mode
-

Related information

For related information see:

- *DACS II and DACS II ISX Operation and Maintenance Manual*
 - *DACS II Network Director Installation Manual*
 - Appendix E
-

General Information

Major Actions

The major DND provisioning actions are *CREATE*, *RESTORE*, *REMOVE*, and *DELETE*. These actions are based on the DACS concept of “create equipment,” “place in service,” “remove from service,” and “disconnect equipment.”

Modifying NPCs

Most fields can be modified while the NPC is In-Service. When modifying fields which need to be Out-of-Service (OOS), make sure to select the Remove NPC checkbox during the MODIFY Action. DND will *REMOVE* the NPC, make the necessary changes, and *RESTORE* it back to service.

NPC Type and Parameters

The NPC is designated by **mnxyz**, where:

- **mn** refers to the NPC Type
- **xyz** refers to the NPC Parameters

The NPC type, specified by the first two letters of the **NPC Type** field on the NPC PROVISIONING form, indicates the circuit pack type. The NPC parameters, the last 3 numbers or letter-number combination, indicates specific conditions relating to that circuit type. The **mnxyz** parameters may differ between NPC types. They can be selected in the NPC XYZ OPTIONS form (from the NPC PROVISIONING form) in Figure 5-2. The NPC XYZ OPTIONS form offers brief explanations of each parameter field. For additional information, refer to the NPC Provisioning chapter in the *DACS II* and *DACS II ISX Operation and Maintenance Manual*.

A default NPC type can be set by the DND administrator. This NPC Type will appear as the NPC Type for the **CREATE Action** on the NPC PROVISIONING form. Other options can also be defaulted. For additional information on setting the `ui_dval` file, refer to “Setting/Changing Default Form Values for NPC and Circuit Provisioning” in Appendix C.

NPC Types

NPCs

The class of NPC is specified by the first two letters of the NPC **Type** field on the NPC PROVISIONING form. The DND system does not support every type of NPC supported by the DACS II and DACS II ISX, but it does support the NPCs listed in Table 8-1

Table 8-1. NPC Types

NPC Type	Description
PA/PB/PC	■ E1 NPCs, define 30 or 31 64kb/sec channels ■ 2 NPCs on a DPC card ■ PB/PC defined for a 120/75 ohm (twisted pair/coax) ■ PA supports either ■ PA supports clear channel ■ ISX only supports PA
DE/DA	■ DS1 NPCs (NAS), define 24 64kb/s channels ■ 2 NPCs on a DDC card ■ ISX only supports DA
TE/TA	■ DS3U NPCs, 28 NPCs on a MUX circuit pack ■ Similar to DE/DA type NPCs
MB	■ DSPU type NPC ■ Digital Multipoint bridge (broadcast/symmetrical conference) ■ DACSII (only supports DSPU)
MJ/SR	■ DSPU type NPC ■ Subrate circuits, subrate broadcast ■ DACS II (only supports DSPU)

(Continued on next page)

NPC Types (Continued)

NPCs, Continued **Table 8-1. NPC Types, Con't**

NPC Type	Description
CB	■ DSPU type NPC ■ France Telecom C-bit Processor ■ DACS II only
SP	■ Digital Signal Processor ■ ISX only
SD	■ DSP NPCs ■ define for DDS/X.50 Subrate ■ ISX only
Virtual	■ implied, not created by DND ■ DACS II only

NPC Types Table The NPC **Types** are correlated in Table 8-2.

Table 8-2. NPC Provisioning Types

	PB	PC	PA	DE	TE	DA	TA	MB	MJ	Vir- tual	CB	SP	SR
DACS II before Release 6.0	X	X		X	X			X	X	X			
DACS II, R6.0 and higher	X	X	X	X	X	X	X	X	X	X	X		X
DACS II ISX Release 1.0 and higher			X			X						X	

NPC Types (Continued)

NPC Availability

The NPCs available are dependent on the type of units that are grown on a particular DACS. Therefore, not every type of NPC is available for every DACS. For example, if there are no DS3 units grown, there cannot be a DS3 NPC in that DACS. For additional information on growing units on a DACS, refer to the *DACS II* and *DACS II ISX Operation and Maintenance Guides*.

DND Supported NPC Addressing

NPC Specifiers

There are three ways to specify an NPC. The choices are:

- **ID** - The name used to identify the NPC. This is defined when performing the *CREATE Action*.
- **Hier** - A logical hierarchical numbering scheme; it identifies the unit identifier, module identifier, and the NPC number all in one 5-digit number. Figure 8-1 illustrates an example of a hierarchical number.

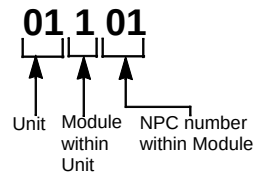


Figure 8-1. Hierarchical Number Example

- **Extended** - A sequential 4-digit numbering scheme of NPCs in the DACS.

The DACS II can be set to recognize either numbering scheme. This is performed in the DACS PROVISIONING chapter.

Specifying New or Existing NPCs

When specifying a new NPC, you must:

- Know the number of the NPC you are going to use (**Hier** or **Extd**)
- Give the NPC a name (**ID**)

When specifying a previously created NPC, you must:

- Know either the NPC name (**ID**) or number (**Hier** or **Extd**)
 - Specify the NPC identifier in the **NPC:** field
-

DND Supported NPC Addressing (Continued)

Specifying Conditions

When specifying NPCs, note the following conditions:

- If **Hier** - All five digits of the hierarchical NPC number are relevant and necessary to enter all five. Leading and trailing spaces are not allowed.
- If **Extd** - Lead zeros are not necessary to enter for extended NPC numbers. Enter the significant extended digits and the DND will fill in the other digits once Continue... is clicked. Trailing spaces are not allowed.
- If **ID** - The **ID** field is case-sensitive. ID characters must match exactly. A large number of characters are available and spaces between letters are allowed. Leading and trailing spaces are not allowed.

NPC Number Display

Once an NPC number has been entered and the form has been transitional (Continue... is clicked), the DND will display all three formats (**Hier**, **Extd** and **ID**). When one number scheme is selected, the other is generated and displayed by the DND. The conversion algorithm depends on the NPC type. The NPC Number equivalents are illustrated in the following three tables.

(Continued on next page)

DND Supported NPC Addressing (Continued)

NPC Number Conversion

Table 8-3. NPC Number Equivalents for DACS II FTU Type Units

Extended	Hierarchical	Extended	Hierarchical
0001 to 0160	01101 to 01440	1761 to 1920	12101 to 12440
0161 to 0320	02101 to 02440	1921 to 2080	13101 to 13440
0321 to 0480	03101 to 03440	2081 to 2240	14101 to 14440
0481 to 0640	04101 to 04440	2241 to 2400	15101 to 15440
0641 to 0800	05101 to 05440	2401 to 2560	16101 to 16440
0801 to 0960	06101 to 06440	9961	99101
0961 to 1120	07101 to 07440	9962	99102
1121 to 1280	08101 to 08440	9963	99103
1281 to 1440	09101 to 09440	9964	00104
1441 to 1600	10101 to 10440	9965	99105
1601 to 1760	11101 to 11440	9966	99106

Table 8-4. NPC Number Equivalents for DACS II DSPU Type Units

Extended	Hierarchical	Extended	Hierarchical
0001 to 0002	01101 to 01102	...	...
0021 to 0022	01201 to 01202	0301 to 0302	02801 to 02802
...	...	...	...
0141 to 0142	01801 to 01802	2401 to 2402	16101 to 16102
0161 to 0162	02101 to 02102	...	...
0181 to 0182	02201 to 02202	2541 to 2542	16801 to 16802

(Continued on next page)

DND Supported NPC Addressing (Continued)

NPC Number Conversion, Continued

Table 8-5. NPC Number Equivalents for DACS II DS3U Type Units

Extended	Hierarchical	Extended	Hierarchical
0001 to 0160	01101 to 01620	...	...
016A to 016H	01621 to 01628	2401 to 2560	16101 to 16620
0161 to 0320	02101 to 02620	256A to 256H	16621 to 16628
032A to 032H	02621 to 02628		

Performance Monitoring

Description

The PERFORMANCE MONITORING SPECIFICATION form is displayed when the [Specify PM Options](#) button is clicked on the NPC PROVISIONING form. The PERFORMANCE MONITORING SPECIFICATION form allows you to set the thresholds for generating various types of facility performance alarms. These fields are available for PA/PB/PC/DE/TE NPC Types. For all other NPC types, the [Specify PM Options](#) button is inactive. A DACS II does not send a facility performance alarm message until a parameter error rate has exceeded a stored threshold.

Data Sets

For North American Standard (NAS), type NPCs (DE/TE) PM thresholds for each parameter are defined in terms of data sets 0,1,2,and 3. Data set 0 is defined at the DACS by default. The other optional data sets must be provisioned directly at the DACS using the ED-OPT-T1 command.

For CEPT type NPCs (PA/PB/PC) PM thresholds are defined in terms of an alarm severity and a data set. The alarm severities are Informational, Minor, Major or Critical. The data sets are defined in terms of Default (D), 1,2 and 3. Additionally, the PM monitoring for a PM attribute can also be turned off (defined as NONE). The default data set defined by the DACS is D (e.g. Default Informational, Default Minor, etc.). The other optional data sets must be provisioned directly at the DACS using the ED-OPT-T1 command.

**NOTE:**

If a data set is *not* defined in the DACS, it will reject requests for a data set value.

CEPT Threshold Setting

For a CEPT NPC choose a threshold setting in the following format:

n ccc

where:

n is 1, 2, 3, or D, referring to data set 1, data set 2, data set 3 or the default data set.

ccc is *Cri*, *Maj*, *Min*, or *Inf*, referring to alarm severities of Critical, Major, Minor or Informational. *D Inf* is the default.

Performance Monitoring (Continued)

CEPT Performance Parameters

For example, an entry of *D Inf* in the **15 Minute Count** of **Degraded Minutes** means use the threshold of the default data set for a **DM1H** alarm and send the alarm with informational severity when the threshold is exceeded.

Example: If the default threshold on errored seconds is 5, you enter *D Maj* under the **15 Minute Count** for **Errored Seconds**. If during any 15-minute period the number of errored seconds detected by the NPC exceeds 5 seconds, an *ERS15M* alarm of severity *MAJ* is asserted and is reported on DND terminals connected to the DACS. After the next 15-minute interval with less than 5 errored seconds, the DACS will clear the alarm and send a message to the DND indicating that the performance alarm has been cleared.

Table 8-6. Alarms for CEPT NPC Performance Parameters for PB/PC Types

	Near End 15 Minute Count	Near End 24 Hour Count
Slips	SLIP15M alarm	SLIP24H alarm
Unavailable Seconds	US15M alarm	US24H alarm
Errored Seconds	ERS15M alarm	ERS24H alarm
Severly Errored Seconds	SERS15M alarm	SERS24H alarm
Degraded Minutes	DM1H alarm	DM24H alarm

Performance Monitoring (Continued)

CEPT Performance Parameters, PA- Type NPCs

The performance monitoring capabilities of Type PA NPCs is more sophisticated. These parameters along with the alarms resulting from their thresholds being exceeded are shown in the next table, organized by near end (NE) and far end (FE), as they are on the PERFORMANCE MONITORING SPECIFICATION form.

Table 8-7. Alarms For CEPT NPC Performance Parameters For Type PA

	Near End 24 Hour Count	Far End 24 End Count	Near End 15 Minute Count	Far End 15 Minute Count
CRC Block Errors	CRCDAILY	FEBEDAILY	CRC15MIN	FEBE15MIN
Errored Seconds	ESDAILY	FESDAILY	ES15MIN	FES15MIN
Severely Errored Seconds	SESDAILY	FSESDAILY	SES15MIN	FSES15MIN
Unavailable Seconds	UASDAILY	FUASDAILY	UAS15MIN	FUAS15MIN
Framing Errors	FRERDAILY		FRER15MIN	
Out-of-Frame Seconds	OFSDAILY		OFS15MIN	
Controlled Slip Seconds	CSSDAILY		CSS15MIN	
Coding Violations	CVDAILY		CV15MIN	
Unavailable Time Count	UATCDAILY		UATC15MIN	
Multiframe Errors	MERDAILY		MER15MIN	



NOTE:

Not all options will appear for all PA-Type NPCs.

Performance Monitoring (Continued)

NAS Threshold Setting

The possible selections of field values for an NAS NPC are: n

where: n is 0, 1, 2, or 3, referring to data sets 0, 1, 2, or 3. The default is 0.

The types of performance parameters are classified in Table 4-9.

Table 8-8. Alarms For NAS NPC Performance Parameters

	Minor Alarm Option	Major Alarm Option
Slips	SLIP, severity Minor	SLIP, severity Major
Bit Error Rate	BER, severity Minor	BER, severity Major
Frame Alignment	COFA, severity Minor	COFA, severity Major
Errored Seconds		severity Major
Severe Errored Seconds		severity Major

A severity of *Minor* is not defined for **Errored Seconds** and **Severe Errored Seconds** for NAS NPCs.

The NPC Provisioning Form

NPC Provisioning Form

This is the final NPC PROVISIONING form after it has been filled in. On this form, the NPC to *CREATE* is identified. The DND displays a default value for the **NPC Type**:. You can click [Continue...](#) to accept the default, or click [Specify XYZ Detail](#) to change the NPC Type.

The screenshot shows the 'NPC Provisioning' window with the 'CREATE' action selected. The form is divided into several sections:

- Site Information:** Site Name (CEF-1-6-1), Far End Site (empty). An annotation points to the Far End Site field stating: 'The Far End Site field is automatically filled in if the current Site is connected to an intertie'.
- Action:** CREATE (selected).
- NPC Section:** NPC ID (number1), Hier (01101), Extd (0001). NPC Type (PB100) with buttons 'Specify XYZ Detail' and 'Specify Pbl Options'. Service State (UNEQ) with an annotation: 'Current Service State of NPC'.
- DACS Provisioning Options:** Insertion Word (IW) (empty), Alarm Indication Signal (AIS) (Inf, Min, Maj, Crit) with checkboxes.
- DND Provisioning Options:** Alarm Age (0000), Disable Alarm Reporting (checkbox).
- Control Options:** Reconcile Mode (DND and DACS, DND only, DACS only) with checkboxes. Additional Action (Restore NPC) with a checkbox and an annotation: 'Select to perform the Restore NPC Action using the same form'.
- Scheduling Options:** Mode (Immediate, Schedule) with checkboxes.
- Buttons:** Back, Continue..., Restart, Close.
- Footer:** ? Restore NPC if CREATE is successful: (empty text area).

Annotations on the left side of the form:

- An NPC name or number must be entered (points to NPC ID).
- Enter/Select DACS Provisioning Options (points to DACS Provisioning Options section).
- Enter/Select DND Processing Options (points to DND Provisioning Options section).

Figure 8-2. NPC Provisioning Form, Section 1: *CREATE* Action

The NPC Provisioning Form (Continued)

NPC XYZ Options Form

This is an auxiliary form to the NPC PROVISIONING form. Use this form to specify the NPC Type and parameters. To display this form, click **Specify XYZ Details** on the NPC PROVISIONING form. When this form is completed, the original NPC PROVISIONING form will appear with **Specify XYZ Details** inactive and **Specify PM Options** active.

Select XYZ Options using the **Common Choices** field, the XYZ **Value** fields, the **Next XYZ** buttons, or the explanation field below it

These fields will automatically change according to the selected X,Y, or Z values (read-only)

The screenshot shows the 'NPC XYZ OPTIONS' form. At the top, there are fields for ID (ISK2-NPC1), Hier (01101), Extid (0001), NPC Class (PA - CEPT Standard), NPC Type (PA100), and DACS CMM Number (31953). Below these is a 'Common Choices' dropdown menu. The form is divided into three main sections: PA Type X Options, PA Type Y Options, and PA Type Z Options. Each section contains various configuration options with checkboxes and buttons. Arrows point to the 'Common Choices' field and the 'Next X', 'Next Y', and 'Next Z' buttons. A note at the bottom says 'Click to choose a new NPC Class/Type' with an arrow pointing to the 'Back' button.

Figure 8-3. NPC Provisioning Form, Section 2: NPC XYZ Options (PA Type)

When all XYZ options have been selected, click **Continue...** to display all fields in read-only mode. Click **Apply** to apply these changes to the NPC PROVISIONING form.

If you click **Close**, you will lose all information entered on the form.

The NPC Provisioning Form (Continued)

Performance Monitoring Specification Form

This is another auxiliary form to the NPC PROVISIONING form. Use this form to specify the performance monitoring options. To display this form, click **Specify PM Options** on the NPC PROVISIONING form. When completed, the original NPC PROVISIONING form will appear with both the **Specify XYZ Details** and **Specify PM Options** buttons inactive.

The screenshot shows the "Performance Monitoring Specification" window. At the top, it displays "NPC Type: PB100" and "DACS CMM Number: 31362". Below this, there are fields for "ID: New NPC", "Hier: 02210", and "Extd: 0210". A label "Select alarm level here" points to the "alarm level" dropdown menu, which is currently set to "Inf - (Maintenance Informational)".

Under the heading "Define PM threshold/alarm settings", there is a "data set" dropdown menu set to "D - (Default)". An annotation "Select data set here" points to this dropdown. Below the dropdowns are two buttons: "Apply to Selected" (annotated with "Click to apply the selected options to the data set") and "Select all Parameters" (annotated with "Click to Select all Parameters to the data set").

The form contains three sections for threshold settings, each with checkboxes and a "D Inf" button:

- Near End 15 Minute Counts:** Slips, Unavailable Seconds, Errored Seconds, and Severely Errored Seconds.
- Near End 24 Hour Counts:** Slips, Unavailable Seconds, Errored Seconds, Severely Errored Seconds, and Degraded Minutes.
- Near End 60 Minute Counts:** Degraded Minutes.

An annotation "Data set threshold options" points to these sections. At the bottom of the window are "Continue..." and "Close" buttons. The window title bar indicates it is an "Unsigned Java Applet Window".

Figure 8-4. NPC Provisioning Form, Section 3: Performance Monitoring Options (PA Type)

(Continued on next page)

The NPC Provisioning Form (Continued)

Performance Monitoring Specification Form, Continued

After **Apply to Selected** is clicked, click **Continue...** and then **Apply** to return back to the NPC PROVISIONING form.

If you click **Close** on the NPC PROVISIONING form while the PERFORMANCE MONITORING SPECIFICATION form active, when **Apply** is clicked, the NPC PROVISIONING form will reappear with the same information it contained when the PERFORMANCE MONITORING SPECIFICATION form was initially displayed.

**NOTE:**

To change the defaults that are selectable for the NPC Provisioning form, the NPC XYZ OPTIONS form, and the PERFORMANCE MONITORING OPTIONS form, use the `ui_dval.ini` environment variable in the DND Forms Interface. For additional information, refer to "Setting/Changing Default Form Values for NPC and Circuit Provisioning" in Appendix C.

The NPC Provisioning Form (Continued)

Field Descriptions The table below describes in detail the fields and field values on the NPC PROVISIONING form.

Table 8-9. Field Descriptions for the NPC PROVISIONING Form

Field	Description
Site Name	(Combo box) Mandatory. Select the name of the DACS where the requested Action will take place. Clicking this field will display a list of DACS names. By default, the list appears alphabetically. To change the sorting order, modify the setting for the SORT_NAME_BY variable using the DND Forms Interface.
Alarm State	(Read-only field) The status of an alarm currently being received or asserted by this NPC. This field is under software control of the DND and cannot be changed by the user. The possible values are: ■ <i>OOS</i> - The NPC has been removed from service autonomously. ■ <i>CGA</i> - The alarm is a carrier group alarm (NAS). ■ <i>PBA</i> - The alarm is a primary block alarm (CEPT). ■ <i>PERF</i> - The alarm is a performance alarm of major severity. ■ <i>MAJ</i> - The alarm is of major severity and is not a performance alarm. ■ <i>MINR</i> - The alarm is of minor severity. ■ <i>NONE</i> - No alarm is asserted.

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
Service State	(Read-only field) The status of the NPC. This field cannot be changed by the user except as the result of an Action. Possible values: ■ <i>UEQD</i> - Unequipped. The NPC referenced by the NPC ID is not currently recorded in the DND and/or DACS databases (equipped). To place it there, use the <i>CREATE Action</i>. ■ <i>OOS</i> - Out of service. The NPC is currently equipped, but is not operable. To place it in service, use the <i>RESTORE Action</i>. To unequip it, use the <i>DELETE Action</i>. ■ <i>IS</i> - In service. The NPC is equipped and operable (ready for CIRCUIT PROVISIONING). To remove it from service, use the <i>REMOVE Action</i>. On currently unmapped channels in an NPC that is <i>IS</i>, the disconnect channel code is asserted repeatedly if there is one; otherwise, the NPC's Insertion Word is used as the default disconnect code. ■ <i>0 IS</i> - With reference to DSPU NPCs (DMB, CB102 circuit pack, and subrate NPCs), side 0 is in service and side 1 is out of service. ■ <i>1 IS</i> - With reference to DMB, CB102 circuit pack, and subrate NPCs, side 1 is in service and side 0 is out of service.

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
Action	(Combo box) Mandatory. Valid choices are: ■ <i>CREATE</i> - Adds a new NPC. ■ <i>RESTORE</i> - Places the specified NPC in service. An NPC must be in service before it can be used for CIRCUIT PROVISIONING. ■ <i>MODIFY</i> - Changes allowed combinations of fields for the specified NPC. These combinations are stated under "Types of NPCs" in this chapter. Constraints on possible new values of NPC Type are also stated there. ⇒ NOTE: If OOS is selected, changing the Type or Insertion Word of an <i>IS</i> NPC results in the DND placing the NPC in OOS Service State before making the change and then doing a <i>RESTORE</i> after the change. However, if OOS is unselected, the <i>MODIFY</i> is denied. ⇒ NOTE: Only those fields whose specification on the form differs from the DND database cause changes to be sent to the DACS. In particular, if the value is correct in the DND but is not correct in the DACS, a <i>MODIFY</i>, even in <i>DACS Only</i> mode, will not correct the value in the DACS.

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
Action, Con't	■ <i>REMOVE</i> - Removes the specified NPC from service. ⇒ NOTE: Removing an NPC with active circuits may result in transmission loss for those circuits. An NPC carrying red-lined circuits cannot be removed unless Unconditional (INCL) (the "inclusive" keyword) is selected. ■ <i>DELETE</i> - Deletes the specified NPC. An NPC must be removed from service before it can be deleted. ■ <i>LOOPBACK</i> - Allows you to start, change, and stop the loopback setting on an NPC. You can select <i>LOOPBACK</i> for NPCs that are out of service (<i>OOS</i>), or in service (<i>IS</i>). In addition these actions can also be applied to a traffic-carrying NPC.
NPC Specifier/NPC	(Radio buttons and Text field) Mandatory. Fields for specifying the NPC. The three choices for entering NPC data are: ■ <i>ID</i> - If selected, Enter the NPC name in the NPC: field. ■ <i>Hier</i> - If selected, enter the NPC's hierarchical number in the NPC: field ■ <i>Extd</i> - If selected, enter the NPC's extended number in the NPC: field.

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
ID/Hier/Extd	(Read-only fields) These fields are displayed when the DND has recognized the NPC Specifier information previously entered. NPC Type indicates the circuit pack type. ID indicates the NPC's name. Hier indicates the NPC's hierarchical number. Extd indicates the NPC's extended number.
NPC Type	(Text field) Mandatory. The NPC Types are: ■ PA - For DACS II, Generic 6.0 and higher, and DACS II ISX Release 1.0, the hardware is a TG192 enhanced dual primary circuit (EDPC) supporting a CEPT 75/120-ohm NPC with enhanced functionality. PA100 is the default value for ISX systems. Type PACz provides clear, framed E1 cross-connections and PADz provides clear, unframed E1 cross-connections. Support of PA-Type NPCs is expanded to include the setting, modifying and querying of performance monitoring thresholds. And finally, you can provision and query the TS0 receive (NFS) spare bit manipulation settings. ■ DE - The hardware is a dual digroup card (DDC) supporting a NAS NPC for channelized DS1 signals or a TG80 Card for clear unframed DS1 signals (DE9y9). ■ TA - For DACS II, release 6.0 only, the hardware is a KCR5 and 6 within a DS3 card. Type TAXy9 provides clear unframed cross-connections.

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
NPC Type, Con't	■ <i>TE</i> - The hardware is a DS3 card for channelized or clear unframed DS1 (<i>TE9y9</i>). ■ <i>MB</i> - The hardware is a DMB card for DMB multipoint cross-connections. <i>xyz</i> must be <i>100</i>. ■ <i>MJ</i> - Multipoint Junction Unit (supported for NPC PROVISIONING, but not for CIRCUIT PROVISIONING). ■ <i>SR</i> - Subrate (supported for NPC PROVISIONING, but not for CIRCUIT PROVISIONING). ■ <i>SD</i> - For subrate provisioning for X.50 and X.57. The only option for this type is <i>SD111</i>. For <i>PA</i>, <i>PB</i>, <i>PC</i>, <i>DA/TA</i> and <i>DE</i> types, the <i>xyz</i> defines facility characteristics. For example, for <i>DE</i> types, <i>xyz</i> defines the framing format (<i>x</i> is 1-3), the line and signaling format (<i>y</i> is 0, 1, 2, 4), and the channel-counting sequence (<i>z</i> is 0 or 4). See the DACS I/O manuals.
New ID	(Text field) Appears for the MODIFY Action only. Specify the new name (if desired) for the NPC.
Side	(Radio buttons) Appears for types <i>MB</i> , <i>MJ</i> , and <i>SR</i> only. Specifies the side when the Action will change the Service Status of a duplex DSPU NPC. The choices are <i>0</i> or <i>1</i> . A value is required when the Action is <i>REMOVE</i> or <i>RESTORE</i> .

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
Alarm Age	(Text field) The number of seconds after a <i>CGA</i> or <i>PBA</i> message has been received or asserted, before action is taken by the DND. The choices are: ■ <i>x</i> - Age the alarm <i>x</i> seconds, where <i>x</i> is 1 through 9999 ■ 0 - Do not age the alarm, but act immediately (default)
Disable Alarm Reporting	(Checkbox) When selected, the DND will not display when new alarms have entered the system (no New Alarm Indicator). This corresponds to an Alarm Aging value of -1 at the DND Forms Interface.
Insertion Word	(Text field) Two hex digits for NAS, 3 for CEPT, [0-9, A-F/a-f]. Specifies the 8-bit code transmitted by an <i>IS</i> NPC on unassigned channels. The third digit of a CEPT Insertion Word contains signaling-channel data. The default for NAS NPCs is 7F and for CEPT is D5D. ⇒ NOTE: On DACS II, Release 6.0, and DACS II ISX Release 1.0 frames, a 0 in the 7th bit (from the right) position generates a D4 yellow alarm for the NPC when the Insertion Word is transmitted

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
Alarm Indication Signal (AIS)	(Radio buttons) The user-defined severity of an AIS alarm on this NPC. The choices are: ■ <i>Inf</i> - An AIS alarm is to be an Informational alarm ■ <i>Min</i> - An AIS alarm is to be a Minor alarm ■ <i>Maj</i> - An AIS alarm is to be a Major alarm ■ <i>Crit</i> - An AIS alarm is to be a Critical alarm
Far End Site	(Read-only field) Displays the name of the DACS/End User which is at the far end of the intertie, as entered by INTERTIE PROVISIONING. If this NPC is not assigned to an intertie, then this field is blank.
(NPC 2) ID	(Text field) Mandatory. 1 through 41 characters from the printable ASCII character set, excluding *, \, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored. An identifier, or name used to identify the second NPC of a DMB board. DMB NPCs must be grown in pairs. The CREATE Action associates the name and number. Only one ID can be associated with an NPC number within a DACS, and also, an ID can be associated with only one NPC. An ID uniquely identifies an NPC.
(NPC 2) Hier/Extd	(Read-only fields) Appears for NPC Type MB only. Hier indicates the hierarchical NPC 2 number. Extd indicates the extended NPC 2 number.

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
TS0	(Text field) Time slot 0 transmit. Eight characters. Appears for CEPT NPCs only, and is accessible via the MODIFY Action. Describes how to process bits in time slot 0 for transmission. A single character is entered for each bit. The bit values are: ■ <i>P</i> - Cross-connect this bit position unchanged. ■ <i>O</i> - Overwrite the incoming bit with a <i>O</i> for this position. ■ <i>1</i> - Overwrite the incoming bit with a <i>1</i> for this position. ■ <i>V</i> - For NPC Type PA only, invert the value of this bit. If either of the two rightmost bits is <i>P</i>, both must be <i>P</i>. Use either upper or lower case for <i>P</i> or <i>V</i>. The default is <i>11011111</i>.
TS0M	(Text field) Time slot 0 monitor. Eight characters. The field appears for CEPT NPCs only, and is accessible via the MODIFY Action. Describes what Time Slot 0 bits are to be monitored by the DACS. A single character is entered for each bit. The bit values are: ■ <i>O</i> - Stop monitoring the signal in this bit position. ■ <i>1</i> - Start monitoring the signal in this bit position. Whenever the DACS detects a change in a monitored TS0 bit, it generates an autonomous message. The default is <i>00000000</i>.

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
NFS	(Text field) Non-frame word setting. Nine characters. This field appears for Type <i>PA</i> only, and is accessible by the <i>MODIFY Action</i>. Specifies how the spare bits in timeslot 0 are to be handled when they are cross-connected to a timeslot other than 0. This is a special case of the spare bit manipulation feature. Refer to the discussion of TS0 to non-TS0 cross-connects in the Introduction in the CIRCUIT PROVISIONING chapter. The field format is: <i>abcdefghi</i> where: ■ <i>a</i> - Is bit 1 of the FW ■ <i>bcdefghi</i> - Are bits 1-8 of the NFW Enter a single character for each bit. The bit values are: ■ <i>P</i> - Pass unchanged. ■ <i>V</i> - Pass inverted, except for bit <i>c</i>. ■ <i>0</i> - Set output to 0, except for bit <i>c</i>. ■ <i>1</i> - Set output to 1, except for bit <i>c</i>. Bit <i>c</i> is passed unchanged in every case. If <i>h</i> or <i>i</i> are set to <i>P</i>, then the other of the two must be set to <i>P</i>. The creation default is <i>PPPPPPPP</i>.

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
Unconditional (INCL)	(Checkbox) Appears for the REMOVE Action only. It is parallel to the INCL selection of the Circuit Options field on the CIRCUIT PROVISIONING form; however, where the CIRCUIT PROVISIONING option applies to disconnecting or deactivating a circuit. When selected on the NPC PROVISIONING form, it allows the DND to REMOVE an NPC that is carrying a red-lined circuit.
Remove NPC (OOS)	(Checkbox) Appears for the MODIFY Action only. When selected, the DND will REMOVE an NPC if it is necessary, make the selected modifications, and RESTORE the NPC using the same form.
Delete NPC	(Checkbox) Appears for the REMOVE Action only. When selected, the DND will REMOVE and DELETE an NPC using the same form. Do not select this option if the REMOVE Action will be scheduled.
Restore NPC	(Checkbox) Appears for the CREATE Action only. When selected, the DND will CREATE and RESTORE an NPC using the same form. Do not select this option if the CREATE Action will be scheduled.
Loopback Transmission	(Radio buttons) This option can be changed while a loopback is active to change the loopback signal transmission or the Performance Monitoring options. The choices are: ■ A - Starts looping the signals. Also sends AIS downstream or upstream, turns off facility Performance Monitoring, freezes alarm and parameter counts for the NPC

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
Loopback Transmission, Con't	■ <i>B</i> - (PA type NPCs only) Starts looping the signals. Also sends AIS downstream or upstream and continues normal Performance Monitoring and alarm processing for the NPC ■ <i>C</i> - (PA type NPCs only) Starts looping the signal and transparently passes through the received signal. Turns off facility Performance Monitoring and freezes alarm and parameter counts for the NPC ■ <i>T</i> - Starts looping the signal and transparently passes through the received signal. Continues facility Performance Monitoring and alarm processing for the NPC ■ <i>N</i> - Stops looping the signal
Loopback Direction	(Radio buttons) This is a one character field to indicate the direction of the loopback. This is a mandatory field when the action selected is <i>LOOPBACK</i> and the NPC is a <i>PA</i> type. ■ <i>F</i> - Facility Loopback. This loops the incoming 2 Mbit/s bipolar signal back to the facility ■ <i>E</i> - Equipment loopback. This loops the outgoing 2 Mbit/s signal back to the DACS II equipment. This option is not applicable to PB/PC type NPCs ■ <i>N</i> - Stop loopback

(Continued on next page)

The NPC Provisioning Form (Continued)

Field Descriptions, Continued

Table 8-9. Field Descriptions for the NPC PROVISIONING Form, Con't

Field	Description
Reconcile Mode	(Radio buttons) Select the database where the current Action will take place. The choices are: ■ <i>DND and DACS</i> - Perform the Action to both the DND and DACS databases (default) ■ <i>DND only</i> - Perform the Action to the DND database only ■ <i>DACS only</i> - Perform the Action to the DACS database only
Scheduling Options Mode	(Radio buttons/Combo boxes and Text fields also if <i>Schedule</i> is selected) Select when the current Action should take place. The choices are: ■ <i>Immediate</i> - Executes the Action as soon as Execute is clicked ■ <i>Schedule</i> - Executes the Action at a time and frequency selected by the user. After selecting <i>Schedule</i>, click Continue... to display the following combo box fields: — DATE fields: Day: (01 thru 31) Month: (Jan thru Dec) Year: (1990 thru 2037) — TIME fields: Hour: (00 thru 23) Minute: (00 thru 59) — REPEAT fields: Number of times (enter any number) Interval (enter any number) Scale: (None/Minutes/Hours/Days)

NPC Provisioning ERP

Description

An echoed response is a message that is sent from a DACS to the DND when the DND does not expect a response; for example, when a change in NPC Provisioning is entered through the DACS console, through a passthrough command to the DACS, or by some other means not initiated by a DND form. Such provisioning would cause the DACS and DND databases to differ if the DND did not respond to the echoed response message.

The DND, therefore, is designed to process the echoed messages from the DACS. For example, if it receives a message that the DACS has created an NPC, DND creates an NPC in the local database. Likewise, the DND also executes a *RESTORE*, *REMOVE*, *MODIFY*, or *DELETE* when specified by the message.

Controlling ERP

You can partially control the DND response to a message of this type. Under DACS Administration, if the **Conditional ERP** is set to *YES*, the DND database does not create the NPC. DND processes echoed response messages only if the NPC is already in the DND database. The database is updated and event messages are posted in the Status Summary Window. If the NPC is not in the DND database, the message is not processed and no action of any kind is taken.

When **Conditional ERP** is set to *No*, the DND responds to every echoed response message, (i.e. will create NPCs if it receives a DACS echoed response message).

NPC Provisioning ERP (Continued)

NPC ID ERP Assignment

If the DND must create an NPC that is not in the DND database at all, it automatically assigns an **NPC ID** in the following format:

nnnnn**NPC00**m

where:

nnnnn	Is the NPC number as represented at the DACS. The nnnnn is in hierarchical format if the DACS is provisioned for hierarchical format, or in extended format if provisioned for extended numbering.
m	Is a sequence number assigned to this NPC record. The number is incremented with each new NPC activated by this method.

The default values used by the *CREATE Action* are the same as those specified under "Field Descriptions." They are displayed on the screens.



CAUTION:

*You **SHOULD AVOID** creating **NPC IDs** from the **NPC PROVISIONING** form according to the ERP scheme.*

NPC Provisioning ERP (Continued)

ERP Messages

With any other DND **Action**, an action generated in ERP can succeed or fail. The result of the attempt is reported in the Status Summary Window at the bottom of the DND Main Window in the following format:

database/result:action explanation

where:

database	Is the Site Name field value for this frame.
result	Is one of these values: SUCCESS The action succeeded. ERROR The action failed.
action	Is a terse English description of the attempted action.
explanation	Is the NPC ID field value or an error message.

More detailed information can be obtained with the Echoed Response Processing Report which can be run from the GUI and the Forms Interface.

Contents

■ Background	9-5
Introduction	9-5
Objectives	9-5
Related tasks	9-6
Related information	9-6
■ General Information	9-7
Channels	9-7
TO and FROM Sides	9-7
Establishing a Circuit	9-7
Disconnecting a Circuit	9-8
Red-lining Circuits	9-8
High Rate Circuits	9-8
Using the Reconcile Mode	9-8
Combining Multiple Circuits	9-9
Testing Circuits	9-9

(Continued on next page)

Contents (Continued)

■ TS0 Circuit Feature	9-10
Description	9-10
Framing Example	9-10
Spare Bits	9-11
■ Circuit Types	9-12
Overview	9-12
Full Duplex	9-13
Clear DS1/E1	9-14
Half Duplex	9-15
BCON Circuits	9-16
Half-Duplex Loopback Circuits	9-17
Full-Duplex Loopback Circuits	9-17
DMB Circuits	9-18
Symmetrical Voice Circuits	9-19
Polling Data Circuits	9-20
Cascaded DMB Circuits	9-21
Cascaded Symmetric Voice Circuit	9-22
Cascaded BBL-to-BBL Polling Data Circuit	9-23
Cascaded BBL-to-BRD Polling Data Circuit	9-24
■ Circuit Packs and Related Circuit Types	9-25
E/DDC and E/DPC Circuit Packs	9-25
DMB Circuit Packs	9-25
TG 80 Circuit Packs	9-25
TG 192 Circuit Packs	9-25
DS3 Circuit Packs	9-26

(Continued on next page)

Contents (Continued)

■ Alternate Routing	9-27
Introduction	9-27
Constraints	9-27
High Rate Circuits	9-27
Multipoint Circuits	9-27
BCON Circuits	9-28
Real vs. Psuedo Altrouting	9-28
Alternate Routing Fields	9-28
■ Preempting Conditions	9-29
Description	9-29
All Circuits	9-29
High Rate Circuits	9-29
Multipoint Circuits	9-30
BCON Circuits	9-30
Preempting Table and Fields	9-30
■ Normalizing	9-31
Description	9-31
Conditions	9-31
■ Circuit Trace	9-32
Overview	9-32
The Circuit Trace Navigation Buttons	9-32
Read-only Fields	9-32
Displaying a Circuit Trace	9-33
Network Elements	9-35
Closing the Circuit Trace Table and Map	9-35
■ Circuit Provisioning Form	9-36
Overview	9-36
Field Descriptions	9-37
Field Value Summary	9-58

(Continued on next page)

Contents (Continued)

■ Circuit Provisioning ERP	9-61
Description	9-61
Circuit Activation	9-61
Circuit Deletion	9-62
BCON Activation	9-62
High Rate Circuits	9-62
ERP Messages	9-63
ERP Control	9-64
DND ERP Response	9-65

Background

Introduction

Circuit provisioning is the process of establishing cross-connections between external facility terminations (EFTs) in the DACS. A cross-connection can be established either as an elementary circuit (a single-channel cross-connection) or as multiple-channel cross-connection (combined cross-connections into complex, high-bandwidth circuits).

Prior to circuit provisioning, you must use the NPC PROVISIONING form to *CREATE* and *RESTORE* the NPCs which will be used to establish the circuit. The NPC **Type**, specified during *CREATE*, is an important element in determining the type of circuit it will be used in. Attempts to *ACTIVATE* circuits between NPCs that are inappropriate to the type of circuit are rejected.

**NOTE:**

Circuit Provisioning procedures and examples for DND Forms Interface can be found in Appendix G.

Objectives

This chapter provides information to help you perform the following:

1. Activate New Full Duplex, Half Duplex, and Digital Multipoint Bridge Circuits
 2. Pend a New Circuit
 3. Modify a Circuit
 4. Combine Multiple Circuits
 5. Create an Alternate Route for a Circuit (with or without circuit preemption)
 6. Normalize a Circuit
 7. Add a Leg to a BCON Circuit
 8. Delete a Leg from a BCON Circuit
 9. Change the Return Path for a BCON Circuit
 10. Deactivate a Circuit
 11. Delete a Circuit
 12. Perform a Circuit Trace
-

Background (Continued)

Related tasks

For related tasks, see the following General Tasks:

- GT 90: Activating or Pending a New Circuit, Full or Half Duplex
 - GT 91: Activating or Pending a New Circuit, Digital Multipoint Bridge
 - GT 92: Modifying a Circuit
 - GT 93: Combining Multiple Circuits
 - GT 94: Adding a Leg to a Broadcast Circuit (BCON)
 - GT 95: Deleting a Leg from a Broadcast Circuit (BCON)
 - GT 96: Changing the Return Path of a Broadcast Circuit (BCON)
 - GT 97: Creating an Alternate Route Cross-connection
 - GT 98: Normalizing a Circuit
 - GT 99: Deactivating a Circuit
 - GT 100: Deleting a Circuit
 - GT 101: Performing a Circuit Trace
-

Related information

For related information see:

- *DACS II and DACS II ISX Operation and Maintenance Manuals*
 - Appendix G
-

General Information

Channels

The unit of cross-connection is typically the channel. The 1.544 megabits per second (Mbps) of a Digital Signal 1 (DS1) signal becomes 24 channels of 64 kilobits per second (Kbps) under the North American Standard (NAS). Likewise, the 2.048 Mbps of an E1 signal becomes 32 channels of 64 Kbps under the CEPT Standard. The channel has a width of 8 bits, or one byte. All 8000 bytes per second being transmitted over this channel belong to the same customer.

Channels are identified by channel numbers within an NPC -- 0 through 23 for NAS, and 0 through 31 for CEPT.

TO and FROM Sides

A circuit is considered to go from one external facility termination (EFT) to another, or from one set of EFTs to another (high-rate). One side is, therefore, considered the FROM side, and the other is considered the TO side. The transmitting side of the circuit is typically denoted the FROM side. These conventions apply to all circuits established with one CIRCUIT PROVISIONING form.

Establishing a Circuit

The most important characteristic of any circuit is its operating status. When you enter a **Ckt ID** for a circuit that is not on record in the DND database, the **Ckt Status** field on the screen is assigned a *NULL*. Any other **Ckt Status** means that a circuit of that ID is on record.

To successfully *ACTIVATE* a circuit means to establish it as a successful, traffic-bearing* circuit. In that case, the **Ckt Status** is *ACTIVE*. However, you do not have to *ACTIVATE* a circuit to place it on record; a *PEND Action* places it on record in *PENDING Ckt Status*.

If an *ACTIVATE Action* fails, the DND will attempt to undo any connection it has already put up. In the case of a timeout, the DND sends a disconnect command.

* Traffic-bearing refers to the fact that the circuit is marked as cross-connected and, in theory, is capable of supporting customer traffic. However, the **Service State** of the NPC (In Service or Out of Service), as well as external parameters beyond control of the DND, will affect the ability of the cross-connect to actually carry customer traffic.

General Information (Continued)

Disconnecting a Circuit

When a circuit is disconnected, it does not always disappear. It may remain in the database as *DEACTIVATED*, *ALTROUTED*, or *PREEMPTED*, depending on how it was disconnected. These **Ckt Statuses** are covered in greater detail in this and the following chapters. To return a circuit to *NULL*; for example, to delete it, enter an **Action** of *DELETE*.

The **ACTIVATE Action** sends a command to connect EFTs that are *IS*. If the NPC of an EFT should go *OOS* after the circuit is in **ACTIVE Ckt Status**, the circuit remains *ACTIVE*. You can disconnect it immediately by selecting the *OOS* option from the **DELETE Action**. If you neglect to do that and attempt to *DEACTIVATE* or *DELETE* the circuit, the DND would need to send two commands before disconnection would be successful.

Red-lining Circuits

You can red-line the circuit as not to be disconnected without authorization, through the RDLD and INCL **Options**.

High Rate Circuits

High rate circuits are FDX circuits, HDX circuits, or multipoint circuit legs which are established with a bandwidth of 2 or greater. High rate circuits are established to support the transmission capacity of larger traffic customers.

Using the Reconcile Mode

By specifying a **Reconcile Mode**, you can have the circuit recorded in one of the following ways:

- Both the DND and DACS databases
- In the DND database only, where no DACS cross-connection is made
- In the DACS database only, in which case no data is changed in the DND database



WARNING:

Using Reconcile should be done with care. It can discrepancies between the DND and DACS databases.

For more information, refer to the DND Main Window and Form Navigation chapter.

General Information (Continued)

Combining Multiple Circuits

Using the *COMBINE Action*, multiple circuits are combined to create high-rate, complex circuits. These circuits are useful for customers requiring larger bandwidths to transfer data. Depending on bandwidth size needed, the building of a multiple circuit may require a number of *COMBINE Actions*.

When combining multiple circuits to a create larger bandwidth, complex circuit, the following must hold:

- The multiple circuits must all be of the same Bandwidth Type
- No circuits can be of the Random bandwidth type

Testing Circuits

Once a circuit is *ACTIVATED*, you may want to test it. Refer to the *TEST ACCESS* Chapter, which describes test access capabilities and connecting test circuits

TS0 Circuit Feature

Description

A TS0 circuit feature is supported by DND NPC and CIRCUIT PROVISIONING, for CEPT circuits of **Type PA** NPCs and **Bandwidth 1** only. In the CEPT standard, channel 0 (time slot 0) is used to transmit the framing pattern and other data channel information. For various reasons, you may want to utilize channel 0 for other purposes, such as transmitting alarm information, or for testing, and therefore you may want to connect it to some channel other than 0 in some other CEPT NPC. This is a special case, and requires a value in the **Framing** field.

Framing Example

Figure 9-1 shows two sequential time frames in one direction for two different NPCs. Channel 0 (time slot 0) is to be connected to channel 1 (time slot 1). The last 7 bits of the first time frame's channel 0 contain an arbitrary pattern, the framing word (FW), which is used to identify the beginning of a pair of time frames. Channel 0 of the alternate time frame contains the non-framing word (NFW), consisting of 8 bits used to transmit various signals.

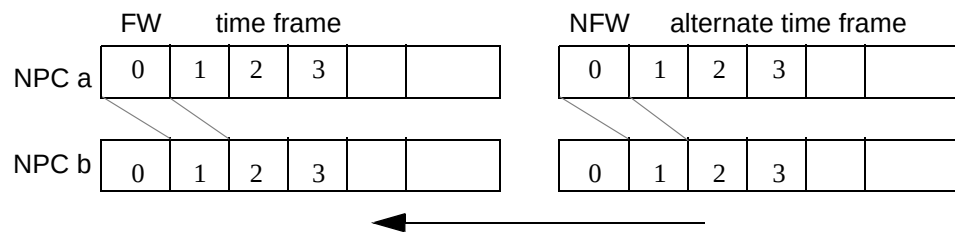


Figure 9-1. Circuit Provisioning Example—Two Sequential Time Frames

(Continued on next page)

TS0 Circuit Feature (Continued)

Framing Example, Continued

If you connected channel 0 unmodified to channel 1, the FW would appear twice within the pair of time frames on NPC b, and therefore would destroy the framing sequence. The **Framing** field allows you to insert another arbitrary pattern, the pseudo-FW, into the stream of frames on NPC b. Alternatively, you can communicate the NFW of NPC a to both frames of NPC b. In either case, the NFW is used to transmit the channel data you want to transmit.

Spare Bits

The FW and the NFW each consist of 8 bits. Bit 1 of the FW and bits 1 through 8 of the NFW are not used for framing purposes and therefore are called the spare bits. Spare bit manipulation also is supported. To access these bits, however, use the **NFS** field on the NPC PROVISIONING form.

Circuit Types

Overview

The type of circuit is determined mainly by **Ckt Class**, **Bandwidth**, **Options**, and the EFT identifiers.

- **Ckt Class** is the most significant. Through it you can specify two-way or, one-way, DMB multipoint, and BCON circuits.
- The EFT identifiers determine whether the connections are entirely NAS, entirely CEPT, or gateway.
- However, if you connect NAS with CEPT EFTs, you need to make sure the **NAM** keyword option is unselected; for example, that A-to-mu law conversion is in effect.

The DND supports a variety of circuit types, depending on what hardware is present on the DACS. Hardware and NPC types are described in the NPC PROVISIONING chapter. This section provides brief summaries of various circuit types. For more complete details on circuit types, refer to the *DACS II and DACS II ISX Operation and Maintenance Manuals*.

High-rate circuits in the DND are implemented in the DACS as a range command or individual one- or two-way circuits, depending on the **Bandwidth Type** chosen (*CONTIGUOUS*, *ALTERNATING* or *RANDOM*). To the DACS operator, the complex process of building circuits by individual MML commands and selection form a large variety of types with many possible parameters; becomes a much simpler process using DND by entering information into the forms.

Circuit Types (Continued)

Full Duplex

A full-duplex circuit provides a two-point, two-way transmission path. Data is sent from the FROM to the TO sides, as well as from the TO to the FROM sides. The **Ckt Class** is indicated by *FDX: FULL DUPLEX*.

One CIRCUIT PROVISIONING form is required to provision a full-duplex circuit. Figure 9-2 shows a sample of a full duplex circuit.

⇒ **NOTE:**
Selection of the NPC determines whether the DS0 channels are provided by NAS E/DDCs, CEPT E/DPCs, or DS3 Cards (channelized configuration). The procedure is the same in each case.

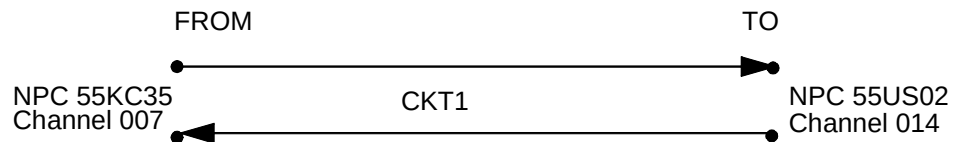


Figure 9-2. Sample Full-duplex Circuit

Circuit Types (Continued)

Clear DS1/E1

A clear DS1/E1 circuit provides a two-point, one- or two-way transmission path using all channels on the FROM and TO NPCs. The **Ckt Class** is indicated by *HDX: HALF DUPLEX* or *FDX: FULL DUPLEX*.

One CIRCUIT PROVISIONING form is required to provision a clear DS1/E1 circuit. Figure 9-3 shows a sample of a clear, full-duplex DS1 circuit.

NOTE:
A clear DS1/E1 NPC can only connect to another clear DS1/E1 NPC. They are provisioned as such during NPC Provisioning.

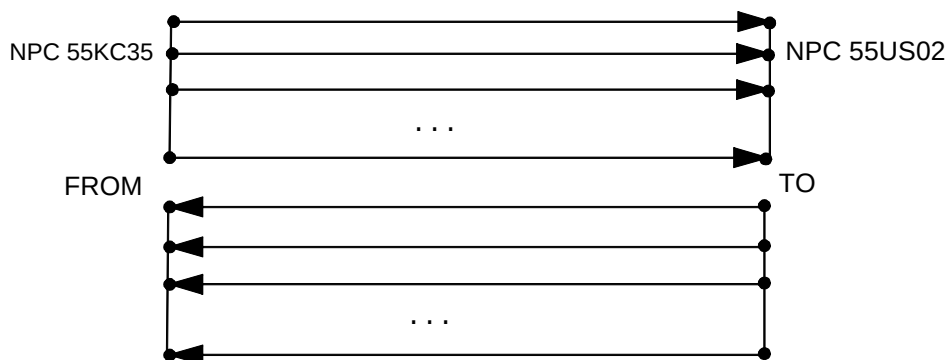


Figure 9-3. Sample Clear DS1 Full-duplex Circuit

Circuit Types (Continued)

Half Duplex

A half-duplex circuit provides a two-point, one-way transmission path. For one-way circuits (half duplex), the transmitting side must be considered FROM. The **Ckt Class** is indicated by *HDX: HALF DUPLEX*.

One CIRCUIT PROVISIONING form is required to provision a half duplex circuit. Figure 6-4 shows an example of a half duplex circuit.

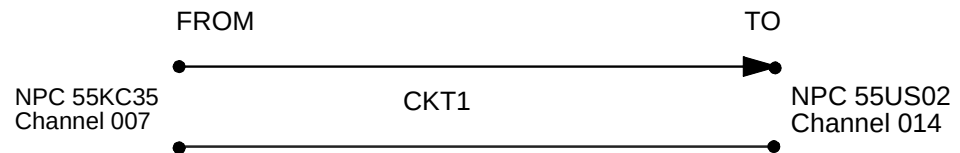


Figure 9-4. Sample Half-duplex Circuit

Circuit Types (Continued)

BCON Circuits

BCON circuits provide the capability to provision multipoint circuits. There are two types of BCON circuit classes:

- *Backbone circuits (BKB)* - BKB circuits are used as the backbone circuit in BCON provisioning.
- *Tributary circuits (LEG)* - LEG circuits are used as the tributary circuit in BCON provisioning.

To create a BCON circuit through the DND user interface, create a Full Duplex circuit and add a LEG. The Full Duplex circuit will be converted into a BCON backbone with the new leg. Similarly, when the last LEG of a BCON circuit is deleted through the DND user interface, the remaining backbone will be converted back to a Full Duplex circuit automatically. The Circuit ID of a LEG circuit is automatically generated during execution of the *ADDLEG* action, and is displayed after the action completes. Figure 9-5 illustrates an example of a BCON circuit.

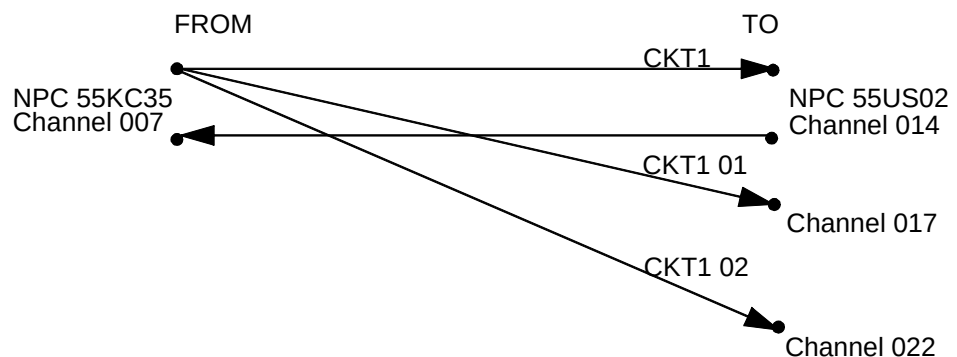


Figure 9-5. Sample BCON Circuit

You can modify a BCON circuit by adding a leg (*ADDLEG*), deleting an existing leg (*DELLEG*), or by changing the base name (*MODIFY* of BKB). BCON circuits cannot be *DEACTIVATED*, *ALTROUTED*, *PREEMPTED*, or *COMBINED*.

You can use the *CHGRPATH* Action to change the return path to another leg. The leg must already be connected in the BCON.

For additional information on BCON circuits, refer to the *DACS II and DACS II ISX Operation and Maintenance Manuals*.

Circuit Types (Continued)

Half-Duplex Loopback Circuits

One CIRCUIT PROVISIONING form is required to provision a half-duplex loopback circuit. The FROM and TO sides must be the same channel of the same NPC. The **Ckt Class** must be *HDX*. The Tx then loops around to the Rx of the same channel, as shown in Figure 9-6.



Figure 9-6. Sample Half-Duplex Loopback Circuit

Full-Duplex Loopback Circuits

One CIRCUIT PROVISIONING form is required to provision a full-duplex loopback circuit. The FROM and TO sides must be the same channel of the same NPC. The circuit class must be *FDX*. The Tx then loops around to the Rx of the same channel, as shown in Figure 9-7.

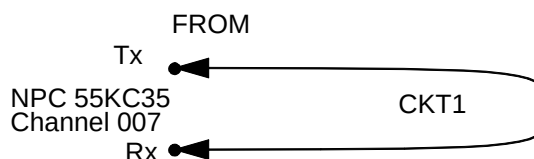


Figure 9-7. Sample Full-Duplex Loopback Circuit



NOTE:

The full-duplex loopback circuit is *only* available when the environment variable `FDX_LOOP_CKT` is set to 1. For more information on environment variables, refer to the “Setting Environment Variables” appendix in the *DACS II Network Director Installation Manual*.

Circuit Types (Continued)

DMB Circuits

The model for a DMB multipoint circuit is similar to that of the virtual multipoint circuit, except that a DMB multipoint circuit is two-way, and, therefore, the concept of FROM and TO sides becomes arbitrary. Either direction of a circuit can be the FROM or the TO. Also, DMB multipoint circuits require the selection of a DMB NPC and channel as a branch point.

The two specific types of DMB circuits are:

- Symmetric Voice Bridge - two or more symmetric legs
- Polling Data Bridge - one backbone leg and one or more branches

 **NOTE:**
DMB multipoint is supported *only* for DACS II.

 **NOTE:**
The DMB NPC number must be in the range supported by the DMB circuit pack. If it is not, the NPC is not a DMB NPC. If you do not know the ranges of each type of NPC, consult your system administrator.

Circuit Types (Continued)

Symmetrical Voice Circuits

Figure 9-8 shows an example of a symmetric voice circuit.

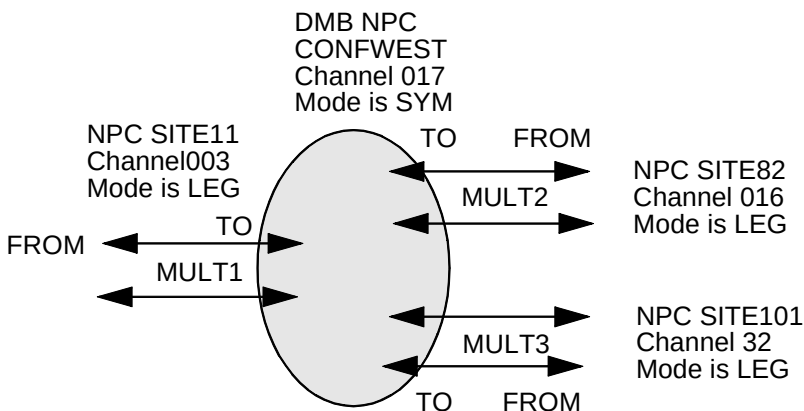


Figure 9-8. Sample Symmetric Voice Circuit

In this example, three CIRCUIT PROVISIONING **Actions** are required. Each form must have a different **Ckt ID**.

When implemented, the circuit resembles the illustration in Figure 9-9. Each leg can hear the traffic from all of the other legs.

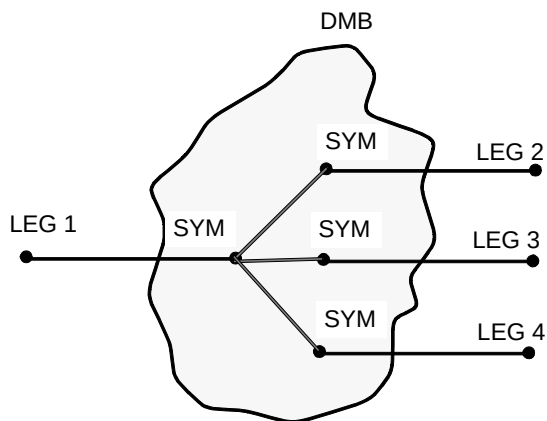


Figure 9-9. Implemented Symmetric Voice Circuit

Circuit Types (Continued)

Polling Data Circuits

Figure 9-10 shows an example of a polling data circuit. This figure is essentially the same as Figure 6-10; however, it is strictly conventional. The Tx direction of the backbone does not really go through the DMB NPC.

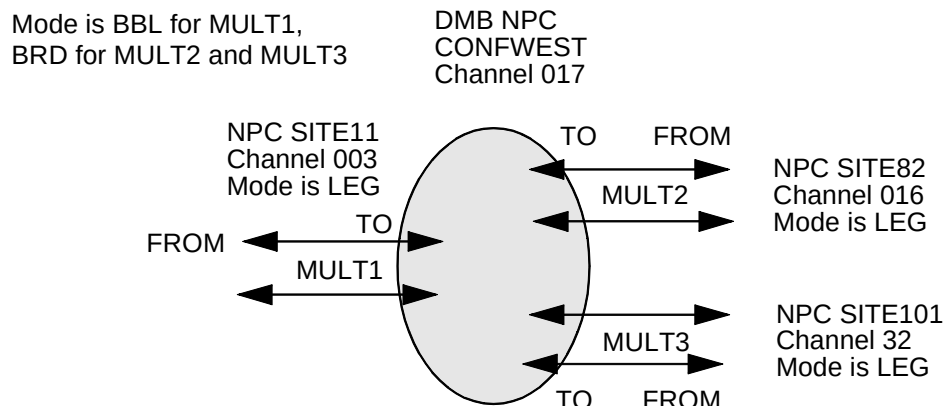


Figure 9-10. Sample Polling Data Circuit

In this example, three CIRCUIT PROVISIONING **Actions** are required. Each form must have a different **Ckt ID**.

When implemented, the circuit resembles the illustration in Figure 9-11. LEG 1 hears traffic for all LEGS, however, LEGS 2, 3, and 4 only hear traffic from LEG 1.

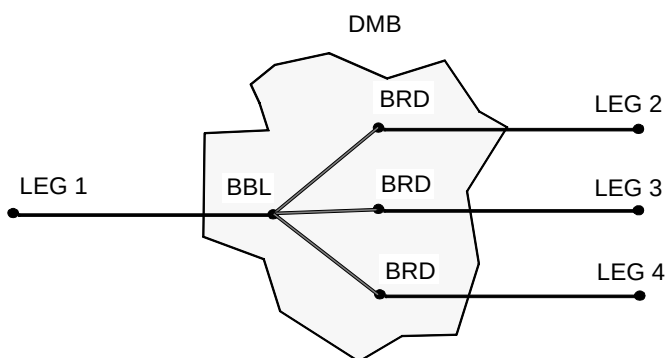


Figure 9-11. Implemented Polling Data Circuit

Circuit Types (Continued)

Cascaded DMB Circuits

The number of legs that can be hung from one branch point in a DMB multipoint circuit is limited by the number of time slots in a DMB circuit pack. Some limits are stated for the DACS II, as shown in Figure 9-1.

Table 9-1. DMB Conference Information

Machine	DMB Conference Number Range	Maximum Number of DMB Conferences Per Frame	Maximum Number of DMB Conference Legs Per Pack
DACS II	1-85 (170 per pack)	2720	512
DACS II (CEF)	1-85 (170 per pack)	10880	512



NOTE:

If you assume eight DMB packs per DSPU per frame, and two DSPUs per frame, the maximum number of conferences is 170x8x2, or 2720.

The above limitations can be overcome for multipoint circuits by a configuration called cascading, in which two or more conferences are included in the same network of DMB multipoint circuits.



NOTE:

The representations shown in this section are not to be taken as circuit diagrams. They graphically represent the relations between the circuits to be entered on the various CIRCUIT PROVISIONING forms required by the cascade.

Circuit Types (Continued)

Cascaded Symmetric Voice Circuit

Figure 9-12 represents a cascaded symmetric voice circuit where each LEG can hear traffic from all of the other LEGS.

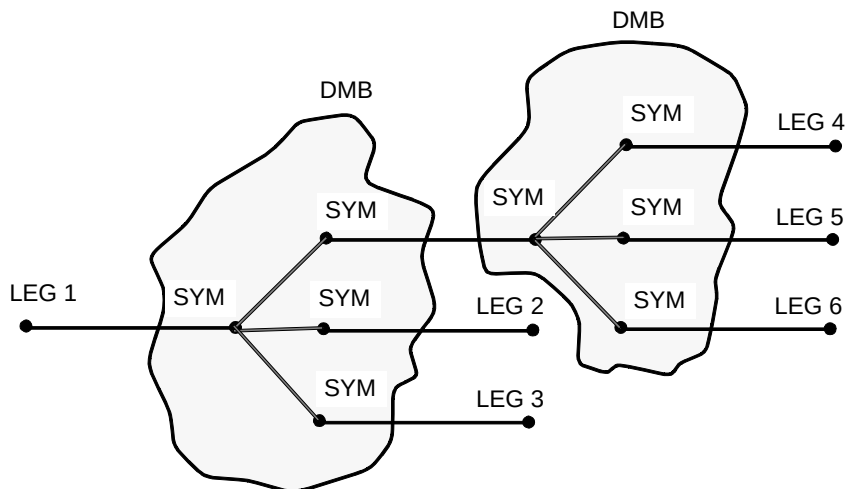


Figure 9-12. Cascaded Symmetric Voice Circuit

Using Figure 9-12 as an example, the following rules are evident:

- LEG always connects to SYM.
- Clusters of SYM must be the same NPC and channel, and it must be a DMB NPC.
- The number of SYM-to-SYM circuits is equal to one less than the number of DMB conferences in the circuit.

In the illustration, seven circuits are shown, requiring seven CIRCUIT PROVISIONING **Actions**. Whether a channel is TO or FROM has no bearing, except, of course, that a FROM and a TO have to appear in every cross-connect.

Circuit Types (Continued)

Cascaded BBL-to-BBL Polling Data Circuit

Notice that the same DMB NPC and channel are labeled BBL in one form and BRD in three forms.

Figure 9-13 shows two polling data circuits cascaded through the backbone LEGS. LEGS 1, 2, and 3 hear traffic from 4, 5, and 6, but they do not hear each other. Similarly, LEGS 4, 5, and 6 cannot hear each other, but they can hear the traffic from LEGS 1, 2 and 3.

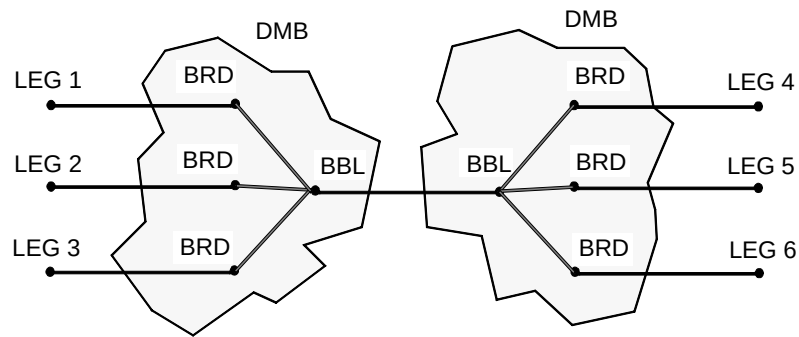


Figure 9-13. BBL-to-BBL Cascaded Polling Data Circuit

Notice that the LEG to BBL cross-connects of a single circuit have been replaced by a common BBL to BBL cross-connect. Seven CIRCUIT PROVISIONING **Actions** are required.

Circuit Types (Continued)

Cascaded BBL-to-BRD Polling Data Circuit

Figure 9-14 shows an example of a BBL to BRD cross-connect. LEG 1 can hear the traffic from everyone; all other legs only hear traffic from LEG 1.

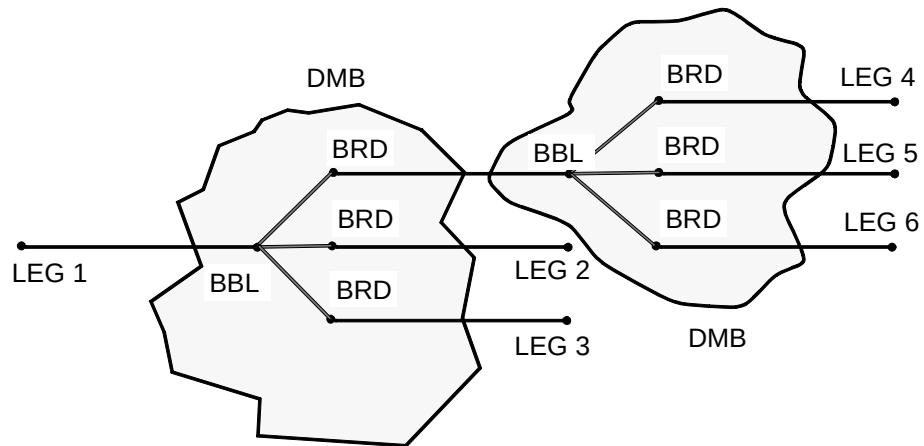


Figure 9-14. BBL-to-BRD Cascaded Polling Data Circuit

From this figure, the following rules are evident

- LEG always connects to BBL or BRD.
- A cluster of points representing one DMB and channel must include one BBL with the rest being BRD.
- As many BRD to BBL circuits are required as one less than the number of DMB conferences in the circuit.

Circuit Packs and Related Circuit Types

E/DDC and E/DPC Circuit Packs

Standard E/DDC and E/DPC circuit packs can support the following circuit types:

- Single-channel, two-point, one-way or two-way circuits.
 - Single-channel, two-point, one-way or two-way circuits between NAS NPCs and CEPT NPCs (gateway circuits).
 - High-rate, or high bandwidth (multichannel), NAS, CEPT, or gateway two-point, one-way or two-way circuits. The maximum bandwidth for NAS and gateway is 24 channels per circuit; for CEPT, 32.
 - Virtual multipoint, one-way, receive-only broadcast circuits of bandwidth 1 through 24 for NAS or 1 through 32 for CEPT. Gateway circuits are allowed, with a bandwidth up to 24.
 - BCON circuits of bandwidth 1 through 24 for NAS or 1 through 32 for CEPT. Gateway circuits are allowed, with a bandwidth up to 24.
-

DMB Circuit Packs

If DMB circuit packs are installed in the DACS, the following DMB multipoint two-way circuits are supported in single-channel bandwidth only:

- Symmetric voice circuits. Each station can communicate both ways at all times, but the DND allows disabling of transmission in one direction (**NTR** field).
 - Polling data circuits. Equipment is polled one way and the replies are sent the other. Again, the DND allows disabling of transmission in one direction.
-

TG 80 Circuit Packs

If TG80/TG 80B circuit packs are installed in the DACS, the following circuits are supported, NAS only:

- 193-bit, clear DS1, half-duplex, full-duplex, or BCON.
-

TG 192 Circuit Packs

If TG192 circuit packs are installed in the DACS, the following circuit types are supported, CEPT only:

- 256-bit, clear E1, half-duplex, full-duplex, or BCON.
-

Circuit Packs and Related Circuit Types (Continued)

- DS3 Circuit Packs** If a DS3 shelf containing DS3 circuit packs is installed in the DACS, the following circuit types are supported, NAS only:
- Channelized DS3; such as 28 channelized DS1 signals per DS3 circuit pack. Each DS1 signal becomes 24 NAS-only DS0 channels, which can be connected in bandwidths of up to 24. There are no CEPT DS3s; however, gateway circuits with other NPCs that are CEPT are supported.
 - DS3 with 28 clear DS1s, full- or half-duplex only.
-

Alternate Routing

Introduction

When a transmission facility fails, it may be necessary for the DND operator to switch circuits connected to that facility to an alternate route. This section describes how to use the **ALTROUTE Action** to execute alternate routing, or altrouting, from the DND, and how the DND handles circuit preempting and normalizing of altrouted circuits.

Constraints

The following constraints apply to altrouting:

- A circuit in any **Circuit Status** can be altrouted (rerouted to an alternate route), except circuits that are already in the *ALTROUTED* or *DEROUTED* **Circuit Status**. You can even create a new circuit in the *ALTROUTED* **Circuit Status**.
 - You can only *ALTROUTE* a circuit once. Before altrouting a second time, you must first *DEACTIVATE* or *NORMALIZE* (return it to its primary route).
 - An *ALTROUTED* circuit is not available for being preempted (bumped from a channel assignment) until it has been deactivated or normalized.
 - An *ALTROUTED* circuit can only be deactivated, normalized, or deleted. It can be activated in *local only* mode, but any circuit that it preempted will be deactivated.
-

High Rate Circuits

For high-rate circuits:

- When you *ALTROUTE* a multichannel circuit, all the channels on that side of the circuit get altrouted, possibly requiring the preempting of multiple circuits (see the "Preempting" section later in this chapter).
 - Random circuits cannot be altrouted.
-

Multipoint Circuits

For multipoint circuits, only the EFTs can be altrouted; the virtual node of a broadcast circuit or the DMB channel of a symmetric voice circuit or of a polling data circuit cannot be altrouted. Multipoint altrouting means that you change the EFTs of the legs, but not the branch point.

Alternate Routing (Continued)

BCON Circuits

BCON circuits cannot be altrouted.

Real vs. Psuedo Altrouting

Most altrouting occurs when you use the DND to route a circuit that is connected in the DACS (**ACTIVE Circuit Status**) through another DACS channel. This is a "real" **ALTROUTE Action**.

However, an **ALTROUTE** in which all channel ends are altrouted to themselves is called a "pseudo-"**ALTROUTE**. The pseudo-**ALTROUTE** allows you to put up a temporary circuit, in **ALTROUTE Ckt Status**, that becomes deactivated on normalization, without special action to deactivate it.

Alternate Routing Fields

The Altrouting fields appear on the CIRCUIT PROVISIONING form. When performing the **ALTROUTE Action**, the original circuit information will appear on the form in read-only mode. The **ALTROUTE CIRCUIT ENDPOINTS** box appears to allow you to enter NPC and channel information to the FROM and TO sides of the new alternate route.

When the **ALTROUTE** is completed, the **New Circuit Status:** field will indicate the new circuit status as **ALTROUTED**.

The screenshot shows a form titled "ALTROUTE CIRCUIT ENDPOINTS". It contains two main sections: "FROM NPC" and "TO NPC". Each section has an "ID:" field, an "NPC Type:" field, a "Hier:" field, and an "Extd:" field. Below these sections are "FROM Channel:" and "TO Channel:" fields.

FROM NPC				TO NPC			
ID:	NPC02213			ID:	NPC02215		
NPC Type:	PA100	Hier:	02213	NPC Type:	PA184	Hier:	02215
Extd:	0213			Extd:	0215		
FROM Channel: 02				TO Channel: 05			

Figure 9-15. ALTROUTE CIRCUIT ENDPOINTS Box

Preempting Conditions

Description

A circuit can be altrouted to a spare, unused channel (which is preferable but may be unavailable), or to a channel already in use by other circuits. In this latter case, the other circuit is *PREEMPTED*; that is, they are temporarily bumped off their channel assignment.

All Circuits

The following conditions apply to preempting:

- Preempted circuits stay in the *PREEMPTED Ckt Status* until they are normalized or you manually change them to another *Ckt Status*.
 - Once you manually change the *Ckt Status* of a *PREEMPTED* circuit, it can no longer be automatically normalized to its primary channel assignment; you would have to do this via a **CIRCUIT PROVISIONING Action**.
 - An NPC and channel cannot be preempted twice. A second attempt is denied.
 - Some channels on a *PREEMPTED* circuit may not be required for the *ALTROUTED* circuit. They are still available for preemption by other circuits.
 - Once any channels on a circuit are preempted, that circuit is in the *PREEMPTED Ckt Status* and cannot be activated to carry traffic until all preempted channels on the circuit are normalized.
 - You can place a *PREEMPTED* circuit in service on other channels with an **ALTROUTE Action**. This **Action** will remove it from the preemption list of its original preempting circuit. You can return it to its original path with a **NORMALIZE Action** when the original channels are available. If they are not, the normalization will leave the circuit in the *DEACTIVATED* status.
 - If more than one circuit preempts the channels on a *PREEMPTED* circuit, the *PREEMPTED* circuit cannot be reactivated until all the preemption has been removed from its channels. The normalizing of the last preempted channel reactivates the *PREEMPTED* circuit.
-

High Rate Circuits

For high-rate circuits, random circuits can be *PREEMPTED*, although they cannot be *ALTROUTED*.

Preempting Conditions (Continued)

Multipoint Circuits

For multipoint circuits, any or all of the EFTs can be preempted. For DMB, the EFT of a leg can be preempted. For both virtual and DMB, the corresponding legs are then placed in **PREEMPTED Ckt Status**. However, the virtual node or DMB channel remains **ACTIVE**, meaning that additional legs can be attached to it at any time.

BCON Circuits

BCON circuits cannot be preempted.

Preempting Table and Fields

When you specify an altrouting operation that preempts **ACTIVE** circuits, the DND displays a separate Netscape window with a table of circuits that need to be preempted to perform the altrouting. The **CIRCUIT PROVISIONING** form displays a message field asking you to verify the preempting procedure. Select the **Verified:** check box to proceed. If you decide not to proceed with the procedure, click **Back** to enter different **ALTROUTE** endpoints.

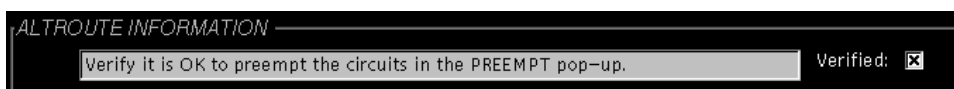
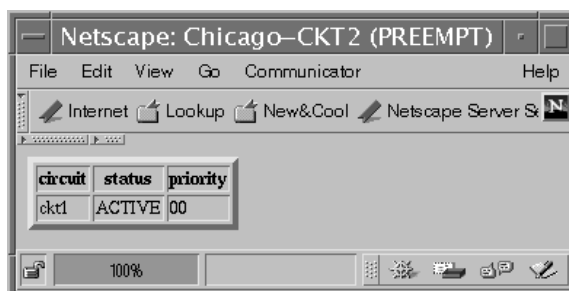


Figure 9-16. Preempting Table and Fields

Normalizing

Description

When you *NORMALIZE* an *ALTROUTED* circuit, the circuit is rerouted from its temporary channel to the original channel for which it was provisioned and is returned to its pre-*ALTROUTED* connection. Any *PREEMPTED* circuits are reactivated.

Conditions

Normalizing has the following conditions:

- When you *NORMALIZE* a real *ALTROUTED* circuit, the original circuit is restored to **ACTIVE Ckt Status**.
 - When you *NORMALIZE* a pseudo-*ALTROUTED* circuit, the original circuit is restored to **DEACTIVATED Ckt Status**.
 - *DEACTIVATE* also performs a *NORMALIZE* and leaves the original circuit in the **DEACTIVATED Ckt Status**, whether it was a real or a pseudo-*ALTROUTE*.
 - If another circuit was preempted by the *ALTROUTED* circuit, the DND attempts to reactivate the *PREEMPTED* circuit, provided that the circuit just returned to *ACTIVE* was the only one preempting it.
 - Circuits which cannot be reactivated for any reason (such as a conflict arises during a normalization) are put in **DEACTIVATED Ckt Status** so that the user can work on them when conditions permit.
-

Circuit Trace

Overview

The buttons and fields in the CIRCUIT NETWORK INFORMATION box allow you to provision additional circuits connected to either the FROM to TO side of the current circuit (depending on which is available) and display a circuit trace of the connecting circuits throughout your DACS network.

The Circuit Trace Navigation Buttons

The **FROM NPC**, **TO NPC**, and **TRACE MAP DISPLAY** buttons appear in the CIRCUIT NETWORK INFORMATION box to help continue building a network circuit or to trace a network circuit. Click **FROM NPC** or **TO NPC** to trace the circuit through an intertie (on either the FROM to TO side) to the next site.

A matching circuit must adhere to the following conditions:

- The Far End NPC is created and In-Service (IS)
- There is an active circuit (status of *ACTIVE*, *ALTROUTED*, or *P_ACTIVE*) on the Far End NPC with a matching **Ckt Class** and matching **Channels**.

If there is no matching circuit on the next site and the current **Action** is *ACTIVATE*, *ALTRROUTE*, or *PEND*, the form will transition to the next site and allow creation of the next circuit. The matching side of the circuit will automatically be filled in. The form transition will be denied for all other circuit **Actions**.

If there is a matching circuit on the next site, the form will transition to the next site and display the matching circuit.

If the Far End of an intertie is an End User, the button for that side will not be displayed, since a circuit cannot be traced through an End User.

Read-only Fields

The read-only fields next to the buttons indicate the hierarchical NPC number of the FROM or TO side, the **Site Name** it is associated with, and (if applicable) the NPC it is connected to on the other side of the intertie. The latter field will be missing if the site is an End User.

Circuit Trace (Continued)

Displaying a Circuit Trace

A circuit trace can be displayed from any **Action** of the CIRCUIT PROVISIONING form, before or after the current **Action** is executed. The CIRCUIT PROVISIONING form also offers the **TRACE Action** to quickly display a circuit trace map. Click **TRACE MAP DISPLAY** to display the following:

- A circuit trace table (See Figure 9-17), indicating the Site Names and circuits connected throughout the DACS network.
- A circuit trace map (See Figure 9-18) on a greyed out background, illustrating the circuit path throughout the DACS network. Only the network elements and interties which are associated with the network circuit are displayed in the circuit trace diagram.



name	circuit	status
Chicago-EU		
CEP-Chicago	chicago1	ACTIVE
CEP-San_Fran	sanfran1	ACTIVE
San_Fran-EU		

Figure 9-17. A Sample Circuit Trace Table

(Continued on next page)

Circuit Trace (Continued)

Displaying a Circuit Trace, Continued

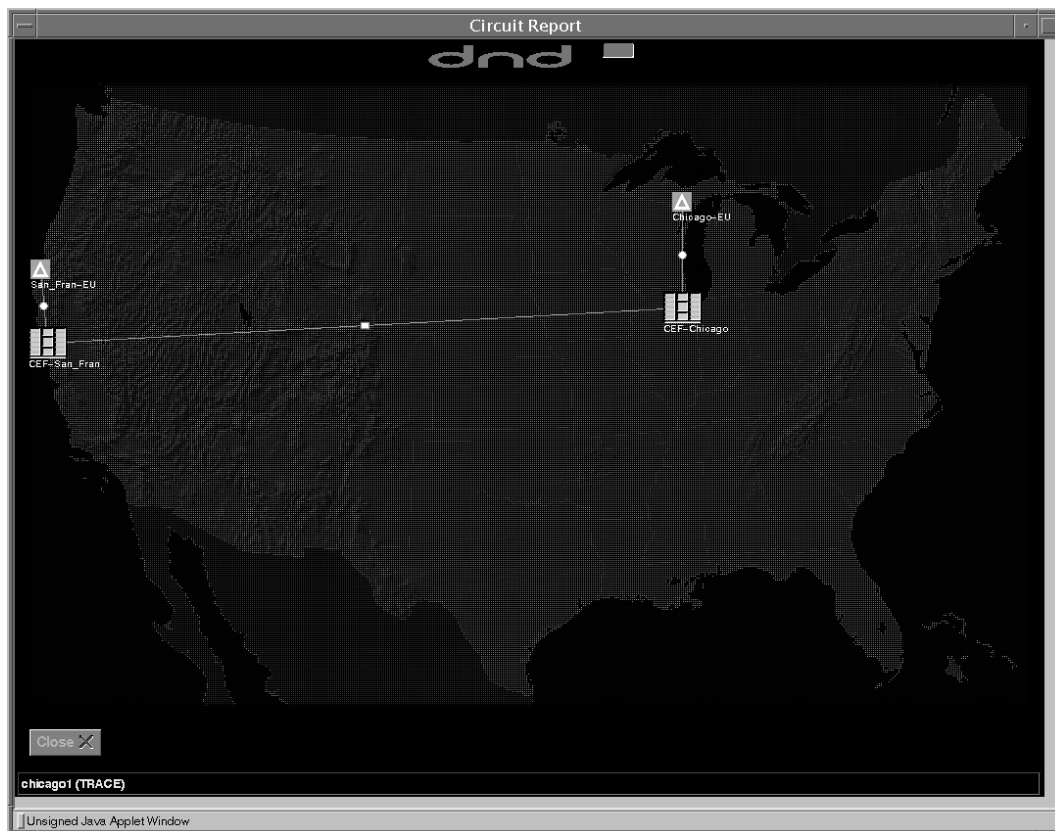


Figure 9-18. A Sample Circuit Trace Map

Circuit Trace (Continued)

Network Elements In the circuit trace, the network elements and interties cannot be clicked. The sites will always display in grey - there is no service state information provided for the sites on the circuit trace map.

The color of the interties on the circuit trace may not match that on the DND Workspace network map; it will ONLY indicate the highest alarm severity of the NPCs that are part of the network circuit.

**Closing the
Circuit Trace
Table and Map**

To close the circuit trace table, double-click on the window menu button. To close the circuit trace map, click **Close**.

Circuit Provisioning Form

Overview

The execution of a properly filled out CIRCUIT PROVISIONING form sends the appropriate MML commands (i.e., CONN, DISC, etc.) to the DACS to physically establish the cross-connection. The DND records the circuit information in the DND and DACS databases.

CIRCUIT PROVISIONING

Site Name: ISX2 Action: ACTIVATE Ckt Class: FDX: FULL DUPLEX

Circuit ID: ISX2-CKT1

Initial status: NULL ← Initial status for circuit

CIRCUIT ENDPOINTS

FROM NPC ID: NPC0035 NPC Type: PA100 Hier: 01203 Extd: 0035

TO NPC ID: NPC0037 NPC Type: PA100 Hier: 01205 Extd: 0037

Bandwidth Type: C: CONTIGUOUS Bandwidth: 1

FROM Channel: 01 ← Enter FROM and TO Channel numbers

TO Channel: 01

CIRCUIT INFORMATION

Circuit Options: NAM: ☐ AIS: ☐ RDLN: ☐ OOS: ☐ INCL: ☐ DCC: ☐ TLA: ☐

Channel Options: Trunk Conditioning: 0011,0011 Insertion Word: TRB Signaling Conversion:

Circuit Data: Location A: Holmdel Location Z: Manalapan Customer Name: Unigel, Inc. Priority: 00

Remarks: ckt for Unigel customer

Service Date: Day: 09 Month: Apr Year: 1998

CIRCUIT NETWORK INFORMATION

Hier: 01203 connected to: ISX2-EU

TO NPC Hier: 01205 connected to: CEF2 Hier: 02201

TRACE MAP DISPLAY

Control Options

Reconcile Mode: ☒ DND and DACS ☐ DND only ☐ DACS only

Execution Mode: ☒ Immediate ☐ Schedule

Buttons: Back Continue Restart Close

Unsigned Java Applet Window

Annotations:

- FROM NPC and TO NPC Identifiers →
- Bandwidth Information →
- Select the appropriate Circuit Options →
- Select Channel Options →
- The Circuit Data fields are optional; for the user's information only →
- Select the beginning Service Date for the circuit (default = present date) →
- Circuit Network Information fields indicate circuit trace connections; buttons help navigate through a network circuit →

Figure 9-19. The CIRCUIT PROVISIONING Form, ACTIVATE Action

Circuit Provisioning Form (Continued)

Field Descriptions The table below describes in detail the fields and field values on the CIRCUIT PROVISIONING form.

Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form

Field	Description
Site Name	(Combo box) Mandatory. Select the name of the DACS where the requested Action will take place. Clicking this field will display a list of DACS names. By default, the list appears alphabetically. To change the sorting order, modify the setting for the SORT_NAME_BY variable using the DND Forms Interface.
Action	(Combo box) Specifies the CIRCUIT PROVISIONING operation. The valid actions are: ■ ACTIVATE - Enters the circuit specified by Ckt ID in the I-2000 database (if it does not yet exist) and cross-connects it in the frame, making it an existing, traffic-carrying circuit. ACTIVATE also changes the New Status of already existing circuits from <i>PENDING</i>, <i>PREEMPTED</i>, or <i>DEACTIVATED</i> to <i>ACTIVE</i> and from <i>ALTROUTED</i> to <i>ACTIVE</i> in <i>DACS only</i> mode. ACTIVATE is the default Action. ■ DELETE - Removes the specified circuit from the DND and DACS databases, changing the New Status to <i>NULL</i>. ➡ NOTE: Deletion of an <i>ACTIVE</i> or <i>ALTROUTED</i> circuit results in disconnection of the circuit in the DACS before the record is deleted in the DND.

(Continued on next page)

Circuit Provisioning Form (Continued)

Field Descriptions, Continued

Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't

Field	Description
Action, Con't	Deletion of a circuit that is listed in a Reconfiguration Plan is not allowed (except in <i>DACS only</i> mode). First, delete it from the plan. ■ MODIFY - Retrieves the specified circuit from the DND database for purposes of altering circuit attributes or Ckt ID. MODIFY does not change the New Status. You can MODIFY any user-accessible field for circuits in the <i>PENDING</i> or <i>DEACTIVATED Ckt Status</i>. You can MODIFY the following fields for circuits in the <i>ACTIVE</i> or <i>PREEMPTED</i> or <i>ALTROUTED Initial Status</i>. Non-service affecting fields: Circuit ID, Customer Name, Service Date, Priority, Location A, Location Z, Remarks, Circuit Options: <i>OOS, INCL, DCC</i>. Service affecting fields: Trunk Conditioning, Insertion Word, Signaling Conversion, Framing, No Transmit (NTR), Circuit Options: <i>NAM, AIS, RDL</i>.  CAUTION: <i>Changes to service affecting fields will interrupt traffic.</i>

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Action, Con't	■ <i>PEND</i> - Enters the specified circuit (including <i>DEACTIVATED</i> ones) in the DND database as <i>PENDING</i>, to indicate it may soon be made <i>ACTIVE</i>. Activation of <i>PENDING</i> circuits may be dependent on equipment installation or on other sections of the circuit being established. ■ <i>DEACTIVATE</i> - Enters the specified circuit in the DND database as <i>DEACTIVATED</i> and disconnects it in the frame. ■ <i>COMBINE</i> - Combines multiple circuits that exist over either an alternate or a contiguous range of channels into a single, new high-rate circuit in the DND database. The source circuits must be <i>ACTIVE</i> and the combined circuit is made <i>ACTIVE</i>. Remember, high-rate circuits are implemented in the frame as single-channel circuits; thus, they are already in the frame. After the source circuits have been deleted in the DND database, the combined circuit is created there. At no time during the process is a command sent to the frame. The Ckt Classes of the source circuits must be all <i>HDX</i> or all <i>FDX</i> only. Use of channel 0 and of test circuits is prohibited. ■ <i>ALTROUTE</i> - Enters the specified circuit in the DND database as <i>ALTROUTED</i>. The DND may reroute the specified circuit over a path involving the preemption of other circuits. The operator will be informed of each preemption and will be required to confirm it. A circuit can be altrouted only once, and an <i>ALTROUTED</i> circuit cannot be preempted.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Action, Con't	■ NORMALIZE - Tries to place a real altrouted circuit in ACTIVE New Status or a pseudo-altrouted circuit in DEACTIVATED New Status. If the circuit returns to ACTIVE, it is cross-connected in the frame over its normal path. If the circuit returns to DEACTIVATED, it is not cross-connected in the frame. During the altrouting, one or more circuits may have been placed in the PREEMPTED New Status. If the circuit now being normalized is the only circuit preempting a PREEMPTED circuit, NORMALIZE attempts to return the PREEMPTED circuit to ACTIVE. Otherwise, NORMALIZE does not make the attempt. ■ ADDLEG - Adds a LEG to an existing BKB circuit. This action can also convert an existing FDX circuit to a BKB and add the first LEG Circuit ID (automatically populated and displayed) when this action is completed successfully. ■ DELLEG - Deletes a LEG from an existing BKB circuit. If it is the last LEG in the remaining backbone (BKB) circuit, it will be automatically converted to a FDX circuit. ■ CHGRPATH - Changes the return path for a BCON circuit to the specified LEG. It has the effect of swapping the BKB and LEG circuit.
Initial Status/New Status	(Read-only field) A display-only field indicating the initial or new operating status of the circuit, as follows: ■ NULL - The circuit has not been defined and, therefore, is not in the DND database. To define the circuit, use the ACTIVATE Action

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Initial Status/New Status, Con't	■ <i>PENDING</i> - The circuit is in the DND database, but is not cross-connected in the frame. The circuit has been noted as <i>PENDING</i> with the <i>PEND Action</i>. It is ready to be made <i>ACTIVE</i> on user request. To cross-connect the circuit, use the <i>ACTIVATE Action</i> ■ <i>DEACTIVATED</i> - The circuit is in the DND database but is not cross-connected in the frame. The DND record is marked <i>DEACTIVATED</i>. To cross-connect the circuit, use the <i>ACTIVATE Action</i> ■ <i>ALTROUTED</i> - The circuit is present in the frame and DND databases and is cross-connected in the DACS. However, it was temporarily rerouted over an alternate path with an <i>ALTROUTE Action</i>. If any part of the alternate path was in use by another circuit, that circuit was placed in <i>PREEMPTED Ckt Status</i>. A <i>NORMALIZE Action</i> is required to return the <i>ALTROUTED</i> circuit to its original path ■ <i>PREEMPTED</i> - The circuit was <i>ACTIVE</i> in the frame but has been temporarily disconnected so that one or more of its channels can be used by one or more <i>ALTROUTED</i> circuits. The circuit is in the DND database only. The <i>NORMALIZE</i> commands that return the <i>ALTROUTED</i> circuits to normal also return the <i>PREEMPTED</i> circuits to normal

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Initial Status/New Status, Con't	■ <i>ACTIVE</i> - The circuit is present in the frame and DND databases and is cross-connected in the DACS. A circuit that exists in the frame is in both the frame and DND databases (unless there is a discrepancy) ■ <i>P_ACTIVE</i> - The <i>P_ACTIVE</i> status will be applied to partially connected n x 64 Kbps BCON circuits created through the echoed response process (ERP). <i>P_ACTIVE</i> status marks the n x 64 Kbps circuit when there is at least one disconnected cross-connect in the LEG circuit from ERP. The bandwidth in a <i>P_ACTIVE</i> LEG circuit is the number of 64 Kbps cross-connects in that circuit. ■ <i>DEROUTED</i> - The circuit was in <i>ALTROUTED New Status</i> but was placed in <i>DEROUTED New Status</i> at the beginning of an NPC ROLL (using the DND Forms Interface), and the system failed during the roll. You can <i>DELETE</i>, <i>DEACTIVATE</i>, or <i>NORMALIZE</i> a <i>DEROUTED</i> circuit. If the roll completes successfully, you will never observe the circuit in <i>DEROUTED New Status</i>. The Initial Status field reflects the last successful Action.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Circuit ID	(Text field) Mandatory. must be unique. One through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored. Associates the name entered in this field with the circuit described by this form.
Ckt Class	(Combo box) Specify the type of circuit. The choices are: ■ <i>FDX: FULL-DUPLEX</i> - Applies to single-channel or high-rate DS0 cross-connections between NAS or CEPT NPCs, and to gateway circuits. Specifies a two-way, two-point circuit. ■ <i>HDX: HALF-DUPLEX</i> - Applies to single-channel or high-rate DS0 cross-connections between NAS or CEPT NPCs, and to gateway circuits. Specifies a one-way, two-point circuit. ■ <i>DMB: DIGITAL MPT BRIDGE</i> - Applies to single-channel, two-way, multipoint circuits. These circuits are complex; for example, are composed of multiple cross-connections requiring multiple CIRCUIT PROVISIONING forms. A Ckt Class of <i>DMB</i> identifies this cross-connection as a unit in a DMB circuit. The two types of DMB multipoint circuits are the symmetric voice circuit and the polling data circuit. Provision the backbone first and the branches subsequently. Use a Mode of <i>LEG</i> to identify an EFT, but a Mode of <i>BBL</i> or <i>BRD</i> on the opposite side of each leg to identify its use as a backbone or branch.

(Continued on next page)

Circuit Provisioning Form (Continued)

Field Descriptions, Continued

Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't

Field	Description
Ckt Class, Con't	Be sure to read the operating examples for DMB. The examples also cover cascading, the building of still more complex circuits using DMB circuits as units. ■ <i>BKB: BCON BACKBONE</i> - A circuit is classified as a BKB class if it is being used as the backbone circuit in BCON provisioning ■ <i>LEG: BCON TRIBUTARY</i> - A circuit is classified as a LEG class if it is being used as the tributary circuit in BCON provisioning. LEG circuits have the same parameters as the BKB circuit that it belongs to except for the following: Circuit ID Circuit status Circuit class Service date If a LEG circuit is classified as P_ACTIVE, its bandwidth will be smaller than the bandwidth of its BKB circuit.
(FROM or TO) NPC Type/Hier/Extd	(Read-only fields) These fields are displayed when the DND has recognized the NPC Specifier information previously entered. NPC Type indicates the circuit pack type. Hier indicates the FROM or TO NPC's hierarchical number. Extd indicates the FROM or TO NPC's extended number.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Direction	(Radio buttons) Optional. This field appears only when the Action is <i>ADDLEG</i>. This field defines which side of the backbone is the source broadcast side, FROM or TO. Mandatory. This field is mandatory when the first leg is added to a <i>FDX</i> circuit which will become the BKB. After at least one leg has been added, the field is read-only.
New Circuit ID	(Text field) 1-41 characters. Appears only when the Action is <i>MODIFY</i>. One through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored. New name for the circuit ID.
Bandwidth Type	(Radio buttons) Mandatory. Indicates how bandwidth is allocated in an NPC. The choices are: ■ <i>C: Contiguous</i> ■ <i>A: Alternating</i> ■ <i>R: Random</i> Alternating bandwidth is allocated on alternate channels. A maximum of 12 channels are available for NAS; 16 for CEPT. Contiguous bandwidth is allocated on consecutive channels. For example, starting with Channel 5, a Bandwidth of 3 allocates 5, 6, and 7 for contiguous; 5, 7, and 9 for alternating.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Bandwidth Type, Con't	Random permits allocation of channels between two NPCs in a random fashion; for example, channel 1 to channel 10, 2 to 5, 3 to 7, etc. The value is set to <i>Contiguous</i> for a Ckt Class of <i>DMB</i>. If the Bandwidth of the circuit is greater than 1, then the circuit is a high-rate circuit. This field does not appear for clear DS1/E1 connections.
NPC Specifier/NPC	(Radio buttons and Text field) Mandatory. Fields for specifying the FROM and TO NPC. The three choices for entering NPC data are: ■ <i>ID</i> - If selected, Enter the NPC name in the NPC: field. ■ <i>Hier</i> - If selected, enter the NPC's hierarchical number in the NPC: field ■ <i>Extd</i> - If selected, enter the NPC's extended number in the NPC: field.
FROM Channel/ TO Channel	(Text field) The FROM or TO channel number, 0-31 for CEPT or 1-24 for NAS. DMB channel numbers can range from 1 to 85. This field is displayed for <i>Contiguous</i> or <i>Alternating</i> circuits. For the ADDLEG Action there is an identifier for the LEG channel.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Mode	(Radio buttons) Appears only when the Ckt Class is <i>DMB</i>. Specifies the use of the preceding FROM and TO Channel in a DMB multipoint circuit. ■ <i>SYM</i> - The associated channel is to be used as the DMB side of a leg in a symmetric voice circuit. ■ <i>BRD</i> - The associated channel is to be used as the DMB side of a broadcast, or branch, leg of a polling data circuit. ■ <i>BBL</i> - The associated channel is to be used as the DMB side of the backbone leg of a polling data circuit. ■ <i>LEG</i> - The associated channel is to be used as an EFT in any leg of the circuit. A DMB channel must be in a DMB NPC.
Bandwidth	(Combo box) Mandatory. Indicates the number of 64 Kbps channels constituting a high-rate circuit. For example, a 128 Kbps data channel consists of two 64 Kbps channels. For NAS NPCs, the available bandwidth is 1-24 channels; for CEPT NPCs, the available bandwidth is 1 through 32 channels. Bandwidth defaults to 1 channel for a Ckt Class of <i>DMB</i>. The bandwidth of a random circuit must be greater than 1. This field disappears for clear DS1/E1 connections.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
(ALTROUTE INFORMATION) Verified	(Checkbox) For the ALTROUTE Action only. When selected, this option allows the DND to preempt a circuit. If unselected, the DND will deny the Action and display the following message in the Command Response field: <i>Verify it is OK to preempt the circuits in the preempt pop-up.</i>
Circuit Options	(Checkboxes) Names options for activating or deactivating the circuit.  NOTE: Only <i>RDLD</i>, <i>OOS</i>, and <i>INCL</i> are available for clear DS1/E1 circuits. ■ <i>NAM</i> - No A-to-mu law conversion is to be applied to the circuit if it is CEPT only; for example, if it is not a gateway ■ <i>AIS</i> - Alarm Indication Signal (all 1s, including the framing bit) is to be asserted on the downstream NPC when it is detected on the upstream NPC or when the upstream NPC asserts a CGA. Applies to NAS, <i>FDX</i>, high-rate circuits of bandwidth 24 only ■ <i>RDLD</i> - Red-lined. The circuit is to require specific authorization to disconnect; the <i>INCL</i> keyword must be set For DMB circuits, if one leg of a conference is designated as <i>RDLD</i>, all legs must be. This condition applies only to DACS II.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Circuit Options, Con't	■ <i>OOS</i> - Out of service. A disconnect is to be effected when the NPC at one or both ends of the circuit are <i>OOS</i> ■ <i>INCL</i> - Included. Authorizes disconnects of <i>RDLD</i> circuits. This <i>INCL</i> keyword applies to a DACS II disconnect only. The <i>INCL</i> keyword (like the <i>CUS</i> keyword) from a DACS II connect is not supported. ■ <i>DCC</i> - Disconnect channel code. Causes the frame to assert the user-defined disconnect code (specified in the Insertion Word field) on disconnected channels ■ <i>TLA</i> - Terminate and Leave Activated. If it is unselected, <i>TLR</i>, Terminate and Leave Released is to be in effect for this circuit ➡ NOTE: <i>TLR</i> is the normal state for traffic-carrying circuits. It means that the circuit is not terminated. (Terminate and Leave released. Refer to this chapter and the TEST ACCESS chapter) <i>TLA</i> is a state generally used only for initial testing from end to end. If you make a circuit <i>ACTIVE</i> (or <i>ALTROUTED</i>) on the frame in the <i>TLA</i> state, the DND system automatically reverses this state to <i>TLR</i> in the DND database once the command has been sent. To change the termination state of the circuit on the frame back to <i>TLR</i>, send the command again. You would have to reset this field manually to <i>TLA</i> to override this automatic reversal.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Circuit Options, Con't	 NOTE: The unassigned Insertion Word , specified under NPC PROVISIONING for the NPC, is transmitted in the terminated direction(s).
No Transmit (NTR)	(Radio buttons) Appears only when Ckt Class is <i>DMB</i>. Specifies whether the leg is one-way or two-way. The choices are: ■ <i>FROM</i> - Transmission is shut off toward the FROM direction. ■ <i>TO</i> - Transmission is shut off toward the TO direction.  NOTE: The NTR capability applies only to DACS II.
FROM Channel/ TO Channel/ Leg Channel	(Text field) Appear for RANDOM Bandwidths only. ■ FROM Channel indicates the listing of channels on the FROM side (up to 32 channel entries) ■ TO Channel indicates the listing of channels on the TO side (up to 32 channel entries) ■ Leg Channel indicates the listing of channels for the Leg (up to 32 channel entries) Appears for the ADDLEG Action only Enter a comma after each channel in the list.

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description									
Trunk Conditioning	(Text field) Trunk conditioning specifies whether A/B-robbled-bit signaling is to be used to signal failure on the specified circuit.									
	This information will only be used during failure of either an incoming signal or an NPC. When the NPC can no longer frame on the signal, it initiates trunk conditioning on all DS0 channels of the NPC. The signaling bits sent during failure are intended to disconnect active calls and hold the circuits busy (if appropriate) for the duration of the failure.									
	DDC circuits require a Trunk Conditioning of <i>TRSP</i> and an Insertion Word of <i>MUX</i> , which inserts <i>MUX</i> for the duration of the failure, and does not send the signaling bits. The value of Trunk Conditioning also is set at <i>TRSP</i> for a Ckt Class of <i>DMB</i> .									
	The TC field disappears for clear DS1/E1 connections; trunk conditioning is not supported for them. The trunk-conditioning code is:									
	<i>0011, 0011</i> . Indicates the circuit will use A/B signaling. The A/B bits sent upon detection of a failure condition are:									
	<table><tr><td>Duration of failure</td><td>FROM Facility</td><td>TO Facility</td></tr><tr><td>First 2.5 sec</td><td><i>00</i></td><td><i>00</i></td></tr><tr><td>Remainder</td><td><i>11</i></td><td><i>11</i></td></tr></table>	Duration of failure	FROM Facility	TO Facility	First 2.5 sec	<i>00</i>	<i>00</i>	Remainder	<i>11</i>	<i>11</i>
Duration of failure	FROM Facility	TO Facility								
First 2.5 sec	<i>00</i>	<i>00</i>								
Remainder	<i>11</i>	<i>11</i>								

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Trunk Conditioning, Con't	Logic 0 is an on-hook (idle). Logic 1 is an off-hook (busy). Circuits that use A/B signaling must always have an Insertion Word specified. ⇒ NOTE: The TC-value format shown is for <i>FDX</i>, full duplex. For <i>HDX</i>, replace the FROM side's number with hyphens. For an <i>FDX</i> version of <i>X-05,X-63</i> the <i>HDX</i> result would be <i>X---,X-63</i>. ⇒ NOTE: It is important to remember that with <i>HDX</i>, you must put hyphens on one side. Virtual multipoint circuits also are <i>HDX</i>. <i>0101,0101</i> <i>----,0011</i> The previous value is used in connection with four-state signaling only. <i>TRSP</i> Transparent. Indicates the circuit will not use A/B signaling. <i>X-FF,X-FF</i> <i>X-99,X-99</i> <i>X---,X-FF</i>

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Trunk Conditioning, Con't	The previous two values are used in connection with 16-state signaling only. <i>11111111,11111111</i> <i>-----,11111111</i> See the DACS I/O manual for other valid TC codes and for more information about trunk conditioning.
Insertion Word	(Text field) Insertion Word. Specifies the 8-bit alternate code to be inserted into the DS0 outgoing time slots of mapped channels of an NPC during OOS conditions, including carrier failure and removal of an NPC. The DDC is still sent toward both DS1 lines on unmapped channels. A yellow alarm is sent toward the failed DS1. The selections are: ■ <i>TRB</i> - Insert the standard trouble code, Hex E4, or 11100100. You can also enter X-E4. ■ <i>MUX</i> - Insert the MUX out-of-sync code, Hex 1A, or 00011010. You can also enter 1A. When DS0 channels of DDS lines are cross-connected in the CCN, <i>TRSP</i> is used for Trunk Conditioning and <i>MUX</i> for Insertion Word. The latter is inserted in the mapped DS0 channels of the outgoing DS1 line away from the failure. UMC is still inserted on unmapped channels. ■ <i>nn</i> - Insert an 8-bit pattern specified by Hex <i>nn</i>. Currently <i>7F</i>, <i>FF</i>, and <i>BF</i> are selections

(Continued on next page)

Circuit Provisioning Form (Continued)**Field
Descriptions,
Continued****Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't**

Field	Description
Signaling Conversion	(Text field) Optional. Signaling conversion is used in CEPT and GATEWAY cross-connections in conjunction with CAS signaling. If the Signaling Conversion field is not specified, all four signaling bits will be cross-connected unchanged. The Signaling Conversion field is defined as: <i>xxxx,yyyy</i> where the first four bits, <i>xxxx</i>, represent the FROM side and the last four bits, <i>yyyy</i> represent the TO side. The comma separator is mandatory. All eight bits can be controlled independently. The valid values for these bits are: ■ <i>P</i> - Pass unchanged ■ <i>V</i> - Pass inverted ■ <i>0</i> - Set output to 0 ■ <i>1</i> - Set output to 1 ■ <i>-</i> - 0 value, the circuit is one-way All 8 bits are used only for <i>FDX</i>, full duplex. For <i>HDX</i>, replace the FROM side's number with hyphens. For example: <i>0011,0011</i> in <i>FDX</i> would become <i>----,0011</i> in <i>HDX</i>. If <i>-</i> is used, all four characters in the group must be <i>-</i>. If they are not, the frame may deny the command. This field disappears for clear DS1/E1 connections.

(Continued on next page)

Circuit Provisioning Form (Continued)

Field Descriptions, Continued

Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't

Field	Description
Framing	(Text field) The value of the framing bits in the FW in cases where a CEPT channel 0 (time slot 0) is being connected to some other CEPT channel (non-TS0). ■ <i>abcdefg, hijklmn</i> - An arbitrary bit pattern of 0s and 1s, where <i>abcdefg</i> is the pseudo-FW in the TO-FROM direction and <i>hijklmn</i> is the pseudo-FW in the FROM-TO direction. Make sure that the pseudo-FW can in no case be the same as the FW or the NFW. ■ <i>NFW</i> - Use the NFW in channel 0 of all time frames.
Location A	(Text field) Optional. Up to 24 characters. The Station ID of the FROM side of the circuit being provisioned. This field is informational only.
Location Z	(Text field) Optional. Up to 24 characters. The Station ID of the TO side of the circuit being provisioned. This field is informational only.
Customer Name	(Text field) Optional. Up to 12 characters. An informational field only. The name of the customer to be associated with the current circuit. An automatically supplied value of <i>ERP</i> identifies circuits created by the ERP feature.
Service Date	(Combo boxes) Optional. Select the date the circuit is first placed into service. The fields are: ■ Day: (01 thru 31) ■ Month: (Jan thru Dec) ■ Year: (1990 thru 2037)

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Circuit Provisioning Form (Continued)

Field Descriptions, Continued

Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't

Field	Description
Priority	(Text field) Mandatory. Informational only, one or two alphanumeric characters. Indicates to the user the relative importance of the circuit for restoral actions. Regardless of its use, a circuit can not be assigned more than one CP. The default is 00.
Remarks	(Text field) Optional. 0-72 characters. A user-defined informational field. A DND operator can enter informational comments.
Hier/Connected To	(Read-only fields) Appears only if at least ONE NPC in the circuit is connected to the network circuit. Hier indicates the hierarchical NPC number on either or both the TO or FROM side of the circuit. Connected To indicates the Site Name of the Far End (other side of the intertie).
Reconcile Mode	(Radio buttons) Select the database where the results from the current Action will be saved. The choices are: ■ <i>DND and DACS</i> - Save the results to both the DND and DACS databases (default) ■ <i>DND only</i> - Save the results to the DND database only ■ <i>DACS only</i> - Save the results to the DACS database only

(Continued on next page)

Circuit Provisioning Form (Continued)

Field Descriptions, Continued

Table 9-2. Field Descriptions for the CIRCUIT PROVISIONING Form, Con't

Field	Description
Execution Mode	(Radio buttons/Combo boxes and Text fields also if <i>Schedule</i> is selected) Select when the current Action should take place. The choices are: ■ <i>Immediate</i> - Executes the Action as soon as Execute is clicked ■ <i>Schedule</i> - Executes the Action at a time and frequency selected by the user. After selecting <i>Schedule</i>, click Continue... to display the following combo box fields: — DATE fields: Day: (01 thru 31) Month: (Jan thru Dec) Year: (1990 thru 2037) — TIME fields: Hour: (00 thru 23) Minute: (00 thru 59) — REPEAT fields: Number of times (enter any number) Interval (enter any number) Scale: (None/Minutes/Hours/Days)

Circuit Provisioning Form (Continued)

Field Value Summary

Table 9-3. Summary of CIRCUIT PROVISIONING Field Values

Field	Size	Values
Site Name*	24	Previously created under frame administration.
Action*	10	<i>ACTIVATE, MODIFY, PEND, DELETE, DEACTIVATE, ALTROUTE, NORMALIZE, COMBINE, ADDLEG, DELLEG, CHGRPATH, and TRACE.</i>
Initial Status/ New Status	11	<i>NULL, PENDING, DEACTIVATED, ALTROUTED, PREEMPTED, ACTIVE, DEROUTED, and P_ACTIVE.</i>
Circuit ID*	41	All printable characters except *, ?, \, [,], ^, ", %, .
New Circuit ID	41	All printable characters except *, ?, \, [,], ^, ", %, .
Ckt Class †	3	<i>FDX, HDX, DMB, BKB, and LEG.</i>
Direction	1	<i>FROM, TO</i>
Hier	5	<i>xxyzz, xx is 01-16, y is 1-8, zz is 01-40.</i>
Extd	4	<i>1-x, depending on the frame type and hardware configuration.</i>
NPC ID*	41	All printable characters except *, ?, \, [,], ^, ", %, .
FROM Channel/ TO Channel†	2	<i>00-24 NAS, 00-31 CEPT, 1-85 DMB with DACS II.</i>
Mode†	3	<i>SYM, BRD, BBL, and LEG</i>
Bandwidth†	2	<i>1-24 NAS, 1-31 CEPT.</i>
Bandwidth Type†	1	<i>C: Contiguous, A: Alternating, or R: Random</i>

Circuit Provisioning Form (Continued)**Field Value
Summary,
Continued****Table 9-3. Summary of CIRCUIT PROVISIONING Field Values, Con't**

Field	Size	Values
Circuit Options**	7 Options	<i>NAM, AIS, RDLD, OOS, INCL, DCC, and TLA.</i>
No Transmit (NTR)**	1	<i>FROM, TO</i>
FROM Channel	2 (up to 32 fields)	<i>00-31</i>
TO Channel	2 (up to 32 fields)	<i>00-31</i>
Leg Channel	2 (up to 32 fields)	<i>00-31</i>
Trunk Conditioning†	17	<i>0011,0011 0101,0101 ----,0011 TRSP X-FF,X-FF X-99,X-99 X---,X-FF 11111111,11111111 -----,11111111</i>
Insertion Word**	3	<i>TRB, MUX, 7F, FF, BF.</i>
Signaling Conversion**	9	<i>xxxx,yyyy where x, y = [P,V, 0,1,-].</i>
Framing	15	<i>abcdefg,hijklmn where a letter is 0 or 1. Alternatively, NFW.</i>

(Continued on next page)

Circuit Provisioning Form (Continued)

Field Value Summary, Continued

Table 9-3. Summary of CIRCUIT PROVISIONING Field Values, Con't

Field	Size	Values
Location A	24	All printable characters except *, ?, \, [,], ^, ", %, .
Location Z	24	All printable characters except *, ?, \, [,], ^, ", %, .
Customer Name	12	All printable characters except *, ?, \, [,], ^, ", %, .
Service Date	7	dd mmm yy
Priority*	2	a-z, A-Z, 0-9
Remarks	72	All printable characters except (pipe).

* Mandatory field

** Traffic-affecting field

† Both Mandatory and Traffic-affecting field

Circuit Provisioning ERP

Description

Echoed response processing (ERP) is an autonomous circuit provisioning feature; it is not under menu control. An echoed response is a message that is sent from a frame to the DND when the DND does not expect a response; for example, when a change in frame circuit provisioning has been entered through the frame console or by some other means not initiated on the DND. Such provisioning means that the DACS and DND databases no longer correspond.

The DND automatically activates or deletes one-way, two-way, virtual multipoint, DMB multipoint, or BCON circuits. It searches for the NPCs and channels referenced in the message. If it does not find them in the DND database, it logs the message, but takes no action. If it finds the terminations, but no circuit is active, it activates a circuit.

All actions taken by ERP are logged and the log can be retrieved as a report. For more information, refer to the REPORT OPERATIONS chapter.

Circuit Activation

If the DND must activate a circuit that is not in the DND database at all, it automatically assigns a **Circuit ID** of the following format:

**ERP fromnpc-fromchan tonpc-tochan BW/bw
c class**

where:

fromnpc is the FROM NPC number in hierarchical or extended format, depending on how the frame was provisioned.

fromchan is the FROM channel number.

tonpc is the TO NPC number in hierarchical or extended format.

tochan is the TO channel number.

bw is the bandwidth, which is either 1 or the number of contiguous channels of a high-rate circuit.

c class is the circuit class

Circuit Provisioning ERP (Continued)

Circuit Deletion If an ERP message indicating a disconnect has occurred, DND will delete the circuit using the same FROM point and TO point. If an ERP circuit or a SYN circuit must be deactivated, it is deleted. Otherwise, a circuit taken out of service is placed in *DEACTIVATED Ckt Status*. This can be controlled by the SYNC_DEACTIVATE_CKTS environment variable.

BCON Activation For BCON ERP messages which result in the addition or modification of LEGs to an existing BCON circuit, the standard LEG circuit naming is used. However, for new BCON circuits that have been created via ERP, the DND assigns a **Circuit ID** of the following format:

BRP fromnpc-fromchan tonpc-tochan **BW**

High Rate Circuits The DACS does not recognize high-rate circuits with an alternating or random type of bandwidth. If the DND receives a deactivation message for a circuit with such a bandwidth, it deletes all the circuits of the bandwidth and reactivates the ones not specified in the message.

Circuit Provisioning ERP (Continued)

ERP Messages

The DND is designed to respond to the following types of DACS output messages:

Table 9-4. ERP Messages

ERP Message Number	Message Description
0.11001	connection of two-way or a range of cross-connect circuits
0.11011	connection of two-way clear DS1/E1 circuits
0.11021	connection of two-way multipoint circuits
0.11101	connection of one-way or a range of cross-connect circuits
0.11121	connection of one-way multipoint or a range of cross-connect circuits
0.11131	connection of one-way clear DS1/E1 circuits
0.13001	addition of up to eight legs for BCON circuits
0.13002	addition of one leg for a BCON circuit
0.13011	addition of up to eight clear legs for BCON circuits
0.13021	addition of one clear leg for a BCON circuit
0.15001	disconnection of a two-way or a range of cross-connect circuits
0.15002	disconnection of two-way or a range of cross-connect circuits
0.15011	disconnection of two-way clear DS1/E1 circuits
0.15101	disconnection of one-way circuits
0.15111	disconnection of one-way clear DS1/E1 circuits
0.15102	disconnection of one-way multipoint or a range of cross-connect circuits
0.15201	disconnection of one leg for a BCON circuit

(Continued on next page)

Circuit Provisioning ERP (Continued)

ERP Messages, Continued

Table 9-4. ERP Messages, Con't

ERP Message Number	Message Description
0.15211	disconnection of up to eight legs for a BCON circuit
0.15221	disconnection of up to eight clear legs for a BCON circuit
0.15231	disconnection of one clear leg for a BCON circuit
0.18001	change the return path for up to eight BCON circuits
0.18011	change the return path for up to eight clear circuits

ERP Control

You can partially control the DND response to a message of this type. On the DACS PROVISIONING form, if the **ERP Control** option is selected, the DND processes echoed response messages only if all point terminations are already in the DND database. The database is updated and event messages are published. If any terminations are missing, the message is not processed and no action of any kind is taken.

