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DMS-100\* FAMILY

ALL PRODUCT COMPUTING-MODULE LOADS

Volume 9 of 15

ACTIVE BUILDING BLOCK  
ENGINEERING MANUALS

97Q4

Standard 05.03

December 1997

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SUPERNODE BRISC 50/50MX/60 CPU

PEC CODE: NTZZ01SC

CPC CODE: B0242895

RATING: Standard

REPLACES: NTZZ01SB

REPLACED BY: Not Applicable

ABBREVIATION NAME: NTZZ01SC

ENGINEERING DESCRIPTION: NTZZ01SC contains the SuperNode BRISC Series 50, BRISC Series 50 Mixed Memory, and BRISC Series 60 CPU and Paddleboards.

REFERENCE DOCUMENTATION: SLZZ01SC 00 01

NTZZ01SC REL 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

ISSUE AUTHOR: NTI: Debbie Goss Dept. 3471 (PPK)

MAIN CONTACT: NTI: Debbie Goss Dept. 3471 (PPK)

NTZZ01SC EMB4-03-CPU-8 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 04 06	ECM 626 24	Create Section.

The SuperNode BRISC 50/50MX/60 CPU is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
33 MHz 88000 BRISC CPU CP	NT9X10AA		2	13	19F-20F	AP
Des. Label (NT9X10AA)	P0734152		2	13	19F-20F	AP
BRISC RTIF PB	NT9X26DC		2	13	19R-20R	AP
Des. Label (NT9X26DC)	P0810387		2	13	19R-20R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ01SC is ordered, these items are provided.

## SNSE SERIES 20 PROCESSOR

PEC CODE: NTZZ34JE

CPC CODE: B0246096

RATING: STD

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

| ENGINEERING DESCRIPTION: The NTZZ34JE provides the Series 20 Processor and the RTIP CP for SNSE.

REFERENCE DOCUMENTATION: SLZZ34JE 00 01  
NTZZ34JE REL 01

MARKETS: Applicable markets:

Canada  
US  
CALA  
Asia/Pacific  
Europe  
Carrier  
Wireless

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34JE EMB4-03-CPU-9 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 28	ECM 632 18	First issue of section. Introduce Series 20 Processor for SNSE.
96 05 22	ECM 632 19	Correct mis-typed description.

The SNSE Series 20 Processor is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
CM Processor CP	NT9X13MB		2	XX	19F,20F	AP
RTIF Paddle Board	NT9X26AB		2	XX	19R,20R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ30JE is ordered, these items are provided.



I/F FILLER FACE PLATE

NTZZ01EA

RATING: Standard

ABBREVIATION NAME: NTZZ01EA

ENGINEERING DESCRIPTION: NTZZ01EA contains the filler face plates for the SuperNode required to satisfy forced air cooling requirements when Message Port circuit packs are not required.

REFERENCE DOCUMENTATION: SLZZ01EA 00 02  
NTZZ01EA REL 02

MARKETS: Applicable markets:  
US  
Canada  
Europe  
Asia/Pacific  
CALA  
Carrier  
Wireless

NTZZ01EA EMB4-03-FFP-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available

The I/F Filler Face Plate is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Face Plate	NT9X19AA		2	26,39	YF	AP
MS Loading Paddle Board	NT9X32AA		2	26,39	YR	AP
Des Label (NT9X19AA)	P0709515		2		YF	AP

NOTES:

- 1) The NT9X32AA Designation Labels are always provided on shelves 26 & 39 at Card Slots 12R-29R.
- 2) NTZZ01EA is assigned in ascending order. Assign where NTZZ01CA, NTZZ01DA, NTZZ01NA, NTZZ01PA or NTZZ01QA has not been provisioned, thus Y = 12-29. (F=Front,R=Rear)

RULES:

- AP 1) When PEC NTZZ01EA is ordered, these items are provided.

## INITIAL ENHANCED NETWORK INTERFACE - 128 PORT

PEC CODE: NTZZ01NN

CPC CODE: B0242460

RATING: Standard

REPLACES: NTZZ01NM

REPLACED BY: Not Applicable

ABBREVIATION NAME: NTZZ01NN

ENGINEERING DESCRIPTION: NTZZ01NN contains the circuit packs for the SuperNode required to initially connect to the Enhanced Network.

REFERENCE DOCUMENTATION: SLZZ01NA 00 01  
NTZZ01NN REL 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

ISSUE AUTHOR: NTI: Debbie Goss Dept. 3471 (PPK)

MAIN CONTACT: NTI: Debbie Goss Dept. 3471 (PPK)

NTZZ01NN EMB4-03-IF-10 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 02 09	ECM 626 23	Create section to incorporate Engineering Change 018-44319.

The Initial Enhanced Network Interface is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 128-Port CP	NT9X17CA		2	26,39	YFront	AP
ENET/MS Fiber Interface PB	NT9X20BC		2	26,39	YRear	AP
Des Label (NT9X17CA)	P0678441		2	26,39	YFront	AP
Des Label (NT9X20BC)	P0805929		2	26,39	YRear	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) NTZZ01NN is assigned with Y = 27-12. Assign cards in ascending order per port group with the NT9X20BC being the first card in the port group.

RULES:

- 1) When PEC NTZZ01NN is ordered, these items are provided.

## INITIAL ENHANCED NETWORK INTERFACE

PEC CODE: NTZZ01NB  
CPC CODE: B0245293  
| RATING: Standard  
REPLACES: NTZZ01NA  
REPLACED BY: Not Applicable  
ABBREVIATION NAME: Not Applicable  
ENGINEERING DESCRIPTION: NTZZ01NB contains the circuit packs for the SuperNode required to initially interface to the Enhanced Network.  
REFERENCE DOCUMENTATION: SLZZ01NB 00 01  
NTZZ01NB REL 01  
MARKETS: Applicable markets:  
  
US  
Canada  
Europe  
Asia/Pacific  
CALA  
Carrier  
Wireless  
  
ISSUE AUTHOR: Scott Maggiolo Dept. 3471 (PPK)  
MAIN CONTACT: Scott Maggiolo Dept. 3471 (PPK)

NTZZ01NB EMB4-03-IF-3A CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 12 19	ECM 626 29	Create section.



The Initial Enhanced Network Interface is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 64-Port CP	NT9X17DA		2	26,39	YFront	AP
ENET/MS Fiber Interface PB	NT9X20BC		2	26,39	YRear	AP
Des Label (NT9X17DA)	P0707891		2	26,39	YFront	AP
Des Label (NT9X20BC)	P0805929		2	26,39	YRear	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) NTZZ01NB is assigned with Y = 27-12. Assign cards in ascending order per port group with the NT9X20BC being the first card in the port group.

RULES:

- AP 1) When PEC NTZZ01NB is ordered, these items are provided.

INTERMEDIATE ENHANCED NETWORK INTERFACE

NTZZ01PA

RATING: Standard

ABBREVIATION NAME: NTZZ01PA

ENGINEERING DESCRIPTION: NTZZ01PA contains the circuit packs for the SuperNode to interface the Enhanced Network when the port group beyond 128 channels.

REFERENCE DOCUMENTATION: SLZZ01PA 00 04

NTZZ01PA REL 02

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

NTZZ01PA EMB4-03-IF-4 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available

The Intermediate Enhanced Network Interface is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 64-Port CP	NT9X17DA		2	26,39	YFront	AP
MS Port Expander PB	NT9X25AA		2	26,39	YRear	AP
Des Label (NT9X17DA)	P0707891		2	26,39	YFront	AP
Des Label (NT9X25AA)	P0678445		2	26,39	YRear	AP

## NOTES:

- 1) NTZZ01PA is assigned with Y = 26-13. Assign cards in ascending order per port group with the NT9X25AA being the intermediate card in the port group if required.

## RULES:

- 1) When PEC NTZZ01PA is ordered, these items are provided.

FINAL ENHANCED NETWORK INTERFACE

NTZZ01QA

RATING: Standard

ABBREVIATION NAME: NTZZ01QA

ENGINEERING DESCRIPTION: NTZZ01QA contains the circuit packs for the SuperNode to terminate the interface to the Enhanced Network.

REFERENCE DOCUMENTATION: SLZZ01QA 00 02

NTZZ01QA REL 02

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

NTZZ01QA EMB4-03-IF-5 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available

The Final Enhanced Network Interface is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 64-Port CP	NT9X17DA		2	26,39	YFront	AP
MS Port Exp/Terminator PB	NT9X25BA		2	26,39	YRear	AP
Des Label (NT9X17DA)	P0707891		2	26,39	YFront	AP
Des Label (NT9X25BA)	P0697531		2	26,39	YRear	AP

NOTES:

- 1) NTZZ01QA is assigned with Y = 27-13. Assign cards in ascending order per port group with the NT9X25BA being the final card in the port group.

RULES:

- AP 1) When PEC NTZZ01QA is ordered, these items are provided.

LINK INTERFACE FOR FLIS

NTZZ01ZA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: NTZZ01ZA contains the circuit packs for the SuperNode Cabinet that are used to Interface Message Switch(0 and 1) to the Fiberized LIS Shelf.

| REFERENCE DOCUMENTATION: SLZZ01ZA 00 02

| NTZZ01ZA REL 02

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

ISSUE AUTHOR NTC: Ganesh Ram DEPT. S646 (BRW)

MAIN CONTACT NTC: Ganesh Ram DEPT. S646 (BRW)



NTZZ01ZA EMB4-03-IF-6 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 93 03 18	----- ECM 626 08	Previous history not available NT9X17AC is MD, and it is replaced by NT9X17AD. (ECD 006-17324)

The Link Interface for FLIS is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 4-Port CP	NT9X17AD		2	26,39	YYF	AP
Des Label (NT9X17AD)	P0735096		2	26,39	YYF	AP
SR512 Fiber Paddleboard	NT9X62BA		2	26,39	YYR	AP
Des Label (NT9X62BA)	P0726963		2	26,39	YYR	AP

FLAGS:

NOTES:

- 1) NTZZ01ZA is assigned on shelf 26 and 39. Thus YY = 12 - 27.  
(F=Front,R=Rear)

RULES:

- AP 1) When PEC NTZZ01ZA is ordered, these items are provided.

## FINAL ENHANCED NETWORK INTERFACE - 128 PORT

| PEC CODE: NTZZ01QM  
 | CPC CODE: B0240974  
 | RATING: Standard  
 | REPLACES: Not Applicable  
 | REPLACED BY: Not Applicable  
 | ABBREVIATION NAME: NTZZ01QM  
 | ENGINEERING DESCRIPTION: NTZZ01QM contains the circuit packs for the SuperNode to terminate the interface to the Enhanced Network.  
 | REFERENCE DOCUMENTATION: SLZZ01QA 00 01  
 | NTZZ01QM REL 01  
 | MARKETS: Applicable markets:  
 | US  
 | Canada  
 | Europe  
 | Asia/Pacific  
 | CALA  
 | Carrier  
 | Wireless  
 | ISSUE AUTHOR: NTI: Scott Maggiolo Dept. 3471 (PPK)  
 | MAIN CONTACT: NTI: Scott Maggiolo Dept. 3471 (PPK)

NTZZ01QM EMB4-03-IF-8 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 04 19	ECM 626 16	Create Section.

The Final Enhanced Network Interface is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 128-Port CP	NT9X17CA		2	26,39	YFront	AP
MS Port Exp/Terminator PB	NT9X25BA		2	26,39	YRear	AP
Des Label (NT9X17CA)	P0678441		2	26,39	YFront	AP
Des Label (NT9X25BA)	P0697531		2	26,39	YRear	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) NTZZ01QM is assigned with Y = 27-13. Assign cards in ascending order per port group with the NT9X25BA being the final card in the port group.

RULES:

- AP 1) When PEC NTZZ01QM is ordered, these items are provided.

24 MBYTE MEMORY

NTZZ01LA

RATING: Standard

ABBREVIATION NAME: NTZZ01LA

ENGINEERING DESCRIPTION: NTZZ01LA contains the 24 MByte Memory CP and designation label for SuperNode applications.