If, on the other hand, **ERP Control** option is unselected, the DND responds fully to every message of this type.

Circuit Provisioning ERP (Continued)

DND ERP Response

As with any other DND **Action**, an action generated in ERP can succeed or fail. The result of the attempt is reported in the **Status Summary** field on the DND Workspace window, in the following format:

database/result:action explanation

where:

database Is the **Site Name** field value for this frame.

result Is one of these values:

SUCCESS The action succeeded.
FAILURE The action failed.

action Is a terse English description of the attempted action.

explanation Is the **Circuit ID** field value or an error message.

Contents

■ Background	10-3
Introduction	10-3
Objectives	10-3
Related tasks	10-4
Related information	10-4
■ Database Audit	10-5
Description	10-5
Scheduling	10-5
■ NPC Audit	10-6
Description	10-6
Qualifying the Audit	10-6
NPC Audit Parameters	10-7
■ Channel Audit	10-8
Description	10-8
Qualifying the Channel Audit	10-8
Channel Audit Parameters	10-9

(Continued on next page)

Contents

■ Database Synchronization	10-10
Description	10-10
Scheduling	10-10
■ NPC Synchronization	10-11
Description	10-11
New NPC IDs	10-11
Limitations	10-12
■ Channel Synchronization	10-13
Description	10-13
New Circuit IDs	10-13
Limitations	10-15
DND as Master	10-16
DACS as Master	10-17
■ Upload	10-19
Description	10-19
Upload Stage 1	10-19
Upload Stages 2 and 3	10-20
Exceptions to Stages 2 and 3	10-20
■ Other Features and Constraints	10-21
Recommendations	10-21
Additional Features	10-21
Audit/Sync Log	10-21
■ Audit/Synchronization Form	10-22
Sample Audit/Sync Form	10-22
Field Descriptions	10-23

Background

Introduction

Database Audit/Synchronization consists of queries and provisioning commands. This feature allows you to perform the following:

- Compare (audit) the DND and DACS (facility) databases to note the differences
- Compare and adjust (synchronize) the DND and DACS databases to eliminate those differences
- Upload all NPC and provisioning data from the DACS and store it in the DND database.

All audit/sync **Actions** (except for *Single Channel Audit*) run in the background. The message “This command will run in the background” indicates that the **Action** has been received by the DND.

Only one audit or sync **Action** per DACS can be done at time. With very large databases, an audit/sync **Action** can take some time.



NOTE:

Database Audit/Synchronization is available only to the system administrator.



NOTE:

DND Forms Interface Database Audit/Synchronization procedures and examples can be found in Appendix I.

Objectives

This chapter provides background information to help you perform the following:

1. Channel and NPC Audits
 2. Alarm, Channel, and NPC Synchronization
 3. Upload of the NPC and circuit provisioning data into the DND database
 4. Abort a scheduled or in-progress audit/synchronization action
-

Background (Continued)

Related tasks

For related tasks, see the following General Tasks:

- GT 90: Performing an Alarm Synchronization
 - GT 91: Performing a Channel or NPC Audit
 - GT 92: Performing a Channel or NPC Synchronization
 - GT 93: Performing an Upload
 - GT 94: Performing an Abort
-

Related information

For related information see:

- *DACS II Network Director Installation Manual*
 - Appendix I
-

Database Audit

Description

An audit will compare the NPC or channel information in a facility database with the same information in its corresponding local database. This is used to display the discrepancies for troubleshooting NPC or channel irregularities or problems. The discrepancies stored in the audit/synchronization log, which can be accessed through the AUDIT/SYNCHRONIZATION report.

An NPC audit compares NPC provisioning information, while a Channel audit compares circuit provisioning information. The specific parameters that are audited are listed in Table 10-1 and Table 10-2.

Scheduling

The scheduling of a database audit insures that changes between the DACS and DND databases are logged. An audit action may take some time, so the ability to schedule it for a later time may prove helpful. This can be used as a daily or weekly maintenance routine, or anytime needed.

NPC Audit

Description

The NPC Audit allows you to compare NPC Provisioning information in the DACS and DND databases. Discrepancies between the databases are logged and can be accessed through the AUDIT/SYNCHRONIZATION report.

Qualifying the Audit

To qualify the audit you can choose to audit:

- A single NPC
 - A range of NPCs
 - A range of all facility NPCs causes every NPC in the DACS to be compared
 - A range of all local NPCs causes only NPCs equipped in the DND to be compared
-

NPC Audit (Continued)

NPC Audit Parameters

The table below illustrates the NPC Parameters that are audited.

Table 10-1. NPC Parameters Audited

Type of NPC	DE/TE	PB/PC	DA/TA	PA	Clear DE/TE	Clear DA/TA	Clear PA
Service State	X	X	X	X	X	X	X
Type	X	X	X	X	X	X	X
NPC number	X	X	X	X	X	X	X
Alarm State*	X	X	X	X	X	X	X
IW	X	X	X	X			
TS0		X**		X			
TS0M		X**		X			
AIS Alarm Level	X	X	X	X	X	X	X
NFS†				X			
Perfor- mance thresholds	X**	X**		X	X		X

*Only synchronized when the DACS is the master.

**Applies only to DACS II.

† NFS (non-framing setting) is the NFW value of Framing on CIRCUIT PROVISIONING.

Channel Audit

Description

Channel audit allows you to compare the circuit provisioning information between the DACS and DND databases. Discrepancies are logged and can be accessed through a AUDIT/SYNCHRONIZATION report.

Qualifying the Channel Audit

To qualify the audit you can choose to audit:

- Channels on a single NPC
 - Channels on a range of NPCs
 - Channels on a range of all facility NPCs causes every NPC in the DACS to be compared
 - Channels on a range of all local NPCs causes only NPCs equipped in the DND to be compared
 - A single channel
-

Channel Audit (Continued)

Channel Audit Parameters

The Table 10-2 illustrates the circuit parameters audited.

Table 10-2. Circuit Parameters Audited

Type of circuit	CEPT Nx64Kbps	NAS Nx64Kbps	Gateway Nx64Kbps	DMB	Clear DS1	Clear E1	Virtual multipoint
Ckt Status	X	X	X	X	X	X	X
Ckt Class	X	X	X	X	X	X	X
FROM NPC	X	X	X	X	X	X	X
FROM Channel	X	X	X	X			X
FROM CUST							
TO NPC	X	X	X	X	X	X	X
TO Channel	X	X	X	X			X
TO CUST							
DMB Mode				X			
NTR				X			
Bandwidth	X	X	X	X			X
Bandwidth Type	X	X	X	X			X
Insertion Word	X	X	X	X			X
TLA**	X	X	X	X	X	X	X
NAM	X	X	X	X			X
AIS	X	X	X	X			
RDLD	X	X	X	X	X	X	X
TC	X	X	X	X			X
SC			X				
Framing	X		X				

**DCC, INCL, and OOS are not audited. TLA is only synchronized when the DACS is the master and one end for one-way or two ends for two-way are terminated or unterminated.

Database Synchronization

Description

A synchronization will audit and when possible, adjusts the data compared in the DND and DACS databases, so that they are identical. This is subject to certain constraints, which are detailed later in this section. One database is selected as the master database (**Master DB**), while the other database is changed to match it.

**NOTE:**

Echoed Response Processing (ERP) helps to keep the DND and DACS databases in sync, but Database Synchronization allows you to manually sync the databases.

Scheduling

The scheduling of a database synchronization insures that the DACS and DND databases are kept up to date. This can be used as a daily or weekly maintenance routine, or anytime needed in troubleshooting NPC or channel irregularities or problems.

NPC Synchronization

Description

An NPC synchronization first performs an NPC audit. Then it attempts to insure that the discrepancies noted in the audit/synchronization log as a result of that audit are removed. The results of each command are then noted in additional records in the audit/synchronization log as success or failure, with the reason for the failure. If no corresponding NPC provisioning record exists, one is created.

- If the DND is the master, *NPC SYNC* sends commands to the DACS to provision it in such a way as to change the values of the fields noted as inconsistent.
- If the DACS is the master, *NPC SYNC* changes the existing field in the DND database.

New NPC IDs

New NPC IDs created by NPC synchronization have the following format:

- For DACS systems provisioned with hierarchical numbering links are in the format: **NPCxxxxx**
- For DACS systems provisioned with extended numbering links are in the format: **NPCyyyy**

where:

xxxxx is the hierarchical number for the NPC

yyyy is the extended number for the NPC

If the identifier is already in use, a .z is suffixed to create a unique identifier, where z is an integer from 0 to 9.

NPC Synchronization (Continued)

Limitations

The limitations on the use of NPC synchronization are as follows:

- When the DND is the master:
 - If there are discrepancies of **NPC Type** that would require unequipping the NPC at the DACS, and there are circuits on these NPCs, the NPC sync will fail for that particular NPC and will continue with the next NPC.
 - When auditing for a range of NPCs (*ALL LOCAL NPCS* or *RANGE OF LOCAL NPCS*), unequipped NPCs at the DND are not processed. If the NPC is equipped at the DACS, the NPC will not be degrown (unequipped) at the DACS.
 - When the DACS is the master:
 - If there are discrepancies of equipage state that would require unequipping the NPCs at the DND, and there are circuits on these NPCs at the DND, then the NPC sync will fail for that particular NPC and move on to the next NPC.
-

Channel Synchronization

Description

A channel synchronization insures that the end-points and circuit characteristics noted as different in a channel audit are reconciled, subject to limitations.

- If the DACS is the master, then the circuit provisioning records of the local database are either updated, or are deleted and new records are created.
- If the DND is the master, then circuit provisioning commands are sent to the DACS.



NOTE:

During Channel Synchronization if DACS is the master, there is an environment variable that controls which channels are to be deleted or deactivated, (SYNC_DEACTIVATE_CKTS). For additional information, refer to the "Setting Environment Variables" section in the *DACS II Network Director Installation Manual*.

New Circuit IDs

New circuit IDs have the following format:

- For circuit classes *FDX*, *HDX*, *BBL*, *BRD*, and *DMB*:
SYN fromnpc-fromchan tonpc-tochan **BW/bw** class
- For subrate circuits:
SYN fromnpc-fromchan-fromcust tonpc-tochan-tocust rate **SUB**
BW/bw class
- For established DS0 circuits:
SYN fromnpc-fromchan tonpc sectype **EST**
- For new BCON BKB circuits:
BYN fromnpc-fromchan tonpc-tochan BW/bw class

(Continued on next page)

Channel Synchronization (Continued)

New Circuit IDs, Continued

Where:

fromnpc	is the FROM NPC number in hierarchical or extended format, depending on how the DACS was provisioned.
fromchan	is the FROM channel number, or <i>DS1</i> or <i>E1</i> .
from-cust	is the FROM customer number.
tonpc	is the TO NPC number in hierarchical or extended format.
tochan	is the TO channel number, or <i>DS1</i> or <i>E1</i> .
tocust	is the To customer number.
bw	is the bandwidth, which is either 1 or the number of contiguous channels of a high-rate circuit.
rate	is the subrate transmission rate.
class	is the Ckt Class : <i>FDX</i> , <i>HDX</i> , <i>BBL</i> , <i>BRD</i> or <i>DMB</i> .
sech-type	is the type of SRM NPC.

If the identifier is already in use, a .z is suffixed to create a unique identifier, where z is an integer from 0 to 9.

Channel Synchronization (Continued)

Limitations

The limitations on the use of channel synchronization are as follows:

- Channel synchronization does not automatically equip NPCs. If an NPC is missing from one database, the synchronization of channels within it is not performed. It is suggested, therefore, that you precede a channel synchronization with an NPC synchronization.
 - Channels that are connected to a test port in either the DND or the DACS are not audited or synchronized.
 - DMB cascades are not audited or synchronized.
 - The BKB of a BCON circuit must be in the range of the NPC synchronization request for that BKB to be synchronized. This means that if a leg is encountered in the range of the request, and the BKB is not in the range of the request, the LEG will not be individually synchronized. The report for the audit/synchronization results will, however, identify this and will identify the BKB. Note, however, that if the BKB is in the range of the sync request then ALL LEGS associated with the BKB will be synchronized.
-

Channel Synchronization (Continued)

DND as Master

When the DND is the master:

- There is no command to modify provisioning in the DACS. The DND always disconnects and connects when it changes frame provisioning.
- If NPCs are equipped in the DND, but their channels are not cross-connected, the channel synchronization disconnects all circuits in the same NPCs of the DACS.
- Discrepancies of **Ckt Class**, **Ckt Status**, end points, **Trunk Conditioning**, **Signaling Conversion**, **Insertion Word**, and **Options** result in disconnection in the DACS and connection of new circuits with the matching attributes.
- The Termination State (*TLA* or *TLR*, **Option G**) of a circuit is not changed in the DACS during synchronization, unless the circuit is being disconnected and reconnected because of another discrepancy.
- A number of limitations apply to virtual conference circuits when the DND is the master, as shown in Figure 10-1.
 - If a BBL required by the synchronization of the circuit is already in use in the DACS, the synchronization does not change it in any way.
 - If the BBL is already in use in the DACS, the synchronization does not connect its BRDs unless the facility BBL is the same as the local BBL in every field of interest.
 - The synchronization does not connect a BRD unless its bandwidth is the same as that of the BBL.
 - The synchronization does not disconnect a virtual conference type if the bandwidth does not match.

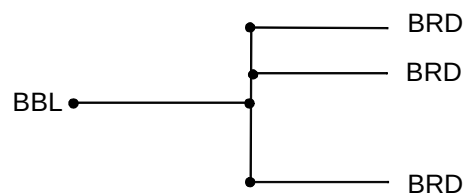


Figure 10-1. Virtual Multipoint Circuit

(Continued on next page)

Channel Synchronization (Continued)

DND as Master, Continued

**NOTE:**

The limitations on virtuals are designed to protect the DACS user who is not utilizing DND. The DND is not allowed to automatically interfere in existing DACS circuits by preempting control of a virtual node or of virtual conference circuits already in use by others.

DACS as Master

When the DACS is the master:

- Channel synchronization and circuit echoed response processing delete records that cannot be corrected.
- Differences of end points, **Circuit Class**, **Circuit Status**, **DMB Mode**, or **Bandwidth** result in deletion of the circuit record containing them and activation of a new circuit record with matching attributes.
- Differences of **Trunk Conditioning**, **Insertion Word**, **Signaling Conversion**, **No Transmit (NTR)** (DMB only), **Termination State**, or **Options** result in modification of the existing circuit record.
- The termination state can only be fully synchronized if both ends of the connection in the DACS are the same, either *TLA* or *TLR*. If they are not the same you can use the **TERMINATE Action** with the **Direction** field in Test Access to reset the termination state of one side.
- If the bandwidths do not match in corresponding virtual conference circuits, the entire circuit in the DND is deleted.

(Continued on next page)

Channel Synchronization (Continued)

DACS as Master, Continued

- The DACS provisions DND high-rate circuits as individual channels. As a result:
 - If the DND record no longer exists, a separate DND record is created for each channel of a circuit that was originally high-rate in the DND.
 - If the DND record is still present and the circuit corresponds in every way to the DACS circuit, no changes are made.
 - If the DND record is still present, but some of the circuit characteristics have changed, they can be made to correspond to the DACS.
 - If there is a discrepancy that cannot be corrected globally, over the entire circuit; for example, the **Trunk Conditioning** in the DACS is not the same as for all the DND circuit's channels, then the DND record is deleted and new records are written.
 - If a channel was originally in the high-rate circuit but for some reason is not now the same as in the DACS, synchronization will delete the DND high-rate record and will create individual records of single-channel BW for all remaining connections in the high-rate that still match.
-

Upload

Description

NPC and channel, synchronizations are combined in the **UPLOAD Action**. An **UPLOAD** loads the NPC and channel, cross-connection information located in the remote DACS database into the local, or DND, database for the DACS. It does so in three stages, as shown in Figure 10-2 and Figure 10-3.

UPLOAD does not first delete the existing information in the local database. The information is checked as in an audit. If matches are found in the values of the fields of interest, no action is taken, and the information remains. Otherwise, records are deleted, revised or created according to the rules for **ALARM SYNC**, **NPC SYNC**, and **CHANNEL SYNC**.

You can execute an **UPLOAD** repeatedly to bring about a successively closer correspondence of the databases, without loss of data you may want to keep, such as the previous circuit attributes.

Upload Stage 1

Figure 10-2 illustrates the first stage of the upload process.

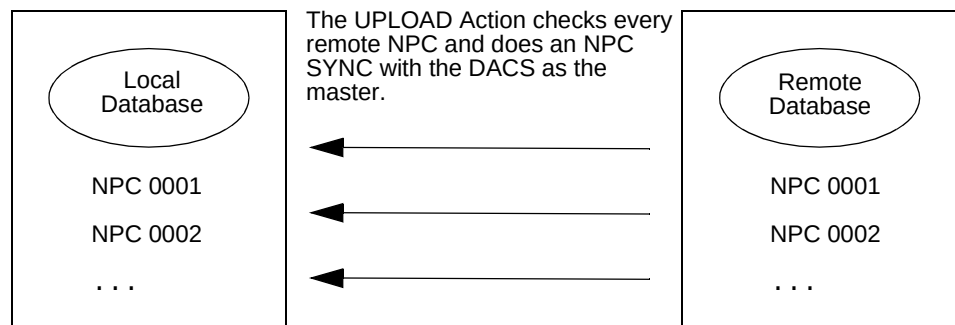


Figure 10-2. Stage 1 of the UPLOAD Action: NPC SYNC

Upload (Continued)

Upload Stages 2 and 3

The result of the first stage, shown in Figure 10-3, is that the NPC provisioning in the local database conforms to the NPC provisioning in the remote database, subject to the limitations of an *NPC SYNC*.

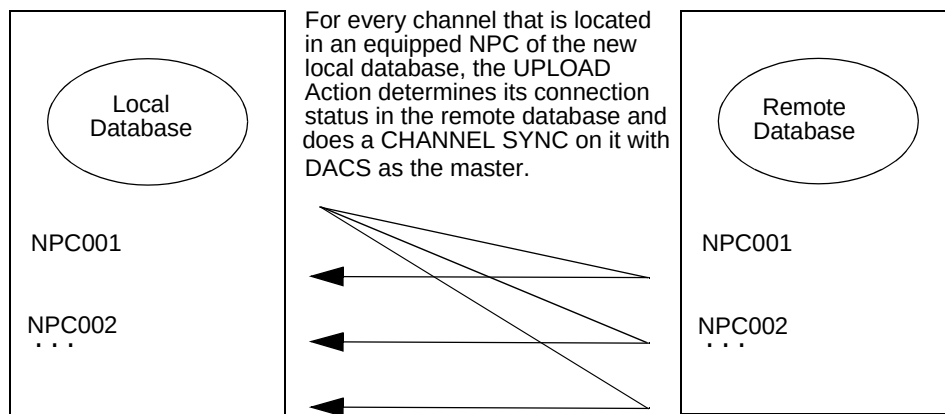


Figure 10-3. Stage 2 & 3 of the UPLOAD Action: CHANNEL SYNC

Exceptions to Stages 2 and 3

There may be some exceptions in the second and third stages according to the limitations on the use of *NPC SYNC*, *CHANNEL SYNC*, and *UPLOAD*.

For example, circuits for remote channels under test or used as test ports, or circuits that are not supported by the DND, are not recorded in the local database. Instead, an exception report is placed in the log.

Other Features and Constraints

Recommendations Database audit/synchronization may take a long time. Therefore, scheduling these activities for off-peak times is suggested. However, there are some constraints. A channel audit for a single channel runs in the foreground. Everything else, whether scheduled or not, runs in the background.

Additional Features

Some additional features of audit/synchronization are:

- Audit synchronization applies to these DACS types only: DACS II Releases 6 and higher; and DACS II ISX Releases 1.1 and higher
 - Any user with the ADMIN user class can terminate an audit/synchronization from any terminal with the **ABORT Action**
-

Audit/Sync Log

A log is kept during auditing of all mismatches and during synchronization of all connects and disconnects in a frame, or of all deactivations, deletions and activations in the DND. The log also records successes and failures of synchronization. The log is available through the AUDIT/SYNCHRONIZATION report.

Audit/Synchronization Form

Sample Audit/ Sync Form

The screenshot shows a Java applet window titled "DATABASE AUDIT/SYNCHRONIZATION" with the "dnd" logo. The form contains the following fields and controls:

- Site Name:** A dropdown menu with "CEF-Chicago" selected.
- Action:** A dropdown menu with "NPC SYNC" selected. An arrow points to this field with the label "Select Audit/Sync Type/Action".
- Mode:** A dropdown menu with "ALL FACILITY NPCS" selected. An arrow points to this field with the label "Select Audit/Sync NPC or Channel limit/Mode".
- Master DB:** Two radio buttons, "Frame" (checked) and "Local". An arrow points to this section with the label "Select which database will act as the Master".
- Buttons:** "Back" (with a left arrow icon), "Continue..." (with three dots), "Restart" (with a circular arrow icon), and "Close" (with an X icon).
- Help Text:** A question mark icon followed by the text "The master database for the synchronization request".

The bottom of the window shows the status bar "Unsigned Java Applet Window".

Figure 10-4. Audit/Synchronization Form, NPC SYNC Action

Audit/Synchronization Form (Continued)

Field Descriptions The field descriptions for the DATABASE AUDIT/SYNCHRONIZATION form are described in Table 10-3.

**Table 10-3. Field Descriptions for the DATABASE AUDIT/
SYNCHRONIZATION Form**

Field	Description
Site Name	(Combo box) Mandatory. Select the name of the DACS where the requested Action will take place. Clicking this field will display a list of DACS names. By default, the list appears alphabetically. To change the sorting order, modify the setting for the SORT_NAME_BY variable using the DND Forms Interface.
Action	(Combo box) Mandatory. Select the type of audit/synchronization to be executed. For full details, be sure to refer to the introduction to each Action , given previously in this chapter. The choices are: ■ ALARM SYNC - Performs a synchronization of Alarm State only, on the same NPCs as would be specified by ALL LOCAL NPC Mode. This Action is a manual version of automatic alarm synchronization described in the NPC Alarm Sync field under DACS administration in the SYSTEM ADMINISTRATION chapter. ■ CHANNEL AUDIT/SYNC - Compares local and facility cross-connection databases, logs differences in parameters that are common to the two, and synchronized by eliminating those differences according to restrictions. The range of channels to be synchronized is specified by Mode and channel selection fields.

(Continued on next page)

Audit/Synchronization Form (Continued)

Field Descriptions, Continued

**Table 10-3. Field Descriptions for the DATABASE AUDIT/
SYNCHRONIZATION Form, Continued**

Field	Description
Action , Continued	■ <i>NPC AUDIT/SYNC</i> - Compares local and facility NPC provisioning databases, logs differences in parameters that are common to the two, and synchronizes by eliminating those differences according to restrictions. The range of NPCs to be compared is specified by Mode or by Mode and NPC selection fields. ■ <i>UPLOAD</i> - Initiates an <i>NPC SYNC</i> in <i>ALL FACILITY NPCCS Mode</i> with DACS as Master DB, followed by a <i>CHANNEL SYNC Action</i> in <i>ALL LOCAL NPCCS Mode</i>, again with Master DB. You can use <i>UPLOAD</i> to load the DND database initially with data taken from the DACS database. The <i>UPLOAD</i> Action only logs failures. ■ <i>ABORT</i> - Cancels the audit/synchronization currently executing in the background or on queue.
Mode	(Combo box) Mandatory. Select the range of NPCs or channels to which the Action is to apply. A selection that is explicit about the NPCs, such as <i>ALL FACILITY NPCCS</i>, also implies all the associated channels. The choices are: ■ <i>ALL FACILITY NPCCS</i> - Selects all NPCs that can be equipped in the DACS. ■ <i>RANGE OF LOCAL NPCCS</i> - Indicates that the range of local NPCs to be considered is bounded by the NPC ID field or its corresponding Hier or Ext fields and the Last NPC ID field.

(Continued on next page)

Audit/Synchronization Form (Continued)

Field Descriptions, Continued

**Table 10-3. Field Descriptions for the DATABASE AUDIT/
SYNCHRONIZATION Form, Con't**

Field	Description
Mode , Con't	■ <i>ALL LOCAL NPCS</i> - Selects all NPCs that are currently equipped in the local database. ■ <i>RANGE OF FACILITY NPCS</i> - Indicates that the range of facility NPCs to be considered is bounded by the NPC ID field or its corresponding Hier or Ext fields and the Last NPC ID fields ■ <i>SINGLE NPC</i> - Selects the channels of the NPC specified by NPC ID or the associated hierarchical or extended number ■ <i>SINGLE CHANNEL</i> - Selects the channel specified by the NPC ID or its Hier or Ext equivalents and the Channel
Master DB	(Radio buttons) Appears for SYNC Actions only. Select the master database for a synchronization. The choices are: ■ Facility - Use the facility database as the master. ■ Local - Use the local database as the master.

Contents

■ Background	11-2
Introduction	11-2
Objectives	11-2
Related tasks	11-2
Related information	11-2
■ DACS Message Functionality	11-3
DACS Message Processing	11-3
Entering Commands	11-3
Limitations	11-4
■ The DACS Message Form	11-5
DACS Message Form	11-5
DACS Command Response Window	11-5
Field Descriptions	11-6

Background

Introduction

The DACS MESSAGE form allows the user to send an MML command to the DACS and receive a response. It is primarily used to perform DACS operations not supported by the DND Graphical User Interface.

**NOTE:**

The DACS Message feature correlates to the Passthrough feature of the DND Forms Interface. Passthrough procedures and examples can be found in Appendix L.

Objectives

This chapter provides background information to help you perform the following:

1. Operate the DACS Message form
2. Send a message to the DACS using the DACS MESSAGE form

Related tasks

For related tasks, see the following General Task:

- GT 110: Sending a Message to the DACS

Related information

For related information, see:

- Appendix L
-

DACS Message Functionality

DACS Message Processing

The DACS message function shares the same communication path as the DND. When the command is executed, the functionality of the DACS Message feature is very similar to the Multiplexed Passthrough of the DND Forms Interface (refer to the DND GUI and Forms Interface version of the DACS II Network Director User's Manual). Therefore, while the command is in progress, certain "multiplex passthrough" behaviors may be observed:

- The administrator can view and abort the "DACS Message" with the PASSTHROUGH ABORT (refer to the DND GUI and Forms Interface version of the DACS II Network Director User's Manual)
- The rules for the ability to perform a "DACS Message" are similar to that of Multiplexed Passthrough:
 - The link to the DACS must be In-Service
 - DACS Message cannot be performed when a Full Passthrough is in progress from the DND Forms Interface.

The DACS Message Processing is non-interactive, i.e., is not real-time. Using DACS Message begins with accessing the DACS MESSAGE form. Select the **Site Name:** you wish to communicate with, and enter the DACS command in the **Command:** field. Click Execute to send the message to the DACS. The DACS response is displayed in a separate Netscape window.

Entering Commands

When entering commands, the following is valid:

- The command line is case-insensitive; it can be entered in upper or lower case letters
 - The semi-colon (;) used to end the DACS message may be omitted
 - The command must be in MML
-

DACS Message Functionality (Continued)

Limitations

The DACS Message feature has the following limitations:

- DACS Message is non-interactive
 - DACS Message allows only commands not requiring login
 - The “?” DACS on-line help facility is not supported across this interface
 - The use of range commands is limited. Range commands will be sent to the DACS, but only the first response is displayed
 - The command result will only appear when the entire command is complete.
 - For example, a command with multiple IN_PROGRESS indicators may take a long time to display
-

The DACS Message Form

DACS Message Form

Figure 11-1 displays the DACS MESSAGE form.

Command is MML and case-insensitive; semi-colon can be omitted

Figure 11-1. DACS MESSAGE form

DACS Command Response Window

Figure 11-2 displays the command response to the DACS Message. The DACS COMMAND RESPONSE window can scroll hold approximately 200 lines of responses before the messages at the top of the window are truncated.

Figure 11-2. DACS COMMAND RESPONSE Window

The DACS Message Form (Continued)

Field Descriptions The table below describes in detail the fields and field values on the DACS MESSAGE form:

Table 11-1. DACS MESSAGE Form Field Descriptions

Field Name	Description
Current Site Choices	(Combo box) Mandatory. Select the DACS you wish to communicate with. When the Current Site Choices: field is changed, the results will appear in the same Netscape Window. By default, the list appears alphabetically. To change the sorting order, modify the setting for the SORT_NAME_BY variable using the DND Forms Interface.
Command:	(Text field) Mandatory. Enter the DACS command you wish to send to the DACS. Command is case-insensitive. Semi-colon (;) can be left out of the command. The correlation tags must be omitted from the command.

Contents

■ Background	12-4
Introduction	12-4
Objectives	12-4
Related tasks	12-4
Related information	12-4
■ Using Report Forms	12-5
Report Navigation	12-5
Metacharacters	12-5
Customized Reports	12-6
Closing a Report Window	12-6
■ Alarm Log Report Form	12-7
Description	12-7
Field Descriptions	12-8
Sample Report	12-13

(Continued on next page)

Contents (Continued)

■ Circuit Alarms Report Form	12-14
Description	12-14
Field Descriptions	12-15
Sample Report	12-19
■ NPC Alarms Report Form	12-20
Description	12-20
Field Descriptions	12-21
Sample Report	12-23
■ Common Equipment Alarms Report Form	12-24
Description	12-24
Field Descriptions	12-24
Sample Report	12-25
■ Circuit Report Form	12-26
Description	12-26
Field Descriptions	12-27
Sample Reports	12-32
■ Channel Report Form	12-34
Description	12-34
Field Descriptions	12-35
Sample Report	12-37
■ NPC Report Form	12-38
Description	12-38
Field Descriptions	12-39
Sample Reports	12-42
■ Database Audit/Synchronization Report Form	12-43
Description	12-43
Field Descriptions	12-44
Sample Report	12-46

(Continued on next page)

Contents (Continued)

■ Echoed Response Processing Report Form	12-47
Description	12-47
Field Descriptions	12-48
Sample Report	12-49
■ Intertie Reports	12-50
Description	12-50
Types	12-50
■ New Alarm Summary Report	12-51
Description	12-51
Alarm Summary Window	12-51

Background

Introduction

With the exception of the intertie reports, the DND reports can be accessed using the **Reports** task button. DND allows you to generate reports containing data from the DND database. The reports are displayed on a separate Netscape window and can be printed with the **PRINT** option from Netscape's **FILE** pull-down menu list.

**NOTE:**

TIP: To increase or decrease the font size in the Netscape window, select the **Edit --> Preferences** options from the Netscape task bar to display the PREFERENCES window. Once in the window, select the **Fonts --> Fixed width font** folders and change the desired font options.

When generating a report, you can specify search criteria for the records that are to be extracted from the DND database. The search criteria restrict the report to records that have certain values in certain fields.

**NOTE:**

Report Operations procedures and examples can be found in Appendix M.

Objectives

This chapter provides background information to help you generate various types of reports.

Related tasks

For related tasks, see the following task(s):

- GT 120: Generating a Report
- GT 121: Generating an Alarm Summary Report

Related information

For related information, see:

- Appendix M
-

Using Report Forms

Report Navigation Report forms do not have as many different stages as the Provisioning forms. When the form is accessed, all of the fields needed to generate the report will appear, except for the Alarm Log and NPC Report. When the form appears, select the field values you wish to include in the report.

To navigate through a report, use any of the following:

- The up and down arrows on the bottom of the window to move up or down the screen
- The left and right scroll arrows on the right of the window to move across the window
- The Pg Up or Pg Dn buttons on your keyboard.

When finished entering field values, clicking [Continue...](#) will display the fields in read-only mode for a final verification. Click [Execute](#) to generate the report. The report will appear in a separate Netscape window. If desired, you can open another report form and fill it out while the previous report is generating.

Metacharacters In text fields, you can use wild-card abbreviations (metacharacters) as follows:

- * stands for any number of any alphanumeric characters (including none) at that position in the string.
- ? stands for a single occurrence of any single character at that position in the string.

For example, *AB5** finds AB544, AB54, AB5, AB55D, etc. *ABC?5* finds ABC45, ABCD5, etc., but not ABC or ABC5.

Using Report Forms (Continued)

Customized Reports

Customized reports that are created through the DND Forms Interface appear as choices in the **Available Formats** field. If a customized format is created while a report is open, click **Restart** or **Close** and redisplay the form. The new report appears as a selection in the **Available Formats** field.

Closing a Report Window

To close a report window, perform one of the following:

- Select **File --> Close**.
- Double-click on the Windows Menu icon.



WARNING:

*Do not select **File --> Exit** to close a report window. If you select **File --> Exit**, you will exit the browser and lose the DND server connection.*

Alarm Log Report Form

Description

The ALARM LOG reports all alarms received by the DND. The selection criterion is by **Site Name**. The three types of ALARM LOG reports are:

- **Facility** - Displays the alarms which relate to the facility terminating units (NPCs)
- **Equipment** - Displays the alarms which relate to the common equipment
- **All** - Displays both facility and Equipment related alarms

Different fields will appear on the form depending on the selection in the **Which Alarm Type:** field.

Figure 12-1 displays a sample ALARM LOG REPORT form.

ALARM LOG SEARCH CRITERIA

dnd

Site Name: CEF-San_Fran Available Formats: ALARMS

WHICH?

Which Alarm Type: ☒ All ☐ Facility ☐ Equipment

Which Log: ☒ CURRENT ☐ BACKUP

Date and Time Search Information

DATE

Day: * Month: * Year: * Range: ☒ = ☐ > ☐ <

TIME

Hour: * Minute: * Second: * Range: ☒ = ☐ > ☐ <

Alarm Search Information

Alarm Severity: * Alarm State: * Alarm Summary:

Continue... Restart Close

? Go back to the previous form version

Unsigned Java Applet Window

Figure 12-1. ALARM LOG REPORT Form- All Alarms

Alarm Log Report (Continued)

Field Descriptions The search criteria for the ALARM LOG Report form is described in the table below:

Table 12-1. Field Descriptions for the ALARM LOG Report Form

Field	Description
Site Name	(Combo box) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
Available Formats	(Combo box) Select an Alarm Log Report format. If no customized formats were created using the DND Forms Interface, the only format available will be <i>ALARMS</i> .
Alarm Type	(Radio buttons) Select the type of alarm to display in the report. The choices are: ■ All - Displays all DACS alarms ■ Facility - Displays NPC related alarms ■ Equipment - Displays common equipment related alarms
Which Log	(Radio buttons) Select the log you want to retrieve alarm data from. The choices are: ■ CURRENT - The current database ■ BACKUP - The history database
Date	(Combo boxes) Select the date criteria for the report. The Date fields are: ■ Day - Select the day (<i>01</i> through <i>31</i>) ■ Month - Select the month (<i>Jan</i> through <i>Dec</i>) ■ Year - Select the year (<i>1990</i> through <i>2037</i>)

(Continued on next page)

Alarm Log Report (Continued)

Field Descriptions, Continued

Table 12-1. Field Descriptions for the ALARM LOG Report Form, Con't

Field	Description
(Date) Range	(Radio buttons) Select the Date range for the report. The choices are: ■ = - Displays alarms which occurred ON the Date ■ > - Displays alarms which occurred AFTER the Date ■ < - Displays alarms which occurred BEFORE the Date
Time	(Combo boxes) Select the time criteria for the report. The Time fields are: ■ Hour - Select the hour (00 through 23) ■ Minute - Select the minute (00 through 59) ■ Second - Select the second (00 through 59)
(Time) Range	(Radio buttons) Select the time range. The choices are: ■ = - Displays alarms which occurred ON the Time ■ > - Displays alarms which occurred AFTER the Time ■ < - Displays alarms which occurred BEFORE the Time
Alarm Severity	(Combo box) Select the alarm severity to display in the report. The choices are: ■ * - Displays all alarm severities ■ <i>CR</i> - Displays critical alarms ■ <i>MAJ</i> - Displays major alarms ■ <i>MIN</i> - Displays minor alarms ■ <i>INF</i> - Displays informational alarms ■ <i>CLR</i> - Displays idled alarms

(Continued on next page)

Alarm Log Report (Continued)

Field Descriptions, Continued

Table 12-1. Field Descriptions for the ALARM LOG Report Form, Con't

Field	Description
Alarm Summary	(Text field) Enter the alarm summary matching information.
NPC Specifier/NPC	(Radio buttons/Text field) Select the NPC in which to display alarms. Refer to the field description section for NPC PROVISIONING for more details.
(NPC) Range	(Radio button field) Select the range criteria of NPCs in which display alarm report information. The choices are: ■ = - Displays NPC alarms for NPC numbers EQUAL to the NPC specified ■ > - Displays NPC alarms for NPC numbers GREATER than the NPC specified ■ < - Displays NPC alarms for NPCs numbers LESS than the NPC specified
Facility Alarm Type	(Combo box field - displayed only if Facility is selected in the Alarm Type field.) Select the facility alarm type to display in the report. The choices are: ■ * - All facility alarm types ■ A - Primary AIS; i.e., Alarm Indication Signal received in all 32 time slots ■ B - BER: Bit Error Rate detected in received signal ■ C - LCMA: Loss of CRC4 Multiframe Alignment in TS0 ■ E - RBER: Remote Bit Error Rate detected in Bit 4 of TS0 ■ F - LOF PBF: Loss Of Frame Primary Block Failure ■ I - RAIS: Remote AIS detected in Bit 4 of TS0

(Continued on next page)

Alarm Log Report (Continued)

Field Descriptions, Continued

Table 12-1. Field Descriptions for the ALARM LOG Report Form, Con't

Field	Description
Facility Alarm Type, Con't	■ <i>L</i> - LMA: Loss of Multiframe Alignment in CAS TS16 ■ <i>M</i> - R16: RAI received in Bit 6 of Frame 0 of TS16 ■ <i>R</i> - LOS PBF: Loss Of Signal type Primary Block Failure, or Primary Block Alarm (PBA) ■ <i>S</i> - SFI: Synchronization Failure Indication in Bit 5 of TS0 ■ <i>V</i> - A16: AIS received in CAS TS16 ■ <i>X</i> - EER: Excessive Error Rate ■ <i>Y</i> - RAI: Remote Alarm Indication received in Bit 3 of NFW of TS0
Alarm State	(Combo box field) Select the alarm state to display in the report. The choices are: ■ * - All alarm states ■ <i>DMA</i> - Deferred Maintenance Alarm Minor ■ <i>MI</i> - Maintenance Information Alarm ■ <i>PMA</i> - Prompt Maintenance Alarm Minor ■ <i>PMC</i> - Prompt Maintenance Alarm Critical
Far End Site	(Combo box field - displayed only if Facility is selected in the Alarm Type field.) Select the name of the DACS at the Far End.
Side	(Combo box field - displayed only if Equipment is selected in the Alarm Type field.) Select the unit side (<i>0</i> or <i>1</i>) to display alarms for. * indicates both sides.

(Continued on next page)

Alarm Log Report (Continued)

Field Descriptions, Continued

Table 12-1. Field Descriptions for the ALARM LOG Report Form, Con't

Field	Description
Unit	(Combo box - displayed only if Equipment is selected in the Alarm Type field.) Select the DACS II unit (<i>01</i> through <i>16</i> , <i>A</i> , and <i>B</i>) to display alarms for.
(Unit) Range	(Radio buttons - displayed only if Equipment is selected in the Alarm Type field.) Select the unit range criteria in which to display alarms for. The choices are: ■ = - Displays alarms for units EQUAL to the number of the Unit selected ■ > - Displays alarms for units GREATER than the number of the Unit selected ■ < - Displays alarms for units LESS than the number of the Unit selected
Sub Unit	(Combo box - displayed only if Equipment is selected in the Alarm Type field.) Select the sub unit number (if available) for the Unit selected.
(Sub Unit) Range	(Radio buttons - displayed only if Equipment is selected in the Alarm Type field.) Select the sub unit range criteria in which to display alarms for. The choices are: ■ = - Displays alarms for units EQUAL to the number of the Sub Unit selected ■ > - Displays alarms for units GREATER than the number of the Sub Unit selected ■ < - Displays alarms for units LESS than the number of the Sub Unit selected

Alarm Log Report (Continued)

Sample Report

Figure 12-2 displays a sample ALARM LOG Report.

12 May 98 15:02:36

```
-----CEF-San_Fran-----ALARM LOG-----ALARMS-----  
Date Time      Sev Summary      NPC   Type  Threshold Un  S Sub Fld1 Fld2  
04May 13:59:44 CLR LINK UP  
04May 13:59:43 MAJ LINK DOWN  
04May 13:59:26 CLR LINK UP  
04May 13:59:03 MAJ LINK DOWN  
04May 13:56:21 INF PBA           02224 SFI  
04May 13:54:41 CLR PBA IDLE      02224 SFI
```

Figure 12-2. Sample ALARM LOG Report

Circuit Alarms Report Form

Description

The CIRCUIT ALARMS REPORT form states the values of various fields for circuits that have as an end point an NPC in alarm. The fields appear mainly on the CIRCUIT PROVISIONING form. One format is provided for alarms that identifies the NPC and channel information of the circuit in alarm.

Figure 12-3 displays a sample CIRCUIT ALARMS REPORT form.

The screenshot shows a Java applet window titled "CIRCUIT ALARM SEARCH CRITERIA". The window contains several sections for search criteria:

- Site Name:** A dropdown menu with "CEF-San_Fran" selected.
- Available Formats:** A dropdown menu with "ALARMS" selected.
- NPC Search Information:**
 - NPC:**
 - NPC Specifier:** Radio buttons for "ID" (selected), "Hier", and "Extd".
 - Range:** Radio buttons for "=" (selected), ">", and "<".
 - NPC:** A text input field.
 - CHANNELS:**
 - Channel:** A text input field.
 - Range:** Radio buttons for "=" (selected), ">", and "<".
- Alarm Search Information:**
 - Alarm State:** A dropdown menu with "*" selected.
 - Service State:** A dropdown menu with "*" selected.
 - Termination State:** A dropdown menu with "*" selected.
- Used By:**
 - Circuit ID:** A text input field.
 - Customer Name:** A text input field.
 - Status:** A dropdown menu with "*" selected.
 - Ckt Class:** A dropdown menu with "*" selected.
 - Trunk Conditioning:** A dropdown menu with "*" selected.
 - Insertion Word:** A dropdown menu with "*" selected.
- Connecting To:**
 - NPC:**
 - NPC Specifier:** Radio buttons for "ID" (selected), "Hier", and "Extd".
 - Range:** Radio buttons for "=" (selected), ">", and "<".
 - NPC:** A text input field.
 - Alarm Search Information:**
 - Alarm State:** A dropdown menu with "*" selected.
 - Service State:** A dropdown menu with "*" selected.
 - Termination State:** A dropdown menu with "*" selected.

At the bottom of the form are three buttons: "Continue...", "Restart", and "Close". The window title bar includes the "dnd" logo and standard window controls. The bottom status bar reads "Unsigned Java Applet Window".

Figure 12-3. CIRCUIT ALARMS REPORT Form

Circuit Alarms Report Form (Continued)

Field Descriptions The search criteria for the CIRCUIT ALARM Report form is described in the table below:

Table 12-2. Field Descriptions for the CIRCUIT ALARM Report Form

Field	Description
Site Name	(Combo box) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
Available Formats	(Combo box) Select a Circuit Alarm Report format. If no customized formats were created using the DND Forms Interface, the only format available will be <i>ALARMS</i> .
NPC Specifier/NPC	(Radio buttons) Select the NPC of one side of the circuit in which to display alarms for. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.
(NPC) Range	(Radio buttons) Select the range criteria of NPCs of the circuit in which display alarm report information for. The choices are: ■ = - Displays circuit alarms where one side of the circuit has an NPC number EQUAL to the NPC specified ■ > - Displays circuit alarms where one side of the circuit has an NPC number GREATER than the NPC specified ■ < - Displays circuit alarms where one side of the circuit has an NPC number LESS than the NPC specified

(Continued on next page)

Circuit Alarms Report Form (Continued)

Field Descriptions, Continued

Table 12-2. Field Descriptions for the CIRCUIT ALARM Report Form, Con't

Field	Description
Channel	(Text field) Enter the NPC channel number, 0-31 for CEPT or 1-24 for NAS. This field is displayed for contiguous or alternating circuits. Refer to the field description section in the CIRCUIT PROVISIONING chapter for additional information.
(Channel) Range	(Radio buttons) Select the range criteria of channels in which display report information. The choices are: ■ = - Displays alarms for circuits with the channel number EQUAL to the Channel specified ■ > - Displays alarms for circuits with channel numbers GREATER than the Channel specified ■ < - Displays alarms for circuits with channel numbers LESS than the Channel specified
Alarm State	(Combo box) Select the circuit alarm state to display. Refer to the field description section in the NPC PROVISIONING chapter for additional information.
Service State	(Combo box) Select the service state to display. Refer to the field description section in the NPC PROVISIONING chapter.
Termination State	(Combo box) Select to display circuits with ONE of the following termination states: ■ * - All termination states ■ TLR - Terminate and leave released ■ TLA - Terminate and leave active
Circuit ID	(Text field) Enter the circuit name to receive a report for a particular circuit. Refer to the field description section of the CIRCUIT PROVISIONING chapter for additional information.

(Continued on next page)

Circuit Alarms Report Form (Continued)

Field Descriptions, Continued

Table 12-2. Field Descriptions for the CIRCUIT ALARM Report Form, Con't

Field	Description
Customer Name	(Text field) Enter the customer name; for specifying a particular customer.
Status	(Combo box) Select the circuit status to display in the report. Refer to the field description section in the CIRCUIT PROVISIONING chapter.
Ckt Class	(Combo box) Select to display circuits with a circuit class of ONE of the following: ■ <i>FDX: FULL DUPLEX</i> ■ <i>HDX: HALF DUPLEX</i> ■ <i>BBL: BACKBONE LEG</i> ■ <i>BRD: BROADCAST LEG</i> ■ <i>DMB: DIGITAL MPT BRIDGE</i> ■ <i>BKB: BCON BACKBONE</i> ■ <i>LEG: BCON TRIBUTARY</i>
Trunk Conditioning	(Combo box) Select the Trunk Conditioning to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Insertion Word	(Combo box) Select the Insertion Word to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
(Connecting To) NPC Specifier/NPC	(Radio buttons/Text field) Select the NPC of the other side of the circuit in which to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.

(Continued on next page)

Circuit Alarms Report Form (Continued)

Field Descriptions, Continued

Table 12-2. Field Descriptions for the CIRCUIT ALARM Report Form, Con't

Field	Description
(Connecting To - NPC) Range	(Radio buttons) Select the range criteria of NPCs of the circuit in which to display alarm report information. The choices are: ■ = - Displays circuit alarms where one side of the circuit has an NPC number EQUAL to the NPC specified ■ > - Displays circuit alarms where one side of the circuit has an NPC number GREATER than the NPC specified ■ < - Displays circuit alarms where one side of the circuit has an NPC number LESS than the NPC specified
(Connecting To) Alarm State	(Combo box) Select the circuit Alarm State to display in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter for additional information.
(Connecting To) Service State	(Combo box) Select the Service State to display in the report. Refer to the field description section in the NPC PROVISIONING chapter.
(Connecting To) Termination State	(Combo box) Select to display circuits with ONE of the following termination states: ■ * - All termination states ■ TLR - Terminate and leave released ■ TLA - Terminate and leave active

Circuit Alarms Report Form (Continued)

Sample Report

Figure 12-4 displays a sample CIRCUIT ALARMS Report.

```
12 May 98 15:18:30
-----CEF-San_Fran-----CIRCUIT ALARMS-----ALARMS-----
Customer  Circuit_ID      NPC      Alm  T_NPC  Alm  BW
Cust1     SYN 0001-020 0701-001 BW/01 DMB 05401 OOS 01101
Cust2     CKT 0001-010 00010-022 BW/01 FDX      01101  CGA  01110
```

Figure 12-4. Sample CIRCUIT ALARMS Report

NPC Alarms Report Form

Description

The NPC ALARMS REPORT form states the values of various fields for NPC alarms. The fields appear mainly on the NPC PROVISIONING form. One format is provided for ALARMS that identifies the NPC and lists **Service State**, **Alarm State** and **Alarm Aging** information.

Figure 12-5 displays a sample NPC ALARMS REPORT form.

The screenshot shows a web-based form titled "NPC ALARM SEARCH CRITERIA" with the "dnd" logo. The form is organized into several sections:

- Site Name:** A dropdown menu showing "CEF-San_Fran".
- Available Formats:** A dropdown menu showing "ALARMS".
- NPC Search Information:**
 - NPC:** A section containing:
 - NPC Specifier:** Three checkboxes: ☒ ID, ☐ Hier, ☐ Extd.
 - Range:** Four checkboxes: ☒ =, ☐ >, ☐ <, ☐ <.
 - NPC:** A text input field.
 - NPC Type:** A text input field.
 - Insertion Word (IW):** A text input field.
- Alarm Search Information:**
 - Alarm State:** A dropdown menu showing "*".
 - Service State:** A dropdown menu showing "*".
 - Alarm Severity:** A dropdown menu showing "*".
- Alarm Aging:**
 - Alarm Age:** A text input field.
 - Range:** Four checkboxes: ☒ =, ☐ >, ☐ <, ☐ <.
- NFW:** A text input field.
- Far End Site:** A dropdown menu showing "*".

At the bottom of the form, there are three buttons: "Continue ...", "Restart" (with a circular arrow icon), and "Close" (with an 'X' icon). Below these buttons is a link that says "? Continue with next section of the form". The bottom of the window shows a status bar that reads "Unsigned Java Applet Window".

Figure 12-5. NPC ALARMS REPORT Form

NPC Alarms Report Form (Continued)

Field Descriptions The search criteria for the NPC ALARM Report form is described in the table below:

Table 12-3. Field Descriptions for the NPC ALARM Report Form

Field	Description
Site Name	(Combo box) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
Available Formats	(Combo box) Select an NPC Alarm Report format. If no customized formats were created using the DND Forms Interface, the only format available will be <i>ALARMS</i> .
NPC Specifier/NPC	(Radio buttons/Text field) Select the NPC to display in the report. Refer to the field description section in the NPC PROVISIONING chapter for additional information.
(NPC) Range	(Radio buttons) Select the range criteria of NPCs in which display in the report. The choices are: ■ = - Displays alarms for an NPC with a number EQUAL to the NPC specified ■ > - Displays alarms for NPCs with numbers GREATER than the NPC specified ■ < - Displays alarms for NPCs with numbers LESS than the NPC specified
NPC Type	(Text field) Enter the NPC Type (of the form <i>ABxyz</i>) to display this particular type of NPC in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter for additional information.
Insertion Word	(Text field) Enter the Insertion Word to display this particular type of NPC in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter for additional information.

(Continued on next page)

NPC Alarms Report Form (Continued)

Field Descriptions, Continued

Table 12-3. Field Descriptions for the NPC ALARM Report Form, Con't

Field	Description
Alarm State	(Combo box field) Select the NPC Alarm State to display in the report. Refer to the field description section in the NPC PROVISIONING chapter for additional information.
Service State	(Combo box field) Select the Service State to display in the report. Refer to the field description section in the NPC PROVISIONING chapter.
Alarm Severity	(Combo box field) Select the alarm severity to display in the report. The choices are: ■ * - Displays all alarm severities ■ CR - Displays critical alarms ■ MAJ - Displays major alarms ■ MIN - Displays minor alarms ■ INF - Displays informational alarms ■ CLR - Displays idled alarms
Alarm Age	(Text field) Select the Alarm Age to display in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter.
(Alarm Age) Range	(Radio button field) Select the alarm age criteria to display on the report. The choices are: ■ = - Display NPCs with an alarm age EQUAL to the Alarm Age specified ■ > - Display NPCs with alarm ages GREATER than the Alarm Age specified ■ < - Display NPCs with alarm ages LESS than the Alarm Age specified

(Continued on next page)

NPC Alarms Report Form (Continued)

Field Descriptions, Continued

Table 12-3. Field Descriptions for the NPC ALARM Report Form, Con't

Field	Description
NFW	(Text field) Select the NFW value to display in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter.
Far End Site	(Combo box field - displayed only if Facility is selected in the Alarm Type field.) Select the name of the DACS at the Far End.

Sample Report

Figure 12-6 displays a sample CIRCUIT ALARMS Report.

```

12 May 98  15:25:32
-----CEF-San_Fran-----NPC ALARMS-----ALARMS-----
NPC_ID      NPC  Svc_St  Type  Sev  Alm_St  Aging
02225NPC001 02225 IS    PA164 INF  INFO  0000
02226NPC001 02226 IS    PA164 INF  INFO  0000
02227NPC001 02227 IS    PA164 INF  INFO  0000
02228NPC001 02228 IS    PA164 INF  INFO  0000
02229NPC001 02229 IS    PA164 INF  INFO  0000

```

Figure 12-6. Sample CIRCUIT ALARMS Report

Common Equipment Alarms Report Form

Description

The COMMON EQUIPMENT ALARM REPORT form logs all of the equipment alarms received at the DND from the DACS.

Figure 12-7 displays a sample COMMON EQUIPMENT ALARMS Report form.

Figure 12-7. COMMON EQUIPMENT ALARMS Report Form

Field Descriptions

The search criteria for the COMMON EQUIPMENT ALARM Report form is described in the table below:

Table 12-4. Field Descriptions for the COMMON EQUIPMENT ALARM Report Form

Field	Description
Site Name	(Combo box field) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
Available Formats	(Combo box field) Select a COMMON EQUIPMENT ALARM Report format. If no customized formats were created using the DND Forms Interface, the only format available will be <i>COMMON EQUIPMENT ALARMS</i> .

(Continued on next page)

Common Equipment Alarms Report Form (Continued)

Field Descriptions, Con't

Table 12-4. Field Descriptions for the COMMON EQUIPMENT ALARM Report Form

Field	Description
Device	(Combo box field) Select the device on the DACS to display in the report. The choices are: ■ * - All device alarms ■ <i>CCN</i> - Cross-connect Network alarms ■ <i>MC</i> - Main Controller alarms ■ <i>POWER</i> - Power unit alarms ■ <i>SYNC</i> - Synchronizer alarms ■ <i>UNIT</i> - Unit alarms
Sub Device	(Combo box field) Select the sub device (if applicable) on the Device previously selected.

Sample Report

Figure 12-8 displays a sample COMMON EQUIPMENT ALARMS Report.

May 98 15:27:06

```

-----CEF-San_Fran-----COMMON EQUIPMENT ALARM-----COMMON EQUIPMENT ALARM-----
Date      Time      Device  Sub_Device Side Unit Sub_Unit
04May98   13:44:17 NE      NE        0      0      0
09Apr98   11:51:17 MC      BMTR      0      0      0

```

Figure 12-8. Sample COMMON EQUIPMENT ALARMS Report

Circuit Report Form

Description

The CIRCUIT REPORT form provides reports on circuit records. Four default formats are provided. Each concentrates on a different aspect of the information that has been created about the circuit. The data is from information that was entered in the CIRCUIT PROVISIONING form, or placed in the database through ERP or by audit/synchronization.

The SEARCH CRITERIA form is similar to the CIRCUIT PROVISIONING form. You can search for circuits of a given **Status** and other fields given on the form in addition to the ones that will appear in the report.

Figure 12-9 displays a sample CIRCUIT REPORT Form.

The screenshot shows a web-based form titled "CIRCUIT PROVISIONING SEARCH CRITERIA" with the "dnd" logo. The form is organized into several sections:

- Top Section:** Includes "Site Name:" (a dropdown menu showing "CEF=San_Fran") and "Available Formats:" (a dropdown menu showing "CIRCUIT CONNECTIONS").
- Search Fields:** Includes "Circuit ID:", "Bandwidth:", "Bandwidth Type:", "Status:", "Ckt Class:", and "DMB Mode:". Each has a text input field or a dropdown menu.
- NPC Section:** Includes "NPC Specifier:" with checkboxes for "ID", "Hier", and "Extnd", and a "Range:" dropdown menu with options "=", ">", and "<". Below this is an "NPC:" text input field.
- CHANNELS Section:** Includes "Channel:" and "Range:" dropdown menus with options "=", ">", and "<".
- CIRCUIT INFORMATION Section:**
 - Circuit Options:** Includes "No Transmit (NTR):" dropdown and checkboxes for "NAM:", "AIS:", "RDLN:", "OOS:", "INCL:", "DCC:", and "TLA:".
 - Channel Options:** Includes "Trunk Conditioning:", "Insertion Word:", "Signaling Conversion:", and "Framing:".
 - Circuit Data:** Includes "Location A:", "Location Z:", "Customer Name:", "Priority:", and "Remarks:".
 - Service Date:** Includes "Day:", "Month:", "Year:", and "Range:" dropdown menus with options "=", ">", and "<".
- Buttons:** At the bottom are "Continue ...", "Restart", and "Close" buttons.
- Footer:** A small text at the bottom left says "? Continue with next section of the form".

Figure 12-9. CIRCUIT REPORT Form

Circuit Report Form (Continued)

Field Descriptions The search criteria for the CIRCUIT Report form is described in the table below:

Table 12-5. Field Descriptions for the CIRCUIT Report Form

Field	Description
Site Name	(Combo box field) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
Available Formats	(Combo box field) Select a CIRCUIT Report format. The default choices are: ■ <i>CIRCUIT CONNECTIONS</i> - Identifies circuit and endpoints by Circuit ID; NPC and Channel number is displayed for FROM and TO sides in addition to Priority, Ckt Status, Ckt Class, Bandwidth, and Bandwidth Type ■ <i>CIRCUIT OPTIONS</i> - Concentrates on circuit characteristics as specified by the Circuit Options ■ <i>CIRCUIT INFORMATION</i> - Concentrates on circuit characteristics for each Circuit ID; includes Trunk conditioning and Insertion Word ■ <i>CIRCUIT AVAILABILITY</i> - Concentrates on the availability of the circuits; includes Service Date, Priority, and Ckt Status Additional customized formats can be created using the DND Forms Interface.
Circuit ID	(Text field) Enter the circuit name to receive a report for a particular circuit. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.

(Continued on next page)

Circuit Report Form (Continued)

Field Descriptions, Continued

Table 12-5. Field Descriptions for the CIRCUIT Report Form, Con't

Field	Description
Bandwidth	(Text field) Enter the Bandwidth to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Bandwidth Type	(Combo box field) Select the Bandwidth Type to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Status	(Combo box field) Select the status of the circuit to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.
Ckt Class	(Combo box field) Select the class of the circuit to display in the report. The choices are: ■ <i>FDX: FULL-DUPLEX</i> ■ <i>HDX: HALF-DUPLEX</i> ■ <i>BBL: BACKBONE LEG</i> ■ <i>BRD: BROADCAST LEG</i> ■ <i>DMB: DIGITAL MPT BRIDGE</i> ■ <i>BKB: BCON BACKBONE</i> ■ <i>LEG: BCON TRIBUTARY</i>
DMB Mode	(Combo box field) Select the usage of Channel in a DMB circuit to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.
NPC Specifier/NPC	(Radio buttons) Select the NPC in which to display a report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.

(Continued on next page)

Circuit Report Form (Continued)

Field Descriptions, Continued

Table 12-5. Field Descriptions for the CIRCUIT Report Form, Con't

Field	Description
(NPC) Range	(Radio buttons) Select the range criteria of NPCs in which display alarm report information. The choices are: ■ = - Displays NPC alarms for NPC numbers EQUAL to the NPC specified ■ > - Displays NPC alarms for NPC numbers GREATER than the NPC specified ■ < - Displays NPC alarms for NPCs numbers LESS than the NPC specified
Channel	(Text field) Select the Channel to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
(Channel) Range	(Radio buttons) Select the range criteria of channels in which display report information. The choices are: ■ = - Displays the channel number EQUAL to the Channel specified ■ > - Displays the channel number GREATER than the Channel specified ■ < - Displays the channel number LESS than the Channel specified
No Transmit (NTR)	(Combo box) Select the No transmit direction to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.
(Other) Circuit Options	(Checkboxes) Select the Circuit Options to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.

(Continued on next page)

Circuit Report Form (Continued)

Field Descriptions, Continued

Table 12-5. Field Descriptions for the CIRCUIT Report Form, Con't

Field	Description
Trunk Conditioning	(Combo box) Select the Trunk Conditioning to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Insertion Word	(Combo box) Select the Insertion Word to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Signaling Conversion	(Text field) Enter the Signaling Conversion value to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Framing	(Text field) Enter the Framing value to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Location A	(Text field) Enter the near-end location. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Location Z	(Text field) Enter the far-end location. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Customer Name	(Text field) Enter the name of the customer. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Priority	(Text field) Enter the Priority value to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.

(Continued on next page)

Circuit Report Form (Continued)

**Field
Descriptions,
Continued**

Field	Description
Remarks	(Text field) Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
Service Date	(Combo boxes) Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
(Service Date) Range	(Radio buttons) Select the service date criteria for the circuit. The choices are: ■ = - Displays a report for circuits placed In-Service on the Service Date specified ■ > - Displays a report for circuits placed In-Service AFTER the Service Date specified ■ < - Displays a report for circuits placed In-Service BEFORE the Service Date specified

Circuit Report Form (Continued)

Sample Reports

The four default CIRCUIT REPORT form formats are:

- **CIRCUIT AVAILABILITY**—Concentrates on the availability of the circuits. The service date, circuit priority and status are listed for each Circuit ID, as well as the user informational location A and location Z. Figure 12-10 displays an example of this format.

May 98 15:32:22

```
-----CEF-San_Fran-----CIRCUITS-----CIRCUIT AVAILABILITY-----
Circuit_ID      Status      CP Svc_Date Loc_A      Loc_Z
Chicago-CKT2    ACTIVE      00 09Apr98
ERP 02201-012 02205-012 BW/0  ACTIVE      00 04May98
ckt1            ACTIVE      00 09Apr98
ckt1            ACTIVE      00 09Apr98
ckt1            ACTIVE      00 09Apr98
```

Figure 12-10. Sample CIRCUIT Report - *CIRCUIT AVAILABILITY* Format

- **CIRCUIT INFORMATION**—Concentrates on the circuit characteristics for each Circuit ID. The report includes trunk conditioning and insertion word. Figure 12-11 displays an example of this format.

May 98 15:30:16

```
-----CEF-San_Fran-----CIRCUITS-----CIRCUIT INFORMATION-----
Circuit_ID      TC          IW SC          NAM AIS RDLD OOS INCL DCC
Chicago-CKT2    0011,0011   TRB
ERP 02201-012 02205-
ckt1            X-FF,X-FF   FF
ckt1            X-FF,X-FF   FF
ckt1            X-FF,X-FF   FF
```

Figure 12-11. Sample CIRCUIT Report - *CIRCUIT INFORMATION* Format

(Continued on next page)

Circuit Report Form (Continued)

Sample Reports, Continued

- **CIRCUIT OPTIONS**—Concentrates on the circuit characteristics specified in options. Figure 12-12 displays an example of this format.

May 98 15:30:16

```

-----CEF-San_Fran-----CIRCUITS-----CIRCUIT OPTIONS-----
Circuit_ID          TC          IW  SC          NAM AIS RDL D OOS INCL DCC
Chicago-CKT2        0011,0011      TRB
ERP 02201-012 02205-001
ckt1                X-FF,X-FF      FF
ckt1                X-FF,X-FF      FF
ckt1                X-FF,X-FF      FF

```

Figure 12-12. Sample CIRCUIT Report - *CIRCUIT OPTIONS* Format

- **CIRCUIT CONNECTIONS**—Identifies circuit and end points by Circuit ID. For each cross-connection, the NPC and channel number of the NPC in which it occurs is stated for both the FROM and the TO sides. High-rate and multipoint circuits are presented as multiple cross-connections. The report includes circuit priority, status, class, bandwidth and bandwidth type. Figure 12-13 displays an example of this format.

May 98 15:29:03

```

-----CEF-San_Fran-----CIRCUITS-----CIRCUIT CONNECTIONS-----
Circuit_ID          CP Status    Cls BW BT F_NPC Ch  T_NPC Ch
Chicago-CKT2        00 ACTIVE    FDX 01 C  02201 001 02221 007
ERP 02201-012 02205-012 BW/01 FDX 00 ACTIVE    FDX 01 C  02201 012 02205 012
ckt1                00 ACTIVE    FDX 03 C  02213 001 02215 004
ckt1                00 ACTIVE    FDX 03 C  02213 002 02215 005
ckt1                00 ACTIVE    FDX 03 C  02213 003 02215 006

```

Figure 12-13. Sample CIRCUIT Report - *CIRCUIT CONNECTIONS* Format

Channel Report Form

Description

The CHANNEL REPORT form provides one default format of *CHANNEL USAGE*. This format lists the use of each channel within each facility NPC that has been equipped. The information in this report is taken from both NPC and circuit data. On the report form, you can select by NPC, circuit, or connecting NPC.

**NOTE:**

Selecting *NULL* in the **Status** field of the form selects channels which are not in use.

Figure 12-14 displays a sample CHANNEL REPORT form.

Figure 12-14. CHANNEL REPORT Form

Channel Report Form (Continued)

Field Descriptions The search criteria for the CHANNEL Report form is described in the table below:

Table 12-6. Field Descriptions for the CHANNEL Report Form

Field	Description
Site Name	(Combo box) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
Available Formats	(Combo box) Select a CHANNEL Report format. If no customized formats were created using the DND Forms Interface, the only format available will be <i>CHANNEL USAGE</i>
NPC Specifier/NPC	(Radio buttons/Text field) Select the NPC of one side of a circuit to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.
(NPC) Range	(Radio buttons) Select the Range criteria of NPCs in which display alarm report information. The choices are: ■ = - Displays NPC alarms for NPC numbers EQUAL to the NPC specified ■ > - Displays NPC alarms for NPC numbers GREATER than the NPC specified ■ < - Displays NPC alarms for NPCs numbers LESS than the NPC specified
(NPC) Channel	(Text field) Select the Channel number of the NPC to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.

(Continued on next page)

Channel Report Form (Continued)

Field Descriptions, Continued

Table 12-6. Field Descriptions for the CHANNEL Report Form, Con't

Field	Description
(NPC - Channel) Range	(Radio buttons) Select the range criteria of channels in which display report information. The choices are: ■ = - Displays a report for the channel number EQUAL to the Channel specified ■ > - Displays a report for channel numbers GREATER than the Channel specified ■ < - Displays a report for channel numbers LESS than the Channel specified
Circuit ID	(Text field) Enter the circuit name to receive a report for a particular circuit. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.
(Connecting To) NPC Specifier/NPC	(Radio buttons/Text field) Select the NPC of the other side of the circuit in which to display alarms. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter for additional information.
(Connecting To NPC) Range	(Radio buttons) Select the range criteria of NPCs in which display alarm report information. The choices are: ■ = - Displays NPC alarms for NPC numbers EQUAL to the NPC specified ■ > - Displays NPC alarms for NPC numbers GREATER than the NPC specified ■ < - Displays NPC alarms for NPCs numbers LESS than the NPC specified

(Continued on next page)

Channel Report Form (Continued)

Field Descriptions, Continued

Table 12-6. Field Descriptions for the CHANNEL Report Form, Con't

Field	Description
(Connecting To) Channel	(Text field) Enter the Channel to display in the report. Refer to the field descriptions section in the CIRCUIT PROVISIONING chapter.
(Connecting To - Channel) Range	(Radio buttons) Select the range criteria of channels in which display report information. The choices are: ■ = - Displays the channel number EQUAL to the Channel specified ■ > - Displays the channel number GREATER than the Channel specified ■ < - Displays the channel number LESS than the Channel specified

Sample Report

Figure 12-15 displays a sample CHANNEL Report.

```

May 98 15:37:28

-----CEF-San_Fran-----CHANNELS-----CHANNEL USAGE-----
NPC  Ch  Status      Circuit_ID                      Cls  To_NPC  Ch
02201 000 NULL
02201 001 ACTIVE      Chicago-CKT2                    FDX 02221 007
02201 002 NULL
02201 003 NULL
02201 004 NULL
  
```

Figure 12-15. Sample CHANNEL Report



NOTE:

A full CHANNELS report takes some time to generate, since the DND must check every channel of every NPC. It is suggested you limit the search to one or a few NPCs.

NPC Report Form

Description

The NPC report provides a report on NPC records. The data was entered in the NPC PROVISIONING form, or placed in the database through ERP or audit/synchronization.

This form has four different variations - the generic NPC REPORT form, which displays if no PM option is specified, and the specific NPC REPORT forms with special fields for the NAS, CEPT, or CEPT PA PM options.

The SEARCH CRITERIA form is similar to the NPC PROVISIONING forms. You can specify search criteria for fields that do not appear on the report. Moreover, you can use search criteria in the status fields, which are not accessible on the NPC PROVISIONING form.

Figure 12-16 displays a sample NPC REPORT form.

The screenshot shows a Java applet window titled "NPC PROVISIONING SEARCH CRITERIA". The form is organized into several sections:

- Site Name:** A dropdown menu showing "CEF-San_Fran".
- Available Formats:** A dropdown menu showing "NPC IDS".
- NPC Search Information:**
 - NPC Specifier:** Radio buttons for "ID" (selected), "Hier", and "Extd".
 - Range:** Radio buttons for "=", ">", and "<" (selected).
 - NPC:** A text input field.
 - NPC Type:** A text input field.
 - Insertion Word (IW):** A text input field.
 - Alarm Indication Signal (AIS):** A dropdown menu showing "*".
- Alarm Search Information:**
 - Alarm State:** A dropdown menu showing "*".
 - Service State:** A dropdown menu showing "*".
 - Usage:** A text input field.
 - Loopback Transmission:** A dropdown menu showing "*".
 - Loopback Direction:** A dropdown menu showing "*".
- Alarm Aging:**
 - Alarm Age:** A text input field.
 - Range:** Radio buttons for "=", ">", and "<" (selected).
- NFW:** A text input field.
- Far End Site:** A dropdown menu showing "*".
- Performance Monitoring Specification:**
 - Specify PM Options:** Radio buttons for "none" (selected), "NAS", "CEPT", and "CEPT PA".

At the bottom of the form are three buttons: "Continue...", "Restart", and "Close". The window title bar indicates it is an "Unsigned Java Applet Window".

Figure 12-16. Sample CHANNEL REPORT Form - Generic

NPC Report Form (Continued)

Field Descriptions The search criteria for the NPC Report form is described in the table below:

Table 12-7. Field Descriptions for the NPC Report Form

Field	Description
Site Name	(Combo box) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
Available Formats	(Combo box) Select an NPC Report format. The default choices are: ■ <i>NPC NUMBERS</i> -displays a report that is sorted by hierarchical NPC number with alarm and service state information included. ■ <i>NPC IDS</i> - displays a report of the NPCs in the database sorted by NPC ID. Additional customized formats can be created using the DND Forms Interface.
NPC Specifier/NPC	(Radio buttons/Text field) Select the NPC in which to display alarms. Refer to the field descriptions section in the NPC PROVISIONING chapter for additional information.
(NPC) Range	(Radio buttons) Select the range criteria of NPCs in which display alarm report information. The choices are: ■ = - Displays NPC alarms for NPC numbers EQUAL to the NPC specified ■ > - Displays NPC alarms for NPC numbers GREATER than the NPC specified ■ < - Displays NPC alarms for NPCs numbers LESS than the NPC specified

(Continued on next page)

NPC Report Form (Continued)

Field Descriptions, Continued

Table 12-7. Field Descriptions for the NPC Report Form, Con't

Field	Description
NPC Type	(Text field) Enter the NPC Type to display in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter for additional information.
Insertion Word	(Text field) Enter the Insertion Word to display in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter.
Alarm Indication Signal (AIS)	(Combo box) Select the user-defined severity of an NPC AIS alarm to display in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter for additional information.
Alarm Age	(Text field) Enter the alarm age of the NPCs to display the report. Refer to the field descriptions section in the NPC PROVISIONING chapter for additional information.
Range	(Radio buttons) Select the range criteria of the Alarm Age in which display report information. The choices are: ■ = - Displays NPCs with an alarm age EQUAL to the Alarm Age specified ■ > - Displays NPCs with an alarm age GREATER than the Alarm Age specified ■ < - Displays NPCs with an alarm age LESS than the Alarm Age specified
NFW	(Text field) For PA type NPCs only. Enter the NFW value to display in the report. Refer to the field descriptions section in the NPC PROVISIONING chapter.

(Continued on next page)

NPC Report Form (Continued)

Field Descriptions, Continued

Table 12-7. Field Descriptions for the NPC Report Form, Con't

Field	Description
Far End Site	(Combo box - displayed only if Facility is selected in the Alarm Type field.) Select the name of the DACS at the Far End.
Specify PM Options	(Radio buttons) Select the PM options to display in the report. The choices are: ■ NONE - For a report on all NPCs ■ NAS - For a report on NAS NPCs ■ CEPT - For a report on CEPT NPC ■ CEPT PA - For a report on PA type CEPT NPCs

NPC Report Form (Continued)

Sample Reports

Two default formats are provided. Each contains similar information, but the records are sorted on different fields. The two default NPC REPORT formats are:

- **NPC NUMBERS**—Contains records that are sorted by hierarchical NPC number. Alarm and service state information is included. The entries are sorted by NPC number. Figure 12-17 displays an example of this format.

May 98 15:34:37

```
-----CEP-San_Fran-----NPCS-----NPC NUMBERS-----
NPC  NPC_ID                               Svc  Type  FE_Site  Alm
02201 NPC02201                             IS   PA100              NONE
02202 02202NPC001                          IS   PA100              NONE
02203 NPC02203                             00S  PABD0              NONE
02204 NPC02204                             00S  PB100              NONE
02205 NPC02205                             IS   PA100              NONE
02206 NPC02206                             IS   PA100              NONE
```

Figure 12-17. Sample NPC Report - *NPC NUMBERS* Format

- **NPC IDS**—Contains a record of NPCs that are in the database. The NPC ID and various information, such as the type and status are included. The report lines are sorted by NPC ID. Figure 12-18 displays an example of this format.

May 98 15:35:34

```
-----CEP-San_Fran-----NPCS-----NPC IDS-----
NPC_ID                               NPC  Svc  Type  FE_Site  Alm
02202NPC001                          02202 IS   PA100              NONE
02224NPC001                          02224 00S  PB178              NONE
02226NPC001                          02226 IS   PA164              INFO
02227NPC001                          02227 IS   PA164              INFO
NPC02201                             02201 IS   PA100              NONE
NPC02203                             02203 00S  PABD0              NONE
```

Figure 12-18. Sample NPC Report - *NPC IDS* Format

Database Audit/Synchronization Report Form

Description

The DATABASE AUDIT/SYNCHRONIZATION report lists discrepancies found between the DND and DACS databases during the most recent database audit/synchronization operation. The selection criteria comprise **Site Name**, **Action**, **NPC Hier**, **Ext**, **ID**, **Date**, and **Time**. The form parallels the DATABASE AUDIT/SYNCHRONIZATION form. You need to enter the same **Action** and range on the report form as you did on the DATABASE AUDIT/SYNCHRONIZATION form in order to obtain the desired report.

Figure 12-19 displays a sample DATABASE AUDIT/SYNCHRONIZATION REPORT form.

The screenshot shows a Java applet window titled "AUDIT/SYNCHRONIZATION SEARCH CRITERIA". The applet has a dark background with white text and controls. At the top, there's a "dnd" logo. Below it, the "Site Name" is set to "CEF-San_Fran". The "WHICH?" section contains a list of actions: "Alarm Sync" (checked), "Channel Audit", "Channel Sync", "NPC Audit", "NPC Sync", and "Upload". The "Report Type" section has "Detailed" (checked) and "Exceptions Only". The "NPC Search Information" section has "NPC Specifier" with "ID" (checked), "Hier", and "Extd", and an "NPC" text field. The "LAST NPC Search Information" section is identical. The "Date and Time Search Information" section has "DATE" and "TIME" sections, each with "Day", "Month", "Year", "Hour", "Minute", "Second" dropdowns and a "Range" section with "=", ">", and "<" options. At the bottom, there are "Continue...", "Restart", and "Close" buttons. The status bar at the very bottom says "Unsigned Java Applet Window".

Figure 12-19. DATABASE AUDIT/SYNCHRONIZATION REPORT Form

Database Audit/Synchronization Report Form (Continued)

Field Descriptions The search criteria for the AUDIT/SYNCHRONIZATION Report form is described in the table below:

Table 12-8. Field Descriptions for the AUDIT/SYNCHRONIZATION Report Form

Field	Description
Site Name	(Combo box) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
Action	(Radio buttons) Select the type of Audit/Synchronization report to generate. Refer to the field descriptions section for the DATABASE AUDIT/ SYNCHRONIZATION chapter.
Report Type	(Radio buttons) Select the kind of information to display in the report. The choices are: ■ Detailed - Display a detailed report ■ Exceptions Only - Display a report only showing the differences between the databases
NPC Specifier/NPC	(Radio buttons/Text field) Select the NPC to display in the report. Refer to the field descriptions section for the NPC PROVISIONING chapter for additional information.
Date	(Combo boxes) Select the date criteria for the report. The Date fields are: ■ Day - Select the day (<i>01</i> through <i>31</i>) ■ Month - Select the month (<i>Jan</i> through <i>Dec</i>) ■ Year - Select the year (<i>1990</i> through <i>2037</i>)

(Continued on next page)

Database Audit/Synchronization Report Form (Continued)

Field Descriptions, Continued

Table 12-8. Field Descriptions for the AUDIT/SYNCHRONIZATION Report Form, Con't

Field	Description
(Date) Range	(Radio buttons) Select the Date range for the report. The choices are: ■ = - Displays alarms which occurred ON the Date ■ > - Displays alarms which occurred AFTER the Date ■ < - Displays alarms which occurred BEFORE the Date
Time	(Combo boxes) Select the time criteria for the report. The Time fields are: ■ Hour - Select the hour (00 through 23) ■ Minute - Select the minute (00 through 59) ■ Second - Select the second (00 through 59)
(Time) Range	(Radio buttons) Select the time Range to display in the report. The choices are: ■ = - Displays alarms which occurred ON the Time ■ > - Displays alarms which occurred AFTER the Time ■ < - Displays alarms which occurred BEFORE the Time

Database Audit/Synchronization Report Form (Continued)

Sample Report

Figure 12-20 displays a sample DATABASE AUDIT/SYNCHRONIZATION Report.

```
12 May 98 15:41:54
-----CEF-Chicago-----AUDIT/SYNCHRONIZATION-----RESULTS-----
Action: Channel Audit      Date 12 May98 Time:
                               12:30:03

NPC: 0050 ID:      NONE                               Channel: 08

      -Local- Unconnected -Frame-
Mismatch:      Unconnected From side connected to 0055/011
```

Figure 12-20. Sample DATABASE AUDIT/SYNCHRONIZATION Report

Echoed Response Processing Report Form

Description

The ECHOED RESPONSE PROCESSING Report lists messages that are received by the DND, and were initiated by a DACS independently; for example, they report changes in provisioning that were not in response to user requests through the DND.

The form allows you to search by type of message, date and time. On this form, the **Site Name** is a mandatory entry.

Figure 12-21 displays a sample ECHOED RESPONSE PROCESSING REPORT form.

The screenshot shows a Java applet window titled "ECHOED RESPONSE PROCESSING SEARCH CRITERIA". The window has a dark background with white text and controls. At the top, there is a "Site Name" dropdown menu with "CEF-San_Fran" selected. Below this, there are two main sections: "WHICH?" and "DATE". The "WHICH?" section contains a group box labeled "ERP Type:" with three radio buttons: "All" (selected), "Circuit", and "Test Access". The "DATE" section contains two rows of date and time pickers. The first row is for "DATE" with "Day:", "Month:", and "Year:" dropdowns, and a "Range:" section with radio buttons for "=", ">", and "<". The second row is for "TIME" with "Hour:", "Minute:", and "Second:" dropdowns, and a similar "Range:" section. At the bottom of the form, there are three buttons: "Continue ...", "Restart", and "Close". The window's title bar includes standard window controls (minimize, maximize, close) and a status bar at the bottom that reads "Unsigned Java Applet Window".

Figure 12-21. ECHOED RESPONSE PROCESSING REPORT Form

Echoed Response Processing Report Form (Continued)

Field Descriptions The search criteria for the ECHOED RESPONSE PROCESSING Report form is described in the table below:

Table 12-9. Field Descriptions for the ECHOED RESPONSE PROCESSING Report Form

Field	Description
Site Name	(Combo box) Select the name of the DACS where the report will be processed. Clicking this field will display a list of DACS names.
ERP Type	(Radio buttons) Select the ERP messages to display in the report. The choices are: ■ All - Display all ERP messages ■ Circuit - Display all Circuit ERP messages ■ NPC - Display all NPC ERP messages ■ Test Access - Display all test access ERP messages
Date	(Combo boxes) Select the date criteria for the report. The Date fields are: ■ Day - Select the day (<i>01</i> through <i>31</i>) ■ Month - Select the month (<i>Jan</i> through <i>Dec</i>) ■ Year - Select the year (<i>1990</i> through <i>2037</i>)
(Date) Range	(Radio buttons) Select the date Range for the report. The choices are: ■ = - Displays alarms which occurred ON the Date ■ > - Displays alarms which occurred AFTER the Date ■ < - Displays alarms which occurred BEFORE the Date

(Continued on next page)

Echoed Response Processing Report (Continued)

Field Descriptions, Continued

Table 12-9. Field Descriptions for the ECHOED RESPONSE PROCESSING Report Form, Con't

Field	Description
Time	(Combo boxes) Select the time criteria for the report. The Time fields are: ■ Hour - Select the hour (00 through 23) ■ Minute - Select the minute (00 through 59) ■ Second - Select the second (00 through 59)
(Time) Range	(Radio buttons) Select the time Range to display in the report. The choices are: ■ = - Displays alarms which occurred ON the Time ■ > - Displays alarms which occurred AFTER the Time ■ < - Displays alarms which occurred BEFORE the Time

Sample Report

Figure 12-22 displays a sample ECHOED RESPONSE PROCESSING report.

```

12May 98  15:45:05

-----CEF-Chicago-----ECHOED RESPONSE PROCESSING-----RESULTS-----
Date      Time      Type Action      Identifier
09Apr98  14:11:03  CKT  ACTIVATE    ERP 02213-001 02215-004 BW/03 FDX:0
The command completed successfully

09Apr98  14:21:51  CKT  DEACTIVATE  No matching In-svc Ckt to DEACTIVATE
No in service circuit from NPC 02218 / 6 to NPC 02213 / 19 to DEACTIVATE

09Apr98  14:21:58  CKT  DEACTIVATE  No matching In-svc Ckt to DEACTIVATE
No in service circuit from NPC 02218 / 8 to NPC 02213 / 21 to DEACTIVATE

```

Figure 12-22. Sample ECHOED RESPONSE PROCESSING Report

Intertie Reports

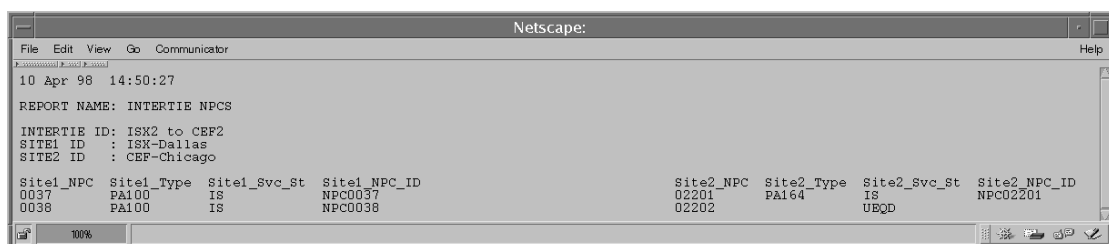
Description

Intertie reports do not use a report form. They are retrieved from selecting the choice in the Intertie pull-down menu. Click the intertie bubble and select the desired choice. The report is automatically generated in a separate Netscape window.

Types

The two types of Intertie reports are:

- Intertie NPC Report - displays a listing of NPCs assigned to the intertie. Figure 12-23 displays a sample INTERTIE NPC report



Site1_NPC	Site1_Type	Site1_Svc_St	Site1_NPC_ID	Site2_NPC	Site2_Type	Site2_Svc_St	Site2_NPC_ID
0037	PA100	IS	NPC0037	02201	PA164	IS	NPC02201
0038	PA100	IS	NPC0038	02202	UBQD		

Figure 12-23. Sample INTERTIE NPC Report

- Intertie Alarm Report - displays a listing of NPCs assigned to that intertie which are in alarm. Figure 12-24 displays a sample INTERTIE ALARM report



Site1_NPC	Site1_Sev	Site1_Alm_Sum	Site1_NPC_ID	Site2_NPC	Site2_Sev	Site2_Alm_Sum	Site2_NPC_ID
0037	MAJ	PBA	NPC0037				
0038	MAJ	PBA	NPC0038				

Figure 12-24. Sample INTERTIE ALARM Report

New Alarm Summary Report

Description

The NEW ALARMS SUMMARY report also does not use a report form. Reports are generated by clicking on the **New Alarm Summary...** button on the DND Task Bar. The report only displays new alarms that have occurred since:

- You have logged in
- The previous display of a NEW ALARMS SUMMARY report

When a new alarm occurs in the DACS network, a red arrow appears on the **New Alarm Summary...** button on the DND Task Bar, as shown in Figure 12-25. The color of the Alarm Status Indicator (ASI) represents the highest alarm severity currently in the DACS network.



Figure 12-25. New Alarm Summary Button

Alarm Summary Window

When **New Alarm Summary...** is clicked, an ALARM SUMMARY window appears on the screen displaying buttons for each DACS in the DACS network. These buttons behave similarly to the **New Alarm Summary...** button. Each alarm summary button displays the DACS name with the ASI, indicating the highest alarm severity on the particular DACS.

Alarm summary buttons displaying the red arrow indicate a new alarm has occurred on that particular DACS. When the button is clicked, the red arrow disappears and the New Alarm Summary report is displayed in a separate Netscape window.

Once the button is clicked, it cannot be clicked again until a new alarm occurs on the DACS and the red arrow reappears on the button.

(Continued on next page)

New Alarm Summary Report (Continued)

Alarm Summary Window, Continued

Figure 12-26 displays the ALARM SUMMARY Window. In this example, there are no new alarms for **CEF-San_Fran**, so its button is inactive.

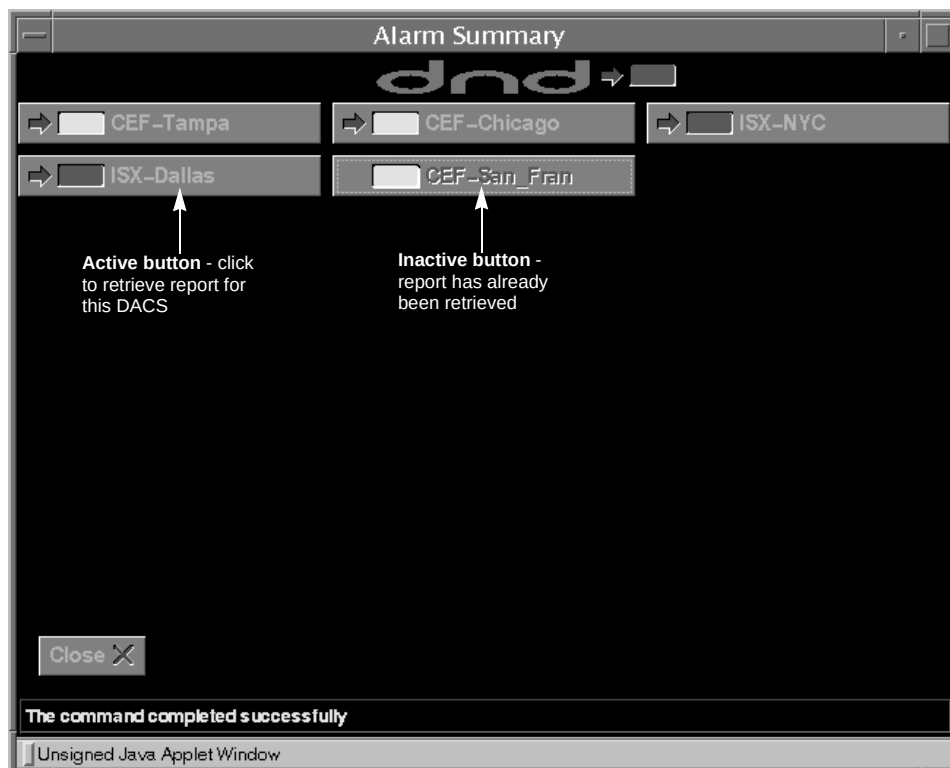


Figure 12-26. Alarm Summary Window

Contents

■ Background	13-3
Introduction	13-3
Objectives	13-3
Related tasks	13-3
Related information	13-4
■ Test Groups	13-5
Description	13-5
Test Group Constraints	13-5
Circuits Not Supported	13-5
Note on Diagrams	13-5
■ Monitor Test Access	13-6
Mapped Test Access	13-6
Mapped Monitor Mode Diagram	13-6
■ Monitor Test Access	13-7
Unmapped Test Access	13-7
Unmapped Monitor Mode Diagram	13-7

(Continued on next page)

Contents

Insertion Word	13-8
Terminate in TO Direction	13-8
Terminate in FROM Direction	13-9
Terminate in BOTH Directions	13-9
■ Split Test Access	13-10
Description	13-10
Split Mode Diagram	13-10
Termination in the TO Direction	13-11
Termination in the FROM Direction	13-12
Termination in BOTH Directions	13-13
■ HUB Test Access	13-14
Description	13-14
Hub DACS	13-15
Remote DACS	13-15
■ The LOOP Action	13-16
Description	13-16
■ Test Access Form	13-17
Test Access Form Sample	13-17
Field Descriptions	13-18
Test States	13-23
Allowed Test State Sequences	13-23

Background

Introduction

Test Access provides a capability to connect a test object to an object under test. An object under test can be either a circuit or an unmapped channel.

Typically, you enter test access when a transmission problem is discovered in an existing circuit. The **Action** field on the TEST ACCESS form allows you to specify the type of test connection needed to diagnose the problem circuit.

**NOTE:**

Test Access procedures and examples for DND Forms Interface can be found in Appendix N.

Objectives

This chapter provides background information to help you perform the following:

1. Place a circuit or unmapped channels in Monitor or Split test access modes
2. Terminate or Underminate a test group signal
3. Release a circuit from Test Access
4. Place a test group in Loop mode
5. Place a test group in Hub mode

Related tasks

For related tasks, see the following General Tasks:

- GT 130: Performing Circuit Test Access in Monitor Mode
 - GT 131: Performing Unmapped Test Access in Monitor Mode
 - GT 132: Performing Test Access in Split Mode
 - GT 133: Performing a HUB Test Access Connection
 - GT 134: Terminating or Underminating the Test Group Signal
 - GT 135: Releasing a Test Access Connection
 - GT 136: Looping a Test Group Signal
-

Background (Continued)

Related information

For related information see:

- *DACS II and DACS II ISX Operations and Maintenance Manuals*
 - Appendix N
-

Test Groups

Description

A test group is the object used to test the circuit (Test Object). Test access in the DND GUI uses only Test Group (TG) to set up the test access. In TG access, you must have connected test equipment to one or more NPCs.

You identify the NPCs to be used by the test group and supply the number of the first channel to be used in each NPC. The DND checks the bandwidth of the object under test, provisions the specified NPC(s) as a single test group, and connects the appropriate number of channels to the object under test. When you *RELEASE* the test group, the DND deletes it.



CAUTION:

*Some of these Test Access **Actions** can affect traffic in the DACS network. Consult the DACS II and DACS II ISX Operations and Maintenance Manuals to determine which actions are service-affecting.*

Test Group Constraints

The constraints on TG access are as follows:

- Deletion of the test group after use is automatic; however, if the access is interrupted by a failure, the TG might remain provisioned.
- The test group is created with bandwidth equal to the bandwidth of the object under test.

Circuits Not Supported

Test access on the DND GUI does not support the following circuits:

- Clear DS1/E1
- A node in a real or virtual multipoint circuit. However, the EFTs can be tested.

Note on Diagrams

The logical diagrams shown in the following sections apply to two-way circuits. You can derive the equivalent diagrams for one-way circuits by eliminating the second direction (Rx to Tx) and all the connections to it. They are drawn from an internal point of view. An Rx from an external point of view; for example, a receiving point for line transmission, becomes the Tx for cross-connection within the DACS.

Monitor Test Access

Mapped Test Access

The most common type of access is *MONITOR*. It allows test equipment to “listen” to an existing circuit without interrupting transmission on the circuit. Signals from the FROM and the TO sides are communicated along their intended route, but are also received at the test object.



NOTE:

Figure 13-2, Figure 13-3, Figure 13-3 presume a bandwidth of 1. For their $N \times 64$ kbps equivalents, imagine that each channel and its connection becomes n channels and connections.

Mapped Monitor Mode Diagram

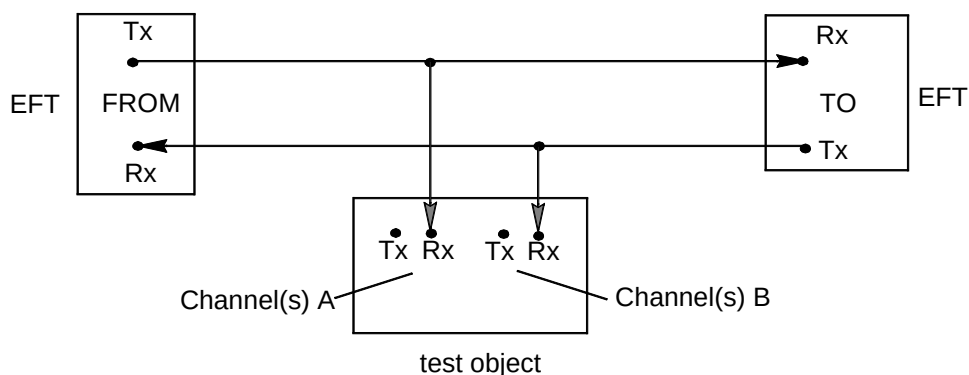


Figure 13-1. Illustration Of Mapped Monitor Test Access

In Figure 13-2, the normal circuit, which is in this case duplex, sends data from the FROM side Tx to the TO side Rx, and from the TO side Tx to the FROM side Rx.

A test connection in *MONITOR Status* joins Channel(s) A and Channel(s) B Rx of the test object to the circuit connection. Normal transmission on the circuit is received at both the TO side Rx and a test object Rx, and at both the FROM side Rx and a test object Rx. If the circuit were half-duplex, only the TO side Rx and the test object Rx would receive.

Monitor Test Access

Unmapped Test Access

Unmapped test access allows test equipment to “listen” to traffic from a channel or range of channels without interrupting channel transmission.

**NOTE:**

For their $N \times 64$ kbps equivalents, imagine that each channel and its connection becomes n channels and connections

Unmapped Monitor Mode Diagram

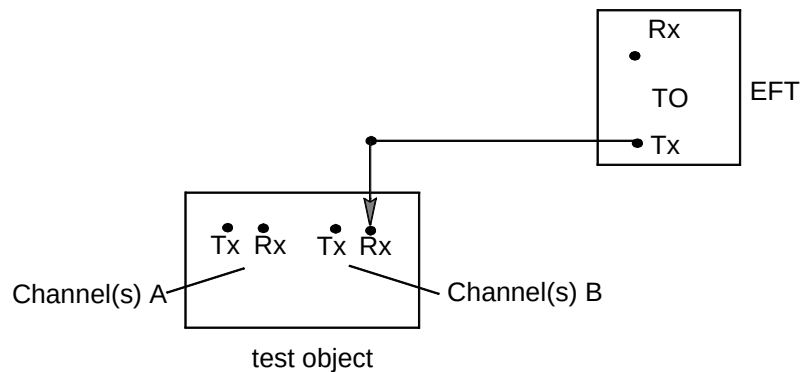


Figure 13-2. Illustration Of Unmapped Monitor Test Access

In Figure 13-2, the unmapped channel sends data from the TO side Tx to the Test Object.

Monitor Test Access (Continued)

Insertion Word

If you have not entered an **Insertion Word** in either the NPC or circuit provisioning forms, the DACS uses its own default; typically, the UMC. An **Insertion Word** entered in NPC provisioning takes precedence over the DACS default, and an **Insertion Word** entered in circuit provisioning takes precedence over either of those.

Terminate in TO Direction

If *TERMINATE* is applied to the TO side, the TO Rx receives only the **Insertion Word** signal; for example, traffic is replaced by an **Insertion Word** on that side. However, the test object Rx continues to monitor normal traffic on that side.

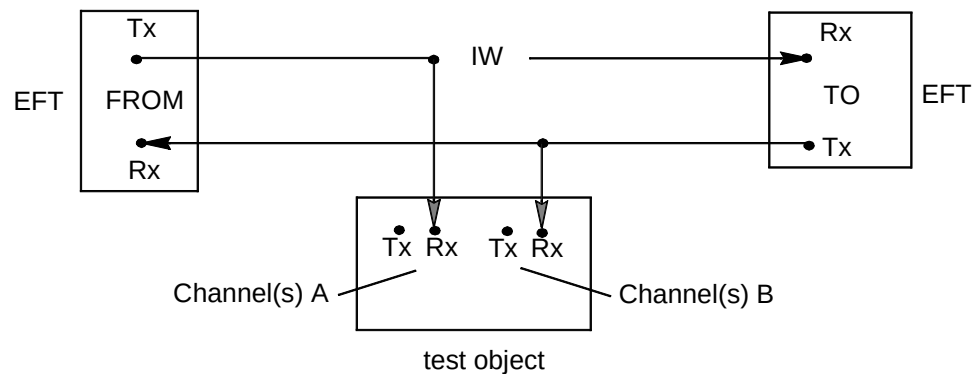


Figure 13-3. Illustration Of Monitor Test Access, TLA Applied in T Direction

Monitor Test Access (Continued)

Terminate in FROM Direction

The same may be said of FROM side TLA.

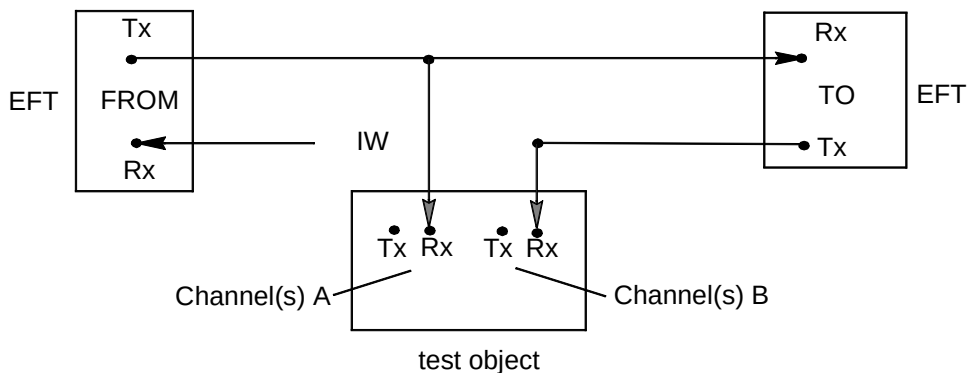


Figure 13-4. Illustration Of Monitor Test Access, TLA Applied in F Direction

Terminate in BOTH Directions

If TLA is applied to both sides, then no normal traffic is received over the circuit being tested, but the traffic is received at the test object.

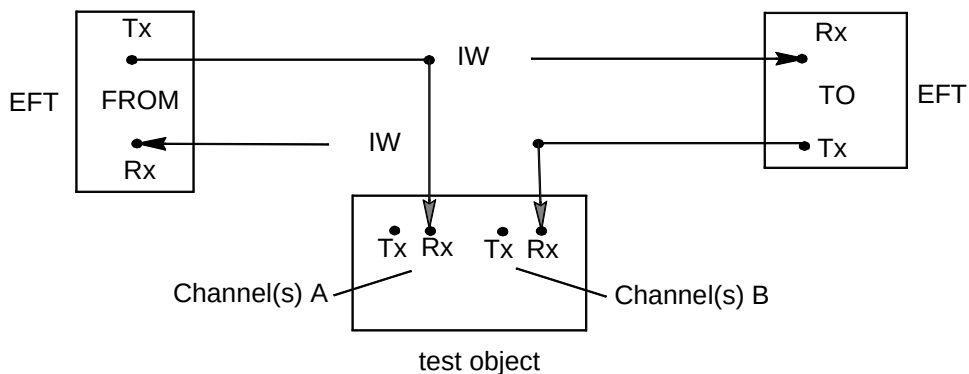


Figure 13-5. Illustration Of Monitor Test Access, TLA Applied in B(oth) Directions

Split Test Access

Description

In *SPLIT* access, transmission through the object under test is broken and the test signal is inserted at the break.

Split Mode Diagram

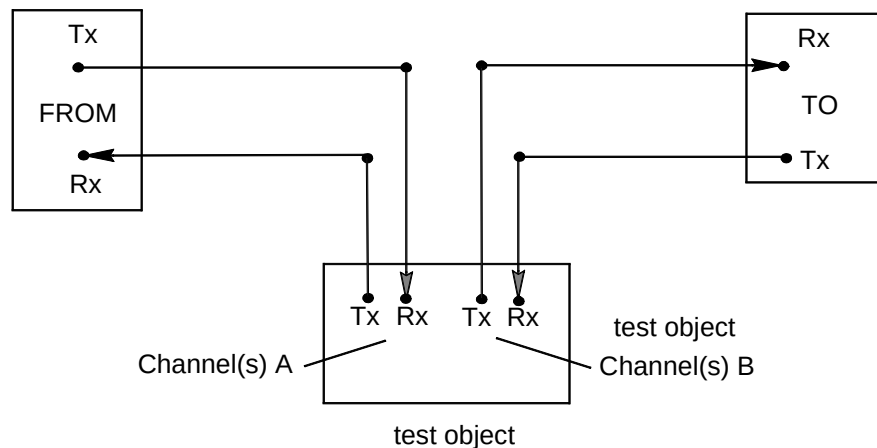


Figure 13-6. Illustration Of Split Test Access

The connection is completed through Channel(s) A by connecting Channel(s) A Tx to the FROM side Rx, and through Channel(s) B by connecting Channel(s) B Tx to the TO side Rx. Moreover, transmission from FROM Tx to TO Rx and from TO Tx to FROM Rx are broken. Although the old circuit still nominally exists, the TO side and the FROM side are both connected to the test object. The TO and FROM sides can transmit to each other only if the test object passes on the transmission externally to the DACS.

The test object both sends and receives. User test equipment can send signals to both the FROM and the TO sides of the object under test simultaneously and independently, simulating the old circuit if such simulation is desired.

Split Test Access (Continued)

Termination in the TO Direction

If TLA is applied to the TO side, the traffic from the channel(s) B Tx to the TO side Rx is replaced with the **Insertion Word**.

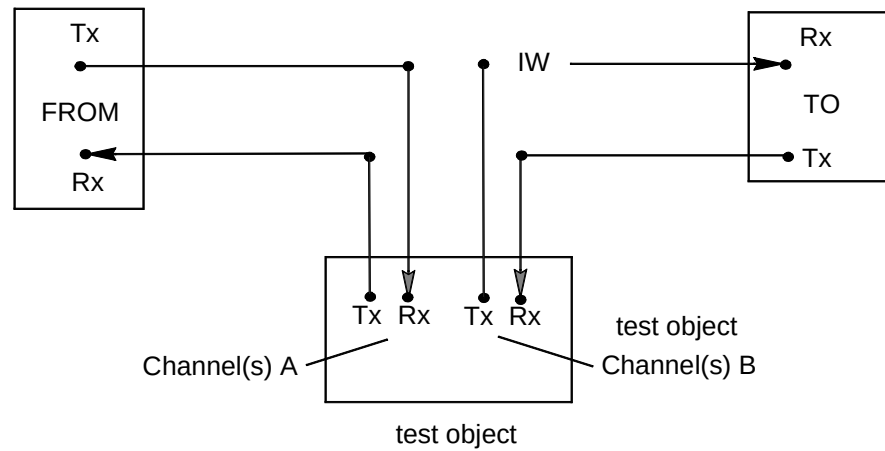


Figure 13-7. Illustration Of Split Test Access, TLA Applied in T Direction

Termination in the FROM Direction

The diagram illustrates a test object with two channels, Channel(s) A and Channel(s) B. Each channel contains a Tx (Transmitter) and an Rx (Receiver) component. Channel(s) A is connected to a FROM block (Tx and Rx) via an IW (Interconnect) block. Channel(s) B is connected to a TO block (Rx and Tx). The test object is labeled 'test object' at the bottom.

Figure 13-8. Illustration Of Split Test Access, TLA Applied in F Direction

Split Test Access (Continued)

Termination in BOTH Directions

If TLA is applied to both sides, there is still traffic from the FROM side Tx to Channel(s) A and from the TO side Tx to Channel(s) B.

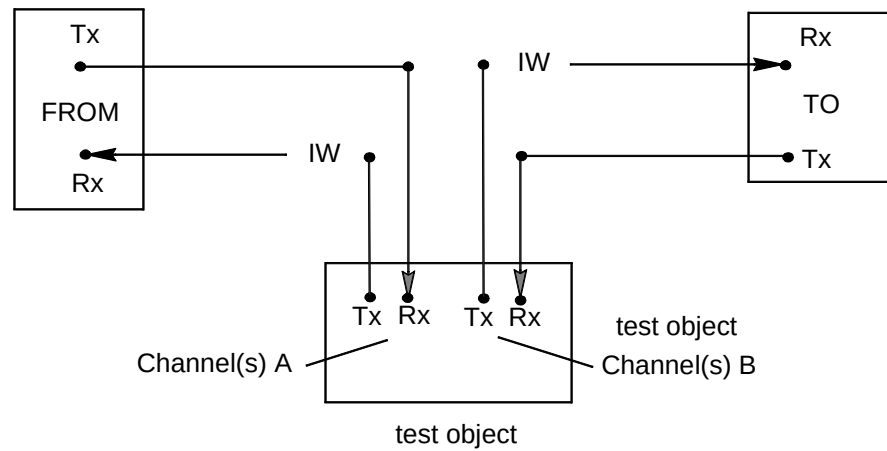


Figure 13-9. Illustration of Split Test Access, TLA Applied in B(oth) Directions

HUB Test Access

Description

The *HUB Action* provides a two-way cross-connection between some test object channels and other channels. With this capability, a remote test system in a hub office can have test access to a DACS located in other offices via the Hub DACS. The *HUB Action* is, in fact, a way of displacing test objects to remote DACSs.

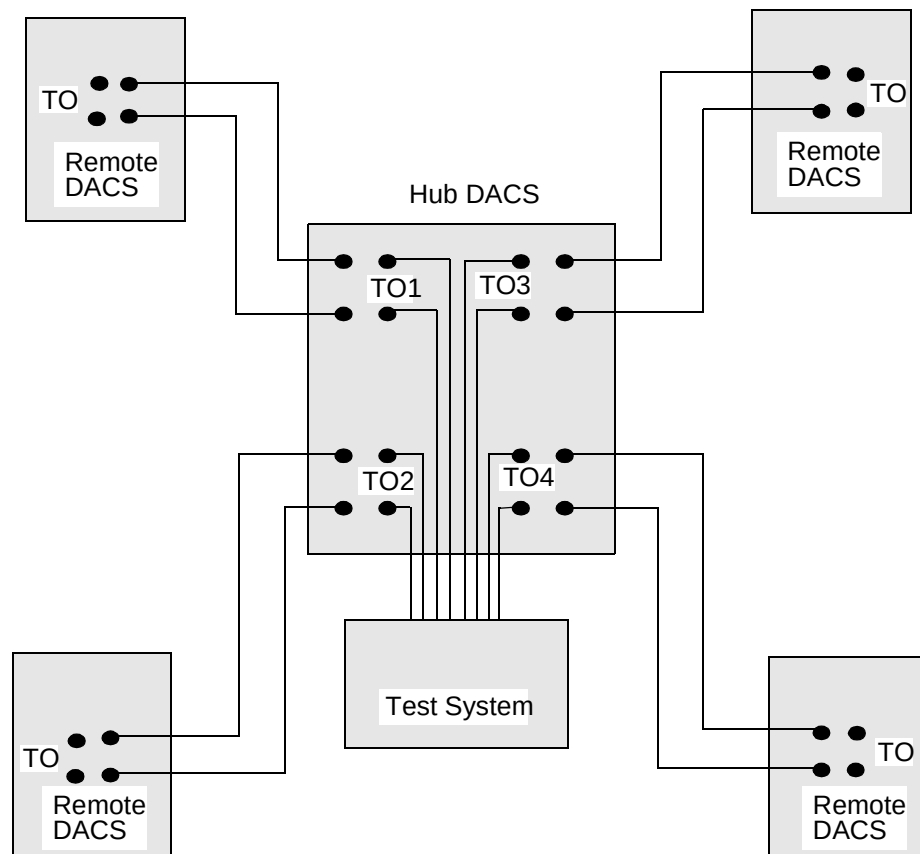


Figure 13-10. Illustration Of Hub Test Access

HUB Test Access (Continued)

Hub DACS

In Figure 13-10, channels for Test Objects 1 through 4 at the Hub DACS have been connected to a monitoring test system. In the Hub DACS, these channels have been provisioned as test objects and then have been cross-connected with a *HUB Action* to other EFTs, which lead to remote DACS.

Remote DACS

At a remote DACS, the far ends have been provisioned as test objects and may now be cross-connected to objects under test with a *MONITOR Action*. The monitoring is displaced to the test equipment at the Hub.

The LOOP Action

Description

The *LOOP Action* cross-connects a test object to itself. The test system can monitor and test the health of the test object. The channels of the test object are looped to themselves. The NPC and channels are test objects only for the duration of the loop and the test object cannot be used for a *MONITOR* or *SPLIT* while in the *LOOP* state.

Test Access Form

Test Access Form Sample

Figure 13-11 provides an example of a completed TEST ACCESS form.

Site Name: CEF-Tampa Action: MONITOR

TEST OBJECT

Object Type: TG Initial Test State: IDLE Object Type is always TG
TEST OBJECT's Initial Test State

Trunk Conditioning: Insertion Word:

FROM NPC
ID: NPC02209
NPC Type: PB100 Hier: 02209 Ext: 0209

TO NPC
ID: NPC02317
NPC Type: DE100 Hier: 02317 Ext: 0257

Bandwidth: 1

FROM Channel: 07
TO Channel: 08

OBJECT UNDER TEST

Circuit ID: NewCKT

FROM NPC
ID: NPC02209
NPC Type: PB100 Hier: 02209 Ext: 0209

TO NPC
ID: NPC02209
NPC Type: PB100 Hier: 02209 Ext: 0209

FROM Channel: 01
TO Channel: 02

Control Options

Reconcile
Mode: ☐ DND and DACS ☒ DND only ☐ DACS only

Back Continue Restart Close

? Continue with next section of the form

Unsigned Java Applet Window

Figure 13-11. TEST ACCESS Form, MONITOR Mode

Test Access Form (Continued)

Field Descriptions The field descriptions for the TEST ACCESS form are listed in the following table

Table 13-1. Field Descriptions for the TEST ACCESS Form

Field	Description
Site Name	(Combo box) Mandatory. Select the name of the DACS where the requested Action will take place. Clicking this field will display a list of DACS names. By default, the list appears alphabetically. To change the sorting order, modify the setting for the SORT_NAME_BY variable using the DND Forms Interface.
Action	(Combo box) Mandatory. Specifies the TEST ACCESS operation. The valid actions are: ■ <i>MONITOR</i> - Connects an object under test, and any <i>ACTIVE</i> or <i>ALTROUTED</i> circuit/channel(s) containing the object under test, to a test object. The test object will receive data from the object under test without disrupting traffic. The Test State field must be <i>RELEASE</i> or <i>SPLIT</i>. ■ <i>SPLIT</i> - Connects both transmit and receive FROM and TO sides of an existing two-way circuit/unmapped channel(s) to the test object. The FROM and TO sides can then be tested simultaneously and independently. ■ <i>HUB</i> - Connects a test object in such a way that the local DACS is used as a test access concentrator, with the local test object connected to a remote test object on another DACS. ■ <i>TERMINATE</i> - For a test object testing in the <i>MONITOR</i> or <i>SPLIT</i> mode, replaces the normal signal with the Insertion Word signal. The Direction field appears and you must enter a direction, when the Action is <i>TERMINATE</i> or <i>UNTERMINATE</i>.

(Continued on next page)

Test Access Form (Continued)

Field Descriptions, Continued

Table 13-1. Field Descriptions for the TEST ACCESS Form, Continued

Field	Description
Action, Con't	The extent of the replacement depends on the direction selected. You can select a replacement of the signal in the <i>TO</i> direction of the object under test, in the <i>FROM</i> direction or in <i>BOTH</i> directions for a two-way circuit. See also under the Direction field. ■ <i>UNTERMINATE</i> - Resumes the normal signal(s) when a <i>TERMINATE</i> has been in effect. As in the case of <i>TERMINATE</i>, the part of the circuit to be affected is specified by the Direction field. ■ <i>RELEASE</i> - is connects a test object from an object under test and makes the test object available for reuse. With the <i>OOS</i> option, the test object may be released even if it is out of service. ■ <i>LOOP</i> - Loops channels of a test object so that they can be tested.
Direction	(Radio buttons) The circuit ends for which Insertion Word is to be substituted for the normal signal when the <i>TERMINATE Action</i> is requested, or the circuit ends for which normal transmission is to resume when the <i>UNTERMINATE Action</i> is requested. This field only appears when you request a <i>TERMINATE</i> or <i>UNTERMINATE Action</i>. The choices are: ■ <i>FROM</i> - Replace the signal to the FROM channel with Insertion Word. ■ <i>TO</i> - Replace the signal to the TO channel with Insertion Word. ■ <i>BOTH</i> - Replace the signals to the FROM and TO channels with Insertion Word.

(Continued on next page)

Test Access Form (Continued)**Field
Descriptions,
Continued****Table 13-1. Field Descriptions for the TEST ACCESS Form, Continued**

Field	Description
OOS	(Check box) Appears for the <i>RELEASE Action</i> only. The values are: ■ <i>Selected</i> - DACS to allow the release request to succeed when the test group or an NPC of the object under test is out of service. ■ <i>Unselected</i> - Default. Allows DACS to deny the release request if the NPC is out of service.
Test Specifier	(Radio buttons) Not mandatory. Check and specify either a Circuit ID or Test Group Number. If the ACTION is <i>MONITOR</i> and the Test Specifier is left blank, then you will test an unmapped channel.
Initial Test State	(Read-only field) A display-only field indicating the operating status of the test object connections, as follows: ■ <i>IDLE</i> - Displayed when the test object is not in use. ■ <i>MONITOR</i> - Displayed when <i>MONITOR</i> access is in effect. ■ <i>SPLIT</i> - Displayed when <i>SPLIT</i> access is in effect. ■ <i>HUB</i> - Displayed when <i>HUB</i> access is in effect. ■ <i>LOOP</i> - Displayed when <i>LOOP</i> access is in effect. The Initial Test State field reflects the last successful Action.
Object Type	The type of test object. The valid types of objects are: ■ <i>TG</i> - The object is a test group, which will be automatically provisioned as required for test access.

(Continued on next page)

Test Access Form (Continued)**Field
Descriptions,
Continued****Table 13-1. Field Descriptions for the TEST ACCESS Form, Continued**

Field	Description
Number	(Text field) The number of the test object to be used for performing tests. The DND selects the number by default; however, you may enter a test group number. If the test group was provisioned, the fields corresponding to this number test group are filled in. ■ <i>Test Group</i> - DACS II Releases prior to 6.0 and DACS II ISX prior to 1.1 do not support this feature. The range is 1 through 400 with DACS II Generic 6.0 and later, and 1 through 100 for DACS II ISX.
Bandwidth	(Combo box) The bandwidth of the test object. ■ <i>Test Group</i> - If the object under test is an unmapped circuit, enter the desired bandwidth. For valid bandwidths, refer to the Bandwidth field description in the CIRCUIT PROVISIONING chapter. ■ <i>Mapped Channels</i> - If the object under test is a mapped circuit, the Bandwidth will be filled in automatically.
Trunk Conditioning	(Combo box) This field appears for all Actions except <i>HUB</i>. Enter the Trunk Conditioning Code for the <i>LOOP</i> or <i>MONITOR Actions</i> of a new Test Group. For valid Trunk Conditioning codes, refer to the Trunk Conditioning field description in the CIRCUIT PROVISIONING chapter.
Insertion Word	(Combo box) This field complements Trunk Conditioning. For valid codes, refer to the Insertion Word field description in the CIRCUIT PROVISIONING chapter.