REFERENCE DOCUMENTATION: SLZZ01LA 00 02

NTZZ01LA REL 02

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

NTZZ01LA EMB4-03-MEM-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available

The NTZZ01LA is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
24 MByte Memory CP	NT9X14DB		2	13	YF,39-YF	AP
Des Label (NT9X14DB)	P0700802		2	13	YF,39-YF	AP

NOTES:

- 1) The NT9X14DA 24MByte Memory CP has been rated Manufacture
- 1) Assign NTZZ01LA to each plane of the CM where Y = 16,15,14,13,12,11,10,09,08,07. (F=Front)

RULES:

- AP 1) When PEC NTZZ01LA is ordered, these items are provided.



16M MS PROCESSOR AND RTIF

PEC CODE: NTZZ01TM

CPC CODE: B0246106

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: This Building Block contains the MS Processor and associated RTIF card required to support up to 16M of memory on the Message Switch.

REFERENCE DOCUMENTATION: SLZZ01TM 00 01  
NTZZ01TM REL 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

ISSUE AUTHOR: NTI: Scott Maggiolo Dept. 3471 (PPK)

MAIN CONTACT: NTI: Scott Maggiolo Dept. 3471 (PPK)

NTZZ01TM EMB4-03-MS-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 22	ECM 626 30	Initial creation of section.

The MS Processor and RTIF is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
CPU 16 MHZ CP(16 MB)	NT9X13DD		2	26,39	9F	AP
Remote Term I/F Curr Loop	NT9X26AB		2	26,39	9R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ01TM is ordered, these items are provided.

4 PORT NETWORK & IOC I/F FOR  
BCS34 & ABOVE

NTZZ01CB

RATING: Standard

ABBREVIATION NAME: NTZZ01CB

ENGINEERING DESCRIPTION: NTZZ01CB contains the circuit packs for the SuperNode required to interface Network Modules and IOC.

REFERENCE DOCUMENTATION: SLZZ01CB 00 01  
NTZZ01CB REL 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

NTZZ01CB EMB4-03-004 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 92 11 18	----- ECM 626 06	Previous history not available new BB with NT9X17AD for BCS34 & ABOVE

The 4 PORT NETWORK & IOC I/F - BCS34 & ABOVE is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 4-Port CP	NT9X17AD		4	26,39	YF,YF+1	AP
Des Label (NT9X17AD)	P0735096		4		YF,YF+1	AP
4xDS-30 PB	NT9X23AA		4	26,39	YR,YR+1	AP
DS30 I/F Ca Assy	NT9X0145		4	26,39	YR,YR+1	AP
Des Label (NT9X23AA)	P0678443		4		YR,YR+1	AP

FLAGS:

NOTES:

- 1) NTZZ01CB is assigned in even card slots from 28F-12F in descending order. Thus Y = 28,26,24,22,20,18,16,14,12. (F=Front,R=Rear)

RULES:

- AP 1) When PEC NTZZ01CB is ordered, these items are provided.

4 PORT LIM/LPP INTERFACE - BCS34 & ABOVE

NTZZ01DB

RATING: Standard

ABBREVIATION NAME: NTZZ01DB

ENGINEERING DESCRIPTION: NTZZ01DB contains the circuit packs for the SuperNode required to interface Local Message Switch.

REFERENCE DOCUMENTATION: SLZZ01DB 00 01  
NTZZ01DB REL 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

NTZZ01DB EMB4-03-005 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 92 11 18	----- ECM 626 06	Previous history not available new BB with NT9X17AD for BCS34 & ABOVE



The 4 PORT LIM/LPP INTERFACE - BCS34 & ABOVE is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 4-Port CP	NT9X17AD		4	26,39	YF,YF+1	AP
Des Label (NT9X17AD)	P0735096		4		YF,YF+1	AP
4xDS-30 PB	NT9X23BA		4	26,39	YR,YR+1	AP
DS30 I/F Ca Assy	NT9X0145		4	26,39	YR,YR+1	AP
Des Label (NT9X23BA)	P0697530		4		YR,YR+1	AP

FLAGS:

NOTES:

- 1) NTZZ01DB is assigned in even card slots from 26-12, in descending order. Thus Y = 26,24,22,20,18,16,14,12. (F=Front,R=Rear)

RULES:

- AP 1) When PEC NTZZ01DB is ordered, these items are provided.

4 PORT NET.& IOC I/F FOR CAB. DMS -  
BCS34 & ABOVE

NTZZ01UB

RATING: Standard

ABBREVIATION NAME: NTZZ01UB

ENGINEERING DESCRIPTION: NTZZ01UB contains the circuit packs for the SuperNode required to interface Network Modules and IOC. This is used for Cabinetized DMS application.

REFERENCE DOCUMENTATION: SLZZ01UB 00 01  
NTZZ01UB REL 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

NTZZ01UB EMB4-03-006 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
92 07 27	ECM 626 05	New BB Engineering Manual Section
92 11 18	ECM 626 06	new BB with NT9X17AD for BCS34 & ABOVE

The 4 PORT NET.& IOC I/F for Cab. DMS - BCS34 & ABOVE is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 4-Port CP	NT9X17AD		4	26,39	YF,YF+1	AP
Des Label (NT9X17AD)	P0735096		4		YF,YF+1	AP
4xDS-30 PB	NT9X23AA		4	26,39	YR,YR+1	AP
DS30 I/F Ca Assy	NT9X6544		4	26,39	YR,YR+1	AP
Des Label (NT9X23AA)	P0678443		4		YR,YR+1	AP

FLAGS:

NOTES:

- 1) NTZZ01UB is assigned in even card slots from 28F-12F in descending order. Thus Y = 28,26,24,22,20,18,16,14,12. (F=Front,R=Rear)

RULES:

- AP 1) When PEC NTZZ01UB is ordered, these items are provided.

4 PORT LIM/LPP I/F FOR CAB. DMS -  
BCS34 & ABOVE

NTZZ01VB

RATING: Standard

ABBREVIATION NAME: NTZZ01VB

ENGINEERING DESCRIPTION: NTZZ01VB contains the circuit packs for the SuperNode required to interface Local Message Switch. This is used for Cabinetized DMS application.

REFERENCE DOCUMENTATION: SLZZ01VB 00 01  
NTZZ01VB REL 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

NTZZ01VB EMB4-03-007 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
92 07 27	ECM 626 05	New BB Engineering Manual Section
92 11 18	ECM 626 06	new BB with NT9X17AD for BCS34 & ABOVE

The 4 PORT LIM/LPP I/F for Cab. DMS - BCS34 & ABOVE is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS 4-Port CP	NT9X17AD		4	26,39	YF,YF+1	AP
Des Label (NT9X17AD)	P0735096		4		YF,YF+1	AP
4xDS-30 PB	NT9X23BA		4	26,39	YR,YR+1	AP
DS30 I/F Ca Assy	NT9X6544		4	26,39	YR,YR+1	AP
Des Label (NT9X23BA)	P0697530		4		YR,YR+1	AP

FLAGS:

NOTES:

- 1) NTZZ01VB is assigned in even card slots from 26-12, in descending order. Thus Y = 26,24,22,20,18,16,14,12. (F=Front,R=Rear)

RULES:

- AP 1) When PEC NTZZ01VB is ordered, these items are provided.

## APC (APPLICATION PROCESSOR CABINET)

PEC CODE: NT9X80CA

CPC CODE: B0235839

RATING: Standard

REPLACES: NTZZ35MB

REPLACED BY: Not Applicable

ABBREVIATION NAME: APC

ENGINEERING DESCRIPTION: The APC (Application Processor Cabinet) provides increased processing and data management power required for running software applications such as DMS Service Control Point and Billing Server. Application Processor Shelf can house up to two Application Processor (AP) or File Processor (FP) units. The Storage Device Shelf can house up to two Storage Devices (SDs). Each SD consumes one half shelf and comprises a pair of mass storage units (disk or tape drives). SCSI cables are used to interconnect an FP to one or more SDs in a daisy chain arrangement. Shelves and interconnect cabling are provisionable, subject to certain restrictions. The APC comes provided with either -48V or -60V capability.

REFERENCE DOCUMENTATION: MS9X80CA 01 07

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA  
Carrier

ISSUE AUTHOR: NTI: David Cheek Dept. 6455 (RCH)

MAIN CONTACT: NTI: David Cheek Dept. 6455 (RCH)



NT9X80CA EMB4-04-APC-7 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 96 03 15	----- ECM 675 19	Previous history not applicable. Introduction of this NT9X80CA building block. It replaces NTZZ35MB and also incorporates the new Functional Blocks (FBs) namely NTZZ10CU and NTZZ10CW.
96 08 13	ECM 675 20	Incorporate RR66527 and RR68003 fixes for lables.
97 04 18	ECM 675 22	Incorporate RR74486 power kit label fixes.
97 06 16	ECM 675 23	Incorporate RR75823 SD kit fixes, combine and simplify SD rules.

The APC (APPLICATION PROCESSOR CABINET) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
EQUIPMENT	PEC	ABBR	QTY	POS	POS	RULE
C42 Cabinet Mechanical Assy	NT9X95BA		1			AP-XXX
C42 FSP/Cooling Unit -48V	NTZZ10CU					RUL8
C42 FSP/Cooling Unit -60V	NTZZ10CW					RUL8
Power Terminal Block Kit (streamline)	NT9X9531					RUL17
Power Terminal Block Kit (standalone)	NT9X9532					RUL17
Terminator FSP Plug	NT9X0314			52		RUL11
<hr/>						
Application Processor Shelf	NT9X8101			XX		RUL1
Left Fiber Assembly Panel	NT9X6506			XX		RUL1
Right Fiber Assembly Panel	NT9X6503			XX		RUL1
APC AP LEFT(C/42)	NTZZ35QA			XX	1F	RUL2
APC FP LEFT(C/42)	NTZZ35RA			XX	1F	RUL2
24Mb Memory CP	NT9X14DB			XX	11F-8F, 16F-19F	RUL3
Remote Term I/F PB	NT9X26AB			XX	13R,14R	RUL4
<hr/>						
APC AP RIGHT(C/42)	NTZZ35SA			XX	24F	RUL2
APC FP RIGHT(C/42)	NTZZ35TA			XX	23F	RUL2
Filler Faceplate	NT9X19AA		13	ZZ	20F-32F	RUL11
Filler Paddleboard	NT9X19BA		13	ZZ	20R-32R	RUL11
Filler Face Plate	NT9X19CA		2	ZZ	33F,36F	RUL11
Terminator FSP Plug	NT9X0314		1	ZZ		RUL11
Desig. Strip(Application Processor Shelf Front)	P0729134		1	ZZ	20F-36F	RUL11
Desig. Strip(Application Processor Shelf Rear)	P0729123		1	ZZ	20R-32R	RUL11
24Mb Memory CP	NT9X14DB			XX	23F-20F, 28F-31F	RUL3
Remote Term I/F PB	NT9X26AB			XX	25R,26R	RUL4
<hr/>						