(Continued on next page)

Test Access Form (Continued)**Field
Descriptions,
Continued****Table 13-1. Field Descriptions for the TEST ACCESS Form, Continued**

Field	Description
(Test Object FROM/ Object Under Test TO) NPC Specifier/ NPC	(Radio buttons and text field) Mandatory. Fields for specifying the NPCs of the Test Object and Object Under Test. The three choices for entering NPC data are: ■ <i>ID</i> - If selected, Enter the NPC name in the NPC: field. (For OBJECT UNDER TEST mapped channels, this is a read-only field.) ■ <i>Hier</i> - If selected, enter the NPC's hierarchical number in the NPC: field ■ <i>Extd</i> - If selected, enter the NPC's extended number in the NPC: field.
(Test Object FROM/ Object Under Test TO) FROM Channel/ TO Channel	(Test field) 2 numeric digits. Enter the first channel to be used as the FROM side and TO side. For mapped test access, the OBJECT UNDER TEST Channel fields are read-only. The TEST OBJECT and the OBJECT UNDER TEST Channel fields will always be <i>Contiguous</i> .
New Test State	(Read-only field) A display-only field indicating the new operating status of the test object connections, as follows: ■ <i>IDLE</i> - Displayed when the test object is not in use. ■ <i>MONITOR</i> - Displayed when <i>MONITOR</i> access is in effect. ■ <i>SPLIT</i> - Displayed when <i>SPLIT</i> access is in effect. ■ <i>HUB</i> - Displayed when <i>HUB</i> access is in effect. ■ <i>LOOP</i> - Displayed when <i>LOOP</i> access is in effect.

Test Access Form (Continued)

Test States

With the exception of *TERMINATE* and *UNTERMINATE*, a TEST ACCESS **Action** requests a change in the **Test State**. **Test State** values can succeed each other only in a certain order; for example, certain **Actions** succeed only when requested from certain **Test States**.

Allowed Test State Sequences

The allowed **Test State** sequences are shown in Table 13-2.

To read the Test State Sequences table, follow these steps:

1. Look up the row of the current **Test State** down the left-hand column of the table.
2. Look up the column of the desired **Test State** across the top of the table.
3. Read the **Action** at the intersection of the row and column. A dash indicates that the **Action** is not allowed. **X** indicates the **Action** is allowed.

An attempt to enter an **Action** that is not allowed for the **Test State** results in the appropriate denial message.

Table 13-2. Allowed Test State Sequences

Current Test State	Desired Test State				
	MONITOR	SPLIT	HUB	LOOP	RELEASED
MONITOR	-	X	-	-	X
SPLIT	X	-	-	-	X
HUB	-	-	-	-	X
LOOP	-	-	-	-	X
RELEASED	X	-	X	X	-

Part II:

DND GUI General Tasks

Contents

■ Logging In to the DND GUI System	GT 20-1
■ Logging Out of the DND GUI System	GT 21-1
■ Setting the Time Zone	GT 22-1

Background

When to Use

Use this General Task to log in to the DND GUI system.

Before You Begin

Before you begin this task:

- Your login/password must already have been set up by the DND administrator using the Forms Interface
 - If this is a workstation that is connected to the DND over the LAN (i.e. not on the DND server) the login/password and set up of the user workspace on the workstation must have already been set up (see `setup_login`)
-

Related Information

For related information, refer to Chapter 2: Getting Started.

Instructions

Task

Complete the following steps to log in to the DND GUI system:

Step	Action	Reference
1	Move the mouse to a window-free spot on the working screen and right-click. The Workspace Menu appears on the screen.	
2	Select the <i>Programs</i> option from the Workspace menu. The Programs menu appears on the screen.	
3	Select <i>DND GUI</i> from the Programs menu. A Netscape window appears on the screen.	
4	Click the dnd user interface bookmark button on the Netscape Personal Toolbar to connect to the DND server and load the DND application. This bookmark has been previously set up to point to the URL of the DND application. Once clicked, a login form will appear on the screen.	
5	Enter your DND login name in the Login Name: field. A DND login should already be set up for you by the system administrator. You cannot gain access to the DND system without a login. The system administrator's default login name is <i>dacsadm</i> .	
6	Enter your DND password in the Password: field. The system administrator's default password is <i>dacs123</i> .	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
7	Click Execute. When the login and password have been verified, you will have access to the DND. Access is evident by noticing the following: ■ The Provisioning button and other buttons in the DND Task bar become active ■ The DND logo will automatically start flashing periodically ■ The DACS network map will appear in the DND Workspace  NOTE: If either the login or password is incorrect, the DND will not allow you access into the system.	
8	Stop! End of Task.	

Background

When to Use

Use this General Task to log out of the DND GUI system.

Before You Begin

Before you begin this task, you must already be logged in to the DND GUI system (GT 20).

Related Information

For related information, refer to Chapter 2: Getting Started.

Instructions

Task

Complete the following steps to log out of the DND GUI system:

Step	Action	Reference
1	Click on the Options button located on the DND Main screen. The Options menu appears on the screen.	
2	Select <i>Logoff</i> from the Options menu. Notice the following: ■ The DND login form appears on the screen ■ The DACS network map will disappear ■ The Provisioning button and other buttons in the DND Task bar become inactive ■ The DND logo will stop flashing	
3	Click Close on the login window and exit Netscape.	
4	Stop! End of Task.	

Background

When to Use

Typically, the time zone information is set on the Sun workstation at installation time and need not be reset during the life of the workstation. Time zone information and daylight savings time adjustments (if necessary) will take place automatically for most time zones around the world.

Use this General Task only if you have one of the following situations:

- You wish to change the default time zone for special applications, i.e., all users are in a time zone that is different from the location of the DND server.
- The installation procedure was unable to identify the proper time zone for your region.
- The automatic time zone adjustments made by the workstation are inaccurate and there is another time zone which better reflects the regional adjustments.



NOTE:

Once the time zone is adjusted manually using the DND's `timezone` command, you are obligated to update the time zone information on a yearly basis to update the daylight savings time information for that year.

Background (Continued)

Related Information

For related information, refer to:

- Chapter 2: Getting Started
 - Appendix C: Getting Started - DND Forms Interface
-

Instructions

Task

Complete the following steps to set the Time Zone:

Step	Action	Reference
1	Log in the DND Forms Interface as an administrator and verify that the current year is displayed in the top line of the menu. If necessary, use the DND Forms Interface's SYSTEM ADMINISTRATION form to set the date and time	Appendix D
2	Log off from DND.	Appendix C
3	Log in as dacsadm .	Appendix C
4	Type timezone to start the timezone command.	
5	A series of menus are displayed to facilitate time zone selection. Enter the menu item that corresponds to the appropriate country or time zone.  NOTE: Help provides additional information about menu items.	
6	Fill out the menu items to select time zone parameters.	
7	You will be prompted to confirm time zone modification and restart DND. Type y to confirm the time zone modification restart.	
8	Log in as a DND administrator and verify that the correct time and date is displayed on the top line of the main menu.	Appendix C
9	Stop! End of Task.	

Contents

- Replacing the DND Workspace Background Image GT 30-1
-

Replacing the DND Workspace Background Image

30

Background

When to Use	Use this General Task to change the DND Workspace background image.
Before You Begin	Before you begin this task, you must already have the replacement image in the .gif format saved on your system.  NOTE: If possible, replace the background image before provisioning network elements and interties.
Related Information	For related information, see Chapter 3: DND Main Window and Form Navigation.

Instructions

Task Complete the following steps to replace the DND Workspace background image:

Step	Action	Reference
1	Right-click and hold in the CDE window. A pull-down menu appears on the screen.	
2	Select <i>TERMINAL</i> from the menu. A terminal window appears on the screen.	
3	At the UNIX prompt, type the following command: <code>unix> cd /usr/ns-home/docs/dnd</code> This will change your present directory to the one indicated above.	
4	At the UNIX prompt, type the following command: <code>unix> ls</code> A listing of all files associated with the browser will appear in the window. The background image is called main_map.gif .	
5	Save the replacement image with the filename main_map.gif . At the UNIX prompt, type the following command to move this picture into the /usr/ns-home/docs/dnd directory: <code>unix> mv main_map.gif /usr/ns-home/docs/dnd</code>  CAUTION: <i>Before doing this, you may want to rename the original background image or move it to another directory to avoid overwriting it.</i>	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
6	The size of the image may affect the size of the DND Workspace. Ideally, the replacement image should have the same dimensions as the original image. If this is not the case, perform ONE of the following: ■ If the replacement image is larger than the original image, edit the DND_browser.html file: — Change the following parameter values with values that correspond to the size of your image: WIDTH = 1050 and HEIGHT = 810 ■ If the replacement image is smaller than the original image and network elements exist in the DND Workspace: 1. Drag the network elements to the left side of the DND Workspace 2. Click Workspace and select <i>Save Workspace</i> 3. Move the replacement image to the /usr/ns-home/docs/dnd directory (see Step 5) 4. Drag the network elements to the desired positions on the DND Workspace 5. Click Workspace and select <i>Save Workspace</i>	
7	Stop! End of Task.	

Contents

■ Creating a DACS, X.25 Link	GT 50-1
What's Next for Options for End User Provisioning	GT 50-4
■ Creating a DACS, SNIDER Link	GT 51-1
■ Restoring a DACS	GT 52-1
■ Restoring an X.25 Backup Link	GT 53-1
■ Modifying a DACS	GT 54-1
■ Changing the Site Name of a DACS	GT 55-1
■ Removing a DACS	GT 56-1
■ Deleting a DACS	GT 57-1

Background

When to Use

Use this General Task to create a DACS representation in the DND database. The DND will use X.25 to communicate to this DACS. Upon completion of this task, the DACS communications information will be inserted into the database and a DND database will be created for storage of DACS equipment and circuit information. If the DND GUI is running, then a new DACS icon will appear on the DND Workspace in the upper left hand corner.

Before You Begin

Before you begin this task, you must have logged on the DND GUI (GT 20).



NOTE:

Only a DND administrator (e.g. login=*dacsadm*) may perform this procedure.

Related Information

For related information, refer to Chapter 5: DACS Provisioning.

Instructions

Task

Complete the following steps to create a DACS using an X.25 link:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select DACS Provisioning... The DACS PROVISIONING form will appear on the screen.	
3	Select CREATE from the Action: field.	
4	Click Continue... . The New Site Name: field appears on the form.	
5	Type a desired site name in the New Site Name: field.	
6	Click Continue... . DND Processing Options and DACS Information boxes appear on the form.	
7	Select a Conditional ERP: and a Programmable Priority: option.	
8	Enter an Alarm Sync: value.	
9	Select a DACS Type: option.  NOTE: The DND Language: option defaults to MML. The PDS language cannot be used.	
10	Select the NPC Addressing: option.	
11	Enter the DACS software generic number in the Generic: field.	
12	Select X.25 for the Protocol: option.	
13	(Optional) Enter the physical location of the DACS in the Location: field.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
14	Click Continue... . The X.25 Communications Protocol Information box will appear on the form. The X.25 Link Status Information box displays the status of each of the four possible X.25 links. The fields within these boxes are read-only.	
15	Select the Primary Line: option. Enter the corresponding address/phone number in the associated Network Address: field.	
16	(Optional) Select the X.25 line as the Backup Line: You have the option of selecting NONE for a Backup Line. Enter the corresponding address/phone number in the Network Address: field.	
17	Click Continue... . All fields on the form become read-only.	
18	Verify the information on the form to ensure you are creating the desired DACS.	
19	When you have approved the information on the form, click Execute . On the Network Map, the new DACS icon will appear in the upper left corner of the DND Workspace.	
20	Drag the DACS icon to the desired position on the DND Workspace. The Workspace button in the DND Task bar becomes active.	
21	Click Workspace and select the <i>Save to Server</i> selection to save the new network map in the DND database.	
22	Stop! End of Task.	
	Select a What's Next option.	SE 50-1

SE 50-1: What's Next Options for DACS Provisioning

What's Next?

Perform one of the following options below upon completion of the task:

Options	Reference
Click New Action to perform a new action on the current DACS.	GT 50 - GT 57
Click New DACS to create a new DACS.	
Click Restart to clear and initialize the form and select an Action: for another DACS.	
Click Close to exit the DACS PROVISIONING form.	

Background

When to Use

Use this General Task to create a DACS representation in the DND database. The DND will use SNIDER to communicate to this DACS. Upon completion of this task, the DACS communications information will be inserted into the database and a DND database will be created for storage of DACS equipment and circuit information. If the DND GUI is running, then a new DACS icon will appear on the DND Workspace in the upper left hand corner.

Before You Begin

Before you begin this task, you must have logged on the DND GUI (GT 20).

**NOTE:**

Only a DND administrator (e.g. login=*dacsadm*) may perform this procedure.

Related Information

For related information, refer to Chapter 5: DACS Provisioning.

Instructions

Task

Complete the following steps to create a DACS using a SNIDER link:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select DACS Provisioning... The DACS PROVISIONING form will appear on the screen.	
3	Select CREATE from the Action: field.	
4	Click Continue... . The New Site Name: field appears on the form.	
5	Type a desired site name in the New Site Name: field.	
6	Click Continue... . DND Processing Options and DACS Information boxes appear on the form.	
7	Select a Conditional ERP: and a Programmable Priority: option.	
8	Enter an Alarm Sync: value.	
9	Select a DACS Type: option.  NOTE: The DND Language: option defaults to MML. The PDS language cannot be used.	
10	Select the NPC Addressing: option.	
11	Enter the DACS software generic number in the Generic: field.	
12	Select SNIDER for the Protocol: option.	
13	(Optional) Enter the physical location of the DACS in the Location: field.	
14	Click Continue... . The SNIDER Communications Protocol Information box will appear on the form.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
15	Select the desired SNIDER Line Number: option. The dialog window lists only the asynchronous port link numbers which are not in-use.	
16	Select the Baud Rate: option.	
17	Click Continue... . All fields on the form become read-only.	
18	Verify the information on the form to ensure you are creating the desired DACS.	
19	When you have approved the information on the form, click Execute .	
20	Stop! End of Task.	
	Select a What's Next option.	SE 50-1

Background

When to Use

Use this General Task to restore a DACS in the DND system to service.

When the task is complete, the DND will be communicating to the DACS and the automatic alarm sync may start, if provisioned.

Before You Begin

Before you begin this task, you must have a DACS created in the DND system (GT 50 or GT 51) which is currently Out-of-Service.

Related Information

For related information, refer to Chapter 5: DACS Provisioning.

Instructions

Task

Complete the following steps to restore a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select DACS Provisioning... The DACS PROVISIONING form will appear on the screen.	
3	Select <i>RESTORE</i> from the Action: field.	
4	Click Continue... . The Current Site Choices: field appears on the form.	
5	Select the site name from the Current Site Choices: field.	
6	Click Continue... . All of the DACS provisioning information fields appear on the form in read-only mode.	
7	Verify the information on the form to ensure you are restoring the desired DACS.	
8	When you have approved the information on the form, click Execute .	
9	Stop! End of Task.	
	Select a What's Next option.	SE 50-1

Background

When to Use

Use this General Task to use the X.25 backup link for establishing the main communications link between DND and DACS and bring the DACS into service. If the backup link goes down, the primary link will act as the secondary link.

Before You Begin

Before you begin this task, you must have a DACS created in the DND database (GT 50 or GT 51) which is currently Out-of-Service. In addition, a backup line and corresponding Network Address must have been provisioned.

Related Information

For related information, see Chapter 5: DACS Provisioning.

Instructions

Task

Complete the following steps to restore a DACS using the backup link:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select DACS Provisioning... The DACS PROVISIONING form will appear on the screen.	
3	Select <i>BRESTORE</i> from the Action: field.	
4	Click Continue... . The Current Site Choices: field appears on the form.	
5	Select the site name from the Current Site Choices: field. Click on the field and select a choice from the dialog window.	
6	Click Continue... . All of the DACS provisioning information fields appear on the form in read-only mode. Only the Backup Line: field may be edited.	
7	Select the appropriate Backup Line: option.	
8	Verify the information on the form to ensure you are restoring the desired DACS.	
9	When you have approved the information on the form, click Execute .	
10	Stop! End of Task.	
	Select a What's Next option.	SE 50-1

Background

When to Use	Use this procedure to modify the DACS provisioning information on a DACS that is already created (GT 50 or GT 51).

Before You Begin	Before you begin this task, you must have a DACS created (GT 50 or GT 51) or restored (GT 52 or GT 53) in the DND system.

Related Information	For related information, see Chapter 5: DACS Provisioning.

Instructions

Task

Complete the following steps to modify a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select DACS Provisioning... The DACS PROVISIONING form will appear on the screen.	
3	Select <i>MODIFY</i> from the Action: field.	
4	Click Continue... . The Current Site Choices: field appears on the form.	
5	Select the site name from the Current Site Choices: field.	
6	Click Continue... . The DND Processing Options box and DND Information box displays options which the user may modify.	
7	Modify all necessary fields. Fields listed are: ■ Conditional ERP: ■ Programmable Priority: ■ Alarm Sync: ■ DACS Type:* ■ NPC Addressing:* ■ Generic:* ■ Protocol:* ■ Location:  NOTE: If you are modifying any of these (*) fields, you must place the DACS in the OOS state.	GT 56

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
8	Click Continue... . The X.25 Communication Protocol box or the SNIDER Communication Protocol box will appear.	
9	Perform one of the following: ■ For an X.25 connection, edit the X.25 Line and Network Address fields. ■ For a SNIDER connection, edit the SNIDER Line and Baud Rate fields.	
10	Click Continue... . All of the DACS provisioning information fields appear on the form in read-only mode.	
11	Verify the information on the form to ensure you are modifying the desired DACS.	
12	When you have approved the information on the form, click Execute .	
13	Stop! End of Task.	
	Select a What's Next option.	SE 50-1

Background

When to Use Use this General Task to change the site name of a DACS previously created (GT 50 or GT 51) in the DND database.

Before You Begin Before you begin this task, you must have a DACS created in your DND.

Related Information For related information, refer to Chapter 5: DACS Provisioning.

Instructions

Task

Complete the following steps to restore a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select DACS Provisioning... The DACS PROVISIONING form will appear on the screen.	
3	Select <i>CHGSITE</i> from the Action: field.	
4	Click Continue... . The Current Site Choices: field appears on the form.	
5	Select the site name from the Current Site Choices: field.	
6	Click Continue... . The New Site Name: field appears on the form.	
7	In the New Site Name: field, enter your new site name.	
8	Click Continue... . The populated fields appear in read-only mode.	
9	Verify the information on the form to ensure you are changing the name of the correct DACS.	
10	When you have approved the information on the form, click Execute . The New Site Name will be placed in the Current Site Choices when complete.	
11	Stop! End of Task.	
	Select a What's Next option.	SE 50-1

Background

When to Use	Use this General Task to disconnect a communications link between the DND and DACS.

Before You Begin	Before you begin this task, you must have a DACS in your DND which is In-Service. You cannot remove a DACS that is already Out-of-Service.

Related Information	For related information, see Chapter 5: DACS Provisioning.

Instructions

Task

Complete the following steps to remove a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select DACS Provisioning... The DACS PROVISIONING form will appear on the screen.	
3	Select <i>REMOVE</i> from the Action: field.	
4	Click Continue... . The Current Site Choices: field appears on the form.	
5	Select the site name from the Current Site Choices: field.	
6	Click Continue... . All of DACS provisioning information fields appear on the form in read-only mode.	
7	Verify the information on the form to ensure you are removing the desired DACS.	
8	When you have approved the information on the form, click Execute .	
9	Stop! End of Task.	
	Select a What's Next option.	SE 50-1

Background

When to Use

Use this procedure to delete all information related to the DACS from the DND database.

Before You Begin

Before you begin this task, you must have a DACS in your DND system which is Out-of-Service (GT 36). You cannot delete a DACS that is In-Service. Also, you cannot delete a DACS which has an intertie connected to it.

Related Information

For related information, refer to Chapter 5: DACS Provisioning.

Instructions

Task

Complete the following steps to delete a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select DACS Provisioning... The DACS PROVISIONING form will appear on the screen.	
3	Select DELETE from the Action: field.	
4	Click Continue... . The Current Site Choices: field appears on the form.	
5	Select the site name from the Current Site Choices: field.	
6	Click Continue... . The Confirm DELETE Action box appears on the form.	
7	Select the Confirm: check box. All other DACS provisioning information fields appear on the form in read-only mode.	
8	Verify the information on the form to ensure you are deleting the desired DACS.	
9	When you have approved the information on the form, click Execute .  NOTE: If you do not select the Confirm: check box before you click Execute , DND displays a denial message. To delete the DACS, click Back to select the Confirm: box, then click Execute to complete the action.	
10	Stop! End of Task.	
	Select a What's Next option.	SE 50-1

End User Provisioning General Tasks

17

Contents

■ Creating an End User	GT 60-1
What's Next Options for End User Provisioning	GT 60-3
■ Modifying an End User	GT 61-1
■ Deleting an End User	GT 62-1

Background

When to Use	Use this General Task to create an End User for a DACS. An End User represents customer equipment, such as switches, other DACS frames, etc., that is not controllable by the DND. End User equipment can be graphically represented in the DND and associated to a particular DACS.

Before You Begin	Before you begin this task, you must have a DACS created in your network (GT 50 or GT 51) to associate with the End User.

Related Information	For related information, refer to Chapter 6: End User Provisioning.

Instructions

Task

Complete the following steps to create an End User:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select End User Provisioning... The END USER PROVISIONING form will appear on the screen.	
3	Select <i>CREATE</i> from the Action: field.	
4	Select a DACS Site Name: for the End User.	
5	Click Continue... . The End User Information fields will be populated on the form.	
6	Enter a name in the End User: field to identify the End User.	
7	(Optional) Enter some explanatory information about the end-user in the Remarks: field.	
8	Click Continue... . Fields on the END USER PROVISIONING form will be populated. These fields appear in read-only mode.	
9	Verify information to ensure you are creating an end user for the correct DACS frame.	
10	When you have approved the information on the form, click Execute .	
11	Stop! End of Task.	
	Select a What's Next Option.	SE 60-1

SE 60-1: What's Next Options for End User Provisioning

What's Next?

Perform one of the following options when the task is completed:

Options	Reference
Click New Action to perform another action on the current End User.	GT 60 - GT 62
Click Intertie to display the INTERTIE PROVISIONING form with the site name populated and the End User box pre-selected. This option is useful in order to connect an End User which has just been created to its associated DACS.	
Click Restart to clear and initialize the form and perform an action on another End User.	
Click Close to exit the END USER PROVISIONING form.	

Background

When to Use	Use this General Task to modify End User information previously entered when created.

Before You Begin	Before you begin this task, you must have an End User created in the DACS system (GT 60).

Related Information	For related information, refer to Chapter 6: End User Provisioning.

Instructions

Task

Complete the following steps to modify an End User:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select End User Provisioning... The END USER PROVISIONING form will appear on the screen.	
3	Select <i>MODIFY</i> from the Action: field.	
4	Click Continue... . The End User information fields appear on the form.	
5	Edit the information in the following fields: ■ End User ID: ■ (Optional) Remarks:	
6	Click Continue... . Fields on the form appear in read-only mode.	
7	Verify information to ensure you have modified the correct End User information. If needed, click Back until you reach the section of the END USER PROVISIONING form to select a different DACS. Click Continue... to move forward through the form.	
8	When you have approved the information on the form, click Execute .	
9	Stop! End of Task.	
	Select a What's Next Option.	SE 60-1

Background

When to Use

Use this General Task to delete an End User from the DND system.



NOTE:

You cannot delete an End User if it is connected to an intertie.

Before You Begin

Before you begin this task, you must have an End User created in the DND system (GT 60).

Related Information

For related information, refer to Chapter 6: End User Provisioning.

Instructions

Task

Complete the following steps to delete an End User:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select End User Provisioning... The END USER PROVISIONING form will appear on the screen.	
3	Select <i>DELETE</i> from the Action: field.	
4	Click Continue... . The End User information fields will be populated in read-only mode.	
5	Verify information to ensure you are deleting the correct End User.	
6	When you have approved the information on the form, click Execute .	
7	Stop! End of Task.	
	Select a What's Next Option.	SE 60-1

Contents

■ Creating an Intertie	GT 70-1
Selecting SITE 2, Creating an Intertie	GT 70-3
What's Next Options for Intertie Provisioning	GT 70-4
■ Modifying an Intertie	GT 71-1
Selecting SITE 2, Modifying an Intertie	GT 71-3
■ Adding NPCs to an Intertie	GT 72-1
Identifying an NPC	GT 72-3
■ Deleting NPCs from an Intertie	GT 73-1
Entering NPC Numbers for NPC1 and NPC2	GT 73-3
■ Deleting an Intertie	GT 74-1

Background

When to Use

Use this General Task to create an intertie between one of the following:

- Two DACS frames
- A DACS and an End User

Interties graphically represent the connections between network elements in your DACS network.

Before You Begin

Before you begin this task, you must have at least 2 network elements created in your DACS network (GT 50, GT 51, or GT 60). The intertie connections can be either DACS-to-DACS or DACS-to-End User.

Related Information

For related information, refer to Chapter 7: Intertie Provisioning.

Instructions

Task

Complete the following steps to create an intertie:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select Intertie Provisioning... The INTERTIE PROVISIONING form will appear on the screen.	
3	Select CREATE from the Action: field.	
4	Select a Site Name: for SITE 1.	
5	Select SITE 2.	SE 70-1
6	Click Continue... . The Intertie Information box appears on the form.	
7	Enter a name for the Intertie ID: .	
8	Select an Intertie Type: . If this is a DACS-to-End User intertie, the only allowable choice for the Intertie Type is <i>Direct</i> .	
9	(Optional) Enter some explanatory information about the intertie in the Remarks: field.	
10	Click Continue... . Information previously entered in all fields appears in read-only mode.	
11	Verify information to ensure you are creating the correct intertie.	
12	When you have approved the information on the form, click Execute . An intertie is drawn between SITE 1 and SITE 2 on your main DND window.	
13	Stop! End of Task.	
	Select a What's Next Option.	SE 70-2

SE 70-1: Selecting SITE 2, Creating an Intertie

Procedure

Perform the steps below to select SITE 2 for your intertie:

IF you need or already have a...	THEN, you should...
DACS-to-DACS intertie connection	1 Leave the End User field box unselected. 2 Click Continue.... The SITE 2 field appears on the form. 3 Select a Site Name for SITE 2. The dialog window lists all site names in which the SITE 1 DACS does not have an intertie.
DACS-to-End User intertie connection	Select the End User option box.

Stop! End of Procedure.

SE 70-2: What's Next Options for Intertie Provisioning

What's Next?

Perform one of the following options when the task is completed:

Options	Reference
Click New Action to perform another action on the current intertie.	GT 70 - GT 74
Click Restart to clear and initialize the form and select a new action for another intertie.	
Click Close to exit the INTERTIE PROVISIONING form.	

Background**When to Use**

Use this General Task to modify intertie information previously entered when the intertie was created (GT 70).

Before You Begin

Before you begin this task, you must have an intertie created in your DACS network.

Related Information

For related information, refer to Chapter 7: Intertie Provisioning.

Instructions

Task

Complete the following steps to modify an intertie:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select Intertie Provisioning... The INTERTIE PROVISIONING form will appear on the screen.	
3	Select <i>MODIFY</i> from the Action: field.	
4	Select a Site Name: for SITE 1.	
5	Select SITE 2.	SE 71-1
6	Click Continue... . The Intertie Information fields for SITE 2 appear on the form. The Intertie Bandwidth: field also appears indicating the number of NPCs connected to either side of the intertie in read-only mode.	
7	Edit the following fields as needed: ■ Intertie ID: ■ Intertie Type: ■ (Optional) Remarks:	
8	Click Continue... . All previously entered information will appear in read-only mode.	
9	Verify the Intertie Information fields to ensure you have modified the intertie information correctly.	
10	When you have approved the information on the form, click Execute .	
11	Stop! End of Task.	
	Select a What's Next Option.	SE 70-2

SE 71-1: Selecting SITE 2, Modifying an Intertie

Procedure

Perform the steps below to select SITE 2 for your intertie:

IF you need or already have a...	THEN, you should...
DACS-to-DACS intertie connection	1 Leave the End User field box unselected. 2 Click Continue.... The SITE 2 field appears on the form. 3 Select a Site Name for SITE 2. The dialog window lists all site names which share an intertie with SITE 1 DACS.
DACS-to-End User intertie connection	Select the End User field box.

Stop! End of Procedure.

Background

When to Use

Use this General Task to add NPCs to an intertie to establish connection paths between network elements. NPCs cannot be added to a side connected to an End User. NPCs do not need to exist in the DND database in order to add it to the intertie.

Before You Begin

Before you begin this task, you must have an intertie created in your DACS network (GT 70).

Related Information

For related information, refer to Chapter 7: Intertie Provisioning.

Instructions

Task

Complete the following steps to add an NPC/NPCs to an intertie:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select Intertie Provisioning... The INTERTIE PROVISIONING form will appear on the screen.	
3	Select ADDNPCS from the Action: field.	
4	Select a Site Name: for SITE 1.	
5	Select SITE 2.	SE 71-1
6	Click Continue... . The intertie information boxes appear in read-only mode and the NPC fields appear on the form.	
7	Identify the NPC Specifier: and NPC: for each site.	SE 72-1
8	Verify the intertie information fields to ensure you are adding NPCs to the correct intertie.	
9	Click Continue... . This will display all previously entered information in read only mode. This presents a final opportunity to check all information before executing the action.	
10	When you have approved the information on the form, click Execute .  NOTE: As you are adding/deleting additional NPCs to the intertie, clicking Execute does not refresh your INTERTIE PROVISIONING form. Therefore, you will not see the Intertie Bandwidth field updated until you perform a new action on that intertie.	
11	Stop! End of Task.	
	Select a What's Next Option.	SE 70-2

SE 72-1: Identifying an NPC

Procedure

Perform the steps below to enter the appropriate information when identifying an NPC:

IF you want to specify...	THEN...
The NPC ID name	1. Select the ID option in the NPC Specifier: field. 2. Enter the NPC ID name into the NPC: field.
The NPC number using the Hierarchical Numbering scheme	1. Select the Hier option in the NPC Specifier: field. 2. Enter the hierarchical NPC number into the NPC: field.
The NPC number using the Extended Numbering scheme	1. Select the Extd option in the NPC Specifier: field. 2. Enter the extended NPC number into the NPC: field.

Stop! End of Procedure.

Background

When to Use

Use this General Task to delete NPCs from an intertie with NPCs assigned to it.

Before You Begin

Before you begin this task, you must have an intertie with NPCs assigned to it in your DND network (GT 72).

Related Information

For related information, refer to Chapter 7: Intertie Provisioning

Instructions

Task

Complete the following steps to delete NPCs from an intertie:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select Intertie Provisioning... The INTERTIE PROVISIONING form will appear on the screen.	
3	Select <i>DELNPCS</i> from the Action: field.	
4	Select a Site Name: for SITE 1.	
5	Select SITE 2.	SE 71-1
6	Click Continue... . The intertie information field appears in read only mode. The NPC fields also appear. If intertie is a DACS-to-End User intertie, only one set of NPC fields will appear.	
7	Enter the NPC number(s) for the intertie.	SE 73-1
8	Verify the information in the fields to ensure you are deleting NPCs from the correct intertie. If needed, click Back until you reach the section of the INTERTIE PROVISIONING form to edit. Click Continue... to move forward through the form.	
9	When you have approved the information on the form, click Execute .  NOTE: As you are adding/deleting additional NPCs to the intertie, clicking Execute does not refresh your INTERTIE PROVISIONING form. Therefore, you will not see the Intertie Bandwidth field updated until you perform a new action on that intertie.	
10	Stop! End of Task.	
	Select a What's Next Option.	SE 70-2

SE 73-1: Entering NPC Numbers for NPC1 and NPC2

Procedure

Perform one of the options below to enter NPC numbers for NPC 1 and NPC 2:

IF you...	THEN...
Enter a number for NPC 1	Click Find Match near the NPC 2 field to find the corresponding NPC match on the other side of the intertie.
Enter a number for NPC 2	Click Find Match near the NPC 1 field to find the corresponding NPC match on the other side of the intertie
Do not know the NPC number for NPC 1 or NPC 2	Clear the NPC fields and: 1. Click Find Match on either NPC side to display the NPC numbers. Continue to click Find Match until the desired NPC is found. 2. Click Find Match once on the other side to find the corresponding NPC.

Stop! End of Procedure.

Background**When to Use**

Use this General Task to delete an intertie between one of the following:

- Two DACS frames
- A DACS and an End User

The graphical representation of the connection between the two elements in the DACS network will be removed from the DND Workspace window.

Before You Begin

Before you begin this task, you must have an intertie created between two network elements (GT 70).

Related Information

For related information, refer to Chapter 7: Intertie Provisioning.

Instructions

Task

Complete the following steps to delete an intertie:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select Intertie Provisioning... The INTERTIE PROVISIONING form will appear on the screen.	
3	Select DELETE from the Action: field.	
4	Select a Site Name: for SITE 1.	
5	Select SITE 2.	SE 71-1
6	Click Continue... . Information previously entered while creating your intertie will populate all fields. These fields appear in read-only mode.	
7	Verify information to ensure you are deleting the correct intertie.	
8	When you have approved the information on the form, click Execute .	
9	Stop! End of Task.	
	Select a What's Next Option.	SE 70-2

Contents

■ Creating an NPC	GT 80-1
Selecting the NPC Addressing	GT 80-4
Selecting an NPC Type	GT 80-5
Selecting Performance Monitoring Options for NAS NPCs	GT 80-6
Selecting Performance Monitoring Options for CEPT NPCs	GT 80-7
Selecting a Reconcile Mode	GT 80-8
Scheduling an Action	GT 80-9
What's Next Options for NPC Provisioning	GT 80-10
■ Creating a DSPU NPC	GT 81-1
■ Restoring an NPC on a DACS	GT 82-1
■ Modifying an NPC	GT 83-1
■ Removing an NPC from a DACS	GT 84-1
■ Deleting an NPC from a DACS	GT 85-1
■ Placing an NPC in Loopback Mode	GT 86-1
■ Removing an NPC from Loopback Mode	GT 87-1

Background

When to Use

Use this General Task to create an NPC on a DACS.

Before You Begin

Before you begin this task, you must at least one DACS in the DACS network which is In-Service (GT 50/GT 51 and GT 52). The equipment to support the NPC must be installed at the DACS.

Related Information

For related information, refer to Chapter 8: NPC Provisioning.

Instructions

Task

Complete the following steps to grow an NPC on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select NPC Provisioning... The NPC PROVISIONING form will appear on the screen.	
3	Select the Site Name: where the NPC resides.	
4	Select CREATE from the Action: field.	
5	Click Continue... . The NPC box will appear on the form.	
6	Select an NPC Addressing: option.	SE 80-1
7	Enter an identification name for the NPC in the ID: field.	
8	Click Continue... . Additional NPC fields in the NPC box appear on the form. The NPC Type: field is automatically filled in with a default type, depending on the NPCs in the DACS.	
9	Enter a valid NPC type in the NPC Type: field.  NOTE: The Service State: field populates <i>UNEQ</i> for unequipped into the field automatically; it cannot be changed.	SE 80-2
10	Click Continue... . The Specify PM Options button becomes active.	
11	Select the performance monitoring options if you want to change the values, otherwise: - They will assume the values specified in <code>ui_dval</code>, or... - They will be set to the values as specified in the last CREATE Action.	SE 80-3

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
12	Click Continue... . The NPC PROVISIONING form will appear on the screen with additional provisioning options.	
13	Enter the appropriate insertion word in the Insertion Word (IW): field.	
14	Select the alarm priority in the Alarm Indication Signal (AIS): field.	
15	(Optional) Enter a value for the alarm aging in the Alarm Age: field.	
16	(Optional) Select the option box to Disable Alarm Reporting: .	
17	Select a Reconcile: option.	SE 80-4
18	(If desired) Select the Restore NPC: option box to <i>CREATE</i> and <i>RESTORE</i> the NPC in one step.  NOTE: If you select the <i>RESTORE</i> option, you cannot schedule this Action .	
19	(Optional) In the Scheduling Options: box, select the desired scheduling mode.	SE 80-5
20	Click Continue... . The all fields will appear in read-only mode.	
21	Verify the information on the form to ensure you are creating the desired NPC.	
22	When you have approved the information on the form, Click Execute .	
23	Stop! End of Task.	
	Select a What's Next option.	SE 80-6

SE 80-1: Selecting the NPC Addressing

Procedure

Perform the steps below to enter the correct information in the **NPC Number:** field:

1. Select the desired **NPC Addressing:** option.
2. Perform ONE of the steps in the table below:

IF you selected...	THEN enter...
Hier	A hierarchical NPC number in the NPC Number: field
Extd	An extended NPC number in the NPC Number: field

Stop! End of Task.

SE 80-2: Selecting an NPC Type

Procedure

Perform the steps below to select a valid NPC type:

1. Click the **Specify XYZ Details** button to set the values of the XYZ options. The NPC XYZ OPTIONS form will appear on the screen.
2. Verify the parameter settings for each X, Y or Z parameter. The options are displayed in read-only mode. To change the value of an X, Y, or Z parameter, perform one of the following choices:

IF you want to...	THEN you should...
Customize your XYZ options	Do ONE of the following: ■ Select a value for the X Value:, Y Value:, and Z Value: fields. ■ Click Next X, Next Y, or Next Z to change the XYZ numbers to the next consecutive number. For example, if the X value is 2, clicking Next X will change the value to 3. ■ Select an option from the Option Description: field. The dialog window lists various common XYZ option descriptions. Selecting a description will automatically change the XYZ option value.
Choose from the common XYZ options	Select one of the options from the Common Choices: field (excluding <i>(Customize)</i>).

3. Once you are satisfied with the XYZ options, click **Apply**. The NPC XYZ OPTIONS form will disappear from the screen, revealing the NPC PROVISIONING form and the NPC type chosen will appear in the **NPC Type** field.

Stop! End of Procedure.

SE 80-3a: Selecting Performance Monitoring Options for NAS NPCs

Procedure

Perform the steps below to customize performance monitoring options:

1. Click [Specify PM Options](#). The PERFORMANCE MONITORING SPECIFICATION form will appear on the screen
2. Select the appropriate data set from the **data set:** field.

**NOTE:**

Data set 0 is the default.

3. Select the PM Thresholds on which to apply the chosen data set. To select all options, click [Select All Parameters](#).
4. Click [Apply to Selected](#) to apply the data set to the selected PM Threshold options.
5. Click [Apply](#).

Stop! End of Procedure.

SE 80-3b: Selecting Performance Monitoring Options for CEPT NPCs

Procedure

Perform the steps below to customize performance monitoring options:

1. Click **Specify PM Options**. The PERFORMANCE MONITORING SPECIFICATION form will appear on the screen
2. Select the appropriate data set from the **data set:** field.



NOTE:

The default data sets are always available at the DACS. Other data sets must be provisioned at the DACS as a separate operation.

3. Select the alarm level from the **alarm level:** field. The dialog window lists each of the choices.
4. Select the PM Threshold Options to be set to the indicated data set/alarm level. To select all options, click **Select All Parameters**.
5. Click **Apply to Selected** to apply the data set to the selected PM Threshold options.
6. To set other PM Threshold Options to different data sets/alarm level, repeat steps 2, 3, 4 and 5.
7. Click **Apply**.

Stop! End of Procedure.

SE 80-4: Selecting a Reconcile Mode

Procedure

Perform ONE of the following options to select the appropriate Reconcile **Mode**:

IF you want to execute this Action...	THEN select...
On the DACS and DND	The DACS and DND option box (default).
On the DND only	The DND only option box.
On the DACS only	The DACS only option box.

Stop! End of Procedure.

SE 80-5: Scheduling an Action

Procedure

Perform the steps below to set a specified date, time, and frequency for the DND system to perform an action:

IF you...	THEN...
Execute this action immediately (now)	Select the Immediate option box (default).
Schedule the action	1. Select the desired Day:, Month:, and Year: options to set the start DATE. 2. Select the desired Hour: and Minute: options to set the TIME. 3. If the action will be performed more than once, enter a value for Number of times: and Interval: and select the time scale from the Scale: field. For example, if the form has the following information: — Day: 3 — Month: May — Year: 1999 — Hour: 9 — Minute: 30 — Number of times: 1 — Interval: 0 — Scale: None Then, the DND will create this NPC beginning at May 3, 1999 at 9:30 AM.

Stop! End of Procedure.

SE 80-6: What's Next Options for NPC Provisioning

What's Next?

Options	Reference
Click New Action to perform a new action on the current NPC.	GT 80 - GT 86
Click New NPC to perform an action on a different NPC.	
Click Restart to clear and initialize the form and select an action for another NPC.	
Click Close to close the NPC PROVISIONING form	

Background

When to Use

Use this General Task to create a DSPU NPC (DMB, MJU, SRM, and CB NPC types) on a DACS.

Before You Begin

Before you begin this task, you must have at least one DACS in the DND network which is In-Service (GT 50/GT 51 and GT 52) with one or more DSPU circuit packs populated in the DSPU of the correct type.

Related Information

For related information, refer to Chapter 8: NPC Provisioning.

Instructions

Task

Complete the following steps to grow a DSPU NPC on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select NPC Provisioning... The NPC PROVISIONING form will appear on the screen.	
3	Select the Site Name: where the NPC resides	
4	Select CREATE from the Action: field.	
5	Click Continue... . The NPC box will appear on the form.	
6	Select an NPC Addressing: option.	SE 80-1
7	Enter an identification name for the NPC in the ID: field.	
8	Click Continue... . Additional NPC fields in the NPC box appear on the form. The NPC Type: field is automatically filled in with a default type. If the NPC is a DSPU NPC, then the default NPC type is <i>MB100</i> for new forms.	
9	Enter a valid NPC type in the NPC Type: field.  NOTE: The Service State: field populates UNEQ for unequipped into the field automatically; it cannot be changed.	SE 80-2

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
10	Click Continue... . If this is a DMB NPC, the NPC 2 sub-box within the NPC box and the Control Options box will appear on the form. Fill in an ID for the second NPC on the DMB. The DMB card has 2 NPCs on it. After the 1st NPC identified, the form will automatically fill in the Hier: and Extd: fields for NPC 2 with next consecutive number of the one previously entered for NPC 1.	
11	Select a Reconcile: option.	SE 80-4
12	(Optional) In the Scheduling Options: box, select the desired scheduling mode. If you select the Immediate option box, proceed to Step 20.	SE 80-5
13	Click Continue... . All fields will appear in on the form in read-only mode.	
14	Verify the information on the form to ensure you are creating the desired NPC.	
15	When you have approved the information on the form, Click Execute .	
16	Stop! End of Task.	
	Select a What's Next option.	SE 80-6

Background

When to Use

Use this General Task to restore an NPC on a DACS. Restoring NPCs places them In-Service so they can be used for creating circuits.

Before You Begin

Before you begin this task, you must have at least one NPC on a DACS in your DND network which has been previously created and is Out-of-Service (GT 80 or GT 81).

Related Information

For related information, refer to Chapter 8: NPC Provisioning.

Instructions

Task

Complete the following steps to restore an NPC on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select NPC Provisioning... The NPC PROVISIONING form will appear on the screen.	
3	Select the Site Name: where the NPC resides	
4	Select <i>RESTORE</i> from the Action: field.	
5	Identify the NPC Specifier: and NPC: .	SE 72-1
6	Click Continue... . The NPC PROVISIONING form will be populated with fields containing previously entered information in read-only mode. The Control Options box also appears on the form.	
7	(If a DSPU NPC) Select the CCN side to restore. When restoring a DSPU NPC, you will need to perform 2 restore actions on the NPC; one for side 1 and one for side 2.	
8	Select a Reconcile: mode.	SE 80-4
9	(Optional) In the Scheduling Options: box, select the desired scheduling mode. If you select the Immediate check box, proceed to Step 8.	SE 80-5
10	Click Continue... . All fields will appear on the form in read-only mode.	
11	Verify the information on the form to ensure you are restoring the desired NPC.	
12	When you have approved the information on the form, Click Execute .	
13	Stop! End of Task.	
	Select a What's Next option.	SE 80-6

Background

When to Use

Use this General Task to modify generic NAS/CEPT NPC information previously entered when NPC was created.

Before You Begin

Before you begin this task, you must have at least one NPC on a DACS in your DND network which has been previously created (GT 80 or GT 81).

Related Information

For related information, refer to Chapter 8: NPC Provisioning.

Instructions

Task

Complete the following steps to modify an NPC on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select NPC Provisioning... The NPC PROVISIONING form will appear on the screen.	
3	Select the Site Name: where the NPC resides.	
4	Select <i>MODIFY</i> from the Action: field.	
5	Click Continue... . The NPC PROVISIONING form will be populated with fields containing previously entered information in read-only mode. The NPC Type: field also appears on the form.	
6	(If necessary) Modify the XYZ options in the NPC Type: .	SE 80-2
7	Click Continue... . The Specify PM Options button becomes active.	
8	Identify the NPC Specifier: and NPC: .	SE 72-1
9	(If necessary) Modify the performance monitoring options.	SE 80-3
10	Click Continue... . Additional fields and the Control Options box appear on the form.	
11	Modify all necessary fields.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
12	Select a Reconcile: mode.	SE 80-4
13	(If desired) Select the Remove NPC (OOS): option box to <i>MODIFY</i> and <i>REMOVE</i> the NPC in one step.  NOTE: If you made changes to the NPC Type or Insertion Word, and the NPC is In-Service, you will need to <i>REMOVE</i> the NPC from service (OOS). Select the Remove NPC (OOS): option to allow the DND to remove the NPC from service, make the change, and place it back in service.  CAUTION: <i>Removing the NPC will interrupt traffic.</i>	
14	In the Scheduling Options: box, select the desired scheduling mode. If the Immediate option box is selected, proceed to Step 14.	SE 80-5
15	Click Continue... . The fields will appear in read-only mode.	
16	Verify the information on the form to ensure you are modifying the desired NPC.	
17	When you have approved the information on the form, Click Execute .	
18	Stop! End of Task.	
	Select a What's Next option.	SE 80-6

Background

When to Use

Use this General Task to remove an NPC on a DACS from service and (if desired) delete the NPC from the DACS network (if it is not a DSPU NPC).

Before You Begin

Before you begin this task, you must have at least one NPC on a DACS in your DND network which is In-Service (GT 82).

Related Information

For related information, refer to Chapter 8: NPC Provisioning.

Instructions

Task

Complete the following steps to remove an NPC from service:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select NPC Provisioning... The NPC PROVISIONING form will appear on the screen.	
3	Select the Site Name: where the NPC resides.	
4	Select <i>REMOVE</i> from the Action: field.	
5	Identify the NPC Specifier: and NPC: .	SE 72-1
6	Click Continue... . NPC information fields appear on the form in read-only mode. The Control Options box also appears on the form.	
7	If the NPC is a DMB NPC, the DND displays NPC information fields for both NPCs. Select the Side: to remove from service.	
8	Select a Reconcile: mode.	SE 80-4
9	If you are removing an NPC which may have a red-line or customer-controlled circuit, select the Unconditional (INCL): option box.	
10	Select the Delete NPC: option box to <i>REMOVE</i> and <i>DELETE</i> the NPC in one step.  NOTE: This option is only available to NAS/CEPT NPCs.	
11	(Optional) In the Scheduling Options: box, select the desired scheduling mode.	SE 80-5
12	Click Continue... . The fields will appear in read-only mode.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
13	Verify the information on the form to ensure you are removing the desired NPC.	
14	When you have approved the information on the form, Click Execute .	
15	Stop! End of Task.	
	Select a What's Next option.	SE 80-6

Background

When to Use

Use this General Task to delete an NPC on a DACS. You can also delete a generic NAS/CEPT NPC from a *REMOVE Action*: (GT 84).

Before You Begin

Before you begin this task, you must have at least one NPC on a DACS in your DACS network which is Out-of-Service (GT 80/81 or 84) or (for a DSPU NPC) Out-of-Service on at least one side.

Related Information

For related information, refer to Chapter 8: NPC Provisioning.

Instructions

Task

Complete the following steps to delete an NPC from a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select NPC Provisioning... The NPC PROVISIONING form will appear on the screen.	
3	Select the Site Name: where the NPC resides.	
4	Select DELETE from the Action: field.	
5	Identify the NPC Specifier: and NPC: .	SE 72-1
6	Click Continue... . NPC information fields appear on the form in read-only mode. The Control Options: field also appears on the form.	
7	Select a Reconcile: mode.	SE 80-4
8	(Optional) In the Scheduling Options: box, select the desired scheduling mode.	SE 80-5
9	Click Continue... . The fields will appear in read-only mode.	
10	Verify the information on the form to ensure you are deleting the correct NPC.	
11	When you have approved the information on the form, Click Execute .	
12	Stop! End of Task.	
	Select a What's Next option.	SE 80-6

Background

When to Use

Use this General Task to place an NPC on a DACS in the Loopback mode. This is typically used to isolate and test a signal on one side of a circuit.

Before You Begin

Before you begin this task, you must have at least one NPC on a DACS in your DACS network which is In-Service (GT 82).

Related Information

For related information, refer to Chapter 8: NPC Provisioning.

Instructions

Task

Complete the following steps to place an NPC in Loopback mode:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select NPC Provisioning... The NPC PROVISIONING form will appear on the screen.	
3	Select the Site Name: where the NPC resides.	
4	Select LOOPBACK from the Action: field.	
5	Identify the NPC Specifier: and NPC: .	SE 72-1
6	Click Continue... . NPC information fields appear on the form in read-only mode. The Loopback Transmission: field (if PA type Loopback Direction:) and Control Options box appear on the form.	
7	Select the Loopback Transmission: option.	
8	(For PA NPC types only) Select a Loopback Direction: option.	
9	Select a Reconcile: mode.	SE 80-4
10	(Optional) In the Scheduling Options: box, select the desired scheduling mode.	SE 80-5
11	Click Continue... . The fields will appear in read-only mode.	
12	Verify the information on the form to ensure you are deleting the correct NPC.	
13	When you have approved the information on the form, Click Execute .	
14	Stop! End of Task.	
	Select a What's Next option.	SE 80-6

Removing an NPC from Loopback Mode

87

Background

When to Use

Use this General Task to remove an NPC from Loopback mode.

Before You Begin

Before you begin this task, you must have at least one NPC on a DACS in your DACS network which is in Loopback mode (GT 86).

Related Information

For related information, refer to Chapter 8: NPC Provisioning.

Instructions

Task

Complete the following steps to remove an NPC from Loopback mode:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select NPC Provisioning... The NPC PROVISIONING form will appear on the screen.	
3	Select the Site Name: where the NPC resides.	
4	Select LOOPBACK from the Action: field.	
5	Identify the NPC Specifier: and NPC: .	SE 72-1
6	Click Continue... . NPC information fields appear on the form in read-only mode. The Loopback Transmission: field (if PA type Loopback Direction:) and Control Options box appear on the form.	
7	Select the N option box for the Loopback Transmission: .	
8	(For PA NPC types only) Select the N option box for the Loopback Direction: .	
9	Select a Reconcile: mode.	SE 80-4
10	(Optional) In the Scheduling Options: box, select the desired scheduling mode.	SE 80-5
11	Click Continue... . The fields will appear in read-only mode.	
12	Verify the information on the form to ensure you are deleting the correct NPC.	
13	When you have approved the information on the form, Click Execute .	
14	Stop! End of Task.	
	Select a What's Next option.	SE 80-6

Contents

■ Activating or Pending a New Circuit, Full or Half Duplex	GT 90-1
■ Activating or Pending a New Circuit, Digital Multipoint Bridge	GT 91-1
■ Modifying a Circuit	GT 92-1
■ Combining Multiple Circuits	GT 93-1
Entering Circuit Information for a Combined Circuit	GT 93-3
■ Adding a Leg to a Broadcast Circuit (BCON)	GT 94-1
■ Deleting a Leg to a Broadcast Circuit (BCON)	GT 95-1
■ Changing the Return Path for a Broadcast Circuit	GT 96-1
■ Creating an Alternate Route Circuit	GT 97-1
■ Normalizing a Circuit	GT 98-1
■ Deactivating a Circuit	GT 99-1
■ Deleting a Circuit	GT 100-1
■ Performing a Circuit Trace	GT 101-1

Activating or Pending a New Circuit, Full or Half Duplex

90

Background

When to Use

Use this General Task to activate a cross-connection on a DACS.

Before You Begin

Before you begin this task, you must have at least one NPC on a DACS in the DND network which is In-Service.(GT 80/81).

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task

Complete the following steps to activate a new two-point, one- or two-way circuit on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select Circuit Provisioning... The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select one of the following from the Action: field: ■ <i>ACTIVATE</i> to create an <i>ACTIVE</i> new circuit ■ <i>PEND</i> to create a <i>PENDING</i> circuit in the DND database	
5	Click Continue... . The Ckt Class: field appears on the form.	
6	Select ONE of the following circuit types in the Ckt Class: field: ■ <i>HDX: HALF DUPLEX</i> for a one-way cross-connection ■ <i>FDX: FULL DUPLEX</i> for a two-way cross-connection	
7	Click Continue... . The Circuit ID: field appears on the form.	
8	Enter a name for the circuit in the Circuit ID: field.	
9	Click Continue... . The CIRCUIT ENDPOINTS box appears on the form. The Initial status: field indicates a status of <i>NULL</i> for the circuit being activated.	
10	Enter the NPC information for the FROM NPC and TO NPC sides of the circuit. If using clear DS1/E1 NPCs, skip to Step 17.	SE 72-1

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
11	Click Continue... . The Bandwidth Type: field appears on the form.	
12	Select the Bandwidth Type: for the circuit.	
13	Click Continue... . The Bandwidth: field appears on the form.	
14	Select the Bandwidth: size of the circuit.	
15	Click Continue... . The FROM Channel: and TO Channel: fields appear on the form.	
16	Enter the FROM and TO channel numbers in the FROM Channel: and TO Channel: fields, respectively. If the Bandwidth Type: is <i>Random</i> , enter a list of channels you will use, with each entry separated by a comma (.). If the Bandwidth Type: is <i>Contiguous</i> or <i>Alternating</i> , enter the first channel in the list. The DND will automatically expand the channel range accordingly.	
17	Click Continue... . The CIRCUIT INFORMATION and Control Options boxes appear on the form. If one of the NPCs has been added to an intertie, then the CIRCUIT NETWORK INFORMATION box also appears.	
18	Select the desired Circuit Options .	
19	Enter values for the following fields: ■ Trunk Conditioning: ■ Insertion Word: ■ Signaling Conversion:	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
20	Enter information into the following fields: ■ (Optional) Location A: ■ (Optional) Location Z: ■ (Optional) Customer Name: ■ Priority ■ (Optional) Remarks:	
21	Select the Service Date when the circuit will be made available to the Customer. The DND will default to the current date.	
22	Select a Reconcile: option.	SE 80-4
23	In the Scheduling Options: box, select the desired scheduling mode.	SE 80-5
24	Click Continue... . All fields will appear in read-only mode.	
25	Verify the information on the form to ensure you are activating the desired circuit.	
26	When you have approved the information on the form, Click Execute . The New Status: field will appear indicating the new status of your circuit.	
27	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

SE 90-1: Instructions (Continued)

What's Next?

Perform one of the following options below upon completion of the task:

Options	Reference
Click New Action to perform another action on the current circuit.	GT 90 - GT 101
(If NPC is connected to an intertie) Click FROM NPC to trace the circuit through the FROM side through the intertie.	
(If NPC is connected to an intertie) Click TO NPC to trace the circuit through the TO side of the intertie.	
(If NPC is connected to an intertie) Click TRACE MAP DISPLAY to display a circuit trace table and map of the circuit through the entire network.	GT 101
Click Restart to clear and initialize the form and select an action for another NPC.	
Click Close to close the CIRCUIT PROVISIONING form	

Activating or Pending a New Circuit, Digital Multipoint Bridge

91

Background

When to Use

Use this General Task to activate a Digital Multipoint Bridge (DMB) circuit on a DACS.



NOTE:

At this time, DMB circuits can only be activated on a DACS II.

Before You Begin

Before you begin this task, you must have at least one NPC on a DACS in the DACS network which is In-Service.(GT 80/81).

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task Complete the following steps to activate a circuit on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select Circuit Provisioning... The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select one of the following from the Action: field: ■ <i>ACTIVATE</i> to create an <i>ACTIVE</i> new circuit ■ <i>PEND</i> to create a <i>PENDING</i> circuit in the DND database	
5	Click Continue... . The Ckt Class: field appears on the form.	
6	Select <i>DMB: DIGITAL MPT BRIDGE</i> in the Ckt Class: field.	
7	Click Continue... . The Circuit ID: field appears on the form.	
8	Enter a name for the circuit in the Circuit ID: field.	
9	Click Continue... . The Initial status: field indicates a status of <i>NULL</i> for the circuit being activated.	
10	Select the desired DMB circuit type using the FROM DMB Mode: and TO DMB Mode: fields.	
11	Click Continue... . The CIRCUIT ENDPOINTS box appears on the form.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
12	Enter the NPC information for the FROM NPC and TO NPC sides of the circuit. The DMB Mode must match the NPC type: ■ For the <i>LEG</i> mode - enter a regular NPC number ■ For the <i>SYM</i>, <i>BBL</i>, or <i>BRD</i> modes - enter a DMB NPC number	SE 72-1
13	Click <u>Continue...</u>. The FROM Channel: and TO Channel: fields appear on the form. The Bandwidth Type: field will indicate <i>C: Contiguous</i> and the Bandwidth: field will indicate <i>1</i> in read-only mode. This cannot be changed for a DMB circuit.	
14	Enter the FROM and TO channel numbers in the FROM Channel: and TO Channel: fields, respectively.	
15	Click <u>Continue...</u> . The CIRCUIT INFORMATION and (if an NPC in the circuit is connected to an intertie) CIRCUIT NETWORK INFORMATION boxes appear on the form.	
16	Select the No Transmit (NTR): checkbox and other desired Circuit Options .	
17	Enter values for the following fields: ■ Trunk Conditioning: ■ Insertion Word: ■ Signaling Conversion:	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
18	Enter information into the following fields: ■ (Optional) Location A: ■ (Optional) Location Z: ■ (Optional) Customer Name: ■ Priority ■ (Optional) Remarks:	
19	Select the Service Date when the circuit will be made available to the Customer. The DND defaults to the current date.	
20	Click Continue... . The Control Options box appears on the form.	
21	Select a Reconcile: option.	SE 80-4
22	In the Scheduling Options: box, select the desired scheduling mode.	SE 80-5
23	Click Continue... . All fields will appear in read-only mode.	
24	Verify the information on the form to ensure you are activating the desired circuit.	
25	When you have approved the information on the form, Click Execute . The New Status: field will appear indicating the new status of your circuit.	
26	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Background

When to Use

Use this General Task to modify circuit information.

Before You Begin

Before you begin this task, you must have an existing circuit in the DACS network (GT 90/91).

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task

Complete the following steps to modify a circuit on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>MODIFY</i> from the Action: field.	
5	Click Continue... . The Circuit ID: and New Circuit ID: fields appear on the form.	
6	Enter the name of the circuit in the Circuit ID: field. To modify the circuit name, enter a new circuit name into the New Circuit ID: field.	
7	Click Continue... . What you see on the form next depends on the state of the circuit. ■ If the circuit is in the <i>ACTIVE</i>, <i>ALTROUTED</i>, or <i>P_ACTIVE</i> states, then the NPC and circuit information fields will appear on the form in read-only mode. ■ Otherwise, the DND will allow you to change the endpoints and all information relating to the circuit	
8	Click Continue... . The Control Options box appears on the form.	
9	Select the Reconcile Mode: .  NOTE: DND will not accept <i>DND only</i> as a selection. The DND system is unable to perform modifications to the local database only.	SE 80-4

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
10	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5
11	Click <u>Continue...</u> . All fields will appear in read-only mode.	
12	Verify the information on the form to ensure you are modifying the desired circuit.	
13	When you have approved the information on the form, Click <u>Execute</u> . The New Status: field will appear indicating the new status of your circuit.	
14	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Background

When to Use

Use this General Task to combine multiple circuits to create a high-rate (larger bandwidth) circuit.

Before You Begin

Before you begin this task, you must have existing circuits in the DACS network (GT 90/GT 91) that have the same **Bandwidth Type:**. No circuits used in this combination can have *Random* as the **Bandwidth Type:**.

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task Complete the following steps to combine multiple circuits on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>COMBINE</i> from the Action: field.	
5	Click Continue... . The Circuit ID: field appears on the form.	
6	Enter the name of the circuit (either a new name or an existing circuit name) in the Circuit ID: field.	SE 93-1
7	Click Continue... . The CIRCUIT INFORMATION and Control Options boxes appear on the form.	
8	Select the Reconcile Mode: .	SE 80-4
9	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5
10	Click Continue... . All fields will appear in read-only mode.	
11	Verify the information on the form to ensure you are combining the desired circuits.	
12	When you have approved the information on the form, Click Execute . The New Status: field will appear indicating the new status of your circuit.	
13	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

SE 93-1: Entering Circuit Information for a Combined Circuit

Task

Perform the following steps to enter the correct circuit information for a combined circuit:

IF you entered...	THEN, DND will...	...AND you should...
An existing circuit ID name	Create the combined circuit using this Circuit ID name. DND will populate the form with the NPC, Bandwidth Type and Initial status fields in read-only mode. The Bandwidth field appears fully selectable.	1 Select a new bandwidth for the combined circuit. 2 Click Continue... . 3 Modify the channel numbers for the FROM and TO sides if necessary.
A new circuit ID name	Create a combined circuit using the new Circuit ID name. DND will populate the form with NPC information, the Bandwidth Type: and the Bandwidth: appears fully selectable.	1 identify the NPC Specifier: and NPC: of an equipped NPC for the FROM and TO sides of the circuit (SE 72-1). 2 Click Continue... . 3 Select the desired Bandwidth Type: . 4 Click Continue... . 5 Select a new Bandwidth: for the combined circuit. 6 Click Continue... . 7 Enter the FROM and TO channels for the combined circuit, specifying the starting point of the circuit combination range.

Stop! End of Procedure.

Adding a Leg to a Broadcast Circuit (BCON)

94

Background

When to Use

Use this General Task to add a leg to a broadcast (BCON) circuit.

Before You Begin

Before you begin this task, you must have an existing circuit on a DACS (GT 90/GT 91) to which you will add additional legs.

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task

Complete the following steps to add a leg to a broadcast circuit:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>ADDLEG</i> from the Action: field.	
5	Click Continue... . The Circuit ID: field also appears on the form.	
6	Enter the Circuit ID: for the leg you are deleting.	
7	Click Continue... . What you see next depends on the type of circuit: ■ If the circuit is a <i>FULL DUPLEX</i> circuit, the following will appear on the form: — The Ckt Class: will indicate <i>FDX: FULL DUPLEX</i> in read-only mode — The Initial Status: of the circuit — The CIRCUIT ENDPOINTS box in read-only mode — BCON SOURCE BROADCAST SIDE box — BCON LEG CIRCUIT ENDPOINTS box	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
7	(Continued) ■ If the circuit is an existing BCON circuit, the following will appear on the form: — The Ckt Class: will indicate <i>BKB: BCON BACKBONE</i> in read-only mode — The Initial Status: of the circuit — The CIRCUIT ENDPOINTS box in read-only mode — The BCON SOURCE BROADCAST SIDE will indicate the NPC information for the selection you chose when building the BCON circuit in read-only mode — The BCON LEG CIRCUIT ENDPOINTS box	
8	(If the Ckt Class: is <i>FDX</i>) Select the BCON Direction:.	
9	Identify the NPC Specifier: and NPC: for the new NPC leg in the BCON LEG CIRCUIT ENDPOINTS box.	SE 72-1
10	Click <u>Continue...</u> . The LEG Channel: field appears on the form.	
11	Enter the channel number for the new leg in the LEG Channel: field.	
12	Click <u>Continue...</u> . The CIRCUIT INFORMATION and Control Options boxes appears on the form. If the circuit has an NPC connected to an intertie, then the CIRCUIT NETWORK INFORMATION box will also appear.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
13	Select the desired Circuit Options for your new leg.	
14	Select the Service Date when the new leg circuit will be made available to the Customer.	
15	Select a Reconcile Mode: option.	SE 80-4
16	In the Execution Mode: box, select the desired scheduling mode.	SE 80-5
17	Click Continue... . All fields will appear in read-only mode.	
18	Verify the information on the form to ensure you are adding a leg from the correct circuit.	
19	When you have approved the information on the form, Click Execute . Notice the following results when the action is performed successfully: ■ The New Status: field appears on the form, indicating a circuit status of <i>ACTIVE</i>. ■ The LEG Circuit ID: field appears on the form, indicating the DND generated Circuit ID and number of the leg added. DND uses the next available lowest number for your leg.	
20	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Deleting a Leg to a Broadcast Circuit (BCON)

95

Background

When to Use

Use this General Task to delete a leg from a broadcast (BCON) circuit.

Before You Begin

Before you begin this task, you must have previously added a BCON leg to a broadcast circuit (GT 94).

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task Complete the following steps to delete a leg from a broadcast circuit:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>DELLEG</i> from the Action: field.	
5	Click Continue... . The Circuit ID: field also appears on the form.	
6	Enter the Circuit ID: for the leg you are deleting.	
7	Click Continue... . The Circuit Options and Control Options boxes appear on the form and all other information fields for that leg appear in read-only mode.	
8	Select the desired Circuit Options for your new leg.	
9	Select a Reconcile Mode: option.	SE 80-4
10	In the Execution Mode: box, select the desired scheduling mode.	SE 80-5
11	Click Continue... . All fields will appear in read-only mode.	
12	Verify the information on the form to ensure you are deleting a leg from the correct circuit.	
13	When you have approved the information on the form, Click Execute . The New Status: field appears on the form, indicating a circuit status of <i>NULL</i> .	
14	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Changing the Return Path for a Broadcast Circuit

96

Background

When to Use

Use this General Task to change a broadcast circuit's (BCON) return path.

Before You Begin

Before you begin this task, you must have previously added a BCON leg to a broadcast circuit (GT 95).

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task Complete the following steps to change the return path of a broadcast leg:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>CHGRPATH</i> from the Action: field.	
5	Click Continue... . The Circuit ID: field appears on the form.	
6	Enter the Circuit ID: for the leg you want to make the return path.	
7	Click Continue... . The Circuit Options and Control Options boxes appear on the form and all other information fields for that leg appear in read-only mode.	
8	Select the desired Circuit Options for your new leg.	
9	Select a Reconcile Mode: option.	SE 80-4
10	In the Execution Mode: box, select the desired scheduling mode.	SE 80-5
11	Click Continue... . All fields will appear in read-only mode.	
12	Verify the information on the form to ensure you are changing the path of the correct leg.	
13	When you have approved the information on the form, Click Execute . The New Status: field will appear indicating the new status of your circuit.	
14	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Creating an Alternate Route Circuit for an Existing Circuit

97

Background

When to Use

Use this General Task to set up alternate route paths for circuits in case of NPC failure.

Before You Begin

Before you begin this task, you must have at least one In-Service NPC available (GT 80/GT 81/GT 82) on a DACS which can be readily used to set up the alternate route cross-connection.

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task Complete the following steps to create an alternate route for an active circuit:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select Circuit Provisioning... The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select ALTROUTE from the Action: field.	
5	Click Continue... . The Ckt Class: field appears on the form.	
6	Select the circuit type from the Ckt Class: field.	
7	Click Continue... . The Circuit ID: field appears on the form.	
8	Enter a name for the circuit in the Circuit ID: field.	
9	Click Continue... . The CIRCUIT ENDPOINTS box appears on the form in read-only mode. The ALTROUTE CIRCUIT ENDPOINTS box appears on the form. The Initial status: field indicates a status of ACTIVE .	
10	Identify the NPC Specifier: and NPC: for the FROM and TO sides of the altrouted cross-connection path.	SE 72-1
11	Click Continue... . The FROM Channel: and TO Channel: fields appear on the form.	
12	Enter the FROM Channel: and TO Channel: designations of the altrouted path.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
13	Click Continue.... The following will appear on the form: ■ CIRCUIT INFORMATION and Control Options boxes ■ (If an NPC in the circuit is connected to an intertie) CIRCUIT NETWORK INFORMATION box If there is no existing cross-connection on the new path, then skip to Step 15.	
14	A separate Netscape window appears on the screen with a table containing the preempting information in it. On the CIRCUIT PROVISIONING form, an ALTRROUTE INFORMATION field appears with the text, "Verify it is OK to preempt the circuits in the PREEMPT pop-up." ■ If it is OK to proceed with the preempting, select the Verified: checkbox. ■ Otherwise, click Back until you return to the part of the form to re-enter new ALTRROUTE CIRCUIT ENDPOINT designations	
15	Select the desired Circuit Options .	
16	Enter values for the following fields: ■ Trunk Conditioning: ■ Insertion Word: ■ Signaling Conversion:	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
17	Enter information into the following fields: ■ (Optional) Location A: ■ (Optional) Location Z: ■ (Optional) Customer Name: ■ Priority ■ (Optional) Remarks:	
18	Select the Service Date when the altrouted circuit will be made available to the Customer.	
19	Select a Reconcile Mode: option.	SE 80-4
20	In the Execution Mode: box, select the desired scheduling mode.	SE 80-5
21	Click Continue... . All fields will appear in read-only mode.	
22	Verify the information on the form to ensure you are altrouting the desired circuit.	
23	When you have approved the information on the form, Click Execute . A New Status: field appears on the form, indicating the <i>ALTROUTED</i> status of the circuit.	
24	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Background

When to Use

Use this General Task to change the status of a circuit from *ALTROUTE* to *ACTIVE*. The circuit will follow the path in which it was initially created.

Before You Begin

Before you begin this task, you must have an altrouted circuit in the DACS network (GT 97).

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task

Complete the following steps to modify a circuit on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>NORMALIZE</i> from the Action: field.	
5	Click Continue... . The Circuit ID: field appears on the form.	
6	Enter the name of the circuit in the Circuit ID: field.	
7	Click Continue... . The following appears on the form: ■ The Ckt Class: field in read-only mode ■ The CIRCUIT ENDPOINTS box in read-only mode ■ The ALTRoute CIRCUIT ENDPOINTS box ■ The ALTRoute Date and Time: field, which indicates the date and time the circuit was <i>ALROUTED</i> ■ The CIRCUIT INFORMATION box in read-only mode, except for the Circuit Options: field. ■ (If an NPC in the circuit is connected to an intertie) The CIRCUIT NETWORK INFORMATION box.	
8	Select the desired Circuit Options: .	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
9	Select the Reconcile Mode: .	SE 80-4
10	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5
11	Click Continue... . All fields will appear in read-only mode.	
12	Verify the information on the form to ensure you are normalizing the correct circuit.	
13	When you have approved the information on the form, Click Execute . A New Status: field appears on the form, indicating the new status of <i>ACTIVE</i> for your circuit.	
14	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Deactivating a Circuit

99

Background

When to Use

Use this General Task to deactivate a cross-connection on a DACS. The circuit is removed from service, but still remains in the DND database.

Before You Begin

Before you begin this task, you must have an activated circuit in the DND network (GT 90/91).

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task Complete the following steps to deactivate a circuit on a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>DEACTIVATE</i> from the Action: field.	
5	Click Continue... . The Circuit ID: field appears on the form.	
6	Enter the circuit name in the Circuit ID: field.	
7	Click Continue... . The following will appear on the form: ■ Ckt Class: field in read-only mode ■ CIRCUIT ENDPOINTS box in read-only mode ■ CIRCUIT INFORMATION box ■ (If an NPC in the circuit is connected to an intertie) CIRCUIT NETWORK INFORMATION box ■ Control Options box	
8	(Optional) Modify any fully selectable circuit information fields as necessary.	GT 92
9	Select the Reconcile Mode: .	SE 80-4
10	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
11	Click Continue... . All fields will appear in read-only mode.	
12	Verify the information on the form to ensure you are deactivating the desired circuit.	
13	When you have approved the information on the form, Click Execute . The New Status: field will appear indicating the new status of your circuit.	
14	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Deleting a Circuit

100

Background

When to Use

Use this General Task to delete a cross-connection from a DACS. The circuit is disconnected and removed from the DND database.

Before You Begin

Before you begin this task, you must have an existing circuit in the DND network (GT 90/91). The circuit will not be deleted if it is associated with an intertie.

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task

Complete the following steps to delete a circuit from a DACS:S:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>DELETE</i> from the Action: field.	
5	Click Continue... . The Circuit ID: field appears on the form.	
6	Enter the circuit name in the Circuit ID: field.	
7	Click Continue... . The following will appear on the form: ■ Ckt Class: field in read-only mode ■ CIRCUIT ENDPOINTS box in read-only mode ■ CIRCUIT INFORMATION box in read-only mode except for the Circuit Options: field. ■ (If an NPC in the circuit is connected to an intertie) CIRCUIT NETWORK INFORMATION box ■ Control Options box	
8	If you have a red-lined or customer-controlled circuit, select the INCL: option from the Circuit Options: field. Select any other Circuit Options: relevant to this circuit.	
9	Select the Reconcile Mode: .	SE 80-4
10	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
11	Click Continue... . All fields will appear in read-only mode.	
12	Verify the information on the form to ensure you are deleting the desired circuit.	
13	When you have approved the information on the form, Click Execute . The New Status: field will appear indicating the new status of <i>NULL</i> for your circuit.	
14	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Background

When to Use

Use this General Task display the circuit trace of a network circuit.

Before You Begin

Before you begin this task, you must have an existing circuit with a traceable path in the DACS network (via interties and common channel circuits on a DACS).

Related Information

For related information, refer to Chapter 9: Circuit Provisioning.

Instructions

Task

Complete the following steps to display a circuit trace map:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Circuit Provisioning...</i> The CIRCUIT PROVISIONING form appears on the screen.	
3	Select the desired Site Name: where the circuit will reside.	
4	Select <i>TRACE</i> from the Action: field.	
5	Click Continue... . The Ckt Class: field appears on the form.	
6	Enter the circuit type in the Ckt Class: field.	
7	Click Continue... . The Circuit ID: field appears on the form.	
8	Enter the circuit name in the Circuit ID: field.	
9	Click Continue... . The CIRCUIT NETWORK INFORMATION box appears on the form. All fields appear on the form in read-only mode.	
10	Click TRACE MAP DISPLAY . The following appears on the screen: ■ A separate Netscape window with a table listing all circuit IDs and DACS systems in the network circuit ■ A separate Netscape window displaying the circuit trace network map over a greyed out background picture	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
11	Close the circuit trace Netscape windows: ■ Double-click on the Window Menu Icon to close the circuit trace table window ■ Click Close to close the circuit trace diagram window	
12	Stop! End of Task.	
	Select a What's Next option.	SE 90-1

Contents

■ Performing an Alarm Synchronization	GT 103-1
What's Next Options for Database Audit/Synchronization	GT 103-3
■ Performing a Channel Audit	GT 104-1
■ Performing an NPC Audit	GT 105-1
■ Performing a Channel Synchronization	GT 106-1
■ Performing an NPC Synchronization	GT 107-1
■ Performing an Upload	GT 108-1
■ Performing an Abort	GT 109-1

Background

When to Use	Use this General Task to synchronize the alarm state of the NPCs on the DACS and in the DND database.

Before You Begin	Before you begin this task, you must have NPCs created (GT 80/GT 81) in both the DND and DACS databases.

Related Information	For related information, refer to Chapter 10: Database Audit/Synchronization.

Instructions

Task Complete the following steps to perform an alarm synchronization:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Database Audit/Synchronization...</i> The DATABASE AUDIT/SYNCHRONIZATION form appears on the screen.	
3	Select the desired Site Name: where the synchronization will take place.	
4	Select <i>ALARM SYNC</i> from the Action: field.	
5	Click Continue... . The Execution Mode: field appears on the form.	
6	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5
7	Click Continue... . All fields will appear in read-only mode.	
8	Verify the information on the form to ensure the information on the form is correct.	
9	When you have approved the information on the form, Click Execute .	
10	Stop! End of Task.	
	Select a What's Next option.	SE 103-1

SE 103-1: What's Next Options for Database Audit/Synchronization

What's Next?

Options	Reference
Click New Action to perform another action on the current DACS.	GT 103 - GT 109
Click Restart to clear and initialize the form and select an action for another DACS.	
Click Close to exit the DATABASE AUDIT/ SYNCHRONIZATION form.	

Background

When to Use	Use this General Task to compare the local and facility databases, and log the differences in parameters between them.

Before You Begin	Before you begin this task, you must have NPCs and circuits created (GT 80/GT 81/GT 90) in both the DND and DACS databases.

Related Information	For related information, refer to Chapter 10: Database Audit/Synchronization.

Instructions

Task

Complete the following steps to perform a channel audit:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Database Audit/Synchronization...</i> The DATABASE AUDIT/SYNCHRONIZATION form appears on the screen.	
3	Select the desired Site Name: where the synchronization will take place.	
4	Select <i>CHANNEL AUDIT</i> from the Action: field.	
5	Click Continue... . The Mode: field appears on the form.	
6	Select the appropriate option in the Mode: field to set the audit range. If the Mode: selected is <i>ALL FACILITY NPCS</i> or <i>ALL LOCAL NPCS</i> , then skip to Step 8.	
7	Perform ONE of the following: ■ If the Mode: selected is <i>RANGE OF FACILITY NPCS</i> or <i>RANGE OF LOCAL NPCS</i>, the NPC and LAST NPC boxes will appear on the form. Select the audit range by identifying the NPC Specifier: and NPC: for the NPC and LAST NPC boxes. ■ If the Mode: selected is <i>SINGLE NPC</i>, the NPC box will appear on the form. Identify the NPC Specifier: and NPC: to audit all channels on the single NPC.	SE 72-1

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
7	(Continued) ■ If the Mode: selected is <i>SINGLE CHANNEL</i>, the NPC box and Channel: field will appear on the form. Identify the NPC Specifier:, NPC:, and Channel: number for the single channel audit. Skip to Step 10; this Action: cannot be scheduled.	
8	Click <u>Continue...</u> . The Execution Mode: field and NPC fields appear on the form.	
9	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5
10	Click <u>Continue...</u> . All fields will appear in read-only mode.	
11	Verify the information on the form to ensure the information on the form is correct.	
12	When you have approved the information on the form, Click <u>Execute</u> . If Action: is <i>SINGLE CHANNEL AUDIT</i> , a separate Netscape window appears, displaying a table with the results of the audit. Otherwise, the Action: will complete in the background.	
13	Stop! End of Task.	
	Select a What's Next option.	SE 103-1

Background

When to Use Use this General Task to compare the local and facility databases, and log the differences in parameters between them.

Before You Begin Before you begin this task, you must have NPCs and circuits created (GT 80/GT 81/GT 90) in both the DND and DACS databases.

Related Information For related information, refer to Chapter 10: Database Audit/Synchronization.

Instructions

Task

Complete the following steps to perform an NPC audit:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Database Audit/Synchronization...</i> The DATABASE AUDIT/SYNCHRONIZATION form appears on the screen.	
3	Select the desired Site Name: where the synchronization will take place.	
4	Select <i>NPC AUDIT</i> from the Action: field.	
5	Click Continue... . The Mode: field appears on the form.	
6	Select the appropriate option in the Mode: field to set the audit range. If the Mode: selected is <i>ALL FACILITY NPCS</i> or <i>ALL LOCAL NPCS</i> , then skip to Step 8.	
7	Perform ONE of the following: ■ If the Mode: selected is <i>RANGE OF FACILITY NPCS</i> or <i>RANGE OF LOCAL NPCS</i>, the NPC and LAST NPC boxes will appear on the form. Select the audit range by identifying the NPC Specifier: and NPC: for the NPC and LAST NPC boxes. ■ If the Mode: selected is <i>SINGLE NPC</i>, the NPC box will appear on the form. Identify the NPC Specifier: and NPC: to audit all channels on the single NPC.	SE 72-1
8	Click Continue... . The Execution Mode: field and NPC fields appear on the form.	
9	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
10	Click Continue... . All fields will appear in read-only mode.	
11	Verify the information on the form to ensure the information on the form is correct.	
12	When you have approved the information on the form, Click Execute . The Action: will complete in the background.	
13	Stop! End of Task.	
	Select a What's Next option.	SE 103-1

Background

When to Use Use this General Task to compare the local and facility databases, and log the differences in parameters between them.

Before You Begin Before you begin this task, you must have NPCs and circuits created (GT 80/GT 81/GT 90) in both the DND and DACS databases.

Related Information For related information, refer to Chapter 10: Database Audit/Synchronization.

Instructions

Task

Complete the following steps to perform a channel synchronization:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Database Audit/Synchronization...</i> The DATABASE AUDIT/SYNCHRONIZATION form appears on the screen.	
3	Select the desired Site Name: where the synchronization will take place.	
4	Select <i>CHANNEL SYNC</i> from the Action: field.	
5	Click Continue... . The Mode: and Master DB: fields appear on the form.	
6	Select the appropriate option in the Master DB: field to set the master database for the synchronization.	
7	Select the appropriate option in the Mode: field to set the sync range. If the Mode: selected is <i>ALL FACILITY NPCS</i> or <i>ALL LOCAL NPCS</i> , then skip to step 9.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
8	Perform ONE of the following: ■ If the Mode: selected is <i>RANGE OF FACILITY NPCS</i> or <i>RANGE OF LOCAL NPCS</i>, the NPC and LAST NPC boxes will appear on the form. Select the sync range by identifying the NPC Specifier: and NPC: for the NPC and LAST NPC boxes ■ If the Mode: selected is <i>SINGLE NPC</i>, the NPC box will appear on the form. Identify the NPC Specifier: and NPC: to sync all channels on the single NPC ■ If the Mode: selected is <i>SINGLE CHANNEL</i>, the NPC box and Channel: field will appear on the form. Identify the NPC Specifier:, NPC:, and Channel: number for the single channel sync. Skip to Step 11; this Action: cannot be scheduled	SE 72-1
9	Click <u>Continue...</u> . The Execution Mode: field appears on the form.	
10	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5
11	Click <u>Continue...</u> . All fields will appear in read-only mode.	
12	Verify the information on the form to ensure the information on the form is correct.	
13	When you have approved the information on the form, Click <u>Execute</u> . The Action: (except Single Channel Synchronizations) will complete in the background.	
14	Stop! End of Task.	
	Select a What's Next option.	SE 103-1

Background

When to Use Use this General Task to compare the local and facility databases, and log the differences in parameters between them.

Before You Begin Before you begin this task, you must have NPCs and circuits created (GT 80/GT 81/GT 90) in both the DND and DACS databases.

Related Information For related information, refer to Chapter 10: Database Audit/Synchronization.

Instructions

Task

Complete the following steps to perform an NPC synchronization:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Database Audit/Synchronization...</i> The DATABASE AUDIT/SYNCHRONIZATION form appears on the screen.	
3	Select the desired Site Name: where the synchronization will take place.	
4	Select <i>NPC SYNC</i> from the Action: field.	
5	Click Continue... . The Mode: and Master DB: fields appear on the form.	
6	Select the appropriate option in the Master DB: field to set the master database for the synchronization.	
7	Select the appropriate option in the Mode: field to set the sync range. If the Mode: selected is <i>ALL FACILITY NPCS</i> or <i>ALL LOCAL NPCS</i> , then skip to Step 9.	
8	Perform ONE of the following: ■ If the Mode: selected is <i>RANGE OF FACILITY NPCS</i> or <i>RANGE OF LOCAL NPCS</i>, the NPC and LAST NPC boxes will appear on the form. Select the sync range by identifying the NPC Specifier: and NPC: for the NPC and LAST NPC boxes ■ If the Mode: selected is <i>SINGLE NPC</i>, the NPC box will appear on the form. Identify the NPC Specifier: and NPC: to sync all channels on the single NPC	SE 72-1

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
9	Click Continue... . The Execution Mode: field appears on the form.	
10	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5
11	Click Continue... . All fields will appear in read-only mode.	
12	Verify the information on the form to ensure the information on the form is correct.	
13	When you have approved the information on the form, Click Execute . The Action: will complete in the background.	
14	Stop! End of Task.	
	Select a What's Next option.	SE 103-1

When to Use Use this General Task to upload the DACS NPC and channel databases into the DND database.

Before You Begin Before you begin this task, you must have NPCs and circuits created (GT 80/GT 81/GT 90) on the DACS. The NPCs may or may not exist previously in the DND database.

Related Information For related information, refer to Chapter 10: Database Audit/Synchronization.

Instructions

Task Complete the following steps to perform an upload:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Database Audit/Synchronization...</i> The DATABASE AUDIT/SYNCHRONIZATION form appears on the screen.	
3	Select the desired Site Name: where the synchronization will take place.	
4	Select <i>UPLOAD</i> from the Action: field:.	
5	Click Continue... . The Execution Mode: field appears on the form.	
6	In the Execution Mode: field, select the desired scheduling mode.	SE 80-5
7	Click Continue... . All fields will appear in read-only mode.	
8	Verify the information on the form to ensure the information on the form is correct. If it is not the correct, click Back until you reach the section of the DATABASE AUDIT/SYNCHRONIZATION form you want to edit. Click Continue... to move forward through the form.	
9	When you have approved the information on the form, Click Execute .	
10	Stop! End of Task.	
	Select a What's Next option.	SE 103-1

When to Use	Use this General Task to abort an audit or synchronization action in progress or in the job queue.

Before You Begin	Before you begin this task, you must have an active audit/synchronization action in progress or in the queue.

Related Information	For related information, refer to Chapter 10: Database Audit/Synchronization.

Instructions

Task

Complete the following steps to perform an upload:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Database Audit/Synchronization...</i> The DATABASE AUDIT/SYNCHRONIZATION form appears on the screen.	
3	Select the desired Site Name: where the synchronization will take place.	
4	Select <i>ABORT</i> from the Action: field:. The <i>ABORT Action:</i> occurs immediately; it cannot be scheduled.	
5	Click Continue... . All fields will appear in read-only mode.	
6	Verify the information on the form to ensure the information on the form is correct.	
7	When you have approved the information on the form, Click Execute .	
8	Stop! End of Task.	
	Select a What's Next option.	SE 103-1

Contents

- Sending a Message to the DACS

GT 110-1

Background

When to Use

Use this General Task to send MML DACS commands to communicate directly to the DACS. The DACS response is displayed on the screen in a separate Netscape window.

Before You Begin

Before you begin this task, make sure the DACS you wish to send a message to is In-Service and communicating to the DND. Also, you cannot send a message to the DACS, in this way, if a **Full Passthrough** session is in progress at the same DACS.

Related Information

For related information, refer to Chapter 11: DACS Message.

Instructions

Task Complete the following steps to send commands to a DACS:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>DACS Message...</i> The DACS MESSAGE form appears on the screen.	
3	Select the DACS to communicate with in the Current Site Choices: field.	
4	Enter the MML DACS command in the Command: field.  NOTE: The Command: field is case insensitive and the ending semi-colon may be omitted.	
5	When you have approved the information on the form, Click Execute . If the command completes successfully, a separate Netscape window appears with the DACS response to the command entered.	
6	Stop! End of Task.	

Contents

■ Generating Reports	GT 120-1
Setting the DATE and TIME for a Report	GT 120-3
Entering the Range for a Report Field	GT 120-4
What's Next Options for Generating Reports	GT 120-5
■ Generating an Alarm Summary Report	GT 121-1
What's Next Options	GT 121-3

Background

When to Use Use this General Task to generate full and specialized reports using the DND GUI.

Related Information For related information, refer to Chapter 12: Report Operations.

Instructions

Task Complete the following steps to generate and display full and specialized reports:

Step	Action	Reference
1	Click Reports located at the top of the DND USER INTERFACE window. The REPORTS task menu appears.	
2	Select the report type you wish to generate from the REPORTS task menu. A report SEARCH CRITERIA form, displaying the fields for the particular report type, appears on the screen.	
3	Specialize the report by entering/selecting values or options into these fields to find the corresponding records that match in the DND database. Leaving a field blank or with the wildcard character (*) will display all records for that field. Leaving all fields blank or with the wildcard character (*) will result in a full report.	SE 120-1, SE 120-2
4	Click Continue... . All fields on the form appear in read-only mode.	
5	Verify the information on the form to ensure you are retrieving the desired report.	
6	When you have approved the information on the form, Click Execute . A separate Netscape window appears with the desired report.  NOTE: With large databases, report generation can take a few minutes.	
7	Stop! End of Task.	
	Select a What's Next option.	SE 120-3

SE 120-1: Setting the DATE and TIME for a Report

Procedure

Perform the steps below to set the **DATE** and **TIME** fields for a report:

IF you want to specify the...	THEN...
DATE	Select the Day: , Month: , and Year: option. Each of these 3 fields collectively specifies the DATE .
TIME	Select the Hour: , Minutes: , and Second: options. Each of these 3 fields collectively specifies the TIME .

**NOTE:**

An asterisk (*) in a field will display all possible choices for that category.

Stop! End of Procedure.

SE 120-2: Entering the Range for a Report Field

Procedure

Perform ONE of the steps below to set the **Range:** for a report form field:

IF you want a report on...	THEN select...
The specified field value	The (=) option in the Range: field
The field values less than the specified field value	The (<) option in the Range: field
The field values greater than the specified field value	The (>) option in the Range: field

For example, if the **Channel:** field indicates a value of 3, selecting the (<) option in the **Range:** field will generate a report for channels LESS than Channel 3.

Stop! End of Procedure.

SE 120-3: What's Next Options for Generating Reports

What's Next?

Perform ONE of the following options below upon completion of the task:

Options	Reference
Click Back to retrieve another report of the same type, retaining the information of the previous form.	GT 120
Click Restart to clear and initialize the form and enter new information for a report of the same type.	GT 120
Click Close to exit the report form.	

Background

When to Use Use this General Task to generate an alarm summary report when new alarms appear in the DND.

Before You Begin Before you begin this task, you should have noticed the new alarms that have been introduced into the system indicated by the red arrow either to the right of the [New Alarm Summary...](#) button, or located to the right of the Alarm Status Indicator (ASI). The absence of this red arrow indicates no new alarms to display.

Related Information For related information, refer to Chapter 12: Report Operations.

Instructions

Task Complete the following steps to generate and display an alarm summary report:

Step	Action	Reference
1	On the DND Main window screen, Click <u>New Alarm Summary...</u> . The ALARM SUMMARY window will appear on the screen.	
2	Click the button indicating the name of the frame which has a new alarm (red arrow). The Alarm Summary Report will appear in a separate Netscape window.	
3	Close the Netscape report window by double-clicking the Window Menu icon in the upper-left corner of the window.	
4	Stop! End of Task.	
	Select a What's Next option.	SE 121-1

SE 121-1: What's Next Options

What's Next?

Perform ONE of the following options below upon completion of the task:

Options	Reference
Click another active DACS alarm summary button.	GT 121
Click Close to exit the ALARM SUMMARY window.	

Contents

■ Performing Circuit Test Access in Monitor Mode	GT 130-1
Selecting the Test Specifier	GT 130-4
What's Next Options for Test Access	GT 130-5
■ Performing an Unmapped Test Access in Monitor Mode	GT 131-1
■ Performing Test Access in Split Mode	GT 132-1
■ Performing a HUB Test Access Connection	GT 133-1
■ Terminating or Unterminating the Test Group Signal	GT 134-1
■ Releasing a Test Access Connection	GT 135-1
■ Looping a Test Group Signal	GT 136-1

Performing Circuit Test Access in Monitor Mode

130

Background

When to Use

Use this General Task to place a circuit in test access in the *MONITOR* mode.

Before You Begin

Before you begin this task, make sure you have the following:

- A circuit established in the DND network (GT 90/GT 91) to use to place in test access.
 - An available pair of channels on an NPC or NPCs which are In-service. Performing an NPC or Channel report may help (GT 120). The DND will use these channels for the test group.
-

Related Information

For related information, refer to Chapter 13: Test Access.

Instructions

Task

Complete the following steps to place a circuit in the *MONITOR* mode:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Test Access...</i> . The TEST ACCESS form will appear on the screen.	
3	Select the Site Name: where the circuit resides.	
4	Select <i>MONITOR</i> from the Action: field.	
5	Click Continue... . The Test Specifier: field will appear on the form.	
6	Identify the Test Specifier: . If you are changing an existing test access from <i>SPLIT</i> to <i>MONITOR</i> mode, skip to Step 12.	SE 130-1
7	Click Continue... . The following will appear on the form: ■ The TEST OBJECT fields ■ The OBJECT UNDER TEST fields in read-only mode ■ The Object Type: field indicating <i>TG</i> in read-only mode (only test groups are used in the DND system) ■ The Initial Test State: field indicating the circuit's test state (<i>IDLE</i> for a new test access connection) ■ The Trunk Conditioning and Insertion Word fields	
8	(Optional) Enter values into the Trunk Conditioning: and Insertion Word: fields for the circuit.	
9	Identify the NPC Specifier: and NPC: for the FROM and TO sides of the test group in the TEST OBJECT field box.	SE 72-1

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
10	Click Continue... . The FROM Channel: and TO Channel: fields appear on the form. The Bandwidth: field also appears, automatically filled in with the appropriate bandwidth value according to the Bandwidth: of the OBJECT UNDER TEST .	
11	Enter a channel number for the FROM Channel: and TO Channel: fields for the TEST OBJECT .  NOTE: Channels for the TEST OBJECT will always be <i>Contiguous</i> , even if you are testing a <i>Random</i> circuit.	
12	Click Continue... . The Control Options: field appears on the form.	
13	Select the Reconcile Mode: .	SE 80-4
14	Click Continue... . All fields appear in read-only mode.	
15	Verify the information on the form to ensure you have entered the test access information correctly.	
16	When you have approved the information on the form, Click Execute . Notice the following results when the action is performed successfully: ■ The DND generates a test group number in the Number: field. ■ The New Test State: field appears indicating the <i>MONITOR</i>	
17	Stop! End of Task.	
	Select a What's Next option.	SE 130-2

SE 130-1: Selecting the Test Specifier

Procedure

Perform the following steps to select the correct **Test Specifier**: for the **TEST OBJECT**:

IF you are performing...	THEN select...
A new Test Access connection	The Circuit ID : option and enter the circuit name in the blank field below it.
A change on an existing Test Access connection from Split to Monitor	Select ONE of the following: ■ The Circuit ID: option and enter the circuit name in the blank field below it ■ The TG Number: option and enter the test group number in the blank field below it

Stop! End of Procedure.

SE 130-2: What's Next Options for Test Access

What's Next?

Perform ONE of the following options below upon completion of the task:

Options	Reference
Click New Action to perform another action on the current circuit.	GT 130 - GT 136
Click Restart to clear and initialize the form and select an action for another circuit.	
Click Close to exit the TEST ACCESS form.	

Performing an Unmapped Test Access in Monitor Mode

131

Background

When to Use

Use this General Task to place unmapped channels in test access in the *MONITOR* mode.

Related Information

For related information, refer to Chapter 13: Test Access.

Instructions

Task

Complete the following steps to place a circuit in the *MONITOR* mode:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Test Access...</i> The TEST ACCESS form will appear on the screen.	
3	Select the Site Name: where the circuit resides.	
4	Select <i>MONITOR</i> from the Action: field.	
5	Click Continue... . The Test Specifier: field will appear on the form.	
6	Do not identify the Test Specifier: . Leave the blank field empty.	
7	Click Continue... . The following will appear on the form: ■ The TEST OBJECT fields ■ The OBJECT UNDER TEST TO NPC fields in read-only mode (no FROM NPC fields will appear for unmapped channels) ■ The Object Type: field indicating <i>TG</i> in read-only mode (only test groups are used in the DND system) ■ The Initial Test State: field indicating the circuit's test state (<i>IDLE</i> for a new test access connection) ■ The Trunk Conditioning and Insertion Word fields	
8	(Mandatory for Unmapped Test Access) Enter values into the Trunk Conditioning: and Insertion Word: fields for the circuit.	
9	Identify the NPC Specifier: and NPC: for the FROM and TO sides of the TEST OBJECT and OBJECT UNDER TEST .	SE 72-1

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
10	Click Continue... . The following appears on the form: ■ The Bandwidth:, FROM Channel:, and TO Channel: fields for the TEST OBJECT ■ The TO Channel: for the OBJECT UNDER TEST	
11	Select the Bandwidth: for the TEST OBJECT .	
12	Enter a channel number for: ■ The FROM Channel: and TO Channel: fields for the TEST OBJECT ■ TO Channel: for the OBJECT UNDER TEST  NOTE: Channels for the TEST OBJECT and OBJECT UNDER TEST will always be <i>Contiguous</i> for Unmapped Test Access.	
13	Click Continue... . The Control Options: field appears on the form.	
14	Select the Reconcile Mode: .	SE 80-4
15	Click Continue... . All fields appear in read-only mode.	
16	Verify the information on the form to ensure you have entered the test access information correctly.	
17	When you have approved the information on the form, Click Execute . Notice the following results when the action is performed successfully: ■ The DND generates a test group number in the Number: field. ■ The New Test State: field appears indicating the <i>MONITOR</i>.	
18	Stop! End of Task.	
	Select a What's Next option.	SE 130-2

Performing Test Access in Split Mode

132

Background

When to Use

Use this General Task to place a test access connection to the *SPLIT* mode.

Before You Begin

Before you begin this task, you should have an existing test access connection in the DACS system in *MONITOR* mode.

Related Information

For related information, refer to Chapter 13: Test Access.

Instructions

Task

Complete the following steps to place a test access connection in the Split mode:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Test Access...</i> The TEST ACCESS form will appear on the screen.	
3	Select the Site Name: where the test access circuit resides.	
4	Select <i>SPLIT</i> from the Action: field.	
5	Click Continue... . The Test Specifier: field will appear on the form.	
6	Identify the Test Specifier: .	SE 130-1
7	Click Continue... . The Control Options box appears on the form.	
8	Select the Reconcile Mode: .	SE 80-4
9	Click Continue... . All fields will appear in read-only mode.	
10	Verify the information on the form to ensure you have entered the test access information correctly.	
11	When you have approved the information on the form, Click Execute . Notice the following results when the action is performed successfully: ■ The Number: field will indicate the test group number automatically assigned by the DND ■ The New Test State: field will indicate that the state of the test access connection is <i>SPLIT</i>	
12	Stop! End of Task.	
	Select a What's Next option.	SE 130-2

Performing a HUB Test Access Connection

133

Background

When to Use

Use this General Task to create a HUB test access connection, providing a way to test circuits on remote DACS frames using a local, Hub DACS.

Before You Begin

Before you begin this task, you must have your remote DACS frames connected to a Hub DACS, i.e., through an intertie connection (GT 70), and the test system used to perform the test should be connected to the Hub DACS.

Related Information

For related information, refer to Chapter 13: Test Access.

Instructions

Task

Complete the following steps to perform a Hub test access connection:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Test Access...</i> . The TEST ACCESS form will appear on the screen.	
3	Select the Site Name: where the circuit resides.	
4	Select <i>HUB</i> from the Action: field.	
5	Click Continue... . The TEST OBJECT and OBJECT UNDER TEST boxes appear on the form.	
6	Identify the NPC Specifier: and NPC: for the FROM and TO NPCs of the TEST OBJECT and OBJECT UNDER TEST .	SE 72-1
7	Click Continue... . The following appears on the form: ■ Bandwidth:, TO Channel:, and FROM Channel: fields for the TEST OBJECT ■ TO Channel: and FROM Channel: fields for the OBJECT UNDER TEST	
8	Select a Bandwidth: for the TEST OBJECT.	
9	Enter channel numbers for the FROM and TO channel fields of the TEST OBJECT and OBJECT UNDER TEST .	
10	Click Continue... . The Control Options box will appear on the form.	
11	Select the Reconcile Mode: .	SE 80-4
12	Click Continue... . All fields will appear in read-only mode.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
13	Verify the information on the form to ensure you have entered the test access information correctly.	
14	When you have approved the information on the form, Click Execute . Notice the following results when the action is performed successfully: ■ The Number: field will indicate the test group number automatically assigned by the DND ■ The New Test State: field will indicate that the state of the test access connection is <i>HUB</i>.	
15	Stop! End of Task.	
	Select a What's Next option.	SE 130-2

Terminating or Undermining the Test Group Signal

134

Background

When to Use

Use this General Task to terminate or undermine the test group signal.

Before You Begin

Before you begin this task, you should already have a test access connection established in the DACS network.

Related Information

For related information, refer to Chapter 13: Test Access.

Instructions

Task

Complete the following steps to terminate or unterminate the test group signal:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Test Access...</i> . The TEST ACCESS form will appear on the screen.	
3	Select the Site Name: where the circuit resides.	
4	Select ONE of the following from the Action: field: ■ <i>TERMINATE</i> to terminate one end of the test group ■ <i>UNTERMINATE</i> to release the termination of the test group	
5	Click Continue... . The Direction: and Test Specifier: fields will appear on the form.	
6	Select the termination direction from the Direction: field.	
7	Select a Test Specifier: for the test group.	SE 130-1
8	Click Continue... . The TEST GROUP AND OBJECT UNDER TEST boxes appear on the form in read-only mode. The Control Options box will also appear.	
9	Select the Reconcile Mode: .	SE 80-4
10	Click Continue... . All fields will appear in read-only mode.	
11	Verify the information on the form to ensure you have entered the test access information correctly.	
12	When you have approved the information on the form, Click Execute . The New Test State: field will indicate the new state of the test access connection.	
13	Stop! End of Task.	
	Select a What's Next option.	SE 130-2

Background

When to Use

Use this General Task to release a test access connection.

Before You Begin

Before you begin this task, you must have previously set up a test access connection in the DND network (GT 130/GT 131/GT 132).

Related Information

For related information, refer to Chapter 13: Test Access.

Instructions

Task

Complete the following steps to release a test access connection:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Test Access...</i> The TEST ACCESS form will appear on the screen.	
3	Select the Site Name: where the circuit resides.	
4	Select <i>RELEASE</i> from the Action: field.	
5	Click Continue... . The OOS: and Test Specifier: fields will appear on the form.	
6	Select the OOS: checkbox if an NPC in either the TEST OBJECT or OBJECT UNDER TEST is Out-of-Service.	
7	Select a Test Specifier: for the test group.	SE 130-1
8	Click Continue... . The fields for the test access circuit and test group appear in read-only mode. The Control Options box will also appear.	
9	Select the Reconcile Mode: .	SE 80-4
10	Click Continue... . All fields will appear in read-only mode.	
11	Verify the information on the form to ensure you have entered the test access information correctly.	

(Continued on next page)

Instructions (Continued)

Task, Continued

Step	Action	Reference
12	When you have approved the information on the form, Click Execute . Notice the following results when the action is performed successfully: ■ The Number: field will indicate the test group number automatically assigned by the DND ■ The New Test State: field will indicate that the state of the test access connection is <i>IDLE</i>	
13	Stop! End of Task.	
	Select a What's Next option.	SE 130-2

Background

When to Use

Use this General Task to loop a test group signal in order to test the test group channels.

Related Information

For related information, refer to Chapter 13: Test Access.

Instructions

Task

Complete the following steps to loop a test group signal:

Step	Action	Reference
1	Click Provisioning located at the top of the DND USER INTERFACE window. The PROVISIONING task menu appears.	
2	Select <i>Test Access...</i> The TEST ACCESS form will appear on the screen.	
3	Select the Site Name: where the circuit resides.	
4	Select <i>LOOP</i> from the Action: field.	
5	Click Continue... . The TEST OBJECT box will appear on the form. The DND automatically fills in <i>TG</i> for the Object Type: .	
6	Enter values for the Trunk Conditioning: and Insertion Word: .	
7	Identify the NPC Specifier: and NPC: for the FROM and TO sides of the test group circuit.	SE 72-1
8	Click Continue... . The bandwidth and channel fields appear on the form.	
9	Select the Bandwidth: of the test group.	
10	Enter the FROM Channel: and TO Channel: numbers of the test group. If the bandwidth is greater than 1, then these values will be the beginning of the channel range.	
11	Click Continue... . The Control Options box will appear on the form.	
12	Select the Reconcile Mode: .	SE 80-4
13	Click Continue... . All fields will appear in read-only mode.	

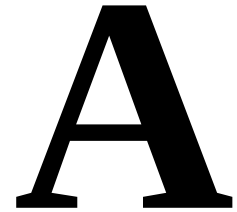
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Instructions (Continued)

Task, Continued

Step	Action	Reference
14	Verify the information on the form to ensure you have entered the test access information correctly.	
15	When you have approved the information on the form, Click Execute . Notice the following results when the action is performed successfully: ■ The Number: field will indicate the test group number automatically assigned by the DND ■ The New Test State: field will indicate that the state of the test access connection is <i>LOOP</i>	
16	Stop! End of Task.	
	Select a What's Next option.	SE 130-2

Summary of Fields for Customized Reports



Contents

■ Background	A-3
Introduction	A-3
Purpose	A-3
Related tasks	A-3
Related information	A-3
■ ALARM LOG Reports	A-4
Fields	A-4
■ CIRCUIT ALARMS Report	A-6
Fields	A-6
■ NPC ALARMS Report	A-9
Fields	A-9
■ COMMON EQUIPMENT ALARMS Report	A-11
Fields	A-11
■ CIRCUIT Report	A-12
Fields	A-12

(Continued on next page)

Contents (Continued)

■ CHANNEL Reports	A-17
Fields	A-17
■ NPC Report	A-19
Fields	A-19
■ ALTROUTES/PREEMPTIONS Reports	A-30
Fields	A-30
■ RECONFIGURATION PLANS Reports	A-31
Fields	A-31
■ RECONFIGURATION PLAN ALTROUTE Reports	A-32
Fields	A-32
■ AUTO RECONFIGURATION PLAN Reports	A-34
Fields	A-34
■ OUTAGES Reports	A-36
Fields	A-36
■ TEST PORT Reports	A-37
Fields	A-37
■ TEST ACCESS Reports	A-39
Fields	A-39
■ FRAMES/LINKS Reports	A-41
Fields	A-41
■ USER ADMINISTRATION Reports	A-43
Fields	A-43
■ LOST RESPONSE LOG Reports	A-44
Fields	A-44
■ 24-HOUR PERFORMANCE MONITORING STATISTICS Reports	A-45
Fields	A-45

Background

Introduction

The EDIT CUSTOM REPORT FORMAT feature allows you to design a report in one of a number of categories, which are based on type of information. Each category makes available a range of fields, from which you may select for inclusion on your report.

To find out how to create and maintain reports, refer to “Custom Report Formats” in Appendix M

**NOTE:**

The Echoed Response Processing and Audit/Synchronization Report fields cannot be customized.

Purpose

This appendix states the full range of fields available, by category, and gives a brief description of each, and its form of origination. In some instances, there is no form of origination, but the data was generated by the system. In that case, the field is the only way to access that data. All data comes from the DND database.

Related tasks

For related tasks, see the following General Tasks in Chapter 23:

- GT 120: Generating Reports
- GT 121: Generating an Alarm Summary Report

Related information

For related information, refer to:

- Appendix M
-

ALARM LOG Reports

Fields Table A-1 displays the ALARM LOG report fields that can be customized.

Table A-1. ALARM LOG Report Fields

Name	Form of Origination	Description
Alm_Date	None.	The date on which the NPC issued the alarm.
Alm_Time	None.	The time at which the NPC issued the alarm.
NPC_Hier	NPC PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> NPC Specifier (Hier) checkbox, NPC: field	The hierarchical number of the NPC in alarm.
NPC_Ext	NPC PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> NPC Specifier (Ext) checkbox, NPC: field	The extended number of the NPC in alarm.
NPC_ID	NPC PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> NPC Specifier (ID) checkbox, NPC: field	The NPC ID of the NPC in alarm.
FE_Site	NPC PROVISIONING <i>Forms:</i> FE Site field <i>GUI:</i> Far End Site field	User-defined name of the DACS at the other end of the DS1 line terminating at the NPC in alarm.
Severity	None.	The severity of the alarm: <i>Forms:</i> Cr, Maj, Min, Clr <i>GUI:</i> *, CR, MAJ, MIN, INF, CLR
Alm_Summary	None.	The reason for the alarm.
Threshold	None.	The name of the threshold stored in the frame.
Fac_A_Type	None.	The type of facility alarm in a message Summary of CGA.
Side	None	The side number of the alarming facility.

Table A-1. ALARM LOG Report Fields (Con't)

Name	Form of Origination	Description
Unit	None.	The unit number of the alarming facility.
S_Unit	None.	The subunit of the alarming facility.
Field1	None.	Field1 of the Error Status Register, for a power fail message.
Field2	None	Field2 of the Error Status Register, for a power fail message.
NPC_Num	<i>Forms:</i> FRAME PROVISIONING NPC (Hier) or (Ext) field <i>GUI:</i> DACS PROVISIONING NPC Addressing (Hier) , (Ext3) , or (Ext4) checkboxes	The format of the NPC number, either hierarchical or extended.

CIRCUIT ALARMS Report

Fields Table A-2 displays the CIRCUIT ALARMS report fields that can be customized.

Table A-2. CIRCUIT ALARMS Report Fields

Name	Form of Origination	Description
NPC_Hier	CIRCUIT PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> NPC Specifier (Hier) checkbox, NPC: field	The hierarchical number of the NPC in alarm.
NPC_Ext	CIRCUIT PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> NPC Specifier (Extd) checkbox, NPC: field	The extended number of the NPC in alarm.
NPC_ID	CIRCUIT PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> NPC Specifier (ID) checkbox, NPC: field	The NPC ID of the NPC in alarm.
Service_State	NPC PROVISIONING Service State field	The operational status of the NPC in alarm. <i>GUI:</i> Day , Month , and Year fields
Ch	NPC PROVISIONING <i>Forms:</i> Ch field <i>GUI:</i> Channel field	The channel, of the NPC in alarm, that is connected in the circuit.
Alarm_State	NPC PROVISIONING Alarm State field	The status of the alarm.
Term_State	None.	The actual termination state of the EFT in the alarming NPC. The EFT can acquire this state by a variety of methods.
Circuit_ID	CIRCUIT PROVISIONING <i>Forms:</i> Ckt ID field <i>GUI:</i> Circuit ID field	The circuit ID of the circuit containing the NPC in alarm.

Table A-2. CIRCUIT ALARMS Report Fields (Con't)

Name	Form of Origination	Description
Ckt_Status	CIRCUIT PROVISIONING <i>Forms:</i> Ckt Status field <i>GUI:</i> Status field	The operating status of the circuit containing the EFT of the NPC in alarm.
Class	CIRCUIT PROVISIONING Ckt Class field	The class of the circuit containing the EFT of the NPC in alarm: FDX, HDX, etc.
Customer_Name	CIRCUIT PROVISIONING Customer Name field	The user-defined name of the customer owning the circuit containing the alarming NPC.
TC	CIRCUIT PROVISIONING <i>Forms:</i> TC field <i>GUI:</i> Trunk Conditioning field	Trunk conditioning of the circuit containing the NPC in alarm.
IW	CIRCUIT PROVISIONING <i>Forms:</i> IW field <i>GUI:</i> Insertion Word field	Insertion word of the circuit containing the NPC in alarm.
T_NPC_Hier	CIRCUIT PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> (Connecting To) NPC Specifier (Hier) checkbox, NPC: field	The hierarchical number of the NPC at the other side of the circuit containing the alarming NPC.
T_NPC_Ext	CIRCUIT PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> (Connecting To) NPC Specifier (Extd) checkbox, NPC: field	The extended number of the NPC at the other side of the circuit containing the alarming NPC.
T_NPC_ID	CIRCUIT PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> (Connecting To) NPC Specifier (ID) checkbox, NPC: field	The ID of the NPC at the other side of the circuit containing the alarming NPC.
T_Service_State	NPC PROVISIONING Service State field	The service status of the NPC at the other side of the circuit containing the alarming NPC. <i>GUI:</i> Day, Month, and Year fields

Table A-2. CIRCUIT ALARMS Report Fields (Con't)

Name	Form of Origination	Description
T_Ch	CIRCUIT PROVISIONING <i>Forms:</i> TO Ch field <i>GUI:</i> TO Channel field	The EFT at the other side of the circuit containing the alarming NPC.
T_Alarm_State	CIRCUIT PROVISIONING Alarm State field	The alarm status of the NPC at the other side of the circuit containing the alarming NPC.
T_Term_State	None.	The actual termination state of the NPC at the other side of the circuit containing the alarming NPC. The EFT can acquire this state by a variety of methods.
Ckt_Priority	CIRCUIT PROVISIONING <i>Forms:</i> Ckt Priority field <i>GUI:</i> Priority field	The priority of the circuit containing the alarming NPC.
Bandwidth	CIRCUIT PROVISIONING Bandwidth field	The bandwidth of the circuit containing the alarming NPC.
SC	CIRCUIT PROVISIONING <i>Forms:</i> SC field <i>GUI:</i> Signaling Conversion field	The signalling conversion specification of the circuit containing the alarming NPC.
Framing	CIRCUIT PROVISIONING Framing field	The new values of the framing bits in Channel 0 to non-Channel 0 connections in a circuit containing the alarming NPC.
Options_AIS	CIRCUIT PROVISIONING <i>Forms:</i> Options field value <i>GUI:</i> Circuit Options (AIS) checkbox	The value AIS, for transmit Alarm Indication Signal, if Options is set to B for the circuit in which the alarming NPC appear.
Location_A	CIRCUIT PROVISIONING <i>Forms:</i> Loc A field <i>GUI:</i> Location A field	A user-defined field stating the station ID of the FROM side of the circuit containing the alarming NPC.
Location_Z	CIRCUIT PROVISIONING <i>Forms:</i> Loc Z field <i>GUI:</i> Location Z field	A user-defined field stating the station ID of the TO side of the circuit containing the alarming NPC.

NPC ALARMS Report

Fields Table A-3 displays the NPC ALARMS report fields that can be customized.

Table A-3. NPC ALARMS Report Fields

Name	Form of Origination	Description
NPC_Hier	NPC PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> NPC Specifier (Hier) checkbox, NPC: field	The hierarchical number of the NPC in alarm.
NPC_Ext	NPC PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> NPC Specifier (Extd) checkbox, NPC: field	The extended number of the NPC in alarm.
NPC_ID	NPC PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> NPC Specifier (ID) checkbox, NPC: field	The NPC ID of the NPC in alarm.
Service_State	NPC PROVISIONING Service State field	The operational status of the NPC in alarm. <i>GUI:</i> Day , Month , and Year fields
Alarm_State	NPC PROVISIONING Alarm State field	The status of the alarm.
Alarm_Aging	NPC PROVISIONING <i>Forms:</i> Alarm Aging field <i>GUI:</i> Alarm Age field	The threshold in seconds before the DND takes action on the alarm.
Severity	<i>Forms:</i> ALARM REPORT Sev field <i>GUI:</i> ALARM LOG REPORT Alarm Severity field	The severity of the alarm.

Table A-3. NPC ALARMS Report Fields (Con't)

Name	Form of Origination	Description
Type	NPC PROVISIONING <i>Forms:</i> Type field <i>GUI:</i> NPC Type field	The type of the NPC in alarm.
FE_Site	NPC PROVISIONING <i>Forms:</i> FE Site field <i>GUI:</i> Far End Site field	The user-defined name of the DACS at the far end of the line terminating at the alarming NPC.
Insertion_Word	NPC PROVISIONING <i>Forms:</i> IW field <i>GUI:</i> Insertion Word field	The insertion word of the NPC in alarm.
NFS	NPC PROVISIONING <i>Forms:</i> NFS field <i>GUI:</i> NFW field	The treatment of the non-framing bits in Channel 0 to non-Channel 0 connections.

COMMON EQUIPMENT ALARMS Report

Fields Table A-4 displays the COMMON EQUIPMENT ALARM report fields that can be customized.

Table A-4. COMMON EQUIPMENT ALARMS Report Fields

Name	Form of Origination	Description
EqpDate	None.	The date on which the DND received the alarm.
EqpTime	None.	The time at which the DND received the alarm.
Status	None.	The severity of the alarm.
Device	None.	The device name under alarm.
Sub_Device	None.	The sub-device name under alarm.
Side	None.	The side under alarm.
Unit	None.	The unit under alarm.
Sub_Unit	None.	The subunit under alarm.

CIRCUIT Report

Fields

Table A-5 displays the CIRCUIT report fields that can be customized.

Table A-5. CIRCUIT Report Fields

Name	Form of Origination	Description
Remarks	CIRCUIT PROVISIONING <i>Forms:</i> Rmks field <i>GUI:</i> Remarks field	User-defined information concerning the circuit.
Ckt_Status	CIRCUIT PROVISIONING <i>Forms:</i> Ckt Status field <i>GUI:</i> Status field	The operating status of the circuit.
Circuit_ID	CIRCUIT PROVISIONING <i>Forms:</i> Ckt ID field <i>GUI:</i> Circuit ID field	User-assigned circuit name.
Class	CIRCUIT PROVISIONING Ckt Class field	The type of circuit: <i>FDX, HDX, BBL, BRD, DMB.</i>
Customer_Name	CIRCUIT PROVISIONING Customer Name field	User-defined name of the customer owning the circuit.
Location_A	CIRCUIT PROVISIONING <i>Forms:</i> Loc A field <i>GUI:</i> Location A field	User-defined station ID of the FROM side of the circuit.
Location_Z	CIRCUIT PROVISIONING <i>Forms:</i> Loc Z field <i>GUI:</i> Location Z field	User-defined station ID of the TO side of the circuit.
F_NPC_Hier	CIRCUIT PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> (FROM) NPC Specifier (Hier) checkbox, NPC: field	Hierarchical number of the circuit's FROM side NPC.

Table A-5. CIRCUIT Report Fields (Con't)

Name	Form of Origination	Description
F_NPC_Ext	CIRCUIT PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> (FROM) NPC Specifier (Extd) checkbox, NPC: field	Extended number of the circuit's FROM side NPC.
F_NPC_ID	NPC PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> (FROM) NPC Specifier (ID) checkbox, NPC: field	NPC ID of the circuit's FROM side NPC.
F_Ch	CIRCUIT PROVISIONING <i>Forms:</i> FROM Ch field <i>GUI:</i> FROM Channel: field	The circuit's FROM side channel number.
T_NPC_Hier	CIRCUIT PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> (TO) NPC Specifier (Hier) checkbox, NPC: field	Hierarchical number of the circuit's TO side NPC.
T_NPC_Ext	CIRCUIT PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> (TO) NPC Specifier (Extd) checkbox, NPC: field	Extended number of the circuit's TO side NPC.
T_NPC_ID	NPC PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> (TO) NPC Specifier (ID) checkbox, NPC: field	NPC ID of the circuit's TO side NPC.
T_Ch	CIRCUIT PROVISIONING <i>Forms:</i> TO Ch field <i>GUI:</i> TO Channel field	The circuit's TO side channel number.

Table A-5. CIRCUIT Report Fields (Con't)

Name	Form of Origination	Description
F_Mode	CIRCUIT PROVISIONING <i>Forms:</i> FROM Mode field <i>GUI:</i> FROM Channel field	The use of the FROM channel in a DMB circuit: <i>SYM, BRD, BBL, LEG.</i>
T_Mode	CIRCUIT PROVISIONING <i>Forms:</i> TO Mode field <i>GUI:</i> (TO) Mode	The use of the TO channel in a DMB circuit: <i>SYM, BRD, BBL, LEG</i>
TC	CIRCUIT PROVISIONING <i>Forms:</i> TC field <i>GUI:</i> Trunk Conditioning field	Trunk conditioning. Specifies whether A/B-robbet-bit signaling will signal circuit failure.
IW	CIRCUIT PROVISIONING <i>Forms:</i> IW field <i>GUI:</i> Insertion Word field	Insertion word. Specifies the OOS signal of mapped channels.
SC	CIRCUIT PROVISIONING <i>Forms:</i> SC field <i>GUI:</i> Signaling Conversion field	Signaling conversion. Specifies the CAS channel values for CEPT and GATEWAY.
Bandwidth	CIRCUIT PROVISIONING Bandwidth field	The number of channels in a high-rate circuit.
Bandwidth_Type	CIRCUIT PROVISIONING Bandwidth Type field	The placement of channels in a high-rate circuit: <i>Forms:</i> Contiguous (C), Alternating (A), Random (R) <i>GUI:</i> C: Contiguous, A: Alternating, R: Random
Service_Date	CIRCUIT PROVISIONING Service Date field	User-defined date when the circuit was first placed in service. <i>GUI:</i> Day, Month, and Year fields
Options_NAM	CIRCUIT PROVISIONING <i>Forms:</i> Options field value <i>GUI:</i> Circuit Options NAM checkbox	The value NAM, for no a-to-mu law conversion: <i>Forms:</i> If Options is set to A; otherwise, blanks. <i>GUI:</i> If checkbox is selected

Table A-5. CIRCUIT Report Fields (Con't)

Name	Form of Origination	Description
Options_AIS	CIRCUIT PROVISIONING <i>Forms:</i> Options field value <i>GUI:</i> Circuit Options AIS checkbox	The value <i>AIS</i> , for transmit Alarm Indication Signal <i>Forms:</i> If Options is set to B <i>GUI:</i> If checkbox is selected
Options_RDLD	CIRCUIT PROVISIONING <i>Forms:</i> Options field value <i>GUI:</i> Circuit Options RDLD checkbox	The value <i>RDLD</i> , for disconnect red-lined circuits: <i>Forms:</i> If Options is set to C <i>GUI:</i> If checkbox is selected
Options_OOS	CIRCUIT PROVISIONING <i>Forms:</i> Options field value <i>GUI:</i> Circuit Options OOS checkbox	The value <i>OOS</i> , for disconnect on channel going <i>OOS</i> : <i>Forms:</i> If Options is set to D <i>GUI:</i> If checkbox is selected
Options_INCL	CIRCUIT PROVISIONING <i>Forms:</i> Options field value <i>GUI:</i> Circuit Options INCL checkbox	The value <i>INCL</i> , for authorize disconnect of red-lined circuits: <i>Forms:</i> If Options is set to E <i>GUI:</i> If checkbox is selected
Options_DCC	CIRCUIT PROVISIONING <i>Forms:</i> Options field value <i>GUI:</i> Circuit Options DCC checkbox	The value <i>DCC</i> , for assert IW as disconnect code <i>Forms:</i> If Options is set to F <i>GUI:</i> If checkbox is selected
Termination_State	CIRCUIT PROVISIONING <i>Forms:</i> Options field value <i>GUI:</i> Circuit Options TLA checkbox	The value <i>TLA</i> , for terminate normal traffic <i>Forms:</i> If Options is set to G <i>GUI:</i> If checkbox is selected
NTR	CIRCUIT PROVISIONING <i>Forms:</i> NTR field value <i>GUI:</i> Circuit Options No Transmit (NTR) checkboxes	No transmit. Specifies that a direction of a DMB leg will not carry traffic: <i>Forms:</i> T or F <i>GUI:</i> TO if TO checkbox is selected, FROM if FROM checkbox is selected

Table A-5. CIRCUIT Report Fields (Con't)

Name	Form of Origination	Description
CP	CIRCUIT PROVISIONING <i>Forms:</i> Ckt Priority field value <i>GUI:</i> Priority field	Determines the importance of a circuit for restoral actions.
Framing	CIRCUIT PROVISIONING Framing field value	The value of the framing bits in CEPT Channel 0 cross-connection.

CHANNEL Reports

Fields

Table A-6 displays the CHANNEL report fields that can be customized.

Table A-6. CHANNEL Report Fields

Name	Form of Origination	Description
NPC_Hier	CIRCUIT PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> NPC Specifier (Hier) checkbox, NPC: field	The hierarchical number of the NPC. This NPC is to be understood as the FROM NPC.
NPC_Ext	CIRCUIT PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> NPC Specifier (Extd) checkbox, NPC: field	The extended number of the NPC.
NPC_ID	NPC PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> NPC Specifier (ID) checkbox, NPC: field	User-assigned NPC name.
Ch	CIRCUIT PROVISIONING <i>Forms:</i> TO Ch field <i>GUI:</i> TO Channel field	The number of the channel under consideration, within the specified NPC.
Status	CIRCUIT PROVISIONING <i>Forms:</i> Ckt Status field <i>GUI:</i> Status field	The status of the circuit in which the channel appears.
Circuit_ID	CIRCUIT PROVISIONING <i>Forms:</i> Ckt ID field <i>GUI:</i> Circuit ID field	The ID of the circuit in which the channel appears.
Class	CIRCUIT PROVISIONING Ckt Class field	The type of circuit: FDX, HDX, BBL, BRD, DMB, BKB, LEG.
TC	CIRCUIT PROVISIONING <i>Forms:</i> TC field <i>GUI:</i> Trunk Conditioning field	Trunk conditioning. Specifies whether A/B-robbet-bit signaling will signal circuit failure.

Table A-6. CHANNEL Report Fields (Con't)

Name	Form of Origination	Description
IW	CIRCUIT PROVISIONING <i>Forms:</i> IW field <i>GUI:</i> Insertion Word field	Insertion word. Specifies the OOS signal of mapped channels.
To_NPC_Hier	CIRCUIT PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> (TO) NPC Specifier (Hier) checkbox, NPC: field	The hierarchical number of the TO NPC.
To_NPC_Ext	CIRCUIT PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> (TO) NPC Specifier (Extd) checkbox, NPC: field	The extended number of the TO NPC.
To_NPC_ID	NPC PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> (TO) NPC Specifier (ID) checkbox, NPC: field	User-assigned TO NPC name.
To_Ch	CIRCUIT PROVISIONING <i>Forms:</i> TO Ch field <i>GUI:</i> TO Channel field	Specifies the TO channel.
TS	None. This information is reported only in this report form.	Reports the termination state of the EFT represented by the channel, as it was when the report was generated. Values are TLA, TLR, or blanks.

NPC Report

Fields

Table A-7 displays the NPC report fields that can be customized.

Table A-7. NPC Report Fields

Name	Form of Origination	Description
NPC_Hier	NPC PROVISIONING <i>Forms:</i> Number (Hier) field <i>GUI:</i> NPC Specifier (Hier) checkbox, NPC: field	The hierarchical number of the NPC.
NPC_Ext	NPC PROVISIONING <i>Forms:</i> (Ext) field <i>GUI:</i> NPC Specifier (Extd) checkbox, NPC: field	The extended number of the NPC.
NPC_ID	NPC PROVISIONING <i>Forms:</i> NPC ID field <i>GUI:</i> NPC Specifier (ID) checkbox, NPC: field	User-assigned NPC name.
Type	NPC PROVISIONING <i>Forms:</i> Type field <i>GUI:</i> NPC Type field	The DND type of NPC, which is based on the hardware module providing it.
FE_Site	NPC PROVISIONING <i>Forms:</i> FE Site field <i>GUI:</i> Far End Site field	User-defined name of the DACS at the other end of the DS1 line terminating at the NPC.
Service_State	NPC PROVISIONING Service State field	The operating status of the NPC. <i>GUI:</i> Day , Month , and Year fields
Alarm_State	NPC PROVISIONING Alarm State field	The status of an alarm currently being received or asserted by this NPC.
Alarm_Aging	NPC PROVISIONING <i>Forms:</i> Alarm Aging field <i>GUI:</i> Alarm Age field	The number of seconds after an alarm is received before the DND takes action.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
Insertion_Word	NPC PROVISIONING <i>Forms:</i> IW field <i>GUI:</i> Insertion Word field	The value transmitted by an <i>IS</i> NPC on unassigned channels.
AIS	NPC PROVISIONING <i>Forms:</i> AIS field <i>GUI:</i> Alarm Indication Signal (AIS) field	Specifies Alarm Indication Signal alarm level for this NPC. Values are: <i>Forms:</i> MJ (Major), MN (Minor), MI (Informational). <i>GUI:</i> Inf (Informational), Min (Minor), Maj (Major), Crit (Critical)
NFS	NPC PROVISIONING <i>Forms:</i> NFS field <i>GUI:</i> NFW field	Non-frame word setting. Specifies how the spare bits of time slot 0 are to be handled.
TS0	NPC PROVISIONING TS0 field	Describes how to process bits for transmission in a CEPT time slot 0.
TS0M	NPC PROVISIONING TS0M field	Describes what CEPT time slot 0 bits are to be monitored by the frame.
Min_Slips	NPC PROVISIONING <i>Forms:</i> Minor Alarm Option/Slips field <i>GUI:</i> Minor Alarm Thresholds/Slips checkbox	Specifies the threshold of a minor alarm on a slips error in an NAS NPC.
Min_BER	NPC PROVISIONING <i>Forms:</i> Minor Alarm Option/Bit Error Rate field <i>GUI:</i> Minor Alarm Thresholds/Bit Error Rate checkbox	Specifies the threshold of a minor alarm on a bit error rate in an NAS NPC.
Min_Frame_Align	NPC PROVISIONING <i>Forms:</i> Minor Alarm Option/Frame Alignment field <i>GUI:</i> Minor Alarm Thresholds/Change of Frame Alignment checkbox	Specifies the threshold of a minor alarm on a frame alignment error in an NAS NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
Maj_Slips	NPC PROVISIONING <i>Forms:</i> Major Alarm Option/Slips field <i>GUI:</i> Major Alarm Thresholds/Slips checkbox	Specifies the threshold of a major alarm on a slips error in an NAS NPC.
Maj_BER	NPC PROVISIONING <i>Forms:</i> Major Alarm Option/Bit Error Rate field <i>GUI:</i> Major Alarm Thresholds/Bit Error Rate checkbox	Specifies the threshold of a major alarm on a bit error rate in an NAS NPC.
Maj_Frame_Align	NPC PROVISIONING <i>Forms:</i> Major Alarm Option/Frame Alignment field <i>GUI:</i> Major Alarm Thresholds/Change of Frame Alignment checkbox	Specifies the threshold of a major alarm on a frame alignment error in an NAS NPC.
Maj_Err_Sec	NPC PROVISIONING <i>Forms:</i> Major Alarm Option/Errored Seconds field <i>GUI:</i> Major Alarm Thresholds/Errored Seconds checkbox	Specifies the threshold of a major alarm on errored seconds in an NAS NPC.
Maj_Sev_Err_Sec	NPC PROVISIONING <i>Forms:</i> Major Alarm Option/Severe Errored Seconds field <i>GUI:</i> Major Alarm Thresholds/Severe Errored Seconds checkbox	Specifies the threshold of a major alarm on severe errored seconds in an NAS NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
Short_Slips	NPC PROVISIONING <i>Forms:</i> Short Interval Option/Slips field <i>GUI:</i> Near End 15 Minute Counts/Slips checkbox	Specifies the short-interval threshold of a slips alarm in a CEPT non-PA NPC.
Short_Degraded_Min	NPC PROVISIONING <i>Forms:</i> Short Interval Option/Degraded Minutes field <i>GUI:</i> Near End 15 Minute Counts/Degraded Minutes checkbox	Specifies the short-interval threshold of a degraded minutes alarm in a CEPT non-PA NPC.
Short_Unavail_Sec	NPC PROVISIONING <i>Forms:</i> Short Interval Option/Unavailable Seconds field <i>GUI:</i> Near End 15 Minute Counts/Unavailable Seconds checkbox	Specifies the short-interval threshold of an unavailable seconds alarm in a CEPT non-PA NPC.
Short_Err_Sec	NPC PROVISIONING <i>Forms:</i> Short Interval Option/Errored Seconds field <i>GUI:</i> Near End 15 Minute Counts/Errored Seconds checkbox	Specifies the short-interval threshold of an errored seconds alarm in a CEPT non-PA NPC.
Short_Sev_Err_Sec	NPC PROVISIONING <i>Forms:</i> Short Interval Option/Severe Errored Seconds field <i>GUI:</i> Near End 15 Minute Counts/Severe Errored Seconds checkbox	Specifies the short-interval threshold of a severe errored seconds alarm in a CEPT non-PA NPC.
Long_Slips	NPC PROVISIONING <i>Forms:</i> Long Interval Option/Slips field <i>GUI:</i> Near End 24 Hour Counts/Slips checkbox	Specifies the long-interval threshold of a slips alarm in a CEPT non-PA NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
Long_Degraded_Min	NPC PROVISIONING <i>Forms:</i> Long Interval Option/Degraded Minutes field <i>GUI:</i> Near End 24 Hour Counts/Degraded Minutes checkbox	Specifies the long-interval threshold of a degraded minutes alarm in a CEPT non-PA NPC.
Long_Unavail_Sec	NPC PROVISIONING <i>Forms:</i> Long Interval Option/Unavailable Seconds field <i>GUI:</i> Near End 24 Hour Counts/Unavailable Seconds checkbox	Specifies the long-interval threshold of an unavailable errors alarm in a CEPT non-PA NPC.
Long_Err_Sec	NPC PROVISIONING <i>Forms:</i> Long Interval Option/Errored Seconds field <i>GUI:</i> Near End 24 Hour Counts/Errored Seconds checkbox	Specifies the long-interval threshold of an errored seconds alarm in a CEPT non-PA NPC.
Long_Sev_Err_Sec	NPC PROVISIONING <i>Forms:</i> Long Interval Option/Unavailable Seconds field <i>GUI:</i> Near End 24 Hour Counts/Unavailable Seconds checkbox	Specifies the long-interval threshold of a severe errored seconds alarm in a CEPT non-PA NPC.
NE_Daily_CRC_Err	NPC PROVISIONING <i>Forms:</i> Daily NE CRC Block Errors field <i>GUI:</i> Near End 24 Hour Counts/CRC Block Errors checkbox	Specifies the daily near end CRC block errors for a CEPT PA NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
NE_Daily_Err_Sec	NPC PROVISIONING <i>Forms:</i> Daily NE Errored Seconds field <i>GUI:</i> Near End 24 Hour Counts/Errored Seconds checkbox	Specifies the daily near end errored seconds for a CEPT PA NPC.
NE_Daily_S_Err_Sec	NPC PROVISIONING <i>Forms:</i> Daily NE Severe Errored Seconds field <i>GUI:</i> Near End 24 Hour Counts/Severe Errored Seconds checkbox	Specifies the daily near end severe errored seconds for a CEPT PA NPC.
NE_Daily_Unavl_Sec	NPC PROVISIONING <i>Forms:</i> Daily NE Unavailable Seconds field <i>GUI:</i> Near End 24 Hour Counts/Unavailable Seconds checkbox	Specifies the daily near end unavailable seconds for a CEPT PA NPC.
NE_Daily_Frame_Err	NPC PROVISIONING <i>Forms:</i> Daily NE Framing Errors field <i>GUI:</i> Near End 24 Hour Counts/Framing Errors checkbox	Specifies the daily near end framing errors for a CEPT PA NPC.
NE_Daily_OOF_Sec	NPC PROVISIONING <i>Forms:</i> Daily NE Out-of-Frame Seconds field <i>GUI:</i> Near End 24 Hour Counts/Out-of-Frame Seconds checkbox	Specifies the daily near end out-of-frame seconds for a CEPT PA NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
NE_Daily_Slip_Sec	NPC PROVISIONING <i>Forms:</i> Daily NE Controlled Slip Seconds field <i>GUI:</i> Near End 24 Hour Counts/Controlled Slip Seconds checkbox	Specifies the daily near end controlled slip seconds for a CEPT PA NPC.
NE_Daily_Code_Vltn	NPC PROVISIONING <i>Forms:</i> Daily NE Controlled Coding Violations field <i>GUI:</i> Near End 24 Hour Counts/Coding Violations Seconds checkbox	Specifies the daily near end coding violations for a CEPT PA NPC.
NE_Daily_Unavl_Cnt	NPC PROVISIONING <i>Forms:</i> Daily NE Unavailable Time Count field <i>GUI:</i> Near End 24 Hour Counts/Unavailable Time Count checkbox	Specifies the daily near end unavailable time count for a CEPT PA NPC.
NE_Daily_Mfram_Err	NPC PROVISIONING <i>Forms:</i> Daily NE Multiframe Errors field <i>GUI:</i> Near End 24 Hour Counts/Multiframe Errors checkbox	Specifies the daily near end multiframe errors for a CEPT PA NPC.
FE_Daily_CRC_Err	NPC PROVISIONING <i>Forms:</i> Daily FE CRC Block Errors field <i>GUI:</i> Far End 24 Hour Counts/CRC Block Errors checkbox	Specifies the daily far end CRC block errors for a CEPT PA NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
FE_Daily_Err_Sec	NPC PROVISIONING <i>Forms:</i> Daily FE Errored Seconds field <i>GUI:</i> Far End 24 Hour Counts/Errored Seconds checkbox	Specifies the daily far end errored seconds for a CEPT PA NPC.
FE_Daily_S_Err_Sec	NPC PROVISIONING <i>Forms:</i> Daily FE Severe Errored Seconds field <i>GUI:</i> Far End 24 Hour Counts/Severe Errored Seconds checkbox	Specifies the daily far end severe errored seconds for a CEPT PA NPC.
FE_Daily_Unavl_Sec	NPC PROVISIONING <i>Forms:</i> Daily FE Unavailable Seconds field <i>GUI:</i> Far End 24 Hour Counts/Unavailable Seconds checkbox	Specifies the daily far end unavailable seconds for a CEPT PA NPC.
NE_15M_CRC_Err	NPC PROVISIONING <i>Forms:</i> 15-Min NE CRC Block Errors field <i>GUI:</i> Near End 15 Minute Counts/CRC Block Errors checkbox	Specifies the 15-minute near end CRC block errors for a CEPT PA NPC.
NE_15M_Err_Sec	NPC PROVISIONING <i>Forms:</i> 15-Min NE Errored Seconds field <i>GUI:</i> Near End 15 Minute Counts/Errored Seconds checkbox	Specifies the 15-minute near end errored seconds for a CEPT PA NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
NE_15M_S_Err_Sec	NPC PROVISIONING <i>Forms:</i> 15-Min NE Severe Errored Seconds field <i>GUI:</i> Near End 15 Minute Counts/Severe Errored Seconds checkbox	Specifies the 15-minute near end severe errored seconds for a CEPT PA NPC.
NE_15M_Unavl_Sec	NPC PROVISIONING <i>Forms:</i> 15-Min NE Unavailable Seconds field <i>GUI:</i> Near End 15 Minute Counts/Unavailable Seconds checkbox	Specifies the 15-minute near end unavailable seconds for a CEPT PA NPC.
NE_15M_Frame_Err	NPC PROVISIONING <i>Forms:</i> 15-Min NE Framing Errors field <i>GUI:</i> Near End 15 Minute Counts/Framing Errors checkbox	Specifies the 15-minute near end framing errors for a CEPT PA NPC.
NE_15M_OOF_Sec	NPC PROVISIONING <i>Forms:</i> 15-Min NE Out-of-Frame Seconds field <i>GUI:</i> Near End 15 Minute Counts/Out-of-Frame Seconds checkbox	Specifies the 15-minute near end out-of frame seconds for a CEPT PA NPC.
NE_15M_Slip_Sec	NPC PROVISIONING <i>Forms:</i> 15-Min NE Controlled Slip Seconds field <i>GUI:</i> Near End 15 Minute Counts/Controlled Slip Seconds checkbox	Specifies the 15-minute near end controlled slip seconds for a CEPT PA NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
NE_15M_Code_Vltn	NPC PROVISIONING <i>Forms:</i> 15-Min NE Coding Violations field <i>GUI:</i> Near End 15 Minute Counts/Coding Violations checkbox	Specifies the 15-minute near end coding violations for a CEPT PA NPC.
NE_15M_Unavl_Cnt	NPC PROVISIONING <i>Forms:</i> 15-Min NE Unavailable Time Count field <i>GUI:</i> Near End 15 Minute Counts/Unavailable Time Count checkbox	Specifies the 15-minute near end unavailable time count for a CEPT PA NPC.
NE_15M_Mfram_Err	15-Min NE Multiframe Errors NPC PROVISIONING <i>Forms:</i> 15-Min NE Unavailable Time Count field <i>GUI:</i> Near End 15 Minute Counts/Unavailable Time Count checkbox	Specifies the 15-minute near end multiframe errors for a CEPT PA NPC.
FE_15M_CRC_Err	NPC PROVISIONING <i>Forms:</i> 15-Min FE CRC Block Errors field <i>GUI:</i> Far End 15 Minute Counts/CRC Block Errors checkbox	Specifies the 15-minute far end CRC block errors for a CEPT PA NPC.
FE_15M_Err_Sec	NPC PROVISIONING <i>Forms:</i> 15-Min FE Errored Seconds field <i>GUI:</i> Far End 15 Minute Counts/Errored Seconds checkbox	Specifies the 15-minute far end errored seconds for a CEPT PA NPC.

Table A-7. NPC Report Fields (Con't)

Name	Form of Origination	Description
FE_15M_S_Err_Sec	NPC PROVISIONING <i>Forms:</i> 15-Min FE Severe Errored Seconds field <i>GUI:</i> Far End 15 Minute Counts/Severe Errored Seconds checkbox	Specifies the 15-minute far end severe errored seconds for a CEPT PA NPC.
FE_15M_Unavl_Sec	NPC PROVISIONING <i>Forms:</i> 15-Min FE Unavailable Seconds field <i>GUI:</i> Far End 15 Minute Counts/Unavailable Seconds checkbox	Specifies the 15-minute far end unavailable seconds for a CEPT PA NPC.
Trans	NPC PROVISIONING <i>Forms:</i> Lpbk Trans field <i>GUI:</i> Loopback Trans- mission checkboxes	The transmission parameter of a loopback state. Values/checkboxes are: A - loop the signal, send AIS, turn off PM and alarms B - loop the signal, send AIS, perform PM and alarm processing C - Loop the signal, turn off PM, freeze alarms T - Loop the signal, perform PM and process alarms N - No loopback is up
Dir	NPC PROVISIONING <i>Forms:</i> Dir field <i>GUI:</i> Direction checkboxes	The Direction parameter of a loopback state. Values/checkboxes are: F/Facility - Facility, back to the facility E/Equipment - Equipment, back to the DACS N/None - No loopback

ALTROUTES/PREEMPTIONS Reports

Fields Table A-8 displays the ALTROUTE/PREEMPTION report fields that can be customized for the DND Forms Interface Only.

Table A-8. ALTROUTES/PREEMPTIONS Report Fields

Name	Form of Origination	Description
Circuit_ID	Ckt ID field, CIRCUIT PROVISIONING	The circuit ID of the altrouted circuit.
CP	Ckt Priority field, CIRCUIT PROVISIONING	The circuit priority of the altrouted circuit. The CP partly determines its order of normalization.
TC	TC field, CIRCUIT PROVISIONING	Trunk conditioning of the altrouted circuit.
IW	IW field, CIRCUIT PROVISIONING	Insertion word of the altrouted circuit.
Alt_Date	Altroute Date & Time , CIRCUIT PROVISIONING	The date the circuit was altrouted.
Alt_Time	Altroute Date & Time , CIRCUIT PROVISIONING	The time the circuit was altrouted.
NPC_Hier	NORMAL Hier , CIRCUIT PROVISIONING	The hierarchical NPC number of the EFT that was changed in altrouting.
NPC_Ext	NORMAL Ext field, CIRCUIT PROVISIONING	The extended NPC number of the EFT that was changed in altrouting.
NPC_ID	NORMAL NPC ID field, CIRCUIT PROVISIONING	The NPC ID of the EFT that was changed in altrouting.
Alt_Ch	ALTRROUTE Ch field, CIRCUIT PROVISIONING	The channel to which the NORMAL channel was changed.
Preemp_Ckt_ID	Preempted Ckt ID field, CIRCUIT PROVISIONING	The NPC ID of the first circuit that was preempted by this altroute, if any.
Preemp_CP	Preempted CP field, CIRCUIT PROVISIONING	The circuit priority of the preempted circuit, if any.

RECONFIGURATION PLANS Reports

Fields Table A-9 displays the RECONFIGURATION PLANS report fields that can be customized for the DND Forms Interface Only.

Table A-9. RECONFIGURATION PLANS Report Fields

Name	Form of Origination	Description
Reconfiguration_ID	RP ID field, RECONFIGURATION PLAN PROVISIONING	The user-defined name of this plan.
Circuit_ID	Ckt ID field, RECONFIGURATION PLAN PROVISIONING	The circuit ID of the circuit on which this item of the plan operates.
Status	Status field, RECONFIGURATION PLAN PROVISIONING	The current operating status of the circuit on which this item of the plan operates.
Circuit_Action	Action field, RECONFIGURATION PLAN PROVISIONING	The Action to be performed on the circuit of this item.
T_NPC_Ext	CIRCUIT PROVISIONING <i>Forms: (Ext)</i> field <i>GUI: (TO) NPC Specifier (Extd)</i> checkbox, NPC: field	Extended number of the circuit's TO side NPC.

RECONFIGURATION PLAN ALTROUTE Reports

Fields Table A-10 displays the RECONFIGURATION PLAN ALTROUTE report fields that can be customized for the DND Forms Interface Only.

Table A-10. RECONFIGURATION PLAN ALTROUTE Report Fields

Name	Form of Origination	Description
Reconfiguration_ID	RP ID field, RECONFIGURATION PLAN PROVISIONING	The user-defined name of this plan.
Circuit_ID	Ckt ID field, RECONFIGURATION PLAN PROVISIONING	The circuit ID of the circuit on which this item of the plan operates.
Status	Status field, RECONFIGURATION PLAN PROVISIONING	The current operating status of the circuit on which this item of the plan operates.
Circuit_Action	Action field, RECONFIGURATION PLAN PROVISIONING	The Action to be performed on the circuit of this item.
Sequence	Sequence field, RECONFIGURATION PLAN PROVISIONING	The sequence number of this item in the plan.
NPC_Hier	FROM Hier field, CIRCUIT PROVISIONING	The hierarchical number of the NPC. This NPC is to be understood as the FROM NPC.
NPC_Ext	FROM Ext field, CIRCUIT PROVISIONING	The extended number of the NPC.
NPC_ID	FROM NPC ID field, CIRCUIT PROVISIONING	User-assigned NPC name.
Ch	FROM Ch field, CIRCUIT PROVISIONING	The number of the channel under consideration, within the specified NPC.
Alt_NPC_Hier	ALTROUTE Hier field, CIRCUIT PROVISIONING	The hierarchical number of the NPC to which the NORMAL NPC was changed.
Alt_NPC_Ext	ALTROUTE Ext field, CIRCUIT PROVISIONING	The extended number of the NPC to which the NORMAL NPC was changed.
Alt_NPC_ID	ALTROUTE NPC ID field, CIRCUIT PROVISIONING	The NPC number to which the NORMAL NPC was changed.
Alt_Ch	ALTROUTE Ch field, CIRCUIT PROVISIONING	The channel to which the NORMAL channel was changed.

Table A-10. RECONFIGURATION PLAN ALTROUTE Report Fields (Con't)

Name	Form of Origination	Description
F_Preemp_Ckt_ID	Preempted Ckt ID field, CIRCUIT PROVISIONING	A circuit preempted by the FROM side of an altrouted circuit, if any.
F_Preemp_CP	Preempted CP field, CIRCUIT PROVISIONING	The circuit priority of the circuit preempted by the FROM side of the altrouted circuit.
T_Preemp_Ckt_ID	Preempted Ckt ID field, CIRCUIT PROVISIONING	A circuit preempted by the TO side of an altrouted circuit, if any.
T_Preemp_CP	Preempted CP field, CIRCUIT PROVISIONING	The circuit priority of the circuit preempted by the TO side of the altrouted circuit.

AUTO RECONFIGURATION PLAN Reports

Fields Table A-11 displays the AUTO RECONFIGURATION PLAN report fields that can be customized for the DND Forms Interface Only.

Table A-11. AUTO RECONFIGURATION Report Fields

Name	Form of Origination	Description
ARP_ID	ARP ID field, AUTOMATIC RECONFIGURATION PLAN PROVISIONING	The user-defined name of this ARP.
ARP_Status	ARP Status field, AUTOMATIC RECONFIGURATION PLAN PROVISIONING	The execution status of the ARP.
RP_Sequence	Sequence field, AUTOMATIC RECONFIGURATION PLAN PROVISIONING	The sequence number of the RP listed in the ARP.
RP_Status	RP Status field, RECONFIGURATION PLAN PROVISIONING	The execution status of an RP on the ARP.
RP_Site	Site Name field, RP and ARP forms.	The name of the site where the RP was or is to be executed.
RP_ID	RP ID field, RP and ARP forms.	The ID of the RP that was or is to be executed.
RP_Date	None.	The date when the RP was executed.
RP_Time	None	The time when the RP was executed.
NPC_Sequence	Sequence field, AUTOMATIC RECONFIGURATION PLAN PROVISIONING	The sequence number of an item placing an NPC on the alarm list.
NPC_Site	Site Name field, AUTOMATIC RECONFIGURATION PLAN PROVISIONING	The site of the NPC being placed on the alarm list.
NPC_Hier	Number (Hier) field, AUTOMATIC RECONFIGURATION PLAN PROVISIONING	The hierarchical number of the NPC being placed on the alarm list.

Table A-11. AUTO RECONFIGURATION Report Fields (Con't)

Name	Form of Origination	Description
NPC_Ext	(Ext) field, AUTOMATIC RECONFUGURATION PLAN PROVISIONING	The extended number of the NPC being placed on the alarm list.
NPC_Date	None.	The date on which the NPC issued an alarm, triggering the RP.
NPC_Time	None.	The time at which the NPC issued an alarm.

OUTAGES Reports

Fields Table A-12 displays the OUTAGES report fields that can be customized for the DND Forms Interface Only.

Table A-12. OUTAGES Report Fields

Name	Form of Origination	Description
Outage_Type	Outage Type field, OUTAGE LOG	The type of log: NPC or CIRCUIT.
Record_Number	Record No. field, OUTAGE LOG	The sequence number of the record in the log.
Outage_ID	Outage ID field, OUTAGE LOG	The ID of this outage record. It is in fact an NPC ID or a circuit ID.
CP	Ckt Priority field, CIRCUIT PROVISIONING	The priority of the circuit referenced by the Outage ID .
Date_Out	Date Out field, OUTAGE LOG	Three fields stating the date on which the outage began.
Time_Out	Time Out field, OUTAGE LOG	Three fields stating the time on which the outage began.
Date_In	Date In field, OUTAGE LOG	The date when the outage was cleared.
Time_In	Time In field, OUTAGE LOG	The time the outage was cleared.

TEST PORT Reports

Fields

Table A-13 displays the TEST PORT report fields that can be customized for the DND Forms Interface Only.

Table A-13. TEST PORT Report Fields

Name	Form of Origination	Description
Test_Port	Test Port No. field, TP PROVISIONING	The test port number.
Test_Port_Group	Test Port Group field, TP PROVISIONING	The test port group.
Test_Port_State	Test State field, TEST ACCESS	The operating status of the test port.
TP_NPC_Hier	NPC Number (Hier) field, TP PROVISIONING	The hierarchical number of the NPC being used for this test port group.
TP_NPC_Ext	(Ext) field, TP PROVISIONING	The extended number of the NPC being used for this test port group.
TP_NPC_ID	NPC ID field, TP PROVISIONING	The NPC ID of the NPC being used for this test port group.
Static_TC	TC field, TP PROVISIONING	The test port trunk conditioning, if the TC is static for this port.
Static_IW	IW field, TP PROVISIONING	The test port insertion word, if the IW is static for this port.
F_NPC_Hier	FROM Hier field, TEST ACCESS form	The hierarchical number of the FROM NPC of the object under test.
F_NPC_Ext	FROM Ext field, TEST ACCESS form	The extended number of the FROM NPC of the circuit under test.
F_NPC_ID	FROM NPC ID field, TEST ACCESS form	The ID of the FROM NPC of the circuit under test.
F_Ch	FROM Ch field, TEST ACCESS form	The FROM channel number of the circuit under test.
T_NPC_Hier	TO Hier field, TEST ACCESS form	The hierarchical number of the TO NPC of the circuit under test.
T_NPC_Ext	TO Ext field, TEST ACCESS form	The extended number of the TO NPC of the circuit under test.
T_NPC_ID	TO NPC ID field, TEST ACCESS form	The ID of the TO NPC of the circuit under test.

Table A-13. TEST PORT Report Fields (Con't)

Name	Form of Origination	Description
T_Ch	TO Ch field, TEST ACCESS form	The TO channel number of the circuit under test.
Circuit_ID	Ckt ID , TEST ACCESS form	The circuit ID of the object under test.
Term_State	Termination State field TEST ACCESS form.	The actual termination state of the object under test.
Ckt_Status	Ckt Status field, CIRCUIT PROVISIONING	The operational status of the circuit under test.

TEST ACCESS Reports

Fields

Table A-14 displays the TEST ACCESS report fields that can be customized for the DND Forms Interface Only.

Table A-14. TEST ACCESS Report Fields

Name	Form of Origination	Description
Test_Object_Number	Test Object Number field, TEST ACCESS	The test object number.
IW	IW field, TEST ACCESS	The IW of the test object.
F_Test_Obj_NPC_ID	Test Object F NPC ID , TEST ACCESS	The FROM NPC ID of the test object.
T_Test_Obj_NPC_ID	Test Object T NPC ID , TEST ACCESS	The TO NPC ID of the test object.
FIRST_F_Test_Ch	Test Object FROM Ch TEST ACCESS	The channel number of the first channel of the band, of the FROM side of the test object.
Test_Object_Type	Object Type field, TEST ACCESS	The type of test object, TP or TG.
TC	TC field, TEST ACCESS	The trunk conditioning of the object under test, if the TC is static for this port.
F_Test_Obj_NPC_Ext	Test Object FROM Ext , TEST ACCESS	The extended number of the test object FROM NPC.
T_Test_Obj_NPC_Ext	Test Object TO Ext , TEST ACCESS	The extended number of the test object TO NPC.
FIRST_T_Test_Ch	Test Object TO Ch , TEST ACCESS	The channel number of the first channel of the band, of the TO side of the test object.
Test State	Test State field, TEST ACCESS	The operating status of the test access connections: RELEASED, MONITOR, etc.
AtoMU	AtoMU field, TEST ACCESS	A-law to Mu-law conversion in effect, Y or N.
F_Test_Obj_NPC_Hier	Test Object F Hier , TEST ACCESS	The hierarchical number of the of the test object FROM NPC.
T_Test_Obj_NPC_Hier	Test Object T Hier , TEST ACCESS	The hierarchical number of the test object TO NPC.
BW	Bandwidth field, TEST ACCESS	The bandwidth of the test object.

Table A-14. TEST ACCESS Report Fields (Con't)

Name	Form of Origination	Description
Circuit_ID	Object Under Test Ckt ID, TEST ACCESS	The circuit ID of the circuit being tested.
F_NPC_ID	Obj. Under Test F NPC ID, TEST ACCESS	The FROM NPC ID of the circuit under test.
T_NPC_ID	Obj. Under Test T NPC ID, TEST ACCESS	The TO NPC ID of the circuit under test.
F_Ch	Obj. Under Test F Ch, TEST ACCESS	The first FROM channel of the object under test.
Ckt_Status	Ckt Status field, CIRCUIT PROVISIONING	The circuit status of the circuit under test.
F_NPC_Ext	Obj. Under Test F Ext, TEST ACCESS	The extended number of the FROM NPC in the circuit under test.
T_NPC_Ext	Obj. Under Test T Ext, TEST ACCESS	The extended number of the TO NPC in the circuit under test.
T_Ch	Obj. Under Test T Ch, TEST ACCESS	The first TO channel of the object under test.
F_NPC_Hier	Obj. Under Test F Hier, TEST ACCESS	The hierarchical number of the FROM NPC in the circuit under test.
T_NPC_Hier	Obj. Under Test T Hier, TEST ACCESS	The hierarchical number of the TO NPC in the circuit under test.
Termination_State	Termination State field, TEST ACCESS	The termination state of the circuit under test.

FRAMES/LINKS Reports

Fields

Table A-15 displays the FRAMES/LINKS report fields that can be customized for the DND Forms Interface Only.

Table A-15. FRAMES/LINKS Report Fields

Name	Form of Origination	Description
Site_Name	Site Name field, FRAME ADMINISTRATION	The user-assigned name of the frame being provisioned.
Site_Status	Site Status field, FRAME ADMINISTRATION	The status of the frame.
Protocol	Protocol field, FRAME ADMINISTRATION	The protocol in effect over the path between the DND and the frame: SNIDER or X.25.
Location	Location field, FRAME ADMINISTRATION	User-defined value stating the physical location of the frame.
Generic	Generic field, FRAME ADMINISTRATION	States the software release of the frame software.
NPC_Addressing	NPC Addr field, FRAME ADMINISTRATION	The type of NPC addressing used in frame commands generated by the DND: HIER, EXT3, EXT4.
Language	Language field, FRAME ADMINISTRATION	The command language used for frame commands generated by the DND: MML, PDS.
Frame_Type	Type field, FRAME ADMINISTRATION	The type of frame: DACS II, D II ISX.
Alarm_Sync	NPC Alarm Sync , FRAME ADMINISTRATION	The selection or non-selection of NPC alarm synchronization for this frame.
Speed	Speed field, FRAME ADMINISTRATION	The baud rate for the SNIDER port.
Primary_Line	Primary Line , FRAME ADMINISTRATION	The number of the line between the DND and the network or the frame.
Primary_Conn_Type	Connection Type , X.25 LINK ADMINISTRATION	The connection type of the primary line: PDN or DIRECT.
Primary_Netwk_Addr	Network Address , FRAME ADMINISTRATION	The network address of the primary line.
Primary_Link_Stat	Status field, FRAME ADMINISTRATION	The operational status of the primary line.

Table A-15. FRAMES/LINKS Report Fields (Con't)

Name	Form of Origination	Description
Backup_Line	Backup Line , FRAME ADMINISTRATION	The number of the backup line.
Backup_Conn_Type	Connection Type , X.25 LINK ADMINISTRATION	The connection type of the backup line: PDN or DIRECT.
Backup_Netwk_Addr	Network Address , FRAME ADMINISTRATION	The network address of the backup line.
Backup_Link_Stat	Status field, FRAME ADMINISTRATION	The operational status of the backup line.
ERP_Control	ERP Control , FRAME ADMINISTRATION	The selection or non-selection of conditional echoed response processing for this frame.
Comm_Status	None.	Whether or not the DND received a response after it sent out a command to the frame. A * means communication occurred.

USER ADMINISTRATION Reports

Fields

Table A-16 displays the USER ADMINISTRATION report fields that can be customized for the DND Forms Interface Only.

Table A-16. USER ADMINISTRATION Report Fields

Name	Form of Origination	Description
Login	Login Name field, USER MANAGEMENT	The login name by which the user is known to the DND system.
Class	User Class field, USER MANAGEMENT	The type of login: OPERATOR, ADMIN, CONTROLLER.
User_Name	User Name field, USER MANAGEMENT	The name of the person owning the login.
Phone	Phone field, USER MANAGEMENT	User-defined value stating the user's telephone number.
Address	Address field, USER MANAGEMENT	User-defined value stating the user's address.
City	City field, USER MANAGEMENT	User-defined value stating the user's city.
Alarm	Alarms Audible field, USER MANAGEMENT	Whether or not an audible alarm should sound at the user terminal when a frame alarm occurs: ON or OFF.
Idle	UI Idle Option field, USER MANAGEMENT	The logoff threshold in seconds of terminal idle time.
Printer_Name	Printer Name field, USER MANAGEMENT	Printer Name
Type	Type field, USER MANAGEMENT	ASYNC, X25, LOCAL

LOST RESPONCE LOG Reports

Fields Table A-17 displays the LOST RESPONCE LOG report fields that can be customized for the DND Forms Interface Only.

Table A-17. LOST RESPONCE LOG Report Fields

Name	Form of Origination	Description
L_Date	None.	The date on which the DND issued the response.
L_Time	None.	The time at which the DND issued the response.
Request_Type	None	FRAME, NPC or CIRCUIT.
Status	None	S (Success) or F (Failure).
Message_No	None	The message number.
Denial_Message		The reason for denial.

24-HOUR PERFORMANCE MONITORING STATISTICS Reports

Fields

Table A-18 displays the 24-HOUR PERFORMANCE MONITORING STATISTICS report fields that can be customized for the DND Forms Interface Only.

Table A-18. 24-HOUR PERFORMANCE MONITORING STATISTICS Report Fields

Name	Form of Origination	Description
NPC_ID	NPC ID field, NPC PROVISIONING.	The NPC ID.
NPC_Type	NPC Type field, NPC PROVISIONING.	The NPC Type.
NPC_Hier	Number (Hier) field, NPC PROVISIONING	The hierarchical number of the NPC.
NPC_Ext	Number (EXT) field, NPC PROVISIONING	The extended number of the NPC.
CRC_Avg	CRC_AVG field, 24- HOUR PERFORMANCE	Average Cyclic Redundancy Check counts.
ES_Avg	ES_AVG field, 24-HOUR PERFORMANCE	Average Errored Seconds counts.
SES_Avg	SES_AVG field, 24- HOUR PERFORMANCE	Average Errored Severely Seconds counts.
UAS_Avg	UAS_AVG field, 24- HOUR PERFORMANCE	Average Unavailable Seconds counts.
FRER_Avg	FRER_AVG field, 24- HOUR PERFORMANCE	Average Framing Errors counts.
OFS_Avg	OFS_AVG field, 24- HOUR PERFORMANCE	Average Out of Frame Seconds counts.
CSS_Avg	CSS_AVG field, 24- HOUR PERFORMANCE	Average Control Slips Seconds counts.
CV_Avg	CV_AVG field, 24-HOUR PERFORMANCE	Average Coding Violations counts.
UATC_Avg	UATC_AVG field, 24- HOUR PERFORMANCE	Average Unavailable Time Count counts.
MER_Avg	MER_AVG field, 24- HOUR PERFORMANCE	Average Multiframe Error counts.

Table A-18. 24-HOUR PERFORMANCE MONITORING STATISTICS Report Fields (Con't)

Name	Form of Origination	Description
FEBE_Avg	FEBE_AVG field, 24-HOUR PERFORMANCE	Average Far End Bit Error counts.
FSES_Avg	FSES_AVG field, 24-HOUR PERFORMANCE	Average Far End Severely Errored Seconds counts.
FES_Avg	FES_AVG field, 24-HOUR PERFORMANCE	Average Far End Errored Seconds counts.
FUAS_Avg	FUAS_AVG field, 24-HOUR PERFORMANCE	Average Far End Unavailable Second counts.
LOFA_Avg	LOFA_AVG field, 24-HOUR PERFORMANCE	Average Loss of Frame Alignment counts.
ERS_Avg	ERS_AVG field, 24-HOUR PERFORMANCE	Average Errored Seconds counts.
SLIP_Avg	SLIP_AVG field, 24-HOUR PERFORMANCE	Average SLIP counts.
US_Avg	US_AVG field, 24-HOUR PERFORMANCE	Average Unavailable Second counts.
DM_Avg	DM_AVG field, 24-HOUR PERFORMANCE	Average Degraded Minutes counts.
SERS_Avg	SERS_AVG field, 24-HOUR PERFORMANCE	Average Severely Errored Seconds counts.
Collected	No. of Days Collected field, 24-HOUR PERFORMANCE	Number of days collected.
Reset	Reset field, 24-HOUR PERFORMANCE	Number of days since data was reset.
Error	Error field, 24-HOUR PERFORMANCE	Number of days data not collected.
CRC_24hr	CRC_24hr field, 24-HOUR PERFORMANCE	Cyclic Redundancy Check counts.
ES_24hr	ES_24hr field, 24-HOUR PERFORMANCE	Errored Seconds counts.
SES_24hr	SES_24hr field, 24-HOUR PERFORMANCE	Errored Severely Seconds counts.
UAS_24hr	UAS_24hr field, 24-HOUR PERFORMANCE	Unavailable Seconds counts.

Table A-18. 24-HOUR PERFORMANCE MONITORING STATISTICS Report Fields (Con't)

Name	Form of Origination	Description
FRER_24hr	FRER_24hr field, 24-HOUR PERFORMANCE	Framing Errors counts.
OFS_24hr	OFS_24hr field, 24-HOUR PERFORMANCE	Out of Frame Seconds counts.
CSS_24hr	CSS_24hr field, 24-HOUR PERFORMANCE	Control Slips Seconds counts.
CV_24hr	CV_24hr field, 24-HOUR PERFORMANCE	Coding Violations counts.
UATC_24hr	UATC_24hr field, 24-HOUR PERFORMANCE	Unavailable Time Count counts.
MER_24hr	MER_24hr field, 24-HOUR PERFORMANCE	Multiframe Error counts.
FEBE_24hr	FEBE_24hr field, 24-HOUR PERFORMANCE	Far End Bit Error counts.
FSES_24hr	FSES_24hr field, 24-HOUR PERFORMANCE	Far End Severely Errored Seconds counts.
FES_24hr	FES_24hr field, 24-HOUR PERFORMANCE	Far End Errored Seconds counts.
FUAS_24hr	FUAS_24hr field, 24-HOUR PERFORMANCE	Far End Unavailable Second counts.
LOFA_24hr	LOFA_24hr field, 24-HOUR PERFORMANCE	Loss of Frame Alignment counts.
ERS_24hr	ERS_24hr field, 24-HOUR PERFORMANCE	Errored Seconds counts.
SLIP_24hr	SLIP_24hr field, 24-HOUR PERFORMANCE	SLIP counts.
US_24hr	US_24hr field, 24-HOUR PERFORMANCE	Unavailable Second counts.
DM_24hr	DM_24hr field, 24-HOUR PERFORMANCE	Degraded Minutes counts.
SERS_24hr	SERS_24hr field, 24-HOUR PERFORMANCE	Severely Errored Seconds counts.
Alarm_State	Alarm_State field, 24-HOUR PERFORMANCE	Current alarm state on the NPC.

Contents

■ Background	B-2
Introduction	B-2
Purpose	B-2
■ Status Error Messages	B-3
■ Troubleshooting	B-12
Overview	B-12
Resource Problems	B-12
Resource Problem Resolution	B-13
Software Failure	B-18

Background

Introduction

A number of messages may be displayed on the DND status line. Most of these are self explanatory except for those messages that indicate unusual internal conditions. When the DND software detects an unusual or invalid condition, it signal this through a STATUS message and also supplies trace information in an internal INFORMIX table setup specifically to record error messages.

Purpose

This appendix provides a complete listing of the status error messages which appear in the Status Summary window on the DND Main screen.

Status Error Messages

Table B-1. Status Error Messages

Error Message	Description	Error Code and Number	Corrective Action
"A database error occurred."	Redundant with DB_ERR	DB_ERROR 1096	See Resource Problems in Troubleshooting
"A database error prevented command completion"	An error was detected reading, writing, opening or closing a database table. In some cases this may be a logical error (i.e. an expected/unexpected record was not found/found) or it may be a physical error (e.g. the table does not exist).	DB_ERR 1023,	See Resource Problems in Troubleshooting
"A history file error occurred."	The process which maintains the DACS message log (history file) was unable to open, close or otherwise set the history file.	HISTORY_FILE_ERROR 1006	See Resource Problems in Troubleshooting
"A message failure occurred"	This is an error in using the interprocessor communication facility of UNIX. A variety of failures may account for this, most commonly it is because the receiving process does not exist. This can commonly happen (i.e. normal operations) when a DACS link failure occurs. That is, a message was being sent to the process which handles DACS communications, and the DACS link went down. This was very common in R4.0 and earlier releases. In R4.1.2 and later releases, this is no longer reported as an "error."	IPC_FAILURE 1005	See Resource Problems in Troubleshooting
"A message processing error occurred."	A process has received an unexpected message. Each message is keyed with a message type, the process received a message type it is not coded to handle.	MSG_ERR 1012	See Software Failure in Troubleshooting
"An invalid parameters error occurred."	Typically the default of a c language switch statement, and this indicates that an unexpected condition/definition was passed to a software routine. Similar to SOFT_ERR.	INV_PARM_ERR 1031	See Software Failure in Troubleshooting

Table B-1. Status Error Messages (Cont'd)

Error Message	Description	Error Code and Number	Corrective Action
"An unexpected message or a completion message to a previous command which timed out has been received by this browser (job number #)."	This message appears in the STATUS SUMMARY window on the DND Main screen in possible response to a previous form action. The form action had previously timed out at the browser interface. The job number as displayed in the message corresponds to the job number of the command which timed out, indicated in the time out message (T_B_UA_TIMER_EXPIRE 2602) on the form.	T_B_LATE_COMPL 3027	None
"An unexpected response was received."	While waiting for a response to a command sent to the DACS, an unexpected response was received (e.g. not a timeout, or a reply). Typically, indicative of a software defect. The command in progress has been aborted.	UNEXP_RSP 1084	See Software Failure in Troubleshooting
"An unexpected signal was received."	Processes set themselves up to receive and do certain processes upon receiving certain UNIX signals (e.g. alarm clock signal). A process has received a signal it did not expect or set itself up to handle.	UNEXPECTED_SIGNAL 1004	See Software Failure in Troubleshooting
"A printer error occurred."	As part of printer operations, when printer logging is enabled, the process (e.g. history process to log dacs commands) was unable to open a UNIX communication pipe to the UNIX line printer software.	LP_PIPE_ERROR 1008	See Resource Problems in Troubleshooting
"A receive message error occurred."	Interchangeable with IPC_FAILURE when receiving messages.	RECEIVE_ERROR 1010	See Resource Problems in Troubleshooting
"A send message error occurred."	Interchangeable with IPC_FAILURE when sending messages.	SEND_ERR 1011	See Resource Problems in Troubleshooting

Table B-1. Status Error Messages (Cont'd)

Error Message	Description	Error Code and Number	Corrective Action
"A site port error occurred."	A serial SNIDER port was unable to be opened or configured for unknown reasons, possibly because it is being used.	DACS_PORT_ERROR 1001	See Resource Problems in Troubleshooting
"A software error occurred"	A piece of software has encountered a condition it is not prepared to handle. Typically this are indicative of software deficiencies, or unexpected error handling has not been coded.	SOFT_ERR 1030	See Resource Problems in Troubleshooting
"A temporary history file error occurred."	Similar to HISTORY_FILE_ERROR	TMP_HIST_FILE_ERROR 1007	See Resource Problems in Troubleshooting
"Audit/synchronization autonomously aborted."	An audit sync that is in progress has stopped itself due to an internal verification error (software error).	ABORT_SYNC 4539	See Software Failure in Troubleshooting
"Bad process ID."	A reference was made to a process which is not identified in the DND system.	OAM_BAD_PROC_ID 3075	See Software Failure in Troubleshooting
"DND failed to attach to shared memory segment."	Shared memory is used to store global information between process. An attempt to attach to the shared memory has failed.	SHMAT_ERR 1020	See Resource Problems in Troubleshooting
"Failed to open a file."	Many processes open and write to files for many different reasons. This signifies that an open, close, read or write of an ordinary UNIX file failed.	OPEN_FILE_ERR 1022	See Resource Problems in Troubleshooting
"Memory allocation failed."	A process was unable to allocate memory from the system memory pool, typically because it is exhausted.	ALLOC_ERR 1021	See Resource Problems in Troubleshooting
"Message log sequencing error. Details in error log"	During a message log recovery, the DACS, when a link is restored, the message log sequencing is examined, if an out of sequence message is detected, a message is output.	MSG_SEQ_ERR 5099	See Software Failure in Troubleshooting

Table B-1. Status Error Messages (Cont'd)

Error Message	Description	Error Code and Number	Corrective Action
"No more SVC available locally"	Currently for the FT feature, the selected link is established directly by the X.25 software, if no more SVCs on any link can be found locally, then this message is output.	B_T_X25_OUTSVC_L 5079	See Resource Problems in Troubleshooting
"No more SVC available locally on Backup link"	Similar to X25_OUTSVC_L_P, except for the backup link.	X25_OUTSVC_L_B 5021	See Resource Problems in Troubleshooting
"No more SVC available locally on Primary link"	Similar to B_T_X25_OUTSVC_L, except that for non-FT customers, the link is specified at frame provisioning time. The SVCs on the primary link are exhausted.	X25_OUTSVC_L_P 5020	See Resource Problems in Troubleshooting
"No more SVC available remotely on Backup link"	Similar to X25_OUTSVC_R_P except this occurs on the backup link.	X25_OUTSVC_R_B 5023	See Resource Problems in Troubleshooting
"No more SVC available remotely on Primary link"	Similar to X25_OUTSVC_L_P, except the problem is on the remote side of the connection.	X25_OUTSVC_R_P 5022	See Resource Problems in Troubleshooting
None.	No longer used.	X25_PROTOCOL_ERR OR 5001	
"No such reconfiguration circuit."	May accompany an Automatic Replan request. There are no records associated with the requested routing plan.	NO_PPRCKT 1511	See Software Failure in Troubleshooting
"No users."	An error has occurred in trying to read the password file for a user, the user does not exist.	OAM_NO_USER 3098	See Software Failure in Troubleshooting
"Passthrough fork failed."	Similar to OAM_FORK_FAILED, except applied to the User Interface process when attempting to start a Passthrough session.	UI_FORK_FAIL 2002	See Resource Problems in Troubleshooting
"Passthrough pipe failed."	Similar LP_PIPE_ERROR, but applied to other operations that require UNIX pipes, such as passthrough and other printer actions.	PIPE_FAIL 2001	See Resource Problems in Troubleshooting

Table B-1. Status Error Messages (Cont'd)

Error Message	Description	Error Code and Number	Corrective Action
"Passthrough request failed."	An error was detected when the user attempted to exit a passthrough session, may be accompanied by other system error output. Typically this was in inability to release resources.	PASSTHRU_FAIL 2000	See Software Failure in Troubleshooting
"Reconfiguration ID mismatch."	The reconfiguration plan ID does not match the ID of the database.	MISMATCH_PPR 1509	See Software Failure in Troubleshooting
"Reconfiguration sequence mismatch."	May accompany an Automatic Replan request, when deleting a circuit from the plan, there is a mismatch in the sequencing of the circuit plan.	MISMATCH_CKT_SQN 1508	See Software Failure in Troubleshooting
"Size error: echo response ID line."	The construction of a line in the ERP log has created a string greater than the maximum size that can be stored in the log. The string has been truncated prior to insertion in the log.	ERPIDLINE_SZERR 4514	See Software Failure in Troubleshooting
"Size error: input database name."	Similar to DACSNAME_ERR, except the associated database to the DACS has failed verification.	DBNAME_SZERR 4513	See Software Failure in Troubleshooting
"Size error: site name."	Similar to DACSNAME_ERR, except the size of the DACS name, as received, fails verification.	DACSNAME_SZERR 4529	See Software Failure in Troubleshooting
"The backbone leg must be the last leg."	When setting up a multipoint circuit (virtual, dmb), the backbone leg must be the last to be deleted. This typically accompanies a circuit provisioning denial.	BBL_NOT_LAST 1058	See Software Failure in Troubleshooting

Table B-1. Status Error Messages (Cont'd)

Error Message	Description	Error Code and Number	Corrective Action
"The browser interface failed waiting for a completion response from the system. The command (job number #) may still be in progress and complete later."	A command or action may take longer than the integrity timer set for these responses. The form which initiated the action will display this message. The job number may be retained, and a STATUS message will be displayed if that command or action ultimately completes.	T_B_UA_TIMER_EXPIRE 2602	See Software Failure in Troubleshooting
"The calling function is invalid."	A message was received by a process, but from an unknown sender.	BAD_SENDER 1517	See Software Failure in Troubleshooting
"The circuit action is invalid"	A circuit has an invalid status and cannot be normalized (un-altroute).	BAD_ACTION_ST 1044	See Software Failure in Troubleshooting
"The circuit bandwidth is invalid."	An invalid bandwidth was received by circuit provisioning, it was less than 1 or greater than 32 channels in width. Typically accompanied by a circuit provisioning failure.	BAD_BW 1045	See Software Failure in Troubleshooting
"The circuit bandwidth type is invalid."	Internal circuit provisioning checking has received a bad bandwidth type.	BAD_BWTYPE 1046	See Software Failure in Troubleshooting
"The circuit channel is invalid."	A request was made to operate on a channel that failed validation (e.g. greater than 32), for example an echoed response was received from the DACS that was incorrect.	CH_SZERR 1063	See Software Failure in Troubleshooting

Table B-1. Status Error Messages (Cont'd)

Error Message	Description	Error Code and Number	Corrective Action
"The circuit class is invalid."	Typically accompanied by a circuit provisioning failure, this indicates that the software has received an invalid circuit class (e.g. FDX, HDX....LEG). The circuit class received is not a member of the known circuit classes. This can possibly happen due to database corruption, a software error or an improperly parsed DACS message, all of which imply software defect and should be reported to technical support.	BAD_OPERATION 1052	See Software Failure in Troubleshooting
"The circuit does not exist."	An operation was attempted on a circuit, but that circuit did not exist, i.e. an echoed response was received from a DACS, which operated on a circuit that the DND has no record of, or a pre-planned route operation was requested on a circuit which does not exist.	NO_CKT 4533	See Software Failure in Troubleshooting
"The DBA process died"	The lock monitor process controls single user access to the database. The lock monitor process has been restarted and the application processes have been notified, all in progress actions are aborted. The lock monitor process will exit if it has encountered an internal software defect, or more likely it is unable to allocation more memory to maintain its lock request queues.	DBA_DIE 1106	See Resource Problems in Troubleshooting
"The message length is bad"	The maximum length string that can be passed through a "passthrough" session, or through a "passthrough script" is 140 characters, this has been exceeded.	STRING_TOO_LONG 1000	See Software Failure in Troubleshooting
"The message type is invalid."	A message was received a software process, but one or more of its internal contents fail consistency checking or some other validation of the parameters.	BAD_MSG 1051	See Software Failure in Troubleshooting

Table B-1. Status Error Messages (Cont'd)

Error Message	Description	Error Code and Number	Corrective Action
"The new reconfiguration plan must have a unique ID."	Typically accompanies deny of an ARP request to CREATE a pre-planned route, the ID has already been used.	DUPL_PPRID 1507	See Software Failure in Troubleshooting
"The NPC specification is inconsistent."	Circuit provisioning detected and internal problem with the NPC number in the provisioning request.	INCONSISTENT_NPC 1070	See Software Failure in Troubleshooting
"There are no more spare legs."	The BCON circuit already has the maximum of 99 legs, or the virtual circuit has the maximum of 20 legs.	OVER_MAX_LEG 1078	None
"The reconfiguration LIST is invalid."	An error was found in a pre-planned routing list, the list appears to be out of order, the sequence of the list can be altered with the CHECK action.	BAD_PPR_LST 1503	See Software Failure in Troubleshooting
"The virtual circuit specification is inconsistent."	There is a mismatch between internal virtual circuit number and the internal circuit number.	MISMATCH_VCKT 1075	See Software Failure in Troubleshooting
"The virtual NPC/channel is invalid."	The virtual (site only) provisioning command could not be executed because the circuit was not found in the database and no virtual NPC was specified.	BAD_VEFT 1056	See Software Failure in Troubleshooting
"Too many ERP created circuits for the same points. Cleanup database now!."	The system is running out of internally generated circuit names for these end points in response to echoed responses from the DACS. The circuits created through echoed response should be modified and given proper names. This error will occur for the creation of multipoint circuits only.	ALT_CKTID 4505	Rename circuits created by echoed response processing
"Unable to get site name for system."	Verification of the DACS "name" has failed, the process has received a message but the associated DACS information is incorrect and is not present in the common database.	DACSNAME_ERR 4517	See Software Failure in Troubleshooting
"UNIX system error (cannot exec process)."	Similar to OAM_FORK_FAILED.	OAM_EXEC_FAILED 3082	See Software Failure in Troubleshooting

Table B-1. Status Error Messages (Cont'd)

Error Message	Description	Error Code and Number	Corrective Action
"UNIX system error (cannot fork)."	An attempt to spawn another process has failed, possibly because of system resources, possibly because the executable for the process cannot be found.	DACS_FORK_FAILED 1009	See Resource Problems in Troubleshooting
"UNIX system error (cannot fork process)."	Similar to DACS_FORK_FAILED but applied to the OAM process which is the parent process for all DND processes. OAM was not able to start or restart a process, possibly due to system resources, or due to the fact that the executable does not exist (i.e. program installation error).	OAM_FORK_FAILED 3083	See Resource Problems in Troubleshooting
"UNIX system error (message queues are gone)."	A process' message queue has inexplicably been removed from global shared memory.	OAM_MSGQ_GONE 3085	See Software Failure in Troubleshooting

Troubleshooting

Overview

There are only two classifications of error described in this section:

- Errors that indicate DND resource problems
- Errors that indicate a DND internal software problem (bug)

Hardware or Solaris internal problems (bugs) problems usually manifest in more severe ways, such as CPU panic messages, erratic screen or keyboard behavior, or UNIX messages that appear on the system console. It is always good practice to keep a console window open and periodically (daily) check to see if any messages are present. Disk, printer, asynchronous port, X.25, and tape drive, problems are often written to the console. These types of problems are beyond the scope of this manual.

If you suspect an installation problem (for example, unable to connect to the DND server) contact your next level of support.



WARNING:

All troubleshooting procedures should only be done on the DND server and by the DND system administrator.

Resource Problems

Resource problems relate to the following types of errors:

- Free disk space
- RAM
- CPU usage and processing
- Internal UNIX resource

Resource problems may also be evident on the system console as well. The following errors from Table B-1 may indicate resource problems on the DND:

- ALLOC_ERR
- B_T_X25_OUTSVC_L
- DACS_FORK_FAILES
- DACS_PORT_ERROR
- DB_ERR

(Continued on next page)

Troubleshooting (Continued)

Resource Problems (Continued)

- DB_ERROR
- DBA_DIE
- HISTORY_FILE_ERROR
- IPC_FAILURE
- LP_PIPE_ERROR
- OAM_FORK_FAILED
- OAM_EXEC_FAILED
- OPEN_FILE_ERR
- PIPE_FAIL
- RECEIVE_ERROR
- SEND_ERR
- SHMAT_ERR
- SOFT_ERR
- TMP_HIST_FILE_ERROR
- UI_FORK_FAIL
- X25_OUTSVC_L_P
- X25_OUTSVC_L_B
- X25_OUTSVC_R_P
- X25_OUTSVC_R_B

Resource Problem Resolution

When one of these errors occurs, take the following actions:

1. Installation problems may cause some of the abnormal behaviors. The user should insure that:
 - Proper amount of RAM has been installed
 - X.25 package has been installed
 - X.25 network is operating properly
 - There are no other software applications using memory, disk and TTY resources.

(Continued on next page)

Troubleshooting (Continued)

Resource Problem Resolution, Continued

2. If a process is a runaway, stuck, or insane process (running and consuming resources but doing no real work), one way to detect this is to use the following UNIX command:

```
unix> /usr/ucb/ps -aux | head
```

The response will be of the following form:

USER	PID	%CPU	%MEM	SZ	RSS	TT	S	START	TIME	COMMAND
root	401	50.1	0.8	2856	1984	?	S	09:14:12	0:00	userint -f -u
root	402	0.1	0.8	2856	1984	?	S	09:14:12	0:00	/usr/ems/bin/proc2
root	403	0.1	0.8	2856	1984	?	S	09:14:12	0:00	/usr/ems/bin/proc3

In this example, the %CPU utilization of the first process on the list is named `userint`, indicated that it is consuming a great deal of the system. If the system is known to be idle and no reason can be found to determine the cause of this, then this process is possibly in an error state. A process that is persistently consuming more than 20% to 30% CPU is possibly in an "insane" condition.

There is a known problem where, if the CDE window manager exits with one or more user interfaces up, the "userint" process may not die.

It is possible to kill this process with the following command:

```
unix> kill -9 <PID>
```

Where <PID> in this case would be 401.



CAUTION:

Be careful when killing processes. Most processes will restart, however, some may not and cause serious system damage. Whenever in doubt, contact your next level of support with the data you have collected.

3. If installation errors are not suspect, then typically resource problems occur because of DACS activities. Significant activity on a single DACS or on multiple DACS may exceed the capacity of the workstation. Wait for the activity to diminish.

Isolate the offending DACS by observing DACS activity in the DND Forms Interface Multiplexed Passthrough for each DACS to identify busy DACS and then modify the DACS behavior.

(Continued on next page)

Troubleshooting (Continued)

Resource Problem Resolution, Continued

If improper behavior is still apparent, the administrator can remove the DACS from service.

4. Actions can cause temporary and residual files to be created in various places. For example, a report operation requires storage in /tmp and stores the final report in /usr/ems/reports. The storage required in /tmp is oftentimes quite large. User data (e.g. tar files) have also been known to consume excessive amounts of data. You can observe an overall summary of utilization by using the following command:

```
unix> df -k
```

The response will be of the following form:

Filesystem	kbytes	used	avail	capacity	Mounted on
/dev/dsk/c0t0d0s0	1539719	89715	1446155	6%	/
/dev/dsk/c0t0d0s6	2011919	629605	1375608	32%	/usr
/proc	0	0	0	0%	/proc
fd	0	0	0	0%	/dev/fd
swap	392840	1592	391248	1%	/tmp

Primary file systems are the "root" file system (/), the "user" file system (/usr) and swap (also virtual storage). A capacity utilization of 80% or greater in any of these implies a possible problem and typically usage is normally much less.

To seek out files on disk which are consuming a great deal of space, the following commands are often useful:

```
unix> du
```

```
unix> du -s
```

The first command will provide a recursive display of all files and file systems from the current directory downward. The second will provide a summary display of the current directory utilization. An example output is as follows:

```
unix> du -s /usr
```

```
1259576 /usr
```

This means that /tmp is currently consuming 1, 259, 576 blocks of 512 bytes each. This implies disk usage of approximately .6 Mb.

(Continued on next page)

Troubleshooting (Continued)

Resource Problem Resolution, Continued

5. To monitor the overall performance information on the system, use the `vmstat` command. Its output requires particular expert interpretation, but the on-line UNIX manual (e.g. `man vmstat`) provides the detailed information. An example usage is:

```
unix> vmstat 5 5
```

Which implies a sample of 5, every 5 seconds. An example output is as follows:

procs			memory		page				disk				faults		cpu						
r	b	w	swap	free	re	mf	pi	po	fr	de	sr	s0	s6	--	--	in	sy	cs	us	sy	id
0	0	0	486200	43832	0	278	23	15	32	0	5	12	0	0	0	292	2954	265	8	7	86
0	0	0	387992	6000	0	100	0	0	0	0	0	1	0	0	0	256	972	148	2	1	97
0	0	0	387922	5992	0	0	0	0	0	0	0	7	0	0	0	256	112	103	0	1	99
0	0	0	387992	5984	0	28	0	0	0	0	0	5	0	0	0	237	476	131	0	1	99
0	0	0	387922	5984	0	0	0	0	0	0	0	0	0	0	0	207	96	97	0	0	100

The last column, `cpu (id)`, is CPU idle percentage. This shows that idle time is 97 to 100%.

6. Problems may arise with communication to one of the SCSI devices. These are the tape drive and the 16-port and 32-port Serial Expansion Units (SEUs). If any of these have been powered down or recabled, problems accessing the SCSI bus may occur. These can be cleared by:
 - a. Insuring that the last device on the SCSI bus chain is terminated with a SCSI terminator (typically the tape drive is the last device).
 - b. Forcing the workstation to re-evaluate the SCSI devices on the workstation. So this by:
 - i. Shutting down the workstation to the `ok>` prompt (SYSTEM ADMINISTRATION form -> SHUTDOWN form -> IMMEDIATE option -> SHUTDOWN)
 - ii. Power cycle the devices (i.e. turn then on/off)
 - iii. Reboot the machine with a special option

```
ok> reboot -r
```

(Continued on next page)

Troubleshooting (Continued)

**Resource Problem
Resolution,
Continued**

7. Memory problems may occur for a number of reasons. "Swap" space is virtual memory contained on disk. If a large number of applications are running (and the Netscape browser does require a large amount of swap space), then swap space may run out. Another type of memory resource is internal "malloc" memory, a fixed pool of which is assigned to each process. Under heavy load conditions (i.e. very long duration of heavy DACS message activity), malloc memory may run out.

To clear these errors, attempt the following steps (proceed with each possibility until the problem disappears:

- a. Try to reduce the number of applications running on the DND server temporarily. Logoff of the Forms Interface, close applications and close as many windows as possible.
- b. REMOVE/RESTORE the DACS connection to the babbling DACS. Restoring the DACS restarts the processes to that DACS and frees up memory.
- c. Restart the DND. This restarts all of the processes and frees up memory (SYSTEM ADMINISTRATION form -> SHUTDOWN form -> IMMEDIATE option -> RESTART)
- d. Reboot the DND (SYSTEM ADMINISTRATION form -> SHUTDOWN form -> IMMEDIATE option -> REBOOT).
- e. If Steps c and d cannot be performed, then the following commands will reboot the DND:
 - i. Login as root
 - ii. Type the following at the prompt:
unix> # reboot

Troubleshooting (Continued)

Software Failure

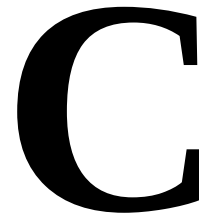
All of the errors that do not appear to be resource problems, based on the prior section, may indicate a software failure. Typically these occur during some command activity or some autonomous activity as a result of a message from the DACS. When these occur and cause a command or action to not successfully complete, take the following actions:

1. Write down the STATUS message that appears on the STATUS line.
 2. Identify and note the command or action that cause the abnormal STATUS message.
 3. Write down the state of the system at the time of the error, including the following information:
 - Which form was being filled out
 - What fields were filled in
 4. If the error is associated with some DACS messages (for example, circuit provisioning action, NPC provisioning, or ERP) use the DND Forms Interface REPORTS form to display the HISTORY LOG for that DACS and print the last 3 or 4 pages in the log.
 5. Perform a backup of the COMMON database to tape.
 6. If it is clear that the error was associated with a particular DACS, also backup that particular DACS to another tape.
 7. Send all of the above information to your next level of support, identifying this as a possible software problem.
-

Part III:

*DND Forms Interface
Reference Material &
Procedures*

Getting Started - DND Forms Interface



Contents

■ Introduction	C-1
■ Configuring the Frame	C-1
Overview	C-8
Time Zone Changes	C-8
Interface Software	C-8
Procedure: Changing the Root Password	C-10
Overview	C-12
Logging on the CDE	C-12
CDE Toolbar	C-12
Virtual Workspaces	C-12
Console Window	C-12
Procedure: Logging in Through X.25 Ports	C-13
■ Administering Frames	C-14
■ Configuring Login Ports	C-14
■ Changing Passwords	C-15

(Continued on next page)

Contents (Continued)

■ Using the System	C-16
MAIN MENU	C-16
Procedure: Navigating Between Menus, Forms, and Fields	C-17
Field Definitions	C-18
Using the EXECUTE Key	C-25
Field Descriptions	C-29
Using the RECNCILE Key	C-30
Understanding the Screen Line	C-31
Procedure: Updating the Database	C-32
■ Summary of Menus And Forms	C-34

Getting Started - DND Forms Interface

C

Introduction

This appendix gets you started configuring the frame for DACS II and DACS II ISX, as well as configuring the DACS using the X.25 and SNIDER protocols. After the DACS II Network Director Forms Interface controller has been successfully installed, use this appendix to start configuring the system for the DND Forms Interface.



NOTE:

For additional information refer to Chapter 2 “Getting Started”.

Configuring the Frame

When DND is operational, leave it and configure the DACS port(s) that will be connected to it. Perform this step at the DACS.

Compatibility is crucial. If DACSs are already operative, see your system administrator for the details of their settings.

Procedure: Configuring Frame for DACS II & DACS II ISX

To configure the frame for DACS II and DACS II ISX Releases 1.0 and higher, follow these steps:

1. Log in directly on a dumb DACS terminal as a frame administrator using either MML or PDS.
 - a. For **MML**, type in the following commands:
LGN-USER: : : DAX
(enter password)
 - b. For **PDS**, type in the following commands:
LOGIN: : USER DAX
(enter password)
2. If the USER DAX input language is **PDS**, change it to **MML** following these steps:
 - a. Type in the following command:
ADD: : USER DAX, LANG M
 - b. Log off:
LOGOFF: : USER DAX
 - c. Log in again:
LGN-USER: : : DAX
3. Follow one of the procedures below to configure the frame using either the SNIDER or X.25 protocols.
 - a. To configure the DACS as a node in a direct configuration utilizing the SNIDER protocol, refer to "Procedure: Configuring the Frame Using SNIDER Protocol."
 - b. To configure the DACS as a node in a direct or network configuration utilizing the X.25 protocol, refer to "Procedure: Configuring the Frame Using X.25 Protocol."

**Procedure: Configuring Frame Using
SNIDER Protocol****NOTE:**

The procedures for configuring the frame for a SNIDER protocol differ slightly between the DACS II and DACS II ISX. The differences are noted below.

To configure the DACS as a node in a SNIDER configuration using MML, follow these steps:

1. Set the baud rate to 1200 (12), 2400 (24), 4800 (48), or 9600 (96) and the protocol to SNIDER (S):

- a. For DACS II:

ED-PRMTR-LINK: :n: :BAUD-bb, PTCOL-S;

where n is 1, 2, 3, or 4 and refers to the DACS link, and bb is 12, 24, 48 or 96.

- b. For DACS II ISX:

ED-PRMTR-LINK: :1: :BAUD-bb, PTCOL-S, ENQ-1, XON-0!

**NOTE:**

On reset, the DACS re-establishes the port default speed of 1200 baud until the DACS reboot is completed. If the administrative link is set to any other speed through DND FRAME ADMINISTRATION, communication will be temporarily lost during the DACS reboot. Either change the DND administrative link to match the DACS port, or change the DACS port to match the link. If you use PASSTHROUGH to change the DACS port, you must first set the administrative link to 1200. As soon as you press Enter, communication is lost again. Leave PASSTHROUGH and reset the DND link.

2. Set the language to MML (M) and select the NPC addressing system:

SET-PRVG-TERM: : : :n: LANG-M: NPCAD-m;

where m is:

- E for 3-digit extended numbering (default for DACS II ISX)
- X for 4-digit extended numbering
- H for hierarchical numbering (recommended for DACS II)

3. To disable echoed responses from the DACS II, set the link screening level to 2:

SET-PRVG-TERM: : : :n: SCR-2;

4. To enable echoed responses from the DACS II, set the link screening level to 4:

SET-PRVG-TERM: : : :n: SCR-4, GR-1&-1&-1&-1&-0&-1;

For more information on echoed responses, refer to Echoed Response Processing in Appendix E "NPC Provisioning" and Appendix G "Circuit Provisioning."

Procedure: Configuring Frame Using X.25 Protocol

To configure a frame as a node in a direct or network configuration for DACS II using the X.25 protocol, follow these steps:

1. Using MML, initialize one or both frame links to handle X.25.

```
ED-PRMTR-LINK::n::PTCOL-X:INIT;
```

where n is the link number, 5 or 6.

2. Change the default setting of 8 SVCs and 8 PVCs per link to 16 SVCs and no PVCs per link:

```
ED-PRMTR-LINK::n::VC-0016&-0000;
```

3. Set each virtual circuit on the link to the MML language:

```
SET-PRVG-TERM:::n01:LANG-M:NPCAD-m;
```

```
SET-PRVG-TERM:::n02:LANG-M:NPCAD-m;
```

```
...
```

```
SET-PRVG-TERM:::n16:LANG-M:NPCAD-m;
```

where n is the link number (501 to 516 and 601 to 616), and m is:

E for 3-digit extended NPC numbering

X for 4-digit extended numbering

H for hierarchical numbering

4. Set the screening of virtual circuits on the link.
5. To disable echoed responses from the DACS II, set the link screening level to 2:

```
SET-PRVG-TERM:::n01:SCR-2;
```

```
SET-PRVG-TERM:::n02:SCR-2;
```

```
...
```

```
SET-PRVG-TERM:::n16:SCR-2;
```

6. To enable echoed responses from the DACS II, set the link screening level to 4:

```
SET-PRVG-TERM:::n01:SCR-4,GR-1&-1&-1&-1&-0&-1;
```

```
SET-PRVG-TERM:::n02:SCR-4,GR-1&-1&-1&-1&-0&-1;
```

```
...
```

```
SET-PRVG-TERM:::n16:SCR-4,GR-1&-1&-1&-1&-0&-1;
```

7. Set the frame level 2 parameters to match the parameters of the DND:

```
ED-PRMTR-LINK::n::K-3,N2-7,T1-6;
```

Procedure: Configuring DACS for 24-Hour Performance Monitoring

1. If 24-Hour Performance Monitoring is enabled on the DND, schedule 24-Hour Performance Monitoring at the DACS and DACS II ISX using the following commands:

At a gateway DACS II:

```
SCHED-PMREPT-ALL : : : HH-MM-SS, FAC-X-0002b5, , PRIM-X-FBFF  
SCHED-PMREPT-ALL : : : HH-MM-SS, MONDAT
```

At a DACS II ISX or a non-gateway CEPT DACS II:

```
SCHED-PMREPT-ALL : : : HH-MM-SS, PRIM-X-FBFF  
SCHED-PMREPT-ALL : : : HH-MM-SS, MONDAT
```

See the DACS II or DACS II ISX *Command and Message Manual* for more details on these commands.



NOTE:

For a DND supporting multiple DACSs, it is recommended that each DACS has a different execution time for performance monitoring reports, so that two or more DACSs are not reporting performance data at the same time. It is also recommended that the time of execution be set to off-peak usage hours, when DND is not being heavily used. Do not schedule performance reports to be executed at midnight.

Setting/Changing Default Form Values for NPC and Circuit Provisioning

To set/change the default field values for the NPC and Circuit Provisioning forms you *must* log in as *root*.

When setting/changing these values, the following files *must* be edited and the same changes made to all files:

- ui_dval.ini
- ui_dval.fre
- ui_dval.eng

To change the default form values, follow these steps:



NOTE:

You must know the UNIX text editor “vi.”

1. Log into the DND Controller system as **root**.
2. Type **cd /usr/ems/initstr**. You are now placed in the directory where the ui_dval file resides.
3. Type **vi ui_dval.ini** to edit this file.
4. Find the default value to be changed:
The default value is surrounded by double quotes. A description of the default value is contained in the comment on the same line, as shown in the example file below. Edit the word within the double quotes.
5. Use **:w!** to save the changes.
6. Exit from vi.
7. Next, you *must* make the same changes in the following files: ui_dval.fre and ui_dval.eng.

8. Log out, then log back in. Default values take effect in the next session.

```
/*ENGLISH customized default values for CIRCUIT and NPC
provisioning forms */

/* CIRCUIT PROVISIONING DEFAULTS */
1 "0011.0011" /*trunk conditioning (CKT_TC) */
2 "TRB"       /* insertion word (CKT_IW) */
3 ""         /*tso to non-ts0 framing bits in FW
(CKT_FW) */
4 ""         /* framing other */
5 ""         /* Signaling conversion (CKT_SC) */
6 "A"        /* bandwidth type */

/* NPCPROVISIONING DEFAULTS */
7 "PB100"     /* NPC type for DACS II (NPC_TYPE_DACS2)
*/
8 "PA100"     /* NPC type for DACS II ISX
(NPC_TYPE_ISX) */
9 ""         /* insertion word (NPC_TYPE_IW) */
10 "MJ"       /* AIS (NPC_AIS) */
11 "PPPPPPPP" /* NFS (NPC_NFS) */
12 "10"       /* cbit aging (CBIT_AGING) */
```

Figure C-1. Sample ui_dval.eng File

Time Zone

Overview

The UNIX operating system automatically keeps track of time. The system administrator can obtain the current time and time zone information by using the **date** command. Internally, all time is maintained at Greenwich Mean Time (GMT), and adjusted to local time according to the time zone setting.

Time Zone Changes

Generally, the time zone information is set on the workstation at installation time and regional Alternate Time Zone (ATZ) adjustments take place accordingly. For example, Daylight Savings Time (DST) is an ATZ. The start and end dates and times at which an ATZ begins and ends may vary from country to country and from region to region. The UNIX operating system generally maintains this information accurately and adjusts the time properly for the ATZ transitions.

Interface Software

If, however, time is not correctly adjusted to the ATZ automatically for your region, or you wish to change the time zone according to a different country/region, then a DND tool will allow for direct correction of that. The `timezone` command is provided to do this. Once the time zone information is adjusted this way, then the time zone will need to be adjusted for each year, in January, or as soon thereafter as is practical.

Procedure: Setting the Time Zone

To set the time zone for DACS II Network Director Forms Interface, follow these steps:

1. Log in as an administrator and verify that the current year is displayed in the top line of the menu. If necessary, use SYSTEM ADMINISTRATION to set the date and time.
2. Log off from DND.
3. Log in as **dacsadm**
4. Type **timezone** to start the timezone command.
5. A series of menus are displayed to facilitate time zone selection. Enter the menu item that corresponds to the appropriate country or time zone

**NOTE:**

Help provides additional information about menu items.

6. Fill out the menu items to select time zone parameters.
7. You will be prompted to confirm time zone modification and restart DND. Type **y** to confirm the time zone modification restart.
8. Log in as a DND administrator and verify that the correct time and date is displayed on the top line of the main menu.

Logging Into the DND Forms Interface

This section provides procedures on how to login in directly, remotely, through DND X.25 ports, and through another host for the DND Controller.

Procedure: Changing the Root Password

The root password is the password assigned to the login, `root`, which grants full access to the system. DND's computing system is supplied with a default root password. Immediately following installation, you must change this password to one you have devised.

**CAUTION:**

It is important to remember this password, since it is the only way to recover from forgotten DND passwords (refer to "CHANGE PASSWORD" in Appendix K "User Administration".) If the worst case does occur, please contact your Lucent Technologies representative for assistance.

To change the root password, follow these steps:

1. Log in as **root**.
2. At the password prompt, enter the default password.
3. At the # prompt, enter **passwd**.
4. Enter the new password twice as requested.
5. At the # prompt, enter **exit**.

Procedure: Logging In, DND Operator on Console

To log into the DND computer on the console as an operator, follow these steps

1. Turn on the DND computer. Wait for the computer to boot. Wait for Common Desktop Environment (CDE) to start up. Do not login to the system until the CDE login form is displayed
2. Enter your login name when prompted by the CDE login form and press **Enter**.
3. Enter your password and press **Enter**. The CDE window manager will start up.
4. Obtain the Forms Interface and/or the DND GUI:
 - a. Right-click on the CDE wallpaper to display the Workspace Menu.
 - b. Select the *Programs* option. A Programs menu will appear.
 - c. For the DND Forms Interface:
 - Select the *DND UI* option.For the DND GUI application:
 - Select the *DND GUI* option.

The DND Forms Interface maintains an idle timer. The `IDLE_THRESHOLD` variable in `userenv` defines the idle timer duration. The Forms Interface will automatically log off when there is no activity for `IDLE_THRESHOLD` minutes. The DND GUI does not maintain an idle timer.

The Common Desktop Environment (CDE)

Overview

The CDE used by the DND is Sun's Solaris 2.6. The CDE is the window management system for DND. It manages the login and displays for the user.

Logging on the CDE

When operators or administrators operate at a client workstation (connected via a LAN), there are two levels of user logins required for operation of the DND GUI:

- CDE Login
- DND server Login (discussed later)

The DND server Login is needed to set up a CDE Login.

When the DND server workstation or the client workstation is turned on, the screen immediately prompts the user for a login and then a password. Once these are entered, the user enters the CDE.

CDE Toolbar

The CDE toolbar appears by default at the bottom of the monitor screen. Window colors, backdrop wallpaper and mouse operation defaults can be changed easily via the mouse icon, fourth from the right on the toolbar.

The clock is displayed on the right hand side of the toolbar. This time is local to the workstation. The date is displayed to the right of the clock. Double-clicking on the date will bring up the CDE calendar manager, which may be useful, but is not needed for the DND.

Additional help can be obtained by clicking the ? icon, second icon from the right (just to the left of the garbage can).

Virtual Workspaces

Four default virtual workspaces are defined by the CDE and are named One, Two, Three and Four, respectively. To enter a virtual work environment, click on the associated button, located in the middle of the CDE toolbar.

The name of the virtual workspace can be changed by double-clicking on the name in the box and editing the name on the button.

Console Window

When using the DND, it is recommended that a console window remain open. System status messages are often displayed in the console. Right-click anywhere on the CDE "wallpaper" to reveal a pull-down menu. Select the **Console** option, and the console window will appear on the screen. Allow it to run in the background as you are using the DND.

Remote Access

The DND can be accessed by logging into DND's X.25 ports.

When DND is accessed through the X.25 ports, the system tracks logins over the X.25 network. When the user disconnects or a link failure occurs, the DND updates the list of users connected. The total number of X.25 sessions that can be used to access the DND cannot exceed 15. DND reserves one session for the DND console.

Procedure: Logging in Through X.25 Ports

To access DND using this method, follow these steps:

1. Turn on the Sun workstation.
2. Log in as **dacsadm** or **username** (use the user name assigned to you by the system administrator). Press **ENTER**.
3. Enter your password and press **ENTER**. The CDE window manager will appear on the screen.
4. Right-click on the CDE wallpaper and display the Workspace Menu.
5. Select the *Programs* option. This will display a sub-menu for *Programs*. Select either the *DND GUI* or *DND UI* option.

Administering X.25 Links

**NOTE:**

This feature is available *only* to system administrators.

Administering the X.25 links means placing them in service or taking them out of service. The network and its nodes must already have been physically installed before links can be placed in service. Placing the links in service is not required for merely running the DND. Once a link is in service, it can be used to establish communication with one or more frames. Refer to the next section, "Administering Frames". For the details on how to administer an X.25 link, refer to "X.25 LINK ADMINISTRATION" in Appendix D "System Administration."

Administering Frames

**NOTE:**

This feature is available *only* to system administrators.

Administering a frame means establishing communication with the frame or taking it away. A link over which communication can occur must already have been provisioned. Refer to the preceding section, "Administering X.25 Links."

For the details on how to administer a frame, refer to "FRAME ADMINISTRATION" in this chapter.

Configuring Login Ports

**NOTE:**

This feature is available *only* to system administrators.

Configuring a login port means placing an asynchronous line in service. The DND supports up to 16 login ports. These appear as login ports 1 through x. They represent the first 16 ports. For example, if 48 ports are available on the system, only the first 16 can be used as login ports. The DND supports up to six simultaneous login sessions, including the console session. For the details on how to administer the login ports, refer to "LOGIN PORTS" in Appendix D "System Administration."

Changing Passwords

**NOTE:**

This feature is available *only* to system administrators.

You may need to change your password from the *root* password. For information on how to change passwords, refer to “CHANGE PASSWORD” in Appendix K “User Administration.”

Using the System

MAIN MENU

When you log into the DND system, the MAIN MENU is displayed, as shown in Figure C-1.

The screenshot shows a terminal window with the following text:

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

----- MAIN MENU -----

-PROVISIONING
SYSTEM ADMINISTRATION
DATABASE ADMINISTRATION
TASK ADMINISTRATION
USER ADMINISTRATION
PASSTHROUGH
PASSTHROUGH ABORT
REPORT OPERATIONS
TEST ACCESS
LOGOFF