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Link Interface Shelf Assy	NT9X7204		1	26		RUL19
+5V Power Converter	NT9X30AA		2	26	04F,36F	RUL21
-5V Power Converter	NT9X31AA		2	26	01F,33F	RUL21
Power Converter CP	NTDX16AA		4	26	04F,36F 01F,33F	RUL22
Power Interface Unit	NT9X2825		2	26	01F-04F 33F-36F	RUL22
LIS F-Bus Controller CP	NT9X96AA		2	26	07F,32F	RUL19
LIS Fiber INTF Paddle Board	NT9X98AA		2	26	07R,32R	RUL19
F-Bus A Terminator PB	NTEX20AA		1	26	30R	RUL19
F-Bus B Terminator PB	NTEX20BA		1	26	8R	RUL19
PB Filler Face Plate	NT9X19BA		10	26	10R,12R 14R,16R, 18R,20R, 22R,24R, 26R,28R,	RUL19
Bulkhead Assembly Left	NT9X6534		2	26		RUL19
Bulkhead Assembly Right	NT9X6580		2	26		RUL19
Intra Shelf Comm. Cable Assy.	NT9X9820			26		RUL19
Enhanced CPU-IPF CP	NTEX22BB		2	26	08F,30F	RUL23
Ethnernet Interface CP	NT9X84AA		2	26	09F,31F	RUL23
Ethernet I/F PB	NT9X85AA		2	26	09R,31R	RUL23
EIU (2 Slot) ID Label	P0738387		2	26	08F,30F	RUL23
Desig. Label NT9X85AA	P0711661		2	26	09R,31R	RUL23
DS0A Cable Assembly	NT9X0190		2	26	09R,31R	RUL23
Filler Face Plate	NT9X19AA			26	08F-31F	RUL20
PADBD Filler Face Plate	NT9X19BA			26	09R,11R 13R,15R, 17R,19R, 21R,23R, 25R,27R, 29R,31R	RUL20
Screws & Washers	P097F813		4	26		RUL19
	P0284154		1			RUL19
	P0183220		1			RUL19
Rear Bottom Shelf ID Label	P0739095					RUL19
Rear Bot Design Strip Label	P0739095			26		RUL19
Rear Top Design Strip Label	P0739096			26		RUL19
Front Top Design Strip Label	P0800327			26		RUL19
FLIS Shelf Des. strip(REAR)	P0730475		1	26		RUL19
LIU cable routing labes	P0714420			26		RUL19
LIU cable routing labes	P0735397			26		RUL19
Bulkhead Cover Plate Assy.	NTEX5025			26		RUL19

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
APC Storage Device Shelf	NT9X8301			YY		RUL5
Left Fiber Assembly Panel	NT9X6506			YY		RUL5
Right Fiber Assembly Panel	NT9X6503			YY		RUL5
APC SD LEFT(Glob PWR -C/42)	NTZZ35XA			YY	1F	RUL11
APC SD (FULL Glob Shf -C/42)	NTZZ35ZA			YY	1F	RUL12
600 MB Disk Storage Unit	NT9X90AA			YY	8F,14F	RUL6
2 GB Disk Storage Unit	NT9X90AB			YY	8F,14F	RUL6
1.3 GByte DAT Storage Unit	NT9X90BA			YY	8F,14F	RUL6
Filler Face Plate	NT9X19AA			YY	8F-13F, 14F-19F	RUL6
APC SD RIGHT(Glob PWR -C/42)	NTZZ35YA			YY	32F	RUL13
Filler Faceplate	NT9X19AA			ZZ	20F-32F	RUL11
Filler Paddleboard	NT9X19BA			ZZ	20R-32R	RUL11
Filler Face Plate	NT9X19CA			ZZ	33F,36F	RUL11
Terminator FSP Plug	NT9X0314			ZZ		RUL11
Desig. Strip(Application Processor Shelf Front)	P0729134			ZZ	20F-36F	RUL11
Desig. Strip(Application Processor Shelf Rear)	P0729123			ZZ	20R-32R	RUL11
Filler Faceplate	NT9X19AA			YY	20F-25F, 26F-31F,	RUL11
600 MB Disk Storage Unit	NT9X90AA			YY	20F,26F	RUL6
2 GB Disk Storage Unit	NT9X90AB			YY	20F,26F	RUL6
1.3 GByte DAT Storage Unit	NT9X90BA			YY	20F,26F	RUL6
Filler Face Plate	NT9X19AA			YY	20F-25F 26F-31F	RUL6
Desig. Label(NT9X90AA)	P0729127			YY	8F,14F	RUL6
Desig. Label(NT9X90AB)	P0724360			YY	8F,14F	RUL6
Desig. Label(NT9X90BA)	P0729128			YY	8F-19F 20F-31F	RUL6
Desig. Label(NT9X90AA & NT9X90BA)	P0730171			YY	8F,14F	RUL6
Desig. Label(NT9X90AB & NT9X90BA)	P0724513			YY	8F,14F	RUL6
APC Terminal Block Designation Strip	P0736058					RUL17

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
APC Cabinet Power Filter Labels	P0736059					RUL17
Filler Packfill Blank Shelf	NT9X01FB NT0X24BD			ZZ ZZ		RUL7 RUL7
Streamline Exterior skin Assembly, Left, Gray	NTRX73AL					RUL9
Streamline Exterior skin Assembly, Right, Gray	NTRX73AM					RUL9
C42 Cabinet Mechanical Assy	NT9X95BA					NOTE10
SCSI Wiring Configuration	AR					RUL10
FSP Terminal Block (TB1)	A0368392			52		RUL18

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) Both planes of each unit are shown together in the equipment list, while the two half-shelves are shown separately.

- 2) XX, YY, and ZZ denote shelf position 00, 13, 26, or 39. XX denotes equipment that can be assigned to an Application Processor Shelf. One Application Processor Shelf is Always Provided in position 39. YY denotes equipment that can be assigned to a Storage Device Shelf. ZZ denotes equipment that can be assigned to any shelf position.
- 3) Maximum four (4) FPs are to be assigned beginning from shelf 39 (top of cabinet) moving downwards, and left to right across each shelf. Allot space for SDs from shelf 00 (bottom of cabinet) moving upwards, and left to right across each shelf. Leave no gaps in the assignment sequence.
- 4) The SCSI bus with the greatest number of devices is to be assigned first, beginning at the bottom of the cabinet, followed by the next largest bus, and so on.
- 5) Provision the Storage Devices according to the permissible configurations outlined in the ECM. SCSI cabling cannot leave the cabinet.
- 6) Within each SD space allotment, Power Converters, SCSI Device Interface Paddleboards, and SCSI cables must be equipped initially. The Storage Devices themselves can be provisioned in a future extension. Any type of SD may be provisioned in an allotted quadrant, or a quadrant may be left unequipped. However, it is recommended to position the two members of a shadowed pair side by side within a half shelf.
- 7) It is permitted to leave shelf positions unequipped initially. In an extension, Application Processor and Storage Device Shelves can be added in the field in place of the initial Blank Shelf filler.
- 8) Disk storage devices are more sensitive to vibration than DAT storage devices. Where possible, disk drives should be located lower in the cabinet than DAT drives.
- 9) After the FPs and SDs are assigned per the above notes, APs may be assigned to AP shelves into the remaining half-shelf spaces. It is possible to fill a cabinet with APs alone, should an application require it.
- 10) Refer to NT9X95BA(EMA4-07-001) for additional mechanical hardware requirements for C42 Cabinet.