Press ENTER to Provision the network
```

At the bottom of the terminal window, there are several buttons: **HELP**, followed by three empty rectangular buttons, then **PRINT**, followed by another empty rectangular button.

Figure C-2. MAIN MENU

Procedure: Navigating Between Menus, Forms, and Fields

The Forms Interface of the DND features screens, which comprise menus and forms, in a logical “tree” structure. The complete structure is summarized at the end of this appendix.

A menu is a list of operations and actions from which you can select by one of the following methods:

1. Press **Enter** if the cursor is already at the desired choice; otherwise, use the arrow keys to get there.
2. Type the first letter of your choice. For selections beginning with the same letter, type additional letters. Use **Ctrl** + **X** to clear the field before making any entry (does not apply to vt220).
3. Some menu choices branch to subsequent submenus, but in any case lead eventually to a form. Forms contain fields. You type information into the fields and press **Enter**.
4. As soon as the cursor enters a field, INSERT typing mode is in effect. Each keystroke appears to the left and the cursor character with characters to the right are moved to the right.
5. To switch to OVERLAY typing mode, press **Esc** (not available on vt220). A keystroke appears at the cursor position, overlaying the character there, and the cursor moves over the next character to the right. **Esc** switches between INSERT and OVERLAY typing modes, but entry to a field is always in INSERT.
6. To remove the contents of the field and start over, type **Ctrl** + **X** (not supported for vt220).
7. Once you press **Enter**, if the information entered is not in the correct format for that field, an error message is displayed with a request to re-enter the information. Once the information in the field is correct, the cursor advances to the next field.
8. **Tab** (does not apply to vt220) can be used to move forward between fields. However, not all fields allow user input. In such cases, the next field is the next that allows user input.
9. Some fields are mandatory; for example, **NPC ID** in an NPC PROVISIONING form. You are not allowed to continue until the field contains a valid value. Of course, the special function keys are always valid when they are shown on the screen; you can always start over by pressing **QUIT**. Refer to “Using Function Keys” in this chapter.

For further information on allowed keystrokes for menus, forms and passthrough, refer to Tables C-1 through C-4.



NOTE:

The title of each table states the proper application of its keystrokes. For example, **PAGE DOWN** as a menu control keystroke obtains the next page of a menu, but not necessarily the next page of a displayed report, form, or report.

Field Definitions**Table C-1. Menu Control Keystrokes**

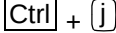
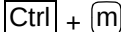
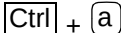
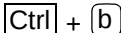
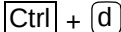
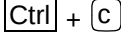
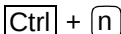
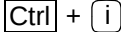
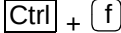
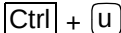
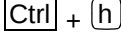
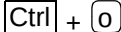
Keystrokes	Function
	Return to the MAIN MENU.
	Pop-up Help menu for current item.
   	Select an item from the menu.
	Get an alarm report.
 	Scroll down a page.
	Scroll menu down a line.
	Return to the MAIN MENU from a second level menu; log the user off from the MAIN MENU level.
  	Move to the next item.
 	Scroll up a page.
	Scroll menu up a line.
	Erase the last character in the pattern matching buffer.
	Output the screen to the printer.

Table C-1. Menu Control Keystrokes (Contd)

Keystrokes	Function
Ctrl + p ↑	Move to the previous item. ! CAUTION: <i>When connected to the DND using the X.25 network, pressing Ctrl + p will disconnect you from the network. Use the ↑ key to move to a previous item.</i>
Ctrl + w	Refresh the screen.
Ctrl + x	Clear the pattern matching buffer.
Ctrl + z	Move to the previous pattern match.

**NOTE:**

The pattern matching buffer holds keystrokes as you type them. For example, typing p places “p” in the pattern matching buffer. Ctrl + z moves to the next menu selection beginning with p. Ctrl + x and Ctrl + h clear the p.

Table C-2. Form Control Keystrokes

Keystrokes	Function
Enter Ctrl + m	Enter the information in the field.
Ctrl + a	Get an alarm report.
Ctrl + b	Move down a character.
Ctrl + d	Move down to a field.
Ctrl + e	Move to a position just to the right of the last input character of the field.

Table C-2. Form Control Keystrokes (Contd)

Keystrokes	Function
Ctrl + f	Move up a character.
Ctrl + g	Delete the word at the cursor.
Ctrl + h	Backspace and erase a character.
Ctrl + i Tab Ctrl + m	Request new line. For single-line fields, move to the next field. For multi-line fields, operation depends on whether insert or overlay editing mode is in effect at the time of the request. For insert mode, a cursor at the beginning of a field or on the last line moves to the next field. Otherwise, the text on the current line, to the cursor's right, moves to the next line. The cursor itself moves to the beginning of the next line. For overlay mode, a cursor at the beginning of a field moves to the next field. If the cursor is on the last line of the field, all data from the cursor position to the end of the line is erased, and then the cursor moves to the next field. Otherwise, all data from the cursor position to the end of the line is erased, and the cursor moves to the beginning of the new line.
Ctrl + k	Clear to the end of the field.
Ctrl + l	Move left to a field.
Ctrl + n	Move to the next field.
Ctrl + o	Output the screen to the printer.
Ctrl + p 	Move to the previous field. ⚠ CAUTION: <i>When connected to the DND using the X.25 network, pressing Ctrl + p will disconnect you from the network. Use the  key to move to a previous item.</i>
Ctrl + r	Move right to a row.

Table C-2. Form Control Keystrokes (Contd)

Keystrokes	Function
Ctrl + u	Move up to the next closest field.
Ctrl + q	Move to the next line of a multiline field.
Ctrl + s	Move to the previous line of a multiline field.
Ctrl + t	Move to the previous word in the field.
Ctrl + v	Delete a character.
Ctrl + w	Refresh the screen.
Ctrl + x	Clear the field.
Ctrl + y	Delete the line at the cursor.
Ctrl + z	Move to the previous listed choice.
Esc	Toggle the editing mode between insert and overlay. In insert mode (the default), new text is inserted at the current character position, while existing text gets moved to the right. In overlay mode, entered text overlays (replaces) existing text in the field. In either mode, the cursor advances one character position as you enter each character.

Table C-3. Passthrough Control Keystrokes

Keystrokes	Function	Application
Home	Position the cursor at the input line.	Full PASSTHROUGH only
Ctrl + a	Get an alarm report.	All
Ctrl + b	Scroll back a page.	Full only
Ctrl + d	Scroll forward a line.	Full only

Table C-3. Passthrough Control Keystrokes (Contd)

Keystrokes	Function	Application
Ctrl + e	EXIT from passthrough	Full only
Ctrl + f	Scroll forward a page.	Full only
Ctrl + h	Backspace and erase a character.	All
Ctrl + l	Move to the last page of the buffer.	Full only
Ctrl + o	Output the screen to the printer.	All
Ctrl + t	Move to the top of the buffer.	Full only
Ctrl + u	Scroll back a line.	Full only

Using Function Keys

Function keys **F1** through **F8** across the top of the DND keyboard perform the DND functions that are shown along the bottom of each DND screen. The functions may change from screen to screen. For a DEC vt220, the function keys are **F7** through **F14**.



NOTE:

If environmental considerations necessitate changing the VT220 function keys **F7** through **F14** to some other combination, refer to the System V curses and terminfo section of the SunOS documentation.



NOTE:

The function keys are under software control and cannot be programmed by the user. However, some terminals permit selection of user function keys and system function keys. In that case, the user function keys can still be user programmed. To obtain the preprogrammed system function keys, you must select them. See your terminal user's guide for instructions on how to program the user function keys.

Some of the common preprogrammed function keys are described in Table C-4.

Other function keys are described at the appropriate locations in this manual. If a key does not appear on the screen, it has no definition for that screen. Pressing it results in a message:

Unimplemented Function Key.

If the key appears on the screen, and pressing the key results in the Unimplemented message, its definition may not be applicable to the attempted operation.

Two keys have functions that require explanation in detail: **EXECUTE** and **RECNCILE**. Refer to "Using the EXECUTE Key" and "Using the RECNCILE Key" in this chapter.

Table C-4. Preprogrammed Function Keys

Keystrokes	Function						
CHOICES	Displays a pop-up window showing the list of choices available for this field.						
EXECUTE	Sends the requested operation to the DND for processing. In most cases, a pop-up window is displayed asking you if "you are sure?" about the command you are about to execute.						
FIRST	Moves the selection highlighting to the first list item.						
HELP	Displays a brief help message for the item on which the cursor is currently resting.						
LAST	Moves the selection highlighting to the last list item.						
NEXT	Moves the selection highlighting to the next list item.						
PREVIOUS	Moves the selection highlighting to the previous list item.						
PRINT	Prints the screen just as it is.						
RECNCILE	Provides the following choices about updating the database after selecting a provisioning Action: <table> <tr> <td>Site and Local -</td><td>Updates both DACS and DND database. (default)</td></tr> <tr> <td>Site Only</td><td>Updates only the DACS database.</td></tr> <tr> <td>Local Only</td><td>Updates only the DND database.</td></tr> </table> See "Using the RECNCILE Key," later in this chapter for more details.  NOTE: The EXECUTE must be performed after choosing your RECNCILE choice. Hitting any other key after choosing the non-default choice will reset the choice back to "Site and Local."	Site and Local -	Updates both DACS and DND database. (default)	Site Only	Updates only the DACS database.	Local Only	Updates only the DND database.
Site and Local -	Updates both DACS and DND database. (default)						
Site Only	Updates only the DACS database.						
Local Only	Updates only the DND database.						
QUIT	Returns to the previous menu.						
TOP MENU	Returns to the MAIN MENU.						

Using the EXECUTE Key

By entering data through a screen you set up an operation to be performed on the DACS. The DACS commands generated by the DND are sent to the DACS when you specify execution through the **EXECUTE** special function key. Since an improperly timed or ill-prepared operation can have serious consequences, some safeguards are built into the use of the **EXECUTE** key.

As soon as you press **EXECUTE**, the DND displays a pop-up window.

In some cases, the system will display a pop-up window asking you "ARE YOU SURE?" about the command you are about to execute. At this point you either answer **Yes** or **No**. In other cases, a pop-up window is displayed asking when you want the task to be run; for example, IMMEDIATE or SCHEDULE.

In addition, the DND begins by making a number of consistency checks before deciding that the command might succeed and passing it on to the DACS. If the consistency checks indicate that the command cannot succeed, an error message is placed at the bottom of the screen.

If the consistency check passes, the command will begin execution. This will be noted in a message in the left-hand corner of the screen.

If an error occurs, then a Command Response pop-up window will appear. To acknowledge the error message and close the command response pop-up window, press **Enter**. Some commands execute in the background. After the **EXECUTE**, a command pop-up window appears describing the operation. See Figure C-2.

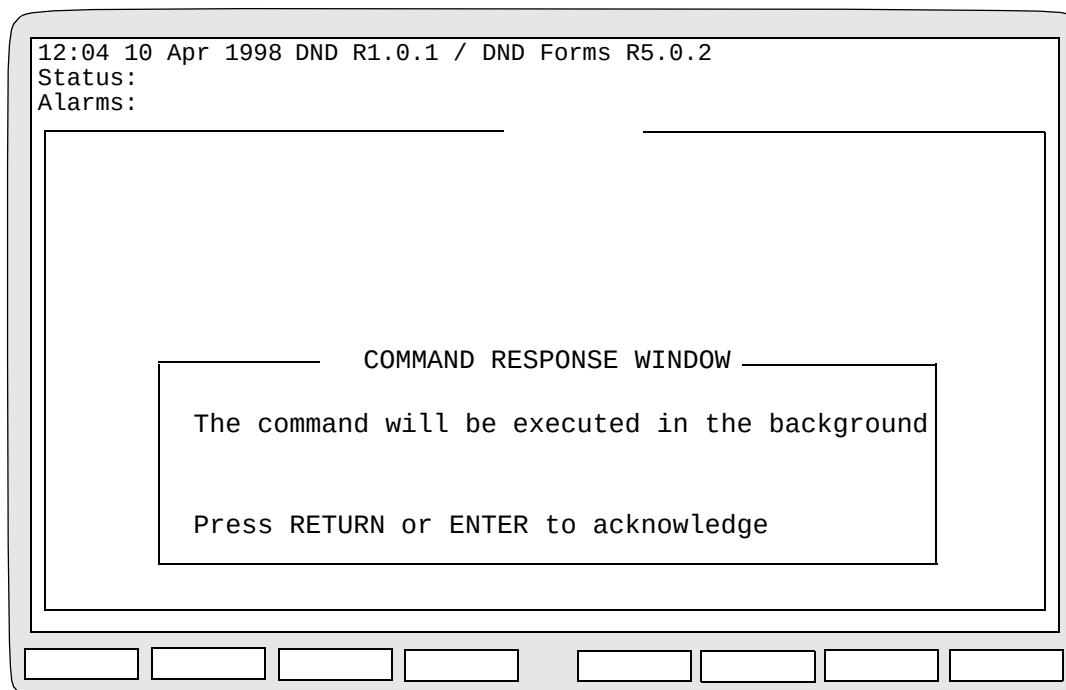


Figure C-3. Command Response Pop-up Window

Using the EXECUTE Key (Continued)

**NOTE:**

The DACS may also reject a command for reasons not checked by the DND. An explanation message is then displayed in the command response pop-up window, which will remain on the screen until acknowledged by **Enter**.

When the database checking indicates that the command can succeed, one of two possible pop-up windows are displayed, as shown in Figures C-3 and C-4.

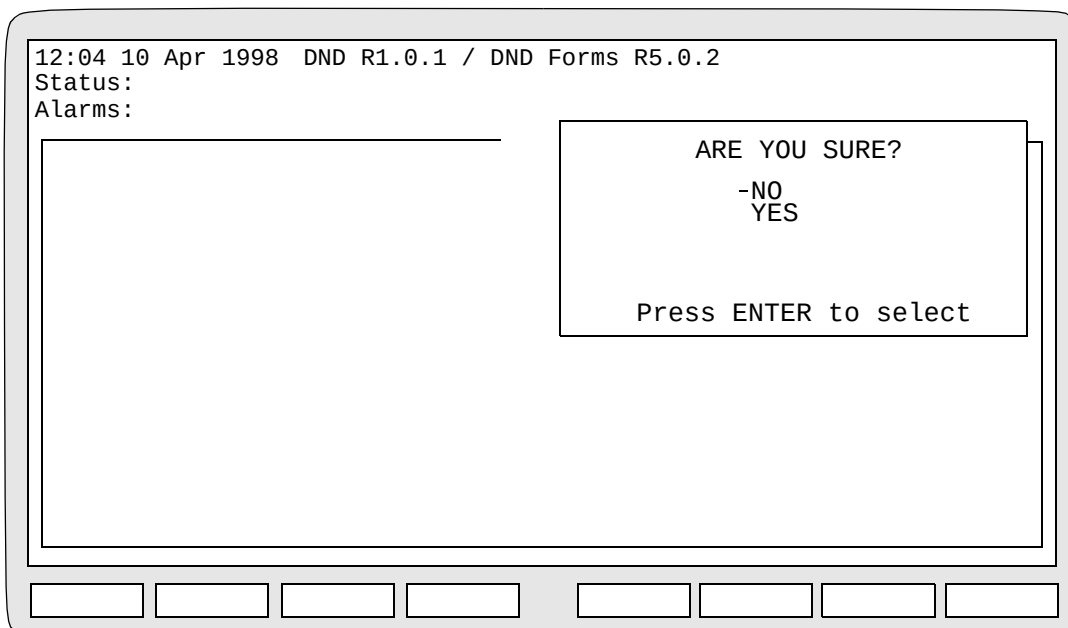


Figure C-4. Confirmation Window

Using the EXECUTE Key (Continued)

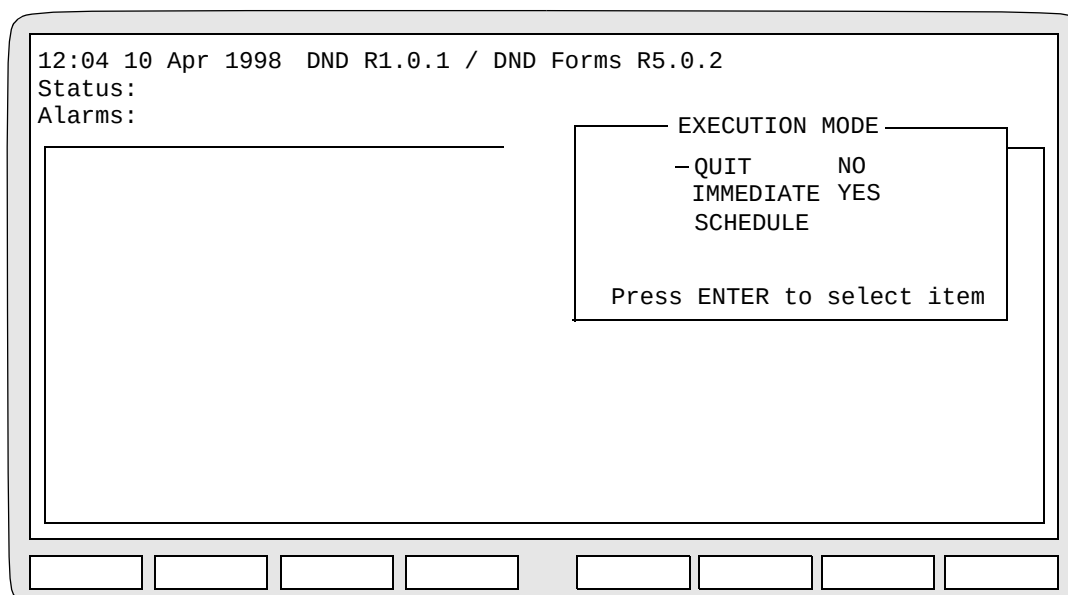


Figure C-5. Select Schedule or Confirm Window

The confirmation window asks if you are sure you want to send the request to the DACS, and allows you to choose Y or N. As soon as you make your selection, the DND either performs the operation immediately or cancels it as you requested.

If the DND sends a command to the DACS, it may not receive a timely reply. the DND waits a period equal to the time stored in the DACS_TIMEOUT environment variable and then displays a timeout error message in the COMMAND RESPONSE box. The default is three minutes. For information on how to change it, refer to "Setting Environmental Variables" in this chapter.

Scheduling is an important DND feature. Many operations can be performed immediately or scheduled to occur at a more convenient time. the DND provides the capability of executing the operation in the foreground or in the background. It can be scheduled to run in the background once, repeatedly, or indefinitely at a specified frequency.

For operations that can be scheduled, the EXECUTION MODE window appears when you press **EXECUTE**. It allows you to select a scheduling menu. You can also just select YES or NO, as in the ARE YOU SURE? menu.

Using the EXECUTE Key (Continued)

If you select QUIT or NO, the operation is canceled. If you select IMMEDIATE or YES, the operation is executed immediately in the foreground; for example, the screen is not usable until the operation is complete. If you select SCHEDULE, the TASK SCHEDULING window is displayed, as shown in Figure C-5.

The screenshot shows a terminal window titled "12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2". Below the title bar, the text "Status:" and "Alarms:" is visible. The main area of the window is a large rectangle. In the bottom right corner of this area, there is a smaller window titled "TASK SCHEDULING". This window contains the following text: "Date:DD MMM YY", "Time: :", "Number of Times:01", "Interval:01 Scale:DAYS", and "Enter date as DD MMM YY". At the bottom of the main window, there are eight small rectangular buttons arranged in a single row.

Figure C-6. Task Scheduling Window



NOTE:

Database audit/synchronization is always performed in the background, no matter which choice you select.

Field Descriptions

Table C-5 provides field descriptions for all fields on the TASK SCHEDULING screen.

Table C-5. TASK SCHEDULING Field Descriptions

Date	The date of first scheduled execution. The format is dd mmm yy where: dd The day of the month, 1 through 31. mmm A 3-letter standard abbreviation for the month: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec. The month is not case-sensitive. yy The last two numbers of the year, 90 through 99 for the years 1990 through 2037.
Time	The time of first scheduled execution. The format is hh:mm where: hh The hour on a 24-hour clock, 00-23. mm The minute, 00-59.
Number of times	Two numeric digits. A value specifying the number of times the task is to execute. The default is 01. The value 00 obtains indefinitely repeated execution.
Interval	The number of Scale units between successive executions of the Action . The range of values is 01-99.
Scale	The type of units in which the Interval is expressed. MINUTES HOURS DAYS

For information on how to remove a task from the task list, refer to Appendix J "Task Administration."

Using the RECNCILE Key

Pressing **EXECUTE** alone to enter a provisioning **Action** such as CREATE or RESTORE updates both DACS and DND databases automatically. However, there will be situations where you need to change the DACS and DND databases individually to reconcile them.

For example, if you are installing the DND at a site where the DACS NPCs have already been provisioned, pressing **RECNCILE** followed by **EXECUTE** lets you provision the DND database independently, without sending a corresponding command to the DACS.

Understanding the Screen Line

Table C-6 describes the areas of the screen and the type of information they contain.

Table C-6. Screen Contents

Area	Description
Top line	Gives the time, date and DND software release number. DND 1.0.1 refers to the overall release of DND and version of the GUI. DND Form R5.0.2 refers to the DND Forms release which is compatible with the same release number of the I-2000 Controller for DACS II.
Second line (Status line)	Contains the most recent message about the DND status for system-wide communication to logged-in users. For example, when you enter passthrough mode on a SNIDER link, a message appears that passthrough is in progress for that DACS. This line also gives the status of background processes, such as preplanned reconfigurations and report generation. This line is termed the DND status in this manual to avoid confusion with the various status or state fields that may appear on the screen.  NOTE: The previous message is overwritten by the next message, and that you cannot count on a message remaining in the Status line for long. If the response to your DND operation does not seem to appear, it may already have been overwritten by a system message.
Third line (Alarm line)	Shows any unacknowledged DACS alarms on supported DACSs that have occurred since user login. Pressing [Ctrl] + [a] displays a report of the most recent alarms for the chosen DACS and retires the alarm indication. See Appendix O, "Fault Management," for more information.
Middle screen	Shows the menu or a form with its fields.
Near bottom	Displays a line of text that prompts, gives an error message, or displays the completion status of the last command you requested.
Bottom screen	Contains the labels for the function keys in effect for that screen. Also displays the number assigned to the current Forms Interface session (UI1 to UI16). This number is used to identify the user commands and print jobs associated with a Forms Interface session.

Procedure: Updating the Database

To update the DND database independently, follow these steps.

1. Fill out the screen.
2. Press **RECNCILE**. The WHICH DATABASE? window is displayed, as shown in Figure C-6.

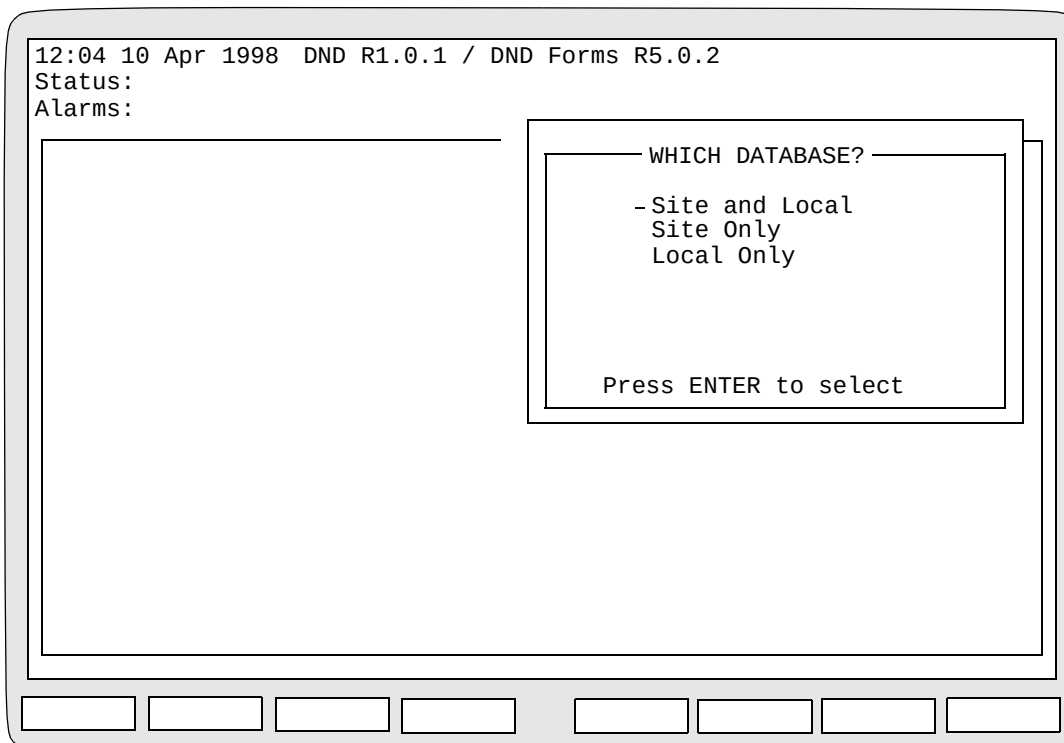


Figure C-7. Database Selection Window

3. Select Local Only. The following message is displayed toward the bottom of the screen:

DATABASE CHOSEN: LOCAL ONLY

4. Press **EXECUTE**.

The Site Only selection lets you send a provisioning command to the DACS for execution, bypassing the DND database and its consistency checking. This feature allows the DND screen displays to control the DACSs without the need for you to enter passthrough mode.

+

Procedure: Updating the Database (Continued)

**NOTE:**

If you select a database; for example, Local Only, and press **EXECUTE**, *only* the local database is updated.

If you select a database and change other information and press **EXECUTE** the database selected is lost and both the local and site databases will be updated.

The constraints concerning the use of **RECNCILE** are:

- For Local only mode, the results of a **RECNCILE** followed by an **EXECUTE** are the same as for Site and Local, except that no commands at all are sent to the DACS. You can provision NPCs and circuits for practice, or for future use in the DACS, without altering the DACS provisioning in any way.
- For Site only mode, fields that would affect the DND database only are ignored. Minimal checking of DACS information is performed, and the DND database is not updated at all.

**CAUTION:**

You must take care when using local only mode: since the DND does not cross-check every parameter in the form and relies on the DACS for some checking, it is possible to store invalid circuit or provisioning attributes in the DND database.

For example, if you store an illegal TC value. A later attempt to synchronize the circuit will result in a failure. To prevent this type of failure, consult your local network engineering staff or refer to the DACS I/O manuals for proper value pairs.

After command completion the database selection reverts to Site and Local, the normal mode, in which the DACS and the DND are provisioned together.

Summary of Menus And Forms

The list of operating features in this summary is comprehensive.

Table C-7 lists menu selections starting at the highest level to the left and moving to the lowest level to the right. At the lowest level is typically a form. Nearly all forms include an **Action** field. The **Action** identifies the task you want to perform. This table summarizes the **Actions** available.

Table C-7. Summary of Menus and Forms

MAIN MENU	Second Level	Action/Third Level
PROVISIONING	CIRCUIT	ACTIVATE MODIFY PEND DELETE DEACTIVATE ALTROUTE NORMALIZE COMBINE BROWSE ADDLEG DELLEG CHGRPATH
	TEST PORT	CREATE TP DIGROUP DELETE TP DIGROUP CREATE TEST PORT DELETE TEST PORT
	NPC	BROWSE CREATE DELETE REMOVE RESTORE MODIFY QUERY LOOPBACK
	RECONFIGURATION PLAN	CREATE DESTROY BOOT INSERT REMOVE CHANGE EXECUTE IDLE CHECK ABORT CLEAN

Table C-7. Summary of Menus and Forms (Contd)

MAIN MENU	Second Level	Action/Third Level
	AUTOMATIC RECONFIGURATION PLAN	CREATE DESTROY INSERT REMOVE CHANGE EXECUTE IDLE CHECK CLEAN ABORT
PROVISIONING (Continued...)	ESTABLISHED DS0 CHANNELS ¹	ACTIVATE MODIFY DELETE DEACTIVATE BROWSE
	SUBRATE CROSS CONNECT ¹	ACTIVATE MODIFY DELETE DEACTIVATE BROWSE
	NPC ROLL	
	24-HOUR PERFORMANCE ²	BROWSE RESET

Table C-7. Summary of Menus and Forms (Contd)

MAIN MENU	Second Level	Action/Third Level
SYSTEM ADMINISTRATION	LOGIN PORTS	RESTORE REMOVE
	X.25 LINK ADMINISTRATION	RESTORE REMOVE
	FRAME ADMINISTRATION	CREATE RESTORE BRESTORE REMOVE DELETE MODIFY CHGSITE
	NAME CHANGE	
	PRINTER ADMINISTRATION	ENABLE DISABLE LIST CANCEL LOGALL LOGALARMS STOPLOGGING
	SHUTDOWN	QUIT IMMEDIATE 1 MINUTE 5 MINUTE 10 MINUTE NO
	DATE AND TIME	
	SYNCHRONIZE FRAME DATE & TIME	
DATABASE ADMINISTRATION	DATABASE AUDIT/SYNCHRONIZATION	ALARM SYNC CHANNEL AUDIT CHANNEL SYNC NPC AUDIT NPC SYNC UPLOAD ABORT

Table C-7. Summary of Menus and Forms (Contd)

MAIN MENU	Second Level	Action/Third Level
	BACKUP/RESTORE	DATABASE BACKUP/ RESTORE (TAPE) LOG BACKUP/RESTORE (TAPE) LOG BACKUP/RESTORE (DISKETTE) REPORT FORMAT BACKUP/RESTORE (DISKETTE) FORMAT DISKETTE
	ENTER OUTAGE DATA	INSERT CHANGE DELETE DESTROY
TASK ADMINISTRATION	TASK MANAGEMENT	LIST DELETE
	PRINTER QUEUE STATUS	LIST CANCEL
USER ADMINISTRATION	USER MANAGEMENT	ADD CHANGE DELETE
	CHANGE PASSWORD	
PASSTHROUGH	MULTIPLEXED PASSTHROUGH	
	PASSTHROUGH	
	FRAME COMMAND SCRIPT	EDIT DELETE EXECUTE ABORT DOSREAD DOSWRITE
PASSTHROUGH ABORT		

Table C-7. Summary of Menus and Forms (Contd)

MAIN MENU	Second Level	Action/Third Level
REPORT OPERATIONS	CIRCUITS	CIRCUIT CONNECTIONS CIRCUIT OPTIONS CIRCUIT INFORMATION CIRCUIT AVAILABILITY
	NPCS	NPC IDS NPC NUMBERS
	CHANNELS	CHANNEL USAGE
	ALTROUTES/PREEMPTIONS	ALTROUTED CIRCUITS PREEMPTED CIRCUITS
	OUTAGES	
	TEST PORT	TEST PORT STATUS TEST PORT PROVISIONING
	TEST ACCESS	
	FRAMES/LINKS	PROVISIONING LINK STATUS LINK CONNECTIVITY FRAME CONTROL
	USER ADMINISTRATION	USER LOGINS
	NPC ALARMS	
	CIRCUIT ALARMS	
	ALARM LOG	
	AUDIT/SYNCHRONIZATION RESULTS	ALARM SYNC CHANNEL AUDIT CHANNEL SYNC NPC AUDIT NPC SYNC UPLOAD
	NPC ROLL RESULTS	
	ECHOED RESPONSE PROCESSING	CKT NPC TA
	TASK SCHEDULE LIST	

Table C-7. Summary of Menus and Forms (Contd)

MAIN MENU	Second Level	Action/Third Level
REPORT OPERATIONS (Continued)	TASK SCHEDULE RESULTS	
	LOST RESPONSE LOG	CIRCUIT NPC FRAME
	HISTORY LOG	SCREEN PRINTER DOS DISKETTE
	SCRIPT LOG	SCREEN PRINTER DOS DISKETTE
	DISPLAY LAST GENERATED REPORT	SCREEN PRINTER DOS DISKETTE
	EDIT CUSTOM REPORT FORMAT	CREATE DELETE MODIFY RENAME
	ALARM QUERY	
	DISPLAY ALARM QUERY	SCREEN PRINTER DOS DISKETTE
	RECONFIGURATION SUB-MENU	RECONFIGURATION PLANS RECONFIGURATION PLANS ALTRROUTE RECONFIGURATION PLAN RESULTS AUTO RECONFIGURA- TION PLAN RESULTS
	ESTABLISHED DS0 CHANNELS ¹	
	SUBRATE CIRCUITS ¹	
	COMMON EQUIPMENT ALARMS	
	24-HOUR PERFORMANCE ²	

Table C-7. Summary of Menus and Forms (Contd)

MAIN MENU	Second Level	Action/Third Level
TEST ACCESS		MONITOR SPLIT HUB TERMINATE UNTERMINATE RELEASE LOOP CHLOOP ³ CHUNLOOP ³
LOGOFF		

- 1 This option appears if the X.50 subrate feature is enabled.
- 2 This option appears if the 24-hour performance monitoring feature is enabled.
- 3 This option appears if the BT feature is enabled.

**NOTE:**

Footnotes 1 and 3 are not yet available in DND 1.0.

Contents

■ Introduction	D-1
■ SYSTEM ADMINISTRATION Menu	D-2
■ LOGIN PORTS	D-3
LOGIN PORT ADMINISTRATION Form	D-4
Procedure: Setting the Login Port Speed	D-6
■ X.25 LINK ADMINISTRATION	D-7
X.25 LINK ADMINISTRATION Form	D-7
Field Descriptions	D-8
Procedure: Removing a Line From Service	D-10
■ FRAME ADMINISTRATION	D-11
X.25 Configurations	D-12
Backup of Link to Frame Only	D-13
Backup of DND Link Only	D-14
FRAME ADMINISTRATION Form	D-16
Verification of FRAME ADMINISTRATION Information	D-17
Field Descriptions	D-18
To Create and Restore a Frame	D-23
Procedure: Creating and Restoring a Frame, X.25 Administration	D-23

Procedure: Changing the Site Name	D-26
Procedure: Creating and Restoring a Frame, SNIDER Administration	D-27
Procedure: Unprovisioning a Frame in X.25 or SNIDER	D-29
Changing The DND Name	D-30
Procedure: Changing the DND Name Using the DND Forms Interface	D-30
■ PRINTER ADMINISTRATION	D-32
Field Descriptions	D-33
Procedure: Viewing Printer Management	D-34
Procedure: Enabling a Printer	D-35
Procedure: Disabling a Printer	D-36
Procedure: Displaying Print Jobs Queued	D-37
Procedure: Removing Prints Jobs Queued	D-39
Procedure: Printing/Stop Printing Output or Frame Alarms	D-40
■ SHUTDOWN	D-41
■ DATE and TIME	D-45
Procedure: Setting the Date and Time	D-46
■ SYNCHRONIZE FRAME DATE & TIME	D-48
Procedure: Synchronizing Frame Date & Time	D-48

Introduction

 **NOTE:**
This Appendix is *only* for users with system administration privileges.

The SYSTEM ADMINISTRATION menu allows the system administrator to perform a number of administrative tasks, such as:

- Login Ports
- X.25 Link Administration
- Frame Administration
- Printer Administration
- Shutdown
- Date and Time
- Synchronize Date and Time

 **NOTE:**
This appendix provides information for the DND Forms Interface only.

SYSTEM ADMINISTRATION Menu

To obtain the SYSTEM ADMINISTRATION menu, select SYSTEM ADMINISTRATION from the MAIN MENU. The SYSTEM ADMINISTRATION menu is displayed, as shown in Figure D-1.

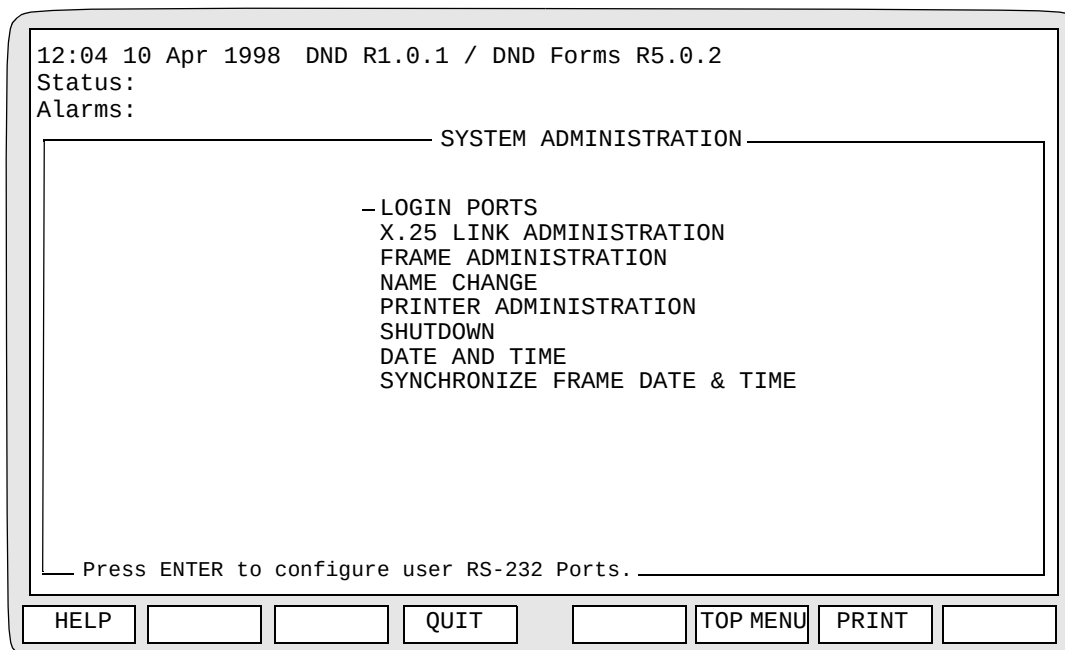


Figure D-1. SYSTEM ADMINISTRATION Menu

LOGIN PORTS

LOGIN PORTS allow you to enable or disable an asynchronous port. A DND asynchronous port is the logical means by which a terminal operator accesses the DND computer through an asynchronous line.

Login ports are not the only use of asynchronous lines. SNIDER connections are made through them as well; however, the two uses are incompatible. If you are going to enable a port, you cannot use the corresponding line for a SNIDER link, and vice versa. For details on SNIDER links, refer to "FRAME ADMINISTRATION" in this appendix.

The number of asynchronous lines available at the DND computer depends on its hardware configuration. For details concerning hardware configuration, refer to the *DACS II Network Director Installation Manual* regarding the Central Data SCSI Serial Expansion Unit, or their equivalents. The hardware makes available lines 1 through n, where n must be known to the administrator.

The system administrator must restore a login port before an operator can log in on it. Restoring the port places a login prompt on the terminal.

Different terminals may require different asynchronous line speeds. It is possible to change the line speed through this selection.

The system administrator must restore a login port before a user can log in on it. Restoring the port places a login prompt on the terminal.

Different terminals may require different asynchronous line speeds. It is possible to change the line speed through this selection.



NOTE:

The console does not communicate with the DND computer via these asynchronous lines. Therefore, the system administrator does not need access through one of these ports.

Link or frame administration are not required prior to the use of this selection.

LOGIN PORT ADMINISTRATION Form

Select LOGIN PORTS from the SYSTEM ADMINISTRATION menu. The LOGIN PORTS ADMINISTRATION menu is displayed, as shown in Figure D-2.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

LOGIN PORT ADMINISTRATION

Action:	Port:	Speed:	Status:
			NULL

Enter the desired Link Administrative Action: RESTORE or REMOVE

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure D-2. LOGIN PORT ADMINISTRATION Form

Field Descriptions

The field values for the LOGIN PORTS ADMINISTRATION form are described in Table D-2.

Table D-2. LOGIN PORT ADMINISTRATION Field Descriptions

Action	Mandatory. The values are: RESTORE Enable the port. REMOVE Disable the port.
Port	Mandatory. Numeric, 1 through the number of asynchronous lines up to 16. Pressing CHOICES when the cursor is in Port displays the available ports, their Status, the user log-in, if there is one, and the Speed. Use the display to select a port, or enter the port number. If you have a port configured as a SNIDER link, CHOICES will display the site name. An * before a listed port means that it is being used as a SNIDER link to a DACS. You may not enable it as a login port.  CAUTION: <i>You can REMOVE an INUSE port by a remote terminal, but the user will be logged off. You cannot REMOVE an INUSE port by a DACS.</i>
Speed	Mandatory. Numeric. The baud rate to be in effect. The possible values are 1200, 2400, 4800, and 9600.
Status	Not accessible to the user. NULL The port has not yet been restored in this database. INUSE The port is currently in use. You can display the login by pressing CHOICES when the cursor is in Port.S. You may not enable it as a login port.  CAUTION: <i>You can REMOVE an INUSE port by a remote terminal, but the user will be logged off. You cannot REMOVE an INUSE port by a DACS.</i> IS The port is ready for remote login and may not be pre-empted by a DACS. To disable it, enter a REMOVE Action. OOS The port is no longer available for remote login without restoral, but may be utilized by a DACS. To enable it, enter a RESTORE Action.

Procedure: Setting the Login Port Speed

To set the speed of a login port, follow these steps:

1. Obtain the LOGIN PORT ADMINISTRATION form. The **Status** can be any value except INUSE. In the latter case, access will be denied.
2. Enter an **Action** of RESTORE.
3. Enter the **Port** number.

The DND displays that port's current speed, if there is one. The **Status** now reflects the status of the **Port**.

4. Enter the new **Speed**.
5. Press **EXECUTE** and answer YES to ARE YOU SURE? The results are:
 - The **Status** changes to or remains IS (In Service).
 - The command completed successfully message is displayed.

X.25 LINK ADMINISTRATION

**NOTE:**

This feature is available *only* to system administrators.

An X.25 link is the logical means by which you access a synchronous line from the DND computer. Therefore, if you are going to access a frame through the X.25, you need to restore a synchronous link.

X.25 links are configured at installation time. Lines 1 through 4 should already be in place, and you have only to put them in service or take them out of service.

X.25 LINK ADMINISTRATION Form

Select X.25 LINK ADMINISTRATION from the SYSTEM ADMINISTRATION menu. The X.25 LINK ADMINISTRATION form is displayed, as shown in Figure D-3.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

X.25 LINK ADMINISTRATION

Action: RESTORE Line No.: Status:
Connection Type:

Enter desired action

HELP CHOICES [] QUIT [] TOP MENU PRINT EXECUTE

Figure D-3. X.25 LINK ADMINISTRATION Form

Field Descriptions

The field values for the X.25 LINK ADMINISTRATION form are described in Table D-3.

Table D-3. X.25 LINK ADMINISTRATION Field Descriptions

Action	Mandatory. The values are: RESTORE Places the X.25 link in service. The Status must be 00S; otherwise, the Action is denied and a message is displayed: Link already in service REMOVE Removes the X.25 link from service. This Action is allowed whether the Status indicates IS, in service, or 00S, out of service. A rejection with the message: There are active circuits on this link. Link not removed. refers to extant packet-level connections to the DACS. To remove the link, you must first place the DACS sites in an 00S Site Status through FRAME ADMINISTRATION.
Line No.	Mandatory, one numeric character. The physical line number of the link supporting the connection. Entries are one through four.
Status	The status of the link, not user-accessible. IS In service. The link can support switched virtual circuits (SVCs). A DACS can be placed in service on this link. 00S Out of service. A DACS cannot be placed in service on this link.
Connection Type	Not accessible through DND. The information shown reflects how the links were set up during installation. If X.25 links have been configured during installation, this field assumes the appropriate value. If X.25 links have not been configured, then this field is blank, and any attempt to RESTORE a line is rejected. PDN Packet data network. The network acts as DCE for the connection, and DND acts as DTE. The X.25 link must be connected to a PDN. Up to 250 virtual circuits are supported.

Procedure: Placing a Line in Service

To place a line in service, follow these steps:

1. Obtain the X.25 LINK PROVISIONING form.
2. Fill in the following fields:
 - **Action:** RESTORE
 - **Line No.:** x

where x is the number of the line. The **Status** is now displayed. Verify that it is 00S.

3. Press **EXECUTE** and answer YES to ARE YOU SURE?

When the link is successfully established:

- The **Status** field changes to IS.
 - The command completed successfully message is displayed.
4. Enter a new line number to establish another link.

Procedure: Removing a Line From Service

To remove a line from service, follow these steps:

1. Obtain the X.25 LINK ADMINISTRATION form.
2. Fill in the following fields:
 - **Action:** REMOVE
 - **Line No.:** x

where x is the number of the line. The **Status** is filled in automatically. Verify that it is IS.

3. Press **EXECUTE** and answer YES to ARE YOU SURE?

When the link has been taken out of service:

- The **Status** field changes to OOS.
- The command completed successfully message is displayed.

**NOTE:**

If any packet level connections are active through this link, this action is denied.

FRAME ADMINISTRATION

A frame is a DACS II or DACS II ISX. Before DND can communicate with a DACS, identify each DACS through the FRAME ADMINISTRATION form. On the FRAME ADMINISTRATION form, you provide DND with such information as the protocol and language to be used in communicating with the DACS, as well as the line numbers and speeds.

Before you can use FRAME ADMINISTRATION, perform all the set-up procedures described in "Configuring the Frame" in Appendix C.



NOTE:

For X.25 configurations, link administration is a prerequisite to frame administration.

X.25 Configurations

Another target of frame administration is to configure the primary and backup lines in the X.25 configuration. These lines are the links that were restored in LINK ADMINISTRATION. You have a few options.

Fully Backed-Up Configuration

Figure D-4 shows a configuration example for DACS II, where line 1 and line 2 are two links from the 2000 computer to the X.25 network. net_ad_1 is the **Network Address** of one link from the X.25 network to the DACS and net_ad_2 is the **Network Address** of another. An example of a **Network Address** is a telephone number, such as 5555555555.

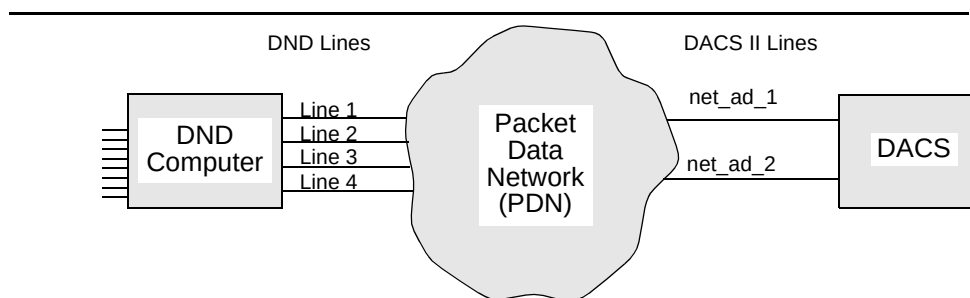


Figure D-4. Fully Backed-up Configuration (DACS II)

The following configuration backs up the entire path from DND to the DACS:

- **Primary Line:** 1
- **Network Address:** net_ad_1
- **Backup Line:** 2
- **Network Address:** net_ad_2

Figure D-4 shows a configuration example for DACS II, where a break in line 1 establishes a backup path through line 2 and a break in net_ad_1 establishes a backup path through net_ad_2.

Backup of Link to Frame Only

It is possible to back up only net_ad_1, if for some reason line 2 is not present or you do not wish to use it to back up line 1:

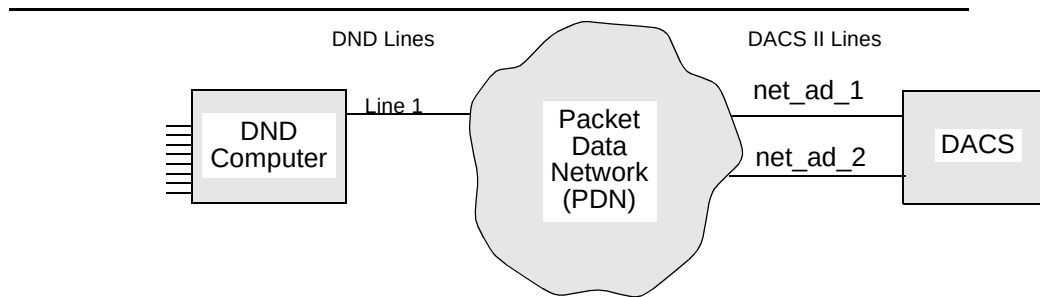


Figure D-5. Backup of Link to Frame Only (DACS II)

- **Primary Line:** 1
- **Network Address:** net_ad_1
- **Backup Line:** 1
- **Network Address:** net_ad_2

The path in both the primary and backup case goes through line 1, which is, therefore, not backed up, as shown in Figure 3-5.

Backup of DND Link Only

It is also possible to back up only line 1, if the DACS has only one link available, as shown in Figure D-6.

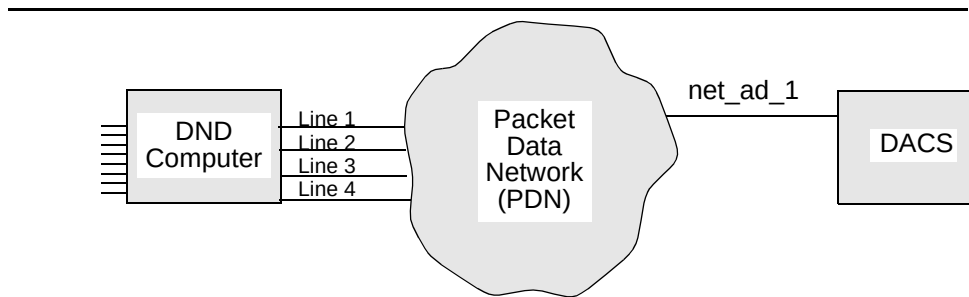


Figure D-6. Backup of DND Link Only

- **Primary Line:** 1
- **Network Address:** net_ad_1
- **Backup Line:** 2
- **Network Address:** net_ad_1

The path in both the primary and backup case goes through net_ad_1, which is, not backed up, as shown in Figure D-6.

DND attempts to establish communication over an X.25 link when it receives a **RESTORE Action** or a **BRESTORE Action** through FRAME ADMINISTRATION, or when the SVC is lost to a DACS that was previously restored on the primary line. The Brixton X.25 hardware interface also attempts to reconnect the link. While reading the discussion below, refer to the subsequent FRAME ADMINISTRATION form and the field descriptions, if necessary.

If you are executing a **RESTORE**, and are using only the primary line, or if the primary line has been restored without a backup line and the SVC has been lost, DND makes up to two attempts to establish communication through the **Primary Line** and **Network Address**. A third try is preceded by a 60-second delay. If all three fail, DND begins the three-try sequence again, to an indefinite number of attempts, only terminated when it succeeds, the Brixton X.25 succeeds, or you enter a **REMOVE Action**.

If you are executing a **BRESTORE**, DND goes through the same cycle of attempts, over the **Backup Line** and its **Network Address**.

Backup of DND Link Only (Continued)

If the SVC is lost to a DACS that was previously restored with both a primary and a backup line, DND makes up to two attempts to restore communication over the primary line, then one attempt over the backup line, then one more attempt over the primary line, ending the cycle with a 60-second delay. Then it starts the cycle again, up to an indefinite number of attempts.

The Brixton X.25 interface provides a cause code and a diagnostic code to the DND when a link is broken.

DND then displays one of three diagnostic messages in the DND **Status** field:

Primary link n is down for site sitename, cause xx diag yy.
Backup link n is down for site sitename, cause xx diag yy.
Net addr mmm is down for site sitename, cause xx diag yy.

For the meanings of xx and yy in each case, refer to the vendor manual.

FRAME ADMINISTRATION Form

Select FRAME ADMINISTRATION from the SYSTEM ADMINISTRATION menu. The FRAME ADMINISTRATION form is displayed, as shown in Figure D-7.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

FRAME ADMINISTRATION

Action:CREATE	Site Name:NJ1	Site Status:UEQD
Type:DACS II	Protocol:X.25	Language:MML
NPC Addr:HIER	Location:New Jersey	Generic:7.0
ERP Control:OFF	Programmable Priority Output:OFF	
NPC Alarm Sync:00		
Primary Line:1	Network Address:2016151106 Status:IS	
Backup Line:2	Network Address:2016151107 Status:IS	

Enter desired action _____

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure D-7. FRAME ADMINISTRATION Form



NOTE:

The subset of possible fields that appear on the FRAME ADMINISTRATION form depends on the **Protocol** that you are using.

Verification of FRAME ADMINISTRATION Information

When a DACS is restored, DND queries the DACS for the language, generic, and NPC addressing format as entered on the FRAME ADMINISTRATION form. During this time, the **Site Status** for the DACS is set to QRY (query).

If the DACS and DND databases match, the **Site Status** will change to IS (In Service). If there are differences between the DACS and DND databases, the **Site Status** will change to ERR (error). The errors will appear on the STATUS line.

In both the QRY and ERR conditions, the DACS continues to process echo responses and DACS alarms. However, provisioning commands cannot be processed, such as cross connect. Non-provisioning commands, such as reports and passthrough are allowed.



NOTE:

If you modify the Type, Protocol, Language, NPC Addressing, Generic, or Line Information on the FRAME ADMINISTRATION form, first remove the DACS from service, enter the modifications, then restore the DACS to service. You must also remove the DACS from service before switching to a backup X.25 link.

Field Descriptions

The field values for the FRAME ADMINISTRATION form are described in Table D-4.

Table D-4. FRAME ADMINISTRATION Field Descriptions

Action	Mandatory. Valid entries are: CREATE Provisions a new DACS in DND as a Site Name and sets the Site Status to 00S. The frame's database(s) is(are) created. RESTORE Establishes the administrative link to the DACS using the Primary Line. BRESTORE Establishes the administrative link to the DACS using the Backup Line and Network Address specified on the form. If none were specified, the request is denied. Not available for a Protocol of SNIDER. REMOVE Disconnects the virtual administrative link between the DND and the DACS specified in Site Name. DELETE Deletes the DACS and related data from the DND database. MODIFY Changes non-link information of this form when the Site Status is either IS or 00S. For changing line and network data: Type, Protocol, Primary Line, Backup Line, Network Address and Speed, the Site Status must be 00S. The MODIFY Action does not access Site Name. CHGSITE Changes the Site Name for the selected DACS.
Site Name	Mandatory. 1 through <i>n</i> characters (as specified in the SITENAME_SIZE environment variable) from the set 0-9, A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name. The name of the DACS where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the DACS names. These names were established during frame administration, described in this chapter.

Table D-4. FRAME ADMINISTRATION Field Descriptions (Contd)

Site Status	The status of the DACS, not user-accessible. IS P For SNIDER. In service. IS n For X.25. In service on line n, where n is P for primary or B for backup. A RESTORE for the DACS referenced in Site Name has successfully been completed and a message has been received saying that this link is on-line. Communications are active. OOS Out of service. Communications are not currently active, either because some portion of the link between the DND and the DACS is down or because the DACS has been created, but has not yet been restored. If the RESTORE Action succeeded, but the DACS is not yet on line, the Site Status will be OOS. UEQD Unequipped. Either a CREATE has never been done for this DACS, or a DELETE was done on it. ALM The DACS has been RESTORED, but the communication to the DACS is not currently active. AS An audit/sync is in progress on this DACS. QRY Query. The DACS is in-service but is in a "query" state. DND queries the DACS to verify the language, generic, and NPC addressing information. On an X.25 link, the query is in progress. On a SNIDER link, the query is sent when communications are established, which may be some time after the link is placed in service. ERR The information entered through the Frame Provisioning form is inconsistent with the connected DACS. This condition must be corrected before any other commands can be entered into the system. In this condition, the DACS will still continue to process echo responses and DACS alarms.
Type	Mandatory. Specifies the type of DACS. DACS II The frame is a DACS II. The Language <i>must</i> be MML. D II ISX The frame is a DACS II ISX, Releases 1.0 and higher. The Language <i>must</i> be MML.
Protocol	Mandatory. The transmission protocol to be used over the path between DND and the frame. SNIDER The configuration is direct. You must enter a line Speed. X.25 The configuration is either PDN, or direct, with synchronous modem eliminators (SMEs) in the lines between the frames and the DND computer. In the PDN case, you must enter a Network Address for the primary line and for the backup line if one was configured.

Table D-4. FRAME ADMINISTRATION Field Descriptions (Contd)

Language	Mandatory. Specifies the command language to be used for frame commands generated by DND. You must independently insure that this value conforms to the way the DACS is configured according to "Configuring the DACS" in Appendix C "Getting Started." MML Use HuMan-Machine Language.  NOTE: MML is the <i>only</i> language allowed for DND when the Action is CREATE.
NPC Addr	Mandatory. Specifies the type of NPC addressing to be used in DACS commands generated by DND. You must independently insure that this value conforms to the way the DACS is configured according to "Configuring the DACS" in Appendix C "Getting Started." HIER Use hierarchical addressing. EXT3 Use 3-digit extended addressing. EXT4 Use 4-digit extended addressing. For the CREATE Action, this field defaults to the appropriate value for the Type of DACS. The default for DACS II ISX is EXT3, which also is the only valid choice for those systems. Changing to some other value will prevent DND from communicating properly with the DACS.
Location	Optional. Up to 13 characters. States the physical location of the DACS. An informational field only.
Generic	Mandatory. Up to eight printable characters. The first must be numeric. States the DACS software release number of DACS II or DACS II ISX software running at Site Name. For release 7 of DACS II, the entry 7.0 is required. This field distinguishes between releases prior to 7, release 7, and subsequent releases. DND supports NPC type PA only beginning with release 7. For DACS II ISX, only Release 1.1 and higher support the nxDS0 test access feature.
ERP Control	The selection or nonselection of conditional echoed response processing for this DACS. ON Process NPC and circuit echoed response messages only on condition that all NPCs cited in the message are already in the DND database. OFF Process echoed response messages unconditionally. The default, if the Action is CREATE.

Table D-4. FRAME ADMINISTRATION Field Descriptions (Contd)

Alarm Sync	The selection or nonselection of NPC alarm synchronization for this DACS. 00 Do not update the DND database with information concerning the DACS's current alarms when the Site Status becomes IS, IS P or IS B. nn Provided nn hours have elapsed, when the Site Status becomes IS, IS P or IS B again, query the DACS and update the Alarm State information for the DACS. For more information, refer to Appendix E "NPC Provisioning."
Programmable Priority Output	This field allows you to specify whether to activate/deactivate the Programmable Priority feature. When an NPC or another hardware component goes down, there are many DACS alarm messages that are generated and queued based on the order they are received. When Programmable Priority is set to "ON", any MML command entered from the DACS with the keyword "PRIOUT" is automatically prioritized and placed before other messages in the DACS queue. This request only impacts the order of the output and does not change the execution of commands. This option can be specified on a frame-by-frame basis. The values are: OFF Default value. ON Activates this feature on a frame-by-frame basis.  NOTE: This field is only available for DACS II, Release 7.0.
Primary Line	The number of the line that will be used for communication between the DND computer and the network or DACS in the case of the X.25 configuration, or between the DND computer and the DACS in the case of the SNIDER configuration. This link must be In Service (Status of IS, see LINK PROVISIONING). For X.25 One numeric character. Enter the physical line number of the primary connection. Valid entries are one through four times the number of X.25 boards. For SNIDER Two numeric characters. Enter the tty port number on the DND ports card for this connection, provided that the line has not been restored as a login port.

Table D-4. FRAME ADMINISTRATION Field Descriptions (Contd)

Backup Line	X.25 only. The number of the line to be used as the backup path from the DND computer to the network. This link must be IS. Specifying the same line as in Primary Line means that you are making the primary and backup links to the network the same; for example, no backup.
Network Address	Appears only for a Protocol of X.25. A maximum of 16 numeric characters. For a primary line, this field contains the PDN address for the X.25 connection to the DACS. For a backup line, this field contains the PDN address for the backup line. The address specifies the link from the network to the DACS. Specifying the same address for primary and backup lines means that you are making the primary and backup links the same; for example, no backup.
Status	A display-only field, which can appear twice, once for the primary line and once for the backup line. It displays the status of the link associated with the Network Address. The Status can be IS or OOS.
Speed	Values are 1200, 2400, 4800, and 9600. The baud rate for this DND SNIDER port. You must independently insure that this value conforms to the way the DACS is configured according to "Configuring the DACS" in Appendix C "Getting Started." This field only appears if the Protocol is SNIDER.

To Create and Restore a Frame

The procedures below describe how to create and restore a DACS using either the X.25 or SNIDER protocol.

Procedure: Creating and Restoring a Frame, X.25 Administration

To create and restore a DACS on the X.25 network, follow these steps:

1. Obtain the FRAME ADMINISTRATION form, as shown in Figure D-8.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

FRAME ADMINISTRATION

Action:CREATE	Site Name:EREWHON	Site Status:UEQD
Type:DACS II	Protocol:X.25	Language:MML
NPC Addr:HIER	Location:1F-11	Generic:7.0
ERP Control:OFF	Programmable Priority Output:OFF	
Alarm Sync:00		
Primary Line:1	Network Address:6174536499	Status:IS
Backup Line:2	Network Address:6174536500	Status:IS

Enter desired action

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure D-8. Creating a Frame Using X.25

2. Fill in the following fields:

- **Action:** CREATE
- **Site Name:** EREWHON

3. After you enter the **Site Name**, the **Site Status** changes to UEQD, provided the site is not already provisioned. If it is provisioned, the provisioning information is filled into the appropriate fields. Verify that the **Site Status** is UEQD.

**Procedure: Creating and Restoring a Frame,
X.25 Administration (Continued)**

4. Then fill in the following fields:
 - **Type:** DACS II
 - **Protocol:** X.25

5. After you enter the **Protocol**, the fields for specifying the **Primary Line** and **Backup Line** appear.

6. Fill in the following fields:
 - **Language:** MML
 - **NPC Addr:** HIER
 - **ERP Control:** OFF
 - **NPC Alarm Sync:** 00
 - **Programmable Priority Output:** OFF
 - **Primary Line:** 1

7. After you enter the **Primary Line**, the **Network Address** field appears and the **Status** changes to the status of the link from the network to the DACS. Fill in the following fields:
 - **Network Address:** 6174536499
 - **Backup Line:** 2

8. The backup line **Network Address** field appears and the **Status** changes to the associated status. Enter:
 - **Network Address:** 6174536500

9. Press **EXECUTE** and answer YES to ARE YOU SURE?

The provisioning request is sent to the DACS. When the DACS is successfully provisioned:

 - The **Site Status** changes to 00S.
 - The command completed successfully message is displayed.

**Procedure: Creating and Restoring a Frame,
X.25 Administration (Continued)**

10. Change the **Action** to RESTORE, press **EXECUTE** and verify.

When the DACS is in service:

- The **Site Status** changes to IS P.
- The DND **Status** field displays: Primary link 1 is on for site EREWHON
- The command completed successfully message is flashed.

11. To place the DACS in service on the backup path, you would enter an **Action** of BRE-STORE. The **Site Status** would become IS B. The DND Status field would display: Backup link 2 is on for site EREWHON.

**NOTE:**

The command completed successfully message indicates that the DND has successfully started all processes involved with servicing that DACS. It does not necessarily indicate that communication was successfully established. If communications are not established, the **Site Status** will display ALM. When the connection has been established, DND notifies all users and makes an entry in the DND Alarm Log. You can view the log by pressing **Ctrl** + **a**, or you can view the **Site Status** in a FRAMES/LINKS report, selected from the REPORT OPERATIONS MENU.

The **Site Status** of a successfully linked DACS will be IS P or IS B; of an unsuccessfully, OOS.

Procedure: Changing the Site Name

To change the **Site Name** from a known name to a new, unknown name, follow these steps:

1. Enter an **Action** of CHGSITE on the FRAME ADMINISTRATION form. An example of a FRAME ADMINISTRATION form is shown in Figure D-9.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

————— FRAME ADMINISTRATION —————

Action:CHGSITE Old Site Name:
 New Site Name:

—Enter the first fifteen characters of the old site name —

HELP CHOICES [] QUIT [] TOP MENU PRINT EXECUTE

Figure D-9. Change Site Name

2. Select an **Old Site Name** with **CHOICES**.
3. Enter the **New Site Name** for the Site. The **New Site Name** must not currently exist in DND.
4. Press **EXECUTE** and answer YES to ARE YOU SURE?

The current name is changed to the **New Site Name** throughout DND.

Procedure: Creating and Restoring a Frame, SNIDER Administration

To create and restore a DACS with a direct link and place it in service, follow these steps:

1. Obtain the FRAME ADMINISTRATION form. An example of the FRAME ADMINISTRATION form is shown in Figure D-10.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

FRAME ADMINISTRATION

Action:CREATE	Site Name:SHANGRILA	Site Status:UEQD
Type:DACS II	Protocol:SNIDER	Language:MML
NPC Addr:HIER	Location:1F-11	Generic:7.0
ERP Control:OFF	Programmable Priority Output:OFF	
Alarm Sync:00		
Primary Line:01	Speed:4800	

Enter the type of frame

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure D-10. Creating a Frame, Using SNIDER

2. Fill in the following fields:
 - **Action:** CREATE
 - **Site Name:** SHANGRILA
3. After you enter the **Site Name**, the **Site Status** changes to UEQD, provided the site is not already provisioned. If it is provisioned, the provisioning information is filled into the appropriate fields. Verify that the **Site Status** is UEQD. Then fill in the following fields:
 - **Type:** DACS II
 - **Protocol:** SNIDER

Procedure: Creating and Restoring a Frame, SNIDER Administration (Continued)

4. After you enter the **Protocol**, the fields for specifying **Primary Line** and **Speed** appear. Fill in the following fields:
 - **Language:** MML
 - **NPC Addr:** HIER
 - **ERP Control:** OFF
 - **NPC Alarm Sync:** 00
 - **Programmable Priority Output:** OFF
 - **Primary Line:** 1
 - **Speed:** 4800
5. Press **EXECUTE** and answer YES to ARE YOU SURE? The provisioning request is sent to the DACS. When the DACS is successfully provisioned:
 - The **Site Status** changes to 00S.
 - The command completed successfully message is displayed.
6. Change the **Action** to RESTORE, press **EXECUTE**, and verify. When the DACS is in service:
 - The **Site Status** changes to IS.
 - The command completed successfully message is displayed.

**Procedure: Unprovisioning a Frame in
X.25 or SNIDER**

To take a DACS out of service on a network or direct link, and remove it from the database (unprovision), follow these steps:

1. Obtain the FRAME ADMINISTRATION form.
2. Fill in the following fields:

- **Action:** REMOVE
- **Site Name:** UTOPIA

As soon as you enter a valid **Site Name**, the fields are filled in.

3. Press **EXECUTE** and answer YES to ARE YOU SURE?
 - The **Site Status** changes to 00S.
 - The DND **Status** field displays one of the following two messages, depending on whether the primary or backup link was in service:

Primary link 1 is off for site UTOPIA
Backup link 2 is off for site UTOPIA
 - The command completed successfully message is displayed.
4. Change the **Action** to DELETE.
5. Press **EXECUTE**. Along with the ARE YOU SURE? insert, a message is displayed:

WARNING! You are about to delete a DACS database from DND
6. Acknowledge by pressing **Enter**; then answer YES to ARE YOU SURE?.
 - The **Site Status** changes to UEQD.
 - The command completed successfully message is displayed.

Changing The DND Name

Release 1.0 and higher of the DND have name change capability. The change can be performed by the System Administrator from the DND Forms Interface.

The same character set for the **Site Name** also applies to the DND name. Valid entries for this field are A-Z, a-z, 0-9, /, _ , and -. All other characters are illegal. Blanks are allowed within a name, but leading and trailing blanks are ignored.

Procedure: Changing the DND Name Using the DND Forms Interface

This procedure enables you to change the DND name using the DND Forms Interface.



NOTE:

This feature is available *only* to system administrators.

To change the DND name using the DND Forms Interface, follow these steps:

1. Select NAME CHANGE from the SYSTEM ADMINISTRATION menu. An example of the DND NAME CHANGE form is shown in Figure D-11.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
State:
Alarms:

—————DND NAME CHANGE—————

Current DND Name: CENTRAL NJ

New DND Name: CENTRAL NJ -- 1

____Enter 23 character new DND name._____

HELP [] [] QUIT [] TOP MENU PRINT EXECUTE

Figure D-11. DND NAME CHANGE Form

**Procedure: Changing the DND Name Using
the DND Forms Interface (Continued)**

2. The current DND name is displayed in the **Current DND Name** field. Enter the new DND name in the **New DND Name** field.
3. Press **EXECUTE**. A confirmation message is displayed.
4. Acknowledge by pressing **Enter**; then answer YES to ARE YOU SURE?
 - The command completed successfully message is displayed.
 - Or
 - The command can be denied if no new name is specified or an invalid new name is specified.

PRINTER ADMINISTRATION

This selection is reserved for system administrators. However, if you are in operator status, you can use TASK ADMINISTRATION selections (refer to [Appendix K](#) "Task Administration") to list or cancel your own print jobs.

DND supports printing of screens, DACS output, and reports.

Printing is multiplexed and spooled so that users can queue their jobs to the print service, to be sent to the printer one by one.

The **Actions** of the PRINTER MANAGEMENT form do not actually print the reports and screens; that is done under the REPORTS selections, and by pressing the **PRINT** key for screens that offer the option of screen printing. The PRINTER MANAGEMENT **Actions** allow you to enable or disable the printer, to list and cancel print jobs and to allow printer logging of the alarm or other output from one or more DACSs.

The PRINTER MANAGEMENT **Actions** allow you to:

- enable or disable the printer,
- list and cancel print jobs
- allow printer logging of the Alarm Messages or DACS Messages from one or more DACS.

Field Descriptions

The field values for the PRINTER MANAGEMENT form are listed in Table D-5..

Table D-5. PRINTER MANAGEMENT Field Descriptions

Action	Mandatory. Enter the action to be performed with regard to the printer job. ENABLE Select ENABLE to enable the printer. DISABLE Select DISABLE to disable the printer. LIST Select LIST to display the printer queue. CANCEL Select CANCEL to cancel any printer job. LOGALL Select LOGALL to log the DACS output messages to the printer. LOGALARMS Select LOGALAMRS to log the DACS alarm messages to the printer. STOPLOGGINGSelect STOPLOGGING to cancel message logging.
Printer Name	Press CHOICES when the cursor is in the Printer field to display the available printers. Use the display to select a printer.
Printer Status	The status of the printer.

Procedure: Viewing Printer Management

To view PRINTER MANAGEMENT actions, follow these steps:

1. Select PRINTER ADMINISTRATION from the SYSTEM ADMINISTRATION menu.
The PRINTER MANAGEMENT form is displayed, as shown in Figure D-12.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

PRINTER MANAGEMENT

Action: Printer Name: CONSOLE PRINTER
Printer Status: DISABLED
Site Name: Logging Status: OFF

Enter the desired action

HELP CHOICES [] QUIT [] TOP MENU PRINT EXECUTE

Figure D-12. PRINTER MANAGEMENT Form

The **Site Name** and **Logging Status** are shown only for **Actions** of LOGALL, LOGALARMS and STOPLOGGING. Also for those **Actions**, the **Printer Name** is display-only, and cannot be modified by the user.

2. Select a site. The cursor moves to **Action** automatically.
3. Press **CHOICES**. The PRINTER MANAGEMENT **Actions** are listed:
 - ENABLE: PRINTER
 - DISABLE: PRINTER
 - LIST: PRINTER JOBS
 - CANCEL: PRINTER JOBS
 - LOGALL: DACS MESSAGES
 - LOGALARMS: ALARM MESSAGES
 - STOPLOGGING: MESSAGES

Procedure: Enabling a Printer

The **ENABLE Action** turns on the printer for print service. Before any printing can occur, you must enable the printer.

To enable the printer, follow these steps:

1. Obtain the **PRINTER MANAGEMENT** form.
2. Select an **Action** of **ENABLE** from the **CHOICES** menu.
3. Select a **Printer Name** from the **CHOICES** menu.
4. Press **EXECUTE**.
 - The **Printer Status** field changes to **ENABLED**.
 - **Printer now enabled** message is displayed.

Procedure: Disabling a Printer

The **DISABLE Action** turns the printer off.

To disable the printer, follow these steps:

1. Obtain the **PRINTER MANAGEMENT** form.
2. Select an **Action** of **DISABLE** from the **CHOICES** menu.
3. Select a **Printer Name** from the **CHOICES** menu.
4. Press **EXECUTE**.
 - The **Printer Status** field changes to **DISABLED**.
 - **Printer now disabled** message is displayed.

Procedure: Displaying Print Jobs Queued

To display a list of the print jobs that are queued to the printer, follow these steps:

1. Obtain the PRINTER MANAGEMENT form.
2. Select an **Action** of LIST from the **CHOICES** menu.
3. Select a **Printer Name** from the **CHOICES** menu.
4. Press **EXECUTE**.

A chronological list of the queued print jobs for all users is displayed. The list reflects the status of the queue at the time you execute LIST or select JOB STATUS, but the jobs continue to be processed.

The list includes the following information for each job in the queue:

- job number
- print request originator
- file size

5. To return to the PRINTER MANAGEMENT form, press **QUIT**.

If no jobs are on the queue, a message is displayed:

No jobs queued to the printer.

An example of a printer queue is shown in Figure D-13.

Procedure: Displaying Print Jobs Queued (Continued)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

PRINTER MANAGEMENT

Action:LIST Printer Name:CONSOLE PRINTER

Printer Queue

Job no.	User	Size
16	root	5
17	rootadm	6

Page 1 of 3 Display Page:1

Enter the page number:

HELP NEXTPAGE PREVPAGE QUIT TOP MENU PRINT

Figure D-13. Sample Print-Job Status

Procedure: Removing Prints Jobs Queued

To remove a print job from the queue, follow these steps:

1. Obtain the PRINTER MANAGEMENT form.
2. Select an **Action** of CANCEL from the menu.
3. Select a **Printer Name** from the menu.
4. Press . The jobs are listed as for the LIST **Action**. However, an additional field, **Cancel**, appears before **Job No.**
5. Using , move the cursor to the beginning of the line for the job you wish to cancel and type an x or X.
6. Press .



NOTE:

If the cursor remains on **Display Page**, you are in LIST rather than in CANCEL. Press and enter CANCEL as an **Action**.

**Procedure: Printing/Stop Printing Output
or Frame Alarms**

To print or stop printing the output or alarms of a DACS, follow these steps:

1. Obtain the PRINTER MANAGEMENT form.
2. Enter one of the following **Actions**:
 - LOGALL To print a log of all output from the **Site Name** you select.
 - LOGALARMS To print a log of only the alarms issued by the **Site Name** you select.
 - STOPLOGGING To stop printing the log of output or alarms for the **Site Name** you select.
3. Enter the **Site Name** of the DACS from which you wish to log all output or alarms only.
 - Depending on the **Action** you chose, the **Logging Status** indicates ALL, ALARMS, or OFF.
 - The command completed successfully message is displayed.
4. To print or stop printing the output or alarms from another site, perform the previous steps again, changing the **Site Name**.

The print buffer holds one page at a time; that is, it does not print until it contains one page (66 lines). A separate page buffer is maintained for each DACS.

SHUTDOWN

The DND system can be shutdown immediately, or you can specify a time DACS from one to 10 minutes.

To shutdown the DND system, follow these steps:

1. From the SYSTEM ADMINISTRATION menu, select SHUTDOWN to power down DND. The SHUTDOWN TIME pop-up menu is displayed, as shown in Figure D-14.

**CAUTION:**

*Do not remove power from DND without selecting SHUTDOWN.
Important files may be damaged or corrupted.*

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

SYSTEM ADMINISTRATION	SHUTDOWN TIME
LOGIN PORTS	QUIT
X.25 LINK ADMINISTRATION	IMMEDIATE
FRAME ADMINISTRATION	1 MINUTE
NAME CHANGE	
PRINTER ADMINISTRATION	
- SHUTDOWN	
DATE AND TIME	
SYNCHRONIZE FRAME DATE & TIME	

Scroll for additional items

Press ENTER to Shut Down the DND System.

HELP PREVIOUS NEXT QUIT FIRST LAST SELECT

Figure D-14. SHUTDOWN TIME Pop-up Menu

SHUTDOWN (Continued)

2. From the SHUTDOWN TIME pop-up menu, select the appropriate value:

QUIT	Do not execute a shutdown.
IMMEDIATE	Shut down immediately.
1 MINUTE	Shut down after 1 minute.
5 MINUTES	Shut down after 5 minutes.
10 MINUTES	Shut down after 10 minutes.
NO	Do not execute a shutdown.

3. If you selected the 1, 5 or 10 minute options, at intervals of 1 minute, a command line message appears at the bottom of the screen:

SHUTDOWN STARTING IN X MINUTES

4. A **Status** message is broadcast to every terminal:

SYSTEM GOING DOWN IN X MINUTE(S), PLEASE LOG OFF

5. At the end of the last minute, the **Status** displays:

SYSTEM GOING DOWN, PLEASE LOG OFF NOW

6. The SHUTDOWN TYPE pop-up menu is displayed, as shown in Figure D-15.

SHUTDOWN (Continued)

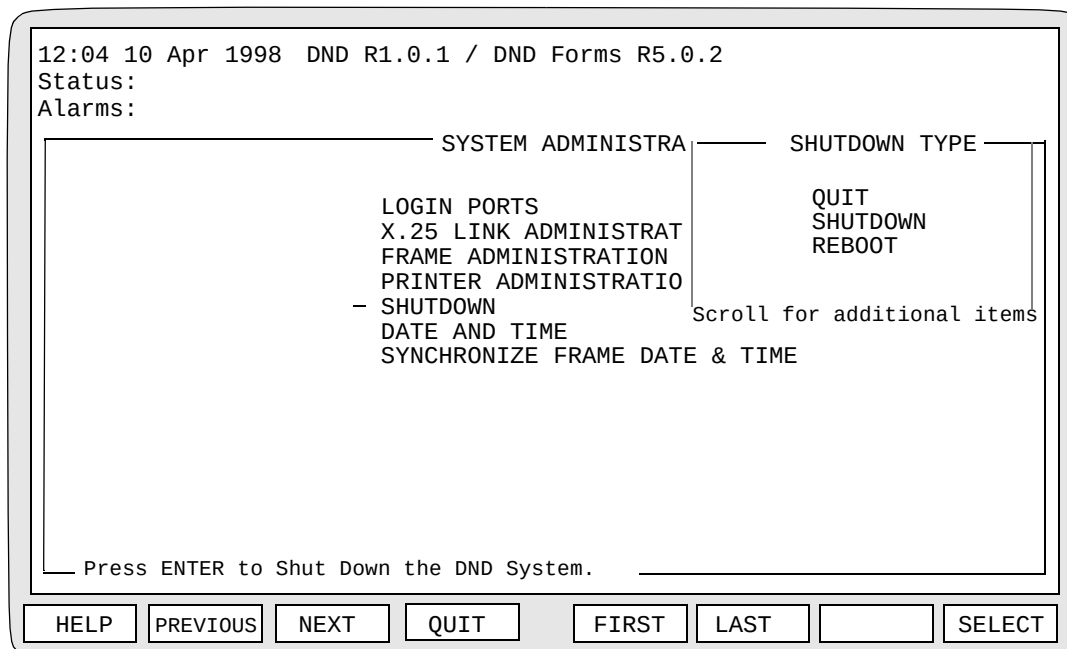


Figure D-15. SHUTDOWN TYPE Pop-up Menu

7. From the SHUTDOWN TYPE menu, select the appropriate value.

QUIT	Do not execute a shutdown.
SHUTDOWN	Shut down the computer and DND. This is done as preparation for powering down the computer.
REBOOT	Shut down and restart the computer and the DND.
DND REBOOT	Shut down and only restart DND. The workstation continues to run; only the DND software restarts.
DND UPDATE	Only shut down DND, update the port information in the DND database and restart. This procedure compares the hardware configuration to the DND database and, if required, modifies to DND database. The /etc/passwd is updated from the DND database.
NO	Do not execute a shutdown.

SHUTDOWN (Continued)

8. If you selected QUIT or NO, the following **status** message is displayed:

SYSTEM SHUTDOWN HAS BEEN ABORTED

9. If you chose any of the shutdown selections, the DND **Status** now changes to:

SYSTEM SHUTDOWN IS NOW IN PROGRESS

10. A number of messages will be displayed as DND shuts down. When the software has finished shutting down, follow the established policy regarding turning off the hardware or leaving it on

If you selected QUIT or NO, the following **status** message is displayed:

SYSTEM SHUTDOWN HAS BEEN ABORTED

11. If you chose any of the shutdown selections, the DND **Status** now changes to:

SYSTEM SHUTDOWN IS NOW IN PROGRESS

A number of messages will be displayed as DND shuts down. When the software has finished shutting down, follow the established policy regarding turning off the hardware or leaving it on.

DATE and TIME

Occasionally, it may be necessary to reset the DND computer date and time. Be sure to notify the users that you are going to reset the date and time.



NOTE:

Setting the Data and Time *must* be done from the console.

The reset of the DND date and time may affect time-dependent activities, such as the execution of scheduled tasks, and timeouts on commands to a DACS, as well as on terminating passthrough sessions, or other tasks. We suggest that you shut down and restart immediately after resetting the date and time, so that all time parameters also will be reset.

Procedure: Setting the Date and Time

To set the date and time on the DND computer, follow these steps:

1. Select DATE AND TIME from the SYSTEM ADMINISTRATION menu.
The DATE and TIME ADMINISTRATION form is displayed, as shown in Figure D-16.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

DATE and TIME ADMINISTRATION

Hour: Minute:
Day: Month:
Year:

Enter the desired hour [0-24]

HELP QUIT TOP MENU PRINT EXECUTE

Figure D-16. TIME and DATE ADMINISTRATION Form

2. Enter the desired hour, 0-24. Either 24:00 or 00:00 is accepted.

**NOTE:**

An initial 0 is not necessary, but if you omit it, you need to press **Enter**.

3. Enter the minute, 00-59.

**NOTE:**

After 24:00, go to 00:01.

4. Enter the day, 1-31.
5. Enter the first three letters of the month: Jan, Feb, Mar . . . Dec.

Procedure: Setting the Date and Time (Continued)

NOTE:
Case is irrelevant.

6. Enter all four digits of the year. The range is 1990 through 2037.
7. Press **EXECUTE**.
 - The new date and time appear on the screen.
 - The command completed successfully message is displayed.
8. Perform SHUTDOWN and restart so that the new time and date will be reflected by automatic functions that use them.

SYNCHRONIZE FRAME DATE & TIME

Procedure: Synchronizing Frame Date & Time

To change the time on one DACS to the DND time, follow these steps:

1. Select SYNCHRONIZE FRAME DATE & TIME from the SYSTEM ADMINISTRATION menu.
2. The WHICH DACS? prompt and the list of DACSs appears in an insert. Select the desired DACS, confirm and press **Enter**. DND sends a time and date command to the DACS.

The command is successful if the frame time is set to within one second of the DND time. A message, The command completed successfully, means that the time has been successfully reset.

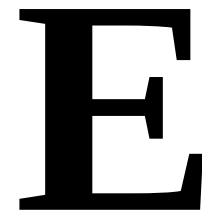
A failure can happen when the frame is too busy to respond to DND within one second of the request: for example, during backup-memory transfers, error recovery, and other maintenance conditions. If a failure occurs, you will get a message, Frame time is within X seconds of local time, which is displayed in a pop-up window, and requires you to press **Enter**.

The time has been reset, but not to within one second.

A third possibility is that DND cannot complete the synchronization. In that case, an explanation of denial is displayed in the pop-up window.

If the time synchronization fails, try to reset again.

NPC Provisioning - DND Forms Interface



Contents

■ Introduction	E-1
■ NPC PROVISIONING Form	E-2
Procedure: Provisioning an NPC	E-2
Field Descriptions	E-10
■ NPC Provisioning Examples	E-19
Creating an NPC and Placing It in Service	E-19
Example: Creating a CEPT NPC	E-20
Procedure: Creating an NAS NPC	E-21
Example: Creating an NPC as a Subrate Type	E-22
Example: Creating an NPC Using DMB Multipoint	E-23
Example: Removing an NPC	E-24
Example: Deleting an NPC	E-24
Example: Querying an NPC	E-25
Example: Browsing NPCs	E-29
Procedure: Disabling Echoed Responses	E-31

NPC Provisioning - DND Forms Interface

E

Introduction

This Appendix provides the procedures, examples and field descriptions to perform NPC Provisioning for the DND Forms Interface. For additional information on NPC Provisioning, refer to Chapter 8 “NPC Provisioning.”

NPC PROVISIONING Form

The sections below provide information on the types of NPC Provisioning forms.

Procedure: Provisioning an NPC

To access the NPC PROVISIONING forms, follow these steps:

1. Select PROVISIONING from the MAIN MENU. The PROVISIONING menu is displayed, as shown in Figure E-1.

The screenshot shows a terminal window with the following text:

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:
----- PROVISIONING -----
CIRCUIT
TEST PORT
-NPC
RECONFIGURATION PLAN
AUTOMATIC RECONFIGURATION PLAN
NPC ROLL
24-HOUR PERFORMANCE
Press ENTER to Provision NPCs
```

At the bottom of the window, there is a row of buttons: HELP, a blank button, a blank button, QUIT, a blank button, TOP MENU, PRINT, and a blank button.

Figure E-1. PROVISIONING Menu

Procedure: Provisioning an NPC (Continued)

2. Select NPC from the PROVISIONING menu. The NPC PROVISIONING form is displayed, as shown in Figure E-2.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

_____ NPC PROVISIONING _____

Site Name: DACS00 Alarm State: Service State:
Action: CREATE NPC ID:
Type:PB100 Number(Hier): (Ext): Alarm Aging:0000 IW: AIS: MJ
FE Site: TS0:11011111 TS0M:00000000
Lpbk Trans: N Usage:

	Short Interval Option	Long Interval Option
Slips	D Inf	D Inf
Degraded Minutes	D Inf	D Inf
Unavailable Seconds	D Inf	D Inf
Errored Seconds	D Inf	D Inf
Sev Errored Seconds	D Inf	D Inf

Enter the NPC number in extended format. _____

HELP [] NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-2. CEPT NPC Provisioning Form (Types PB/PC)

NPC PROVISIONING Form (Continued)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

_____ NPC PROVISIONING _____

Site Name: ISX	Alarm State:	Service State:
Action: CREATE	NPC ID:	
Type:SD111	Number(Hier):	(Ext):

Enter the NPC number in hierarchical format. _____

HELP CHOICES NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-3. Subrate NPC Provisioning Form (Type SD)

This is the default form. The fields that appear depend on the value of the default form **Type** and **Action** fields. In addition, the defaults that appear may be different depending if you are using a DACS II or DACS II ISX. The form shown above appears for CEPT equipment (**Type of PB or PC**).

The QUERY **Action** has its own forms. These forms are described under Querying an NPC later in this appendix.

On all the forms, the default values indicated for **Type**, **IW**, **TS0**, and **TS0M**, if they are present, are those provided as defaults by the DACS as well.

NPC PROVISIONING Form (Continued)

Figures E-4 through E-9 illustrate the remaining NPC distinct forms.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

———— NPC PROVISIONING ————

Site Name: ISX	Alarm State:	Service State:
Action: CREATE	NPC ID:	
Type: PA100	Number(Hier):	(Ext):
FE Site:	Alarm Aging: 0000	IW: AIS: MJ
Lpbk Trans: N	Dir: N	TS0: 11011111 TS0M: 00000000 NFS: P P P P P P P P

	Daily NE	Daily FE	15-Min NE	15-Min FE
CRC Block Errors	D Inf	D Inf	D Inf	D Inf
Errored Seconds	D Inf	D Inf	D Inf	D Inf
Sev Errored Seconds	D Inf	D Inf	D Inf	D Inf
Unavailable Seconds	D Inf	D Inf	D Inf	D Inf
Framing Errors	D Inf		D Inf	
Out-of-Frame Seconds	D Inf		D Inf	
Controlled Slip Seconds	D Inf		D Inf	
Coding Violations	D Inf		D Inf	
Unavailable Time Count	D Inf		D Inf	
Multiframe Errors	D Inf		D Inf	

— Enter the NPC number in extended format. —

HELP NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-4. Enhanced CEPT NPC Provisioning Form (Type PA)

NPC PROVISIONING Form (Continued)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

_____ NPC PROVISIONING _____

Site Name: ISX	Alarm State:	Service State:
Action: CREATE	NPC ID:	
Type:DE100	Number(Hier):	(Ext):
FE Site:	Alarm Aging:0000	IW: AIS:

	Minor Alarm Option	Major Alarm Option
Slips	0	0
Bit Error Rate	0	0
Frame Alignment	0	0
Errored Seconds		0
Sev Errored Seconds		0

_____ Enter the NPC number in extended format. _____

HELP NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-5. NAS NPC Provisioning Form (Types DE/TE)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

_____ NPC PROVISIONING _____

Site Name: ISX	Alarm State:	Service State:
Action:CREATE	NPC ID:	
Type:DA100	Number(Hier):	(Ext):
FE Site:	Alarm Aging:000	IW: AIS:MJ

_____ Enter the NPC number in hierarchical format. _____

HELP NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-6. Enhanced NAS NPC Provisioning Form (Types DA/TA)

NPC PROVISIONING Form (Continued)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

NPC PROVISIONING

Site Name: ISX	Alarm State:	Service State:
Action: CREATE	NPC ID:	
Type:DE919	Number(Hier):	(Ext):
FE Site:	Alarm Aging:0000	AIS: MJ

	Minor Alarm Option	Major Alarm Option
Slips	0	0
Bit Error Rate	0	0

The NPC number is required
Enter the NPC number in extended format. _____

HELP CHOICES NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-7. Clear DS1 NAS NPC Provisioning Form (Type DE9y9)

NPC PROVISIONING Form (Continued)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

_____ NPC PROVISIONING _____

Site Name: ISX	Alarm State:	Service State:
Action: CREATE	NPC ID:	
Type: TE919	Number(Hier):	(Ext):
FE Site:	Alarm Aging: 0000	AIS: MJ
	Minor Alarm Option	Major Alarm Option
Slips	0	0

The NPC number is required
Enter the NPC number in extended format. _____

HELP NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-8. Clear DS1 Through DS3 NAS NPC Provisioning Form (Type TE9y9)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

_____ NPC PROVISIONING _____

Site Name: CEF	Alarm State:	Service State:
Action: CREATE	NPC ID:	
Type: MB100	Number(Hier):	(Ext):
Upper NPC ID:		
Upper NPC No(Hier):		

The NPC number is required
Enter the NPC number in extended format. _____

HELP CHOICES NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-9 DMB NPC Provisioning Form (Type MB)

NPC PROVISIONING Form (Continued)

For the **CREATE Action**, you must fill in the **Site Name**, **NPC ID**, and **Number** fields. Most other fields contain default values.

After an NPC is created, you can use the other actions: **MODIFY**, **RESTORE**, and **QUERY**. For these actions, enter the **Site Name**, **Action**, and **NPC ID** or the **Number**, and the DND automatically displays the related data for the NPC on the NPC PROVISIONING form.

Field Descriptions

Descriptions of the NPC PROVISIONING fields are described in Table E-6.

Table E-6. NPC PROVISIONING Field Descriptions

Site Name	Mandatory. 1 through 24 characters from the set 0-9, A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name. The name of the DACS where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the DACS names. These names were established during frame administration, described in Appendix D "System Administration."																		
Alarm State	The status of an alarm currently being received or asserted by this NPC. This field is under software control of the DND and cannot be changed by the user. The possible values are: <table> <tr> <td>OOS</td><td>The NPC has been removed from service autonomously.</td></tr> <tr> <td>LOS</td><td>The alarm is a loss-of-signal alarm.</td></tr> <tr> <td>CGA</td><td>The alarm is a carrier group alarm (NAS).</td></tr> <tr> <td>PBA</td><td>The alarm is a primary block alarm (CEPT).</td></tr> <tr> <td>PERF</td><td>The alarm is a performance alarm of major severity.</td></tr> <tr> <td>MAJ</td><td>The alarm is of major severity and is not a performance alarm.</td></tr> <tr> <td>MINR</td><td>The alarm is of minor severity.</td></tr> <tr> <td>NONE</td><td>No alarm is asserted.</td></tr> <tr> <td>blanks</td><td>The NPC is not yet registered in the DND database.</td></tr> </table>	OOS	The NPC has been removed from service autonomously.	LOS	The alarm is a loss-of-signal alarm.	CGA	The alarm is a carrier group alarm (NAS).	PBA	The alarm is a primary block alarm (CEPT).	PERF	The alarm is a performance alarm of major severity.	MAJ	The alarm is of major severity and is not a performance alarm.	MINR	The alarm is of minor severity.	NONE	No alarm is asserted.	blanks	The NPC is not yet registered in the DND database.
OOS	The NPC has been removed from service autonomously.																		
LOS	The alarm is a loss-of-signal alarm.																		
CGA	The alarm is a carrier group alarm (NAS).																		
PBA	The alarm is a primary block alarm (CEPT).																		
PERF	The alarm is a performance alarm of major severity.																		
MAJ	The alarm is of major severity and is not a performance alarm.																		
MINR	The alarm is of minor severity.																		
NONE	No alarm is asserted.																		
blanks	The NPC is not yet registered in the DND database.																		

Table E-6. NPC PROVISIONING Field Descriptions (Contd)

Service State	The status of the NPC. This field cannot be changed by the user except as the result of an Action. Possible values: UEQD Unequipped. The NPC referenced by the NPC ID is not currently recorded in the DND and/or DACS databases (equipped). To place it there, use the CREATE Action. 00S Out of service. The NPC is currently equipped, but is not operable. To place it in service, use the RESTORE command. To unequip it, use the DELETE command. IS In service. The NPC is equipped and operable (ready for CIRCUIT PROVISIONING). To remove it from service, use the REMOVE Action. On currently unmapped channels in an NPC that is IS, the disconnect channel code is asserted repeatedly if there is one; otherwise, the NPC's IW is used as the default disconnect code. 0 IS With reference to DMB, CB102 circuit pack, and substrate NPCs, side 0 is in service and side 1 is out of service. 1 IS With reference to DMB, CB102 circuit pack, and substrate NPCs, side 1 is in service and side 0 is out of service.

Table E-6. NPC PROVISIONING Field Descriptions (Contd)

Action	CREATE	Adds a new NPC.
	DELETE	Deletes the specified NPC. An NPC must be removed from service before it can be deleted.
	MODIFY	Changes allowed combinations of fields for the specified NPC. These combinations are stated under "Types of NPCs" in this appendix. Constraints on possible new values of Type are also stated there.
		 NOTE: If OOS is set to Yes, changing the Type or IW of an IS NPC results in the DND placing the NPC in OOS Service State before making the change and in doing a RESTORE after the change. However, if OOS is set to No, the MODIFY is denied.
		 NOTE: Only those fields whose specification on the form differs from the DND database cause changes to be sent to the DACS. In particular, if the value is correct in the DND but is not correct in the DACS, a MODIFY , even in Site Only mode, will not correct the value in the DACS.
	RESTORE	Places the specified NPC in service. An NPC must be in service before it can be used for CIRCUIT PROVISIONING . For TRANSMIC 2G circuit packs, a restore consists of an NPC restoral and a cross connect to the CPR circuit pack in the DSPU
	QUERY	Requests the current state of the NPC from the DACS and displays the data received upon successful completion of the QUERY .

Table E-6. NPC PROVISIONING Field Descriptions (Contd)

Action (Continued)	REMOVE Removes the specified NPC from service.  NOTE: Removing an NPC with active circuits may result in transmission loss for those circuits. An NPC carrying red-lined circuits cannot be removed unless INCL is YES. BROWSE Gives you read-only access to the DND database for retrieving and scrolling NPC records. You can use wild-card characters (*?), in the NPC ID field only, to match any character or set of characters. LOOPBACK Allows you to start, change, and stop the loopback setting on an NPC. You can select LOOPBACK for NPCs that are out of service (OOS), or in service (IS). In addition this actions can also be applied to a traffic-carrying NPC.
NPC ID	Mandatory. 1 through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored. An identifier, or name, associated with the specified Number. The CREATE Action associates the name and number. Only one NPC ID can be associated with a Number within a DACS, and also, an NPC ID can be associated with only one NPC. An NPC ID uniquely identifies an NPC. An identifier, or name, associated with the specified Number. The CREATE Action associates the name and number. Only one NPC ID can be associated with a Number within a DACS, and also, an NPC ID can be associated with only one NPC. An NPC ID uniquely identifies an NPC.
Type	PA For DACS II, Generic 6.0 and higher, and DACS II ISX Release 1.0, the hardware is a TG192 enhanced dual primary circuit (EDPC) supporting a CEPT 75/120-ohm NPC with enhanced functionality. PA100 is the default value for ISX systems. Type PAXCz provides clear, framed E1 cross-connections and PAXDz provides clear, unframed E1 cross-connections. Support of PA-Type NPCs is expanded to include the setting, modifying and querying of performance monitoring thresholds. And finally, you can provision and query the TSO receive (NFS) spare bit manipulation settings.

Table E-6. NPC PROVISIONING Field Descriptions (Contd)

Type (Continued)	DE The hardware is a dual digroup card (DDC) supporting a NAS NPC for channelized DS1 signals or a TG80 Card for clear unframed DS1 signals (DE9y9). TA For DACS II, release 6.0 only, the hardware is a KCR5 and 6 within a DS3 card. Type TAx9 provides clear unframed cross-connections. TE The hardware is a DS3 card for channelized or clear unframed DS1 (TE9y9). MB The hardware is a DMB card for DMB multipoint cross-connections. xyz must be 100. MJ Not available. SR Not available. SD For substrate provisioning for X.50 and X.57. The only option for this type is SD111. For PA, PB, PC, DA/TA and DE types, the xyz defines facility characteristics. For example, for DE types, xyz defines the framing format (x is 1-3), the line and signaling format (y is 0, 1, 2, 4), and the channel-counting sequence (z is 0 or 4). See the DACS I/O manuals.
Number (Hier)	For CREATE, either this field or (Ext) must be entered. The DND converts and fills in the other. The number of the NPC in hierarchical (hier) numbering. Hierarchical numbers have the following format: xxyz where: xx Is the shelf or unit number in the range 01 to 16. For units less than 10, the leading 0 is required. y Is the module number in the range 1 to 8. zz Is the NPC within the module, ranging from 01 through 40. Not all units are allowed in all frames, nor all positions in all units and modules. A module or shelf of a certain type is associated with a definite range of numbers. If you enter a number within that range, the Type field must be compatible with the type of NPC belonging to the number. If it is not, an error message is displayed: NPC type is inconsistent with FTMI type
(Ext)	The number of the NPC in extended numbering. The range is 1 through 256H. Some NPC numbers may not be allowed in a frame, depending on the frame's equipage.
SIDE	This field appears for types MB, MJ, and SR only. Specifies the side when the Action will change the Service Status of a duplex NPC. Values are 0 or 1. A value is required when the Action is REMOVE or RESTORE.

Table E-6. NPC PROVISIONING Field Descriptions (Contd)

Alarm Aging	The number of seconds after a CGA or PBA message has been received or asserted, before action is taken by the DND. The default is 0. x Age the alarm x seconds, where x is 1 through 9999. 0 Do not age the alarm, but act immediately. -1 Ignore the alarm.
IW	Insertion Word. Two hex digits for NAS, 3 for CEPT, [0-9, A-F/a-f]. Specifies the 8-bit code transmitted by an IS NPC on unassigned channels. The third digit of a CEPT IW contains signaling-channel data. The default for NAS NPCs is 7F and for CEPT is D5D.  NOTE: This is an open field and the DND lets you enter any 2- or 3-character IW. But for NAS (DE) NPCs only, two characters are allowed, and entering three sends a bad syntax message to the DACS and also displays it on the DND prompt line. If this happens, correct the IW and execute again. For CEPT NPCs, if you do not enter a third digit, it is supplied by the DND. On DACS II, Release 6.0, and DACS II ISX Release 1.0 frames, a 0 in the 7th bit (from the right) position generates a D4 yellow alarm for the NPC when the IW is transmitted.
AIS	The user-defined severity of an AIS alarm on this NPC. MJ An AIS alarm is to be major. MN Minor. MI A maintenance information alarm.
FE Site	Far end site. 1-24 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %. Blanks are allowed in the name, but leading and trailing blanks are ignored. The name of the DACS at the far end of the facility terminating on the specified NPC. This field appears only for types PA, PB, PC, DA/TA and DE, and is informational.

Table E-6. NPC PROVISIONING Field Descriptions (Contd)

Upper NPC ID	Mandatory. 1 through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored. An identifier, or name, associated with the specified Number. The CREATE Action associates the name and number. Only one NPC ID can be associated with a Number within a DACS, and also, an NPC ID can be associated with only one NPC. An NPC ID uniquely identifies an NPC. An identifier, or name, associated with the specified Number. The CREATE Action associates the name and number. Only one NPC ID can be associated with a Number within a DACS, and also, an NPC ID can be associated with only one NPC. An NPC ID uniquely identifies an NPC.
Upper NPC No (Hier)	This field appears for type MB only. A number in hierarchical format automatically assigned to the NPC specified in Upper NPC ID .
(Ext)	This field appears for type MB only. A number in extended format automatically assigned to the NPC specified in Upper NPC ID .
TS0	Time slot 0 transmit. Eight characters. The field appears for CEPT NPCs only, and is accessible via the MODIFY Action. Describes how to process bits in time slot 0 for transmission. A single character is entered for each bit. The bit values are: P Cross-connect this bit position unchanged. 0 Overwrite the incoming bit with a 0 for this position. 1 Overwrite the incoming bit with a 1 for this position. V For Type PA only, invert the value of this bit. If either of the two rightmost bits is P, both must be P. Use either upper or lower case for P or V. The default is 11011111.
TS0M	Time slot 0 monitor. Eight characters. The field appears for CEPT NPCs only, and is accessible via the MODIFY Action. Describes what Time Slot 0 bits are to be monitored by the DACS. A single character is entered for each bit. The bit values are: 0 Stop monitoring the signal in this bit position. 1 Start monitoring the signal in this bit position. Whenever the DACS detects a change in a monitored TS0 bit, it generates an autonomous message. The default is 00000000.

Table E-6. NPC PROVISIONING Field Descriptions (Contd)

NFS	Non-frame word setting. Nine characters. This field appears for Type PA only, and is accessible by the MODIFY Action. Specifies how the spare bits in timeslot 0 are to be handled when they are cross-connected to a timeslot other than 0. This is a special case, the spare bit manipulation feature. Refer to the discussion of TS0 to non-TS0 cross-connects in the Introduction in Appendix G "Circuit Provisioning." The field format is: abcdefghi where: a is bit 1 of the FW bcdefghi are bits 1-8 of the NFW Enter a single character for each bit. The bit values are: P Pass unchanged. V Pass inverted, except for bit c. 0 Set output to 0, except for bit c. 1 Set output to 1, except for bit c. Bit c is passed unchanged in every case. If h or i are set to P, then the other of the two must be set to P. The creation default is PPPPPPPP.
INCL	This field appears for the REMOVE Action only. It is parallel to the INCL selection of the Options field on the CIRCUIT PROVISIONING form; however, where the CIRCUIT PROVISIONING option applies to disconnecting or deactivating a circuit, this INCL field applies to removing an NPC. YES Allow an NPC that is carrying a red-lined circuit to be removed. NO Deny removal of an NPC that is carrying a red-lined circuit.
OOS	This field appears for the MODIFY Action only. YES Allow the NPC to be taken out of service if the modification requires. NO Deny any modification that would result in the NPC being taken out of service.

Table E-6. NPC PROVISIONING Field Descriptions (Contd)

Lpbk Trans	This option can be changed while a loopback is active to change the loopback signal transmission or the Performance Monitoring options. A Starts looping the signals. Also sends AIS downstream or upstream, turns off facility Performance Monitoring, freezes alarm and parameter counts for the NPC. B (PA type NPCs only) Starts looping the signals. Also sends AIS downstream or upstream and continues normal Performance Monitoring and alarm processing for the NPC. C (PA type NPCs only) Starts looping the signal and transparently passes through the received signal. Turns off facility Performance Monitoring and freezes alarm and parameter counts for the NPC. T Starts looping the signal and transparently passes through the received signal. Continues facility Performance Monitoring and alarm processing for the NPC. N Stops looping the signal.
Dir	Direction. This is a one character field to indicate the direction of the loopback. This is a mandatory field when the action selected is LOOPBACK and the NPC is a PA type. F Facility Loopback. This loops the incoming 2 Mbit/s bipolar signal back to the facility. E Equipment loopback. This loops the outgoing 2 Mbit/s signal back to the DACS II equipment. This option is not applicable to PB/PC type NPCs. N Stop loopback.
Usage	Optional. This is a 10-character field for data entry and display. Valid entries for this field are: UNKNOWN INTER DACS ACCESS The default value is ACCESS, which also applies to the ERP/ SYNC generated NPC.

NPC Provisioning Examples

The following examples demonstrate the use of the NPC Provisioning capabilities. Enter information into the forms and then execute the chosen **Action**. These examples are generic in order to serve as a general guide to NPC PROVISIONING functionality.

The **RECNCILE** Key is especially useful in providing additional functionality in this area. The use of this key is described in Appendix C "Getting Started." Entry of improper data through use of the **RECNCILE** key may result in contradictory data for one or more NPCs between the DND and DACS databases. When you then try to use the NPCs in a circuit, the discrepancies may result in degraded performance or loss of the circuit's ability to carry traffic.

Creating an NPC and Placing It in Service

Successful creation of an NPC places the NPC in the database, and successful restoral places it in service; for example, ready to be used in cross-connection. The CREATE or RESTORE will be denied if:

- mandatory field information is missing
- the **Type** is of improper form or content
- the number does not refer to an NPC of that **Type**
- the NPC is already in the desired **Service State**
- the **NPC ID** is already in use
- a field contains an invalid value.

Example: Creating a CEPT NPC

To create a CEPT NPC, follow these steps:

1. Select NPC from the PROVISIONING menu.
2. Enter, or select from the CHOICES menu, the following information:
 - **Site Name:** `DACS00`
The site name must already have been provisioned as a frame (refer to Chapter 2 "Getting Started").
 - **Action:** CREATE
 - **NPC ID:** `dgrp01`
 - **Type:** `PB144`
 - **Number (Hier):** `01101`
If you fill this in, **(Ext)** is automatically supplied. Here it is `0001`. The NPC number must be compatible with the Type.
These are the minimum requirements for creating an NPC. You may wish to fill out other fields as well:
 - **Alarm Aging:** `5`
 - **IW:** `D5D` (the default value)
 - **TS0:** `11011111`
 - **TS0M:** `00000000`
 - **Slips, Short Interval Option:** `D Inf`
3. Fill in all the other threshold selections. In this case, suppose they are all `D Inf`.
4. Press `EXECUTE` and select IMMEDIATE. (You can create the NPC in Local only mode. Refer to Appendix C "Getting Started" on the use of the `RECNCILE` Key.) The result is that the:
 - **Service State** field changes to `OOS`
 - **Alarm State** changes to `NONE`.
 - DND command completion message is displayed on the screen.
5. Move to the **Action** field and select `RESTORE`.
6. Press `EXECUTE` and select IMMEDIATE. The result is that the:
 - **Service State** field changes to `IS`.
 - DND command completion message is displayed.

Procedure: Creating an NAS NPC

To create an NAS NPC, follow these steps:

1. Select NPC from the PROVISIONING menu.
2. Enter, or select from the CHOICES menu, the following information:
 - **Site Name:** DACS00
 - DACS00 must already have been provisioned as a frame (see Appendix C "Getting Started.")
 - **Action:** CREATE
 - **NPC ID:** dgrp02
 - **Type:** DE310 (or some other DE value)
 - **Number (Hier):** 01102
 - If you fill this in, **(Ext)** is automatically supplied. The NPC number must be compatible with the **Type**.
 - These are the minimum requirements for creating an NPC. You may wish to fill in other fields as well:
 - **Alarm Aging:** 5
 - **IW:** 7F (the default value)
 - **FE Site:** DACS01
 - **Slips, Minor Alarm Option:** 0
3. Fill in all the other threshold selections. In this case, suppose they are all the default. Press **EXECUTE** and select IMMEDIATE. The result is that the
 - DND command completion message appears on the screen.
 - **Service State** field changes to OOS.
 - **Alarm State** changes to NONE.
4. Move to the **Action** field and select RESTORE.
5. Press **EXECUTE** and select IMMEDIATE. The result is that the:
 - **Service State** field changes to IS.
 - DND command completion message appears.

Example: Creating an NPC as a Subrate Type

To create an NPC as a subrate type, which will then allow you to provision DS0 channels and subrate cross connections for the X.50 and X.57 subrate standards, follow these steps.

1. Select NPC from the PROVISIONING menu. The NPC PROVISIONING form is displayed.
2. Enter, or select from the CHOICES menu, the following information:
 - **Site Name:** DACS00
DACS00 must already have been provisioned as a frame (refer to Appendix C "Getting Started.")
 - **Action:** CREATE
 - **NPC ID:** DS01
 - **Type:** SD111
 - **Number (Hier):** 01101
 - If you fill this in, **(Ext)** is automatically supplied. The NPC number must be compatible with the Type.
3. Press **EXECUTE** and select IMMEDIATE. (You can create the NPC in **local only** mode. Refer to Appendix C "Getting Started" on the use of the **RECNCILE** key.) The result is that the
 - **Service State** field changes to OOS
 - **Alarm State** changes to None
 - DND command completed message is displayed on the screen.
4. Move to the **Action** field and select RESTORE.
5. Press **EXECUTE** and select IMMEDIATE. The result is that the:
 - Subrate NPC is in service.
 - **Service State** field changes to IS
 - DND command completion message is displayed.

Example: Creating an NPC Using DMB Multipoint

To create an NPC using DMB multipoint, follow these steps:

1. Select NPC from the PROVISIONING menu.
2. Enter, or select from the CHOICES menu, the following information:

- **Site Name:** DACS00

The site name must already have been provisioned as a frame (see Appendix C "Getting Started").

- **Action:** CREATE

- **NPC ID:** dmb01

- **Type:** MB100

- **Number (Hier):** 02101

- If you fill this in, **(Ext)** is automatically supplied. The NPC number must be compatible with the **Type**. Note that **Upper NPC Number** also is supplied.

- **Upper NPC ID:** dmb02

This field is mandatory.

3. Press **EXECUTE** and select IMMEDIATE. The result is that the:

- **Service State** field changes to 00S.

- DND command completion message is displayed.

4. Move to the **Action** field and select RESTORE.

5. Enter **SIDE:** 0

6. Press **EXECUTE** and select IMMEDIATE. The result is that the

- **Service State** field changes to 0 IS.

- **Alarm State** changes to NONE.

- DND command completion message is displayed.

7. Repeat Steps 5 and 6 for **SIDE** 1.

Example: Removing an NPC

This example demonstrates removal of a NPC from service. It is the opposite **Action** from RESTORE. A REMOVE will fail if:

- a mandatory field is missing
- the NPC is not in service
- the NPC is carrying red-lined circuits and the **INCL** field is set to NO.

To remove an NPC, follow these steps:

1. Assuming the **NPC ID**, **Type**, and other data are still displayed, move to the **Action** field and select REMOVE.
2. Check that the data for the NPC are displayed, and that the **Service State** field is IS. Press **EXECUTE** and select IMMEDIATE. The result is that the:
 - **Service State** field changes to OOS.
 - **Alarm State** changes to NONE.
 - DND command completion message is displayed.



NOTE:
The MB **Type** requires entry of **SIDE**.

Example: Deleting an NPC

This example shows how to unprovision an NPC (remove) it from the DND and frame databases. It is the opposite **Action** from CREATE. You cannot delete the NPC if it:

- isn't there
- has active or deactivated circuits using any of its channels
- is a test port group
- [has an alarm listed in an ARP](#).

To delete an NPC, follow these steps:

1. Assuming the **NPC ID**, **Type**, and other data are still displayed, move to the **Action** field and select DELETE.
2. The data for the NPC are displayed; the **Service State** field is OOS. Press **EXECUTE** and select IMMEDIATE. Observe that the:
 - **Service State** field now is UEQD.
 - **Alarm State** is now blank.
 - DND command completion message is displayed.

Example: Querying an NPC

The QUERY selection retrieves the provisioning and status information concerning an NPC from the DACS and displays it on the screen.

To query an NPC, follow these steps:

1. Select PROVISIONING from the MAIN MENU and NPC from the PROVISIONING menu.
2. Navigate to **Action** and select QUERY.
3. The bottom fields on the lower part of the screen become temporarily blank.
4. Enter the NPC number in hierarchical or extended format, or the **NPC ID**. Whichever identifying field you decide to enter, the values of the other two also are displayed.
5. Press **EXECUTE** and select IMMEDIATE.

The DND command completion message is displayed. In addition, the first page of the QUERY form is displayed, as shown in Figure E-10.

```

12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

```

NPC PROVISIONING					
Site Name:eao123	Alarm State:NONE		Service State:IS		
Action:QUERY	NPC ID:testnpc0001				
Type:PB100	Number(Hier):	(Ext):	Alarm Aging:000	IW:FFD	AIS:MN
			TS0:11011111	TS0M:00000000	

<<MISMATCH>>	Interval Reading			Threshold/Option	
	Current	Last	Long	Short	Long
Slips	00000	00000	00000	00000/NONE	00000/NONE
Degraded Minutes	00000	00000	00000	00000/NONE	00000/NONE
Unavailable Seconds	00000	00000	00000	00000/NONE	00000/NONE
Errored Seconds	00000	00000	00000	00000/NONE	00000/NONE
Sev Errored Seconds	00000	00000	00000	00000/NONE	00000/NONE


```

Errors: CRC:00000 Framing:00000 LOFA:00000 Multiframe Alignment:00000

The command completed successfully
Enter the site name

```

HELP

NEXTPAGE
QUIT
RECNCILE
TOP MENU
PRINT
EXECUTE

Figure E-10. CEPT NPC Query For PB Type

The <<MISMATCH>> advice on the form above appears if there is a mismatch between the data obtained from the frame and the data in the DND database. In that case, all the information on the form reflects the frame values.

Example: Querying an NPC

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

———— NPC PROVISIONING ————

Site Name: eao123 Alarm State: NONE Service State: 00S
Action: QUERY NPC ID: testnpc0001
Type: PA100 Number(Hier): 08103(Ext): 1123 Alarm Aging: 000 IW: D5D AIS: MJ
FE Site: TS0: 11011111 TS0M: 00000000 NFS: P P P P P P P P

	Daily Far-End		15-Min Far-End	
	Reading	Threshold/Opt	Reading	Threshold/Opt
CRC Block Errors	00000000	00000000/D Inf	00000000	00000000/D Inf
Errored Seconds	00000000	00000000/D Inf	00000000	00000000/D Inf
Sev Errored Seconds	00000000	00000000/D Inf	00000000	00000000/D Inf
Unavailable Seconds	00000000	00000000/D Inf	00000000	00000000/D Inf

CRC Status: 0

The command completed successfully
— Enter the site name —

HELP NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-11. CEPT NPC Query Form, PA, First Page

6. Use **NEXTPAGE** to obtain the second page of the QUERY form, which is available only for **Type PA**.

Example: Querying an NPC

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

NPC PROVISIONING

Site Name:eao123 Alarm State:NONE Service State:00S
Action:QUERY NPC ID:testnpc0001
Type:PA100 Number(Hier):08103 (Ext):1123 Alarm Aging:000 AIS:MJ

		Daily Near-End		15-Min Near-End	
		Reading	Threshold/Opt	Reading	Threshold/Opt
CRC Block Errors	00000	00176947	/D Inf 00000	018432	/D Inf
Errored Seconds	00000	04320	/D Inf 0000	300	/D Inf
Sev Errored Seconds	00000	00090	/D Inf 0000	030	/D Inf
Unavailable Seconds	00000	00090	/D Inf 0000	030	/D Inf
Framing Errors	00000	00090	/D Inf 00000	0018432	/D Inf
Out-of-Frame Seconds	00000	00004	/D Inf 000	004	/D Inf
Controlled Slip Seconds	00000	00004	/D Inf 000	001	/D Inf
Coding Violations	00000	00004	/D Inf 00000	0018432	/D Inf
Unavailable Time Count	0000	00009	/D Inf 00	03	/D Inf
Multiframe Errors	00000	04095	/D Inf 000	255	/D Inf

HELP NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-12. CEPT NPC Query Form, PA, Second Page

Example: Querying an NPC

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

NPC PROVISIONING

Site Name:eao123	Alarm State:NONE	Service State:00S
Action:QUERY	NPC ID:testnpc0001	
Type:	Number(Hier):	(Ext):
		Alarm Aging:000 IW: AIS:
		TS0:11011111 TS0M:00000000

	Reading	Minor Alarm Thresh Opt	Minor Alarm Thresh Opt
Slips			
Bit Error Rate			
Frame Alignment			
Errored Seconds			
Sev Errored Seconds			

Errors: CRC: Framing: Bipolar Violations:

The command completed successfully
Enter the site name

HELP NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure E-13. NAS NPC Query Form

Example: Browsing NPCs

The BROWSE selection retrieves the provisioning and status information concerning each of a range of NPCs.

To browse an NPC, follow these steps:

1. Select PROVISIONING from the MAIN MENU and NPC from the PROVISIONING menu.
2. In the **Action** field, select BROWSE.
3. Enter search criteria. The BROWSE action can retrieve information for up to 50 NPCs at one time.
 - Enter data in the **NPC ID** field. You can use wild-card characters (*?), in the **NPC ID** field only, to match any character or set of characters.
 - To browse the first 50 NPCS, enter * in the **NPC ID** field.
 - To search for NPCs that match certain criteria, enter search criteria in the other fields.
4. Press **EXECUTE**.

A search is conducted for the specified NPCs. Also, the data for the first NPC is displayed.
5. To obtain the next NPC, press **NEXT**.
6. To stop the BROWSE, press **QUIT**.

Figure E-14 shows the first item of a BROWSE through all NPCs.

Example: Browsing NPCs

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

NPC PROVISIONING

Site Name:eao123 Alarm State: Service State:
Action:BROWSE NPC ID:testnpc0001
Type:PA100 Number(Hier):08103 (Ext):1123 Alarm Aging:000 AIS:MJ

	Daily NE	Daily FE		15-Min NE	15 Min FE	
	Reading	Threshold/Opt		Reading	Threshold/Opt	
CRC Block Errors	00000	00176947	/D Inf	00000	018432	/D Inf
Errored Seconds	00000	04320	/D Inf	0000	300	/D Inf
Sev Errored Seconds	00000	00090	/D Inf	0000	030	/D Inf
Unavailable Seconds	00000	00090	/D Inf	0000	030	/D Inf
Framing Errors	00000	00090	/D Inf	00000	0018432	/D Inf
Out-of-Frame Seconds	00000	00004	/D Inf	000	004	/D Inf
Controlled Slip Seconds	00000	00004	/D Inf	000	001	/D Inf
Coding Violations	00000	00004	/D Inf	00000	0018432	/D Inf
Unavailable Time Count	0000	00009	/D Inf	00	03	/D Inf
Multiframe Errors	00000	04095	/D Inf	000	255	/D Inf

HELP

NEXTPAGE

QUIT

RECNCILE

TOP MENU

PRINT

EXECUTE

Figure E-14. NPC Browse Screen

Procedure: Disabling Echoed Responses

Echoed responses can be disabled for a particular DACS by changing the link screening options in the frame.

To disable an echoed response, follow these steps

1. Enter passthrough mode (refer to Appendix L "Passthrough").
2. Log in as USER DAX.
3. Type the following command to set the link screening level to 2:

```
SET-PRVG-TERM: : : n01:SCR-2;  
SET-PRVG-TERM: : : n02:SCR-2;  
...  
SET-PRVG-TERM: : : n16:SCR-2;
```

If you disable echoed responses, the DND database could drift apart from the frame database, necessitating that you periodically perform a database audit followed by a database synchronization (refer to Appendix I "Database Administration").

4. Log off.

Contents

■ Introduction	F-1
■ Test Port	F-2
■ TEST PORT PROVISIONING Form	F-3
Field Descriptions	F-4
Procedure: Creating a Test-Port Group	F-6
Procedure: Creating a Test Port	F-8
Procedure: Deleting a Test Port	F-9
Procedure: Deleting a Test-Port Group	F-10

Introduction

Test port provisioning is an extension of the NPC provisioning process. Once an NPC is created, it can be further designated as a test port group. The NPC does not have to be restored; however, it must be restored before it can be cross-connected.

A test port group is an NPC whose channels can be used for test ports, provided test equipment is being connected by them. After the test port groups and test ports have been provisioned, you can then use TEST ACCESS to connect the test ports in test circuits. These circuits test other channels or test the test port channels. Refer to Appendix N "Test Access."

The DND test port provisioning concept, like provisioning in general, extends DACS II test port provisioning. In the DACS II, additional parameters in provisioning commands applying to an already grown NPC further grow the NPC as a test port group. In the DND, the TPG designation can apply in the DND only, in the DACS only, or in both databases.

DACS II releases prior to 6.0 allow four possible test port groups: 1, 2, 3, and 4, which do not have to be created in any order. Within each test group are 12 test ports, which must be created in ascending numerical order. For DACS II release 6.0, the test port group capability is increased to 8 and the test port capability to 96.



NOTE:

This Appendix provides information for the DND Forms Interface only.

Test Port

Table F-1 summarizes, by frame, the number of test port groups supported.

Table F-1. Test Port Groups Supported, By Frame

Frame Type	No. of TP Groups	No. of TPs
DACS II before Release 6.0	4	1-48
DACS II Release 6.0 and higher	8	1-96
DACS II ISX Release 1.0 and higher	8	1-96

One test port consists of two channels, designated in the DACS manuals as channel A, or the lower- or odd-numbered channel, and channel B, or the higher- or even-numbered channel. Thus, if a hypothetical NAS NPC, JJ36N24, is designated as a test port digroup through test port provisioning, it makes available 24 test channels configured as 12 test ports: channel 1 is port 1, channel A; channel 2 is port 1, channel B; etc. The uses of these channels are explained in Appendix N, "Test Access."

Constraints on the use of test ports are: test port provisioning is not available to the DACScan™-2000 Controller C-Module.

TEST PORT PROVISIONING Form

To obtain the TEST PORT PROVISIONING form, select TEST PORT from the PROVISIONING menu. The TEST PORT PROVISIONING form is displayed, as shown in Figure F-1.

The screenshot shows a terminal-style window titled "TEST PORT PROVISIONING". At the top, it displays the date and time "12:04 10 Apr 1998" and version information "DND R1.0.1 / DND Forms R5.0.2". Below this are labels for "Status:" and "Alarms:". The main area contains a form with the following fields: "Site Name:DACS00", "Action:", "Test Port Group:", "Test Port No.:", "NPC Number (Hier):", "TC:", "IW:", "(Ext):", and "NPC ID:". At the bottom of the form area, there is a prompt: "Enter the site name (at least 5 characters)". Below the form area is a row of buttons: "HELP", "CHOICES", an empty button, "QUIT", "RECNCILE", "TOP MENU", "PRINT", and "EXECUTE".

Figure F-1. TEST PORT PROVISIONING Form

Field Descriptions


NOTE:

Initially, only **Site Name** and **Action** appear on the screen. The remaining fields that appear depend on the **Action**.

The field values for the TEST PORT PROVISIONING form are described in Table F-2.

Table F-2. TEST PORT PROVISIONING Field Descriptions

Site Name	Mandatory. 1 through 24 characters from the set 0-9, A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name. The name of the DACS where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the DACS names. These names were established during frame administration, described in Appendix D "System Administration."																
Action	Mandatory. The provisioning actions are: CREATE TP DIGROUP (CREATETPG) designates a previously provisioned NPC as a test-port digroup. DELETE TP DIGROUP (DELETETPG) removes the designation (and all associated test ports). CREATE TEST PORT (CREATETP) designates a channel pair as a test port within a test port digroup. DELETE TEST PORT (DELETETP) removes the designation.																
Test Port Group	This field appears only for Actions of CREATETPG and DELETETPG. With DACS II releases prior to 6.0, the possible values are 1-4. With DACS II Release 6.0, the possible values are 1 through 8. Clear DS1/E1 NPCs are excluded.																
Test Port No.	This field appears only for Actions of CREATETP and DELETETP. The number of the test port within the NPC. The test port groups contain the following test ports. <table><tr><td>TPG1</td><td>1-12</td><td>TPG3</td><td>25-36</td><td>TPG5</td><td>49-60</td><td>TPG7</td><td>73-84</td></tr><tr><td>TPG2</td><td>13-24</td><td>TPG4</td><td>37-48</td><td>TPG6</td><td>61-72</td><td>TPG8</td><td>85-96</td></tr></table>	TPG1	1-12	TPG3	25-36	TPG5	49-60	TPG7	73-84	TPG2	13-24	TPG4	37-48	TPG6	61-72	TPG8	85-96
TPG1	1-12	TPG3	25-36	TPG5	49-60	TPG7	73-84										
TPG2	13-24	TPG4	37-48	TPG6	61-72	TPG8	85-96										

Table F-2. TEST PORT PROVISIONING Field Descriptions (Contd)

TC	This field is shown only for an Action of CREATETP. The test port trunk conditioning. The values are: <i>value</i> This value is described in Appendix G, "Circuit Provisioning," under the section "Field Descriptions." If entered, it applies to all channels put under test on this test port; for example, the TP conditioning is static. <i>none</i> The conditioning changes to match the circuit under test; for example, the TP conditioning is dynamic.
IW	This field appears for an Action of CREATETP. The value of IW depends on the value of TC. You can not enter an IW when you have not entered a TC. In that case, the IW is dynamic. If you have entered a TC, whether you enter a value for IW or not, the IW is static. For DACS II, the static/dynamic designation has meaning only for access to unmapped terminations. For access to a mapped circuit, trunk conditioning is always adopted from the circuit under test.
NPC Number (Hier)	This field appears only for an Action of CREATETPG. The NPC number in hierarchical format of the NPC to be designated as a test port group. It must already have been equipped, but it does not have to be in service. Alternatively, you can enter the number in extended format, or the NPC ID. Not every type of NPC can be grown as a TP Digroup. Specifically not supported are Types MJ and SR, subrate, MB, multipoint, and DE/TE, clear DS1/E1.
(Ext)	The NPC number in extended format.
NPC ID	The NPC ID of the NPC to be designated as a test port group.

Procedure: Creating a Test-Port Group

The procedure below shows how to designate an NPC as a NAS test port group. This procedure for a CEPT test port group is the same, except for the values of certain fields, noted at the appropriate places. The NPC is NPC 120 and the type is DE110.

The example first provisions the NPC and, in this instance, places it in service. Provisioning and placing in service are discussed in the NPC PROVISIONING section. When the NPC is in service, it is then designated as a test port group.

The CREATE **Action** will fail if

- A mandatory field is missing.
- The TP group already exists.
- The **Test Port No.** is inappropriate to the DACS.
- The NPC is already a test port group.

To create a Test-Port group, follow these steps:

1. Enter the following data on the NPC PROVISIONING form:

- **Site Name:** DACS00
- **Action:** CREATE
- **NPC ID:** 999120
- **Type:** DE110

A CEPT NPC would require a CEPT **Type**.

- **Number (Hier):** 01340

For this example, we assume that neither NPC Number 120 or an NPC whose ID is 999120 have been created. In that case, the DND assumes a new NPC (no existing data).

2. Press **EXECUTE**, select IMMEDIATE and observe the:

- **Service State** field of OOS.
- **Alarm State** of NONE.
- DND command completion message.

3. Enter an **Action** of RESTORE.

4. Press **EXECUTE**, select IMMEDIATE and observe the

- **Service State** field of IS.
- **Alarm State** of NONE.
- DND command completion message.

5. Press the **QUIT** function key to return to the PROVISIONING menu.

Procedure: Creating a Test-Port Group (Continued)

6. Select TEST PORT and enter the following data on the TEST PORT PROVISIONING form:

- **Site Name:** DACS00
- **Action:** CREATETPG

7. Additional fields appear on the screen. Enter:

- **Test Port Group:** 1
- **(Ext):** 0120

The remaining fields are filled in.

8. Press **EXECUTE** and confirm. The command completion message is displayed.

**NOTE:**

The NPC need not be in service (RESTORED) to be designated as a test port group, but it must have been equipped.

Now that test port group 1 exists, test ports 1 through 12 can be created. Within a test port group, test ports must be created in order and deleted in reverse order.

Procedure: Creating a Test Port

This procedure designates a channel pair of a test port group as a test port. A trunk conditioning (TC) code is specified, so the test port will have static trunk conditioning.

You can create up to 12 test ports for the group; however, test port 2 cannot be created until test port 1 exists; test port 3 cannot be created until test ports 1 and 2 exist. In addition, a lower-numbered port cannot be deleted when a higher-numbered port exists in that test port group.

To create a Test Port, follow these steps:

1. Enter the following data: **Action:** CREATETP
2. A third line appears on the screen. Enter:
 - **Test Port No:** 01
 - **TC:** 0011, 0011
 - For a CEPT test port, the value of **TC** is not the same. You might use X-AF.
 - **IW:** TRB
 - For a CEPT NPC, the value of **IW** is not the same. You might use AF.
3. Press **EXECUTE** and confirm. The DND command completion message is displayed.

Procedure: Deleting a Test Port

This procedure removes the designation of test port from a channel pair.

To delete a Test Port, follow these steps:

1. At the PROVISIONING menu, select TEST PORT and enter these data:
 - **Site Name:** DACS00
 - **Action:** DELETETP
2. A third line appears on the screen. Enter **Test Port No:** 01
3. Press **EXECUTE** and confirm. A DND command completion message is displayed.

Procedure: Deleting a Test-Port Group

This procedure removes the designation of test port group from an NPC (DELETETPG), takes the NPC out of service (REMOVE), and unprovisions it (DELETE).



NOTE:

If test ports are in use, DELETETPG first releases and de-grows the ports, then de-grows the test port group.

To delete a Test Port Group, follow these steps:

1. Proceed from the MAIN MENU to TEST PORT PROVISIONING and enter the following data to remove the designation of Test Port Group from the NPC:
 - **Site Name:** DACS00
 - **Action:** DELETETPG
2. A third line appears on the screen. Enter **Test Port Group: 1**
3. Press **EXECUTE** and confirm. Observe the DND command completion message.
4. Press **QUIT**.
5. To take the NPC out of service, navigate to NPC PROVISIONING.
6. To identify the NPC, enter:
 - **Site Name:** DACS00
 - **Action:** REMOVE
 - **NPC ID:** 999120

The NPC Number in hierarchical and extended format is displayed, as well as the **Type**.
7. Press **EXECUTE** and select IMMEDIATE. The result is that:
 - **Service State** field now says OOS.
 - **Alarm State** now says NONE.
 - Command completion message is displayed.
8. Enter the following field: **Action:** DELETE
9. Press **EXECUTE** and select IMMEDIATE.
 - **Service State** field changes to UEQD. In addition, a command completion message is displayed.

Circuit Provisioning - DND

Forms Interface



Contents

■ Introduction	G-1
■ CIRCUIT PROVISIONING Form	G-2
■ CIRCUIT PROVISIONING Form	G-3
■ Field Descriptions	G-4
Summary of Fields And Values	G-18
■ Circuit Provisioning Examples	G-20
Example: Circuit Provisioning, Full-duplex Circuit	G-20
Example: Circuit Provisioning, Clear DS1 Full-duplex Circuit	G-22
Example: Circuit Provisioning, Half-duplex Circuit	G-23
Example: Circuit Provisioning, Half-Duplex Loopback Circuit	G-24
Example: Circuit Provisioning, Full-Duplex Loopback Circuit	G-25
Example: Circuit Provisioning, Full-Duplex Random Loopback Circuit	G-26
Example: Circuit Provisioning, High-Rate Circuits From Multiple Circuits	G-27
Example: Circuit Provisioning, Virtual Multipoint Circuits	G-29

Example: Circuit Provisioning, DMB Multipoint Circuits	G-32
Procedure: Circuit Provisioning, Polling Data Circuit	G-35
Example: Adding a LEG to a Full-Duplex Contiguous 64 Kbps Circuit	G-37
Example: Adding a LEG to a Random Bandwidth 4 Circuit	G-39
Example: Adding a LEG to a Random Bandwidth 4 Circuit	G-40
Example: Adding a LEG to a Clear E1 Circuit	G-41
Example: Modifying a BKB From an Existing Circuit	G-43
■ Altrouting	G-45
Procedure: Specifying a "real" Altroute	G-45
Field Descriptions	G-48
Procedure: Completing a "real" Altroute	G-49
Procedure: Normalizing an Altrouted Circuit	G-50
Procedure: Normalizing an Out of Service NPC	G-50
■ Altrouting and Normalizing Examples	G-51
Single Channel Circuits	G-52
Example: Configuring a "Real" Altroute	G-53
Example: Normalizing a "real" Altroute	G-53
Example: Performing a Pseudo-Altroute	G-54
Example: Normalizing a Pseudo-Altroute	G-54
Example: Altrouting a Half-duplex Circuit to a Full-duplex Circuit	G-55
Example: Normalizing an ALTRROUTE of a Half-duplex Circuit to Part of a Full-duplex Circuit	G-55
Example: Altrouting a Half-duplex Circuit to an Unused Pre-empted Full-duplex Circuit	G-56
Example: Normalizing an ALTRROUTE of a Half-duplex Circuit to a Full-duplex Circuit	G-56
■ High-rate Circuits	G-57
Example: Altrouting a Real, High-rate Circuit	G-57
Example: Normalizing an Altroute of a Real, High-rate Circuit	G-58
Example: Altrouting a Single-channel Circuit to a Pre-empted High-rate Circuit	G-59

Example: Normalizing an ALTRROUTE of a Single-channel Circuit to a Preempted High-rate Circuit	G-60
■ Multipoint Circuits	G-61
Example: Altrouting a Leg in a Broadcast Circuit	G-61
■ NPC ROLL	G-62
NPC ROLL Form	G-63
Field Descriptions	G-64
Example: Rolling NPC Circuits	G-65
Example: Deleting a LEG from a BCON Circuit	G-66
Example: Changing the Return Path of a BCON Circuit	G-67
■ TS0 to Non-TS0 Circuits	G-68
Example: Provisioning TSO to Non-TSO Circuits	G-68
Procedure: Disabling Echoed Response Processing	G-69

Circuit Provisioning - DND Forms Interface

G

Introduction

This Appendix provides the procedures and examples to perform Circuit Provisioning and Altrouting for the DND Forms Interface. For additional information see Chapter 9, "Circuit Provisioning".

CIRCUIT PROVISIONING Form

Select CIRCUIT from the PROVISIONING menu. The CIRCUIT PROVISIONING form is displayed, as shown in Figure G-1.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CIRCUIT PROVISIONING

Site Name:		Ckt Status:
Action:		Ckt Class:BRD
Ckt ID:		Bandwidth Type:
BBL ID:		Ch Mode
Hier	Ext	NPC ID
FROM:		
TO:		
Bandwidth:		Options:
TC:	IW:	SC:
Loc A:	Loc Z:	Framing:
Customer Name:	Service Date:DD MMM YY	Ckt Priority:00
Rmks:		

Enter the site name

HELP CHOICES NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure G-1. CIRCUIT PROVISIONING Form



NOTE:

BBL ID appears only for **Ckt Class** BRD. **NEW ID** appears in place of **BBL ID** for **Action** MODIFY. **LEG ID** appears in place of **BBL ID** for **Action** ADDLEG, DEL-LEG, and CHGRPATH. **Mode** and **NTR** appear only for **Ckt Class** DMB. **TC**, **IW**, **SC**, **Bandwidth**, and **Bandwidth Type** disappear if you enter an NPC that is clear DS1/E1. If the **Bandwidth Type** is Random, the **Ch** column will be removed and rows for the FROM and TO random channels (**F_CH**) and **T_CH**) will appear. A row for BCON LEG channels (**L_CH**) will appear for Random BCON circuits.

CIRCUIT PROVISIONING Form

You can browse through the circuits stored in the DND database. In that case, you will use the CIRCUIT PROVISIONING SEARCH CRITERIA form, which is displayed after you enter an **Action** of BROWSE and press **EXECUTE**. The CIRCUIT PROVISIONING SEARCH CRITERIA form is displayed, as shown in Figure G-2.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CIRCUIT PROVISIONING SEARCH CRITERIA

Site Name:
Ckt ID:
Ckt Status: Ckt Class:

FROM/TO Connection:
Hier Ext NPC ID Ch Mode

Bandwidth: Bandwidth Type: Options: NTR:
TC: IW: SC: Framing:

Customer Name: Service Date:DD MMM YY Ckt Priority:
Loc A: Loc Z:
Rmks:

Enter the Circuit ID

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure G-2. CIRCUIT PROVISIONING SEARCH CRITERIA Form

Field Descriptions

Field descriptions for Circuit Provisioning are described in Table G-1.

Table G-1. CIRCUIT PROVISIONING Field Descriptions

Site Name	Mandatory. 1 through 24 characters from the set A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name. The name of the frame where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the frame names. These names were established during frame administration, described in Appendix D "System Administration."
Action	Mandatory. Enter the action to be performed with regard to the circuit. ACTIVATE Enters the circuit specified by Ckt ID in the DND database (if it does not yet exist) and cross-connects it in the frame, making it an existing, traffic-carrying circuit. ACTIVATE also changes the Ckt Status of already existing circuits from PENDING, PREEMPTED, or DEACTIVATED to ACTIVE and from ALTROUTED to ACTIVE in local only mode. ACTIVATE is the default Action. MODIFY Retrieves the specified circuit from the DND database for purposes of altering circuit attributes or Ckt ID. MODIFY does not change the Ckt Status. You can MODIFY any user-accessible field for circuits in the PENDING or DEACTIVATED Ckt Status. You can MODIFY the following fields for circuits in the ACTIVE or, PREEMPTED or ALTROUTED Ckt Status: Non-service affecting fields: Ckt ID, Customer Name, Service Date, Ckt Priority, Loc A, Loc Z, Rmks, Options: OOS, INC, DCC. Service affecting fields: TC, IW, SC, Framing, NTR, Options: NAM, AIS, RDLD.  CAUTION: <i>Changes to service affecting fields will interrupt traffic.</i>

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Action (Continued)	DELETE	Removes the specified circuit from the DND and DACS databases, returning the Ckt Status to NULL.
	 NOTE:	Deletion of an ACTIVE circuit results in deactivation of the circuit in the DACS before the record is deleted in the DND.
		Deletion of an ALTROUTED circuit results in normalization of the circuit in the DACS before the record is deleted in the DND.
		Deletion of a circuit that is listed in a Reconfiguration Plan is not allowed (except in local only mode). First delete it from the plan.
	PEND	Enters the specified circuit (including DEACTIVATED ones) in the DND database as PENDING, to indicate it may soon be made ACTIVE. Activation of PENDING circuits may be dependent on equipment installation or on other sections of the circuit being established.
	DEACTIVATE	Enters the specified circuit in the DND database as DEACTIVATED and disconnects it in the frame.
	ALTROUTE	Enters the specified circuit in the DND database as ALTROUTED. The DND may reroute the specified circuit over a path involving the preemption of other circuits. The operator will be informed of each preemption and will be required to confirm it. A circuit can be altrouted only once, and an ALTROUTED circuit cannot be preempted.
	NORMALIZE	Tries to place a real altrouted circuit in ACTIVE Ckt Status or a pseudo-altrouted circuit in DEACTIVATED Ckt Status. If the circuit returns to ACTIVE, it is cross-connected in the frame over its normal path. If the circuit returns to DEACTIVATED, it is not cross-connected in the frame. During the altrouting, one or more circuits may have been placed in the PREEMPTED Ckt Status. If the circuit now being normalized is the only circuit preempting a PREEMPTED circuit, NORMALIZE attempts to return the PREEMPTED circuit to ACTIVE. Otherwise, NORMALIZE does not make the attempt.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Action (Continued)	BROWSE	Gives you read-only access to the DND database for retrieving and scrolling circuit records. As soon as you press EXECUTE after entering an Action of BROWSE, the DND displays the CIRCUIT PROVISIONING SEARCH CRITERIA form. Its fields are taken from the CIRCUIT PROVISIONING form. Entering a value in any defined field restricts the search. To initiate the search, press EXECUTE. To return to CIRCUIT PROVISIONING without executing, press QUIT. The following rules apply: — You can search on Ckt ID, Ckt Status, Ckt Class, NPC ID, Mode, Bandwidth Type, Options, NTR, TC, IW, SC, Framing, Customer Name, Ckt Priority, Loc A, Loc Z, Rmks. — The default for all fields is all values of the fields. — The wildcard character, *, replaces zero or more characters. The ? replaces any single character. Wildcards are allowed in all alphanumeric fields except Options. — The character, <, followed by a value, in numeric fields: Hier, Ext, Ch, Bandwidth, Service Date, obtains records for values less than the entered value; the character, >, greater.
	COMBINE	Combines multiple circuits that exist over either an alternate or a contiguous range of channels into a single, new high-rate circuit in the DND database. The source circuits must be ACTIVE and the combined circuit is made ACTIVE. Remember, high-rate circuits are implemented in the frame as single-channel circuits; thus, they are already in the frame. After the source circuits have been deleted in the DND database, the combined circuit is created there. At no time during the process is a command sent to the frame. The Circuit Classes of the source circuits must be all HDX or all FDX only. Use of channel 0 and of test circuits is prohibited.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Action (Continued)	Specify the combined circuit characteristics on a single CIRCUIT PROVISIONING form. The channel numbers in the combined circuit are the same as the source circuits'; however, the Bandwidth of the combined circuit must be made equal to the sum of the Bandwidths of the source circuits. Therefore, the source circuits' channels must run contiguously or alternately upward from the combined circuit's starting channel, and the combined Bandwidth Type must be correct for the channels The following fields of the source circuits must have the same values: TC, IW, SC, Circuit Class. Options settings of RDLD and no NAM must be the same throughout. The Ckt ID of the combined circuit can be unique, or it can be one of the source circuits' Ckt IDs. You can reuse the Ckt ID of a DEACTIVATED or PENDING circuit, provided all the channels of that circuit are also in use by the ACTIVE source circuits. No other cases are allowed. ADDLEG Adds a LEG to an existing BKB circuit. This action can also convert an existing FDX circuit to a BKB and add the first LEG Ckt ID (automatically populated and displayed) when this action is completed successfully. DELLEG Deletes a LEG from an existing BKB circuit. If it is the last LEG in the remaining backbone (BKB) circuit, it will be automatically converted to a FDX circuit. CHGRPATH Changes the return path for a BCON circuit to the specified LEG. It has the effect of swapping the BKB and LEG circuit.
Ckt Status	A display only mode indicating the status of the circuit. NULL The circuit has not been defined and, therefore, is not in the frame or DND databases. To define the circuit, use the ACTIVATE Action. PENDING The circuit is in the DND database, but is not cross-connected in the frame. The circuit has been noted as PENDING with the PEND Action. It is ready to be made ACTIVE on user request. To cross-connect the circuit, use the ACTIVATE Action. DEACTIVATED The circuit is in the DND database but is not cross-connected in the frame. The DND record is marked DEACTIVATED. To cross-connect the circuit, use the ACTIVATE Action.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Ckt Status (Continued)	ALTROUTED	The circuit is present in the frame and DND data-bases, is cross-connected in the frame, and is carrying transmission. However, it was temporarily rerouted over an alternate path with an ALTROUTE Action . If any part of the alternate path was in use by another circuit, that circuit was placed in PREEMPTED Ckt Status . A NORMALIZE Action is required to return the ALTROUTED circuit to its original path.
	PREEMPTED	The circuit was ACTIVE in the frame but has been temporarily disconnected so that one or more of its channels can be used by one or more ALTROUTED circuits. The circuit is in the DND database only and is not carrying transmission. The NORMALIZE commands that return the ALTROUTED circuits to normal also return the PREEMPTED circuits to normal.
	ACTIVE	The circuit is present in the frame and DND data-bases, is cross-connected in the frame, and is carrying transmission. A circuit can be defined in the DND database, but if it is not ACTIVE, it is not defined in the frame database. A circuit that exists in the frame is in both the frame and DND databases (unless there is a discrepancy).
	P_ACTIVE	The P_ACTIVE status will be applied to partially connected n x 64 Kbps circuits through the echoed response process (ERP). P_ACTIVE status marks the n x 64 Kbps circuit when there is at least one disconnected cross-connect in the LEG circuit from ERP.
	DEROUTED	The bandwidth in a P_ACTIVE LEG circuit is the number of ACTIVE (connected) cross-connects in that circuit. The circuit was in ALTROUTED Ckt Status but was placed in DEROUTED Ckt Status at the beginning of an NPC ROLL, and the system failed during the roll. You can DELETE, DEACTIVATE, or NORMALIZE a DEROUTED circuit. If the roll completes successfully, you will never observe the circuit in DEROUTED Ckt Status .
Ckt ID	Mandatory. must be unique. One through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored. Associates the name entered in this field with the circuit described by this form.	

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

BBL ID	Appears when the Ckt Class is BRD. Mandatory, when activating a new BRD circuit. One through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored.	
LEG Ckt ID	Appears when the action is ADDLEG, DELLEG, or CHGRPATH. When the Action is ADDLEG, this is a display-only field that is automatically filled in after the action is executed. One through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored.	
Ckt Class	FDX	Full-duplex. Applies to single-channel or high-rate DS0 cross-connections between NAS or CEPT NPCs, and to gateway circuits. Specifies a two-way, two-point circuit. FDX can be abbreviated to F.
	HDX	Half-duplex. Applies to single-channel or high-rate DS0 cross-connections between NAS or CEPT NPCs, and to gateway circuits. Specifies a one-way, two-point circuit. HDX can be abbreviated to H.
	BBL	Backbone leg. Applies to single-channel or high-rate, DS0, virtual multipoint circuits between NAS or CEPT NPCs, and to gateway circuits. These circuits are complex; which are composed of multiple cross-connections requiring multiple CIRCUIT PROVISIONING forms. A Ckt Class of BBL identifies this unit as a one-way backbone leg broadcast circuit. Abbreviation not allowed (not unique).
	BRD	Broadcast, or branch, leg. Applies to single-channel or high-rate, DS0, virtual multipoint circuits between NAS or CEPT NPCs, and to Gateway circuits. Specifies a one-way branch leg broadcast circuit. Abbreviation not allowed (not unique). In virtual multipoint operations, enter the BBL first. With existing circuits, Ckt Class is known and protected, and the field cannot be changed. In Site and local mode, you can not enter the FROM side NPC of any BRD, such as the virtual node. It is selected by the system. Up to 20 BRDs can be entered for one BBL.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Ckt Class (Continued)	DMB Digital multipoint bridge. Applies to single-channel, two-way, multipoint circuits. These circuits are complex; for example, are composed of multiple cross-connections requiring multiple CIRCUIT PROVISIONING forms. A Ckt Class of DMB identifies this cross-connection as a unit in a DMB circuit. The two types of DMB multipoint circuits are the symmetric voice circuit and the polling data circuit. Provision the backbone first and the branches subsequently. Use a Mode of LEG to identify an EFT, but a Mode of BBL or BRD on the opposite side of each leg to identify its use as a backbone or branch. Be sure to read the operating examples for DMB. The examples also cover cascading, the building of still more complex circuits using DMB circuits as units. Backbone leg ID, which is the BBL circuit ID. 1-41 characters. Appears only for a Ckt Class of BRD. BKB A circuit is classified as a BKB class if it is being used as the backbone circuit in BCON provisioning. LEG A circuit is classified as a LEG class if it is being used as the tributary circuit in BCON provisioning. LEG circuits have the same parameters as the BKB circuit that it belongs to except for the following: - Circuit ID - Circuit status - Circuit class - Service date If a LEG circuit is classified as P_ACTIVE, its bandwidth will be smaller than the bandwidth of its BKB circuit.
Dir	Optional. This field appears only when the action is ADDLEG or when browsing a BCON BKB. This field defines which side of the backbone is the source broadcast side, FROM or TO. Mandatory. This field is mandatory when the first leg is added to a FDX circuit which will become the BKB.
NEW ID	New circuit ID. 1-41 characters. Appears only when the Action is MODIFY. One through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Bandwidth Type	Mandatory. Indicates how bandwidth is allocated in an NPC; valid entries are: C Contiguous A Alternating R Random Alternating bandwidth is allocated on alternate channels. A maximum of 12 channels are available for NAS; 16 for CEPT. Contiguous bandwidth is allocated on consecutive channels. For example, starting with Channel 5, a Bandwidth of 3 allocates 5, 6, and 7 for contiguous; 5, 7, and 9 for alternating. Random permits allocation of channels between two NPCs in a random fashion; for example, channel 1 to channel 10, 2 to 5, 3 to 7, etc. The default is A. The value is set to the default for a Ckt Class of DMB. You can scroll through the FROM and TO fields for information on the channel series by pressing [NEXT]. If you do this and find the Bandwidth of the circuit is greater than 1, then the circuit is a high-rate circuit. For example, if the Bandwidth is 5, you can scroll from 1 through 5 and the channels for both the FROM and the TO fields scroll along in synchronization. This field disappears for clear DS1/E1 connections.
Hier	An NPC number in hierarchical format. (See Appendix E, "NPC PROVISIONING" for an explanation of hierarchical and extended formats.) As shown in the diagrams under Ckt Class above, an NPC identifier for the NPC of the FROM channel and another for the NPC of the TO channel are required for one-way and two-way, two-point circuits. For the ADDLEG action, there is an identifier for the NPC of the leg channel. The identifier can be a number in hierarchical format, a number in extended format, or the NPC ID. The NPC must have been provisioned.
Ext	The FROM or TO NPC number in extended format. For the ADDLEG action, there is an identifier for the NPC of the leg channel. Automatically provided if Hier or NPC ID was entered.
NPC ID	The FROM or TO NPC ID. With the entry of a value in Hier, Ext, or NPC ID, the DND automatically performs a database query and displays the corresponding FROM or TO information in each field. For the ADDLEG action, there is an identifier for the NPC of the leg channel.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Ch	The FROM or TO channel number, 0 - 31 for CEPT or 1 - 24 for NAS. This field is displayed for contiguous or alternating circuits. Virtual channel numbers can range from 1 to 500; however, one is automatically selected by the system during provisioning of virtual multipoint circuits. For the ADDLEG action there is an identifier for the LEG channel. For DMB circuits, the DMB-side Ch contains the conference number. It can range from 1 through 85 for DACS II. If the NPC identifying information (Hier, Ext, NPC ID) indicates that this is a clear DS1/E1 or DS3 configured as clear DS1 Type of NPC (see Chapter 4), then the value, DS1/E1, appears in the FROM Ch field. The TC, IW, SC, Bandwidth, and Bandwidth Type fields disappear. If you attempt to enter a DS0 TO Ch; for example, to cross-connect clear DS1 to DS0, the previously mentioned fields reappear and you get a warning message: WARNING: Non-clear DS1 can not connect to Clear DS1 NPC.
Mode	Appears only when the Ckt Class is DMB. Specifies the use of the preceding Ch in a DMB multipoint circuit. SYM The associated channel is to be used as the DMB side of a leg in a symmetric voice circuit. BRD The associated channel is to be used as the DMB side of a broadcast, or branch, leg of a polling data circuit. BBL The associated channel is to be used as the DMB side of the backbone leg of a polling data circuit. LEG The associated channel is to be used as an EFT in any leg of the circuit. A DMB channel must be in a DMB NPC.
Bandwidth	Mandatory. Two numeric characters. Indicates the number of 64 Kbps channels constituting a high-rate circuit. For example, a 128 Kbps data channel consists of two 64 Kbps channels. For NAS NPCs, the available bandwidth is 1 - 24 channels; for CEPT NPCs, the available bandwidth is 1 through 32 channels. If not specified, Bandwidth defaults to 1 channel. It is set to 1 for a Ckt Class of DMB. The bandwidth of a random circuit must be greater than 1. This field disappears for clear DS1/E1 connections.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Options	Optional. 0 through 7 characters. Names options for activating or deactivating the circuit. When you press CHOICES to see the menu of Options, SELECT and UNSELECT function keys appear. The CHOICES menu for this field is a multiselect menu and operates differently from any other DND menu. Pressing Enter does not select the item, as is the case with all other DND menus. Instead, pressing SELECT selects the item. Use SELECT to choose as many options as are appropriate. Press Enter to place them on the screen.  NOTE: Only RDLD, OOS, and INCL are available for clear DS1/E1 circuits. The choices are as follows. If you type into the field, use only the letter. A NAM. No a-to-mu law conversion is to be applied to the circuit if it is CEPT only; for example, if it is not a gateway. B AIS. Alarm indication signal (all 1s, including the framing bit) is to be asserted on the downstream NPC when it is detected on the upstream NPC or when the upstream NPC asserts a CGA. Applies to NAS, FDX, high-rate circuits of bandwidth 24 only. C RDLD. Red-lined. The circuit is to require specific authorization to disconnect; the INCL keyword must be set. For DMB circuits, if one leg of a conference is designated as RDLD, all legs must be. This condition applies only to DACS II. D OOS. Out of service. A disconnect is to be effected when the NPC at one or both ends of the circuit are OOS. E INCL. Included. Authorizes disconnects of RDLD circuits.  NOTE: This INCL keyword applies to a DACS II disconnect only. The INCL keyword (like the CUS keyword) from a DACS II connect is not supported. F DCC. Disconnect channel code. Causes the frame to assert the user-defined disconnect code (specified in the IW field) on disconnected channels. G TLA. Terminate and Leave Activated. If it is unselected, TLR, Terminate and Leave Released is to be in effect for this circuit.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Options (Continued)	⇒ NOTE: TLR is the normal state for traffic-carrying circuits. It means that the circuit is not terminated. (Terminate and Leave released. Refer to "Introduction" in this chapter and Appendix N "Test Access.") TLA is a state generally used only for initial testing from end to end. If you make a circuit ACTIVE (or ALTROUTED) on the frame in the TLA state, the DND system automatically reverses this state to TLR in the DND database once the command has been sent. To change the termination state of the circuit on the frame back to TLR, send the command again. You would have to reset this field manually to TLA to override this automatic reversal. ⇒ NOTE: The unassigned IW, specified under NPC PROVISIONING for the NPC, is transmitted in the terminated direction(s).
NTR	No transmit. Appears only when Ckt Class is DMB. Specifies whether the leg is one-way or two-way. The NTR capability applies only to DACS II. F Transmission is shut off toward the FROM direction. T Transmission is shut off toward the TO direction. blanks Transmission is not shut off.
F_CH	Mandatory. These FROM channel fields appear when the bandwidth is Random (up to 32 fields each).
T_CH	Mandatory. These TO channel fields appear when the bandwidth is Random (up to 32 fields each).
L_CH	Mandatory. These LEG channel fields appear when a bandwidth is Random and the action is ADDLEG.
TC	Trunk conditioning specifies whether A/B-robbed-bit signaling is to be used to signal failure on the specified circuit. This information will only be used during failure of either an incoming signal or an NPC. When the NPC can no longer frame on the signal, it initiates trunk conditioning on all DS0 channels of the NPC. The signaling bits sent during failure are intended to disconnect active calls and hold the circuits busy (if appropriate) for the duration of the failure. DDC circuits require a TC of TRSP and an IW of MUX, which inserts MUX for the duration of the failure, and does not send the signaling bits. The value of TC also is set at TRSP for a Ckt Class of DMB. The TC field disappears for clear DS1/E1 connections; trunk conditioning is not supported for them.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

TC

(Continued)

The trunk-conditioning code is:

0011, 0011

Default. Indicates the circuit will use A/B signaling. The A/B bits sent upon detection of a failure condition are:

Duration of failure

FROM Facility

TO Facility

First 2.5 sec

00

00

Remainder

11

11

Logic 0 is an on-hook (idle). Logic 1 is an off-hook (busy).

Circuits that use A/B signaling must always have an **IW** specified.

⇒

NOTE:

The **TC**-value format shown is for FDX, full duplex. For HDX, replace the FROM side's number with hyphens. For an FDX version of X-05, X-63 the HDX result would be X- - -, X-63.

⇒

NOTE:

It is important to remember that with HDX, you must put hyphens on one side. Virtual multipoint circuits also are HDX.

0101, 0101

----, 0011

The previous value is used in connection with four-state signaling only.

TRSP

Transparent. Indicates the circuit will not use A/B signaling.

X-FF, X-FF

X-99, X-99

X- - -, X-FF

The previous two values are used in connection with 16-state signaling only.

11111111, 11111111

-----, 11111111

If your preferred code is not in the list shown in the **CHOICES** menu, you can type it on the **TC** line. However, the syntax must be correct or the frame will not accept it. The DND does not correct or complete it for you. If you specify it incorrectly, the MML command line appears toward the screen bottom with = = (equation marks) surrounding the offending string. See the DACS I/O manual for other valid TC codes and for more information about trunk conditioning.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

IW	Insertion Word. Specifies the 8-bit alternate code to be inserted into the DS0 outgoing time slots of mapped channels of an NPC during OOS conditions, including carrier failure and removal of an NPC. The DDC is still sent toward both DS1 lines on unmapped channels. A yellow alarm is sent toward the failed DS1. The selections are: TRB Insert the standard trouble code, Hex E4, or 11100100. You can also enter X-E4. MUX Insert the MUX out-of-sync code, Hex 1A, or 00011010. You can also enter 1A. When DS0 channels of DDS lines are cross-connected in the CCN, TRSP is used for TC and MUX for IW. The latter is inserted in the mapped DS0 channels of the outgoing DS1 line away from the failure. UMC is still inserted on unmapped channels. nn Insert an 8-bit pattern specified by Hex nn. Currently 7F, FF, and BF are selections.
SC	Optional. Signaling conversion is used in CEPT and GATEWAY cross-connections in conjunction with CAS signaling. If the SC field is not specified, all four signaling bits will be cross-connected unchanged. The SC field is defined as: xxxx,yyyy where the first four bits, xxxx, represent the FROM side and the last four bits, yyyy represent the TO side. The comma separator is mandatory. All eight bits can be controlled independently. The valid values for these bits are: P Pass unchanged. V Pass inverted. 0 Set output to 0. 1 Set output to 1. -No value, the circuit is one-way. All 8 bits are used only for FDX, full duplex. For HDX, replace the FROM side's number with hyphens. For example: 0011,0011 in FDX would become ----,0011 in HDX. If - is used, all four characters in the group must be -. If they are not, the frame may deny the command. This field disappears for clear DS1/E1 connections.

Table G-1. CIRCUIT PROVISIONING Field Descriptions (Contd)

Framing	The value of the framing bits in the FW in cases where a CEPT channel 0 (time slot 0) is being connected to some other CEPT channel (non-TS0). Refer to the Introduction to this chapter. abcdefg, hijklmn An arbitrary bit pattern of 0s and 1s, where abcdefg is the pseudo-FW in the TO-FROM direction and hijklmn is the pseudo-FW in the FROM-TO direction. Make sure that the pseudo-FW can in no case be the same as the FW or the NFW. NFW Use the NFW in channel 0 of all time frames.
Loc A	Optional. Up to 24 characters. The Station ID of the FROM side of the circuit being provisioned. This field is informational only.
Loc Z	Optional. Up to 24 characters. The Station ID of the TO side of the circuit being provisioned. This field is informational only.
Customer Name	Optional. Up to 12 characters. An informational field only. The name of the customer to be associated with the circuit of this screen. An automatically supplied value of C2000 identifies circuits created by the DACScan-2000 Controller C-Module. An automatically supplied value of ERP identifies circuits created by the ERP feature.
Service Date	Three fields. Enter the date the circuit is first placed into service. The format is: dd mmm yy dd 1 or 2 digits that represent the day. Days 1 through 9 do not have to be entered as 01 through 09. mmm The first three letters of the month, as in Jan, Feb, Mar, . . . Dec. Upper- or lower-case or any combination is acceptable. yy The last two digits of the year. Valid entries are 90 through 99. For example, 01 Dec 97 The default date is today's date.
Ckt Priority	Optional. Circuit priority. Informational only, one or two alphanumeric characters. Indicates to the user the relative importance of the circuit for restoral actions. Regardless of its use, a circuit can not be assigned more than one CP. The default is 00.
Rmks	Optional. 0-72 characters. A user-defined informational field. A DND operator can enter informational comments.

Summary of Fields And Values

Field values for CIRCUIT PROVISIONING are described in Table G-2.

Table G-2. Summary of CIRCUIT PROVISIONING Field Values

Name	Field Size	Values
Site Name*	24	Previously created under frame administration.
Action*	10	ACTIVATE, MODIFY, PEND, DELETE, DEACTIVATE, ALTRROUTE, NORMALIZE, BROWSE, COMBINE, ADDLEG, DELLEG, and CHGRPATH.
Ckt Status	11	NULL, PENDING, DEACTIVATED, ALTRROUTED, PRE-EMPTED, ACTIVE, DEROUTED, and P_ACTIVE.
Ckt ID*	41	All printable characters except *, ?, \, [,], ^, ", %, .
BBL ID	41	Previously activated.
NEW ID	41	All printable characters except *, ?, \, [,], ^, ", %, .
LEG Ckt ID	41	All printable characters except *, ?, \, [,], ^, ", %, .
Ckt Class †	3	FDX, HDX, BBL, BRD, DMB, BKB, and LEG.
Dir	1	F, T
Hier	5	xyzz, xx is 01-16, y is 1-8, zz is 01-40.
Ext	4	1-x, depending on the frame type and hardware configuration.
NPC ID*	41	All printable characters except *, ?, \, [,], ^, ", %, .
Ch†	3	00-24 NAS, 00-31 CEPT, 1-500 virtual, 1-85 DMB with DACS II.
Mode†	3	SYM, BRD, BBL, and LEG
Bandwidth†	2	1-24 NAS, 1-31 CEPT.
Bandwidth Type†	1	A, C, or R
Options**	7	A-G. (applies only to A-C).
NTR**	1	F, T
F_CH	3 (up to 32 fields)	000-031
T_CH	3 (up to 32 fields)	000-031

Table G-2. Summary of CIRCUIT PROVISIONING Field Values (Contd)

Name	Field Size	Values
L_CH	3 (up to 32 fields)	000-031
TC†	17	0011, 0011 0101, 0101 ----, 0011 TRSP X-FF, X-FF X-99, X-99 X---, X-FF 11111111, 11111111 -----, 11111111
IW**	3	TRB, MUX, 7F, FF, BF.
SC**	9	xxxx,yyyy where x, y = [P, V, 0, 1, -].
Framing	15	abcdefg,hijklmn where a letter is 0 or 1. Alternatively, NFW.
Loc A	24	All printable characters except *, ?, \, [,], ^, ", %, .
Loc Z	24	All printable characters except *, ?, \, [,], ^, ", %, .
Customer Name	12	All printable characters except *, ?, \, [,], ^, ", %, .
Service Date	7	dd mmm yy
Ckt Priority	2	a-z, A-Z, 0-9
Rmks	72	All printable characters except (pipe).

* Mandatory field

** Traffic-affecting field

† Both Mandatory and Traffic-affecting fields

Circuit Provisioning Examples

In DND you can provision various types of circuits, such as:

- Full duplex
- Clear DS1/E1
- Half duplex
- BCON circuits
- Loopback
- High rate from multiple circuits
- Virtual multipoint
- DMB multipoint
- Polling data

The examples that follow describe how to provision the various types of circuits available. Provisioning is achieved with the **ACTIVATE Action**. If it succeeds, the **Ckt Status** becomes **ACTIVE**. If it fails, or is denied:

- The **Ckt Status** becomes **NULL**. No entry for the circuit is made in any database.
- Messages relating to the conflict appear in a pop-up. You must press **Enter** to continue.



CAUTION:

*Entry of improper data through use of the **RECNCILE** key may result in contradictory data for one or more circuits between the DND and frame databases.*

Example: Circuit Provisioning, Full-duplex Circuit

One **CIRCUIT PROVISIONING** form is required to provision a two-way, two-point circuit of **Ckt Class FDX**. Figure G-3 shows a sample of a full duplex circuit.



NOTE:

Selection of the NPC determines whether the DS0 channels are provided by NAS DDCs, CEPT DPCs, or DS3 Cards (channelized configuration). The procedure is the same in each case.

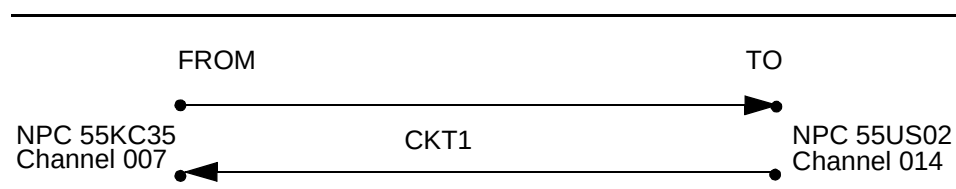


Figure G-3. Sample Full-duplex Circuit

Example: Circuit Provisioning, Full-duplex Circuit (Continued)

To provision a full duplex circuit, follow these steps:

1. Select PROVISIONING from the MAIN MENU and then select CIRCUIT from the PROVISIONING menu. The CIRCUIT PROVISIONING form may already have values in it; these are defaults. The **Ckt Status** field displays NULL.
2. Enter the following data, or use the displayed defaults:

— **Site Name:** DACS00

— **Action:** ACTIVATE

— **Ckt ID:** CKT1

If you are making a change to an existing circuit, the current values are filled into the fields on the screen.

— **Ckt Class:** FDX

You can fill in **Hier** or **Ext** instead of **NPC ID**, shown next. Whichever of the three fields you pick, the values of the other two are filled in automatically.

— **Bandwidth Type:** A

— **FROM NPC ID:** 55KC35

— **FROM Ch:** 007

— **TO NPC ID:** 55US02

— **TO Ch:** 014

— **Bandwidth:** 1

— **TC:** 0011,0011

— **IW:** TRB

3. Press **EXECUTE** and select IMMEDIATE, or use the **RECNCILE** key to select the database and then press **EXECUTE**.

If the command completes successfully: The **Ckt Status** field changes from NULL to ACTIVE. In addition, the command completed successfully message is displayed.

Example: Circuit Provisioning, Clear DS1 Full-duplex Circuit

One CIRCUIT PROVISIONING form is required to provision a two-way, two-point circuit of **Ckt Class** FDX, where the NPCs are clear DS1, as shown in Figure G-4.



NOTE:

A clear DS1/E1 NPC can only connect to another clear DS1/E1 NPC.

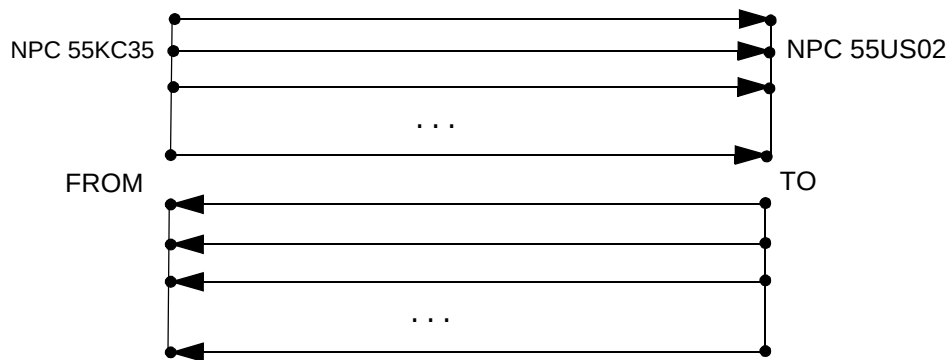


Figure G-4. Sample Clear DS1 Full-duplex Circuit

To provision a circuit with a clear DS1 full duplex circuit, follow these steps:

1. Select PROVISIONING from the MAIN MENU and then select CIRCUIT from the PROVISIONING menu.
2. Enter the following data, or use the displayed defaults:
 - **Site Name:** DACS00
 - **Action:** ACTIVATE
 - **Ckt ID:** CKT1
 - **Ckt Class:** FDX
 - **FROM NPC ID:** 55KC35
 - TC, IW, SC, Bandwidth, and Bandwidth Type** disappear from the form.
FROM Ch assumes a value of DS1.
 - **TO NPC ID:** 55US02
 - TO Ch** assumes a value of DS1.
3. Press **EXECUTE** and select IMMEDIATE, or use the **RECNCILE** key to select the database and then press **EXECUTE**. If the command completes successfully, the **Ckt Status** field changes from NULL to ACTIVE. In addition, the command completed successfully message is displayed.

Example: Circuit Provisioning, Half-duplex Circuit

One CIRCUIT PROVISIONING form is required to provision a one-way, two-point circuit of **Ckt Class HDX**. Figure G-5 shows trunk conditioning is specified and the circuit is TLR (not terminated); for example, it will carry normal traffic.

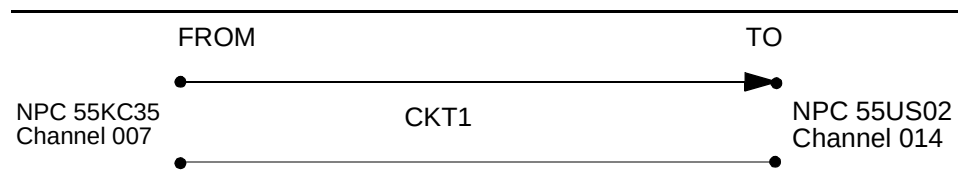


Figure G-5. Sample Half-duplex Circuit

To provision a circuit with a half-duplex circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** ACTIVATE
 - **Ckt ID:** CKT1
 - **Ckt Class:** HDX
 - **Bandwidth Type:** A
 - **FROM NPC ID:** 55KC35
 - **FROM Ch:** 007
 - **TO NPC ID:** 55US02
 - **TO Ch:** 014
 - **Bandwidth:** 1
 - **TC:** ----, 0011
 - **IW:** TRB
3. Press **EXECUTE** and select IMMEDIATE. The result is:
 - The **Ckt Status** field changes from NULL to ACTIVE.
 - The command completed successfully message is displayed.
 - Transmission is shut off toward the FROM direction.
 - Transmission is shut off toward the TO direction.

Example: Circuit Provisioning, Half-Duplex Loopback Circuit

One CIRCUIT PROVISIONING form is required to provision a half-duplex loopback circuit. The FROM and TO sides must be the same channel of the same NPC. The cross-connect must be HDX, freeing the return direction. The Tx then loops around to the Rx of the same channel, as shown in Figure G-6.



Figure G-6. Sample Half-Duplex Loopback Circuit

To provision a circuit with a loopback circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** ACTIVATE
 - **Ckt ID:** CKT1
 - **Ckt Class:** HDX
 - **Bandwidth Type:** A
 - **FROM NPC ID:** 55KC35
 - **FROM Ch:** 007
 - **TO NPC ID:** 55KC35
 - **TO Ch:** 007
 - **Bandwidth:** 1
 - **TC:** ----, 0011
 - **IW:** TRB
3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from NULL to ACTIVE. In addition, the command completed successfully message is displayed.

Example: Circuit Provisioning, Full-Duplex Loopback Circuit

One CIRCUIT PROVISIONING form is required to provision a full-duplex loopback circuit. The FROM and TO sides must be the same channel of the same NPC. The cross-connect must be HDX, freeing the return direction. The Tx then loops around to the Rx of the same channel, as shown previously in Figure G-6.

**NOTE:**

The full-duplex loopback circuit is *only* available when the environment variable FDX_LOOP_CKT is set to 1. For more information on environment variables, refer to Appendix C "Getting Started."

To provision a circuit with a loopback circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** ACTIVATE
 - **Ckt ID:** CKT1
 - **Ckt Class:** HDX
 - **Bandwidth Type:** A
 - **FROM NPC ID:** 55KC35
 - **FROM Ch:** 007
 - **TO NPC ID:** 55KC35
 - **TO Ch:** 007
 - **Bandwidth:** 1
 - **TC:** ----,0011
 - **IW:** TRB
3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from NULL to ACTIVE. In addition, the command completed successfully message is displayed.

Example: Circuit Provisioning, Full-Duplex Random Loopback Circuit

One CIRCUIT PROVISIONING form is required to provision a full-duplex loopback circuit. The FROM and TO sides must be the same channel of the same NPC. The cross-connect must be HDX/FDX. The Tx then loops around to the Rx of the same channel.

**NOTE:**

The full-duplex loopback circuit is *only* available when the environment variable FDX_LOOP_CKT is set to 1. For more information on environment variables, refer to Appendix C "Getting Started."

To provision a FDX circuit with a random loopback circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** ACTIVATE
 - **Ckt ID:** CKT1
 - **Ckt Class:** FDX
 - **Bandwidth Type:** R
 - **FROM NPC ID:** 55KC35
 - **TO NPC ID:** US02
 - **Bandwidth:** 4
 - **F_CH:** 10 11 13 25
 - **T_CH:** 10 11 13 25
 - **TC:** X-FF, X-FF
 - **IW:** FF
3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from NULL to ACTIVE. In addition, the command completed successfully message is displayed.

Example: Circuit Provisioning, High-Rate Circuits From Multiple Circuits

You may combine multiple circuits into one high-rate circuit on the same NPCs. The procedure given in this example can be used to recombine an original high-rate circuit of Bandwidth n that was restored in the DND as n single-channel circuits by an UPLOAD or CHANNEL SYNC **Action** under database synchronization. (See Appendix I, "Database Administration".)

The technical reason for this anomaly during synchronization is that the frame, when queried by the DND for its cross-connect map, cannot provide information that n DS0 cross-connects were actually nx DS) cross-connects of one high-rate circuit in the DND. Therefore, without this critical information, the DND during synchronization is required to generate separate circuit records for each cross-connect extracted from the frame.

You must perform this procedure prior to the DACScan-2000 Controller Circuit Module placing an existing wide-band circuit in Effect (IE-IE).

You can identify circuits resulting from a CHANNEL SYNC or from an UPLOAD, which utilizes a CHANNEL SYNC, by the format of their circuit IDs.

The format is:

```
SYN from_npc-from_ch to_npc-to_ch BW/01 FDX:000
```

where:

from_npc is the FROM NPC number in hierarchical or extended format, depending on how the frame was provisioned.

from_ch is the FROM channel number.

to_npc is the TO NPC number in hierarchical or extended format.

to_chan is the TO channel number.

You should verify that the source circuits conform to the requirements for a successful COMBINE. These requirements are started in the CIRCUIT PROVISIONING Field Descriptions. You can obtain the information by:

- Generating a CIRCUIT CONNECTIONS report through the CIRCUITS selection of the REPORT OPERATIONS menu using wild-cards in the SEARCH CRITERIA form to obtain only circuits of the given FROM NPC.

For circuits to be recombined after a CHANNEL SYNC, we recommend a circuit ID search string of:

```
SYN from_npc *
```

- Obtain a display, which you can print with the **PRINT** key, through the BROWSE **Action** of the CIRCUIT PROVISIONING form. Use the same search string in the **Ckt ID** field.

Example: Circuit Provisioning, High-Rate Circuits From Multiple Circuits (Continued)

To combine single-channel circuits, follow the example below. Source circuits can be high-rate. Here, we are going to recall the channel information of the first circuit to the screen, so that we can reuse it, however this step is not necessary. You could enter the information for the combined circuit independently.

1. Verify the range of the single-channel circuits.

In this example, the **Ckt ID** search string is SYN 000* which lists the following:

SYN 0001-001 ...BW/01 FDX:00

SYN 0001-002 ...BW/01 FDX:00

...

SYN 0001-024 ...BW/01 FDX:00

2. Select CIRCUIT from the PROVISIONING menu.
3. Recall the first circuit to the screen:
 - **Site Name:** DACS00
 - **Ckt ID:** SYN 0001-002 ... BW/01 FDX:000
4. Enter the following information, noting that we are reusing the previous **Ckt ID** and therefore do not have to change it:
 - **Action:** COMBINE
 - **Bandwidth:** 24
 - **Bandwidth Type:** C
5. Press **EXECUTE** and select Y or IMMEDIATE. The source circuits are deleted. In addition, the command completed successfully message is displayed, indicating that the combined circuit has been created successfully.

**NOTE:**

If a time-out message appears, the COMBINE may be in-progress. If full-Bandwidth COMBINES are issued simultaneously, on different terminals, all but one are placed on queue and timeout messages may appear while there are in the queue. They are then executed successively after completion of the first one. A full-Bandwidth COMBINE requires over a minute to complete. Lower-rate COMBINES require less time.

Example: Circuit Provisioning, Virtual Multipoint Circuits

To visualize the virtual multipoint, broadcast model, imagine a black box with one input and multiple outputs, as shown in Figure G-7.

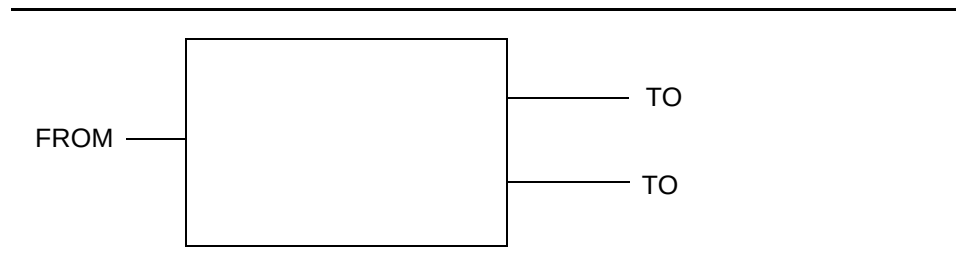


Figure G-7. Ideal Broadcast Circuit

What happens inside the box is a matter of design. The DND design is shown in the exhibit for the BBL and BRD values of **Ckt Class** under the preceding "CIRCUIT PROVISIONING Field Descriptions" table.

In the single-channel bandwidth case, the initial FROM side and the final TO sides are single directions of one channel each on an NPC. In the high-rate case, the FROM and the TO points must be represented by multichannel circuits.

Internally, within the black box, branching is accomplished by means of a virtual node. This node is a logical channel that is both the TO side of the input FROM side and the FROM side of the output TO sides. In effect, the DND sets up an input one-way, two-point circuit and one such output circuit for each broadcast point.

Ordinarily the channel for this virtual node is system-selected from the 1-500 range, but you can select one yourself, as is explained under **Ckt Class**. Such a procedure is unusual. The connection through the node is handled by the DND software once you enter a **Ckt Class** of BBL or BRD.

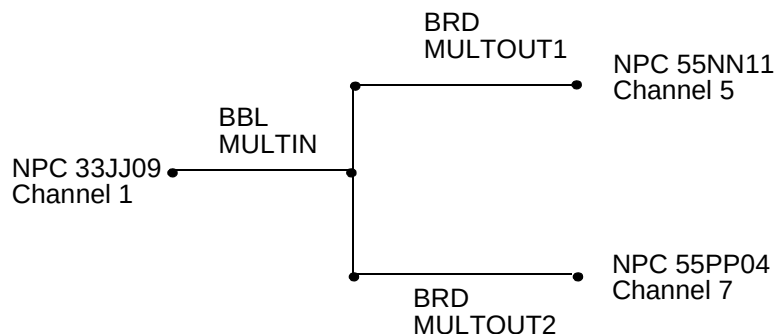
As many CIRCUIT PROVISIONING forms are required as there are legs.

Each form must have a different **Ckt ID**. High-rate circuits count as one leg and take one form to specify. In that case, channels are displayed on the real EFT line only.

There are a few caveats:

- All legs must have the same **Bandwidth**, and the **Bandwidth Type** must be C (contiguous).
- You must establish the backbone leg first. The broadcast legs cannot exist without it; if you try to create a BRD before a BBL, your attempt is denied.
- The NPCs must not be UEQD. If they are OOS, the DND accepts the form, but the frame does not accept the command. A successful circuit must contain NPCs that are all IS.

Figure G-9 shows an example of a broadcast circuit. Once you have provisioned the BRD Legs, if the cursor is positioned on the **FROM NPC ID**, you can scroll through the branch legs by pressing **[NEXT]**. The **TO NPC ID** and **TO Ch** change. To display CIRCUIT PROVISIONING data for a branch leg, press **[Enter]** at the appropriate **NPC ID**.

Example: Circuit Provisioning, Virtual Multipoint Circuits**Figure G-8. Sample Broadcast Circuit**

To provision a circuit with virtual multipoint circuits, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** ACTIVATE
 - **Ckt ID:** MULTIN
 - **Ckt Class:** BBL
 - **Bandwidth Type:** C
 - **FROM NPC ID:** 33JJ09
 - **FROM Ch:** 001

**NOTE:**

Note that you cannot access the **TO** fields.

- **Bandwidth:** 1
 - **TC:** TRSP
 - **IW:** FF
3. Enter or select values for any other relevant data fields for this circuit (the rest are primarily informational).
 4. Press **EXECUTE** and select IMMEDIATE, or use the **RECNCILE** key with **EXECUTE**. The **Ckt Status** field displays ACTIVE and the The virtual node appears in the TO fields. In addition, the command completed successfully message is displayed.
 5. Enter the following fields to provision one BRD:

Example: Circuit Provisioning, Virtual Multipoint Circuits

- **Ckt ID:** MULTOUT1
 - **Ckt Class:** BRD
 - **BBL ID:** MULTIN
 - The virtual node appears in the FROM fields.
 - **Bandwidth Type:** C
You must enter C.
 - **TO NPC ID:** 55NN11
 - **TO Ch:** 005
 - **Bandwidth:** 01
You must enter the same **Bandwidth** as the BBL.
 - **TC:** TRSP
 - **IW:** FF
6. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** changes to ACTIVE. In addition, the command completed successfully message is displayed.
7. Enter the following fields to provision the other BRD.
- **Ckt ID:** MULTOUT2
 - **Ckt Class:** BRD
 - **BBL ID:** MULTIN
 - **Bandwidth Type:** C
 - **TO NPC ID:** 55PP04
 - **Bandwidth:** 01
 - **TC:** TRSP
 - **IW:** FF
8. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** changes to ACTIVE. In addition, the command completed successfully message is displayed.

Example: Circuit Provisioning, DMB Multipoint Circuits

⇒ **NOTE:**
DMB multipoint is supported *only* for DACS II.

The model for a DMB multipoint circuit is similar to that of the virtual multipoint circuit, except that a DMB multipoint circuit is two-way, and, therefore, the concept of FROM and TO sides becomes arbitrary. Either direction of a circuit can be the FROM or the TO. Also, DMB multipoint circuits require the selection of a DMB NPC and channel as a branch point.

⇒ **NOTE:**
The DMB NPC number must be in the range supported by the DMB circuit pack. If it is not, the NPC is not a DMB NPC. If you do not know the ranges of each type of NPC, consult your system administrator.

Figure G-9 shows an example of a symmetric voice circuit.

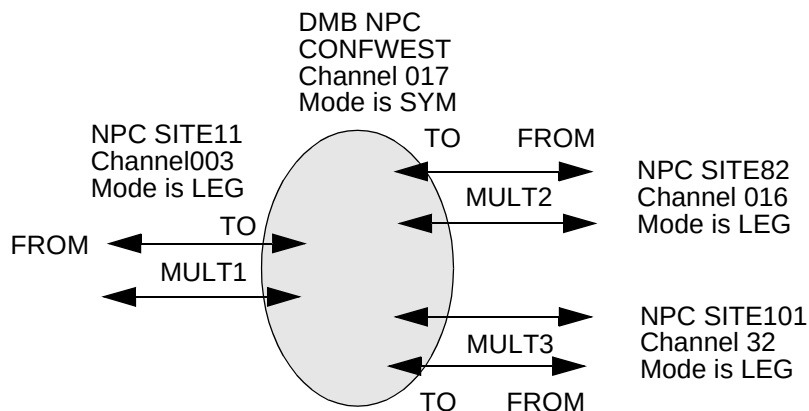


Figure G-9. Sample Symmetric Voice Circuit

In this example, three CIRCUIT PROVISIONING forms are required. Each form must have a different **Ckt ID**.

To provision a circuit with DMB multipoint circuits, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** ACTIVATE

Example: Circuit Provisioning, DMB Multipoint Circuits

- **Ckt ID:** MULT1
 - **Ckt Class:** DMB
 - **FROM NPC ID:** SITE11
This NPC contains EFTs.
 - **FROM Ch:** 003
 - **FROM Mode:** LEG
 - **TO NPC ID:** CONFWEST
This is the DMB NPC.
 - **TO Ch:** 017
 - **TO Mode:** SYM
3. Enter or select values for any other relevant data fields.
4. Press **EXECUTE** and confirm. The **Ckt Status** changes to ACTIVE. In addition, the command completed successfully message is displayed.
5. Enter the following information, understanding that the **Ckt Class** is still DMB:
- **Ckt ID:** MULT2
 - **FROM NPC ID:** SITE82
 - **FROM Ch:** 016
 - **FROM Mode:** LEG
 - **TO NPC ID:** CONFWEST
 - **TO Ch:** 017
 - **TO Mode:** SYM
6. Press **EXECUTE** and confirm. The **Ckt Status** displays ACTIVE. In addition, the command completed successfully message is displayed.
7. Enter the following information, understanding that the **Ckt Class** is still DMB:
- **Ckt ID:** MULT3
 - **FROM NPC ID:** SITE101
This NPC contains EFTs.
 - **FROM Ch:** 032
 - **FROM Mode:** LEG

**Example: Circuit Provisioning, DMB
Multipoint Circuits**

— **TO NPC ID:** CONFWEST

This is the DMB NPC.

— **TO Ch:** 017

— **TO Mode:** SYM

8. Press **EXECUTE** and confirm. The **Ckt Status** displays ACTIVE. In addition, the command completed successfully message is displayed.

Procedure: Circuit Provisioning, Polling Data Circuit

Figure G-10 shows an example of a polling data circuit. This figure is essentially the same as Figure G-9; however, it is strictly conventional. The Tx direction of the backbone does not really go through the DMB NPC.

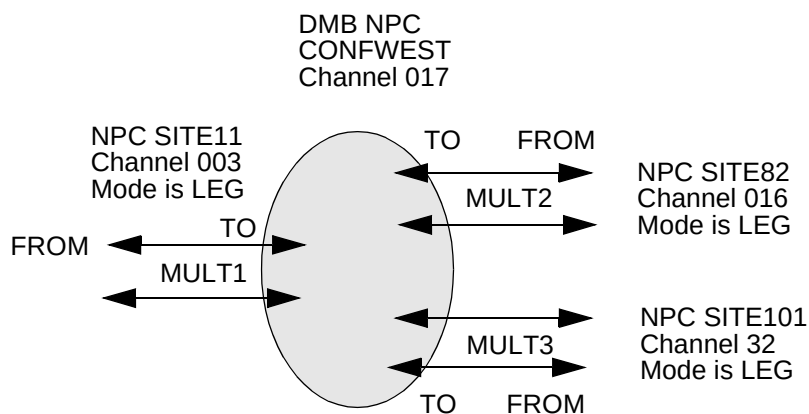


Figure G-10. Sample Polling Data Circuit

In this example, three CIRCUIT PROVISIONING forms are required. Each form must have a different **Ckt ID**.

To provision a circuit with a polling data circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** ACTIVATE
 - **Ckt ID:** MULT1
 - **Ckt Class:** DMB
 - **FROM NPC ID:** SITE11
This NPC contains EFTs.
 - **FROM Ch:** 003
 - **FROM Mode:** LEG
 - **TO NPC ID:** CONFWEST
This is the DMB NPC.
 - **TO Ch:** 017
 - **TO Mode:** BBL

3. Enter or select values for any other relevant data fields.

Procedure: Circuit Provisioning, Polling Data Circuit

4. Press **EXECUTE** and confirm. The **Ckt Status** displays ACTIVE. In addition, The command completed successfully message is displayed.
5. Enter the following information, understanding that the **Ckt Class** is still DMB:
 - **Ckt ID:** MULT2
 - **FROM NPC ID:** SITE82
 - **FROM Ch:** 016
 - **FROM Mode:** LEG
 - **TO NPC ID:** CONFWEST
 - **TO Ch:** 017
 - **TO Mode:** BRD
6. Press **EXECUTE** and confirm. The **Ckt Status** displays ACTIVE. In addition, the command completed successfully message is displayed.
7. Enter the following information, understanding that the **Ckt Class** is still DMB:
 - **Ckt ID:** MULT3
 - **FROM NPC ID:** SITE101
 - **FROM Ch:** 032
 - **FROM Mode:** LEG
 - **TO NPC ID:** CONFWEST
 - **TO Ch:** 017
 - **TO Mode:** BRD
8. Press **EXECUTE** and confirm. The **Ckt Status** displays ACTIVE. In addition, the COMMAND COMPLETED SUCCESSFULLY message is displayed.

Example: Adding a LEG to a Full-Duplex Contiguous 64 Kbps Circuit

To add a LEG to a contiguous 64 Kbps circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** ADDLEG
 - **BKB Ckt ID:** CKT2
 - **LEG NPC ID:** 55US02
 - **LEG Ch:** 002
 - **Dir:** F
3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from NULL to ACTIVE. In addition, the command completed successfully message is displayed. The **LEG Ckt ID** field will be filled in automatically after the form executes.

Figure G-11 shows an example of the CIRCUIT PROVISIONING form when the action selected is ADDLEG.

Example: Adding a LEG to a Full-Duplex Contiguous 64 Kbps Circuit (Continued)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CIRCUIT PROVISIONING

Site Name:DACS00
Action :ADDLEG
BKB Ckt ID:CKT2
LEG Ckt ID:
FROM: 01104 0004 55KC35
TO: 01105 0005 55US02
LEG : 01105 0005 55US02
Bandwidth:01
Options:

Ckt Status:
Ckt Class :
Bandwidth Type: C
Ch dir
001
001
002 FSIDE

Service Date: 01 Nov 97

Enter the service data as 'DD MMM YY'

HELP NEXT PAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure G-11. CIRCUIT PROVISIONING Form, Adding a LEG for Contiguous Circuits

The **Circuit Class** field is hidden when the action is ADDLEG.

Example: Adding a LEG to a Random Bandwidth 4 Circuit

To add a LEG to a random 64 Kbps circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** ADDLEG
 - **BKB Ckt ID:** CKT1
 - **LEG NPC ID:** 55US02
 - **Dir:** F
 - **L_CH:** 2 9 11 17
3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from blank to ACTIVE. In addition, the command completed successfully message is displayed. The **LEG Ckt ID** field will be filled in automatically after the form executes.

Figure G-12 shows an example of the CIRCUIT PROVISIONING form when the action selected is ADDLEG.



NOTE:

The **Circuit Class** field is hidden when the action is ADDLEG.

**Example: Adding a LEG to a Random
Bandwidth 4 Circuit**

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CIRCUIT PROVISIONING

Site Name:DACS00			Ckt Status:
Action :ADDLEG			Ckt Class :
BKB CKT ID:CKT1			Bandwidth Type: R
LEG Ckt ID:			dir
Hier	Ext	NPC ID	
FROM: 01104	0004	55KC35	
TO: 01105	0005	55US02	
LEG : 01105	0005	55US02	FSIDE
Bandwidth: 1		Options:	
F_CH:003 007 009 010			
T_CH:005 006 008 010			
L_CH: 002 009 011 017			
Service Date: 01 Nov 97			

Enter the first fifteen characters of the BCON backbone ID

HELP NEXT PAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

**Figure G-12. CIRCUIT PROVISIONING Form, Adding a LEG for
Random Circuits**

Example: Adding a LEG to a Clear E1 Circuit

To add a LEG to a clear E1 circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** ADDLEG
 - **BKB Ckt ID:** CKT3
 - **LEG NPC ID:** NPC3
 - **Dir:** T
3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from blank to ACTIVE. In addition, the command completed successfully message is displayed. The **LEG Ckt ID** field will be filled in automatically after the form executes.

Figure G-13 shows an example of the Circuit Provisioning Form when the action selected is ADDLEG.

**NOTE:**

The **Circuit Class** field is hidden when the action is ADDLEG.

Example: Adding a LEG to a Clear E1 Circuit

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CIRCUIT PROVISIONING

Site Name: DACS00
Action :ADDLEG
BKB Ckt ID: CKT3
LEG Ckt ID:

Ckt Status:
Ckt Class:

Hier	Ext	NPC ID	Ch dir
FROM: 01101	0001	NPC1	E1
TO: 01102	0002	NPC2	E1
LEG: 01103	0003	NPC3	E1 TSIDE

Options:

Service Date: 01 Nov 97

Enter the service data as 'DD MMM YY'

HELP NEXT PAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure G-13. CIRCUIT PROVISIONING Form, Adding a BKB for E1 Circuits

Example: Modifying a BKB From an Existing Circuit

To modify a BKB from an active circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** MODIFY
 - **BKB Ckt ID:** CKT3
 - **New ID:** NEWCKT3
3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from blank to ACTIVE. In addition, the command `completed successfully` message is displayed. When you change the **Ckt ID** field of a **BKB**, all **LEG Ckt IDs** will be updated automatically.

Figure G-14 shows an example of the CIRCUIT PROVISIONING form when the action selected is MODIFY.

**NOTE:**

The **Circuit Class** field is hidden when the action is ADDLEG.

**NOTE:**

The BKB Circuit ID can be modified. No other parameters can be changed. When a BKB Circuit ID is modified, the base name of all corresponding LEG circuits will also be modified.

Example: Modifying a BKB From an Existing Circuit

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CIRCUIT PROVISIONING

Site Name: DACS00			Ckt Status: ACTIVE
Action: MODIFY			Ckt Class: BKB
Ckt ID: CKT3			
New ID: NEWCKT3			
Hier	Ext	NPC ID	Ch
FROM: 01101	0001	NPC1	E1
TO: 01102	0002	NPC2	E1

Options:

Loc A:	Loc Z:
Customer Name:	Service Date: 01 Nov 97 Ckt Priority: 00
Rmks:	

Enter the next fifteen characters of New Circuit

HELP NEXT PAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure G-14. CIRCUIT PROVISIONING Form, Modifying a BKB E1 Circuits

Altrouting

Procedure: Specifying a “real” Altroute

To specify a **real** altroute using the ALTRROUTE screen, follow these steps:

1. Obtain the CIRCUIT PROVISIONING form, as shown in Figure G-15.

```

12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:
_____ CIRCUIT PROVISIONING _____
Site Name:DACS00                      Ckt Status:ACTIVE
Action:ALTRROUTE                     Ckt Class:FDX
Ckt ID:circ1                          Bandwidth Type:A

      Hier      Ext      NPC ID      Ch
FROM: 01101    0001    firstnpc    001
TO:   01102    0002    secondnpc   001

Bandwidth:1      Options:

TC:0011,0011      IW:TRB    SC:      Framing:
Loc A:            Loc Z:
Customer Name:    Service Date:DD MMM YY  Ckt Priority:00
Rmks:

Enter the site name._____

[HELP] [ ] [NEXTPAGE] [QUIT] [RECNCILE] [TOP MENU] [PRINT] [EXECUTE]

```

Figure G-15. CIRCUIT PROVISIONING Form

2. Enter the **Site Name**, an **Action** of ALTRROUTE and the **Ckt ID**.

You must press **Enter** after entering the Ckt ID.

3. Press **NEXTPAGE**.

The ALTRROUTE screen is available only in this way. It enables you to perform alternate channel connections and informs you what the PREEMPTED circuit(s) will be.



NOTE:

A pseudo-ALTRROUTE is entered on the CIRCUIT PROVISIONING form only.

Procedure: Specifying a “real” Altroute

The ALTRROUTE screen is displayed, as shown in FigureG-16.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
 Status:
 Alarms:

CIRCUIT PROVISIONING

Site Name:DACS00 Altroute Date & Time:
 Ckt ID:circ1 Ckt Status:ACTIVE
 Ckt Priority:00 Bandwidth:1 Bandwidth Type:A Ckt Class:FDX
 Rmks:

NORMAL	Hier	Ext	NPC ID	Ch
FROM:	01101	0001	firstnpc	007
TO:	01101	0001	firstnpc	008

ALTRROUTE
 FROM:
 TO:

Preempted
 Ckt ID: Status: CP:

Enter the FROM Side NPC Number (Hierarchical format)

HELP [] NEXTPAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure G-16. ALTRROUTE Screen

The ALTRROUTE screen contains the following sections of information:

- **CIRCUIT PROVISIONING**—The fields on the top half of the screen are the essential fields from the first page of the CIRCUIT PROVISIONING form, which concern the circuit being altrouted. When the altrouting operation is complete, the **Ckt Status** field is ALTROUTED and the **Altroute Date & Time** field indicates the date and time the ALTRROUTE took effect.
- **NORMAL**—The fields under **NORMAL** display the primary channel assignment of the ALTROUTED circuit, carried over from the first page.
- **ALTRROUTE**—The fields under **ALTRROUTE** specify the channel assignment to which you are going to ALTRROUTE the circuit.
- **Preempted**—The fields under **Preempted** identify information concerning circuits that are being preempted by this ALTRROUTE.

The following constraints apply to the use of the ALTRROUTE screen:

- If you enter an altrouted channel connection and press **EXECUTE**, the DND verifies whether the channel you picked is spare.
- If you enter a **NPC ID** without a channel number, the DND picks a spare channel from that NPC, if one is available. If one is not available, you must enter a channel.

Procedure: Specifying a “real” Altroute

- If the channel entered in any case is not spare, the DND prompts you for preemption confirmation. Note that if you do not answer YES to all confirmation prompts, the entire altroute is terminated and you must start again from the beginning.
- If the ALTRROUTE is successful, the **Altroute Date & Time** indicates when these circuits were altrouted.
- When any circuit is in the ALTROUTED **Ckt Status**, you can call up the DND database record for the circuit via the CIRCUIT PROVISIONING screen and observe the ALTRROUTE screen to see the routing destination, the time of altrouting and the circuit(s) preempted by the altrouting.
- The Preempted fields indicate the **Ckt ID**, **Ckt Status**, and **CP** fields of the PREEMPTED circuit. Use **NEXT** to scroll through the PREEMPTED circuits (if there are more than one).

The following table summarizes the fields of the ALTRROUTE screen and their values. For full descriptions, refer to Appendix G “Circuit Provisioning.”

Field Descriptions

Field descriptions for the ALTROUTE screen are described in Table G-3.

Table G-3. ALTROUTE Field Descriptions

Name	Field Size	Values
Site Name	24	Established on the FRAME ADMINISTRATION form
Altroute Date & Time	19	DD MMM YY HH:MM:SS
Ckt ID	41	All printable characters except *, ?, \, [,], ^, ", %,
Ckt Status	11	ACTIVE, DEACTIVATED, ALTROUTED, PREEMPTED, PENDING, NULL
Ckt Priority	2	a-z, A-Z, 0-9
Bandwidth	2	1-24 NAS, 1-31 CEPT
Bandwidth Type	1	A or C
Ckt Class	3	FDX, HDX, BBL, BRD, DMB
Rmks	77	All printable characters except *, ?, \, [,], ^, ", %,
Hier	5	xyzz, xx is 01-16, y is 1-8, zz is 01-40
Ext	4	0001-256H
NPC ID	41	All printable characters except *, ?, \, [,], ^, ", %,
Ch	3	0-31 CEPT or 0-24 NAS
Preempted Ckt ID	41	All printable characters except *, ?, \, [,], ^, ", %,
Ckt Status	11	ACTIVE, PREEMPTED
CP	2	a-z, A-Z, 0-9

Procedure: Completing a “real” Altroute

To complete a real Altroute, follow these steps:

1. Fill in the **FROM** line under ALTRROUTE:
 - **NPC ID:** facility01
 - **Ch:** 001
2. Fill in the **TO** line:
 - **NPC ID:** facility01
 - **Ch:** 002
3. Press EXECUTE and select IMMEDIATE. The **Ckt Status** changes according to your circuit setup; and an ALTROUTED is displayed.

In addition, a completion message is displayed.

Procedure: Normalizing an Altrouted Circuit

To normalize an Altrouted circuit, follow these steps:

1. From the CIRCUIT PROVISIONING form, call up the record for the ALTROUTED circuit you want to normalize. You can do this by entering the **Site Name** and **Ckt ID**.
2. Enter an **Action** of NORMALIZE.
3. Press **EXECUTE** and select IMMEDIATE. The ALTROUTED circuit is disconnected and reactivated on its primary channel assignments.

The screen is updated to reflect the new **Ckt Status** of the circuit.

Procedure: Normalizing an Out of Service NPC

To normalize an NPC that was out of service, follow these steps:

1. Obtain the CIRCUIT PROVISIONING form.
2. Enter or select:
 - **Action:** MODIFY
 - **Options:** D

This option selects OOS.

**NOTE:**

You must also select the options previously in effect.

3. Press **EXECUTE** and confirm.
4. NORMALIZE as described in the previous procedure.

Altrouting and Normalizing Examples

This section contains integrated examples of altrouting and normalizing. The model underlying these examples is described in Table G-4.

The following NPCs have been provisioned, as shown in Table G-5:

Table G-4. Sample Provisioned NPCs

NPC NO.	NPC ID	NPC TYPE	NPC NO.	NPC ID	NPC TYPE
001	dgrpA	DE210	004	dgrpF	DE210
002	dgrpD	DE210	121	dgrpB	PB144
003	dgrpG	DE210	122	dgrpC	PB144

Table I-3 shows the circuits that have been provisioned:

Table G-5. Sample Provisioned Circuits

CKT ID	CLASS	BW	BW TYPE	FROM		TO	
				NPC	CHAN	NPC	CHAN
MM01	FDX	3	C	dgrpA	06	dgrpB	02
MM02	FDX	4	C	dgrpC	12	dgrpB	12
MM03	HDX	2	A	dgrpA	18	dgrpA	21
MM04	HDX	1	-	dgrpA	19	dgrpA	20
MM05	FDX	1	-	dgrpD	15	dgrpG	17
MM06	HDX	1	-	dgrpF	05	dgrpG	09
MM07	HDX	1	-	dgrpG	08	dgrpF	04

Single Channel Circuits

Example: Configuring a “Real” Altroute

Figure G-17 shows an example of how to configure an ALTROUTE of a real, single-channel, two-point, full-duplex, NAS-only circuit. The TO side is changed to a spare channel. Circuit MM05 currently goes from dgrpD, Channel 15, to dgrpG, Channel 17. The example altroutes MM05 to dgrpG, Channel 1, which is spare, and is not shown. No preemptions are necessary.

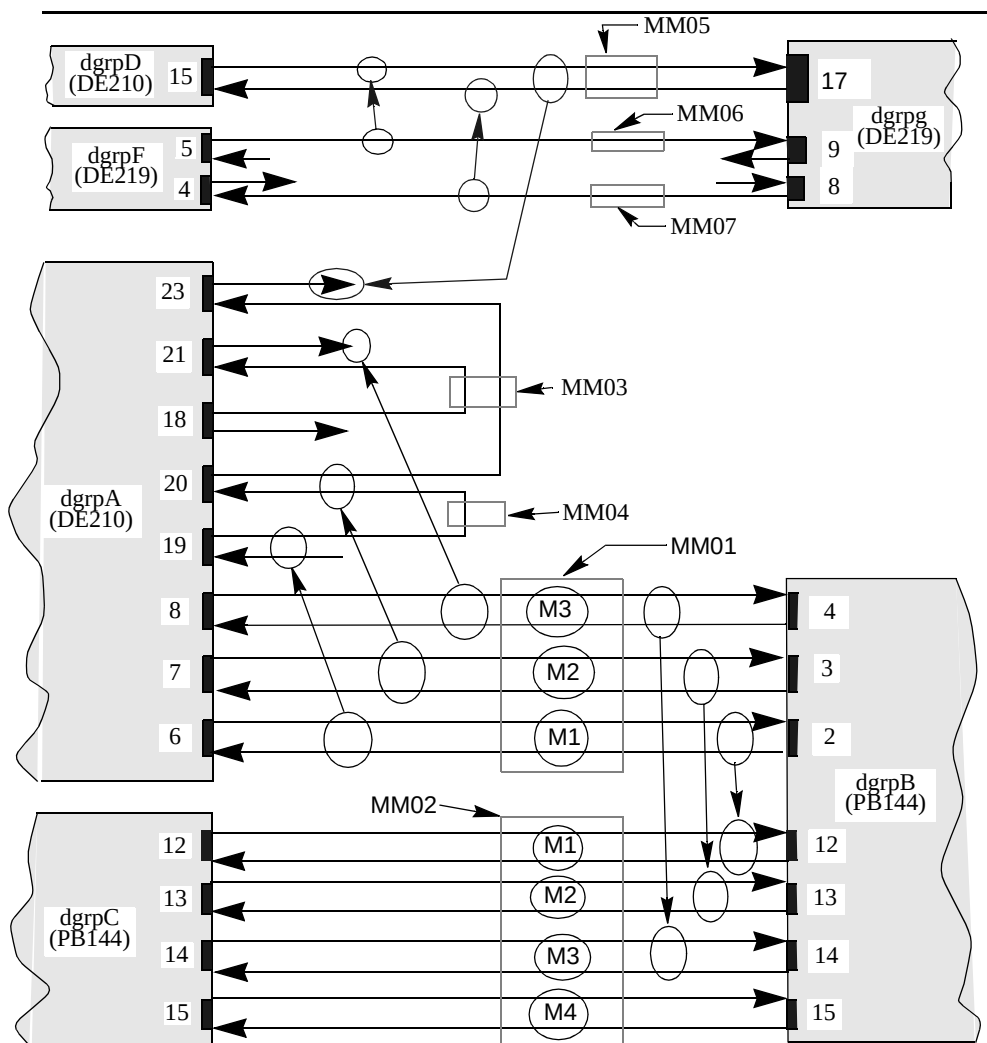


Figure G-17. Example of Altrouting

Example: Configuring a “Real” Altroute

To configure a “real” Altroute, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data, being sure to press **Enter**:

- **Action:** ALTRROUTE
- **Ckt ID:** MM05

The DND confirms the existing circuit. The **Ckt Status** is ACTIVE.

3. Press **NEXTPAGE**.

4. Enter the following data under ALTRROUTE:

- **TO NPC ID:** dgrpG
- **TO Ch:** 1

5. Press **EXECUTE** and select IMMEDIATE. The results are:

- The DND sends commands to disconnect the original TO and connect the altrouted TO.
- **Altroute Date & Time** is filled in.
- The **Ckt Status** field changes to ALTROUTED.
- A completion message from the DND is displayed.

Example: Normalizing a “real” Altroute

To normalize the previous example, follow these steps:

1. After selecting CIRCUIT under PROVISIONING, enter:

- **Action:** NORMALIZE
- **Ckt ID:** MM05

The DND confirms the existing circuit. The **Ckt Status** is ALTROUTED.

2. Press **EXECUTE** and select IMMEDIATE. The results are:

- The DND sends commands to the DACS to disconnect the altrouted TO and connect the original TO.
- The **Ckt Status** field changes to ACTIVE.
- A completion message from the DND is displayed.

Example: Performing a Pseudo-Altroute

To perform a pseudo-ALTRoute on the same original circuit, as in the previous example (on MM05), follow these steps:

1. Select CIRCUIT under PROVISIONING.
2. Enter the following data:

- **Action:** ALTRoute
- **Ckt ID:** MM05

The DND displays the information for the **Ckt ID**.

- **TO NPC ID:** dgrpG
- **TO Ch:** 017

3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes to ALROUTED. In addition, a completion message is displayed.

Example: Normalizing a Pseudo-Altroute

To normalize the previous example, follow these steps:

1. After selecting CIRCUIT under PROVISIONING, enter:
 - **Action:** NORMALIZE
 - **Ckt ID:** MM05

The DND confirms an existing circuit. The **Ckt Status** is ALROUTED.

2. Press **EXECUTE**, select IMMEDIATE. The **Ckt Status** field changes to DEACTIVATED. In addition, a completion message is displayed.

Example: Altrouting a Half-duplex Circuit to a Full-duplex Circuit

To perform a real ALTRROUTE of a single-channel, half-duplex, NAS-only circuit, MM06. The FROM end is changed to one direction of an EFT, dgrpD, Channel 15, which is already in use for a full-duplex circuit, MM05. The result is its preemption

To perform an Altroute of a half-duplex circuit to part of a full-duplex circuit, follow these steps:

1. Enter the following data under CIRCUIT PROVISIONING:

- **Action:** ALTRROUTE
- **Ckt ID:** MM06

The DND confirms the existing circuit. The **Ckt Status** is ACTIVE.

2. Press **NEXTPAGE**, and then enter the following data under ALTRROUTE:

- **FROM NPC ID:** dgrpD
- **FROM Ch:** 15

3. Press **EXECUTE** and select IMMEDIATE, and also answer YES when asked if it is OK to preempt circuit MM05.

The **Ckt Status** of the MM06 circuit changes to ALTROUTED.

4. Enter the following data:

- **Ckt ID:** MM05

The **Ckt Status** field now says PREEMPTED.

Example: Normalizing an ALTRROUTE of a Half-duplex Circuit to Part of a Full-duplex Circuit

To normalize the previous example, follow these steps:

1. Enter the following data in CIRCUIT PROVISIONING:

- **Action:** NORMALIZE
- **Ckt ID:** MM06

The DND confirms the existing circuit. The **Ckt Status** is ALTROUTED.

2. Press **EXECUTE** and select IMMEDIATE; observe that the **Ckt Status** of MM06 changes to ACTIVE.

3. Enter the following data:

- **Ckt ID:** MM05
- The **Ckt Status** field now says ACTIVATED.

Example: Altrouting a Half-duplex Circuit to an Unused Pre-empted Full-duplex Circuit

To perform a real ALTRROUTE of a single-channel, half-duplex circuit, MM07. The TO side is changed to the unused side of a full-duplex circuit, MM05, that has already been preempted by another half-duplex circuit.

To perform an Altroute of a half-duplex circuit to the unused part of a pre-empted full-duplex circuit, follow these steps:

1. Enter the following data within CIRCUIT PROVISIONING:

- **Action:** ALTRROUTE
- **Ckt ID:** MM07

The DND confirms the existing circuit. The **Ckt Status** is ACTIVE.

2. Enter the following data under ALTRROUTE:

- **TO NPC ID:** dgrpD
- **TO Ch:** 15

3. Press **EXECUTE**, select IMMEDIATE, and also reply YES when asked if it is OK to preempt circuit MM05. Soon, after the completion message appears, the **Ckt Status** field changes to ALTROUTED.

Example: Normalizing an ALTRROUTE of a Half-duplex Circuit to a Full-duplex Circuit

To normalize the previous circuit, follow these steps:

1. Enter on the CIRCUIT PROVISIONING form:

- **Action:** NORMALIZE
- **Ckt ID:** MM07

The DND confirms the existing circuit. The **Ckt Status** is ALTROUTED.

2. Press **EXECUTE** and select IMMEDIATE. Then observe that the completion message appears and that the **Ckt Status** field changes to ACTIVE.
3. Enter **Ckt ID:** MM05 .

The **Ckt Status** field now says ALTROUTED.

High-rate Circuits

Example: Altrouting a Real, High-rate Circuit

To ALTRROUTE a real, high-rate, two-point, full-duplex gateway circuit, MM01. Both ends (FROM and TO) are changed to EFTs already in use by other circuits: the initial FROM **Ch** is changed to dgrpA, Channel 19, and the corresponding TO **Ch** is changed to dgrpB, Channel 12. These ends are already in use by circuits MM04 and MM02, respectively, and dgrpA, Channel 21 is in use by Circuit MM03. The result is preemption of MM02, MM03 and MM04.

To perform an Altroute of a real high-rate circuit, follow these steps:

1. After selecting CIRCUIT PROVISIONING, enter the following data, being sure to press Enter:
 - **Action:** ALTRROUTE
 - **Ckt ID:** MM01

The DND confirms the existing circuit. The **Ckt Status** is ACTIVE.
2. Press NEXTPAGE, and then enter the following data under ALTRROUTE:
 - **FROM NPC ID:** dgrpA
 - **FROM Ch:** 19
 - **TO NPC ID:** dgrpB
 - **TO Ch:** 12
3. Press EXECUTE and select IMMEDIATE.
4. Answer YES when prompted if it is OK to preempt circuits MM02, MM03, and MM04.
5. The following actions occur:
 - The DND sends a disconnect command for the MM01 circuit.
 - The DACS sends a COMPLD message.
 - The DND sends a disconnect command for the MM02 circuit.
 - The DACS sends a COMPLD message.
 - The DND sends two disconnect commands for the MM03 circuit.
 - The DACS sends a COMPLD message.
 - The DND sends a disconnect command for the MM04 circuit:
 - The DACS sends a COMPLD message.
 - The DND sends a connect command for the MM01 circuit on DGRPA/channel 19 and DGRPB/channel 12.
 - The DACS sends a COMPLD message.
 - The **Ckt Status** of MM01 circuit changes to ALTROUTED.
 - The DND displays a completion message.

Example: Altrouting a Real, High-rate Circuit (Continued)

6. Enter the following data: **Ckt ID:** MM02
The **Ckt Status** field changes to PREEMPTED.
7. Enter the following data: **Ckt ID:** MM03
The **Ckt Status** field changes to PREEMPTED.
8. Enter the following data: **Ckt ID:** MM04
The **Ckt Status** field changes to PREEMPTED.

Example: Normalizing an Altroute of a Real, High-rate Circuit

To normalize the previous circuit, follow these steps:

**NOTE:**

In this example, multiple circuits are restored.

1. In CIRCUIT PROVISIONING, enter the following data:
 - **Action:** NORMALIZE
 - **Ckt ID:** MM01The DND confirms the existing circuit. The **Ckt Status** is ALTROUTED.
2. Press **EXECUTE** and select IMMEDIATE. The result is
 - The DND sends a disconnect command for the MM01 circuit on dgrpA/channel 19 and dgrpB/channel 12.
 - The DACS sends a COMPLD message.
 - The DND sends a connect command for the MM01 circuit on dgrpA/channel 6 and dgrpB/channel 2.
 - The DACS sends a COMPLD message.
 - The DND sends a connect command for the MM02 circuit.
 - The DACS sends a COMPLD message.
 - The DND sends a connect command for the MM04 circuit.
 - The DACS sends a COMPLD message.
 - Finally, the **Ckt Status** of the MM01 circuit changes to ACTIVE.
3. Enter the following data: **Ckt ID:** MM02
The **Ckt Status** field changes to ACTIVE.

Example: Normalizing an Altroute of a Real, High-rate Circuit (Continued)

4. Enter the following: **Ckt ID:** MM03
The **Ckt Status** field changes to PREEMPTED.
5. Enter the following data: **Ckt ID:** MM04
The **Ckt Status** field changes to ACTIVE.

Example: Altrouting a Single-channel Circuit to a Pre-empted High-rate Circuit

To perform a real ALTRoute of a single-channel, full-duplex circuit, MM05. The FROM end is changed to an unused EFT of a high-rate circuit, MM03, that has already been preempted.

To perform an Altroute of a single-channel circuit to the unused part of a pre-empted high-rate circuit, follow these steps:

1. Enter the following data under CIRCUIT PROVISIONING:
 - **Action:** ALTRoute
 - **Ckt ID:** MM05The DND confirms the existing circuit. The **Ckt Status** is PREEMPTED.
2. Enter the following data under ALTRoute CHANNEL CONNECTION:
 - **FROM NPC ID:** dgrpA
 - **FROM Ch:** 23
3. Press **EXECUTE**, select IMMEDIATE, and reply YES when asked if it is OK to preempt circuit MM03. After the completion message, the **Ckt Status** of the MM05 circuit changes to ALROUTED.
4. Generate and print an ALROUTED CIRCUITS data report:
 - a. Press **TOP MENU**, select REPORT OPERATIONS from the MAIN MENU, and select ALROUTES/PREEMPTIONS from the REPORT OPERATIONS menu.
 - b. Select ALROUTED CIRCUITS.
 - c. Press **EXECUTE** and confirm to get a listing of all ALROUTED circuits.
 - d. Wait for the report to be generated, select DISPLAY LAST GENERATED REPORT, and then select PRINTER.
5. Observe that the report lists circuits MM01, MM05, MM06, and MM07.
6. Now print a PREEMPTED CIRCUITS report:
 - a. Proceed as in Step 4 except select PREEMPTED CIRCUITS instead of ALROUTED CIRCUITS.

Example: Altrouting a Single-channel Circuit to a Pre-empted High-rate Circuit

- b. Press **EXECUTE** and confirm to get a listing of all ALROUTED circuits.
- c. Wait for the report to be generated, select DISPLAY LAST GENERATED REPORT, then select PRINTER.

The report lists circuits MM02, MM03, and MM04.

Example: Normalizing an ALTROUTE of a Single-channel Circuit to a Preempted High-rate Circuit

To normalize circuit MM05, follow these steps:

1. At CIRCUIT PROVISIONING enter the following data:

- **Action:** NORMALIZE
- **Ckt ID:** MM05

The DND confirms the existing circuit. The **Ckt Status** is ALROUTED.

2. Press **EXECUTE** and select IMMEDIATE. The results are:

- The DND sends a disconnect command for the MM05 circuit on dgrpA/channel 23.
- The DACS sends a COMPLD message.
- The DND sends a connect command for the MM05 circuit on dgrpD/channel 15.
- The DACS sends a COMPLD message.
- The DND sends two connect commands for the MM03 circuit.
- The DACS sends a COMPLD message.
- The **Ckt Status** of the MM05 circuit changes to ACTIVE.
- The DND sends a completion message.

3. Repeat the steps given earlier for printing an ALROUTED CIRCUITS report. The report should NOT list circuits MM01, MM05, MM06, and MM07.
4. Then print a PREEMPTED CIRCUITS report. It should NOT list circuits MM02, MM03, and MM04.

Multipoint Circuits

Example: Altrouting a Leg in a Broadcast Circuit

To move the source of the broadcast in the virtual multipoint example in this appendix from NPC 33JJ09, Channel 1, to a spare channel, NPC 33KK16, Channel 10.

To perform an Altroute of a leg in a broadcast circuit, follow these steps:

1. On the CIRCUIT PROVISIONING form, enter:

- **Action:** ALTRROUTE
- **Ckt ID:** MULTIN

The DND confirms the existing circuit. The **Ckt Status** is ACTIVE.

2. Press **NEXTPAGE**, and then enter the following data under ALTRROUTE:

- **FROM NPC ID:** 33JJ09
- **FROM Ch:** 001

3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** of circuit MULTIN changes to ALTROUTED.

A completion message from the DND is displayed.

4. Navigate to **FROM NPC ID** and use **NEXT** to scroll through the BRDs. Their **Ckt Statuses** remain ACTIVE.

The leg can be returned to service as it was, and any other leg can be restored by normalization.

NPC ROLL

Using the NPC ROLL selection of the PROVISIONING menu, you may switch all circuit connections from one facility NPC to another. NPC types that can be rolled are DE, TE, PB, PC, DA, PA, and TA. The following constraints apply:

- The NPCs must be present on the DACS.
- Both NPCs must be in the DND database.
- The **Roll To** NPC must have a **State** of **IS**.
- No channel in the **Roll To** NPC may be assigned to any circuit in the **ACTIVE**, **ALTROUTED**, **PREEMPTED** or **DEROUTED Ckt Status**.
- No channel in the **Current NPC** may be assigned to any substrate circuit.
- No channel in the **Current NPC** may be assigned to any **BCON** circuit.
- The NPCs must not be under test.

An NPC ROLL affects circuits in **ACTIVE** or **ALTROUTED Ckt Status** only. At the beginning of the roll, **ACTIVE** circuits are placed in **DEACTIVATED Ckt Status** and **ALTROUTED** circuits are placed in **DEROUTED Ckt Status**. If the system fails during the roll, they remain in those **Ckt Statuses**. At the end of the roll, they are returned to their original **Ckt Statuses**.

An NPC ROLL changes every reference to the NPC throughout the DND system; for example, in all circuits referencing the NPC, regardless of status, in all RPs, ARPs and in stored data resulting from NPC PROVISIONING.



NOTE:

DACS II has an NPC Roll feature that works differently than the DND feature. The DND does not process the echoed response of an NPC Roll using the DACS II command. The DACS II command is SW-ROLL-T1.

NPC ROLL Form

To transfer circuit connections from one NPC to another, select NPC ROLL from the PROVISIONING menu.

The NPC ROLL form is displayed, as shown in Figure G-18.

The screenshot shows a terminal window titled "NPC ROLL". At the top, it displays the date and time "12:04 10 Apr 1998" and the version "DND R1.0.1 / DND Forms R5.0.2". Below this are labels for "Status:" and "Alarms:". The main area of the form contains the text "Site Name:DACS00" followed by a table header with four columns: "Hier", "Ext", "NPC ID", and "Type". Under the header, the text "Current:" and "Roll To:" is visible. At the bottom of the main area is a prompt "Enter site name". Below the main area is a row of buttons: "HELP", "CHOICES", a blank button, "QUIT", another blank button, "TOP MENU", "PRINT", and "EXECUTE".

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

      NPC ROLL

Site Name:DACS00

      Hier  Ext      NPC ID      Type

Current:
Roll To:

Enter site name

[HELP] [CHOICES] [ ] [QUIT] [ ] [TOP MENU] [PRINT] [EXECUTE]
```

Figure G-18. NPC ROLL Form

Field Descriptions

Field descriptions for the NPC Roll form are described in Table G-6.

Table G-6. NPC ROLL Field Descriptions

Site Name	Mandatory. 1 through 24 characters from the set A-Z, a-z, /, _, -. All other characters are illegal. Blanks are not allowed within a name. Enter the name of the DACS on which the Current and Roll To NPCs are provisioned.
Current Hier, Ext, NPC ID	Mandatory. The hierarchical number, extended number, or NPC ID of the NPC from which the circuits are to be rolled. Whichever field you select, the others will be filled in automatically.
Current Type	Display only. The Type of the Current NPC, from the NPC PROVISIONING form. The value of this field is determined by the DACS hardware supporting the NPC of this number.
Roll To Hier, Ext, NPC ID	Mandatory. The identifiers of the NPC to which the circuits are to be rolled. The Current and Roll To NPCs must match as follows, or you will not successfully complete a roll with these NPCs: — Any DE**x, TE**x, DC**x or DA**x will match any other DE**x, TE**x or DA**x respectively except where x is 9 (Clear DS1 types). — Any DE**9, TE**9, DC**9 or DA**9 will match any other DE**9, TE**9, DC**9 or DA**9 respectively. — Any PA***, PB*** or PC*** will match any other PA***, PB*** or PC*** respectively, so long as both are CAS type or NAS type.

Example: Rolling NPC Circuits

Circuits are to be rolled from 55US23 to 43TZ86. Both are IS NPCs of **Type DE**.

To roll these NPC circuits, follow these steps:

1. Select PROVISIONING from the MAIN MENU and NPC ROLL from the PROVISIONING menu.
2. Enter the following data, or use the displayed defaults:
 - **Site Name:** DACS00
 - **Current NPC ID:** 55US23
 - **Roll To NPC ID:** 43TZ86
3. Press **EXECUTE** and confirm. The task executes in the background only.

The DND **Status** line displays an IN PROGRESS message.

All references to the current NPC in the DND are replaced with **Roll To** NPC data.

A completion message is displayed in the DND **Status** line.

A circuit failure during the roll is logged the same way as a failure at any other time. The roll continues.

To see the results of the roll, access the NPC ROLL Report (see Appendix M, "Report Operations"). Only the results of the last NPC ROLL are available.

Example: Deleting a LEG from a BCON Circuit

To delete a LEG from an active circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** DELLEG
 - **LEG Ckt ID:** CKT2 01
3. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from to ACTIVE to NULL. In addition, the command completed successfully message is displayed.

Figure G-19 shows an example of the CIRCUIT PROVISIONING form when the action selected is DELLEG.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CIRCUIT PROVISIONING

Site Name: DACS00	Ckt Status: ACTIVE
Action: DELLEG	Ckt Class: LEG
	Bandwidth Type: C
LEG Ckt ID: CKT2 01	

Hier	Ext	NPC ID	Ch
FROM: 01104	0004	55KC35	001
TO: 01105	0005	55US02	002
Bandwidth: 01	Options:		

Service Date: 01 Nov 97

Enter the first fifteen characters of the BCO leg ID _____

HELP [] NEXT PAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure G-19. CIRCUIT PROVISIONING Form, Deleting a LEG from a BKB Circuit

Example: Changing the Return Path of a BCON Circuit

To change the return path of an active BCON circuit, follow these steps:

1. Select CIRCUIT from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** CHGRPATH
 - **LEG Ckt ID:** CKT2 01
3. Press **EXECUTE** and select IMMEDIATE. The command completed successfully message is displayed.

Figure G-20 shows an example of the CIRCUIT PROVISIONING form when the action selected is CHGRPATH.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CIRCUIT PROVISIONING

Site Name: DACS00		Ckt Status: ACTIVE	
Action: CHGRPATH		Ckt Class: LEG	
LEG Ckt ID: CKT2 01		Bandwidth Type: C	

Hier	Ext	NPC ID	Ch
FROM: 01104	0004	55KC35	001
TO: 01105	0005	55US02	002

Bandwidth: 01 Options:

Service Date: 01 Nov 97

Enter the first fifteen characters of the BCON leg ID

HELP NEXT PAGE QUIT RECNCILE TOP MENU PRINT EXECUTE

Figure G-20. CIRCUIT PROVISIONING Form, Changing the Return Path of a BCON Circuit

TS0 to Non-TS0 Circuits

The DND allows you to provision a circuit between a TS0 and non-TS0. One side of the termination must be a TS0 on a channelized PA type NPC and the other termination must be a channel/time slot other than TS0 on the channelized CEPT NPC. In addition, the circuit class must be set to FDX. In order to provision this type of circuit, the framing field must be specified.

Example: Provisioning TS0 to Non-TS0 Circuits

To provision TS0 to Non-TS0 circuits, follow these steps:

1. Select PROVISIONING from the MAIN MENU and then select CIRCUIT from the PROVISIONING menu. The CIRCUIT PROVISIONING form may already have values in it; these are defaults. The **Ckt Status** field displays NULL.
2. Enter the following data, or use the displayed defaults:

— **Site Name:** DACS00

— **Action:** ACTIVATE

— **Ckt ID:** CKT1

If you are making a change to an existing circuit, the current values are filled into the fields on the screen.

— **Ckt Class:** FDX

You can fill in **Hier** or **Ext** instead of **FROM NPC ID** or **To NPC ID**, shown next. Whichever of the three fields you pick, the values of the other two are filled in automatically.

— **Bandwidth Type:** C

— **FROM NPC ID:** 55KC35

— **FROM Ch:** 000

— **TO NPC ID:** 55US02

— **TO Ch:** 014

— **Bandwidth:** 1

— **TC:** 0011,0011

— **IW:** TRB

— **Framing:** NFW

3. Press **EXECUTE** and select **IMMEDIATE**, or use the **RECNCILE** key to select the database and then press **EXECUTE**.

If the command completes successfully: The **Ckt Status** field changes from NULL to **ACTIVE** and the **Framing** changes to **NFW**. In addition, the command completed successfully message is displayed.

Procedure: Disabling Echoed Response Processing

Echoed response processing for circuits and equipment are enabled whenever a frame screening level is set to 4. Refer to "Configuring the Frame" in Appendix C "Getting Started." Echoed response processing can be disabled for a particular frame by changing the link screening options in the frame.

To disable echoed response processing, follow these steps:

1. Enter passthrough mode (refer to Appendix L "Passthrough.")
2. Type the following command to set the link screening level to 2:

```
SET-PRVG-TERM: : : n01:SCR-2;  
SET-PRVG-TERM: : : n02:SCR-2;  
...  
SET-PRVG-TERM: : : n16:SCR-2;
```

For additional details concerning this command, refer to the input message format for NPC provisioning in the Generic 3 (MML) Input/Output Message Reference Manual, V. II.

**NOTE:**

If you disable ERP, the DND database could drift apart from the frame database, necessitating that you periodically perform a database audit followed by a database synchronization. For more information, refer to Appendix I "Database Administration."

Reconfiguration Plans



Contents

■ Introduction	H-1
Reconfiguration Plan	H-2
■ Single Plans	H-3
RECONFIGURATION PLAN	
PROVISIONING Form	H-3
Field Descriptions	H-4
■ Reconfiguration Plan Examples	H-10
Example: Creating a Reconfiguration Plan	H-10
Example: Inserting Activations and Deactivations	H-10
Example: Placing the Ckt ID in the Database	H-11
Example: Removing an Item from	
Reconfiguration Plan	H-12
Example: Inserting Altrouting	H-12
Example: Generating a Report	H-13
■ Modification Plan Examples	H-14
Example: Checking the Plan	H-14
Example: Changing the Plan	H-15
Example: Rechecking the Plan	H-16
Example: Executing Reconfiguration Plans	H-16

Example: Idling Reconfiguration Plans	H-16
■ Automatic Plans	H-17
AUTOMATIC RECONFIGURATION PROVISIONING Form	H-17
Field Descriptions	H-18
■ Automatic Reconfiguration Plan Examples	H-21
Example: Creating an Automatic Reconfiguration Plan	H-21
Example: Inserting Reconfiguration Plans and Alarm List Items	H-22

Reconfiguration Plans



Introduction

This appendix provides plans and examples to perform Reconfiguration for the DND Forms Interface only.

Reconfiguration Plan

A reconfiguration plan specifies a sequence of circuit-provisioning **Actions** to be executed automatically when you execute the plan. The number of **Actions** you can enter is virtually unlimited. These **Actions** reconfigure the **Ckt Status** of circuits already in the database.

If a circuit is not in the database, you may still provision it from RECONFIGURATION PLAN PROVISIONING. On you typing in a circuit ID the DND cannot identify, it displays a pop-up menu asking: NEW CIRCUIT! PROVISION NOW? If you answer YES, you are placed in the CIRCUIT PROVISIONING form.

While in CIRCUIT PROVISIONING, you may utilize all of its capabilities: CREATE as many circuits as you wish, BROWSE any circuits, and so on. When you are ready for an automatic return to RECONFIGURATION PLAN PROVISIONING, press **QUIT**.

A plan is defined in two steps:

- First you CREATE the plan, which opens a blank plan in the DND database associated with the **Site Name** you specify in the creation screen.
- Then you INSERT the items, which are the allowed circuit-provisioning **Actions**, into the plan one by one.

Each is assigned a sequence number.

When you EXECUTE the plan, the DND simply goes down the list executing the items. The completion results of each step are logged. If some time has elapsed since the plan was created, some circuits may no longer exist on the DND. In that case, the DND User Interface does not try to execute the item.

Ordinarily the DND User Interface waits three minutes for a reply from the DACS before reporting a timeout error message in the COMMAND RESPONSE box. For a circuit reconfiguration **Action**, the DND waits a default time of 30 minutes. Since the RP is being executed in the background, the DND does not report a timeout on the screen. Instead, it places the timeout error message in the database, to be retrieved with an RP report.

An automatic reconfiguration plan (ARP) is a plan of plans. Just as a single plan lists a sequence of circuit-provisioning **Actions** to be executed, the automatic plan lists a sequence of plans to be executed. An ARP is defined in the same way as an RP, and typically whatever applies to the items of the RP also applies to the items of the ARP.

An ARP can be set to execute when triggered by the receipt of a major or critical alarm from a specified NPC. Within each ARP is a list of RPs and also a list of NPCs whose alarms will be triggers for that ARP. The items of an ARP can, therefore, be one of two types: an RP to be executed or an NPC to be added to (or removed from) the list.

Single Plans

RECONFIGURATION PLAN PROVISIONING Form

To obtain the RECONFIGURATION PLAN PROVISIONING form, select RECONFIGURATION PLAN from the PROVISIONING menu. The RECONFIGURATION PLAN PROVISIONING form is displayed, as shown in Figure H-1.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

RECONFIGURATION PLAN PROVISIONING

Site Name:DACS00
RP Action:INSERT
Ckt ID:
Class:
Bandwidth:1
RP ID:
CP:00:
Bandwidth Type:A
RP Status:
Sequence:
Action:ALTRROUTE
Status:

NORMAL Hier Ext NPC ID Ch

FROM:
TO:

ALTRROUTE

FROM:
TO:

Preempted Status: CP:
Ckt ID:

Enter the FROM Side NPC Number (Hierarchical format)

HELP [] [] QUIT [] TOP MENU PRINT EXECUTE

Figure H-1. RECONFIGURATION PLAN (RP) PROVISIONING Form

If the **RP Action** is not INSERT, REMOVE, or CHANGE, then only **Site Name**, **RP Status**, **RP Action**, and **RP ID** appear. The **ALTRROUTE** and **Preempted Ckt ID** fields appear only if the circuit **Action** is ALTRROUTE.

Field Descriptions

Field descriptions for the Reconfiguration Plan Provisioning form are described in Table H-1.

Table H-1. RECONFIGURATION PLAN PROVISIONING Field Descriptions

Site Name	Mandatory. 1 through 24 characters from the set A-Z, a-z, 0-9, /, _, -. All other characters are illegal. Blanks are not allowed within a name. Enter the name of the DACS on which this circuit action (Action) is to be executed.
RP Status	Inaccessible through form. Indicates whether the plan has been EXECUTED or is IDLE: either never executed or executed and subsequently made IDLE by an RP Action of IDLE. Note that reconfiguration plans are executed in the background. The status displayed on the screen is the status retrieved from the database. Therefore, if you execute the plan, the RP Status may still indicate IDLE. You can update the screen at any time by entering the RP ID. The DND retrieves the current RP Status.
RP Action	Mandatory. Reconfiguration plan action. CREATE Applies to plans only. Creates a reconfiguration plan, uniquely identified by an RP ID. DESTROY Applies to plans only. Deletes the RP. Once the DESTROY form has been filled in and executed, the RP is no longer in the DND. If the RP is listed in an ARP, the DESTROY is rejected. BOOT Applies to plans only. Locates all ACTIVE and ALTROUTED circuits in the DND database, and places an item for each one of them in a special RP having the RP ID of BootDacs. Each item will bring about the same circuit status in the DACS as exists in the DND. BOOT then performs an EXECUTE on this plan in the Site-only mode, thereby booting the DACS database. If every item completes successfully, the DACS database will record the same in-service circuits as does the DND database. Unlike other RP Actions, which log both successes and failures, BOOT only logs the failures.

Table H-1. RECONFIGURATION PLAN PROVISIONING Field Descriptions (Contd)

RP Action (Continued)	INSERT Applies to items only. Inserts an item into the plan in the position indicated by the Sequence. If the position is already occupied, the DND places your item in front of the existing entry and adjusts the rest of the sequence numbers. If you specify a sequence number that is higher than any existing entries, the DND inserts the item at the end of the plan and assigns it the last number in the sequence. If the Ckt ID indicates the circuit does not exist, a pop-up window appears, allowing you to enter CIRCUIT PROVISIONING. When you have provisioned the circuit, you are returned to this form. A circuit can only be inserted in a plan once. However, the same circuit can be used in different plans. REMOVE Applies to items only. Removes an item from the plan. The DND automatically renumbers all subsequent entries in that plan. CHANGE Applies to items only. Changes the information in an item. An exception is the Sequence. It identifies the items in the plan and, therefore, cannot be changed directly. To change the position (Sequence) of an item in the plan, you must REMOVE the item and INSERT it where you want it to be. IDLE Applies to plans only. Reverses the provisioning accomplished by a previous execution of the plan specified in RP ID; i.e., changes each circuit status back to what it is presumed to have been before. We presume you will be starting from ACTIVE, DEACTIVATED, or PENDING. Exception: a circuit that had been in the PENDING status before the plan was executed is placed into the DEACTIVATED status by IDLE. IDLE undoes the provisioning in the reverse order of the plan, starting with the last item and finishing with the first, regardless of the order in which the circuits actually were provisioned. If IDLE discovers an action that cannot be reversed, because the circuit does not exist, it internally marks the Status null.

Table H-1. RECONFIGURATION PLAN PROVISIONING Field Descriptions (Contd)

RP Action (Continued)	EXECUTE Applies to plans only. Executes the plan specified by RP ID. Execution consists of first performing a CHECK, then executing the Actions of all items not internally marked null, in order of Sequence. Nullified items are logged anyway. EXECUTE does not affect circuits already in the desired circuit status. Upon completion, EXECUTE reports the number of circuit provisioning actions that were attempted and the number that were successfully completed. You can inspect these results by running the reconfiguration plan results report. The results of only the most recent CHECK, EXECUTE, or IDLE are saved in the results log for an RP. If a circuit provisioning action was unsuccessful, you can modify the plan or correct the condition that prevented execution and then execute the plan an many times as it takes to bring about all the desired circuit statuses. CHECK Applies to plans only. Checks the circuits in the plan specified by RP ID against the circuits in the current DND database, to determine which circuits have been deleted from the database. If an item specifies a circuit that does not now exist, the item is internally marked null. When CHECK completes, it displays the DND status message listing how many items can be successfully completed. To find out which items cannot complete and why, run the reconfiguration plan results report (see Chapter 14). Then correct the problems and perform CHECK again. EXECUTE, IDLE, and CHECK keep a results log for each RP. The reconfiguration plan results report is taken from the log. One use of one of these commands overwrites the data in the log from the previous use. CLEAN Applies to plans only. Looks for every circuit referenced in the plan. If it does not find the circuit in the appropriate DND frame database, CLEAN removes its reference from the plan.

Table H-1. RECONFIGURATION PLAN PROVISIONING Field Descriptions (Contd)

RP Action (Continued)	ABORT Applies to plans only. Aborts the plan currently running as a background process. Background plans are started by BOOT, IDLE, EXECUTE, or CHECK. Once an ABORT is entered, the DND finishes the current circuit and stops. Circuits already reconfigured remain reconfigured.
RP ID	Mandatory, up to 12 characters. Identifies the reconfiguration plan that is to be affected by the RP Action .
Sequence	Up to 5 characters. Mandatory for RP Actions of INSERT, REMOVE, CHANGE; not accessible in other cases. Specifies the sequence number identifying the item in the plan.
Ckt ID	For items only. 1 through 41 characters. Identifies the circuit to which the Action of this item pertains. The circuit must already be in the database, but it can have any status there.
Action	For items only. Specifies the operation to be performed when the plan is executed. The possible Actions are: ACTIVATE Changes the Status of an already existing DND circuit from PENDING or DEACTIVATED to ACTIVE, and cross-connects it in the DACS, making it a traffic-carrying circuit. The DND validates all fields before activating a circuit. If the circuit Status is ACTIVE, ALTROUTED, or PRE-EMPTED, this RP ACTIVATE will fail. DEACTIVATE Changes the specified circuit in the DND database to DEACTIVATED and disconnects it in the DACS. ALTROUTE Changes the specified circuit to ALTROUTED. Altrouting may involve the preemption of other circuits. The operator will be informed of each preemption and will be required to confirm before this item can be successfully placed in the plan. A circuit can be altrouted only once, and an ALTROUTED circuit cannot be preempted. ALTROUTE is the default Action. Between the time when the ALTROUTE item is entered and the time when the RP is executed, the EFTs to which the circuit is to be altrouted may have changed status. The user will be notified in the preemption confirmation pop-up inserts of their new status, and may then alter the ALTROUTE.

Table H-1. RECONFIGURATION PLAN PROVISIONING Field Descriptions (Contd)

Class	A display-only field indicating the Ckt Class (see Appendix G, "Circuit Provisioning") of the circuit identified by Ckt ID. FDX Full-duplex, a two-way, two-point circuit. HDX Half-duplex, a one-way, two-point circuit. BBL Backbone leg, a one-way, backbone leg broadcast circuit. BRD Branch leg, a one-way, branch leg broadcast circuit. DMB Digital multipoint bridge, a two-way, multipoint circuit leg.
CP	A display-only field indicating the CP (circuit priority).
Status	A display-only field indicating the current operating status of the circuit, as follows: NULL The Ckt ID does not identify a circuit currently in the DND or DACS databases. The RP Action will not be accepted, and, therefore, the circuit cannot be used in the plan. PENDING The circuit is in the DND database, but is not cross-connected in the DACS. It is ready to be made ACTIVE on user request. To cross-connect the circuit, use the ACTIVATE Action, in the plan. DEACTIVATED The circuit is in the DND database but is not cross-connected in the DACS. It was ACTIVE, but was disconnected with a DEACTIVATE Action. To cross-connect the circuit, use the ACTIVATE Action. ALTROUTED The circuit is present in the DACS and DND databases, is cross-connected in the DACS, and is carrying transmission. However, it was temporarily rerouted over an alternate path with an ALTRoute Action. If any part of the alternate path was in use by another circuit, that circuit was placed in PREEMPTED Ckt Status. An IDLE RP Action is required to return the ALTROUTED circuit to its original path.

Table H-1. RECONFIGURATION PLAN PROVISIONING Field Descriptions (Contd)

Status (Continued)	PREEMPTED	The circuit was ACTIVE in the DACS, but has been temporarily disconnected for use by an ALTROUTED circuit. The circuit is in the DND database only and is not carrying transmission. One or more of its channels are being used by one or more ALTROUTED circuits. The IDLE RP Action that returns the ALTROUTED circuits to normal also returns the PREEMPTED circuits to normal.
	ACTIVE	The circuit is present in the DACS and DND databases, is cross-connected in the DACS, and is carrying transmission.
Bandwidth	A display-only field indicating the circuit bandwidth, as described in Chapter 6 "Circuit Provisioning."	
Bandwidth Type	A display-only field indicating how bandwidth is allocated in an NPC, as described in Appendix G "Circuit Provisioning."	
NORMAL fields	Display-only fields indicating the initial TO and FROM identifying information of the circuit: the NPC number in both hierarchical and extended format, the NPC ID , and channel number (Ch).	
ALTRROUTE fields	User-accessible fields specifying the altrouting information, if the Action is ALTRROUTE . Fill in the FROM and TO NPC and channel identifiers for this ALTRROUTE destination, just as you would on the ALTRROUTE screen. Refer to Appendix G "Circuit Provisioning."	
Preempted fields	The circuit identifiers for circuits that are preempted by this ALTRROUTE , as they would appear on the ALTRROUTE screen. Refer to Appendix G "Circuit Provisioning."	

Reconfiguration Plan Examples

The examples below describe how to create reconfiguration plans.

Example: Creating a Reconfiguration Plan

To create a Reconfiguration Plan, follow these steps:

1. Select RECONFIGURATION PLAN from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS00
 - **RP Action:** CREATE
 - **RP ID:** testplan
3. Press **EXECUTE** and confirm. The **RP Status** says IDLE. In addition, a completion message from the DND User Interface is displayed.
4. If the plan already exists, you are notified:

The RP ID is already in use

Example: Inserting Activations and Deactivations

In this example, Ckt01 is in the DND database with a **Ckt Status** of PENDING.

To insert activations and deactivations, follow these steps:

1. Enter the following data:
 - **Site Name:** DACS01
 - **RP Action:** INSERT

The appropriate fields appear on the form.

- **RP ID:** testplan

The **RP Status** is filled in.

- **Sequence:** 1

- **Ckt ID:** Ckt01

The circuit information is filled in.

- **Action:** ACTIVATE

The appropriate fields appear on the form.

2. Press **EXECUTE** and confirm. All but the default information disappears.

The **Sequence** increases by one. In addition, a completion message from the DND is displayed.

3. Insert as many more **Ckt IDs** as needed.

Example: Placing the Ckt ID in the Database

If ckt01 was not in the database, You can place it there and return automatically to the reconfiguration plan as follows:

1. Enter the following data:

- **Site Name:** DACS01
- **RP Action:** INSERT

The appropriate fields appear on the form.

- **RP ID:** testplan

The **RP Status** is filled in.

- **Sequence:** 1
- **Ckt ID:** Ckt01

A pop-up menu is displayed:

NEW CKT! PROVISION NOW?

2. Select YES.

The CIRCUIT PROVISIONING form is displayed.

3. Enter the following data:

- **Site Name:** DACS01
- **Action:** PEND
- **Ckt ID:** ckt01

4. Press **EXECUTE** and select IMMEDIATE. The **Ckt Status** field changes from NULL to PENDING. In addition, the command completed successfully message is displayed.

5. Press **QUIT**.

You are returned to the RECONFIGURATION PLAN PROVISIONING form.

6. Enter these data: **Action:** ACTIVATE

The appropriate fields appear on the form.

7. Press **EXECUTE** and confirm. All but the default information disappears and the **Sequence** increases by one.

In addition, a completion message from the DND is displayed.

Example: Removing an Item from Reconfiguration Plan

To remove an item from the reconfiguration plan, follow these steps:

1. Enter the following data:
 - **Site name:** DACS01
 - **RP Action:** REMOVE
 - **RP ID:** testplan
 - **Sequence:** 1

The information for that item is displayed on the form.

2. Press **EXECUTE** and confirm. The information on the form reverts to the previous item, if any. In addition, a completion message from the DND is displayed.

Example: Inserting Altrouting

To insert altrouting, follow these steps:

1. Enter the following data:
 - **Site name:** DACS01
 - **RP Action:** INSERT
 - **RP ID:** testplan
 - **Sequence:** 1
 - **Ckt ID:** Ckt01
 - **Action:** ALTRROUTE
 - **ALTRROUTE, FROM, NPC ID:** msc217
 - **ALTRROUTE, FROM, Ch:** 010
 - **ALTRROUTE, TO, NPC ID:** msc212
 - **ALTRROUTE, TO, Ch:** 011
2. Press **EXECUTE** and confirm.
3. If any circuits will be preempted, their data appears in the **Preempted** fields successively. The DND prompts you to approve each one as follows:

OK TO PREEMPT CIRCUIT?
4. Answer YES in each case, if you want to preempt a circuit. All but the default information disappears and the **Sequence** increases by one.

In addition, a completion message is displayed.

Example: Generating a Report

This example displays a listing of an existing reconfiguration plan (testplan) for the DACS at **Site Name** DACS00.

To generate a report, follow these steps:

1. Select REPORT OPERATIONS from the MAIN MENU.
2. Select RECONFIGURATION PLAN RESULTS.
3. Select SEQUENCE SORTED to sort the items by **Sequence** for the report only, or select CP SORTED to sort the items by circuit priority for the report only.
4. On the RECONFIGURATION PLAN RESULTS SEARCH CRITERIA form.
5. Enter the following data:

— **Site Name:** DACS00

— **Reconfiguration ID:** testplan

6. Press **EXECUTE** and confirm.

The following message to is displayed on the DND Status line. In addition, the REPORT OPERATIONS menu to is displayed.

report generation is completed

7. Select DISPLAY LAST GENERATED REPORT, and choose SCREEN from the ALLOWED CHOICES.

Wait for the report to appear on the screen and confirm the correctness of the plan's content.

Modification Plan Examples

The examples below describe how to check and change a plan.

Example: Checking the Plan

To check the reconfiguration plan, follow these steps:

1. Select RECONFIGURATION PLAN from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS01
 - **RP Action:** CHECK
 - **RP ID:** testplan
3. Press **EXECUTE** and confirm. You are notified that the plan will be executed in the background, and are required to confirm.

A message is displayed in the DND status line, stating the number of items attempted and the number successful.
4. Display RECONFIGURATION PLAN RESULTS report, following the steps given under "Example: Generating a Report". The report should list all conflicts.
5. Some examples of conflicts are as follows:
 - Seq. no. 1: Circuit MM07 is already ACTIVE
 - Seq. no. 2: Circuit MM03 is already ACTIVE
 - Seq. no. 3: Circuit MM06 is already DEACTIVATED

Example: Changing the Plan

Change the existing reconfiguration plan by inserting, removing, and changing operations. First an existing circuit is made DEACTIVATED to remove one of the conflicts found in checking the plan, then other conflicts are removed by changing the plan.

To change the reconfiguration plan, follow these steps:

1. In the CIRCUIT PROVISIONING form.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** DEACTIVATE
 - **Ckt ID:** MM07
3. Press **EXECUTE** and confirm.
4. Press **QUIT**. Return to the PROVISIONING menu.
5. Select RECONFIGURATION PLAN.
6. Enter the following data:
 - **Site Name:** DACS01
 - **RP Action:** CHANGE
 - **RP ID:** testplan
 - **Sequence:** 3
 - **Ckt ID:** MM06
 - **Action:** ACTIVATE.
7. Press **EXECUTE** and confirm.
8. Enter the following data:
 - **RP Action:** INSERT
 - **Ckt ID:** MM05
 - **Action:** DEACTIVATE
 - **Sequence:** 5
9. Press **EXECUTE** and confirm.

Example: Rechecking the Plan

Repeat the steps under "Example: Generating a Report", and confirm that the report displays the changed plan data. Also repeat the steps under "Example: Checking the Plan", to do a check of the revised plan and display the results. See that there are now no execution conflicts.

Example: Executing Reconfiguration Plans

To execute a reconfiguration plan, follow these steps:

1. Select RECONFIGURATION PLAN from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS01
 - **RP Action:** EXECUTE
 - **RP ID:** testplan
3. Press **EXECUTE** and confirm. The entire plan is now executed and the DND sends the appropriate commands to the specified DACS.

In addition, a completion message appears.
4. Display a RECONFIGURATION PLAN RESULTS report to determine if there were any execution conflicts.

Example: Idling Reconfiguration Plans

To idle a reconfiguration plan, follow these steps:

1. Select RECONFIGURATION PLAN from the PROVISIONING menu.
2. Enter the following data:
 - **Site Name:** DACS01
 - **RP Action:** IDLE
 - **RP ID:** testplan
3. Press **EXECUTE** and confirm.
 - The entire plan is now idled. The appropriate commands are sent to the specified DACS
 - A completion message appears.
4. Display a RECONFIGURATION PLAN RESULTS report to determine if there were any execution conflicts.

Automatic Plans

AUTOMATIC RECONFIGURATION PROVISIONING Form

To obtain the AUTOMATIC RECONFIGURATION PLAN form, select AUTOMATIC RECONFIGURATION PROVISIONING from the PROVISIONING menu.

The AUTOMATIC RECONFIGURATION PROVISIONING PLAN is displayed, as shown in Figure H-2.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

AUTOMATIC RECONFIGURATION PLAN PROVISIONING

Action: ARP ID: ARP Status:
List Type: Sequence:
Site Name: RP ID:
Number (Hier): (Ext):
NPC ID:

Enter the desired action

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure H-2. AUTOMATIC RECONFIGURATION PLAN PROVISIONING Form

Initially only the first line appears. The fields that appear subsequently depend on the **Action** and **List Type**.

Field Descriptions

Field descriptions for the AUTOMATIC RECONFIGURATION PLAN are described in Table H-2.

Table H-2. AUTOMATIC RECONFIGURATIN PLAN Field Descriptions

Action	Mandatory. Valid actions are: CREATE Applies to ARPs only. Creates an automatic reconfiguration plan (ARP), uniquely identified by an ARP ID. DESTROY Applies to ARPs only. Deletes the ARP. Once the DESTROY form has been filled in and executed, the ARP is no longer in the DND. INSERT Applies to ARP items only. Inserts an item into the ARP in the position indicated by the Sequence. If the position is already occupied, the DND places your item in front of the existing entry and adjusts the rest of the sequence numbers. If you specify a sequence number that is higher than any existing entries, the DND inserts the item at the end of the plan and assigns it the last number in the sequence. REMOVE Applies to items only. Removes an item from the ARP. The DND automatically rennumbers all subsequent entries in the ARP. CHANGE Applies to items only. Changes the information in an item. An exception is the Sequence. It identifies the items in the ARP, and, therefore, cannot be changed directly. To change the position (Sequence) of an item in the plan, you must REMOVE the item and INSERT it where you want it to be. EXECUTE Applies to ARPs only. Sequentially executes the RPs in the plan specified by ARP ID. Once a provisioning command has been sent to the DACS specified by the RP's Site Name, the DND does not wait for a reply, but goes on to the next item. The replies, when they arrive, are logged. Upon completion, EXECUTE reports the number of items for which it sent commands, and the number that succeeded. The results of the most recent CHECK, EXECUTE, or IDLE overwrite the previous results in the results log for an ARP.

Table H-2. AUTOMATIC RECONFIGURATIN PLAN Field Descriptions (Contd)

Action (Continued)	IDLE	Applies to ARPs only. Idles the plan specified by ARP ID. Idling consists of parsing each RP in the plan sequentially from last to first, and from last item to first item within a plan, and taking immediate action on each item as it is encountered. Upon completion, IDLE reports the number of items for which it sent commands and the number that succeeded. The results of the most recent CHECK, EXECUTE, or IDLE overwrite the previous results in the results log for an ARP.
	CHECK	Applies to ARPs only. Checks the contents of each RP in the plan specified by ARP ID against the NPCs in the current DND database to determine which NPCs have been deleted from the database. If an item specifies a NPC that does not now exist, the item is internally marked null. When CHECK completes, it displays the DND status message listing how many items can be successfully completed. To find out which items cannot complete and why, run the reconfiguration plan results report (see Appendix H). Then correct the problems and perform CHECK again. EXECUTE, IDLE and CHECK keep a results log for each RP. The reconfiguration plan results report is taken from the log. One use of one of these Actions overwrites the data in the log from the previous use.
	CLEAN	Applies to items only. Looks for every RP referenced in the ARP. If it does not find the RP in the appropriate DND frame database, CLEAN removes its reference from the ARP. If the ARP item is an ALARM, CLEAN determines whether the NPC is still provisioned. If it is not, CLEAN removes the ALARM from the list.
	ABORT	Applies to ARPs only. Aborts all the RPs that were started by this ARP. Background RPs are started by BOOT, IDLE, EXECUTE, or CHECK. Once an ABORT is entered, the DND allows the current item to finish and stops.
ARP ID	Mandatory. Up to 12 characters. Identifies the automatic reconfiguration plan that is to be affected by the Action .	

Table H-2. AUTOMATIC RECONFIGURATIN PLAN Field Descriptions (Contd)

ARP Status	Inaccessible through this form. Indicates whether the specified item has been EXECUTED or is IDLE. IDLE means either never been executed or executed and subsequently made IDLE. This field appears only if List Type is RP.
List Type	Specifies the type of item to which this Action applies: RP The item is an RP. ALARM The item is an NPC to be placed on or removed from the alarm list. If an NPC is on the list, a critical or major alarm from it will trigger the ARP.
Sequence	Up to five characters. Specifies the sequence number identifying the entry, in the plan, that is to be affected by the Action .
Site Name	Mandatory. 1-24 alphanumeric characters. Identifies the site to which the items of the RP specified in RP ID are to apply, provided the List Type is RP. If the List Type is ALARM, Site Name identifies the site where the NPC to be placed on the alarm list is located.
RP ID	Up to 12 characters. Identifies the RP that is to execute.
Number (Hier)	Appears only for a List Type of ALARM. The NPC number in hierarchical format of the NPC whose alarm will trigger the ARP.
(Ext)	Appears only for a List Type of ALARM. The previous NPC number, but in extended format.
NPC ID	Appears only for a List Type of ALARM. 1-41 characters. The NPC ID of the NPC whose alarm will trigger the ARP. The NPC must be in the database; for example, must have been created under NPC PROVISIONING.

Automatic Reconfiguration Plan Examples

The examples below describe how to create an Automatic Reconfiguration Plan, and how to insert Reconfiguration Plans and Alarm List items.

Example: Creating an Automatic Reconfiguration Plan

To create an Automatic Reconfiguration Plan, follow these steps:

1. Select AUTOMATIC RECONFIGURATION PLAN from the PROVISIONING menu.
2. Enter the following data:
 - **Action:** CREATE
 - **ARP ID:** newplan

The DND searches the database for a plan of that ID.

3. Press **EXECUTE** and select IMMEDIATE or YES. The **ARP Status** changes to IDLE. In addition, a completion message for the DND is displayed.
4. If the plan already exists, you are notified:

New Automatic Reconfiguration Plan must have unique ID
5. You are required to acknowledge.

Example: Inserting Reconfiguration Plans and Alarm List Items

To insert a Reconfiguration Plan and Alarm List Items, follow these steps:

1. Select AUTOMATIC RECONFIGURATION PLAN from the PROVISIONING menu.
 2. Enter the following data:
 - **Action:** INSERTAdditional fields are displayed on the screen.
 3. Enter the following data:
 - **ARP ID:** newplan
 - **List Type:** RP
 4. The next sequence number is automatically displayed.
 5. Enter the following data:
 - **Site Name:** DACS02
 - **RP ID:** testplan
 6. Press **EXECUTE** and select IMMEDIATE or YES.
A completion message is displayed.
 7. To add an NPC to the alarm list, navigate to **List Type** and enter:
 - **List Type:** ALARM
 - **Sequence:** automatically supplied.
 - **Site Name:** DACS02
 - **NPC ID:** dgrp01
 8. Press **EXECUTE** and select IMMEDIATE or YES.
A completion message is displayed.
- Reports are available for each ARP. The Reports list the RPs and NPCs whose alarms will trigger the ARP. Refer to Appendix M "Report Operations."

Database Administration - DND

Forms Interface



Contents

■ Introduction	I-1
■ Database Administration Menu	I-2
DATABASE AUDIT/SYNCHRONIZATION Form	I-3
Field Descriptions	I-4
Single Channel Mode	I-7
Field Descriptions	I-8
Procedure: Scheduling an NPC Audit	I-9
Procedure: Printing an NPC Audit	I-11
Procedure: Performing a Channel Audit	I-12
Procedure: Performing a Synchronization	I-14
Procedure: Performing a Subrate Audit	I-15
Procedure: Performing a Subrate Sync	I-16
Procedure: Uploading the DND Database	I-17
Procedure: Initiating an ABORT Action	I-18
■ Backing Up and Restoring DND Databases	I-19
BACKUP/RESTORE Menu	I-20
Procedure: Backing Up Database to Tape	I-21
Procedure: Restoring a Database From Tape	I-23
Restoring Selected Databases	I-24

Procedure: Backing Up The Alarm Log to Tape	I-25
Procedure: Restoring Alarm Log From Tape	I-27
Procedure: Backing Up An Alarm Log to Diskette	I-28
Procedure: Restoring An Alarm Log from Diskette	I-30
Procedure: Formatting a Diskette	I-31
■ Entering and Retrieving Outage Data	I-32
Procedure: Entering Outage Log Data	I-33
Field Descriptions	I-34
Procedure: Inserting a Record in the NPC Outage Log	I-36
Procedure: Retrieving Outage Data	I-37
■ Moving a Database from One DND to Another	I-38

Database Administration - DND Forms Interface



Introduction

This Appendix provides the forms, field descriptions and procedures for Database Administration for the DND Forms Interface. For Additional information refer to Chapter 10, "Database Audit/Synchronization."

Database Administration Menu

Select DATABASE ADMINISTRATION from the MAIN MENU. The DATABASE ADMINISTRATION menu is displayed, as shown in Figure I-1.

The screenshot shows a terminal window with the following text:

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:
----- DATABASE ADMINISTRATION -----
- DATABASE AUDIT/SYNCHRONIZATION
  BACKUP/RESTORE
  ENTER OUTAGE DATA

Press ENTER to Perform Database Audit/Synchronization
```

At the bottom of the window, there is a row of buttons: HELP, a blank button, a blank button, QUIT, a blank button, TOP MENU, PRINT, and a blank button.

Figure I-1. DATABASE ADMINISTRATION Menu

DATABASE AUDIT/SYNCHRONIZATION Form

Select DATABASE AUDIT/SYNCHRONIZATION from the DATABASE ADMINISTRATION menu. The DATABASE AUDIT/SYNCHRONIZATION form is displayed, as shown in Figure I-1.

This example shows every possible field that can appear on this form. However, the fields that you see vary according to the values in the **Action** and the **Mode** fields.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

DATABASE AUDIT/SYNCHRONIZATION

Site Name:

Action:	Mode:	Master DB:
NPC ID:		Channel:
Hier:	Ext:	
Last NPC ID:		
Hier:	Ext:	

	LOCAL INFO		DACS INFO	
	Fr:	To:	Fr:	To:

NPC:
Ch:
IW:
Term:
Opts:
SC:
TC:

Enter site name

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure I-2. DATABASE AUDIT/SYNCHRONIZATION Form

Field Descriptions

The field descriptions for the DATABASE AUDIT/SYNCHRONIZATION form are described in Table I-1.

Table I-1. DATABASE AUDIT/SYNCHRONIZATION Field Descriptions

Site Name	Mandatory. 1 through 24 characters from the set A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name. The name of the DACS where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the DACS names. These names were established during frame administration, described in Appendix D "System Administration."
Action	Mandatory. Specifies the type of audit/synchronization to be executed. For full details, be sure to refer to the introduction to each Action, given previously in this appendix. ALARM SYNC Performs a synchronization of Alarm State only, on the same NPCs as would be specified by ALL LOCAL NPC Mode. This Action is a manual version of automatic alarm synchronization described in the NPC Alarm Sync field under DACS administration in Appendix D "System Administration." CHANNEL AUDIT Compares local and facility cross-connection databases and logs differences in parameters that are common to the two. The range of channels to be compared is specified by Mode and channel selection fields. CHANNEL SYNC Compares local and facility cross-connection databases, logs differences in parameters that are common to the two, and synchronizes by eliminating those differences according to restrictions. The range of channels to be synchronized is specified by Mode and channel selection fields. NPC AUDIT/SYNC Compares local and facility NPC provisioning databases, logs differences in parameters that are common to the two, and synchronizes by eliminating those differences according to restrictions. The range of NPCs to be compared is specified by Mode or by Mode and NPC selection fields.

Table I-1. DATABASE AUDIT/SYNCHRONIZATION Field Descriptions (Contd)

Action (Continued)	UPLOAD	Initiates an NPC SYNC in ALL FACILITY NPCS Mode with DACS as Master DB , followed by a CHANNEL SYNC Action in ALL LOCAL NPCS Mode , again with Master DB . You can use UPLOAD to load the DND database initially with data taken from the DACS database. The UPLOAD Action only logs failures.
	ABORT	Cancels the audit/synchronization currently executing in the background or on queue.
Mode	Mandatory. Specifies the range of NPCs or channels to which the Action is to apply. A selection that is explicit about the NPCs, such as ALL FACILITY NPCS, also implies all the associated channels. The values are:	
	ALL FACILITY NPCS	Selects all NPCs that can be equipped in the DACS.
	ALL LOCAL NPCS	Selects all NPCs that are currently equipped in the local database.
	RANGE OF LOCAL NPCS	Indicates that the range of local NPCs to be considered is bounded by the NPC ID field or its corresponding Hier or Ext fields and the Last NPC ID field.
	RANGE OF FACILITY NPCS	Indicates that the range of facility NPCs to be considered is bounded by the NPC ID field or its corresponding Hier or Ext fields and the Last NPC ID fields.
	SINGLE NPC	Selects the channels of the NPC specified by NPC ID or the associated hierarchical or extended number.
	SINGLE CHANNEL	Selects the channel specified by the NPC ID or its Hier or Ext equivalents and the Channel .
Master DB	Appears for SYNC Action values only. Selects the master database for a synchronization. The values are:	
	DACS	Use the facility database as the master.
	LOCAL	Use the local database as the master.