RULES:

- AP 1) When PEC NT9X80CA is ordered, these items are provided.
- 2) The NT9X80CA is comprised of the following:
  - NT9X9575 Cabinet Framework
- AP-XXX 1) This PEC is always provided on the NT9X80CA and is indicated here for completeness.
- 2) Refer to the NT9X95BA (EMA4-07-001) section for additional Mechanical Hardware requirements for C42 (S/DMS) Cabinet.
- RUL1 1) Provide one (1) NT9X8101 Application Processor Shelf when this shelf position is to contain Application Processors (APs) or File Processors (FPs).
- 2) Provide one (1) NT9X6506 Left Fiber Assembly Panel and one (1) NT9X6503 Right Fiber Assembly Panel for every NT9X8101 Application Processor Shelf provisioned. Shelf 39 already comes equipped with one (1) NT9X6506 and one (1) NT9X6503.
- RUL2 1) Provision the circuit pack quantities indicated to equip one half-shelf to provide a dual-plane AP or FP:

PEC	Quantity per half-shelf
-----	-----
NTDX15AB	2
NT9X86AA	2
NT9X13LA	2
NT9X21AB	2
NT9X62AA	2

- RUL3 1) Provision NT9X14DB 24 MByte Memory CP as required by the application. The application may designate one of the memory CPs as a hot spare; this is optional. Note that with the NT9X14DB, the first 4 MByte of data store is unusable.
- 2) In an Application Processor, a maximum of four (4) 24 MByte Memory CP may be equipped per plane (total eight (8) per AP) for a total of 92 MBytes of memory per plane.(96 - 4 = 92 MBytes) In a File Processor, a maximum of three (3) 24 MByte Memory CP may be equipped per plane (total six (6) per FP) for a total of 68 MBytes of memory per plane.(72 - 4 = 68 MBytes) In a FP, slots 10F-8F and 17F-19F, or 22F-20F and 29F-31F, are available for memory CP.
- 3) Assign memory CP beginning with the CP position nearest the CPU CP and work away from the CPU. For the left half-shelf

the sequence is 10F and 17F, 9F and 18F, 8F and 19F. (11F and 16F are the first position if the unit is an AP). For the right half shelf the sequence is 22F and 29F, 21F and 30F, 20F and 31F. (23F and 28F are the first position if the unit is an AP).

- RUL4 1) Provision NT9X26AB if that vintage is equipped in the DMS-Core. New core installations should be provisioned with NT9X26AB.
- RUL5 1) Provide one (1) NT9X8301 Storage Device Shelf when this shelf position is to contain Storage Devices (SDs).
- 2) Provide one (1) NT9X6506 Left Fiber Assembly Panel and one (1) NT9X6503 Right Fiber Assembly Panel for every NT9X8301 Storage Device Shelf provisioned.
- RUL6 1) Provide one (1) NT9X90AA 600 MByte Disk Storage Device per quadrant when the application requires a hard disk drive in BCS36 and below.

Provide one (1) NT9X90AB 2 GByte Disk Storage device per quadrant when the application requires a hard disk drive in CSP-02 and higher. Existing applications utilizing the NT9X90AAs are not required to upgrade any of the storage devices. The NT9X90AB and the NT9X90AA are not supported in the shadowed set.

- 2) Provide one (1) NT9X90BA 1.3 GByte DAT Storage Device per quadrant when the application requires a Digital Audio Tape storage device. Provision DG60M Magnetic Tape Data Cartridge (blank) as required.
- 3) Provide six (6) NT9X19AA Filler Face Plates for each allocated quadrant not equipped with with an SD.
- 4) When equipping one half SD(storage device) shelf with a combination of one Disk(NT9X90AA) and one DATs(NT9X90BA) then provide one (1) P0730171 Label.
- 5) When equipping one half SD(storage device) shelf with one or two Disk(NT9X90AA) then provide one (1) P0729127 Label.
- 6) When equipping one half SD(storage device) shelf with one or two DATs(NT9X90BA) then provide one (1) P0729128 Label.
- 7) When equipping one half SD(storage device) shelf with a combination of one Disk(NT9X90AB) and one DATs(NT9X90BA) then provide one (1) P0724513 Label.



- 8) When equipping one half SD(storage device) shelf with one or two Disk(NT9X90AB) then provide one (1) P0724360 Label.
- 9) Review rules 11 through 13 for building block provisioning of half and full shelves of storage devices.
- RUL7 1) When a provided shelf is not equipped with APs, FPs or SDs, provide one (1) NT9X01FB Filler Packfill to satisfy the forced air cooling requirements of the frame. (Designation Labels P0687764 and P0687765 ARE INCLUDED with the NT9X01FB Filler Packfill)
- 2) When a shelf is not equipped, provide one (1) NTOX24BD Blank Shelf to satisfy the forced air cooling requirements of the frame.
- RUL8 1) The NTZZ10CU is always required when the -48V version of of APC cabinet is provisioned. The NTZZ10CW is always required when the -60V version of the APC cabinet is provisioned.
- RUL9 1) Provide as per EMA15-05-001.
- RUL10 1) SCSI cables are provided based on the physical length from the FP to the SD, and between SDs in the chain. Each diagram in the table below depicts a cabinet configuration, with shelves 39, 26, 13 and 00 shown from top to bottom. "FP" represents a File Processor, "SD" a space allotted for a Storage Device, and "-" a blank space or Application Processor. The digit following FP or SD indicates which SCSI bus the device belongs to (eg. SD0 is a space allocated to a Storage Device on SCSI bus 0. It is connected to all other SD0 devices and FP0.)

Select the configuration with the desired quantity of FPs and SD spaces, and provision the quantity of cable PECs indicated, as well as one (1) SCSI Cable Routing (RTG) label per cabinet to match the configuration of the APC.

Specwriters Note : Please ensure that both the Frame I.D. and the SCSI cable routing table are always referenced in the Specwriters notes section.

Table 1 - SCSI Cable Provisioning

QTY OF FPs	CABINET CONFIGURATION	CABLE LENGTH (INCHES)	QTY	PEC
1	FP0 - SD0 SD0 SD0 SD0 SD0 SD0	55	3	NT9X0443
		60	4	NT9X0444
		65	3	NT9X0445
		70	5	NT9X0446
		75	1	NT9X0447

For cabinets configured with 1FP and 12SD, provision one SCSI RTG Label P0724434

1	FP0 - SD0 - SD0 SD0 SD0 SD0	40	1	NT9X0419
		45	2	NT9X0420
		55	4	NT9X0443
		60	1	NT9X0444
		65	3	NT9X0445
		70	4	NT9X0446
		75	1	NT9X0447

For cabinets configured with 1FP and 10SD, provision one SCSI RTG Label P0724435

1	FP0 - - - SD0 SD0 SD0 SD0	55	1	NT9X0443
		60	1	NT9X0444
		65	2	NT9X0445
		70	3	NT9X0446
		75	4	NT9X0447
		80	1	NT9X0448

For cabinets configured with 1FP and 8SD, provision one SCSI RTG Label P0724436

Table 1 - SCSI Cable Provisioning (continued)

QTY OF FPs	CABINET CONFIGURATION	CABLE LENGTH (INCHES)	QTY	PEC				
1	<table border="1"> <tr><td>FP0 -</td></tr> <tr><td>- -</td></tr> <tr><td>- -</td></tr> <tr><td>SD0 SD0</td></tr> </table>	FP0 -	- -	- -	SD0 SD0	65	1	NT9X0445
		FP0 -						
		- -						
		- -						
		SD0 SD0						
70	2	NT9X0446						
75	1	NT9X0447						
80	1	NT9X0448						
85	3	NT9X0449						

For cabinets configured with 1FP and 4SD, provision one SCSI RTG Label P0724438

1	<table border="1"> <tr><td>FP0 -</td></tr> <tr><td>- -</td></tr> <tr><td>SD0 -</td></tr> <tr><td>SD0 SD0</td></tr> </table>	FP0 -	- -	SD0 -	SD0 SD0	55	3	NT9X0443
		FP0 -						
		- -						
		SD0 -						
		SD0 SD0						
60	2	NT9X0444						
65	4	NT9X0445						
70	2	NT9X0446						
75	1	NT9X0447						

For cabinets provisioned with 1FP and 6SD, provision one SCSI RTG Label P0724437

1	<table border="1"> <tr><td>FP0 -</td></tr> <tr><td>- -</td></tr> <tr><td>- -</td></tr> <tr><td>SD0 -</td></tr> </table>	FP0 -	- -	- -	SD0 -	60	1	NT9X0444
		FP0 -						
		- -						
		- -						
		SD0 -						
65	3	NT9X0445						
70	2	NT9X0446						
75	1	NT9X0447						
80	1	NT9X0448						

For cabinets configured with 1FP and 2SD, provision one SCSI RTG Label P0724439

Table 1 - SCSI Cable Provisioning (continued)

QTY OF FPs	CABINET CONFIGURATION	CABLE LENGTH (INCHES)	QTY	PEC				
2	<table border="1"> <tr><td>FP0 FP1</td></tr> <tr><td>SD1 -</td></tr> <tr><td>SD0 SD0</td></tr> <tr><td>SD0 SD0</td></tr> </table>	FP0 FP1	SD1 -	SD0 SD0	SD0 SD0	45	1	NT9X0420
		FP0 FP1						
		SD1 -						
		SD0 SD0						
		SD0 SD0						
		50	2	NT9X0442				
		55	3	NT9X0443				
60	3	NT9X0444						
65	3	NT9X0445						
70	3	NT9X0446						
75	4	NT9X0447						
80	1	NT9X0448						

For cabinets configured with 2FP and 10SD, provision one SCSI RTG Label P0724430

2	<table border="1"> <tr><td>FP0 FP1</td></tr> <tr><td>- -</td></tr> <tr><td>SD1 SD1</td></tr> <tr><td>SD0 SD0</td></tr> </table>	FP0 FP1	- -	SD1 SD1	SD0 SD0	55	1	NT9X0443
		FP0 FP1						
		- -						
		SD1 SD1						
		SD0 SD0						
		60	1	NT9X0444				
		65	5	NT9X0445				
70	3	NT9X0446						
75	2	NT9X0447						
80	1	NT9X0448						
85	3	NT9X0449						

For cabinets configured with 2FP and 8SD, provision one SCSI RTG Label P0724431

2	<table border="1"> <tr><td>FP0 FP1</td></tr> <tr><td>- -</td></tr> <tr><td>SD1 -</td></tr> <tr><td>SD0 SD0</td></tr> </table>	FP0 FP1	- -	SD1 -	SD0 SD0	60	1	NT9X0444
		FP0 FP1						
		- -						
		SD1 -						
		SD0 SD0						
		65	4	NT9X0445				
70	5	NT9X0446						
75	2	NT9X0447						
80	1	NT9X0448						
85	3	NT9X0449						

For cabinets configured with 2FP and 6SD, provision one SCSI RTG Label P0724432

Table 1 - SCSI Cable Provisioning (continued)

QTY OF FPs	CABINET CONFIGURATION	CABLE LENGTH (INCHES)	QTY	PEC				
2	<table border="1"> <tr><td>FP0 FP1</td></tr> <tr><td>- -</td></tr> <tr><td>- -</td></tr> <tr><td>SD0 SD1</td></tr> </table>	FP0 FP1	- -	- -	SD0 SD1	60	1	NT9X0444
		FP0 FP1						
		- -						
		- -						
		SD0 SD1						
		65	4	NT9X0445				
70	2	NT9X0446						
75	5	NT9X0447						
80	3	NT9X0448						
85	1	NT9X0449						

For cabinets configured with 2FP and 4SD, provision one SCSI RTG Label P0724433

2	<table border="1"> <tr><td>FP0 FP1</td></tr> <tr><td>SD1 SD1</td></tr> <tr><td>SD0 SD1</td></tr> <tr><td>SD0 SD0</td></tr> </table>	FP0 FP1	SD1 SD1	SD0 SD1	SD0 SD0	45	1	NT9X0420
		FP0 FP1						
		SD1 SD1						
		SD0 SD1						
		SD0 SD0						
		50	4	NT9X0442				
55	5	NT9X0443						
60	6	NT9X0444						
65	5	NT9X0445						
70	2	NT9X0446						
75	1	NT9X0447						