Table I-1. DATABASE AUDIT/SYNCHRONIZATION Field Descriptions (Contd)

NPC ID	Mandatory. 1 through 41 characters from the printable ASCII character set, excluding *, \, ?, [,], ^, ", %, . Blanks are allowed in the name, but leading and trailing blanks are ignored. An identifier, or name, associated with the specified Number. The CREATE Action associates the name and number. Only one NPC ID can be associated with a Number within a DACS, and also, an NPC ID can be associated with only one NPC. An NPC ID uniquely identifies an NPC. An identifier, or name, associated with the specified Number. The CREATE Action associates the name and number. Only one NPC ID can be associated with a Number within a DACS, and also, an NPC ID can be associated with only one NPC. An NPC ID uniquely identifies an NPC.
Channel	Appears for AUDIT and SYNC Actions when the Mode is SINGLE CHANNEL. The channel number of the single channel to be audited or synchronized.
Hier	Appears with NPC ID . The NPC number in hierarchical format. Enter either this field or NPC ID or Ext .
Ext	Appears with NPC ID . The NPC number in extended format.
Last NPC ID	Appears for AUDIT and SYNC Actions when the RANGE Mode values are in effect. Specifies the last NPC ID of the range. Enter either it or the associated Hier or Ext .
Hier	Appears with Last NPC ID . The NPC number in hierarchical format.
Ext	Appears with Last NPC ID . The NPC number in extended format.

Single Channel Mode

This discussion and the fields below apply to **SINGLE CHANNEL Mode** only, as shown in Figure I-3.

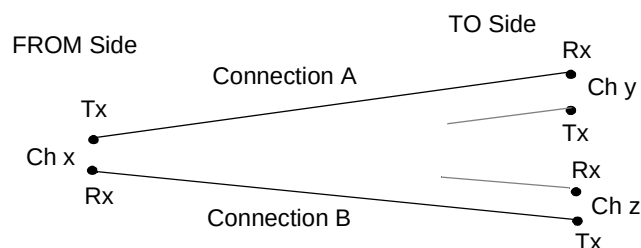


Figure I-3. Two Two-point, One-way Circuits

One channel has two directions. Figure I-4 depicts two one-way, two-point circuits (**Class** of HDX) utilizing the same channel, Ch x, at the FROM side.

In the case of a two-way, two-point circuit (**Class** of FDX) Ch y and Ch z are the same channel, and both directions are used for channel operation.

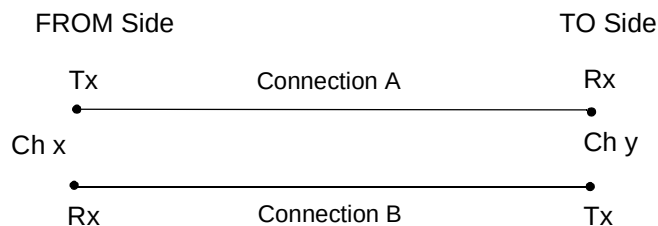


Figure I-4. A Two-point, Two-way Circuit

The FROM side **NPC ID** and **Channel** are stated in the upper screen. The fields in the bottom half of the screen, if they appear, state the TO side information. The **Fr NPC** states the hierarchical or extended number of the Tx side of Connection B; for example, at the TO side. In the FDX case, it is the same as the Rx side of Connection A.

Field Descriptions

The field descriptions that appear at the bottom of the screen are described in Table I-2.

Table I-2. Bottom Screen Field Descriptions

LOCAL INFO Fr	Display-only. The identifying information of the TO side Tx channel as that information appears in the local database. NPC is the hierarchical or extended number.
LOCAL INFO To	Display-only. The identifying information of the TO side Rx channel as that information appears in the local database.
DACS INFO Fr	Display-only. The identifying information of the TO side Tx channel as it appears in the DACS database.
DACS INFO To	Display-only. The identifying information of the TO side Rx channel as it appears in the DACS database.

Procedure: Scheduling an NPC Audit

This procedure schedules an NPC audit to run every day at 8:00 P.M.

To schedule an NPC Audit, follow these steps:

1. Select DATABASE ADMINISTRATION from the MAIN MENU and DATABASE AUDIT/ SYNCHRONIZATION from the DATABASE ADMINISTRATION menu. The DATABASE AUDIT/SYNCHRONIZATION form is displayed, as shown in Figure I-5.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

_____ DATABASE AUDIT/SYNCHRONIZATION _____

Site Name: DACS01
Action: NPC AUDIT Mode: ALL FACILITY NPCS

Enter site name: _____

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure I-5. DATABASE AUDIT/SYNCHRONIZATION Form

2. Enter these values in the following fields:

- **Site Name:** DACS01
- **Action:** NPC AUDIT
- **Mode:** ALL FACILITY NPCS

Procedure: Scheduling an NPC Audit (Continued)

3. Press **EXECUTE** and select SCHEDULE . Enter the following data:

- **Date:** 01 Dec 97
- **Time:** 20 00
- **Number of Times:** 00

**NOTE:**

00 indicates continuous.

- **Interval:** 01
- **Scale:** DAYS

4. Press **EXECUTE** again. The Command Completed Successfully message is displayed.

The audit is initiated at the scheduled time. You are notified of its completion status in the DND **Status** field at the top of the screen.

Procedure: Printing an NPC Audit

To print the results of the NPC audit, return to the MAIN MENU and follow these steps

1. Select REPORT OPERATIONS from the MAIN MENU and AUDIT/SYNCHRONIZATION RESULTS from the REPORT OPERATIONS menu. The AUDIT/SYNCHRONIZATION SEARCH CRITERIA form is displayed, as shown in Figure I-6.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

AUDIT/SYNCHRONIZATION SEARCH CRITERIA

Site Name:DACS01

Action:NPC AUDIT Report Type:DETAILED

NPC ID:
Hier: Ext:

Last NPC ID:
Hier: Ext:

Date: Time: : :

Enter the Site name

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure I-6. AUDIT/SYNCHRONIZATION SEARCH CRITERIA Form

2. Enter the **Site Name** and **Action** NPC AUDIT. Then press **EXECUTE** and confirm. You are notified that the report request will be executed in the background. When the report is complete, the following status message is displayed:

Report Generation is completed.
The DND **Status** message appears and the cursor moves to DISPLAY LAST GENERATED REPORT.
3. Press **Enter** to select DISPLAY LAST GENERATED REPORT.
4. Select SCREEN or PRINTER from the insert. The AUDIT/SYNCHRONIZATION RESULTS report is printed or displayed.

Procedure: Performing a Channel Audit

To perform a channel audit, follow these steps:

1. Select DATABASE ADMINISTRATION from the MAIN MENU and DATABASE AUDIT/SYNCHRONIZATION from the DATABASE ADMINISTRATION menu.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** CHANNEL AUDIT
 - **Mode:** RANGE OF LOCAL NPCS

The NPC range fields are displayed, as shown in Figure I-7.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

————— DATABASE AUDIT/SYNCHRONIZATION —————

Site Name: DACS01

Action: CHANNEL AUDIT Mode: RANGE OF LOCAL NPCS

NPC ID:
Hier: Ext:

Last NPC ID:
Hier: Ext:

————— Enter the NPC Identifier —————

HELP QUIT TOP MENU PRINT EXECUTE

Figure I-7. NPC Range Fields

Procedure: Performing a Channel Audit (Continued)

3. Enter the following data:

- **NPC ID:** firstnpc
- The **Hier** and **Ext** fields are automatically filled in. You could have entered one of them and the other two fields would have been filled in.
- **Last NPC ID:** lastnpc

The **Hier** and **Ext** fields are automatically filled in.

4. Press **EXECUTE** and select IMMEDIATE. The following events take place:

- A command response window appears notifying you that the job will be run in the background. Press **Enter**.
- The audit is placed on queue to be executed in the background.
- An IN PROGRESS message is displayed in the DND **Status** line.
- When the job is complete, IN PROGRESS changes to NO LONGER IN PROGRESS.

Procedure: Performing a Synchronization

This example illustrates how to schedule a one-time background synchronization at 6:00 A.M.

To perform a synchronization, follow these steps:

1. Obtain the DATABASE AUDIT/SYNCHRONIZATION form.

2. Enter the following data:

- **Site Name:** DACS01
- **Action:** NPC SYNC
- The **Master DB** field appears.

3. Enter the following data:

- **Mode:** ALL FACILITY NPCS
- **Master DB:** DACS



NOTE:

The **Mode** must be compatible with the **Master DB**. If you enter LOCAL with ALL FACILITY NPCS, you get an error message on execution.

4. Press **EXECUTE** and select SCHEDULE.

5. Enter these values:

- **Date:** 01 Dec 97
- **Time:** 06 00
- **Number of Times:** 01

6. Press **EXECUTE**. The Command Completed Successfully message is displayed. In addition, the synchronization is initiated at the scheduled time. You are notified of its completion status in the DND **Status** field at the top of the screen.

Procedure: Performing a Subrate Audit

To perform a subrate audit, follow these steps:

1. Select DATABASE ADMINISTRATION from the MAIN MENU and DATABASE AUDIT/SYNCHRONIZATION from the DATABASE ADMINISTRATION menu.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** SUBRATE AUDIT
 - **Mode:** RANGE OF LOCAL NPCS
3. Enter the following data:
 - **NPC ID:** firstnpc
 - The **Hier** and **Ext** fields are automatically filled in. You could have entered one of them and the other two fields would have been filled in.
 - **Last NPC ID:** lastnpc

The **Hier** and **Ext** fields are automatically filled in.
4. Press **EXECUTE** and select IMMEDIATE. The following events take place:
 - A command response window appears notifying you that the job will be run in the background. Press **Enter**.
 - The audit is placed on queue to be executed in the background.
 - An IN PROGRESS message is displayed in the DND **Status** line.
 - When the job is complete, IN PROGRESS changes to NO LONGER IN PROGRESS.

Procedure: Performing a Subrate Sync

To perform a subrate synchronization, follow these steps:

1. Obtain the DATABASE AUDIT/SYNCHRONIZATION form.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** SUBRATE SYNC
 - The **Master DB** field appears.
3. Enter the following data:
 - **Mode:** ALL FACILITY NPCS
 - **Master DB:** DACS



NOTE:

The **Mode** must be compatible with the **Master DB**. If you enter LOCAL with ALL FACILITY NPCS, you get an error message on execution.

4. Press **EXECUTE** and select SCHEDULE.
5. Enter these values:
 - **Date:** 01 Dec 97
 - **Time:** 04 00
 - **Number of Times:** 01
6. Press **EXECUTE**. The Command Completed Successfully message is displayed. In addition, the synchronization is initiated at the scheduled time. You are notified of its completion status in the DND **Status** field at the top of the screen.

Procedure: Uploading the DND Database

This example illustrates how to upload the DND database from a specified DACS.

To upload the database, follow these steps:

1. Obtain the DATABASE AUDIT/SYNCHRONIZATION form.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** UPLOAD
3. Press EXECUTE and select SCHEDULE.
4. Enter the follow data:
 - **Date:** 01 Dec 97
 - **Time:** 06 00
 - **Number of Times:** 01

The upload is initiated at the scheduled time. You are notified of its completion status in the DND **Status** field at the top of the screen.

To obtain reports of the results of an UPLOAD, print AUDIT/SYNCHRONIZATION RESULTS reports, selecting **Actions** of NPC SYNC and CHANNEL SYNC on the SEARCH CRITERIA forms.

Procedure: Initiating an ABORT Action

The ABORT **Action** causes the currently executing audit/synchronization task to terminate after receiving the response to the last query sent to the DACS. If the task queued, it is just removed from the queue.

To initiate an ABORT action, follow these steps:

1. Obtain the DATABASE AUDIT/SYNCHRONIZATION form.
2. Enter the following data:
 - **Site Name:** DACS01
 - **Action:** ABORT

The **Mode** field disappears from the screen.

3. Press **EXECUTE** and confirm. The Command Completed Successfully message is displayed.

Backing Up and Restoring DND Databases

The DND maintains the following data:

- The DND common database, named COMMON. It contains information common to all configured frames.
- The DND report formats, named REPORT FORMATS.



NOTE:

The REPORT FORMATS are contained within the COMMON database. They are made available separately to allow easy transport of report formats. However, backing up COMMON also backs up REPORT FORMATS.

- One database for each DACS in the system, with names the same as the **Site Names**. Each database contains data specific to one DACS.
- Some DND logs.

The DACS have their own databases, apart from the DND system, which they utilize even if they are not connected to the DND. Backing up or restoring a DND database, whether it is COMMON, REPORT FORMATS, or a database named with a site name, does not affect a DACS-installed database in any way.



NOTE:

All backup actions to tape or diskette will overwrite the current contents of the media.

BACKUP/RESTORE Menu

To obtain the BACKUP/RESTORE menu, select it from the DATABASE ADMINISTRATION menu. The BACKUP/RESTORE menu is displayed, as shown in Figure I-8.

The screenshot shows a terminal window with the following content:

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

      _____  BACKUP/RESTORE  _____

      -DATABASE BACKUP/RESTORE (TAPE)
      DATABASE BACKUP/RESTORE (TAPE)
      LOG BACKUP/RESTORE (DISKETTE)
      REPORT FORMAT BACKUP/RESTORE (DISKETTE)
      FORMAT DISKETTE

Press ENTER to backup/restore a database to tape _____
```

At the bottom of the window, there is a row of buttons: HELP, a blank button, a blank button, QUIT, a blank button, TOP MENU, PRINT, and a blank button.

Figure I-8. BACKUP/RESTORE Menu

Before restoring the COMMON database, REMOVE all frames from service (refer to "Frame Provisioning" in Appendix D "System Administration").

A backup or a database restore may fail if one of the following conditions exist:

- FRAME PROVISIONING request is in progress, for example, adding or deleting a DACS, or changing the name of a DACS.
- A message log recovery is in progress on the DACS that is to be backed up.

A database restore may also fail or be denied:

- If an audit/sync is running on the DACS that is to be backed up.
- The database on the tape was not created from the same DACS release that is currently running on the DND.
- The language on the database is not consistent with the language of the DND.

Procedure: Backing Up Database to Tape

The tape backup feature offers capabilities to back up all databases (**Action** of FULL BACKUP) or selected databases (**Action** of SELECTIVE BACKUP). The following example demonstrates how to select databases.

To backup a database to tape, follow these steps:

1. Select DATABASE BACKUP/RESTORE (TAPE) from the BACKUP/RESTORE menu.
The sample screens shown in Figure I-8 display a FULL BACKUP and a FULL RESTORE for COMMON and 30 other databases.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

————— DATABASE BACKUP/RESTORE (TAPE) —————

Action: FULL BACKUP	ISX2
COMMON	ISX3
ISX	ISX4
CEF	ISX5
CEF2	ISX6
CEF3	ISX7
CEF4	ISX8
CEF5	ISX9
CEF6	ISX10
CEF7	ISX11
CEF8	ISX12
CEF9	ISX13
CEF10	ISX14
CEF11	ISX15
ISX1	ISX16
	ISX17
	ISX18

Enter desired action —————

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure I-9. DATABASE BACKUP/RESTORE (TAPE) Form

Procedure: Backing Up Database to Tape (Continue)

```

12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

      DATABASE BACKUP/RESTORE (TAPE)

Action: FULL RESTORE

COMMON
ISX
CEF
CEF2
CEF3
CEF4
CEF5
CEF6
CEF7
CEF8
CEF9
CEF10
CEF11
ISX1
ISX2
ISX3
ISX4
ISX5
ISX6
ISX7
ISX8
ISX9
ISX10
ISX11
ISX12
ISX13
ISX14
ISX15
ISX16
ISX17
ISX18

Enter desired action

HELP  CHOICES  QUIT  TOP MENU  PRINT  EXECUTE

```

Figure I-10. DATABASE BACKUP/RESTORE (TAPE) Form

- Enter **SELECTIVE BACKUP** in the **Action** field or select it with the **CHOICES** key. An insert pops up asking **WHICH DATABASES?** and displaying the existing database names. This is a multiselect menu. The **SELECT** and **UNSELECT** keys are enabled.
- Use the **SELECT** key to select as many databases as you want. Selected databases remain highlighted even though the cursor is not on them. When finished, press **Enter**. The selected databases are listed in the form.
- Insert the tape cartridge into the drive.
- Press **EXECUTE** and confirm.

The following messages are displayed in this order:

Unloading name database into files...

Copying name database files onto tape...

Messages similar to those above are repeated for as many databases as are selected.

- When the DND successfully completes the backup, the following message is displayed:

The Command Completed Successfully

- If the command fails, an insert appears stating the reason. To try again, reselect the databases.

Procedure: Restoring a Database From Tape

The tape restore feature offers capabilities to restore:

- All databases (**Action** of FULL RESTORE)
- Selected databases (**Action** of SELECTIVE RESTORE).



NOTE:

On successful completion of a COMMON database RESTORE, the DND system restarts.

When selecting a FULL backup/restore, you can abort the backup/restore by pressing the **DELETE** key twice. The action may not stop immediately; however, the command will stop the backup/restore process after the action on the current database is complete.



WARNING:

Restoral of the COMMON database where the current DND hardware ports configuration is not identical to that of the backup DND may cause the system to run in a degraded manner.



WARNING:

Before doing a full restore, or any restore that involves the COMMON database, it is recommended that all DACSs be removed from service. It is also recommended that all users be logged off before doing a full restore.



WARNING:

It is recommended that you not perform a partial restore that includes the COMMON database unless you are certain that the FRAME PROVISIONING information on the existing COMMON database and the one on tape is the same.



NOTE:

A SELECTIVE RESTORE using a DACS database that does not already exist at the DND will fail. To copy that database to the DND, first go to FRAME PROVISIONING and CREATE a DACS of the same name, then use SELECTIVE RESTORE to restore that database from tape into the newly created DACS.

Restoring Selected Databases

The following procedure demonstrates how to restore selected databases.

To restore a database from tape, follow these steps:

1. Select DATABASE BACKUP/RESTORE (TAPE) from the BACKUP/RESTORE menu. The DATABASE BACKUP/RESTORE (TAPE) form.
2. Insert the tape cartridge into the drive.
3. Enter SELECTIVE RESTORE in the **Action** field or select it with the **CHOICES** key. The tape is read. An insert pops up asking WHICH DATABASES? and displaying the names of the databases on tape. This is a multiselect menu.
4. Use the **SELECT** key to select as many databases as you want.
5. When finished, press **Enter**. The databases selected along with the time stamp on the tape are displayed.
6. Press **EXECUTE** and confirm. The following messages are displayed in the following order:

Copying name database files from tape...
Loading name database files...
Messages similar to those above are repeated for as many databases as are selected.
7. When the DND successfully completes the restore, the following message is displayed:

The Command Completed Successfully
8. If the command fails, an insert appears stating the reason.

Procedure: Backing Up The Alarm Log to Tape

The tape backup feature offers capabilities to back up the alarm log for all (**Action** of FULL BACKUP) or selected databases (**Action** of SELECTIVE BACKUP). The following example demonstrates how to select databases.

To backup the alarm log to tape, follow these steps:

1. Select LOG BACKUP/RESTORE (TAPE) from the BACKUP/RESTORE menu. The LOG BACKUP/RESTORE (TAPE) form is displayed, as shown in Figure I-11, with **Type** fixed at ALARM.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

LOG BACKUP/RESTORE (TAPE)

Action: Type:ALARM Database Name:

Enter desired action

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure I-11. LOG BACKUP/RESTORE (TAPE) Form

2. Enter SELECTIVE BACKUP in the **Action** field or select it with the **CHOICES** key. An insert pops up asking WHICH DATABASES? and displaying the existing database names. This is a multiselect menu. The **SELECT** and **UNSELECT** keys are enabled.
3. Use the **SELECT** key to select as many databases as you want. Selected databases remain highlighted even though the cursor is not on them. When finished, press **Enter**. The selected databases are listed in the form.
4. Insert the tape cartridge into the drive.

Procedure: Backing Up The Alarm Log to Tape (Continued)

5. Press **EXECUTE** and confirm. The following messages are displayed in this order:
 - Unloading name database into files.
 - Copying name database files onto tape...
 - Messages similar to those above are repeated for as many sites as are selected.
6. When the DND successfully completes the backup, the following message is displayed:
 - The Command Completed Successfully
 - If the command fails, an insert appears stating the reason. To try again, reselect the sites.

Procedure: Restoring Alarm Log From Tape

The tape restore feature offers capabilities to restore:

- Alarm log for all databases (**Action** of FULL RESTORE)
- Alarm log for selected databases (**Action** of SELECTIVE RESTORE).

The following example demonstrates how to restore selected databases.

To restore an alarm log from tape, follow these steps:

1. Select LOG BACKUP/RESTORE (TAPE) from the BACKUP/RESTORE menu. The LOG BACKUP/RESTORE (TAPE) form is displayed, with **Type** set at ALARM.
2. Insert the tape cartridge into the drive.
3. Enter SELECTIVE RESTORE in the **Action** field or select it with the CHOICES key. The tape is read. An insert pops up asking WHICH DATABASES? and displaying the names of the databases on tape. This is a multiselect menu.
4. Use the SELECT key to select as many databases as you want.
5. When finished, press Enter. The databases selected along with the time stamp on the tape are displayed.
6. Press EXECUTE and confirm. The following messages appear in this order:

Copying name database files from tape...
Loading name database files...
Messages similar to those above are repeated for as many sites as are selected.
7. When the DND successfully completes the restore, the following message is displayed:

The Command Completed Successfully
8. If the command fails, an insert appears stating the reason.

Procedure: Backing Up An Alarm Log to Diskette

To back up an alarm log to a diskette, follow these steps:

1. Select LOG BACKUP/RESTORE (DISKETTE). The LOG BACKUP/RESTORE (DISKETTE) form is displayed, as shown in Figure I-12.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

LOG BACKUP/RESTORE (DISKETTE)

Action:BACKUP Type:ALARM Database Name:

Enter desired action

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure I-12. LOG BACKUP/RESTORE (DISKETTE) Form

2. Enter BACKUP in the **Action** field.
3. Enter the name of the database in the **Database Name** field. The possibilities can be listed with **CHOICES**.
4. Press **EXECUTE** and confirm.

Procedure: Backing Up An Alarm Log to Diskette (Continued)

The named database is unloaded to an ASCII temporary file. The LOG BACKUP/RESTORE (DISKETTE) screen is displayed, as shown in Figure I-13.

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:
----- LOG BACKUP/RESTORE (DISKETTE) -----

Action:BACKUP  Type:ALARM  Database Name:DACS00

Insert formatted diskette #<nn>
Press enter to continue or any other key to quit

Enter desired action
```

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure I-13. Insert Disk Prompt

5. Insert a diskette and press **Enter**. The DND writes the log to diskette. When the backup is complete, The Command Completed Successfully message is displayed.

**NOTE:**

After the log is backed up, be sure to label it with number sequence and contents.

Procedure: Restoring An Alarm Log from Diskette

To restore an alarm log from diskette, follow these steps:

1. From the BACKUP/RESTORE menu, select LOG BACKUP/RESTORE (DISKETTE) and enter an **Action** of RESTORE.
2. Enter the name of the site in the **Database Name** field. Pressing **CHOICES** lists the names of the DND sites.
3. Press **EXECUTE** and confirm.
4. You are prompted for the diskette. Insert the diskette into the drive. Press **Enter**.

To backup or restore the report formats of the DND to a diskette, follow these steps:

1. Select REPORT FORMAT BACKUP/RESTORE (DISKETTE) from the BACKUP/RESTORE menu.
2. Following the prompt, insert the diskette into the drive.
3. Choose BACKUP or RESTORE from the **Action** field.
4. Press **EXECUTE**.

Procedure: Formatting a Diskette

To format a diskette, follow these steps:

1. Select FORMAT DISKETTE from the BACKUP/RESTORE menu.
2. Following the prompt, insert the diskette into the drive. But first, make sure the write-protect notch is covered.
3. Press **Enter**. The diskette is formatted. The system will prompt you with the following message:

formatting

...

where the number of dots under the word formatting increases as the format progresses.

4. Press any key to continue. You return to the BACKUP/RESTORE menu.
5. Repeat the procedure for the remaining diskettes.

Entering and Retrieving Outage Data

The ENTER OUTAGE DATA selection allows you to keep electronic notebooks, or logs, on NPC and circuit outages that have occurred on a DACS. You collect the data to be placed in a log. An advantage to keeping the log is that you can generate a report to obtain a formatted, hard-copy log.

Two logs are available:

- NPC outage log
- Circuit outage log

The logs allow you to record when an NPC or circuit, respectively, became nonfunctional, and when you restored service on them. You can store, change, or remove records for each log.

Procedure: Entering Outage Log Data

To obtain the OUTAGE LOG data, follow these steps:

1. Select DATABASE ADMINISTRATION from the MAIN MENU.
2. Select ENTER OUTAGE DATA from the DATABASE ADMINISTRATION menu. The OUTAGE LOG form is displayed, as shown in Figure I-14.

The screenshot shows a terminal-style window titled "OUTAGE LOG". At the top, it displays the date and time "12:04 10 Apr 1998" and version information "DND R1.0.1 / DND Forms R5.0.2". Below this, it shows "Status:" and "Alarms:". The main area of the form contains the following fields:

- Site Name: DACS00
- Outage Type: NPC
- Action: INSERT
- Record No:
- Outage ID:
- Date Out: Time Out: : :
- Date In: Time In: : :

At the bottom of the form area, there is a prompt "Enter site name:". Below the form area, there is a row of buttons: HELP, CHOICES, a small empty box, QUIT, another small empty box, TOP MENU, PRINT, and EXECUTE.

Figure I-14. OUTAGE LOG Form

Field Descriptions

The field descriptions for the OUTAGE LOG form are described in Table I-3.

Table I-3. Outage Log Field Descriptions

Site Name	Mandatory. 1 through 24 characters from the set A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name. The name of the DACS where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the DACS names. These names were established during frame administration, described in Appendix D "System Administration."
Outage Type	Mandatory. The log to be affected by the Action. NPC Selects the outage log for an NPC. CIRCUIT Selects the outage log for a circuit.
Action	Mandatory. The type of record handling to be performed INSERT Places the record in the log. CHANGE Modifies the record. DELETE Removes the record from the log. DESTROY Removes all records from the log.
Record No.	A sequence number, 1 through 9999, that is automatically assigned during an INSERT Action, and can be entered in other Actions. Each circuit or NPC can have up to 9999 outage records. The default is the next highest value for the set of entries for a circuit or NPC. After a deletion, the records in the sequence are renumbered automatically.
Outage ID	Mandatory. 1 through 41 characters. The ID of the NPC or circuit for which the outage is being recorded. IDs that are not provisioned are not accepted.
Date Out	Three fields stating the date on which the outage began, in the format: dd mmm yy If you do not enter a Date Out when inserting an outage record, the default is the current date. where dd can be one or two digits, mmm is the first three letters of the month in either upper or lower case, and yy is the last two digits of the current year. 90-99 are valid entries.

Table I-3. Outage Log Field Descriptions (Contd)

Time Out	Three fields stating the time on which the outage began, in the format: hh:mm:ss where hh is 0 through 24 hours (00:01 follows 24:00), mm is 0 through 59 minutes, and ss is 0 through 59 seconds. The default is the current time.
Date In	The date the outage was cleared. If you do not enter a Date In when inserting an outage record, the default is the current date.
Time In	The time the outage was cleared. The default is the current time.

Procedure: Inserting a Record in the NPC Outage Log

To insert a record in the NPC outage log, follow these steps:

1. On the OUTAGE LOG form, enter the following data:
 - **Site Name:** DACS01
 - **Outage Type:** NPC
 - **Action:** INSERT
 - **Record No:** 0001
 - **Outage ID:** NPC01101
 - **Date Out:** 01 Nov 97
 - **Time Out:** 01:34:26
 - **Date In:** 01 Dec 97
 - **Time In:** 06 15 22
2. Press **EXECUTE** and confirm. The DND completion message is displayed.



NOTE:

If you get a COMMAND DENIAL WINDOW with a message CANNOT INSERT OR CHANGE OUTAGE LOG WHEN OUTAGE ID NOT IN SYSTEM, then your NPC has not been provisioned when the **Outage Type** is NPC or your circuit has not been provisioned when the **Outage Type** is CIRCUIT.

Procedure: Retrieving Outage Data

To obtain a report on the data from an OUTAGE DATA LOG, follow these steps:

1. Select REPORT OPERATIONS from the MAIN MENU.
2. Select OUTAGES from the REPORT OPERATIONS menu.
3. On the OUTAGE SEARCH CRITERIA form, only the **Site Name** and **Outage Type** are required. Enter them. **Outage Type** selects the log.
4. The ID field that appears on the screen depends on the **Outage Type** that you entered. Not entering an ID selects all NPCs or circuits in the log.

Another method of selecting is to enter a **Record Number** expression, if you know or can guess the record sequence numbers of the log. The **Record Number** field description is described in Table I-3. Field Descriptions

Field descriptions for the record number are listed in Table I-4.

Table I-4. Record Number Field Descriptions

Record Number	Two fields specifying a range of record numbers: <number specifies all numbers less than number. >number specifies all numbers greater than number. number specifies only the number. The default of blanks in both fields selects all numbers, except as qualified by the additional fields.

5. When you have entered the selection criteria, press **EXECUTE** and confirm. The screen temporarily displays the following message:

SENDING REPORT GENERATION REQUEST. WAITING FOR REPLY.
COMMAND WILL BE EXECUTED IN BACKGROUND.
6. Press **Enter** to acknowledge the command response.
7. The REPORT OPERATIONS screen is displayed with DISPLAY LAST GENERATION REPORT selected. Press **Enter**.
8. Select SCREEN or PRINTER. The report is printed or displayed.

Moving a Database from One DND to Another

You can use DATABASE BACKUP/RESTORE to move a DACS to another DND. First, do a SELECTIVE BACKUP of the DACS' database on tape. Take the tape to the other DND, provision a DACS at this DND with the same **Site Name** and do a SELECTIVE RESTORE. Finally, delete the DACS at the old site.

**WARNING:**

The same version of DND software must be running at both sites.

Task Administration

J

Contents

■ Introduction	J-1
■ TASK ADMINISTRATION Menu	J-2
TASK MANAGEMENT Form	J-3
Field Descriptions	J-4
Procedure: Listing Scheduled Tasks	J-5
Field Descriptions	J-6
Procedure: Deleting a Task	J-7
PRINTER QUEUE STATUS Form	J-8
Field Descriptions	J-9
Procedure: Displaying Printer Queue Status	J-10
Procedure: Removing a Printer Job From the Queue	J-12

Introduction

The TASK ADMINISTRATION selection of the MAIN MENU allows you to list or delete scheduled tasks. These tasks were scheduled by the user with the TASK SCHEDULING insert (refer to "Using the Execute Key" in Appendix C "Getting Started"). Once they have been deleted, you will have to reschedule to run them again.



NOTE:

This Appendix provides information for the DND Forms Interface only.

TASK ADMINISTRATION Menu

To obtain the TASK ADMINISTRATION menu, select TASK ADMINISTRATION from the MAIN MENU. The TASK ADMINISTRATION menu is displayed, as shown in Figure J-1.

The screenshot shows a terminal window with the following text:

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:
TASK ADMINISTRATION
-TASK MANAGEMENT
  PRINTER QUEUE STATUS
```

Below the menu items, there is a prompt: "Press ENTER to administer scheduled tasks". At the bottom of the window, there is a row of buttons: HELP, a blank button, a blank button, QUIT, a blank button, TOP MENU, PRINT, and a blank button.

Figure J-1. TASK ADMINISTRATION Menu

TASK MANAGEMENT Form

To view the queue of tasks, or to delete a task, select TASK MANAGEMENT. The TASK ADMINISTRATION Form is displayed, as shown in Figure J-2.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

————— TASK ADMINISTRATION —————

Action: Type:
Site Name: User ID:

Enter desired action

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure J-2. TASK ADMINISTRATION Form

Field Descriptions

The fields that appear on the screen depend on the value of **Type**. Field descriptions are described in Table J-1.

Table J-1. Task Administration Field Descriptions

Action	Mandatory. The selections for this field are: LIST Lists the scheduled tasks that you have specified in Type. DELETE Deletes the scheduled tasks that you have specified in Type. You can delete any of your own tasks. Only the system administrator can delete tasks scheduled by other users.
Type	Mandatory. Specifies which scheduled tasks you wish to list or delete. The selections are: TASK All tasks for a specified Site Name and User ID. SITE All tasks for a specified Site Name. USER All tasks for a specified User ID. ALL All scheduled tasks.
Site Name	Enter the name of the DACS where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the DACS names. These names were established during frame administration.
User ID	Mandatory for TASK and USER Types only. Enter the DND login name for the user whose task schedules you wish to LIST or DELETE.

Before you delete specified tasks, it is a good idea to take a look at them by selecting the LIST from the **Action** field. A DELETE **Action** does not automatically list tasks.

Procedure: Listing Scheduled Tasks

To list scheduled tasks, follow these steps:

1. Select TASK ADMINISTRATION from the MAIN MENU and TASK MANAGEMENT from the TASK ADMINISTRATION menu.
 - Enter the following data.
 - **Action:** LIST
 - **Type:** SITE
 - **Site Name:** testsite
2. Press **EXECUTE**. The TASK SELECTION insert pops up, describing the first task. Use **NEXT** and **PREVIOUS** to display descriptions of the other tasks on the list. An example of a displayed task is shown in Figure J-3.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

————— TASK ADMINISTRATION —————

Action:	Type:	Site Name:	User ID:
————— TASK SELECTION —————			
User ID:ems	Site:testsite	Task:NPC Provisioning	
Next Run:29Dec97 12:15:00	Last Run:	Interval:ONCE	
Desc:CREATE NPC 01101 PB144			

— Enter desired action —————

HELP PREVIOUS NEXT QUIT TOP MENU EXECUTE

Figure J-3. A Displayed Task

Field Descriptions

Table J-2 describes the fields for a displayed task in the TASK ADMINISTRATION form.

Table J-2. TASK ADMINISTRATION Field Descriptions

User ID	The login ID of the user who created the task.
Site	The Site Name of the DACS on which the task is scheduled to be implemented.
Task	The name of the form on which the task was created.
Next Run	The time when next execution of the task is scheduled to begin.
Last Run	The time when last execution of the task is scheduled to begin, if this is a task that runs more than once.
Interval	The interval, in minutes, hours or days, at which the task is scheduled to run.
Desc	A brief description of the task to be implemented.

Procedure: Deleting a Task

To delete a task, follow these steps:

1. Press **QUIT** and navigate to **Action**.
2. Enter DELETE.
3. Move to the **Type** field and enter the type of task to delete, for example, ALL.
4. Press **EXECUTE** and confirm. The command completed successfully message is displayed.

PRINTER QUEUE STATUS Form

To display and delete print requests in the print queue, select PRINTER QUEUE STATUS. The PRINTER QUEUE STATUS Form is displayed, as shown in Figure J-4.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

PRINTER QUEUE STATUS

Action: Printer Name: CONSOLE PRINTER

Printer Status: ENABLED

HELP CHOICES [] QUIT [] TOP MENU PRINT EXECUTE

Figure J-4. PRINTER QUEUE STATUS Form

Field Descriptions

The field descriptions for the PRINTER QUEUE STATUS form are described in Table J-3.

Table J-3. PRINTER QUEUE STATUS Descriptions

Action	Mandatory. Enter the action to be performed with regard to the printer job.
	LIST Select LIST to display the printer queue.
	CANCEL Select CANCEL to cancel any printer job already ENABLED.
Printer Name	Name of the printer. Press CHOICES for a list of valid printer names.
Printer Status	The printer status.

Procedure: Displaying Printer Queue Status

To display the printer queue status, follow these steps:

1. Select PRINTER QUEUE STATUS. The PRINTER QUEUE STATUS form is displayed, as shown in Figure J-5.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

PRINTER QUEUE STATUS

Action: Printer Name: CONSOLE PRINTER

Printer Status: ENABLED

HELP CHOICES [] QUIT [] TOP MENU PRINT EXECUTE

Figure J-5. PRINTER QUEUE STATUS Form

2. Select an **Action** of CANCEL from the **CHOICES** menu.
3. Select a **Printer Name** from the **CHOICES** menu.
4. Press **EXECUTE** and confirm. The populated PRINTER QUEUE STATUS form is displayed, as shown in Figure J-6.

Procedure: Displaying Printer Queue Status (Continued)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

PRINTER QUEUE STATUS

Action:LIST Printer Name:CONSOLE PRINTER

Printer Queue

Job no.	User	Size	Time
16	root	5	Nov 1 14:33 on printer
17	rootadm	6	Nov 1 14:33 on printer

Page x of y Display Page:n

Enter the page number

HELP NEXTPAGE PREVPAGE QUIT TOP MENU PRINT

Figure J-6. Sample Print-job Status

⇒ NOTE:
The Time column does not appear for Sun systems.

Procedure: Removing a Printer Job From the Queue

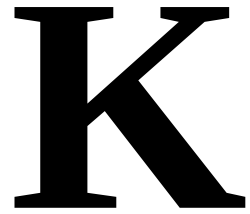
To remove a job from the queue, follow these steps:

1. Obtain the PRINTER QUEUE STATUS form.
2. Select an **Action** of CANCEL from the menu.
3. Select a **Printer Name** from the menu.
4. Press . The jobs are listed as for the LIST **Action**. However, an additional field, **Cancel**, appears before **Job No.**
5. Using , move the cursor to the beginning of the line for the job you want to cancel and type an x or X.
6. Press .

**NOTE:**

If the cursor remains on **Display Page**, you are in LIST rather than in CANCEL. Press and enter CANCEL as an **Action**.

User Administration



Contents

■ Introduction	K-1
■ Constraints	K-2
■ USER ADMINISTRATION Menu	K-2
USER MANAGEMENT Form	K-3
Field Descriptions	K-4
Procedure: Adding a User Login	K-6
CHANGE PASSWORD	K-7
Procedure: Changing Password as an Operator	K-7
Procedure: Changing Password as a System Administrator	K-8
Procedure: Entering the System on Loss of Password	K-9

Introduction

The DND supports a total of 128 logins: **dacsadm**, **cscan**, **ems**, and 125 others. The **dacsadm** login is a system administrator and cannot be deleted. The others can be system administrators or operators. After setup and configuration of ports and links, a system administrator adds logins and can ADD, CHANGE, or DELETE them thereafter. A CHANGE or DELETE on an active login is delayed until the login becomes inactive (logs off).

System administrators and operators are distinguished from each other by the DND functions they are permitted to use. System administrators always have unrestricted access to the DND; operators are restricted from certain selections. For example, all of the SYSTEM ADMINISTRATION and DATABASE ADMINISTRATION selections are reserved for the administrator. An operator can change his own user information and login, but only a system administrator can change any login's information. User access is defined by the **User Class** field on the USER MANAGEMENT form.

The DND supports up to 16 simultaneous login sessions. Some of them may be reserved for controllers. Users may log in after stating their **Login Name** and **Password**, provided a session is available. If it is not, login is denied. Controllers log in automatically.



NOTE:

This Appendix provides information for the DND Forms Interface only.

Constraints

The following constraints apply to passwords and logins:

- The login name must contain from two through eight alphanumeric characters with at least one lower case letter.
- Passwords must contain at least six characters with at least two alphabetic and at least one numeric or special character. Refer to the restrictions stated under "CHANGE PASSWORD", in this chapter.

The term alphabetic refers to all uppercase and lowercase letters. UNIX will disable upper/lower case password sensitivity whenever a login name is entered with all uppercase letters.

USER ADMINISTRATION Menu

To obtain the USER ADMINISTRATION menu, select USER ADMINISTRATION from the MAIN MENU. The USER ADMINISTRATION menu is displayed, as shown in Figure K-1.

The screenshot shows a terminal window with the following content:

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:
----- USER ADMINISTRATION -----
-USER MANAGEMENT
  CHANGE PASSWORD

Press ENTER to modify user parameters
```

At the bottom of the window, there is a row of buttons: HELP, a blank button, a blank button, QUIT, a blank button, TOP MENU, PRINT, and a blank button.

Figure K-1. USER ADMINISTRATION Menu

USER MANAGEMENT Form

To access the USER MANAGEMENT form, select USER MANAGEMENT from the USER ADMINISTRATION menu. The USER MANAGEMENT form is displayed, as shown in Figure K-2.

The screenshot shows a terminal window titled "USER MANAGEMENT". At the top, it displays the date and time "12:04 10 Apr 1998" and the version "DND R1.0.1 / DND Forms R5.0.2". Below this, the labels "Status:" and "Alarms:" are visible. The main area of the form contains a table of user information:

Action:	Login Name:
User Class:	Password:
User Name:	
Phone:	Printer Name:CONSOLE PRINTER
Address:	City:
Alarms Audible:	UI Idle Option:OFF

At the bottom of the form, there is a prompt "Enter desired action" followed by a series of buttons: HELP, CHOICES, a blank button, QUIT, another blank button, TOP MENU, PRINT, and EXECUTE.

Figure K-2. USER MANAGEMENT Form

Field Descriptions

Table K-1 describes the fields used in the USER MANAGEMENT form.

Table K-1. USER MANAGEMENT Field Descriptions

Action	Mandatory. ADD Adds a user login to the DND. CHANGE Changes USER MANAGEMENT fields other than the Login Name and Password. To change the Login Name, DELETE and ADD the login. To change the password, use the CHANGE PASSWORD selection. DELETE Deletes a user login from the DND.
Login Name	Mandatory. The login name by which the user will be known to the DND, and which will be required on login. Two through eight alphanumeric characters from the printable ASCII character set. One lower-case letter is required. Login Name may only contain alphanumeric characters (0-9, A-Z, and a-z). It may not contain control characters, punctuation marks, or spaces.
User Class	The type of login: OPERATOR The login is for an operator. ADMIN The login is for an administrator. CONTROLLER Not available.
Password	Mandatory. Appears only for an Action of ADD. The password, which will authorize entry to the DND system with the User Class field value in effect, and will be required on login.
User Name	Up to 40 alphanumeric characters including numbers, letters, dash, open parenthesis, closed parenthesis, period, comma, and space. The name of the person owning the login specified in Login Name .
Phone	Up to 13 alphanumeric characters, including 0-9, -, (,), comma, and space. The telephone number of the person cited in User Name .
Printer Name	Mandatory. The name of the printer to be in effect for this login. Use the CHOICES menu to select the name. The default, CONSOLE PRINTER, appears in every CHOICES menu. Names of remote printers installed in the printcap file of Sun systems also will appear. For more information, refer to Remote Printer Administration in Appendix C "Getting Started." To reset the Printer Name, use a CHANGE Action.

Table K-1. USER MANAGEMENT Field Descriptions (Contd)

Address	Up to 20 alphanumeric characters. The address of the person cited in User Name .
City	Up to 20 alphanumeric characters. The city of the person cited in User Name .
Alarms Audible	A switch: ON An audible signal should sound at the terminal where the user is logged in when an alarm occurs. OFF An audible signal should not sound.
UI Idle Option	Set a threshold value for terminal idle time: ON Log off automatically after IDLE_THRESHOLD minutes of idle time. See the description of the userenv file in Appendix C. OFF Remain logged on until the user logs off. The UI IDLE Option is accessible to the OPERATOR class. It is not accessible for the ADMIN and CONTROLLER user classes.

Procedure: Adding a User Login

To add a user login, follow these steps:

1. On the USER MANAGEMENT form, enter the following data:
 - **Action:** ADD
 - **Login Name:** NANCY
 - **User Class:** OPERATOR
 - **User Name:** Nancy Smith
 - **Phone:** (908)555-0000
 - **Address:** 101 Crawfords Corner Road
 - **City:** Holmdel, New Jersey
 - **Alarm Audible:** OFF
 - **UI Idle Option:** OFF
2. Navigate to the **Password** field and enter the password. The letters you type do not appear on the screen. Press **Enter**. The PASSWORD VERIFY FORM appears with the following message:

Reenter the password
Reenter the password and type VERIFY key

The label of the F8 key becomes **VERIFY**.
3. Retype the password and press **VERIFY**. The cursor goes to **User name**. The password is never displayed.
4. Press **EXECUTE** and confirm. The command completed successfully message is displayed.

CHANGE PASSWORD

The following restrictions apply to changing the password.

- The password can be changed only for the current user.
- Passwords must be at least six characters.
- Passwords must contain at least two letters and one nonletter, meaning one number or special character.
- #, @, -, **Backspace**, **Delete**, and other functional keystrokes are excluded.

Procedure: Changing Password as an Operator

To change the password as an operator, follow these steps:

1. Select CHANGE PASSWORD from the USER ADMINISTRATION menu. The following message is displayed:

Changing password for login name

2. You are prompted to enter

Old password:

Enter the old password. What you type does not appear on the screen. If you decide to abort the procedure, simply press **Delete** without typing a password. The message:

Sorry. Incorrect password.

is displayed, and you are returned to the USER ADMINISTRATION menu.

3. You are prompted to enter a new password:

New password:

Enter a new password and press **Enter**. If you decide to abort the procedure, press **Delete** to return to the USER ADMINISTRATION menu.

4. You are prompted to reenter the password:

Reenter new password:

Reenter the new one and press **Enter**. It is accepted only if it matches the new password just entered letter for letter, including case. At the bottom of the screen the following message is displayed:

Password successfully changed.

Procedure: Changing Password as a System Administrator

To change the password as a system administrator, follow these steps:

1. Select CHANGE PASSWORD from the USER ADMINISTRATION menu. The PASSWORD CHANGE FORM is displayed, as shown in Figure K-3.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

————— PASSWORD CHANGE FORM —————

Login Name: New Password:

Enter desired login name

HELP QUIT TOP MENU PRINT EXECUTE

Figure K-3. PASSWORD CHANGE Form

2. Enter the **Login Name** of the user whose password you want to change.
3. Enter the **New Password** and press **Enter**. The PASSWORD VERIFY FORM is displayed, with the prompt:
Re-enter the password
The message at the bottom of the screen is
Re-enter the password and press VERIFY key.
The 8th function key changes to **VERIFY**.
4. Re-enter the password and press **VERIFY**. The cursor returns to **Login Name**.

Procedure: Entering the System on Loss of Password

If you forget the password, then you will have to rely on the **root** password. Use the following procedure to gain access with the **root** password.

**NOTE:**

This procedure can only be followed by the system administrator at the console. If you are at a remote site, call the console site.

To enter the system with out a password, follow these steps:

1. At the login prompt, enter the word **root**:

login: root
and press .

2. Enter the **root** password that was established at software installation:

Password:

**NOTE:**

It is extremely important to enter and to remember a root password, both to prevent unauthorized access from the root login, and for purposes of recovery.

3. At the # prompt, type a command in the format

passwd {user}

For example, if the password is to be entered for a user of **ems**, type

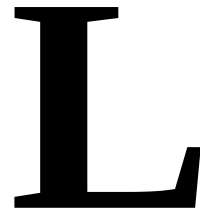
passwd ems

4. The system asks for a new password. Enter it, and be sure not to forget it.
5. Re-enter the same new password on request.
6. At the # prompt, type **exit**:

exit
and press .

7. Log in under **ems** with the new password.

Passthrough



Contents

■ Introduction	L-1
Prerequisites	L-1
■ Passthrough	L-2
Passthrough through X.25	L-2
Passthrough through SNIDER	L-2
■ Multiplexed Passthrough	L-3
Procedure: Entering a Multiplexed Passthrough	L-4
Full Passthrough	L-7
Procedure: Entering a Full Passthrough	L-8
■ Using Passthrough Selections	L-9
Passthrough Control Keys	L-9
Procedure: Terminating Passthrough	L-11
■ Frame Command Script	L-12
FRAME COMMAND SCRIPT Form	L-13
Field Descriptions	L-14
Procedure: Creating a Script File	L-16
Procedure: Writing a File to DOS Diskette	L-18
Procedure: Reading a File From DOS Diskette	L-20
Procedure: Executing a File	L-21

Introduction

The PASSTHROUGH selection of the MAIN MENU sets up direct communication with a DACS, bypassing the DND. This transparent mode is for DACS maintenance and administrative operations. This Appendix provides information for the DND Forms Interface only.

Two types of passthrough are supported:

- MULTIPLEXED PASSTHROUGH
- and PASSTHROUGH, also called *full passthrough*.

Prerequisites

Both types of passthrough are available for DACS II and DACS II ISX. Before you can establish either type of passthrough to a DACS, you must:

1. CREATE the DACS under FRAME ADMINISTRATION, described in Appendix D, "System Administration."
2. For multiplexed passthrough, RESTORE the DACS. The DACS must be in service and communicating with the DND for a multiplexed passthrough session to be established.
3. For full passthrough:

On a SNIDER connection, RESTORE the DACS. The DACS must be in service and communicating with the DND.

With an X.25 link, the DACS may be in service or out of service.



NOTE:

You cannot have a full and a multiplexed passthrough session running at the same time.

Passthrough

Passthrough through X.25

When you RESTORE a DACS with an X.25 link, a SVC connection is established from the DND to the DACS. A successful RESTORE results in a **Site Status** of IS P.

For Multiplexed Passthrough, the passthrough session shares the same SVC used by the DND for communicating to the DACS. The DACS must be in service and communicating with the DND. The Multiplexed Passthrough session may be used to observe messages being received from the DACS and processed by the DND.

For Full Passthrough, the passthrough session sets up a new SVC connection to the DACS, which is separate from that being used for DND communications. If no more SVC connections are available, a request to open a full passthrough session to the DACS is denied.

The DACS may be in service or out of service when you start a full passthrough session.

Passthrough through SNIDER

Multiplexed Passthrough and Full Passthrough are also supported on a SNIDER-based connection.

For Multiplexed Passthrough, the DACS must be in service and communicating with the DND. The passthrough session and the DND user share the same SNIDER connection to the DACS. The Multiplexed Passthrough session may be used to observe messages being received from the DACS and processed by the DND.

For a Full Passthrough session to be established through an asynchronous SNIDER connection, the DACS must be in service and communicating to the DND. The Full Passthrough session will take over the link to the DACS and no other commands from the DND will be allowed. However, echoed responses and alarms will continue to be processed.

Multiplexed Passthrough

This type of passthrough lets you communicate directly with the DACS in a multiplexed mode, sharing the link with others. It allows simultaneous access by all operators to a DACS over either a SNIDER link or a single X.25 SVC.

The DND supports these MULTIPLEXED PASSTHROUGH functions:

- Simultaneous passthrough sessions for each logged-in user on any DACS that is in service
- Command processing via the forms interface simultaneously with any active passthrough sessions
- Automatic termination of idle passthrough sessions
- Multiplexing of passthrough sessions onto a single communications circuit (SVC for X.25 or link for SNIDER) with the forms command processing interface for any DACS
- Aborting a session.

The MULTIPLEXED PASSTHROUGH capability does not use an entire communication link with a DACS just for the passthrough functions. Moreover, as far as is possible, it provides the same kinds of functionality as does full PASSTHROUGH.

The following constraints apply to MULTIPLEXED PASSTHROUGH:

- Do not use the ? help mode on the DACS.
- Do not use interactive commands to the DACS; for example, commands to log on to the DACS, or to edit macros and maps. If you inadvertently enter an interactive command, access to the DACS is temporarily suspended, until the DACS times out.



NOTE:

The link to the DACS must be set for MML.



NOTE:

You cannot have a full and a multiplexed passthrough session running at the same time.

Procedure: Entering a Multiplexed Passthrough

To enter a multiplexed passthrough, follow these steps:

1. Select PASSTHROUGH from the MAIN MENU. The PASSTHROUGH Choices pop-up menu is displayed, as shown in Figure L-1.

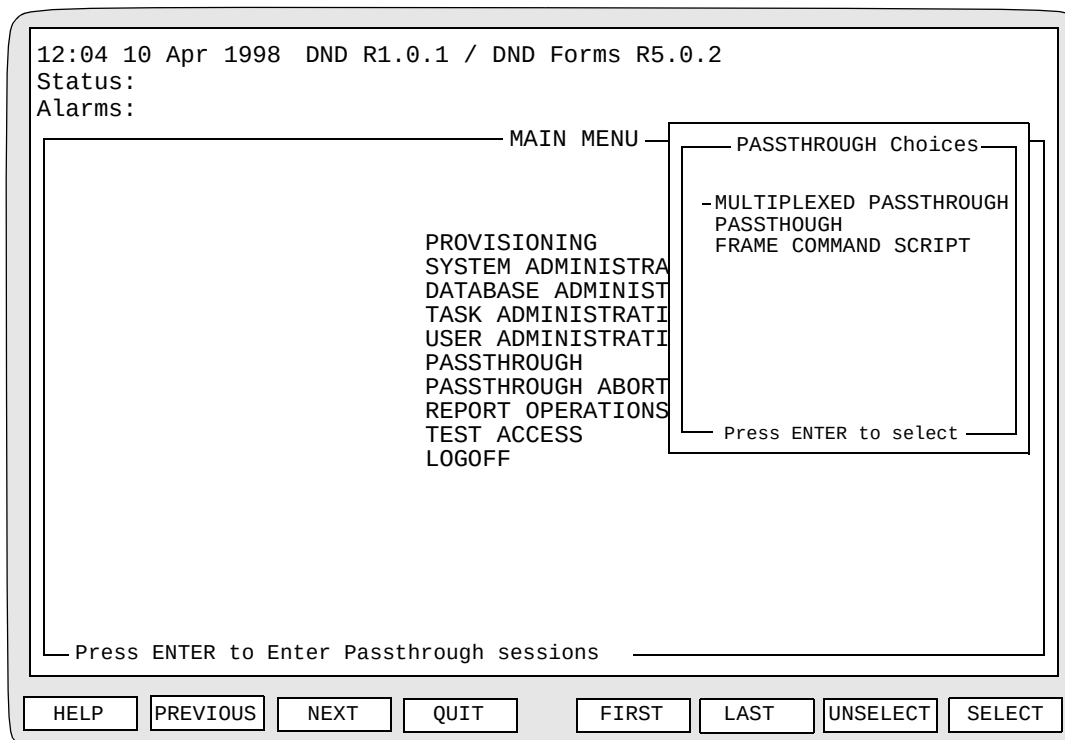


Figure L-1. PASSTHROUGH Choices Menu

2. Select MULTIPLEXED PASSTHROUGH. The WHICH DACS? pop-up menu is displayed.

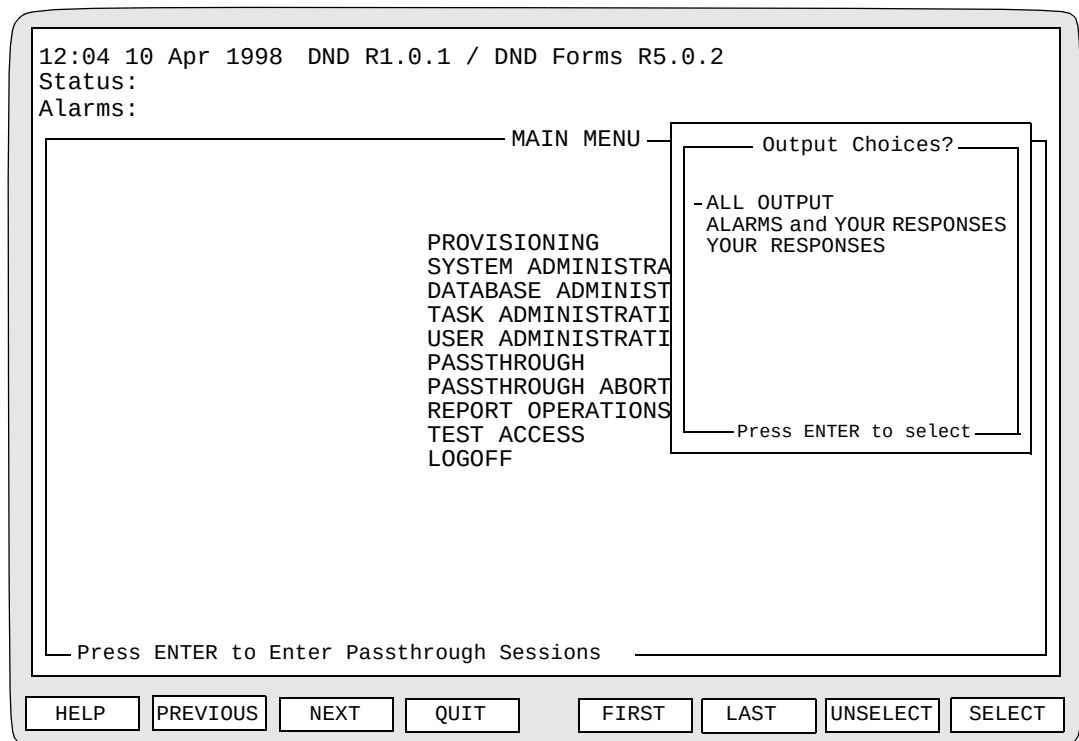
Procedure: Entering a Multiplexed Passthrough (Continued)

Figure L-2. Output Choices Menu for MULTIPLEXED PASSTHROUGH

3. Select the DACS. The Output Choices? menu appears. These selections describe the types of output messages that are displayed on the PASSTHROUGH screen, as shown in Figure L-2.

Procedure: Entering a Multiplexed Passthrough

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

MULTIPLEXED PASSTHROUGH

Command: _____
Output: _____

Enter Command _____

LINE UP LINEDOWN PAGE UP PAGEDOWN TOP BOTTOM EXIT EXECUTE

(Continued)**Figure L-3. MULTIPLEXED PASSTHROUGH Screen**

4. Select the desired choice of output. The MULTIPLEXED PASSTHROUGH form is displayed, as shown in Figure L-3.
5. To leave MULTIPLEXED PASSTHROUGH, press **EXIT**. You are immediately returned to the main menu.

The DND returns control of the terminal to you if it waits longer than a default of `COMMAND_TIMEOUT` seconds for the response to a command. `COMMAND_TIMEOUT` defaults to 60 seconds. The DND ends the multiplexed passthrough session autonomously and returns you to the previous menu if the session remains idle for more than `SESSION_TIMEOUT` hours. `SESSION_TIMEOUT` defaults to eight hours. (See Chapter 2 for the procedure to update the `COMMAND_TIMEOUT` and `SESSION_TIMEOUT` environment variables.)

Full Passthrough

This type of passthrough lets you communicate directly with the DACS, but does not allow other users to share the link. Select this type when you must enter interactive commands to the DACS; for example, commands that require DACS login.

Constraints on the use of full PASSTHROUGH are stated more fully as follows. Note that they apply only to this type of PASSTHROUGH.

- If the DACS was connected to the DND in a direct configuration during installation, and a **Protocol** of SNIDER was specified during frame administration, entry of full PASSTHROUGH by one user restricts DND access to the DACS: no other DND users can send commands to it. An attempt to do so results in a message:

PASS THROUGH IS IN PROGRESS

- If a DACS is connected to the DND, whether the link protocol is SNIDER or X.25, you cannot start both a multiplexed passthrough session and a full passthrough session to the same DACS.
- The system administrator has priority for PASSTHROUGH. If an operator is in the passthrough mode, the system administrator can terminate that relationship instantly with the PASSTHROUGH ABORT selection from the MAIN MENU. A pop-up box prompts WHICH USERS? Select the user(s) from the list given. A successful PASSTHROUGH ABORT results in the message:

PASS THROUGH IS AVAILABLE

Then the system administrator may enter PASSTHROUGH and, once in, cannot be displaced by DND terminal operators. However, more than one system administrator can be logged in, and any of those can terminate the passthrough session of any other with PASSTHROUGH ABORT.

- Full PASSTHROUGH sessions time out after 15 minutes of idle time.
- If the DACS was connected to the DND as a node on a Packet Data Network (PDN) and a **Protocol** of X.25 was specified during frame administration, a maximum of six PASSTHROUGH sessions are supported. They require the availability of one Switched Virtual Circuit (SVC) per session.
- If the **Protocol** is SNIDER, but you change the link in PASSTHROUGH to communicate in PDS, the DND does not automatically reset the DACS to MML. Unless you do it manually before leaving PASSTHROUGH, the DND will not be able to communicate with the DACS at all after you leave PASSTHROUGH.
- If during a SNIDER FULL PASSTHROUGH session, an alarm triggers an Automatic Reconfiguration Plan, the SNIDER FULL PASSTHROUGH session will be aborted and the automatic reconfiguration plan will be executed.

Procedure: Entering a Full Passthrough

To enter full passthrough, follow these steps:

1. Select PASSTHROUGH from the PASSTHROUGH Choices menu. The WHICH DACS? pop-up menu is displayed.
2. Select the DACS. The PASSTHROUGH screen is displayed, as shown in Figure L-4.

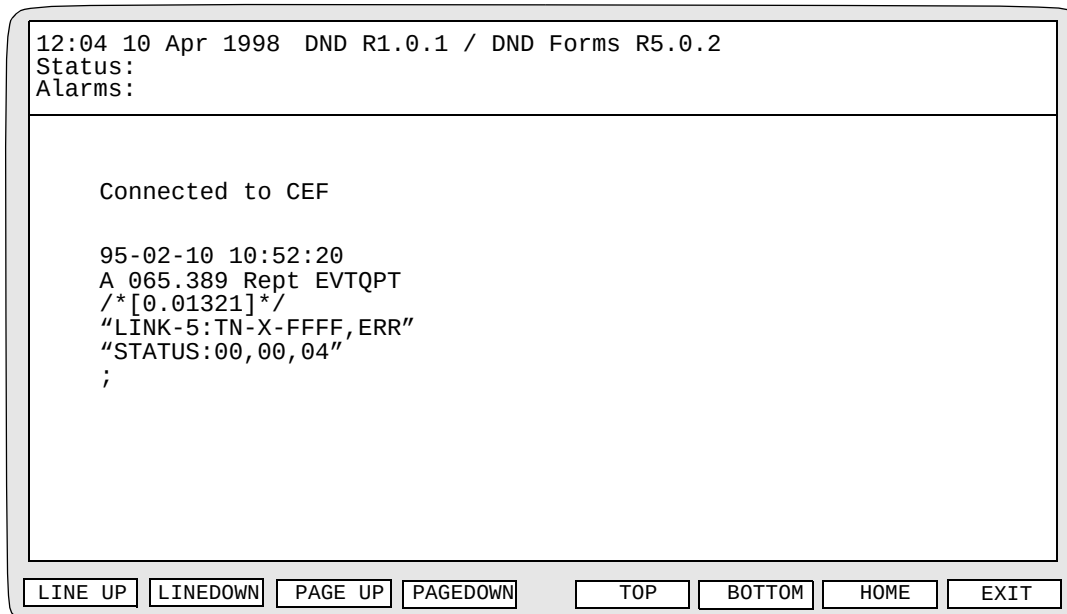


Figure L-4. Passthrough Screen

3. To leave full PASSTHROUGH, press **EXIT**. You are immediately returned to the MAIN MENU.



NOTE:

The **Del** key also exits full PASSTHROUGH, and is quicker when alarm responses are scrolling.

Using Passthrough Selections

In PASSTHROUGH, the DND temporarily stores the last 120 lines of screen display in a special area called a screen buffer. The display includes both the commands you type and the DACS' responses to them. The screen displays 18 of those lines at any time.

In MULTIPLEXED PASSTHROUGH, the command remains on the screen. The DND saves the last 120 lines of DACS responses also. The screen displays 14 lines at a time.

The 14 or 18 lines are, therefore, a "window" to the 120 screen buffer lines. You may move, or scroll, the window up and down through the buffer by means of the function keys. However, a different set of function keys is valid for each type of passthrough.

Passthrough Control Keys

Table L-1 describes the control keys used for full passthrough and Table L-2 describes the control keys for multiplexed passthrough.

Table L-1. Full PASSTHROUGH Control Keys

F1 LINE UP Ctrl u	Scroll up (backward) one line.
F2 LINE DOWN Ctrl d	Scroll down (forward) one line.
F3 PAGE UP Ctrl b	Scroll up (backward) a full page.
F4 PAGE DOWN Ctrl f	Scroll down (forward) a full page.
F5 TOP Ctrl t	Go to top of first page.
F6 BOTTOM Ctrl l	Go to top of last page.
F7 HOME Ctrl l	Go back to last-displayed line.

Table L-1. Full PASSTHROUGH Control Keys

F8 EXIT Ctrl e	Exit.

Table L-2. MULTIPLEXED PASSTHROUGH Control Keys

LINE UP	Scroll up (backward) one line.
LINE DOWN	Scroll down (forward) one line.
PAGE UP	Scroll up (backward) a full page.
PAGE DOWN	Scroll down (forward) a full page.
TOP	Go to top of first page.
BOTTOM	Go to top of last page.
EXIT	Exit
EXECUTE	Send command to DACS.

If a printer is attached to the DND console monitor, typing **Ctrl O** prints the contents of the screen. If no printer is attached, or if an error is encountered during the screen dump, the screen flashes and the terminal beeps once.

Procedure: Terminating Passthrough

To terminate the passthrough session of another user, you must be logged in as a system administrator.

To terminate a passthrough, follow these steps:

1. Select PASSTHROUGH ABORT from the MAIN MENU. A window is displayed, as shown in Figure L-5, showing the names of the DACSs used in passthrough and the terminals using them.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

MAIN MENU

PROVISIONING
- SYSTEM ADMINISTRATION
DATABASE ADMINISTRATION

PASSTHROUGH ABORT

Terminal 00 (dacsadm): CEF

Press SELECT to select.

MULTI-SELECT MENU. Use 'SELECT' key (F8) for individual selections.
Press ENTER to Abort Passthrough Sessions.

HELP PREVIOUS NEXT QUIT FIRST LAST UNSELECT SELECT

Figure L-5. Passthrough Form

2. Use **SELECT** to select the sessions to be terminated.
3. Press **ENTER**. The selected passthrough sessions are cancelled.

Frame Command Script

The FRAME COMMAND SCRIPT Option allows you to create a script file of MML commands in the DND COMMON database for the DACS. You may execute the script in the background, write it on DOS diskette, edit it, delete it, or read it from DOS diskette. The maximum number of script files per DND is 100.

Database backup and restore include the script files with the other COMMON files. Manual execution of an RP and a script are mutually exclusive.

The last executed script log remains and can be viewed under REPORT OPERATIONS.

Some rules governing script content and allowed characters are as follows.

- The script language must be MML.
- Lines beginning with the # character are comment lines. They will not be sent to the DACS or logged in the log file.
- Only printable characters, except "]" are allowed.
- Command lines in the script may not contain the characters ? or !, or have any data following the command termination character ;
- Empty lines are not allowed.
- The maximum length of a script line is 120 characters; the maximum file size, 150 lines.
- The login DAX command,
LGN-USER: : : DAX

is the only multi-line command supported by the FRAME COMMAND SCRIPT option.



NOTE:

You must have changed the DAX user login to MML before executing the script containing the login DAX command.

FRAME COMMAND SCRIPT Form

To obtain the FRAME COMMAND SCRIPT option, select PASSTHROUGH from the MAIN MENU and then FRAME COMMAND SCRIPT from the PASSTHROUGH Choices insert. The FRAME COMMAND SCRIPT form is displayed, as shown in Figure L-6.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

FRAME COMMAND SCRIPT

Action: Script Name: Site Name:
DAX Login Password:
Line:

HELP CHOICES [] QUIT [] TOP MENU UNSELECT SELECT

Figure L-6. FRAME COMMAND SCRIPT Form

The specific fields that appear on the form depend on the **Action**. For an **Action** of EDIT, **Mode** replaces **Site Name**.

Field Descriptions

Table L-3 describes the field values for the FRAME COMMAND SCRIPT form.

Table L-3. FRAME COMMAND SCRIPT Field Descriptions

Action	The FRAME COMMAND SCRIPT actions are: EDIT Opens the file of the given Script Name and displays 13 screen lines. You may specify the type of edit with the Mode field, and the line to be edited with the Line field. DELETE Displays the first 13 screen lines of the Script Name file. On your pressing EXECUTE, the DND deletes the file. DOSREAD Reads a DOS diskette on which you have previously stored script files in the root directory. The DND has automatically supplied a suffix of SCR. DOSWRITE Writes selected script files to DOS diskette. EXECUTE Executes the specified script. ABORT Terminates executing a script for a site.
Script Name	1-8 alphanumeric characters. The name of the script file to which the Action is to apply. The DND converts lower to upper case.
Site Name	The name of the site where the script file is to be executed or aborted.
Mode	Appears for an Action of EDIT only. Insert On EXECUTE of this EDIT, insert the Line into the Script Name file. You are presumed to have finished typing the line. Change On EXECUTE of this EDIT, replace the Line with the one displayed. You are presumed to have finished changing it. To delete a line, simply Change its contents to no value.

Table L-3. FRAME COMMAND SCRIPT Field Descriptions (Contd)

DAX Login Password	Appears only after an Action of EXECUTE when the Script Name file contains the command: LGN-USER: : : : DAX The password necessary to gain admission to the DACS referenced by Site Name .
Line	Appears only for an Action of EDIT. The line number being referenced of the Script Name file.

Procedure: Creating a Script File

To create a script file, follow these steps:

1. Enter the following fields:

- **Action** : EDIT
Additional fields appear.
- **Script Name**: name
- **Mode**: INSERT
- **Line**: 001

The cursor moves to a highlighted area, where the line is to be typed.

2. Type the line. Note that the entire space is reserved only for the line specified by **Line**. When you have finished, press **ENTER** twice. The line you have typed appear on the screen below. The cursor returns to **Action**. The **Line** is incremented by 1.



NOTE:

Instead of hitting **ENTER** twice, you may want to use **Ctrl** **p** to terminate a line and place the cursor at the **Line** field.

3. Move the cursor to the highlighted area for typing the next line, type the line, and press **ENTER** twice. Repeat this procedure for as many lines as you care to enter.

Some line editing rules are as follows:

- The space bar and any other character push the text to the right.
- **BACKSPACE** moves the cursor to the left, erasing what was there.
-  moves the cursor to the left over the text that was there, leaving it intact.
- There is room for two screen lines in the highlighted region. However, they are only one script line. One **ENTER** move the cursor to the start of the second screen line. The only way back to the first screen line is by backspacing.
- To correct a line, change the **Mode** to CHANGE and specify the **Line** to be changed. The line is displayed and can be accessed in the highlighted area.
- To delete a line, CHANGE it to all blanks.
- To insert a line, change **Mode** to INSERT and enter the **Line** that the new line will have when it will have been inserted. The current line of that number appears in the highlighted area. Blank it out first, and then retype. Blanking out in this case has no effect on the line. On your pressing **ENTER** twice, the typed line will be inserted at the specified location and subsequent lines, including the line formerly at **Line**, will be incremented by 1.

Procedure: Creating a Script File (Continued)

4. When you are ready to accept the file, press **EXECUTE** and confirm.

The DND adds the terminating ; character, and the minimum required number of : characters, where needed. The DND overrides the control tag sequence number field:

:ww

in order to track the command line. The DND adds the logout DAX command:

LGT-USER: : : DAX

at the end of the script file, if the script would end with login DAX in effect.

When the script has been stored in the DND's database, the message is displayed:

– The command completed successfully

5. You can recall the script by entering and EDIT **Action** and the **Script Name**. To delete the script, use an **Action** of DELETE.

Procedure: Writing a File to DOS Diskette

To write a file on DOS diskette, follow these steps:

1. Insert the diskette into the disk drive.
2. Enter the following fields:
 - **Action:** DOSWRITE A screen similar to Figure L-7 is displayed.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

FRAME COMMAND SCRIPT

WHICH FILES? (... name appended '*' will overwrite existing file)

UNIT2*	NASUNIT2*	COMMON*	MAXBI600*	SCRIP1	TESTSCRIP
UNIT56*	NASUNIT3*	UNIT4*	NONCEF*	SCRIP2	XXX
NASUNIT1*	NASUNIT4*	TEST01*	NEWTEST2*	WORKING1	NEWSCRIP

Press SELECT to select ...

HELP PREVIOUS NEXT QUIT SEL_ALL UNSELECT SELECT

Figure L-7. FRAME COMMAND SCRIPT Screen

3. Using the arrow keys, position the cursor at the name you wish to select and press **SELECT**. Repeat this step as often as is necessary to select the files to be written on the DOS diskette. As you select each, a dash appears before it. Use **UNSELECT** to change your mind, and **SEL_ALL** to select all.

Procedure: Writing a File to DOS Diskette (Continued)

4. When you have finished, press **ENTER**. The cursor returns to the original FRAME COMMAND SCRIPT screen.

**NOTE:**

Press **ENTER** only once, and wait. The system may be a little slow, depending on the level of activity. If you continue to press **ENTER**, you will miss some screens.

5. When you are ready, press **EXECUTE** and confirm. The DND displays a message, working on: name, while it writes the file, and The command is finished when all the files have been written.

**NOTE:**

The file names displayed before you selected them were compiled from both the DND and the DOS diskette. Names in both places are marked with a suffixed *. When you **EXECUTE** a write, if you have selected a *- name, the file on diskette is overwritten by the file on the DND.

Procedure: Reading a File From DOS Diskette

To read a file from DOS diskette follow, these steps:

1. Enter the following fields: **Action** : DOSREAD

A screen similar to the one for a DOSWRITE appears.

2. Using the arrow keys, position the cursor at the name you wish to select and press **SELECT**. Repeat this step as often as is necessary to select the files to be read to the DND. As you select each, a dash appears before it. Use **UNSELECT** to change your mind, and **SEL_ALL** to select all.
3. When you have finished, press **ENTER**. The cursor returns to the original FRAME COMMAND SCRIPT screen.



NOTE:

Press **ENTER** only once, and wait. The system may be a little slow, depending on the level of activity. If you continue to press **ENTER**, you will miss some screens.

4. When you are ready, press **EXECUTE** and confirm. The DND displays a message, working on: name, while it reads the file, and The command is finished when all the files have been read.



NOTE:

The file names displayed before you selected them were compiled from both the DND and the DOS diskette. Names in both places are marked with a suffixed *. When you **EXECUTE** a read, if you have selected a *- name, the file in the DND is overwritten by the file on the DOS diskette.

Procedure: Executing a File

To execute a file, follow these steps:

1. Enter the following fields:

- **Action :** EXECUTE

- **Script Name:** name

The contents of name are displayed.

- **Site Name:** the site where the script is to run.

2. Press **EXECUTE** and confirm. A COMMAND RESPONSE window notifies you that The command will be executed in background.
3. Acknowledge the notification.

The password for the login DAX command is interactive only. The execution of a script file with the login DAX command causes the **DAX Login Password** field to appear.

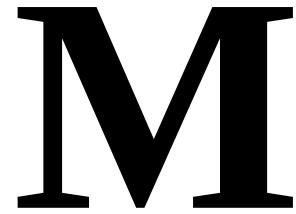
4. Fill in the password. If the login succeeds, the script goes on executing. If the login fails, the script aborts.

When the DND has finished running the script, it displays a **Status** message:

Script name name is completed for site site.

Report Operations - DND

Forms Interface

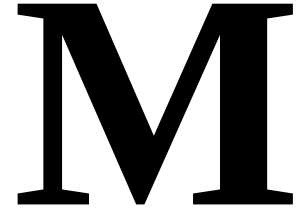


Contents

■ Introduction	M-1
■ REPORT OPERATIONS Menu	M-2
Procedure: Generating Reports	M-3
Procedure: Displaying and Printing Reports	M-6
Procedure: Transferring Reports To DOS Diskette	M-7
Field Descriptions	M-8
■ Report Categories	M-9
CIRCUITS	M-9
NPCS	M-10
CHANNELS	M-10
OUTAGES	M-10
ALTROUTES/PREEMPTIONS	M-11
TEST PORT	M-11
TEST ACCESS	M-11
FRAMES/LINKS	M-12
USER ADMINISTRATION	M-12
NPC ALARMS	M-12
CIRCUIT ALARMS	M-12
ALARM LOG	M-13

AUDIT/SYNCHRONIZATION RESULTS	M-13
NPC ROLL RESULTS	M-13
ECHOED RESPONSE PROCESSING	M-13
TASK SCHEDULE LIST	M-13
TASK SCHEDULE RESULTS	M-13
LOST RESPONSE LOG	M-14
HISTORY LOG	M-14
SCRIPT LOG	M-14
RECONFIGURATION SUB-MENU	M-15
AUTOMATIC RECONFIGURATION PLANS	M-17
COMMON EQUIPMENT ALARMS	M-17
24-HOUR PERFORMANCE STATISTICS	M-17
24-HOUR PM Log	M-17
ESTABLISHED DS0 CHANNELS	M-17
SUBRATE CIRCUITS	M-17
■ Custom Report Formats	M-18
Edit Screen and Fields	M-18
Field Descriptions	M-20
Procedure: Creating a New Report Format	M-22
Procedure: Modifying a Report Format	M-23
Procedure: Renaming a Report Format	M-24
Procedure: Deleting a Report Format	M-25
Alarm Query	M-26
Procedure: Generating an Alarm Query Report	M-28
An instance of a ALARM QUERY REPORT	M-28

Report Operations - DND Forms Interface



Introduction

The REPORT OPERATIONS MENU allows you to generate reports containing data from the DND database. The reports can be displayed on screen, printed or written to a DOS diskette. The DOS diskette option presumes you will access the diskette from a DOS system. No provision is made for recovering the report from the diskette in the DND.

When you generate a report, the DND Forms Interface extracts data from the database and prepares it to be displayed or printed. The generated data is saved in a file. One such file is maintained for each DND user. It contains the data for the report most recently generated.

When generating a report, you are allowed to specify search criteria for the records that are to be extracted from the DND database. The search criteria restrict the report to records that have certain values in certain fields.

You may also create and edit custom formats. A custom format allows you to specify which data items will be shown in the report and the way in which those items will be arranged. Several pre-defined formats are supplied with the DND Forms Interface. You may select any of them or create formats of your own, which then appear as format selections. Several fixed formats are also supplied that cannot be customized, for example, it is not possible to modify or customize the AUDIT/SYNCHRONIZATION RESULTS report.

It is also possible to backup the customized report formats to a diskette (see Appendix G) and to restore customized reports from a diskette.

All reports can be displayed on the user-terminal screen, printed on the DND printer, or written to a DOS diskette. Displayed reports are paged (divided into screen-sized segments).

You can move through the report using **TOPPAGE**, **LASTPAGE**, **NEXTPAGE**, and **PREVPAGE**, or by entering the page number in the **Display Page** field. Reports sent to the printer are also paged, but with a different page size than is used on the screen.



NOTE:

For additional information refer to Chapter 12, "Report Operations."

REPORT OPERATIONS Menu

Select REPORT OPERATIONS from the MAIN MENU. The REPORT OPERATIONS MENU is displayed, as shown in Figure M-1.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

REPORT OPERATIONS MENU

-CIRCUITS	TASK SCHEDULE LIST
NPCS	TASK SCHEDULE RESULTS
CHANNELS	LOST RESPONSE LOG
ALTRUTES/PREEMPTIONS	HISTORY LOG
OUTAGES	SCRIPT LOG
TEST PORT	DISPLAY LAST GENERATED REPORT
TEST ACCESS	EDIT CUSTOM REPORT FORMAT
FRAMES/LINKS	ALARM QUERY
USER ADMINISTRATION	DISPLAY ALARM QUERY
NPC ALARMS	RECONFIGURATION SUB-MENU
CIRCUIT ALARMS	ESTABLISHED DS0 CHANNELS
ALARM LOG	SUBRATE CIRCUITS
AUDIT/SYNCHRONIZATION RESULTS	COMMON EQUIPMENT ALARMS
NPC ROLL RESULTS	24-HOUR PERFORMANCE
ECHOED RESPONSE PROCESSING	24-HOUR PM LOG

— Press ENTER to specify report search criteria —

HELP [] [] QUIT [] TOP MENU PRINT []

Figure M-1. REPORT OPERATIONS MENU

Procedure: Generating Reports

To generate a report, follow these steps:

1. Select the data category on the REPORT OPERATIONS MENU.
2. If the selected category has more than one available format menu, a pop-up window is displayed listing the format names. Select the format.
3. For all categories except the HISTORY LOG, a SEARCH CRITERIA form appears displaying the fields for the selected category. Enter values into these fields to find the records that match. If you leave all fields blank, all records in the database are reported.

For example, in a CHANNEL USAGE report (under CHANNELS) to limit for a single NPC, enter a specific **NPC ID**, or a hierarchical or extended number. If you want a report of the NPCs and channels involved in a particular circuit, enter the circuit name in the **Used by Circuit ID** field.

To list all spare or unused channels, enter the value NULL in the **Status** field. If you want a report of all channel usage data for the specified **Site Name**, leave all fields blank. Refer to Figure M-2.



NOTE:

Reports are identified and unique to a user login name. If there is more than one login session on the system with the same login name, one session may view the reports of the other session, and one session may overwrite the reports of the other login session.

Procedure: Generating Reports (Continued)

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

CHANNEL USAGE SEARCH CRITERIA

Site Name:DACS00

NPC: Hier Ext NPC ID Ch

Status:

Used by Circuit ID:

TC: IW: Termination State: Class:

TO NPC: Hier Ext NPC ID Ch

Enter site name

HELP CHOICES QUIT TOP MENU PRINT EXECUTE

Figure M-2. CHANNEL USAGE SEARCH CRITERIA Form

Use wild-card abbreviations (metacharacters) as follows:

- * stands for any number of any alphanumeric characters (including none) at that position in the string.
- ? stands for a single occurrence of any single character at that position in the string.

For example, AB5* finds AB544, AB54, AB5, AB55D, etc. ABC?5 finds ABC45, ABCD5, etc., but not ABC or ABC5.

In numeric fields you can enter:

- > number All numbers greater than number.
- < number All numbers less than number.

In a time/date field these values translate to: before (<) or after (>) the time/date given.

Procedure: Generating Reports (Continued)

**NOTE:**

Search criteria on date/time is taken separately. For example a date of:

> 01 June 1997

and a time of:

> 06:15

may provide unexpected results. Only matches for days after 01 Jun 1997 and times after 06:15 on each day. For example, 03 July 1997 at 01:15 will not match.

4. When you have entered the selection criteria, press **EXECUTE** and answer YES to ARE YOU SURE? A command response window notifies you that the COMMAND WILL BE EXECUTED IN BACKGROUND.

5. Press **Enter** to acknowledge the command response. The REPORT OPERATIONS MENU is displayed, with the cursor at DISPLAY LAST GENERATED REPORT. Report generation will not be complete until a

REPORT IS COMPLETED

message is displayed. You may wait for the completion message and display or print the report (see following section), or proceed to any other DND Forms Interface operation.

**NOTE:**

With large databases, report generation can several minutes.

Procedure: Displaying and Printing Reports

To display or print the most recently generated report, follow these steps:

1. Select DISPLAY LAST GENERATED REPORT or DISPLAY ALARM QUERY from the REPORT OPERATIONS MENU. A pop-up window appears listing the output medium choices. Select SCREEN or PRINTER.
2. If you select SCREEN, the last generated report appears on your terminal screen. Use , , , and to page through the report or specify a page in the **Display Page** field.

Procedure: Transferring Reports To DOS Diskette

The ALLOWED CHOICES pop-up menu will list DOS DISKETTE as an option when you select the following choices from the REPORT OPERATIONS menu:

- HISTORY LOG
- DISPLAY LAST GENERATED REPORT
- DACS COMMAND SCRIPT LOG
- DISPLAY ALARM QUERY

You can then transfer the report, log or query results to DOS diskette by selecting the DOS DISKETTE option. The REPORT TO DOS DISKETTE form is displayed, as shown in Figure M-3.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

REPORT TO DOS DISKETTE

File Name:

Enter the DOS File name

HELP QUIT TOP MENU PRINT EXECUTE

Figure M-3. REPORT TO DOS DISKETTE Form

Field Descriptions

Field descriptions for the REPORT TO DOS DISKETTE form as describes in Table M-1.

Table M-1. REPORT TO DOS DISKETTE Field Descriptions

File Name	User defined. Mandatory, 1-8 alphanumeric characters, capital letters only. The DND will append the suffix, .Rxx, where xx is the diskette number, starting at 01 and incrementing if multiple diskettes are required to save the file.

Report Categories

This section describes the report categories that are available with the DND Forms Interface system.

CIRCUITS

CIRCUITS provides reports on circuit records. Four default formats are provided. Each concentrates on a different aspect of the information that has been created about the circuit. The data is from information that was entered in the CIRCUIT PROVISIONING form, or placed in the database through ERP or by audit/synchronization.

The SEARCH CRITERIA form is similar to the CIRCUIT PROVISIONING form. You can search for circuits of a given **Status** and other fields given on the form in addition to the ones that will appear in the report.

The four default circuit reports are:

- **CIRCUIT AVAILABILITY**—Concentrates on the availability of the circuits. The service date, circuit priority and status are listed for each Circuit ID, as well as the user informational location A and location Z.
- **CIRCUIT INFORMATION**—Concentrates on the circuit characteristics for each Circuit ID. The report includes trunk conditioning and insertion word.
- **CIRCUIT OPTIONS**—Concentrates on the circuit characteristics specified in options.
- **CIRCUIT CONNECTIONS**—Identifies circuit and end points by Circuit ID. For each cross-connection, the NPC and channel number of the NPC in which it occurs is stated for both the FROM and the TO sides. High-rate and multipoint circuits are presented as multiple cross-connections.

The report includes circuit priority, status, class, bandwidth and bandwidth type.

NPCS

NPCS provides reports on NPC records. Two default formats are provided. Each contains similar information, but the records are sorted on different fields. The data was entered in the NPC PROVISIONING form, or placed in the database through ERP or audit/synchronization.

The SEARCH CRITERIA form is similar to the NPC PROVISIONING forms. You can specify search criteria for fields that do not appear on the report. Moreover, you can use search criteria in the status fields, which are not accessible on the NPC PROVISIONING form.

The two default NPC reports are:

- **NPC NUMBERS**—Contains records that are sorted by hierarchical NPC number. Alarm and service state information is included. The entries are sorted by NPC ID.
- **NPC IDS**—Contains a record of NPCs that are in the database. The NPC ID and various information, such as the type and status are included. The report lines are sorted by NPC ID

CHANNELS

CHANNELS provides reports on channel usage data. One default format is provided for channel usage.

- **CHANNEL USAGE**—This format lists the use of each channel within each facility NPC that has been equipped.

The information in this report is taken from both NPC and circuit data. On the SEARCH CRITERIA form, you can select by NPC, circuit or connecting NPC.



NOTE:

Entering NULL in the **Status** field of the SELECTION CRITERIA form for this category selects channels which are not in use.



NOTE:

A full CHANNELS report takes some time to generate, since the DND must check every channel of every NPC. It is suggested you limit the search to one or a few NPCs.

OUTAGES

OUTAGES provides reports on outage data records. One default format is provided. The SEARCH CRITERIA form permits searching of log entries by type, record, number, NPC or circuit ID, and time or date in or out.

- **OUTAGE INFORMATION**—This report is a printed version of the OUTAGE LOG.

ALTROUTES/PREEMPTIONS

ALTROUTES/PREEMPTIONS provides reports on ALTROUTED and/or PREEMPTED circuits. Two default formats are provided. The fields that appear in the reports contain information that was entered in the CIRCUIT PROVISIONING form, and its second page, the ALTROUTE form (Chapter 7).

The SEARCH CRITERIA form allows you to select by circuit ID of the ALTROUTED circuits, circuit characteristics, end point NPC and channel number, and PREEMPTED circuit identifiers.

- **ALTROUTED CIRCUITS**—Identifies circuits in ALTROUTED **Status**. One line lists the ALTROUTED circuit ID and identifies one end point of the ALTROUTED circuit. The normal hierarchical number and channel is listed along with the ALTROUTED hierarchical number and channel.

One two-point circuit is thus identified by two report lines, one for each point. A multipoint circuit results in more than two report lines. Note that NPC and its channel will not be different from the altrouted NPC and its channel if that point was not changed.

- **PREEMPTED CIRCUITS**—Identifies the PREEMPTED circuits and the ALTROUTED end points that caused their preemption.

TEST PORT

TEST PORT reports on test port and test port group status. Two default formats are provided. The fields that appear in the reports contain information that was entered in the TEST PORT PROVISIONING form (Appendix F) and in the TEST ACCESS form (Appendix N).

The SEARCH CRITERIA form permits search by test port or test circuit connection data and characteristics.

- **TEST PORT STATUS**—Lists Test Port and test circuit identifying and status information. The test port number, hierarchical number of its NPC, ID of the circuit under test and type of test connection is stated.
- **TEST PORT PROVISIONING**—Provides identifying information on the test ports and lists conditioning information to be applied to the circuits under test.

TEST ACCESS

TEST ACCESS reports on test access status. One default format is provide that lists identifying information for circuits that are under test through either test ports or test groups. The fields that appear in the report contain information that was entered in the TEST ACCESS form.

FRAMES/LINKS

FRAMES/LINKS provides reports on information entered during provisioning of frames and also on the links through which communication to the frames is effected. Four default formats are provided. The fields that appear in the reports contain information that was entered in the FRAME ADMINISTRATION and X.25 LINK ADMINISTRATION forms (Appendix D).

SEARCH CRITERIA form allows you to search by both frame and link characteristics.

- **FRAME CONTROL**—States the values of various control fields from the FRAME PROVISIONING form.
- **LINK CONNECTIVITY**—Lists information for primary and backup links that have been connected to a given DACS. If the backup line data is not present, the backup line has not been provisioned.
- **PROVISIONING**—Lists identifying information for the frames that have been provisioned.

USER ADMINISTRATION

USER ADMINISTRATION reports user login information. One format is provided for user logins that allows selection on every USER ADMINISTRATION form field. The fields that appear in the report contain information that was entered in the USER ADMINISTRATION form (Appendix K).

- **USER LOGINS** —Lists **Login name**, **User Name**, **Phone**, and **User Class** for each login.
- **USER CONNECTIVITY**—Lists **Login name**, **User Name**, **Type**, and **User Class** for each login.

NPC ALARMS

This report states the values of various fields for NPC alarms. The fields appear mainly on the NPC PROVISIONING form. One format is provided for ALARMS that identifies the NPC and lists **Service State**, **Alarm State** and **Alarm Aging** information.

CIRCUIT ALARMS

This report states the values of various fields for circuits that have as an end point an NPC in alarm. The fields appear mainly on the CIRCUIT PROVISIONING form. One format is provided for alarms that identifies the NPC and channel information of the circuit in alarm.

ALARM LOG

This is a custom report. The ALARM LOG reports all alarms received by the DND. The selection criterion is by **Site Name**. For an example and explanation of the report, refer to Appendix D "System Administration".



NOTE:

Ctrl + **a** provides access from any screen to the Alarm Log and customized alarm reports.

AUDIT/SYNCHRONIZATION RESULTS

This report lists discrepancies found between the DND Forms Interface and DACS databases during the most recent database audit/synchronization operation. The selection criteria comprise **Site Name**, **Action**, **NPC Hier**, **Ext**, **ID**, **Date**, and **Time**.

Use of the SEARCH CRITERIA form parallels use of the DATABASE AUDIT/ SYNCHRONIZATION form. You need to enter the same **Action** and range in the SEARCH CRITERIA form as you did on the AUDIT/SYNCHRONIZATION form in order to obtain only the data of interest.

NPC ROLL RESULTS

This report lists the results of NPC rolls. The circuit IDs of rolled circuits, as well as their statuses, are included. The selection criteria are the NPC identifiers.

ECHOED RESPONSE PROCESSING

The ECHOED RESPONSE PROCESSING Report lists messages that are received by the DND, and were initiated by a DACS independently; for example, they report changes in provisioning that were not in response to user requests through the DND Forms Interface.

The SEARCH CRITERIA form allows you to search by type of message, date and time. The DACS is a mandatory entry.

TASK SCHEDULE LIST

The TASK SCHEDULE LIST is a list of all DND Forms Interface tasks scheduled to be executed. Selection criteria are **Site Name** and **User ID**.

TASK SCHEDULE RESULTS

The TASK SCHEDULE RESULTS report is a list of all scheduled tasks that were executed, along with the results of the execution.

LOST RESPONSE LOG

Although listed as a REPORT OPERATIONS MENU option on every system, the lost response log only contains data if your DND Forms Interface system interfaces to the Event Management System. The lost responses that get logged originate with the DND in reply to network traffic. However, for some reason they cannot now be returned to the upstream network controller.

The Request field on the report represents the originator of the request, and can be FRAME, NPC or CIRCUIT. The Reason field is truncated to 31 characters, due to space considerations.

HISTORY LOG

The HISTORY LOG does not have to be generated each time it is displayed or printed. It lists messages exactly as they were sent to the DND from the DACS, in chronological order. The only selection criterion is **Site Name**.

In general, RTRV type messages that are the response to audit/sync operations are not logged in the HISTORY LOG. Exceptions are commands executed in MULTIPLEX PASSTHROUGH, FULL PASSTHROUGH, or those executed on a SNIDER link.

SCRIPT LOG

A frame command SCRIPT LOG lists the contents of one user script file of DACS commands.

RECONFIGURATION SUB-MENU

The RECONFIGURATION SUB-MENU provides access to reports for Reconfiguration plans and Altroute plans.

Choose RECONFIGURATION SUB-MENU from the REPORT OPERATION MENU. The RECONFIGURATION SUB-MENU is displayed, as shown in Figure M-4.

```

12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

REPORT OPERATIONS MENU

- CIRCUITS
NPCS
CHANNELS
ALTRUTES/PREEMPTIONS
OUTAGES
TEST PORT
TEST ACCESS
FRAMES/LINKS
USER ADMINISTRATION
NPC ALARMS
CIRCUIT ALARMS
ALARM LOG
AUDIT/SYNCHRONIZATION RESULTS

AVAILABLE FORMATS

RECONFIGURATION PLANS
RECONFIGURATION PLANS ALTROUTE
AUTO RECONFIGURATION PLAN
RECONFIGURATION PLAN RESULTS
AUTO RECONFIGURATION PLAN RESULTS
HIST
SCRIPT LOG
DISPLAY LAST GENERATED REPORT
EDIT CUSTOM REPORT FORMAT
ALARM QUERY
RECONFIGURATION PLAN SUB-MENU
ESTABLISHED DS0 CHANNELS
SUBRATE CIRCUITS

Press ENTER to specify report search criteria

HELP  [ ]  [ ]  QUIT  [ ]  TOP MENU  PRINT  [ ]

```

Figure M-4. RECONFIGURATION SUB-MENU

RECONFIGURATION PLANS

RECONFIGURATION PLANS reports on the contents of reconfiguration plans. One default format is provided. The fields that appear in the report contain information that was entered in the RECONFIGURATION PLAN PROVISIONING screen (Appendix H).

SEARCH CRITERIA form allows you to select by circuit state as well as by the fields listed on the report.

- **PLAN CONTENTS**—Lists the circuits and actions for the items of a reconfiguration plan.

RECONFIGURATION PLAN ALTROUTE

RECONFIGURATION PLAN ALTROUTE provides reports on the altroutes and preemptions contained in a reconfiguration plan. Two default formats are provided. The fields that appear in the reports contain information that was entered in the RECONFIGURATION PLAN PROVISIONING form (Appendix H).

RECONFIGURATION SUB-MENU (Continued)

The SEARCH CRITERIA form permits you to select by RP identifying data, or by ALTROUTED or PREEMPTED circuit identifiers.

- **PLAN ALTROUTED CIRCUITS**—Lists the ALTROUTED circuit ID for ALTRROUTE action items in a reconfiguration plan. One line is reported for each end point.
- **PLAN PREEMPTED CIRCUITS**—Lists the PREEMPTED circuit ID for circuits pre-empted by the ALTRROUTE action items in a reconfiguration plan. One line is reported for each end point.

RECONFIGURATION PLAN RESULTS

This fixed format report gives the results of the latest execution of a reconfiguration plan (**RP Action** of ACTIVATE, CHECK, or IDLE). It includes one entry for each step in the plan showing either successful completion or what type of conflict occurred, and an indication of what the last plan action was. Selection criteria include plan name and sorting field.

The plan is available sorted by sequence number (Seq) or by circuit priority (CP).

AUTOMATIC RECONFIGURATION PLAN RESULTS

This report gives the results of the latest execution of an ARP. It includes one entry for each RP in the plan. The RP status indicates whether an RP was executed. The plan is available sorted by sequence number (Seq) or by reconfiguration plan ID (RP_ID).

AUTOMATIC RECONFIGURATION PLANS

AUTOMATIC RECONFIGURATION PLANS reports the contents of the two list types, RP LISTS and NPC LISTS. The fields that appear in the reports were entered in the AUTOMATIC RECONFIGURATION PROVISIONING form (Appendix H).

The SEARCH CRITERIA form allows searching by site, plan, ARP Status, date and time.

- **RP LISTS**—Reports the RPs listed in the ARP. The execution status of the ARP and the location at which the RP will execute are stated
- **NPC LISTS**—Reports the NPCs whose alarm will trigger the ARP. The same information as in RP LISTS is reported, except the site identification and hierarchical number of the NPC is substituted for the RP site and identifier.

COMMON EQUIPMENT ALARMS

The COMMON EQUIPMENT ALARMS is the log of all equipment alarms received at the DND from the DACS.

24-HOUR PERFORMANCE STATISTICS

This report allows you to display the 24-Hour Performance Statistics report for all NPCs or a set of NPCs.

24-HOUR PM Log

The 24-Hour PM LOG contains information on discrepancies encountered during the processing of the daily 24-Hour PM reports from the DACS II or DACS II ISX.

ESTABLISHED DS0 CHANNELS

This report allows you to search for established circuit records.

The SEARCH CRITERIA form allows searching by Circuit ID, Status, From NPC, To NPC, Channel, Type, Standard, Rate and Frame.

SUBRATE CIRCUITS

This report allows you to search for subrate circuit records.

The SEARCH CRITERIA form allows searching by Circuit ID, From NPC, From channel, From customer, To NPC, To channel, To customer, Rate and Status.

Custom Report Formats

The formats listed in Appendix A are provided with the DND Forms Interface and will supply most needs, but the user may customize or add to these using the procedures which follow. Once a custom format has been created or modified, it will be listed in the format selection pop-up window, which appears during report generation.

Edit Screen and Fields

Choose the EDIT CUSTOM REPORT FORMAT selection on the REPORT OPERATIONS MENU. You are then asked to choose a report format category. The first several categories are shown in Figure M-5. For a complete list of categories and fields, refer to Appendix A.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

REPORT OPERATIONS MENU	REPORT FORMAT CATEGORIES
- CIRCUITS	NPC -CIRCUITS
NPCS	ECHO NPCS
CHANNELS	TASK CHANNELS
ALTRUTES/PREEMPTIONS	TASK ALTRUTES/PREEMPTIONS
OUTAGES	LOST RECONFIGURATION PLANS
TEST PORT	HIST RECONFIGURATION PLAN ALTRUTE
TEST ACCESS	SCRI AUTO RECONFIGURATION PLANS
FRAMES/LINKS	DISP OUTAGES
USER ADMINISTRATION	EDIT
NPC ALARMS	ALARM Scroll ...
CIRCUIT ALARMS	RESCONFIGURATION SUB-MENU
ALARM LOG	ESTABLISHED DS0 CHANNELS
AUDIT/SYNCHRONIZATION RESULTS	SUBRATE CIRCUITS
NPC ROLL RESULTS	

Press ENTER to specify report search criteria

HELP [] [] QUIT [] TOP MENU PRINT []

Figure M-5. Selection of Report Format Category

Edit Screen and Fields (Continued)

After you have chosen, the initial screen is the same in every case, except for the available fields and the title, as shown in Figure M-6.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

Action:MODIFY Report Name:CIRCUIT REMARKS

-----site name-----CIRCUITS-----

Remarks Circuit_ID

SELECT	ORDER	SORT	COLUMN NAME	DATA WIDTH	DEF	OPT	COL	TOTAL WIDTH
X	1		Remarks	72	36	72		
			Ckt_Status	11		11		
X	2		Circuit_ID	41		36		78
			Class	3		5		
			Customer_Name	12		13		
			Location_A	24		24		
			Location_Z	24		24		
			F_NPC_Hier	5		5		

Enter the desired action_____

HELP SCROLLDN SCROLLUP QUIT TOP MENU PRINT EXECUTE

Figure M-6. Sample Edit Custom Report Format Form

To customize a new report, first **CREATE** it with a **Report Name**, then **MODIFY** the report of that name. You will be adding or removing fields from the report. The range of possible fields will be listed under **COLUMN NAME**. You have simply to select the desired field with an X.

Field Descriptions

Table M-2 lists the Report Format field descriptions for creating a custom report format.

Table M-2. Edit Custom Report Format Field Descriptions

Action	Mandatory. The valid actions are: CREATE Creates an initial report format. DELETE Deletes an existing format by name. MODIFY Displays an existing format for editing. RENAME Renames an existing format.
Report Name	Mandatory. 1 through 30 alphanumeric characters. Enter the name of the report you wish to create or otherwise access with the Action .
SELECT	Accessible in MODIFY only, as are the remaining fields of this screen. You can select or deselect display items by inserting or deleting an X in this field.
ORDER	Numeric, 1 through the number of Xs marked in the SELECT column. The order in which the item is to appear across the report, from left to right. As you edit this format, a line is displayed across the upper portion of the screen with each column name given in the specified order.
SORT	Numeric. The sort order priority of the item. For example, to sort report records first by Circuit ID , and then by Circuit Type , enter a 1 on the line at which Circuit ID is named and a 2 on the line at which Circuit Type is named. You can specify sorting priority down to the eighth level. You must enter Priority 1 first, Priority 2 second, etc.
DEFAULT COLUMN NAME	1 through 18 alphanumeric characters. The item names appear as the column names unless you enter an alternative name as the OPTIONAL COLUMN NAME . Use PREVIOUS and NEXT to scroll through the whole listing.
OPTIONAL COLUMN NAME	1 through 18 alphanumeric characters. Column names of your own choosing. They replace the default names.
DEF DATA WIDTH	Numeric. The widths of the database items selected. The default is used unless you enter an alternative value under OPTIONAL DATA WIDTH .

Table M-2. Edit Custom Report Format Field Descriptions (Contd)

OPT DATA WIDTH	Numeric. Column widths of your own choosing. The data is truncated to these widths, if necessary.
COL DATA WIDTH	Numeric. The width of the column to be displayed as defined by the user actions. If the data exceeds the width of a column, it will appear truncated on the report. The entire entry appears in the database.
TOTAL WIDTH	Numeric. The sum of the column widths with single spacing between columns. This sum automatically changes as you select or deselect data items, or modify the OPTIONAL COLUMN NAME or OPTIONAL DATA WIDTH fields. The maximum width of the report display is 78 characters. If the data exceeds the total width, it will appear truncated on the report. The entire entry appears in the database.

Procedure: Creating a New Report Format

To create a new report format, follow these steps:

1. Select EDIT CUSTOM REPORT FORMAT from the REPORT OPERATIONS MENU. The pop-up menu REPORT FORMAT CATEGORIES is displayed.
2. Select the category for which you want to create a format. A new screen appears with mandatory fields **Action** and **Report Name** highlighted.
3. Enter CREATE in the **Action** field.
4. Enter a **Report Name** for the format you are creating.



NOTE:

If the sum of the site name, report format category name and report name would exceed 78 characters, which is the width of the screen, then the report format category name is truncated.

5. Press EXECUTE and confirm. When the database has been updated, the following message is displayed:

REPORT FORMAT HAS BEEN CREATED



NOTE:

If you exit at this point, you have created a default report format with database items taken in the order they appear in the database (for this category) and as many as can fit across the page (78 columns). You can modify this basic format to suit your own

Procedure: Modifying a Report Format

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

Action:MODIFY Report Name:CP1

_____ site name _____ CIRCUITS _____ CP1 _____
status Circuit_ID Class Customer_Name

SELECT	ORDER	SORT	COLUMN NAME	DATA WIDTH	DEF OPTCOL
x	1		Ckt_Status	11	TOTAL
x	2		Circuit_ID	41	WIDTH
x	3		Class	3	70
x	4		Customer_Name	12	
			Location_A	24	
			Location_Z	24	
			F_NPC_Hier	5	
			F_NPC_Ext	4	

_____ Enter alphanumeric optional Column Name _____

HELP CHOICES NEXT QUIT _____ PREV TOP MENU EXECUTE

Figure M-7. Sample Report Format

To modify an existing report format, follow these steps:

1. Select EDIT CUSTOM REPORT FORMAT from the REPORT OPERATIONS MENU.
2. Select the category for which the format was created. A new screen appears with mandatory fields **Action** and **Report Name** highlighted.
3. Enter MODIFY in the **Action** field.
4. Enter the **Report Name**. The screen flashes in the upper right corner:
SEARCHING
5. The lower fields on the screen become active and are filled in with values representing the current state of the format. Change the values in these fields to redesign your format.
6. Press **EXECUTE** and confirm. When the database has been updated, the following message appears:

REPORT FORMAT HAS BEEN MODIFIED

Procedure: Renaming a Report Format

To rename a report format, follow these steps:

1. Select EDIT CUSTOM REPORT FORMAT from the REPORT OPERATIONS MENU.
2. Select the category for which the format was created. A new screen appears with mandatory fields **Action** and **Report Name** highlighted.
3. Enter RENAME in the **Action** field.
4. Enter the **Report Name**.
5. A new field appears, **New Name**. Enter the new report name.
6. Press **EXECUTE** and confirm. When the database has been updated, the following message appears:

REPORT FORMAT HAS BEEN RENAMED

Procedure: Deleting a Report Format

To delete a report format, follow these steps:

1. Select EDIT CUSTOM REPORT FORMAT from the REPORT OPERATIONS MENU.
2. Select the category for which the format was created. A new screen appears with mandatory fields **Action** and **Report Name** highlighted.
3. Enter DELETE in the **Action** field.
4. Enter the **Report Name**.
5. Press **EXECUTE** and confirm. When the database has been updated, the following message is displayed:

REPORT FORMAT HAS BEEN DELETED

Alarm Query

This is a fixed-format report, but the format depends on the content. It provides you with an alarm profile for a given DACS. The report contains two classes of information:

- Statistics: totals and subtotals of alarms by category.
- Alarm information specific to objects within the DACS.

The categories of alarms are

- Frame summary alarms, resulting from malfunction of some hardware object within the DACS.
- DS3 facility alarms, reporting on DS3 termination conditions.
- DS3 FTU alarms, reporting on termination conditions of NPCs within the DS3 shelf.
- FTU alarms, reporting on termination conditions of NPCs provided by DDCs and DPCs.
- DSPU alarms, reporting on termination conditions of DSPU NPCs (such as DMB).

Alarm information specific to objects within the DACS are frame summary alarms. The hardware objects that cause frame summary alarms when they malfunction are:

- **DACS II And DACS II ISX Entities**

- Main Controller
- Main Processor
- Communications Interface
- Secondary Service Controller
- Disk
- Tape
- Administrative Links
- Cross-connect Networks
- Clock and Control Interfaces
- Time and Date
- Tape Backup
- Power Converters
- Synchronizers
- Clock Reference Oscillator
- Timing Link Interfaces
- Time Slot Interchangers
- Memory Cards
- Timing References

Alarm Query (Continued)

■ **FTU Equipment**

- Unit Controller
- FTU Module Interfaces
- Format Converters
- Cross-connect Buffers

■ **DSPU Equipment**

- Unit Controller
- Cross-connect Buffers
- DSPU Interface

■ **DS3 Equipment**

- Unit Controller
- Formatters
- Facility Line Interface
- Protection Facility Line Interface
- Multiplexers
- Protection Multiplexers
- Multiple Interface Units
- Protection Multiple Interface Unit

Procedure: Generating an Alarm Query Report

To generate an Alarm Query report, follow these steps:

1. Select it from the REPORT OPERATIONS MENU.
2. Enter the **Site Name** on the ALARM QUERY SEARCH CRITERIA form.
3. Press **EXECUTE** and confirm. Wait for the completion message.
4. To access the report, select DISPLAY ALARM QUERY from the REPORT OPERATIONS MENU.



NOTE:

This is the only report not accessed via DISPLAY LAST GENERATED REPORT.

An instance of a ALARM QUERY REPORT

pnfstst-----ALARM QUERY REPORT-----

Alarm Conditions Outstanding:

pnfstst is alarming

Summary of alarm totals for pnfstst:

pnfstst has 1 major alarm(s).

pnfstst has 2 autonomously removed component(s).

Subtotals of frame summary alarms:

1 Major alarms(s).

DACS II Entities:

Cross Connect Network (XC) 1 is in major alarm.

Subtotals for FTU Network Processing Circuit (NPC) Alarm(s):

1 Autonomously removed component(s).

Facility Terminating Unit (FTU) NPC Alarm(s):

Unit 01 module 3 npc 39 (0119) has been autonomously removed.

Unit 01 module 3 npc 40 (0120) has been autonomously removed.

Test Access - DND Forms Interface

N

Contents

■ Introduction	N-1
■ TEST ACCESS Form	N-2
Field Descriptions	N-3
Procedure: Reading the Test StateSequences	N-8
■ Test Access Examples	N-9
Example: Placing a Circuit in MONITOR State	N-9
Example: MONITOR of Unmapped Channels	N-10
Example: Terminating a Circuit	N-11
Example: Modifying the Status to a SPLIT State	N-11
Example: Unterminating a Circuit	N-11
Example: Placing a Test Object into a LOOP State	N-12

Test Access - DND Forms Interface

N

Introduction

This Appendix provides forms and examples to perform Test Access with the DND Forms Interface. For additional information refer to Chapter 13, "Test Access".

TEST ACCESS Form

Select TEST ACCESS from the MAIN MENU. The TEST ACCESS form is displayed, as shown in Figure N-1.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

TEST ACCESS

Site Name:
Action: Direction: OOS: Test State:

Test Object
Object Type: Number: Bandwidth: TC: IW: AtoMU:
Hier Ext NPC ID Ch

FROM:
TO:

Object Under Test
Ckt ID: Termination State:
Channel Connection
Hier Ext NPC ID Ch

FROM:
TO:

Enter site name (at least 5 characters) _____

HELP CHOICES [] QUIT [] TOP MENU PRINT EXECUTE

Figure N-1. TEST ACCESS Form

The **Direction** field only appears for an **Action** of TERMINATE or UNTERMINATE. The **OOS** field only appears for an **Action** of RELEASE. For an **Action** of LOOP, the **Object Under Test** information does not appear.

Field Descriptions

The field descriptions for the TEST ACCESS form are described in Table N-1.

Table N-1. Test Access Field Descriptions

Site Name	Mandatory. 1 through 24 characters from the set 0-9, A-Z, a-z, /, _, and -. All other characters are illegal. Blanks are not allowed within a name. The name of the DACS where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the DACS names. These names were established during frame administration, described in Appendix D "System Administration."
Action	Mandatory. Specifies the TEST ACCESS operation. The valid actions are: MONITOR Connects an object under test, and any ACTIVE or ALTROUTED circuit containing the object under test, to a test object. The test object will receive data from the object under test without disrupting traffic. The Test State field must be RELEASED or SPLIT. SPLIT Connects both transmit and receive FROM and TO sides of an existing two-way circuit to the test object. The FROM and TO sides can then be tested simultaneously and independently. HUB Connects a circuit to a test object in such a way that the local DACS is used as a test access concentrator, with the local test object connected to a remote test object on another DACS. TERMINATE For a test object testing a circuit in the MONITOR or SPLIT mode, replaces the normal signal with the IW signal. The Direction field appears and you must enter a direction, when the Action is TERMINATE or UNTERMINATE . The extent of the replacement depends on the direction selected. You can select a replacement of the signal in the TO direction of the object under test, in the FROM direction or in BOTH directions for a two-way circuit or on all branch LEGS toward facilities for a multipoint circuit. See also under the Direction field. UNTERMINATE Resumes the normal signal(s) when a TERMINATE has been in effect. As in the case of TERMINATE, the part of the circuit to be affected is specified by the Direction field.

Table N-1. Test Access Field Descriptions (Contd)

Action (Continued)	RELEASE Disconnectsa test object from an object under test and makes the test object available for reuse. With the OOS option, the test object may be released even if it is out of service. LOOP Loops channels of a test object so that they can be tested.
Direction	The circuit ends for which IW is to be substituted for the normal signal when the TERMINATE Action is requested, or the circuit ends for which normal transmission is to resume when the UNTERMINATE Action is requested. This field only appears when you request a TERMINATE or UNTERMINATE Action. The CHOICES are: F Replace the signal to the FROM channel with IW. T Replace the signal to the TO channel with IW. B Replace the signals to the FROM and TO channels with IW. L Replace the signals on all branch LEGS toward facilities for a multipoint circuit with IW.
OOS	This field appears for the RELEASE Action only. The values are: Y Requests DACS to allow the release request to succeed when the test group or test port group NPC or an NPC of the object under test is out of service. N Default. Allows DACS to deny the release request if the NPC is out of service.
Test State	A display-only field indicating the operating status of the test object connections, as follows: RELEASED is displayed when the test object is not in use. MONITOR is displayed when MONITOR access is in effect. SPLIT is displayed when SPLIT access is in effect. HUB is displayed when HUB access is in effect. LOOP is displayed when LOOP access is in effect. The Test State field reflects the last successful Action.
Object Type	The type of test object. The valid types of objects are: TP The object is a test port, and therefore user test port provisioning is required (Appendix F Test Port Provisioning). TG The object is a test group, which will be automatically provisioned as required for test access.

Table N-1. Test Access Field Descriptions (Contd)

Number	The number of the test object to be used for performing tests. If Object Type is TP, enter the test port number. If Object Type is TG, the DND selects the number by default; however, you may enter a test group number. If the test group was provisioned, the fields corresponding to this number test group are filled in. Test Port The range is 1 through 48 with DACS II generics prior to 6.0 and 1 through 96 with DACS II Generic 6.0 and later and DACS II ISX. Test Group DACS II generics prior to 6.0 and DACS II ISX prior to 1.1 do not support this feature. The range is 1 through 400 with DACS II Generic 6.0 and later, and 1 through 100 for DACS II ISX.
Bandwidth	The bandwidth of the test object. Values are as follows. Test Port Only a value of 1 is allowed. The default is 1. Test Group If the object under test is a mapped circuit, enter nothing. Regardless of what you enter, the bandwidth will be taken from the object under test. If the object under test is an unmapped circuit, enter the desired bandwidth. For valid bandwidths, refer to the Bandwidth field description under CIRCUIT PROVISIONING.
TC	This field appears for the LOOP, MONITOR, SPLIT and HUB Actions only. Enter the Trunk Conditioning Code that is to apply to the test connection. For valid TC codes, refer to the TC field description under CIRCUIT PROVISIONING.
IW	This field complements TC. For valid IW codes, refer to the IW field description under CIRCUIT PROVISIONING.
AtoMU	This field appears for the MONITOR, SPLIT and HUB Actions only. The values are: Y Specifies A-law to Mu-law (also called x-law) conversion on a CEPT-type NPC in a Gateway type of test connection; this conversion can apply to the signal coming from either the object under test or from the test object itself. N Default. Disables the A-law to Mu-law conversion.

Table N-1. Test Access Field Descriptions (Contd)

Test Object FROM Hier	This and the following three fields are the identifying information of the test object. Their values depend on the test object. Test Port Filled in automatically. A blank value means you have not provisioned the test port (Appendix F Test Port Provisioning). Test GroupThe hierarchical NPC number of the NPC to be used as the FROM side of the test object. Alternatively, you may enter the extended number or the NPC ID. Whichever you enter, the other two fields are filled in. The NPCs must be in service.
Test Object FROM Ext	The value depends on the test object type. Test Port Filled in automatically. Test GroupThe extended NPC number of the NPC to be used as the FROM side of the test object.
Test Object FROM NPC ID	The value depends on the test object type. Test Port Filled in automatically. Test GroupThe ID of the NPC to be used as the FROM side of the test object.
Test Object FROM Ch	The value depends on the test object type. Test Port Filled in automatically. Test GroupThe first channel to be used as the FROM side of the test object. The allocation of channels depends on the Bandwidth and the Bandwidth Type of the object under test. You must insure that the test group has sufficient available channels.
Test Object TO Hier, Ext, NPC ID, Ch	The same information as for the Test Object FROM side, but referring to the TO side. FROM and TO NPCs may be the same, if the test connection calls for only one; for example, if FROM and TO are only different channels in the same NPC.
Object Under Test Ckt ID	The Ckt ID of the circuit to be made an object under test, if you are going to test a circuit. For unmapped channels, leave blank.
Termination State	Information concerning the termination of the object under test. F Terminated in FROM direction. T Terminated in TO direction. B Terminated in both directions. b lanks Underminated in both directions.

Table N-1. Test Access Field Descriptions (Contd)

Channel Connection fields	Identify the object under test. Their values depend on the Object Type and the Action . For the LOOP Action , in which there is no object under test, the fields do not appear. If the object to be tested has been mapped, you can identify it by filling in either the Ckt ID or the lowest numbered FROM or TO channel along with its NPC. The remaining information is automatically filled in. If the object to be tested is an unmapped channel, you must specify the lowest-numbered channel to be tested.

With the exception of TERMINATE and UNTERMINATE, a TEST ACCESS **Action** requests a change in the **Test State**. **Test State** values can succeed each other only in a certain order; for example, certain **Actions** succeed only when requested from certain **Test States**. The **Test State** sequences are shown in Table N-2.

Procedure: Reading the Test StateSequences

To read the Test State Sequences table, follow these steps:

1. Look up the row of the current **Test State** down the left-hand column of the table.
2. Look up the column of the desired **Test State** across the top of the table.
3. Read the **Action** at the intersection of the row and column. A dash means that the **Action** is not allowed. **X** means the **Action** is allowed.

Table N-2. Allowed Test State Sequences

Current Test State	Desired Test State				
	MONITOR	SPLIT	HUB	LOOP	RELEASED
MONITOR	-	X	-	-	X
SPLIT	X	-	-	-	X
HUB	-	-	-	-	X
LOOP	-	-	-	-	X
RELEASED	X	-	X	X	-

An attempt to enter an **Action** that is not allowed for the **Test State** results in the appropriate denial message.

Test Access Examples

Examples of Test Access are given in the following sections. Assume that communication between the DND and the DACS has been established, and the following facility NPCs have been created and restored.

Example: Placing a Circuit in MONITOR State

To place a circuit in MONITOR state, follow these steps:

1. Select TEST ACCESS from the MAIN MENU.

2. Enter the following data:

- **Site Name:** DACS00

- **Action:** MONITOR

- **Object Type:** TG

- **TC:**

- **IW:**

- **Test Object FROM NPC ID:** NPC0001

Observe that the test object identification fields are filled in.

- **Test Object FROM Ch:** 001

- **Test Object TO NPC:** NPC0001

- **Test Object TO Ch:** 002

- **Ckt ID:** NPC0005

Observe that the object under test identification fields are filled in.

3. Press **EXECUTE** and confirm. The DND prints a completion message at the bottom of the screen and updates fields in the form.

Example: MONITOR of Unmapped Channels

To MONITOR unmapped channels, follow these steps:

1. Select TEST ACCESS from the MAIN MENU.
2. Enter the following data:
 - **Site Name:** DACS00
 - **Action:** MONITOR
 - **Object Type:** TG
 - **TC:**
 - **IW:**
 - **Test Object FROM NPC ID:** NPC0001
Observe that the test object identification fields are filled in.
 - **Test Object FROM Ch:** 001
 - **Test Object TO NPC:** NPC0001
 - **Test Object TO Ch:** 002
 - **Object Under Test FROM NPC ID:** NPC0001
Observe that the test object identification fields are filled in.
 - **Object Under Test FROM Ch:** 003
 - **Object Under Test TO NPC:** NPC0001
 - **Object Under Test TO Ch:** 004
3. Press **EXECUTE** and confirm. The DND prints a completion message at the bottom of the screen and updates fields in the form.

Example: Terminating a Circuit

To apply TLA in the **T** direction, follow these steps:

1. Enter the following data:
 - **Action:** TERMINATE
 - **Direction:** T
2. Press **EXECUTE** and confirm. The DND prints a completion message at the bottom of the screen.

Example: Modifying the Status to a SPLIT State

To modify a status to a SPLIT state, follow these steps:

1. Enter **Action:** SPLIT
2. Press **EXECUTE** and confirm. The DND prints a completion message at the bottom of the screen and updates the fields in the form.

Example: Unterminating a Circuit

To remove TLA in the **T** direction, follow these steps:

1. Enter the following data:
 - **Action:** UNTERMINATE
 - **Direction:** T
2. Press **EXECUTE** and confirm. The DND prints a completion message at the bottom of the screen.

Example: Placing a Test Object into a LOOP State

To place a test object in a LOOP state, follow these steps:

1. Select TEST ACCESS and enter the following data:

- **Site Name:** DACS00
- **Action:** LOOP
- **Bandwidth:** 03
- **TO NPC ID:** NPC0006
- **TO Ch:** 05
- **FROM NPC ID:** NPC0006
- **FROM Ch:** 05

2. Press **EXECUTE** and confirm. The DND prints a completion message and updates the fields in the form.

**NOTE:**

Do not enter an Object Type (TG) or a TG Number. Only identify the NPC and channels.

Fault Management

O

Contents

■ Introduction	O-1
■ Alarm Notification Feature	O-2
Retrieving Alarms	O-3
Alarm Log	O-4
Power Fail Messages	O-10

Introduction

This appendix describes the Alarm notification feature of the DND. This feature allows you to monitor the alarm status of the DACS systems being controlled by the DND on a real time basis. In addition to notification, the feature also provides a mechanism to view the contents of the DACS Alarm Log. Details of the various field values in the Alarm Log reports are also provided in this appendix.



NOTE:

This appendix provides information for the DND Forms Interface only.

Alarm Notification Feature

The DND alarm status line, labeled **Alarms**, displays equipment alarms. When this line is clear, no unacknowledged alarms are pending.

- **DACS Alarms** are indicated when the appropriate site name appears on the alarm status line. Equipment alarms are displayed from as many DACSs as will fit on the line.

Frame names where critical alarms arise are displayed in red (color terminal), in reverse video (monochrome terminal), or blinking (VT100 only, not the SUN console). Frame names where Minor or major alarms arise are displayed in red (color terminal) or in reverse video (monochrome terminal). Frame names where information alarms arise are not displayed.

When a critical alarm occurs, the site name will flash until you acknowledge by pressing **Ctrl** + **a**.

Retrieving Alarms

To retrieve and acknowledge an alarm, perform these steps:

1. Press **Ctrl** + **a**. A pop-up window will display the available alarm reports including EQUIPMENT alarms and any customized alarm reports that have been created.
2. Select the type of alarm. Then, you are prompted for WHICH DACS? and a list of **Site Names** is displayed.
3. Select the site name that is in the alarm state. The DND displays a report listing the alarms in the alarm log, one page at a time. The acknowledged site name indicator disappears from the status line until a new alarm is received.
4. Page through the report using the function keys that are noted at the bottom of the screen, as shown in the sample alarm report.

Exiting an alarm report returns you to the previous screen.



NOTE:

While you are reviewing the report, new alarms can be added to the log, and new alarm notifications are displayed, but no new alarms are added to the report being displayed.

You also can obtain this report by selecting REPORT OPERATIONS from the MAIN MENU and EQUIPMENT ALARMS from the REPORT OPERATIONS menu. However, obtaining a report in this way does not serve to acknowledge the alarm.

Alarm Log

Figure O-1 shows an example of an Alarm Log report.

```

12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:report generation is completed
Alarms:

-----CEF-----ALARM LOG-----ALARMS-----
Date  Time      Sev Summary   NPC   Type  Threshold Un S Sub Fld1 Fld2
25Nov 11:07:14 MAJ OOS:  FC           02 0 2
25Nov 11:06:26 MIN OOS:  TLI           04 0
25Nov 11:06:26 MIN OOS:  TLI           01 0
24Nov 15:00:36 MAJ LINK DOWN
24Nov 14:54:32 CLR THRES IDLE 02207      15MIN
24Nov 14:45:48 CLR LINK UP

25 Nov 97                                Page 1 of 1    Display Page:1

[HELP] [NEXTPAGE] [PREVPAGE] [QUIT] [TOPPAGE] [TOP MENU] [PRINT] [LASTPAGE]

```

Figure O-1. Sample Alarm Report

Tables O-1 through O-5 describe DACS II alarm message elements. These field values help you identify the type of alarm. Explanations of each message element follow each table. The column headings in the report and their values are explained in Table O-1.

Table O-1. Explanation of DACS II and DACS II ISX Alarm Message Elements

Date, Time	The date and time when the alarm was received. Dates are in order from most recent to least recent.
Sev	The severity of the alarm: CR (critical), MAJ (major), MIN (minor), CLR (clear) for Idle, and INF (information).

Table O-1. Explanation of DACS II and DACS II ISX Alarm Message Elements (Contd)

Summary	The type of alarm message.
	BMTR ALARM Backup memory transfer alarm. BMTR IDLE Backup memory transfer alarm retired. B00T FAILEDReports that a system boot has failed during a RST : :MC or RST : :MC, TAPE command. CCB ALARM Cross-connect buffer alarm. CCB IDLE Cross-connect buffer alarm retired. CCI ALARM Clock and control interface alarm. CCI IDLE Clock and control interface alarm retired. CCNI ALARM Cross-connect network interface alarm. CCNI IDLE Cross-connect network interface alarm retired. CGA Carrier group alarm for NAS NPCs. This message reports facility alarms. The type of facility alarm is reported in the F column. CCN IDLE Cross-connect network alarm retired. CGA IDLE The message is informationally the same as for CGA. It means that the CGA has been retired. CI RESET Communications interface reset. A DACS II outputs this type of message immediately after a hardware reset. The MAJ severity notifies remote systems of the reset. DATE RESET Reports that a DACS II's date and/or time have been reset. DSG Jitter suppressor. DSPI ALARM Digital signal processing interface alarm. DSPI IDLE Digital signal processing interface alarm retired. DSPU ALARMErrors recovery for the DSPU NPC. ECCN IDLE Expanded cross-connect network side (ECCN) alarm retired. ETSI ALARMErrors expanded time slot interchanger alarm. ETSI IDLE Expanded time slot interchanger alarm retired. EER Excessive Error Rate ERR: SXCThis autonomous message reports that the synchronizer on the specified synchronizer/cross-connect (SXC) CP has switched to a new phase locked loop operating mode or has switched to a new source of timing. ERR: TREF Synchronization timing reference error. FC ALARM Format converter alarm. FC IDLE Format converter alarm retired. FMT ALARM Formatter alarm. FMT IDLE Formatter alarm retired. FTMI ALARM Facility terminating module interface alarm. FTMI IDLE Facility terminating module interface alarm retired.

Table O-1. Explanation of DACS II and DACS II ISX Alarm Message Elements (Contd)

Summary Continued	FTU ALARM	Error recovery for the FTU NPC. Refers to error condition code.
	IDLE : SXC	The SXC has returned to in-service state.
	LES	Loss of External Synchronization
	LES + AIS	Loss of External Synchronization and Alarm Indication Signal.
	LES + EER	Loss of External Synchronization and Excessive Error Rate.
	LES + LOFA/LOS	Loss of External Synchronization and Loss of Frame Alignment or Loss of Signal.
	LOFA/LOS	Loss of Frame Alignment or Loss of Signal.
	LOS	Loss of signal LOS) alarm on a DA type NPC.
	LOS IDLE	LOS alarm retired.
	MC ALARM	Main controller alarm.
	MC IDLE	Main controller alarm retired.
	MC IN MCOND	Maintenance condition (MCOND) in main controller. Reports that the MC has been restored to service in the maintenance condition.
	MC REMOVED	Main controller removed. Reports that the MC was removed from service.
	00S : CCB	Cross-connect buffer out of service.
	00S : CCI	Clock and control interface (CCI) out of service.
	00S : CCN	CCN out of service.
	00S : CCNI	Cross-connect network interface (CCNI) out of service.
	00S : DSPI	Digital signal processor interface (DSPI) out of service.
	00S : ECCN	Expanded cross-connect network side (ECCN) out of service.
	00S : ETSI	Expanded time slot interchanger (ETSI) out of service.
	00S : FC	Format converter of a facility terminating unit (FTU) out of service.
	00S : FLI	Facility line interface out of service .
	00S : FMT	Formatter in a DS3 unit is out of service.
	00S : FTMI	Facility terminating module interface out of service.
	00S : LINK	Link out of service.
	00S : MMFG	Multiplexer-multiplexer interface unit functional group (MMFG) of a DS3 unit out of service.
	00S : MEM	Non-volatile memory card has been removed from service.
	00S : NPC	NPC out of service.
	00S : SYNC	Synchronizer out of service. Reports that the timing extractor circuit, the phase-locked loop, the clock generator unit, or the service and reply circuit are out of service.
	00S : SYNC - TB	Synchronizer time base out of service. Reports that the synchronizer time base has been removed as a clock reference oscillator (CRO).
	00S : SYNC - TLI	Synchronizer time link interface out of service.

Table O-1. Explanation of DACS II and DACS II ISX Alarm Message Elements (Contd)

Summary Continued...	00S : SXC	One of the SXC CPs has gone out of service as a result of either a failure and a protection switch to the duplicated side, or a manual removal of the SXC.
	OS : TSI	Time slot interchange out of service.
	00S : TREF	Synchronization timing reference out of service.
	00S : UC	Unit controller out of service.
	PBA	Primary block alarm (PBA) for CEPT NPCs.
	PBA IDLE	The PBA has been retired.
	POWER ALARM	Power supply alarm.
	POWER FAIL	Reports that error recovery was instigated by a DACS II because of a frame power failure.
	The Fld1 and Fld2 columns of the report contain field1 and field2 reported in the DACS II error status register. Refer to the description immediately following this table.	
	POWER IDLE	Power supply alarm retired.
	SSP ALARM	Synchronizer sync port alarm.
	SSP IDLE	Synchronizer sync port alarm retired.
	SYNC ALARM	Synchronizer alarm.
	SYNC IDLE	Synchronizer alarm retired.
	THRES ALARM	Threshold alarm. This message reports that the 15-minute or 24-hour threshold exception alarm for a particular NPC has been equaled or exceeded for the facility performance parameter designated under Threshold.
	THRESH IDLE	This threshold alarm has been retired.
	TS0 BOVF	TS0 monitor buffer overflow.
	TS0 IDLE	TS0 monitor buffer clear.
	TSI ALARM	Time slot interchanger alarm.
	TSI ALARM	Time slot interchanger alarm.
	TSI IDLE	Time slot interchanger alarm retired.
	UC ALARM	Unit controller alarm.
	UC IDLE	Unit controller alarm retired.

Table O-1. Explanation of DACS II and DACS II ISX Alarm Message Elements (Contd)

Type	Facility Alarm Type. For CEPT NPCs; for example, the Summary is PBA: A Primary AIS; for example, Alarm indication signal received in all 32 time slots. B BER: bit error rate detected in received signal. C LCMA: Loss of CRC4 multiframe alignment in TS0. E RBER: remote bit error rate detected in Bit 4 of TS0. F LOF PBF: Loss of frame primary block failure. G FLCMA; I RAIS: remote AIS detected in Bit 4 of TS0. L LMA: Loss of multiframe alignment in CAS Time Slot 16. M R16: RAI received in Bit 6 of Frame 0 of TS16. P PFOOF: R LOS PBF: Loss of signal type primary block failure, or primary block alarm (PBA). S SFI: synchronization failure indication in Bit 5 of TS0. V A16: AIS received in CAS time slot 16. X EER: excessive error rate. Y RAI: Remote alarm indication received in Bit 3 of NFW of TS0.
NPC	The NPC Number of the NPC that is the subject of the message. The NPC number is displayed in hierarchical format if the DACS is provisioned for hierarchical and displayed as 4-digit extended if provisioned for extended 3 or extended 4. (NPCs on a DACS II ISX are always displayed as 4-digit extended.) See Appendix C, "Frame Administration."
Threshold	See Table P-2.
Unit	The unit number of the alarming facility.
Side	The side number of the alarming facility.
Sub	The subunit number of the alarming facility.
FLD1,FLD2	See Table P-3 and Table P-4.

Table O-2. Alarm Thresholds

Threshold	Description
BER	Bit error rate.
COFA	Change of frame alignment error.
CRC15MIN	15-minute CRC block errors.
CRCDAILY	Daily CRC block errors.
CSS15MIN	15-minute controlled slip seconds.
CSSDAILY	Daily controlled slip seconds.
CV15MIN	15-minute coding violations.
CVDAILY	Daily coding violations.
DM1H	Degraded minutes after 1 hour.
DM24H	Degraded minutes after 24 hours.
ERS15M	Errored seconds after 15 minutes.
ERS24H	Errored seconds after 24 hours.
ES15MIN	15-minute errored seconds.
ESDAILY	Daily errored seconds
FEBE15MIN	15-minute far -end block errors.
FEBEDAILY	Daily far-end block errors
FES15MIN	15-minute far-end seconds.
FESDAILY	Daily far-end errored seconds.
FRER15MIN	15-minute framing errors.
FRERDAILY	Daily frame errors.
FSEDAILY	Daily far-end severely errored seconds.
FUAS15MIN	15-minute far-end unavailable seconds.
FUASDAILY	Daily far-end unavailable seconds.
IDLE SIG	Idle signal.
LOS	Loss of signal.
MER15MIN	15-minute multiframe errors.
MERDAILY	Daily multiframe errors.
OFS15MIN	15-minute out of frame seconds.
OFSDAILY	Daily out of frame seconds.
OOF	Out of frame.
SAFE	Shelf alarm far end.
SANE	Shelf alarm near end.
SERS15M	Severe errored seconds after 15 minutes.
SERS24H	Severe errored seconds after 24 hours.
SES15MIN	15-minute severely errored seconds.
SESDAILY	Daily severe errored seconds.
SLIP	Slip count.
SLIPS15M	Slip count after 15 minutes.
SLIPS24H	Slip count after 24 hours.
UAS15MIN	15-minute unavailable seconds.
UASDAILY	Daily unavailable seconds.
UATC15MIN	15-minute unavailable time count.
ATCDAILY	Daily unavailable time count.
US15M	Unavailable seconds after 15 minutes.
US24H	Unavailable seconds after 24 hours.

Power Fail Messages

For a POWER FAIL message, Fld1 and Fld2 contain field1 and field2 reported in the error status register. These fields are described in the *DACS II Command and Message Manual* of the appropriate release, for message number 0.01301.

Each field consists of four hexadecimal digits that are 16-bit masks. A bit set to 1 indicates a power error and the source of the error. The maps of bit position into power source are repeated here from that manual.

For field1 (Unit):

Table O-3. Error Status Register *field1* Bit Mask

Bit	Failed Power Supply	Bit	Failed Power Supply
15-08	Not used	03	CCN/ECCN 1 PWR failure
07	MC 1, 484GA	02	CCN/ECCN 0 PWR failure
06	MC 0, SM565	01	SYNC 1 PWR failure
05	MC 1, 484GA power converter in MC	00	SYNC 0 PWR failure
04	MC 0, SM565 power converter in MC		

Power Fail Messages (Continued)

For field2:

Table O-4. Error Status Register *field2* Bit Mask

Bit	Failed Power Supply	Bit	Failed Power Supply
15	Unit 16	07	Unit 8
14	Unit 15	06	Unit 7
13	Unit 14	05	Unit 6
12	Unit 13	04	Unit 5
11	Unit 12	03	Unit 4
10	Unit 11	02	Unit 3
09	Unit 10	01	Unit 2
08	Unit 9	00	Unit 1

For an ISX_PWR FAIL message, Fld1 and Fld2 contain field1 and field2 reported in the error status register. Each field consists of two hexadecimal digits. Expand the two hex digits to 8 bits before comparing to the table below.

A bit set to 1 indicates a power error or a unit not installed. For example, if field1 contains C0, then the 8-bit expansion is 11000000, indicating that main shelf PU3 and PU2 are not installed.

The maps of bit position into units are as follows.

For field1:

Table O-5. Error Status Register *field1* Bit Mask

Bit	Unit
07-03	Reserved.
02	Main shelf PU3 not installed.
01	Main shelf PU2 not installed.
00	Main shelf PU1 not installed.

Power Fail Messages (Continued)

For field2:

Table O-6. Error Status Register *field2* Bit Mask

Bit	Unit
07	Expansion shelf PU4 not installed.
06	Expansion shelf PU5 not installed.
05	Main shelf feeder A or fuse failure to PU1, PU2 or PU3.
04	Main shelf feeder B or fuse failure to PU1, PU2 or PU3.
03	Main shelf +5 V output failure on PU1, PU2 or PU3.
02	Expansion shelf feeder A or fuse failure to PU4 or PU5.
01	Expansion shelf feeder B or fuse failure to PU4 or PU5.
00	Expansion shelf +5 V output failure on PU4 or PU5.

24-Hour Performance Monitoring

P

Contents

■ Introduction	P-1
Performance Parameters	P-2
■ Scheduling Performance Monitoring Reports	P-4
Scheduling Performance Monitoring Reports for DACS II ISX	P-4
Scheduling Performance Monitoring Reports for DACS II	P-4
■ Scheduling Performance Monitoring Reports When Performance Monitoring Reports are Expected	P-5
■ 24-Hour Performance Form	P-6
Field Descriptions	P-8
■ 24-Hour Performance Monitoring Examples	P-10
Example: Browsing 24-Hour Performance Data	P-10
Example: Resetting 24-Hour Performance Data	P-11

Introduction

The DND provides you with the ability to control and report performance monitoring parameters for CEPT type NPCs.



NOTE:

In order to use the 24-hour performance monitoring feature, set the environment variable PM24HR_NONFT to **YES** in *userenv*.

The performance monitoring parameters are those reported in the daily 24-hour performance data reports sent by the DACS II. The DND database is updated based on the output of the daily report.

There are three daily counters also maintained by the DND for each NPC:

- **Days Data Collected**—The number of days for which performance data has been successfully collected.
- **Errored Days**—The number of days for which the performance data has not been successfully collected.
- **Days Since Reset**—The number of days since the performance data has been reset.



NOTE:

Days Since Reset = Days Data Collected + Errored Days



NOTE:

This appendix provides information for the DND Forms Interface only.

Performance Parameters

Performance parameters for PA type NPCs and PB/PC type NPCs are listed below. The following data is kept for each performance parameter:

- The performance data for the last 24 hours
- The average for the performance data based on the number of days data was collected successfully.

Performance Parameters for PB/PC type NPCs

- Loss of Frame Alignment
- Slips
- Cyclic Redundancy Check
- Degraded Minutes
- Unavailable Seconds
- Errored Seconds
- Severely Errored Seconds
- Multiframe Errors
- Framing Errors

Performance Parameters for PA type NPCs

- CRC Block Errors
- Errored Seconds
- Severely Errored Seconds
- Unavailable Seconds
- Framing Errors
- Out-of-Frame Seconds
- Controlled Slip Seconds
- Coding Violations
- Unavailable Time Count
- Multiframe Errors
- Far-end Block Errors
- Far-end Errored Seconds
- Far-end Severely Errored Seconds
- Far-end Unavailable Seconds

Performance Parameters (Continued)

Not all PA performance parameters apply to all PA type NPCs. The following tables highlight the inapplicable parameters based on the *x* and *y* values in the PAxyz NPC type.

Table P-1. Invalid PA Parameters (Based on *x* value in PAxyz NPC Type)

<i>x</i> value parameter	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
CRC											X	X		X	X	X
MER																
FRER																
OFS																
ES																
SES																
CSS																
CV																
UAS																
UATC																
FEBE	X		X		X		X				X	X			X	X
FES	X		X		X		X				X	X			X	X
FSES	X		X		X		X				X	X			X	X
FUAS	X		X		X		X				X	X			X	X

Table P-2. Invalid PA Parameters (Based on *y* value in PAxyz NPC Type)

<i>y</i> value parameter	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
CRC														X		
MER									X	X			X	X		
FRER														X		
OFS														X		
ES														X		
SES														X		
CSS																
CV																
UAS														X		
UATC														X		
FEBE														X		
FES														X		
FSES														X		
FUAS														X		

Scheduling Performance Monitoring Reports

The 24-hour performance monitoring statistics processing feature requires that you schedule reports on each DACS II ISX and DACS II that the DND manages. The following sections describe how to schedule the 24-hour PM Statistics Report on the DACS II ISX and DACS II.

**NOTE:**

Do not schedule performance monitoring reports to be executed at midnight.

Scheduling Performance Monitoring Reports for DACS II ISX

To schedule the 24-Hour Performance Monitoring Statistics Report for DACS II ISX, enter the following two commands on each DACS II ISX:

```
SCHED-PMREPT-ALL : : : , PRIM-X-FBFF  
SCHED-PMREPT-ALL : : : HH-MM-SS, MONDAT
```

The report should be scheduled on a 15-minute boundary, such as 10:00, 10:15, 10:30, or 10:45.

Scheduling Performance Monitoring Reports for DACS II

To schedule the 24-Hour Performance Monitoring Statistics Report for DACS II, you enter two commands on each DACS II. The first command schedules the report time for PB type NPCs. The second command schedules the report time for PA type NPCs. Both of the scheduled times should be the same. The second report will be expected from the DACS II within 3 minutes of the completion of the first one. If the second report does not start within 3 minutes after the first one, the day will be treated as a day for which no PM reports were received.

The report should be scheduled on a 15-minute boundary, such as 10:00, 10:15, 10:30, or 10:45.

For a gateway DACS II, enter these two commands:

```
SCHED-PMREPT-ALL : : : HH-MM-SS, FAC-X-0002b5, , PRIM-x-FBFF  
SCHED-PMREPT-ALL : : : HH-MM-SS, MONDAT
```

For a non-gateway CEPT DACS II, enter these two commands:

```
SCHED-PMREPT-ALL : : : HH-MM-SS, PRIM-X-FBFF  
SCHED-PMREPT-ALL : : : HH-MM-SS, MONDAT
```

Scheduling Performance Monitoring Reports

When Performance Monitoring Reports are Expected

After you create the DACS on the DND and schedule performance monitoring reports on the DACS, the DND will expect the first report from the DACS in the period starting 12:00 midnight and ending 24 hours later. If you scheduled the report to run before 12:00 midnight, any data received before the first midnight will be discarded. This will also be true following a DND restart for DACS that already exist in the DND database and following DACS removals or restorations. The following figure illustrates when the DND expects reports from the DACS.

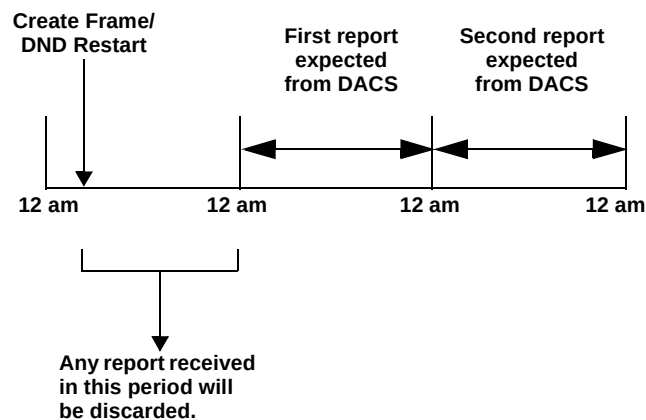


Figure P-1. Intervals when Performance Monitoring Reports are Expected

24-Hour Performance Form

Select 24-HOUR PERFORMANCE from the PROVISIONING menu. The PROVISIONING menu is shown in Figure P-2. The 24-HOUR PERFORMANCE form is displayed, as shown in Figure P-3.

The screenshot shows a terminal window with the following text:

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:
_____ PROVISIONING _____

CIRCUIT
TEST PORT
NPC
RECONFIGURATION PLAN
AUTOMATIC RECONFIGURATION PLAN
NPC ROLL
- 24-HOUR PERFORMANCE
*
```

At the bottom of the terminal window, there is a prompt: "Press ENTER to 24-HOUR Performance. _____". Below the terminal window is a row of buttons: HELP, a blank button, a blank button, QUIT, a blank button, TOP MENU, PRINT, and a blank button.

Figure P-2. PROVISIONING Menu

24-Hour Performance Form (Continued)

The screenshot shows a terminal window titled "24-HOUR PERFORMANCE". At the top, it displays the date and time "12:04 10 Apr 1998" and version information "DND R1.0.1 / DND Forms R5.0.2". Below this, the words "Status:" and "Alarms:" are visible. The main area of the form is divided into three columns. The first column contains the labels "Site Name:ISX", "Action:", and "Type:". The second column contains "NPC ID:" and "Number (Hier):". The third column contains "Service State:" and "(Ext):". Below these labels is a large rectangular input area. At the bottom of this area, the text "Enter the desired action." is followed by a horizontal line. At the very bottom of the terminal window, there is a row of buttons: "HELP", "CHOICES", an empty button, "QUIT", another empty button, "TOP MENU", "PRINT", and "EXECUTE".

Figure P-3. 24-HOUR PERFORMANCE Form

* To display the 24-HOUR PERFORMANCE option on the PROVISIONING menu, set the environment variable PM24HR_NONFT to **YES**.

There are two actions available on the 24-Hour Performance form:

- **RESET**—Allows you to reset the performance statistics for a single NPC or all NPCs on the DND.
- **BROWSE**—Allows you to browse performance statistics for the DND based on the specified search criteria.

Field Descriptions

Table P-3 describes the fields used on the 24-Hour Performance form.

Table P-3. 24-HOUR PERFORMANCE Field Descriptions

Site Name	Mandatory. The name of the frame where the requested Action will take place. Pressing CHOICES displays WHICH DACS? with a list of the frame names. These names were established during DACS administration, described in Appendix D "System Administration." The default length of the Site Name field is 17 characters. The length of the Site Name field can be set between 17 to 24 characters in length, if specified by the SITENAME_SIZE environment variable. All alphanumeric characters are valid entries in this field. In addition, the following characters are allowed: _ underscore - dash / slash All other characters are not allowed.
Service State	The status of the NPC. This field cannot be changed by the user except as the result of an Action. Possible values are: UEQD Unequipped. The NPC referenced by the NPC ID is not currently recorded in the DND and/or DACS databases (equipped). 00S Out of service. The NPC is currently equipped, but is not operable. IS In service. The NPC is equipped and operable.

Table P-3. 24-HOUR PERFORMANCE Field Descriptions (Contd)

Action	The provisioning actions are: RESET The RESET command resets the average performance statistics in the DND database for one NPC or all NPCs. The following daily counters will also be reset to zero: Days Data Collected Days Since Reset Errored Days This command does not erase the last daily 24-hour performance counts. BROWSE The BROWSE command allows you read-only access to the performance statistics database.
NPC ID	Mandatory. The NPC ID is a user-defined string of characters that uniquely identify an NPC on a frame. An NPC ID can be from 1 to 41 characters in length. Most printable characters are allowed. To reset the average performance statistics in the DND database for all NPCs, enter a * in this field and choose the RESET action.
Type	The type of NPC. The format is ABxyz where AB identifies the type of hardware and xyz sets certain provisioning parameters such as frame and signaling format.
Number (Hier)	The number of the NPC in hierarchical (hier) numbering.
Ext	The number of the NPC in extended numbering.

24-Hour Performance Monitoring Examples

Example: Browsing 24-Hour Performance Data

The BROWSE selection retrieves 24-hour performance statistics for each NPC in a specified range.

To browse the 24-hour performance statistics, follow these steps:

1. Select PROVISIONING from the MAIN MENU and 24-HOUR PERFORMANCE from the PROVISIONING menu.
2. Navigate to **Action** and select BROWSE.
3. Fill out the desired search criteria.
4. Press **EXECUTE**.

A search is conducted for the specified NPCs. Also, the data for the first NPC is displayed.

5. To display the data for the next NPC, press **NEXT**.
6. To stop the BROWSE, press RETURN.
7. To exit the form, press **QUIT**.

Figure P-4 shows a sample BROWSE through the 24-Hour Performance.

12:04 10 Apr 1998 DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

24-HOUR PERFORMANCE

Site Name:ISX Service State:IS
Action:BROWSE NPC ID:rlm1
Type:PA100 Number (Hier):01101 (Ext):0001

	NEAR END- LAST 24Hr	AVERAGE	FAR END - LAST 24 Hr	AVERAGE
CRC Block Errors	600	450.2	104	36.3
Errored Seconds				
Sev Errored Seconds				
Unavailable Seconds				
Framing Errors				
Out-of-Frame Seconds				
Controlled Slip Seconds				
Coding Violations				
Unavailable Time Count				
Multiframe Errors				

No of Days Collected: 10 No of Days Since Reset: 12 No of Errored Days: 2
Item 1 of 3. Use NEXT/PREVIOUS keys to scroll.
Enter the NPC Identifier.

HELP NEXT PREVIOUS QUIT TOP MENU PRINT EXECUTE

Figure P-4. 24-HOUR PERFORMANCE Browse Screen

Example: Resetting 24-Hour Performance Data

The RESET selection resets the average performance statistics for an NPC or NPCs associated with a selected DACS.

To reset the 24-hour performance statistics, follow these steps:

1. Select PROVISIONING from the MAIN MENU and 24-HOUR PERFORMANCE from the PROVISIONING menu.
2. Navigate to **Action** and select RESET.
3. Select the NPC using one of the following fields:
 - **NPC ID**
 - **Number (Hier)**: If you fill this in, **(Ext)** is automatically supplied.
 - **Number (Ext)**: If you fill this in, **(Hier)** is automatically supplied.
4. Press **EXECUTE**.

Figure P-5 shows a sample Reset screen.

```
12:04 10 Apr 1998  DND R1.0.1 / DND Forms R5.0.2
Status:
Alarms:

----- 24-HOUR PERFORMANCE -----
Site Name:ISX                               Service State:IS
Action:RESET      NPC ID:rlm1
Type:PA100        Number (Hier):01101      (Ext):0002

          NEAR END- LAST 24Hr AVERAGE    FAR END - LAST 24 Hr AVERAGE
CRC Block Errors                600                104
Errored Seconds
Sev Errored Seconds
Unavailable Seconds
Framing Errors
Out-of-Frame Seconds
Controlled Slip Seconds
Coding Violations
Unavailable Time Count
Multiframe Errors
No of Days Collected:000 No of Days Since Reset:000 No of Errored Days:000

Enter the site name.

[HELP] [CHOICES] [ ] [QUIT] [ ] [TOP MENU] [PRINT] [EXECUTE]
```

Figure P-5. 24-HOUR PERFORMANCE Reset Screen

Abbreviations and Acronyms

Numerics

4GL
Fourth-generation language

A

A
Alarm indication signal

ac
Alternating current

AC
Alternating current

adm
Administrat-or, -ive

admn
Administrat-or, -ive

AIS
Alarm Insertion Signal

Alm
Alarm

ALM
Alarm

ALMS
Alarms

alt
Altroute

ATZ
Alternate Time Zone

ANSI
American National Standards Institute

arp
Automatic Reconfiguration Plan

ARP
Automatic Reconfiguration Plan

ASCII
American Standard Code for Information Interchange

ASI
Alarm Signal Indicator

AT&T
American Telephone and Telegraph

B

b
Bits

B
Bytes

B
Both red and yellow alarms

BBL
Backbone leg

BCD
Business Communications Device

Bd
Baud

BER
Bit-error rate

bf
Boldface

BF
Boldface

BMTR
Backup Memory Transfer Alarm

bps
bits per second

BPSS
Basic Packet-Switching Service

BRD
Broadcast

C

CAS
Channel Associated Signaling

CCB
Cross-connect Buffer

CCI
Clock and control interface

CCITT
Comite Consultatif International Telegraphique et Telephonique

CCM
Cross-connect Module

CCN
Cross-connect Network

CCNI
CCN interface

CCU
Cross-connect Unit

cd
Change Directory

CEF
Capacity Expanded Frame

CEPT
Conference European Postale et Telephonique

CGA
Carrier-group alarm (carrier group = digroup)

Ch
Channel

CH
Channel

Chan	Channel
CHAN	Channel
CHG	Change
CI	Communications interface
Ckt	Circuit
CKT	Circuit
ckts	Circuits
CLR	Clear
cmd	Command
CNC	Customer Network Controller
COFA	Change of Frame Alignment Error
COMCODE	Component Code
cond	Condition
CP	Circuit Pack
CPU	Central Processing Unit
CR	Critical
CRC	Cyclic Redundancy Check

CRIT

Critical

CRO

Clock Reference Oscillator

CRT

Cathode Ray Tube

CRTE

Create

CSS

Controlled slip seconds

Ctrl

Control

CTS

Clear to Send

CUS

Customer

CV

Coding violation

cw

Constant Width

CW

Constant Width

D

DACS

Digital Access and Cross-connect System

dacsadm

DACS administrator

DB

Database

dc

Direct current

DCC

Disconnect-channel code

DCD	Data Carrier Detect
DCE	Data Circuit-terminating Equipment
DCON	Disconnect
dd	Day (2 chars.)
DD	Day (2 chars.)
DDC	Default Disconnect Code
DDC	Dual-digroup card
DDS	Digital Data System
DE	Digroup-enhanced
DEV	Device
DEX	Digital Electronic Cross-connect System
DGRTH	De-growth
DISC	Disconnect
DM	Degraded Minutes
DM	Dual multiplexer
DMA	Deferred Maintenance Alarm
DMB	Digital Multipoint Bridge

DPC	Dual primary circuit
DSPU	Digital Signal Processing Unit
DSR	Data Set Ready
DSX	Digital Signal Cross-Connect
DS0	Digital signal level 0
DS1	Digital signal level 1
DS3	Digital signal level 3
DS3U	DS3 Unit
DSPI	Digital Signal Processing Interface
DTE	Data Terminal Equipment
DTR	Data Terminal Ready

E

E	Extended
ECCN	Extended or Expanded cross-connect network
ECEF	Extended Capacity Expanded Frame
EDDC	Enhanced Dual Digroup Circuit
EDPC	Enhanced Dual Primary Circuit

EER	Excessive error rate
EFT	External Facility Termination
EIA	Electronic Industries Association
EISA	Extended Industry Standard Architecture
eq	Equipment
EQD	Equipped
EQL	Embedded Query Language
EQPT	Equipment
ERM	Echoed Response Message(s)
ERM	Errored Minutes
ERP	Echoed Response Processing
ERS	Errored Seconds
ES	Errored seconds
Esc	Escape
ESD	Electrostatic discharge
ESDI	Enhanced Small Device Interface
ESQL	Embedded Structured Query Language

EST
Eastern Standard Time

ETSI
Extended time slot interchange

Ext
Extended

Extd
Extended

F

F
Female

FACE
Framed Access Command Environment

FAX
Facsimile

FC
Format converter

FDD
Floppy Disk Drive

FDX
Full duplex

FE
Far end

FEBE
Far end block error

FFER
Frame Format Error rate

FLI
Facility Line Interface

FMLI
Form and Menu Language Interpreter

FMT
Format

Fr

From

FR

From

FRER

Framing errors

FTM

Facility Terminating Module

FTMI

Facility Terminating Module Interface

FTU

Facility Terminating Unit

FUAS

Far end unavailable seconds

FW

Framing Word

G

GMT

Greenwich Mean Time

GPSC

General Purpose Synchronous Controller

GRP

Group

GRTH

Growth

H

H

Hierarchical

HDU

Hard Disk Unit

HDX
Half duplex

I

IC
Integrated Circuit

ID
Identifier or identification

IDLD
Idled

IF
Interface

IMX
Informix

INCL
Inclusive

INFO
Informational

ipc
Interprocess communications

IP
Internet Protocol

IPC
Intelligent Ports Card

IRQ
Interrupt request

IS
In service

ISA
Industry Standard Architecture

ISO
International Organization For Standardization

ISX
Integral Shelf Cross-connect

ITU-T

International Telecommunications Union - Telephony

IW

Insertion Word

K

k

Kilo or x 1000

kb

Kilobits

kB

kilobytes

KB

kilobytes

kbd

Keyboard

KBD

Keyboard

Kbps

Kilo-bits per second

L

L

Local multiframe alarm

LAN

Local Area Network

LED

Light Emitting Diode

LFER

Line Format Error rate

lgn

Login

LMA

Local Multiframe Alarm

LMA

Loss of Multiframe Alignment

Loc

Location

LOFA

Loss of Frame Alignment

LOS

Loss of Signal

LP

Logging Printer

M

M

Male

M

Remote multiframe alarm

M

Mega or x 1,000,000

Maj

Major

MAJ

Major

MAX

Maximum

Mb

Megabits

MB

Megabytes

MB

Multipoint Bridge

Mbps

Megabits per second

MC	Main Controller
MCOND	Maintenance Condition
MEM	Memory
MER	Multiframe errors
MI	Minor
MI	Maintenance information
MIN	Minor
Mj	Major alarm
MJ	Major alarm
MJ	Multipoint Junction Unit
MJU	Multipoint Junction Unit
MMFG	Multiplexer-Multiplexer Interface Unit Functional Group
mml	HuMan Machine Language
MML	HuMan Machine Language
mmm	Month (3 chars.)
MMM	Month (3 chars.)
MN	Minor Alarm

MP

Multipoint

msg

Message

mux

Multiplex, -ed, -ing, -or

MUX

Multiplex, -ed, -ing, -or

M1X

DS1 to DSX Multiplexer

N

NAM

No a-to-mu-law conversion

NAS

North American Standard

NAU

Network-access unit

NE

Near end

net

Network

NFS

Non-framing Word Setting

NFW

Non-framing Word

NI

Network Interface

NMS

Network Management System

NPC

Network Processing Circuit

NPCTP

NPC Test Port

NTR
No Transmit

Num
Number

O

OCON
One-way cross-connect

OFS
Out-of-frame seconds

OOF
Out of Frame

OOS
Out of service

O&M
Operation and Maintenance

openwin
OpenWindows

P

PAM
Pulse Amplitude Modulation

PARAM
Parameter

passwd
password

PB
Primary block

PBA
Primary Block Alarm

PBF
Primary block failure

PC	Personal computer
PCM	Pulse Code Modulation
PDN	Packet Data Network
PDS	Product Documentation Standard
PEC	Price Element Code
PII	Peripheral Interrupt Interface.
PMA	Prompt Maintenance Alarm
PU	Power Unit
PVC	Permanent Virtual Circuit
PWR	Power

Q

QIC	Quarter-Inch Cartridge

R

R	Red alarm
RAI	Remote Alarm Indicat-or -ion
RAIS	Remote AIS

RAM
Random Access Memory

RBER
Remote bit error rate

RCNCILE
Reconcile

RDLD
Red-lined

rlogin
Remote login

RMA
Remote Multiframe Alarm

Rmks
Remarks

RMV
Remove

RP
Restoration or restoral priority

RP
Reconfiguration Plan

RST
Restore

RTS
Request to Send

Rx
Receive

S

s
Second(s)

SAFE
Shelf Alarm Far End

SANE
Shelf Alarm Near End

SC	Signal(ing) Conversion
SCSI	Small Computer Systems Interface
SE	Standard Engine
Seq	Sequence
SERS	Severe errored seconds
SES	Severe errored seconds
SEV, sev	Severity
SFI	Synchroniz-er -ation Failure Indicat-or -ion
SHMEM	Shared memory
SIMM	Single In-Line Memory Module
SME	Synchronous Modem Eliminator
SQL	Structured Query Language
SR	Subrate (multiplexer)
SRD	Software Release Description
SRM	Subrate Multiplexer
SSP	Synchronizer Sync Port
Str	String

stty

Set tty

Sub

Subunit

SV

System V

SVC

Switched Virtual Circuit

SW

Software; switch

SXC

Synchronizer cross-connect

SYNC

Synchronizer, Synchronization

T

TB

Time Base

TC

Trunk conditioning

TCP

Transport Control Protocol

TCS

T-Carrier Cross-Connect System

TDM

Time Division Multiplexing

TE

Timing Extractor

Telco

Telephone Company

terminfo

Terminal information

tid

Terminal ID

TID

Terminal ID

TLA

Terminate and Leave Activated

TLI

Time link interface

TLR

Terminate and Leave Released

TP

Test port

TPG

Test Port Group

TRB

Trouble word

TREF

Timing reference

TRSP

Transparent signaling

TSI

Time Slot Interchanger

TS0

Time slot zero

TS0M

Time Slot 0 Monitor

tty

Teletype

Tx

Transmit

TZ

Time Zone

U

UAS

Unavailable seconds

UATC

Unavailable time count

UC

Unit Controller

UCR

Unit Controller

UEQD

Unequipped

UI

User interface

UMC

Unassigned Multiplexer Channel Code

US

Unavailable Seconds

V

VDC

Video Display Console

VGA

Video Graphics Analog

W

WGS

Work-Group Station

Y

Y

Yellow alarm

yy

Year (2 chars.)

YY
Year (2 chars.)

Glossary

A

Action

An operation specified to the DND by entry of a predefined value into the **Action** field of many DND forms. The **Action** value is the command verb of the DND user interface. It may generate one or more MML command verbs to the DACS, or it may designate an operation that is strictly local to the DND computer.

Activate

Place in service as a transmission-carrying circuit.

Aging

With reference to alarms, delaying action on the alarm after its receipt.

Alarm

A message sent by an NPC indicating that transmission is impaired. Alarms are classified by cause as Circuit Pack Failure, Carrier Failure (see CGA) and Facility Performance. They are also classified by severity for purposes of response or notification.

Alarm Indication Signal (AIS)

See Blue Alarm.

Alarm Monitor Port

An RS232C asynchronous port of the DND computer. On the port are placed all alarm messages sent to the DND from a DACS. This port was formerly called the alarm broadcast port.

Alarm Signal Indicator (ASI)

The rectangular colored box located on the New Alarm Summary button, on every DND GUI form, and on the subassembly representations in the equipment view. The color of the ASI represents the new alarm severity that has entered the system or indicates the alarm severity of a DACS II sub-assembly in the equipment view.

A-law

A set of companding rules used for CEPT transmission. See Compander, Gateway.

Alternate Bandwidth

Channels that are allocated alternately to a high-rate circuit; e.g., 3, 5, 7.

Altroute -ed -ing

Alternate routing of transmissions paths. See also Real Altroute and Pseudo-Altroute.

Asynchronous Transmission

A method of transmitting digital signals in which the bits are sent when they are initiated, rather than in synchronization with a timing signal; for example, keystrokes. Communication between the DND computer and its terminals is asynchronous.

Audit

An DND **Action** under DATABASE ADMINISTRATION by which differences between the DND database and a frame database are tracked and logged.

Automatic Reconfiguration Plan (ARP)

A file containing a sequence of references to Reconfiguration Plans to be executed when the ARP is executed. See also Reconfiguration Plan.

B**Backbone Leg**

In a Broadcast Circuit, the transmission source: the one-way circuit from the FROM side to the virtual branch point. In a Polling Data Circuit, it is the branch between the Rx of the transmission EFT and the DMB channel, along with the corresponding Tx side of the same EFT, which branches to the other EFTs without going through the DMB. In the latter case, the Tx branch point is in the CCN only, while the Rx branch point is the DMB channel.

Backup Line

In the DND, the SVC designated as a backup line in the FRAME ADMINISTRATION form. It will be the path to the DACS to which the DND automatically reverts when the primary line is not operable.

Bandwidth

The number of channels used for a high-rate circuit.

Baud Rate

The number of bauds per second. One baud, named after J.M.E. Baudot, is one signaling element. For example, in an 8-state code system, one baud is one code representing one state of the 8. If such a code were represented by bits, one baud would be three bits. In a two-state system, one baud is one bit, and the baud rate is identical to the bit rate; however, the term baud rate is preferred when it refers to the speed at which terminals communicate. Here, "baud rate" is used of the terminal line speed and "bit rate" is used of channel transmission speed.

Bit Error Rate

A DACS concept referring to the rate at which wrong bits are received. The number of wrong bits over an interval is calculated from a checksum.

Bit Rate

The speed at which binary digital signals are transmitted, usually expressed in bits per second (bps).

Blue Alarm

Also known as an Alarm Indication Signal (AIS). An all 1s pattern asserted at an intermediary point in a facility when loss of transmission is detected. A yellow alarm is sent in the direction of the loss and a

blue alarm is sent downstream. See also Alarm.

Boot

In general, to load and start the operating system of a computer. In the DND, boot means to load an DND database with data reflecting the provisioning present in a specified DACS, or to provision the DACS so that it matches provisioning data stated in the DND database.

Branch Legs

In a virtual broadcast circuit, the one-way circuits from the virtual branch point to the broadcast points. In a Polling Data Circuit, a DMB channel takes the place of the virtual branch point on the Rx side. On the Tx side, the branch is in the CCN. See also Backbone Leg.

Broadcast Circuit or Cross-connection

A virtual multipoint circuit, connecting a channel on one side with multiple channels on the other. The cross-connection is one-way, and can be high-rate. Connection is through a virtual node, which is a logical, or software, entity performing the signal switching. The circuit on the FROM side is the Backbone Leg and the circuits on the TO side are the Branch Legs.

C**Capacity Expansion Frame (CEF)**

An expanded DACS II frame able to configure up to 2560 NPCs.

Carrier Group Alarm (CGA)

Also called a Carrier Failure Alarm. One of three classes of DACS-II alarms (see Alarm). An alarm asserted by an NAS NPC to indicate loss of an incoming signal or receipt of a remote alarm signal from the other side of the line. The loss of an incoming signal is reported in an output message as a Red Alarm, and an alarm from the other end is reported as a Yellow Alarm. A variety of other types of CGA alarms can be generated. The equivalent type of alarm for CEPT NPCs is a PBA.

Cascade

There are many kinds of cascade in the electronics industry and in the communications business. In general, it signifies a circuit in which one configuration branches to another of its kind indefinitely. With reference to DMB multipoint circuits, a cascade of conferences is achieved when a leg of one conference is simultaneously the leg of another; i.e., two DMB channels are connected. Additional DMB channels can be connected also, leading to a longer cascade of conferences.

CEPT Facility

An NPC terminating DS1 signals that were multiplexed according to the CEPT standard.

Channel

A continuous stream of coded output signals. The channel may be carried by a variety of media, and may be broken into segments for discontinuous transmission. In the DND, a channel is a DS0 signal provided by an NPC.

Channelized

Said primarily of DS1 to distinguish it from Clear DS1.

Circuit

A cross-connection between channels. A two-point circuit connects two channels; a multipoint circuit connects more than two. A circuit may be a one-way circuit, where one transmission direction is used for each channel or a circuit may be a two-way circuit, where both transmission directions are used for each channel. Thus, the same channel can be in two active one-way circuits.

Circuit Pack

A hardware module that can be easily installed or removed from a DACS. Units such as power supplies, CCNs and DDCs are implemented as CPs.

Clear DS1 Signal

A nonchannelized, 193-bit DS1 signal on an NAS NPC. The 24 8-bit DS0 channels and one framing bit are cross-connected as one DS1 signal, 193 bits wide.

Clear E1 Signal

A nonchannelized, 256-bit DS1 signal on a CEPT NPC. The 32 8-bit DS0 channels are cross-connected as one DS1 signal, 256 bits wide.

Channel

A DS0-level signal that can be cross-connected in a circuit. Channels are provided by NPCs. An NPC makes available two directions per channel.

Channel Associated Signaling (CAS)

A signaling format in which the signal bits for all channels in an NPC are placed in a signaling channel, separate from the message channels. In CEPT facilities the signaling channel is Channel 31. Command.

In the DND, a command is, strictly speaking, an MML command generated by an DND **Action**; however, a command may also be, by analogy, any I-2000 **Action**, whether it generates one or more, or no, commands to the DACS.

Compander

Compressor-expander, a device used to protect low-level voice volumes from noise by increasing them for transmission; i.e., compressing the range of volumes and expanding the range again at the other end of the transmission. See also A-law and Mu-law.

Conference

A multipoint circuit. The Symmetric Voice Circuit most closely fits the English meaning of *conference*, although the term is used of any multipoint circuit. In DMB multipoint circuits, *conference* also means the DMB channel number.

Conference Number

The channel number of the DMB side of a leg in a circuit of **Class** DMB. Since one conference includes only one DMB channel, which is used as one side of every leg, this channel number uniquely identifies the conference. For an exception, see under Cascade.

Conference European Postale et Telephonique (CEPT)

The standard of DS1 level telephone transmission used predominantly outside the United States. CEPT NPCs consist of 32 channels containing 64 Kilobits per second each. Numbering is from 0 to 31,

but not all 32 are ordinarily available to the user: 0 and 31 are not available. Channel 0 is available as a special case in DACS II release 6, as an option under CIRCUIT PROVISIONING.

Constant Width (CW)

A typewriter-style typeface used for emphasis; in the DND manuals, primarily to mark field values that you type or that appear on the screen. Displayed messages also are quoted in CW.

Contiguous Bandwidth

Channels that are allocated contiguously to a high-rate circuit.

Contiguous Cross-connections

Multiple cross-connections such that the channels on the FROM side and the TO side are each consecutively numbered channels in a single NPC.

Controller

A device that takes the initiative in sequencing operations, and which uses feedback to make decisions. In the DND's case, switching of multiplexed telephone communications is controlled.

Create

An DND **Action** used in a number of forms to register an object in the DND database. Some objects that can be created are a DACS and an NPC.

Cross-connect -ion -ing

A circuit between two or more channels. The DACS interchanges channels from a time slot in one NPC to another time slot in the same or in a different NPC, as designated by the DND. The hardware module that accomplishes cross-connection is the Cross-connect Network (CCN).

Cross-connect Frame

Same as Distribution Frame.

Cross-connect Module (CCM)

A DACS I hardware unit contained within a CCU and containing up to eight NPCs.

Cross-connect Network (CCN)

A hardware module that is used to implement cross-connection. It contains Time Slot Interchangers (TSIs).

Cross-connect Unit (CCU)

A DACS I hardware unit containing a maximum of four CCMs.

Custom Report

A report for which the format can be changed by use of the Edit Custom Report Format form. A fixed-format report may not be changed in format. Some custom report formats are predesigned and are furnished with the DND. These can be selected like fixed-format reports; nevertheless, they can be changed and are custom formats.

D

DACS

Used without further qualification, DACS means any supported, configured cross-connect frame. DACS Database

The DND database that is named with a frame Site Name and stores DND information concerning that frame. This database is distinct from the frame's own database, here termed the *remote* or *facility* database, which is installed on the frame itself.

DACS I, DACS II

A Lucent Technologies product that terminates DS3- or DS1-level multiplexed signals and has the capability of separating them into DS0 signals for purposes of cross-connecting them. The DND provides a user-friendly interface to generate the commands that instruct the DACS to perform the appropriate cross-connections.

Database

A collection of logically united data. Here, the term does not imply any specific structure of code or organization of data on disk or in memory. The data might be tracked in various ways and be stored at disparate locations. A screen, for example, is not necessarily a record in a file, as it would be in COBOL or PL-1.

Data Circuit-terminating Equipment (DCE)

A type of equipment recognized by standards organizations such as the EIA, the CCITT and the ISO. A data circuit is a network equipment configuration that provides data services. The DACS is DCE.

Dataset

In DACS II, a stored set of Facility Performance Parameters.

Data Terminal Equipment (DTE)

A type of equipment recognized by standards organizations such as the EIA, the CCITT and the ISO. A data terminal is a remote device used with a computer for data input and output: teletypewriters, CRTs and host computers. Each DND terminal is DTE

Default Disconnect Code (DDC)

The DDC is a disconnect channel code asserted by an equipped NPC on all of its unmapped channels, unless it is replaced by a value entered into the **IW** field on the NPC PROVISIONING form.

Delete

An DND **Action** used in a number of forms to delete an object from the DND database. Some objects that can be deleted are a DACS and an NPC.

De-grow

A DACS II term meaning to delete from the frame database perhaps with a DGRTH (de-growth) command in MML. In the I-2000, the DELETE Action takes its place. The DELETE functionality is a superset of DGRTH functionality.

Digital Multipoint Bridge (DMB)

A physical module containing the electronic circuits that can establish two types of two-way multipoint circuits, beginning with Release 2.0: the Symmetric Voice Circuit and the Polling Data Circuit. The DMB makes available DMB NPCs and channels, from which the user may select one as the branch point. This DMB channel number is used as the conference number.

Digital Signal Processing Unit (DSPU)

A type of DACS unit containing the ICs used to create specialized circuits, such as DMB or subrate. These units contain more specialized TSIs than a CCN.

Digroup

For NAS transmission, a digroup is 24 (two groups of 12) DS0-level signals. It is a specific kind of NPC, provided by a DDC.

Digroup Roll

The former name of the NPC Roll feature.

Direct Configuration.

See Point-to-point.

Disconnect Channel Code

A signal, a digital word, that is sent on the unmapped (unassigned) channels of an equipped NPC. If it is not supplied by the operator as an **IW** field value on the NPC PROVISIONING form, the Default Disconnect Code is used.

Display

In the DND, to display always means to show on the screen.

Distributing Frame

A mechanical chassis on which multiple transmission lines are terminated to allow cross-connections of transmission signals. In early equipment, the cross-connections were made by jumpers. Today's frames provide an electronic cross-connection capability.

See DACS II.

DND Controller for DACS II

A controller that offers a user-friendly interface between operators at terminals and multiple DACSs stationed on a Packet Data Network or in a point-to-point configuration.

Domestic

A term in use in earlier DACS documentation and I-2000 manuals to mean North American Standard; however, strictly speaking, it only applies to within the U.S.

DS0

A level in the TDM hierarchy, at which one channel is sampled and the digital transmission rate is 64 kilobits per second.

DS1

A level in the TDM hierarchy. For NAS transmission, 24 channels are sampled and the transmission rate is 1.544 Mbps. For CEPT transmission, 32 channels are sampled and the transmission rate is

2.048 Mbps.

DS3

A level in the TDM hierarchy. For NAS transmission, 672 channels are sampled and the transmission rate is 44.736 Mbps.

DS3 Unit

A DACS II hardware module containing a maximum of six DS3 terminations.

Dual Digroup Card (DDC)

A DACS II card containing two NPCs for NAS transmission.

Dual Primary Circuit (DPC)

A DACS II card containing two NPCs for CEPT transmission.

Dumb

Used of terminals; incapable of doing any preprocessing.

E

Echoed Response Processing (ERP)

An Echoed Response Message is a message from a DACS to the DND that is not in response to an I-2000 process waiting for it. Echoed Response Messages often indicate that provisioning has been performed in the DACS but is not matched by provisioning in the DND. Echoed Response Processing is DND-only NPC or circuit provisioning automatically performed for the purpose of making the DND provisioning match the frame provisioning indicated by the message.

Encoding

Representing by 8-bit binary numbers the numbers resulting from quantizing a PAM Signal. See Pulse Code Modulation.

Enhanced Small Device Interface (ESDI)

A standard interface, which achieves faster throughput than standard fixed-disk controllers by shifting functionality to the Hard Disk Unit (HDU). It also defines a disk format.

Environmental Variable

A shell variable, which can be set by a variety of methods. The DND uses an environmental variable file, `.dnrcr`, which stores the default values.

Equipment Provisioning

Prior to DND Release 3.2, the term used for NPC provisioning in DND forms.

Equipped

In the DACS II, "to equip" is to grow with a CRTE command in MML. In the DND, the **CREATE Action** performs this function, sending commands to the DACS when necessary. An NPC that has been created can, therefore, be said to have been equipped. "Equipped" is thus a status that is NOT unequipped (UEQD); i.e., a **Service Status** value referencing an object that is described in the DND

database. However, no explicit "equipped" **Service Status** is used; instead, IS or OOS is used to mean "equipped" by implication.

Errored Seconds

The number of seconds a transmission facility was not working properly over an interval. Execute

In general, to set a software procedure in motion. In the DND, "to execute" implies to use the Execute button to set an DND or DACS procedure in motion; however, sometimes it is used in the general sense.

Extended Numbering or Addressing

A system of numbers used to address NPCs in I-2000 forms and DACS commands. Extended numbering maps a whole number from 1 through 2564 to an NPC.

External Facility Termination (EFT)

A channel that is coming from outside the DACS and terminates in a DACS II DDC or DPC, or in a DACS I NPC. A node in a multipoint circuit is NOT an EFT.

F

Facility

In the telephone vocabulary, a device for transmitting telephone signals. With reference to a DACS, "facility" is typically used to mean NPC.

Facility Performance Alarm Parameters

One of the categories of DACS alarms (see Alarms). A line status error alarm resulting when errors on a monitored line exceed a stored threshold value for a defined parameter. Microprocessor circuits in the line interface circuits detect and count various types of line error conditions for each NPC. The parameters monitored are the Bit Error Rate, Frame Alignment Errors, Errored Seconds, Severely Errored Seconds, Slips, Degraded Minutes and Unavailable Seconds.

Facility Terminating Module (FTM)

A DACS II hardware module contained in an FTU. The FTM contains up to 20 NPC Cards, supporting 40 digroups, or NPCs.

Facility Terminating Unit (FTU)

A DACS II hardware module mounted on a DACS II. It contains up to 4 FTMs.

Far End

With regard to a cross-connection, the far end is the NPC at the other end of a line terminating in one of the sides of the circuit. Thus, a two-point, single-channel cross-connection has two far ends.

Field

A named and delineated space on the screen, where data entry is expected; also, the logical entity associated with the name. Fields are not necessarily mapped into any scheme of DND data records, C language structures or shell variables; however, all of these devices are utilized to store fields.

Form, Screen

A terminal display showing field names into which you enter data.

Form Control Keystroke

A keystroke that positions the cursor among the fields within a form.

Frame

See Time Frame, Distributing Frame. In this manual, frame is used most often to mean any distributing frame that becomes an object in the DND system through provisioning.

Frame Alignment Error

A concept referring to errors detected in framing bits received. The errors must be severe enough to require the receiver to be resynchronized with the transmitter.

Framing, Framing Bits, Framing Word

The process of marking the beginning of a time frame or two time frames in a PCM stream. The NAS standard uses one bit, the framing bit, making a total of 193 bits per frame. The CEPT standard uses an 8-bit pattern, the framing word, in alternate time slots. The other alternate contains the non-framing word.

FROM Side

One side in a cross-connection. For one-way circuits (two-point or multipoint), the FROM side is the channel that sends the transmission (Tx) and the TO side is the channel that receives the transmission (Rx). The name derives from the fact that the DACS II command that establishes the cross-connection identifies the channel number of this point with a FROM qualifier.

For two-way circuits, the second direction of the FROM and TO channels is used. It also has Tx and Rx sides. Thus, the FROM side and the TO side each have a Tx and Rx direction.

Front End

Hardware or software that preprocesses data before it is massaged by the main hardware or software under consideration. The DND is a front end to the frame, because it generates frame switching commands.

Full Duplex Circuit

A two-way cross-connection.

Function Key

One of the keys across the top row of the keyboard. Many of them are assigned special functions in the I-2000. These functions are labeled pictorially in a display line at the bottom of the screen, for functions that are valid with that screen.

G**Gateway**

A cross-connection between a channel in an NAS NPC and a channel in a CEPT NPC. For transmission of digitized voice signals, the difference in companding rules must be taken into

consideration; i.e., an A-to-Mu Law Conversion may be necessary. This conversion is not necessary for transmission of data signals. Generate a Report

To instruct the DND to create a report in an electronic file. Printing or displaying the file is a separate step.

Generic

Formerly the release number of the software and, therefore, the "type" of software. One generic is not necessarily compatible with another. Currently the use of generic has been dropped and "release" is being used instead.

Grow

A DACS II term meaning to record an NPC in the frame database with a CRTE command in MML. In the DND, the *CREATE* Action takes its place, and is a superset of it.

H

Half Duplex Circuit

A one-way cross-connection.

Hierarchical Numbering or Addressing

A system of numbers used to address NPCs in I-2000 forms and DACS commands. Hierarchical numbering maps, to each NPC, a number consisting of the shelf or unit number followed by the module number followed by the NPC within the module.

High-rate Circuit

A single circuit defined to be multiple one-way or two-way two-point cross-connections. The number of cross-connections, which is the same as the number of channels on a side, is the bandwidth. Bandwidth is allocated on channels numbered contiguously or alternately.

History File

A file storing DND/DACS communications just as they were generated or received, in circumstances for which a history file has been defined.

Hub Test Configuration, Hub DACS

A test circuit configuration in which any number of signals to be tested are brought from remote DACSs to a hub DACS and there are routed to test equipment.

HuMan-Machine Language

A software command language that is used in the human interface to the DACS.

I

Idle

A concept based on the IDLE **Action** of Reconfiguration Plan Provisioning. To idle a plan means to restore all circuits acted upon by actions in the plan to their previous status.

In Service (IS)

A value that can be had by a status field, indicating that the object referenced by the form is fully operable. For example, if the object is an NPC, an NPC that is *IS* has been created and restored. Only in-service NPCs can provide transmission.

INSERT Mode

A typing mode in which the typed character pushes other characters to the right.

Insertion Word (IW)

In general, an insertion word is a signal, an 8-bit data word, that is inserted into a DS0 channel for some reason. The DND defines two types of insertion words:

NPC Provisioning. The *unassigned* insertion word. Entered into the **IW** field of the NPC PROVISIONING form, this word replaces the DDC as a standard disconnect code to be sent on all unmapped (unassigned) channels on an equipped NPC.

Circuit Provisioning. Entered into the **IW** field of the CIRCUIT PROVISIONING form, this word is sent on mapped channels of an NPC after it has gone out of service (carrier or NPC failure).

Integral Shelf Cross-connect (ISX)

A member of the DACS II family of products that combines the capacity expanded DACS with the single bay DACS. Offering a subset of DACS II capabilities, it is positioned for smaller applications. Both NAS and CEPT DS0 cross-connects are supported.

Interval

In the DND, the number of scale units between successive executions of scheduled tasks.

Italics

A slanted typeface used for emphasis; in the DND manuals, in quotations and for variable names.

K

Keystroke

The signal resulting from pressing a key once. Be sure to do so sharply, since more than one keystroke may result from holding the key down.

L

Leg

In a multipoint circuit, the connection from an EFT to the branch point. The branch point can be a virtual node if the circuit is one-way (Broadcast Circuit) or a DMB channel if the circuit is two-way (Symmetric Voice Circuit or Polling Data Circuit).

Line

A connection between a computer and a peripheral, such as a terminal. In general, however, a line can be any stream of transmission or facility for carrying it.

Link

A connection to a network.

Link Protection

The presence of an additional link for every link from the DND to the PDN or from the PDN to the DACS. If the primary link is disconnected, the backup link becomes functional. You can acquire link protection by backing up the port or by merely backing up the link within the port.

Local Database

The DND database, named after a DACS Site Name, that stores information concerning the DACS.

Local-only Mode

A mode of the Execute function, selected from the WHICH DATABASE? menu. Local-only specifies that the Action implemented by the Execute is to apply to the DND database only.

Log

A file containing records of predefined events resulting from various defined circumstances. Some logs are automatically generated by the DND; others can be electronically kept by the user in the DND.

Log-in Port

An asynchronous connection to the DND computer, to which a user terminal is attached.

Loop Circuit

A cross-connect in which the Tx direction is connected to the Rx direction of the same channel.

M

Master

In database audit/synchronization, the database designated as the standard to which other databases are made to conform.

Menu

A list of selections from a pull-down or combo box. Make your selection by highlighting and clicking on your choice.

Menu Control Keystroke

A keystroke that positions the cursor relative to the selections within a menu.

Modem

Modulator-demodulator, a device that converts signals from data processing into signals suitable for transmission over telephone lines (modulation) and vice versa (demodulation). A modem is required to transmit the synchronous signals to and from the PDN.

Monitor Test Circuit

A test circuit configuration in which the Tx and Rx signals in a cross-connection also are received at test ports. The circuit being tested is not interrupted.

Multiplexing

Multiplexing is the combining of a number of signals into one transmission stream. Demultiplexing is the separation of a multiplexed stream into consistent signals. See Time Division Multiplexing.

Multipoint Circuit

A cross-connection in which a signal can be sent from a single source to a number of destinations. A virtual multipoint is one-way and features a virtual node as a branch point. The virtual node is a software entity. A true DACS multipoint is two-way and features a DMB channel as a branch point. See also Broadcast Circuit.

Mu-law

A set of companding rules used for NAS transmission. See Compander, Gateway.

N**NAS Facility**

An NPC terminating DS1 signals that were multiplexed according to the Time-Division Multiplexing (TDM) hierarchy in use in the North American Standard (NAS).

Near End

With regard to a cross-connection, the near end is the cross-connected NPC in the DACS on which you are working in the DND system.

Network

A set of communication pathways. Networks consist of nodes connected by links.

Network Address

In the FRAME PROVISIONING form, the address of the synchronous link between the PDN and the DACS. This link must already be operable. The "address" is in the form of the link's telephone number.

Network Processing Circuit (NPC)

As used in this manual, an NPC is any IC that provides terminations for cross-connection. FTU NPCs in the DACS II and CCU NPCs in the DACS I provide EFTs, but other types of NPC, such as DMB and Subrate, provide other types of terminations. In the DACS I, an NPC is implemented as one CP, but in

the DACS II, the NPC is one digroup on a DDC or DPC, which is implemented as a CP.

Non-framing Word (NFW)

The 8 bits of time slot 0 in alternate DACSs of a CEPT transmission. The other alternates contain the framing word.

Normalize

Return an *ALTROUTED* circuit to its original path or a *PREEMPTED* circuit to *ACTIVE*.

North American Standard (NAS)

A standard of transmission in use in the United States and elsewhere. Within the US it is termed domestic.

NPC Provisioning

The process of growing NPCs through use of the NPC PROVISIONING form. Prior to release 3.2, this was called the EQUIPMENT PROVISIONING form.

NPC Roll

The transfer of all the circuits connected to an NPC to another NPC. Only certain kinds of NPC can be rolled.

NULL Status

A value returned to a **Status** field, when no record of the object described by the form exists in the DND database. An example of an object that can have a *NULL* status is a login port.

O

One-way Cross-connect or Circuit

A cross-connect that utilizes only one transmission direction.

Operator

As used in the DND, a person who has logged on with a login and password assigned by the system administrator. An operator does not have access to the selections listed on the SYSTEM ADMINISTRATION menu.

Outage Log

A DATABASE ADMINISTRATION feature by which the system administrator is allowed to keep electronic logs of NPC or circuit outages, and can print a log at any time.

Out of Service (OOS)

A value that can be had by a status field indicating that the object referenced by the form exists in the database but is not yet operable. For example, an NPC that is OOS is equipped but is not placed in active service. An out-of-service NPC cannot be expected to transmit data.

OVERLAY Mode

A typing mode in which the typed character replaces the character on which it is typed.

P**Packet Data Network (PDN)**

A network on which data is transmitted by breaking it up into packets. Commonly, the X.25 protocol is used in a PDN. Connection to a customer X.25 PDN by the DND is through the X.25 Interface Board. See also Switched Virtual Circuit, X.25.

Passthrough

A special mode of the DND, which allows an operator at an DND terminal to communicate directly to a DACS as though the terminal were a DACS terminal.

Passthrough Control Keystroke

A keystroke that positions the cursor in passthrough mode.

Pattern Matching Buffer

The logical entity that stores keystrokes as you type them.

Pending

Said of circuits that exist in the DND only and are marked with a *PENDING Ckt Status*. They are waiting to be activated.

Performance Alarm

See Facility Performance Alarm.

Permanent Virtual Circuit (PVC)

A virtual circuit set up for longer than the duration of a call on an X.25 Packet Data Network; i.e., across calls.

Point-to-point

Used of a connection between pieces of hardware (nodes) where a network does not intervene.

Polling Data Circuit

A type of multipoint circuit in which the backbone leg broadcasts information (polling) to the branch, or tributary legs, and they return the replies through a DMB to the backbone leg.

Port

A physical and logical connection to a computing system. The DND features asynchronous, RS232C ports for its operator terminals and also for the Alarm Broadcast Port. These ports are provided by the IPC-900 and IPC-1600 Boards. Synchronous ports, for connection to the PDN, are provided by GPSC-AT/E Boards.

Preempt -ing, -ed, -ion

Deactivate a circuit and place it in *PREEMPTED Ckt Status* so that one or more of its channels can be used by another circuit.

Primary Block Alarm (PBA)

An alarm asserted by a CEPT NPC. A variety of PBA alarms can be generated. The equivalent type of alarm for NAS NPCs is a CGA.

Primary Line

In the DND, the SVC designated as primary in the FRAME ADMINISTRATION form. It will be the path over which the DND will communicate with the DACS, so long as that SVC is operable.

Print

In the DND, to print is always to place on the printer; i.e., you never "print" to screen.

Protocol

A conventional format and set of rules for initiating, maintaining and terminating data communications. The DND utilizes one of two for communication with each DACS: SNIDER or X.25.

Provisioning

The process of making available various communications resources. In the DND, the resources are mainly NPCs and circuits.

Pseudo-Altroute

An altroute in which each channel end is altrouted to itself. Note that a pseudo-altroute does not merely reroute to the same circuit: an altroute in which the channel ends are reversed is a real altroute, even though the circuit is the same. See also Real Altroute.

Pulse Amplitude Modulation (PAM) Signal

A stream of pulses resulting from Pulse Code Modulation of an analog signal. See Time Division Multiplexing.

Pulse Code Modulation (PCM)

Digital transmission of an analog voice signal by converting it into a digital signal.

Q**Quantizing**

Assigning numbers to the amplitudes of the pulses in a PAM Signal. See Pulse Code Modulation.

R**Real Altroute**

Alternate routing of circuits to different end points. See also Pseudo-Altroute.

Reconcile

In the DND, making the DND databases and the frame databases contain the same or nearly the same NPC and circuit configuration data. Alarm data also can be reconciled. "To reconcile" can be to use the **Reconcile Mode** options or to perform a database synchronization.

Reconfiguration

In the DND, the alteration of a circuit in any way, whether by changing its **Ckt Status** or its terminations.

Reconfiguration Plan (RP)

A defined collection of circuit provisioning actions.

Red Alarm

A CGA alarm signaled by an NPC when it detects loss of transmission. See also Alarm.

Red-lined

Selected out for some purpose. In the DND, circuits can be red-lined via the RDLD **Option** for purposes of not being allowed to be disconnected without additional authorization.

Released

See Terminate and Leave Activated, Released.

Remote Database

The frame-installed database utilized by the DACS to record provisioning information. The DACS contains this database of its own even if it is not connected to an DND.

Remove

As used in the DND, to take an object out of service. Some objects that can be removed are an asynchronous port, a synchronous link, a DACS and an NPC.

Reset

A restart of a computer's executive software. Turning the power switch off and on accomplishes a reset, but there is typically a reset button. Reset of the I-2000 is not recommended; instead, shut it down, if possible.

Restore

As used in the DND, to place an object in service. Some objects that can be restored are an asynchronous port, a synchronous link, a DACS and an NPC. The term is also applied to retrieving a database from backup.

Robbed-Bit Signaling

A signaling format in which the signal bits associated with a DS0 channel overwrite some of the message bits in that channel.

Root

The highest-level directory of any UNIX system. In the DND system, root is the initial login of the system and also grants full access to it. The root password is the password associated with root.

S**Scale**

In the DND, the unit in which time frequency is measured: **MINUTES, HOURS, DAYS**.

Schedule

In the DND, to place an Execute on queue, to be executed at the time and frequency specified in the scheduling insert.

Screen, Form

A terminal display showing named fields into which you enter data.

Search Criteria

In the DND, a field value or range of values, specified on a SEARCH CRITERIA form, that restrict the scope of the report data to be found by keying in on that field.

Severely Errored Seconds

A concept referring to the number of seconds transmission was severely impaired on a facility.

Severity

The importance of an alarm message. Three severities are recognized: Major (MAJ), Minor (MIN) and Informational (Inf).

Side

One of two duplicate NPCs with the same address provided by a DMB circuit pack. They are identified as Side 0 and Side 1.

Signaling

A method of sending network-level signals bits, which can be used in the transmission network to determine the treatment of DS0 channels at the receiving side of the transmission. Channel Associated Signaling and Robbed-Bit Signaling are two commonly used signaling formats.

Slip Error

A transmission concept referring to a difference in the number of bits received on a facility over an interval relative to the number expected.

Small Computer Systems Interface

An interface established to support mass storage for microcomputers and minicomputers. Published in ANSI Standard X3.131, it defines a standard for attaching intelligent peripherals to computers. In the case of HDUs, SCSI defines a disk format also.

SNIDER

The Asynchronous Data Link Protocol, an EIA RS-449 based AT&T handshaking routine used to handle input transactions to a DACS and output messages from it.

Speed

The baud rate over an asynchronous line. The DND offers baud rates of 1200, 2400, 4800, or 9600.

Split Test Circuit

A test circuit configuration in which the circuit being tested is broken and its traffic is rerouted to test ports.

Stand-alone

Hardware or software that function without the assistance of other hardware or software. A DACS can be used as a stand-alone device, without either the I-2000 or the DACScan-2000 Controller C-Module.

Status or Service Status

In the DND, one of a number of fields not accessible to the user, which display the current predefined mode of activity of an object. Some of the objects that have a status are a login port, a synchronous

link, an NPC and a circuit. Sometimes state is used as a synonym. Some of the major status values are *IS* (In Service), *OOS* (Out of Service), *UEQD* (Unequipped), *NULL*.

Subchannel

A facility provided by the DS0-B format.

Subrate

A facility consisting of less than the full bit rate available on a DS0 channel. Subrate facilities are available at 2.4 Kbps, 4.8 Kbps, 9.6 Kbps, and 56 Kbps. Two formats are available, DS0-A and DS0-B.

Subrate Multiplexer

The hardware module that provides two-point subrate circuits.

Subrate Multipoint Junction Unit

The hardware module that provides multipoint circuits between sub-channels.

Switched Virtual Circuit (SVC)

A virtual circuit set up for the duration of a call on an X.25 Packet Data Network. An X.25 card provides 20 SVCs. Each installed DACS reserves one for its primary link and possibly another for backup.

Symmetric Voice Circuit

A type of circuit in which all (possibly more than two) the terminations are on-line all the time; i.e., all the legs are two-way circuits. Symmetric voice circuits provide customers with the ability to carry on round table discussions. This is one type of DMB circuit.

Synchronize, Synchronization

To make predefined logical objects contain the same or similar data in parallel. An example of parallel objects are the time and date in both the DND and a DACS. Synchronization is also an DND **Action** under DATABASE ADMINISTRATION by which differences between the DND database and the frame database for a given DACS are reconciled, subject to certain restrictions. This is termed "scheduled" synchronization. Echoed Response Processing also performs some automatic synchronization. Synchronization of alarm information can be turned on or off in DND CIRCUIT PROVISIONING.

Synchronous Modem Eliminator (SME)

A line device for simulating a network connection by providing synchronous timing signals. In DND, SMEs can be used to establish a direct connection with an X.25 interface, which normally connects to a PDN.

Synchronous Transmission

A method of transmitting digital signals in which the bits are moved in synchronization with a cyclical timing signal.

System Administrator

As used in the DND Non-GUI, a person who has logged on as dacsadm with the root password. The system administrator has access to the selections listed on the SYSTEM ADMINISTRATION menu.

T

Task

As used in the DND, a set of commands or an DND-only operation that has been initiated on the DND system with the **Execute** button. It may or may not be identical with one or more UNIX tasks. An DND task may be executed in the background or foreground, or may be placed on queue for scheduled execution.

TDM Hierarchy

A set of digital levels determining the number of channels that will be sampled during one time frame in Pulse Code Modulation transmission. Since the time frame is fixed at 1/8000 sec., a number of channels implies a digital transmission rate. For example, at the DS0 level, 1 channel is sampled and the rate is 0.064 Mbps. At the DS1 level for the NAS, 24 channels are sampled and the rate is 1.544 Mbps. The higher rate comes from the greater number of words per frame. For the CEPT standard, 32 channels are sampled and the transmission rate is 2.048 Mbps. See Time Division Multiplexing.

Test Access

Cross-connecting test ports in test circuits.

Terminate And Leave Activated, Released

A term that is somewhat ambiguous in English, but is to be construed as follows. "Terminate" means "end normal traffic on this circuit". "Terminate And Leave" makes the inhibition of normal traffic a condition that can be switched on or off. "Terminate And Leave Activated" (TLA) activates the condition, ending the traffic. "Terminate And Leave Released" (TLR) releases the condition, restoring the traffic.

Test Port

Two contiguous channels that have been designated as a test port through TEST PORT PROVISIONING. They must be located in an NPC that has been designated as a Test Port Group.

Test Port Group

An equipped NPC that has been further designated as a collection of test ports through TEST PORT PROVISIONING.

TG80

A hardware module that makes available Clear DS1 in the DACS II.

Threshold

An error rate below which no alarm is generated for a Facility Performance Parameter. A DACS II stores sets of Facility Performance Parameter Thresholds for each performance parameters.

Time Division Multiplexing (TDM)

The multiplexing of a number of channels for transmission purposes by taking samples of the signal on each channel at time intervals.

Sampling occurs once every time frame, where the time frames are contiguous. Since the sampling rate is 8000 samples per sec., a time frame is 1/8000 sec.

The number of channels sampled depends on the level in the TDM hierarchy at which multiplexing has been designed to operate. See TDM hierarchy. A DACS II assumes multiplexing is at the DS1 or DS3 levels.

One sample of one channel obtains a number representing the amplitude of the signal on that channel. The resulting stream of numbers is termed a Pulse Amplitude Modulation (PAM) Signal.

The PAM outputs from each channel for one frame are switched sequentially into a common encoder, which represents each one by an 8-bit word. The frame can then be sent as a stream of 8-bit words. The conversion of pulses into words is called Pulse Code Modulation (PCM).

In the transmission phase, the frame of words is transmitted via a single line. At the far end of the line, the PCM signal is converted back to analog signal in demultiplexing.

Time Frame

A 1/8000 sec. time interval within which analog signals are sampled for digitization and transmission. See Pulse Code Modulation, Time Division Multiplexing.

Timeout

A time to wait after the onset of some condition before the software takes action concerning it.

Time Slot

A timed position in a formatted stream of 8-bit words resulting from TDM. An NAS NPC provides time frames of 193 bits divided into 24 channels plus one framing bit. The first 8 data bits are time slot 0, channel 1, the second 8 are time slot 1, channel 2, etc.

A CEPT NPC provides time frames of 256 bits divided into 32 channels. The first 8 bits are time slot 0, channel 0, the second 8 are time slot 1, channel 1, etc. Time slot 0 in alternate frames contains a framing word. The other frame contains signalling information in those bits, called the non-framing word.

Time Slot Interchanger (TSI)

One of many circuits within a CCN that accomplish cross-connection by routing output from a time slot in one NPC to a time slot in another (or the same) NPC.

Time Zone (TZ)

A region whose conventional clocks are set at the same displacement from Greenwich Mean Time (GMT). UNIX treats daylight savings time as an alternate time zone (ATZ). It has a different displacement from GMT, even though its displacement applies to the same region as does the TZ. UNIX is programmed to change between the TZ and the ATZ twice a year. Since the day of one change varies from year to year, the UNIX administrator must set the days of change once a year in the TZ command. The DND provides an interface to enter a TZ command.

TO Side

One side in a two-point cross-connection. In one-way circuits, the TO side is the receiving side (Rx). Its name is derived from the fact that the frame command that establishes the cross-connection identifies the channel number of this point with a TO qualifier. In two-way circuits, the second direction also has a Tx side and Rx side. Thus, if two channels are connected in a two-way circuit, the FROM side and the TO side each have a Tx and Rx side.

Transparent

For the object of which it is predicated, not exhibiting any of its distinguishing characteristics. To the DACScan-2000 Controller C-Module operator, the DND is transparent.

Tributary Leg

Same as branch leg.

Trunk Conditioning Code

A code associated with cross-connected channels or a provisioned test port. The code tells the DACS what signals to place on each channel if the facility fails. It indicates signaling bits to be sent in each direction on the circuit for the first 2.5 seconds after transmission is lost and another set to be sent thereafter.

Two-point Circuit or Cross-connection

A cross-connection between two DS0 channels.

Two-way Cross-connection

A two-point cross-connection that connects the channels in both transmission directions.

Type

The kind of NPC, where "type" gets its significance from the **Type** field of the NPC PROVISIONING form. Different types of NPC are provided by different hardware modules.

U**UB**

A DACS II power unit.

Unassigned Multiplexer Channel Code

A value of Hex 18, or 00011000. A code that is sent as the disconnect channel code on unmapped channels of a provisioned NPC when the DS1 lines terminate at the far end on DDS second stage multiplexers.

Unequipped (UEQD)

A value returned to a status field, after you press , when no record of the object described by the form exists in the DND database. The major objects referenced by this status are an NPC or a DACS.

Unprovision

A term used in this manual to mean to remove from the DND database, after having taken out of service.

Upload

An DND **Action** under DATABASE ADMINISTRATION, by which the current provisioning of a DACS is recorded in the DND database, subject to certain restrictions.

Upper NPC

The higher-addressed NPC of the two contiguously numbered DMB NPCs that must be grown at a time.

V**Virtual**

Apparent, simulating some function or other entity, but not actually it. "Virtual memory", for example, is not really electronic memory, but is disk storage space.

Virtual Multipoint Circuit

A Broadcast Circuit. It is called virtual because the connection is not provided by a DMB, as it is in a true multipoint circuit. Instead, it is a software emulation.

Virtual Node

The branch point in a Virtual Multipoint Circuit. It is not a channel of a DMB NPC, as it is in DMB multipoint, but is a software emulation. Ordinarily the virtual node is system-selected from the 0 through 500 range.

W**White Space**

Characters, such as blanks, that have no meaning to the system and are treated as blanks.

Wild-card Character

More technically called a metacharacter, it is a character that can stand for a defined range of other characters in a name, just as a joker can stand for any other card when jokers are wild. The major DND metacharacters are *, which can replace any number of characters, and ?, which can replace one character.

Window

A delineated work region on the screen. In the Sun systems, more than one window can be in use. The background is termed the root window. In other systems, you get only the root window. There is no continuity between windows.

X**X.25**

An AT&T implementation of CCITT Recommendation X.25, a packet-switching protocol defining standards of communication between DTE and DCE; i.e., the DTE/DCE interface. The recommendation defines the physical, data link, and network layers of the Reference Model For Open Systems Interconnection, an international convention for data communication.

Y**Yellow Alarm**

A CGA alarm sent by an NPC in the direction of transmission when it detects loss of signal. At the same time, the card signals a red alarm to its own DACS. If the line is down, the yellow alarm will not be received, and both sending and transmitting frames will signal red alarm. See also Alarm.

Index

A

Audit/Synchronization Form Fields
 Master DB, 10-25
Abort, GT 109-1
Accessing alarm reports, M-13
Action field
 on 24-Hour Performance form, P-9
ACTIVATE
 usage, G-20
ACTIVE Status
 and ACTIVATE, G-20
 and NPC Roll, G-62
Addressing system, D-20
 setting the DACS for, C-3
AIS, O-8
Alarm
 critical, H-2
 logging, D-40
 major, H-2
 reported, M-26
Alarm Indicator, 3-18
Alarm Log, 12-7
Alarm notification, O-2
Alarm reports hot key, M-13
Alarm State, 3-11
Alarm Status Indicator, 3-18
Alarm status line
 usage, O-2
Alarm Summary Report, GT 121-1
Alarm Summary Window, 12-51
Alarm Synchronization, GT 103-1
Alternate Route
 creating, GT 97-1
Alternate Routing, 9-27
Altroute
 performing an altroute from half-duplex to unused part
 of a preempted full-duplex circuit, G-56
Altroute Date & Time field
 on ALTROUTING form, G-47
ALTROUTED CIRCUITS report
 illustration and description, M-11
ALTROUTED Status
 and NPC Roll, G-62
ALTROUTES/PREEMPTIONS reports
 types available, M-11

Altrouting
 completing a "real" altroute, G-49
 configuring a "real" altroute, G-52, G-53
 normalizing a "real" altroute, G-53
 normalizing a pseudo altroute, G-54
 normalizing an altroute from half-duplex to full-duplex,
 G-55
 normalizing an altroute from half-duplex to part of a
 full-duplex, G-56
 normalizing an altroute of a real high-rate circuit,
 G-58, G-59
 normalizing an altroute of a single-channel to unused
 part of a high-rate circuit, G-60
 normalizing an altrouted circuit, G-50
 normalizing an out of service NPC, G-50
 performing a pseudo altroute, G-54
 specifying a "real" altroute, G-45, G-46, G-47
Altrouting and normalizing examples, G-51
ARP
 definition, H-2
ARP RESULTS report
 description and illustration, M-16
ASI, 3-18
Asynchronous ports
 and number of users, C-14
Audit/Sync
 Cascaded multipoint circuit, 10-15
 running in background, 10-21
Audit/Synchronization Form Fields
 Action, 10-23
 Mode, 10-24
 Site Name, 10-23
Automatic plans, H-17
Automatic Reconfiguration Plan
 definition, H-2
 report types available, M-17
Automatic reconfiguration plan
 inserting reconfiguration plans and alarm list items,
 H-22
AUTOMATIC RECONFIGURATION PLAN Fields,
 H-18
AUTOMATIC RECONFIGURATION PROVISIONING
 form, H-17

B

Backbone leg
 of broadcast circuit, G-29
Backing up and restoring DND databases, I-19
Backup
 of synchronous lines, D-13
 on tape, I-21, I-25
BACKUP/RESTORE menu, I-20

Bandwidth field
usage for broadcast circuit, G-29

Bandwidth Type field
value for broadcast circuit, G-29

Baud rate
setting in DACS, C-3

BBL
usage in broadcast circuit, G-29

BCON, GT 94-1, GT 95-1

BER, O-9

Bit error rate
reported in alarm message, O-9

BRD
usage in broadcast circuit, G-29

Broadcast Circuit
adding a leg, GT 94-1
changing the return path, GT 96-1
deleting a leg, GT 95-1

Broadcast leg
in broadcast circuit, G-29

Buffer
pattern matching, C-19

C

CCB, O-6

CCI, O-6

CCN, O-6

CCNI, O-6

CEPT

creating a CEPT NPC, E-19

Change of frame alignment error, O-9

Channel
selection for Altrouting purposes, G-46

Channel A
definition, F-2

CHANNEL AUDIT
example, I-12
running in foreground, 10-21

Channel Audit, GT 104-1

Channel B
definition, F-2

Channel Report, 12-34

CHANNEL SYNC
and BBL, 10-16
and BRD, 10-16
and cross-connection, 10-16
and disconnect, 10-16
and high-rate circuit, 10-18
Broadcast circuit and, 10-16
Terminate and Leave Activated, 10-16
Terminate and Leave Released, 10-16

CHANNEL Synchronization

definition, 10-13

Channel Synchronization, GT 106-1

CHANNELS report
type available, M-10

Circuit
deactivating, GT 99-1
deleting, GT 100-1
modifying, GT 92-1
normalizing, GT 98-1

Circuit Alarms Report, 12-14

CIRCUIT AVAILABILITY report
illustration and description, M-9

CIRCUIT CONNECTIONS report
illustration and description, M-9

CIRCUIT INFORMATION report
illustration and description, M-9

CIRCUIT OPTIONS report
illustration and description, M-9

Circuit provisioning
and ALTROUTES/PREEMPTIONS reports, M-11
and CIRCUITS reports, M-9
clear DS1 full duplex, G-22
DMB multipoint, G-32, G-33, G-34
full duplex circuit, G-20, G-21
half-duplex circuit, G-23
high-rate for multiple circuits, G-29, G-30, G-31
loopback, G-24
number of RP Actions allowed, H-2
polling data, G-35, G-36
TSO to Non-TSO circuits, G-68

Circuit provisioning examples, G-20

CIRCUIT PROVISIONING Form Fields
(ALTRoute INFORMATION) Verified, 9-48
(FROM or TO) NPC Type/Hier/Extd, 9-44

Action, 9-37

Bandwidth, 9-47

Bandwidth Type, 9-45

Circuit ID, 9-43

Circuit Options, 9-48

Ckt Class, 9-43

Customer Name, 9-55

Direction, 9-45

Execution Mode, 9-57

Framing, 9-55

FROM Channel/ TO Channel, 9-46

FROM Channel/ TO Channel/ Leg Channel, 9-50

Hier/Connected To, 9-56

Initial Status/New Status, 9-40

Insertion Word, 9-53

Location A, 9-55

Location Z, 9-55

Mode, 9-47

New Circuit ID, 9-45

No Transmit (NTR), 9-50

NPC Specifier/NPC, 9-46
 Priority, 9-56
 Reconcile Mode, 9-56
 Remarks, 9-56
 Service Date, 9-55
 Signaling Conversion, 9-54
 Site Name, 9-37
 Trunk Conditioning, 9-51
 CIRCUIT PROVISIONING forms, G-2, G-3
 Circuit Report, 12-26
 Circuit Test Access in Monitor Mode, GT 130-1
 Circuit Trace, 7-4, 9-32, GT 101-1
 Circuit Types, 9-12
 CIRCUITS report
 descriptions, M-9
 Ckt Class field
 on RECONFIGURATION PLAN PROVISIONING
 form, H-8
 Ckt ID field
 and broadcast circuit, G-29
 Clear DS1
 and test access, 13-5
 COFA, O-9
 Combining Multiple Circuits, GT 93-1
 Combo Box, 3-18
 COMMON
 database name, I-19
 Common Equipment Alarms Report, 12-24
 Configurations Supported, 1-6
 Contiguous Bandwidth
 and broadcast circuit, G-29
 Control Options box, 3-26
 CRC Block Errors
 Type PA performance parameter, P-2
 CRC15MIN, O-9
 CREATE
 ARP, H-21
 NPC, E-19, E-21, E-23
 RP, H-10
 Creating a DACS, X.25 Link, GT 50-1
 Critical alarm
 and ARP, H-2
 Ctrl a
 hot key for customized alarm reports, M-13
 use to get an alarm report, O-2
 Current field
 on NPC ROLL form, G-64
 Custom format
 definition, M-1
 Custom Report formats, M-18
 Customized Reports, 12-6, A-1
 ALARM LOG Report fields, A-4
 CHANNEL Reports fields, A-17
 CIRCUIT ALARMS Report fields, A-6
 CIRCUIT Report fields, A-12

COMMON EQUIPMENT ALARMS Report fields,
 A-11
 NPC ALARMS Report fields, A-9
 NPC Report fields, A-19

D

DACS
 databases, I-19
 deleting, GT 57-1
 modifying, GT 54-1
 removing, GT 56-1
 restoring, GT 52-1
 DACS ALARM LOG
 purpose, M-13
 DACS COMMAND RESPONSE window, 11-5
 DACS HISTORY LOG
 illustration and description, M-14
 DACS II
 number of allowed test ports, F-2
 DACS II ISX
 number of allowed test ports, F-2
 DACS II ISX login, C-2
 DACS II login, C-2
 DACS Message
 entering commands, 11-3
 functionality, 11-3
 DACS MESSAGE Form Fields
 Command, 11-6
 Current Site Choices, 11-6
 DACS messages, GT 110-1
 DACS Network Map, 3-5
 DACS Provisioning Form Fields
 Action, 5-13
 Alarm Sync, 5-15
 Backup Line, 5-17
 Baud Rate, 5-17
 Conditional ERP, 5-14
 Current Site Choices, 5-14
 DACS Type, 5-15
 Generic, 5-16
 Line Numbering, 5-17
 Location, 5-16
 Network Address, 5-17
 New Site Name, 5-14
 NPC Addressing, 5-16
 Primary Line, 5-17
 Programmable Priority, 5-14
 Protocol, 5-16
 DACScan
 TP provisioning not available, F-2
 Database
 COMMON, I-19

- description of types, I-19
- logs, I-19
- reports format, I-19
- Database administration, I-1
 - backing up alarm log to diskette, I-28, I-29
 - backing up alarm log to tape, I-25, I-26
 - backing up database to tape, I-21, I-22
 - formatting diskette, I-31
 - initiating an ABORT, I-18
 - moving frame, I-38
 - performing a channel audit, I-12, I-13
 - performing a substrate audit, I-15
 - performing a substrate sync, I-16
 - performing a synchronization, I-14
 - printing an NPC audit, I-11
 - restoring alarm log from diskette, I-30
 - restoring alarm log from tape, I-27
 - restoring database from tape, I-23
 - scheduling an NPC audit, I-10
 - uploading the DND database, I-17
- DATABASE ADMINISTRATION menu, I-2
- DATABASE AUDIT/SYNCHRONIZATION Fields, I-4
- DATABASE AUDIT/SYNCHRONIZATION form, I-3
- Database Audit/Synchronization Report, I-23
- DATABASE BACKUP/RESTORE (TAPE) form
 - illustration, I-21
- DATABASE BACKUP/RESTORE menu
 - illustration, I-20
- date
 - command, 2-11, C-8
- DATE and TIME, D-45
- Days Data Collected, P-1
- Days Since Reset, P-1
- DE
 - in NPC Roll, G-64
- DEACTIVATE
 - Reconfiguration Plan Action field value, H-7
- DEACTIVATED Status
 - and broadcast circuit, G-29
- Deactivating a Circuit, GT 99-1
- DEFAULT COLUMN NAME field
 - on Edit Custom Report Format form, M-20
- DEROUTED Status
 - usage, G-62
- Digital Multipoint Bridge, GT 91-1
- Direction field
 - usage, 10-17
- Diskette
 - backup on, I-28, I-29
- DISPLAY LAST GENERATED REPORT Option
 - description, M-6
- DMB
 - and multipoint circuit, G-32
 - creating a DMB NPC, E-23
- DND main menu, C-16

- DND Main Window, 3-5
 - navigation, 3-15
 - parts of, 3-7
- DND Task Bar buttons, 3-9
- DND Workspace
 - replacing background image, GT 30-1
- Documentation
 - ordering information, xl
 - related, xxxviii
- DSPU NPC
 - creating, GT 81-1

E

- Echoed response processing
 - and link screening level, C-3
 - definition, 1-13
- ECHOED RESPONSE PROCESSING report
 - illustration and description, M-13
- Echoed Response Processing Report, 12-47
- EDIT CUSTOM REPORT FORMAT, A-3, M-20
- End User
 - creating, GT 60-1
 - definition, 6-2
 - deleting, GT 62-1
 - modifying, GT 61-1
- End User Provisioning Form Fields
 - Action, 6-4
 - End User ID, 6-4
 - Remarks, 6-4
 - Site Name, 6-4
- Enter
 - use to display branch leg data, G-29
- Equipment Views, 4-1–4-13
 - supported, 4-4
- ERP
 - definition, 1-13
 - disablement, G-69
 - disabling echoed response, E-31
 - disabling ERP, G-69
- ERP format for NPC ID, 8-35
- ERP report
 - illustration and description, M-13
- Error message
 - NEW AUTOMATIC RECONFIGURATION PLAN
 - MUST HAVE UNIQUE ID, H-21
 - PASS THROUGH IS IN PROGRESS, L-7
 - Unimplemented Function Key, C-23
- Error Messages, B-3
- Error status register
 - and POWER FAIL message, O-10
- Errored Days, P-1

Errored seconds
 Type PA performance parameter, P-2
Extended numbering, C-3
 and (Ext) field on 24-Hour Performance form, P-9
 setting the DACS for, C-3

F

FC, O-6
Field descriptions
 ALTRROUTE screen, G-48
 C-BIT provisioning, P-8
 NPC ROLL, G-64
 REPORT TO DOS DISKETTE form, M-8
Figure
 24-Hour Performance Browse screen, P-10
 DATABASE BACKUP/RESTORE (TAPE) form, I-21
 LOG BACKUP/RESTORE (TAPE) form, I-25
 NPC ROLL form, G-63
 RECONFIGURATION PLAN SUB-MENU, M-15
 selection of report format category, M-18
Form
 expansion, 3-23
 parts of, 3-18
Format of report
 definition, M-1
Fr NPC field
 on DATABASE AUDIT/SYNCHRONIZATION form, I-7
Frame
 configuring, C-1
 configuring using SNIDER, C-3
 configuring using X.25, C-4
 definition, D-11
 moving one, I-38
 number allowed in DND, 1-12
Frame administration
 changing site name, D-26
 creating and restoring a frame (SNIDER), D-27, D-28
 creating and restoring a frame (X.25), D-23, D-24, D-25
 unprovisioning a frame (X.25 or SNIDER), D-29
FRAME ADMINISTRATION form, D-16
 reported, M-12
Frame command script, L-12
 creating script file, L-16, L-17
 executing file, L-21
 reading file from DOS diskette, L-20
 writing file to DOS diskette, L-18, L-19
FRAME COMMAND SCRIPT form, L-13
FRAME COMMAND SCRIPT form fields, L-14

Frames
 administering, C-14
FRAMES/LINKS reports
 types available, M-12
Framing errors
 Type PA performance parameter, P-2
FROM
 and multipoint circuit, G-32
 in broadcast circuit, G-29
 on DATABASE AUDIT/SYNCHRONIZATION form, I-7
Full or Half Duplex Circuit
 activating or pending, GT 90-1
Full passthrough, L-7
Function keys
 using, C-23

G

Generating Reports, GT 120-1

H

Help, 3-16
Hierarchical numbering
 setting the DACS for, C-3
High-rate circuits, G-57
Hot key for alarm reports, M-13
HUB Test Access, 13-14
HUB Test Access Connection, GT 133-1

I

IDLE
 how to idle an RP, H-16
 RP Action field value, H-5
Indicators
 alarm status, 4-5
INSERT
 ARP item, H-22
 into RP, H-10, H-11
Intertie
 “bubble”, 7-9
 adding NPCs, GT 72-1
 alarms, 7-8
 creating, GT 70-1
 definition, 7-2

- deleting, GT 74-1
- deleting NPCs, GT 73-1
- features, 7-8
- menu, 7-9
- modifying, GT 71-1
- types of, 7-3
- Intertie Color Key, 3-13
- Intertie NPCs, 7-4
- Intertie Provisioning Form fields
 - Action, 7-6
 - Intertie Bandwidth, 7-7
 - Intertie ID, 7-6
 - Intertie Type, 7-7
 - NPC Specifier/NPC, 7-7
 - Remarks, 7-7
 - Site Name, 7-6
- Intertie Reports, 12-50
- IS Status
 - and broadcast circuit, G-29
 - and NPC Roll, G-62
 - Service State field value, P-8

L

- LINK CONNECTIVITY REPORT
 - illustration and description, M-12
- Link screening level, C-3
- Link screening options, G-69
 - how to change, E-31
- Log
 - backup, I-28
 - restoring report format, I-30
- LOG BACKUP/RESTORE (TAPE) form
 - illustration, I-25
- Logging
 - and CHANNEL SYNC, 10-20
 - circuit outage, I-32
 - NPC outage, I-32
 - results of NPC SYNC, 10-11
- Logging In to the DND GUI System, GT 20-1
- Logging into DND user interface, C-10
- Logging Out of the DND GUI System, GT 21-1
- Login
 - number allowed, 1-12
 - number of sessions allowed, 1-12, K-1
- Login Name field
 - on USER LOGINS report, M-12
- LOGIN PORT ADMINISTRATION Fields, D-5
- Login port administration form, D-4
- Login ports, 2-10, D-3
 - configuring, C-14
 - definition, C-14

- Logs
 - definition, I-19
- LOOP
 - Test Access Action field value, N-4
- LOOP Action, 13-16
- Loopback Mode, GT 86-1, GT 87-1
- Looping a Test Group Signal, GT 136-1
- LOS IDLE, O-6

M

- Major alarm
 - and ARP, H-2
- Manual Contents, xxxiv–xxxvii
- MC ALARM, O-6
- MC IDLE, O-6
- MC REMOVED, O-6
- Menu
 - definition, C-17
- Menu control keystrokes
 - table of, C-18
- Menus and forms
 - summary, C-34
- Metacharacters, 12-5
- MML
 - setting the DACS for, C-3
- Mode
 - reconcile, 3-26
 - scheduling options, 3-26
- MODIFY
 - and normalization, G-50
- Monitor Test Access, 13-6, 13-7
- Multiplexed passthrough, L-3
- Multipoint circuits, G-61

N

- NAS
 - creating an NAS NPC, E-21
- Navigating between menus and fields, C-17
- Navigation
 - description, C-17
- Navigation Buttons, 3-19
- Network Description, 1-4–1-8
- New Alarm Indicator, 3-18
- New Alarm Summary Report, 12-51
- NEXT
 - use to find branch leg, G-29
- NEXTPAGE
 - use to obtain ALTRROUTE form, G-45

NORMALIZE

how to, G-50

Normalizing, 9-31

Normalizing a Circuit, GT 98-1

NPC, O-6

alarm triggering ARP, H-2

browsing NPCs, E-29, E-30

creating, GT 80-1

creating an NPC as substrate, E-22

creating an NPC for CEPT, E-20

creating an NPC using DMB multipoint, E-23

creating and placing in service, E-19

deleting an NPC, E-24

deleting from a DACS, GT 85-1

DMB, G-32

loopback mode, GT 86-1

modifying, GT 83-1

OOS and normalization, G-50

provisioning, E-2, E-3

querying an NPC, E-25, E-26, E-27, E-28

removing an NPC, E-24

removing from a DACS, GT 84-1

removing from loopback mode, GT 87-1

restoring, GT 82-1

NPC Alarms Report, 12-20

NPC Audit, GT 105-1

NPC LISTS report

illustration and description, M-17

NPC Numbering, 4-4

NPC parameters audited, 10-7

NPC PROVISIONING form

and NPC report, M-10

NPC PROVISIONING Form Fields, E-10

(NPC 2) Hier/Extd, 8-28

(NPC 2) ID, 8-28

Action, 8-23

Alarm Age, 8-27

Alarm Indication Signal (AIS), 8-28

Alarm State, 8-21

Delete NPC, 8-31

Disable Alarm Reporting, 8-27

ID/Hier/Extd, 8-25

Insertion Word, 8-27

Loopback Direction, 8-32

Loopback Transmission, 8-31

New ID, 8-26

NFS, 8-30

NPC Specifier/NPC, 8-24

NPC Type, 8-25

Reconcile Mode, 8-33

Remove NPC (OOS), 8-31

Restore NPC, 8-31

Scheduling Options Mode, 8-33

Service State, 8-22

Side, 8-26

Site Name, 8-21

TS0, 8-29

TS0M, 8-29

Unconditional (INCL), 8-31

NPC Report, 12-38

NPC report

description of types, M-10

NPC Roll, G-62

rolling NPC circuits, G-65

NPC ROLL form, G-63

NPC Synchronization, GT 107-1

definition, 10-11

NPC types supported, 8-7

NPCS report

illustration and description, M-10

NULL

in Ckt ID field, G-21, G-68

Used By Circuit ID field value, M-10

O**On-line Help**

Common Desktop Environment, xxxix

Netscape, xxxix

On-line help, 3-16

OOS

and broadcast circuit, G-29

ECCN, O-6

ETSI, O-6

FMT, O-6

FTMI, O-6

LINK, O-6

MMFG, O-6

NPC, O-6

Service State field value, P-8

Operator

permissions, K-1

OPTIONAL DATA WIDTH field

on Edit Custom Report Format form, M-21

Out of frame seconds

Type PA performance parameter, P-2

Outage data

entering and retrieving, I-32

entering outage log data, I-33

inserting record in NPC outage log, I-36

retrieving outage data, I-37

Outage Data Logs

description, I-32

OUTAGE LOG form fields, I-34

P

Pagination
 of report, M-1
PASSTHROUGH
 definition, L-1
 usage, L-1
Passthrough, L-1
 control keys, L-9
 entering multiplexed passthrough, L-5
 entering full passthrough, L-8
 entering multiplexed passthrough, L-4
 full, L-7
 multiplexed, L-3
 selections, L-9
 terminating, L-11
Password
 rules for forming, K-7
Passwords
 changing, C-15
Pattern matching buffer
 definition, C-19
PB
 in NPC Roll, G-64
 NPC provisioning form, E-3
PBA IDLE, O-7
PC
 in NPC Roll, G-64
 NPC provisioning form, E-3
PDN X.25 configuration, 1-6
Performance Monitoring Reports
 scheduling on DACS, P-4, P-5
Permissions
 operator/system administrator, K-1
Phone field
 on USER LOGINS report, M-12
PLAN ALTROUTED CIRCUITS report
 illustration and description, M-16
PLAN CONTENTS report
 illustration and description, M-15
PLAN PREEMPTED CIRCUITS report
 illustration and description, M-16
Port
 definition of login ports, C-14
Power Alarms, 4-5
POWER FAIL, O-7
POWER FAIL message
 special parameters, O-11
Preempt
 initiated by reconfiguration plan ALTROUTE, H-7
PREEMPTED CIRCUITS report
 illustration and description, M-11

Preempted Ckt field
 on ALTROUTED form, G-46
PREEMPTED Status
 and NPC Roll, G-62
Preempting, 9-29
Primary block alarm, O-7, O-8
PRINTER ADMINISTRATION, D-32
PRINTER QUEUE STATUS fields, J-9
Protocol
 setting in DACS, C-3
Provisioning
 NPC, E-2, E-3
 test port, F-1
Provisioning forms, E-2, E-4, E-5, E-6, E-7, E-8, E-9
PROVISIONING report
 frame, M-12
PVC
 number for which the DACS is set, C-4

Q

QUERY
 NPC, E-25

R

Reconfiguration Plan
 definition, H-2
 how to generate, H-2
Reconfiguration plan
 changing the plan, H-15
 checking the plan, H-14
 creating a reconfiguration plan, H-10
 executing reconfiguration plans, H-16
 generating a report, H-13
 idling reconfiguration plans, H-16
 inserting activation and deactivations, H-10
 inserting altrouting, H-12
 modifying plans examples, H-14
 placing the Ckt ID in database, H-11
 rechecking the plan, H-16
 removing item from reconfiguration plan, H-12
RECONFIGURATION PLAN ALTROUTE reports
 types available, M-15
RECONFIGURATION PLAN PROVISIONING Fields,
 H-4
RECONFIGURATION PLAN PROVISIONING form,
 H-3
 and reports, M-15

-
- RECONFIGURATION PLAN report
 - type available, M-15
 - RECONFIGURATION PLAN RESULTS Report
 - how to obtain, H-14
 - Reconfiguration plans, H-1
 - single plans, H-3
 - Releasing a Test Access Connection, GT 135-1
 - Remote alarm indication, O-8
 - REMOVE
 - and Database BACKUP/RESTORE, I-20
 - from RP, H-12
 - NPC, E-24
 - RENAME
 - report format, M-20
 - Report
 - displaying or printing, M-6
 - predefined, M-1
 - Report categories, M-9
 - alarm log, M-13
 - alarm query, M-26, M-27
 - altroutes/preemptions, M-11
 - audit/synchronization results, M-13
 - automatic reconfiguration plan results, M-16
 - automatic reconfiguration plans, M-17
 - channels, M-10
 - circuit alarms, M-12
 - circuits, M-9
 - custom report formats, M-18
 - echoed response processing, M-13
 - establish DS0 channel, M-17
 - frames/links, M-12
 - history log, M-14
 - lost response log, M-14
 - NPC alarms, M-12
 - NPCs, M-10
 - reconfiguration plan altroute, M-15
 - reconfiguration plan results, M-16
 - reconfiguration plans, M-15
 - reconfiguration sub-menu, M-15, M-16
 - script log, M-14
 - substrate circuits, M-17
 - task schedule list, M-13
 - task schedule results, M-13
 - test access, M-11
 - test port, M-11
 - user administration, M-12
 - Report formats
 - edit screens and fields, M-18, M-19
 - Report formats database
 - definition, I-19
 - Report Forms, 12-5
 - Report Operations, M-1
 - Report operations
 - NPC roll results, M-13
 - REPORT OPERATIONS MENU, M-2
 - REPORT TO DOS DISKETTE field descriptions, M-8
 - Report Window
 - closing, 12-6
 - Reports, GT 120-1
 - Alarm Log, 12-7
 - Channel Report, 12-34
 - Circuit Alarms Report, 12-14
 - Circuit Report, 12-26
 - Common Equipment Alarms Report, 12-24
 - Customized Reports, 12-6
 - Database Audit/Synchronization Report, 12-43
 - displaying and printing, M-6
 - Echoed Response Processing Report, 12-47
 - generating, M-3, M-4, M-5
 - generating alarm query report, M-28
 - Intertie Reports, 12-50
 - New Alarm Summary Report, 12-51
 - NPC Alarms Report, 12-20
 - NPC Report, 12-38
 - transferring reports to DOS diskette, M-7
 - RESTORE
 - from tape, I-23, I-27
 - NPC, E-21
 - Restoring a DACS, GT 52-1
 - Return Path, GT 96-1
 - Roll To field
 - on NPC ROLL form, G-64
 - Root password
 - procedure to use, K-9
 - RP
 - definition, H-2
 - RP LISTS report
 - illustration and description, M-17
-
- S**
- Sample full-duplex circuit
 - illustration, G-20
 - Scheduling
 - and deletion of tasks, J-1
 - example, I-9
 - of Database Audit/Sync, 10-21
 - Scheduling of Database Audit/Sync, 10-21
 - Search Criteria
 - definition, 12-4
 - on report forms, 12-5
 - Search criteria
 - definition, M-1
 - SEARCH CRITERIA form
 - for CIRCUIT CONNECTIONS report, M-9
 - SELECT
 - use to select databases, I-22
 - use to select sites for alarm logs, I-25

SELECTIVE BACKUP

- Action on LOG BACKUP/RESTORE (TAPE) form, I-25
- Action on TAPE BACKUP/RESTORE form, I-22
- Sending a Message to the DACS, GT 110-1
- Service State field
 - on 24-Hour Performance form, P-8
- Session
 - number allowed, K-1
- Severe errored seconds
 - Type PA performance parameter, P-2
- SHUTDOWN, D-41
- Single channel circuits, G-52
- Site Name
 - changing, GT 55-1
- Site Name field
 - on 24-Hour Performance form, P-8
 - on NPC ROLL form, G-64
- Slip count, O-9
- Slips
 - and threshold settings, P-2
- SNIDER
 - and PASSTHROUGH, L-7
- SNIDER Configuration, 1-8
- SNIDER Link, 5-8
 - creating, GT 51-1
 - provisioning, 5-8
- Spare channel
 - selection in altrouting, G-47
- Special function keys
 - description, C-23
- Split Test Access, 13-10
- SSP ALARM, O-7
- Stage 1 of UPLOAD (NPC SYNC), 10-19
- Stage 2 of UPLOAD action (CHANNEL SYNC), 10-20
- Status Error Messages, B-3
- Subrate
 - and NPC Roll, G-62
- SVC
 - number for which the DACS is set, C-4
- SYN
 - automatically supplied value of Circuit ID field, 10-13
- SYNC ALARM, O-7
- Synchronization failure indication, O-8
- Synchronization Results report
 - description, M-13
- System administration menu, D-2
- System administrator
 - permissions, K-1
- System Functionality, xxxiii

T

- TA
 - NPC provisioning form, E-6
- Table
 - NPC ROLL field descriptions, G-64
- Tape
 - backup on, I-21, I-25
- Task administration, J-1
 - deleting task, J-7
 - displaying printer queue status, J-10, J-11
 - listing scheduled tasks, J-5
 - removing print-job from queue, J-12
- TASK ADMINISTRATION form fields, J-4, J-6
- TASK ADMINISTRATION menu, J-2
- TASK MANAGEMENT form, J-3
- TASK SCHEDULE LIST
 - report
 - illustration and description, M-13
- TASK SCHEDULE RESULTS report
 - illustration and description, M-13
- TASK SELECTION insert
 - illustration, J-5
- TE
 - in NPC Roll, G-64
 - NPC provisioning form, E-6
- TERMINATE
 - usage, 10-17
- Terminating or Underterminating the Test Group Signal, GT 134-1
- Terms Used, 1-4
- Test Access
 - changing test access, 13-23
 - hub, 13-14
 - loop action, 13-16
 - monitor, 13-6, 13-7
 - reading test state sequences, 13-23
 - split, 13-10
- Test access, N-1
 - modifying status to SPLIT state, N-11
 - placing channel in multipoint cross-connect, N-12
 - placing circuit in MONITOR state for test group, N-9
- Test access examples, N-9
- TEST ACCESS form, N-2
 - reported, M-11
- TEST ACCESS Form Field Descriptions
 - (Test Object FROM/Object Under Test TO) FROM Channel/TO Channel, 13-22
 - (Test Object FROM/Object Under Test TO) NPC Specifier/NPC, 13-22
 - Action, 13-18
 - Direction, 13-19

- Initial Test State, 13-20
- Insertion Word, 13-21
- New Test State, 13-22
- Number, 13-21
- Object Type, 13-20
- OOS, 13-20
- Site Name, 13-18
- Test Specifier, 13-20
- Trunk Conditioning, 13-21
- TEST ACCESS Form fields, N-3
- Test Access in Split Mode, GT 132-1
- TEST ACCESS report
 - type available, M-11
- Test Groups, 13-5
- Test Port
 - creating a test port group, F-7
- Test port
 - creating a, F-8
 - definition, F-1, F-2
 - deleting a, F-9
 - deleting a test port group, F-10
 - number possible, F-1
- Test port group
 - definition, F-1
 - number possible, F-1
- Test port provisioning
 - definition, F-1
- TEST PORT PROVISIONING Fields, F-4
- TEST PORT PROVISIONING form, F-3
- TEST PORT STATUS report
 - illustration and description, M-11
- Test States
 - changing, 13-23
- Test states, N-8
- Threshold alarm, O-7
- Time zone, 2-11, C-8
 - setting, C-9
- timezone, C-9
- TO
 - and multipoint circuit, G-32
 - in broadcast circuit, G-29
 - on DATABASE AUDIT/SYNCHRONIZATION form, I-7
- Troubleshooting, B-12, B-13, B-14, B-18
- TS0 to Non-TS0 circuits, G-68
- TSI ALARM, O-7
- TSI IDLE, O-7
- Two-way cross-connection
 - described and illustrated, I-7

U

- UAS, O-9
- UAT, O-9
- UATC, O-9
- UATCDAILY, O-9
- UC, O-7
- UC IDLE, O-7
- UEQD
 - and broadcast circuit, G-29
 - Service State field value, P-8
- ui_dval files, C-6
- Unavailable seconds, O-9
 - Type PA performance parameter, P-2
- Unmapped Test Access in Monitor Mode, GT 131-1
- Upload, GT 108-1
- User administration, K-1
 - constraints, K-2
- USER ADMINISTRATION menu, K-2
- USER ADMINISTRATION report
 - type available, M-12
- User Class field
 - on USER LOGINS report, M-12
- usage, K-1
- User management
 - adding user login, K-6
 - changing password (operator), K-7
 - changing password (system administrator), K-8
 - entering system on loss of password, K-9
- USER MANAGEMENT field descriptions, K-4
- USER MANAGEMENT form fields, K-4
- User Name field
 - on USER LOGINS report, M-12

V

- Virtual multipoint circuit, 10-16
 - and test access, 13-5
- Virtual node
 - definition, G-29
 - how numbered, G-29

W

Wild-card Characters, 12-5
Wild-card characters
 and NPC BROWSE, E-29
 and SEARCH CRITERIA form, M-4

X

X.25
 and PASSTHROUGH, L-7
 creating a link, GT 50-1
 placing a line in service, D-9
 removing a line from service, D-10
X.25 administration, D-7
X.25 ADMINISTRATION form, D-7
X.25 Backup Link
 restoring, GT 53-1
X.25 Link
 description, 5-5
 line numbering scheme, 5-6
 provisioning, 5-7
X.25 LINK ADMINISTRATION form
 reported, M-12
X.25 links
 administering, C-14