For cabinets configured with 2FP and 12SD, provision one SCSI RTG Label P0724429

3	<table border="1"> <tr><td>FP0 FP1</td></tr> <tr><td>FP2 -</td></tr> <tr><td>SD1 SD2</td></tr> <tr><td>SD0 SD0</td></tr> </table>	FP0 FP1	FP2 -	SD1 SD2	SD0 SD0	50	1	NT9X0442
		FP0 FP1						
		FP2 -						
		SD1 SD2						
		SD0 SD0						
		55	3	NT9X0443				
60	4	NT9X0444						
65	5	NT9X0445						
70	5	NT9X0446						
75	2	NT9X0447						
80	1	NT9X0448						
85	3	NT9X0449						

For cabinets configured with 3FP and 8SD, provision one SCSI RTG Label P0724417

Table 1 - SCSI Cable Provisioning (continued)

QTY OF FPs	CABINET CONFIGURATION	CABLE LENGTH (INCHES)	QTY	PEC				
3	<table border="1"> <tr><td>FP0 FP1</td></tr> <tr><td>FP2 -</td></tr> <tr><td>SD2 -</td></tr> <tr><td>SD0 SD1</td></tr> </table>	FP0 FP1	FP2 -	SD2 -	SD0 SD1	35	1	NT9X0416
		FP0 FP1						
		FP2 -						
		SD2 -						
		SD0 SD1						
		40	3	NT9X0419				
		45	2	NT9X0420				
		50	1	NT9X0442				
		55	1	NT9X0443				
		60	1	NT9X0444				
65	4	NT9X0445						
70	2	NT9X0446						
75	5	NT9X0447						
80	3	NT9X0448						
85	1	NT9X0449						

For cabinets configured with 3FP and 6SD, provision one SCSI RTG Label P0724428

4	<table border="1"> <tr><td>FP0 FP1</td></tr> <tr><td>FP2 FP3</td></tr> <tr><td>SD2 SD3</td></tr> <tr><td>SD0 SD1</td></tr> </table>	FP0 FP1	FP2 FP3	SD2 SD3	SD0 SD1	35	1	NT9X0416
		FP0 FP1						
		FP2 FP3						
		SD2 SD3						
		SD0 SD1						
		40	4	NT9X0419				
		45	5	NT9X0420				
		50	4	NT9X0442				
		55	1	NT9X0443				
		60	2	NT9X0444				
65	4	NT9X0445						
70	2	NT9X0446						
75	5	NT9X0447						
80	3	NT9X0448						
85	1	NT9X0449						

For cabinets configured with 4FP and 8SD, provision one SCSI RTG Label P0724416

RUL11 1) The NTZZ35XA provides power converters, SCSI device interface paddleboards for the left half of a storage device shelf as listed below.

PEC	Quantity per half-shelf
NT9X91AC	2
NT9X19AA	1
NT9X19BA	9
NT9X89BA	4

- 2) Provide additional filler packs as listed below to close the right side of a storage device shelf. Provide P0729123, P0709515 and P0729134 labels when the right half of shelf is unequipped.

PEC	Quantity per half-shelf
-----	-----
NT9X19CA	2
NT9X19AA	13
NT9X19BA	13
NT9X0314	1

- 3) Provision one (1) NT9X0314 Terminator FSP Plug at the FSP for every two (2) NT9X19CA equipped. Two (2) NT9X0314 are provided for each NT0X24BD blank shelf that is provided. This is intended to clarify additional cases of the example shown in this rule, subsection 2.
- 4) This rule is combined with existing rules to clarify engineering requirements. No new requirements are added.

RUL12 1) Provision the circuit pack quantities indicated to equip one full shelf to provide capacity for Storage Devices.

PEC	Quantity per full-shelf
NT9X91AC	4
NT9X19AA	2
NT9X19BA	18
NT9X89AA	8

RUL13 1) The NTZZ35YA provides power converters, SCSI device interface paddleboards for the right half of a storage device shelf as listed below.

PEC	Quantity per half-shelf
NT9X91AC	2
NT9X19AA	1
NT9X19BA	9
NT9X89BA	4

RUL14 1) Relocated to rule 11.

RUL15 1) Relocated to rule 11.

RUL17 1) Provide one (1) NT9X9531 Horizontal Power Cabling Interface Kit and one (1) P0736058 APC terminal block designation strip per application processor cabinet when powering the NT9X80CA cabinet from the NTRX31AA or from NTRX31BA CPDC cabinet which is in the same lineup as the NT9X80CA. This kit includes power cables, terminal blocks, and miscellaneous mounting hardware.

2) Provide one (1) NT9X9532 stand-alone cabling interface kit and one (1) P0736059 APC Power Filter Label per application processor cabinet when powering the NT9X80CA cabinet from the seven foot PDC frame or powering from the new CPDC (NTRX31CA) cabinet, or powering from the NTRX31AA or from the NTRX31BA CPDC cabinet which is the different lineup than the NT9X80CA. This kit includes cables, filters, and miscellaneous mounting hardware.

RUL18 1) Provide one (1) A0368392 TB1 FSP Terminal Block Cover Assembly in all international applications.

RUL19 1) For the NT9X7204 LIS shelf assembly, provide:  
 - two (2) NT9X96AA LIS FBUS controller CP's  
 - two (2) NT9X98AA LIS Fiber Interface PB's  
 - one (1) NTEX20AA Intra FBUS A Termination PB



- one (1) NTEX20BA Intra FBUS B Termination PB
  - ten (10) NT9X19BA Filler Paddleboards
- 2) For the LIS shelf, provision one (1) NT9X6534 Bulkhead Assembly Left, one (1) NT9X6580 Bulkhead Assembly Right AND one (1) NT9X9820 FLIS Cable Assembly.
  - 3) Provision one (1) NTEX5025 Bulkhead cover plate assembly for each unequipped position in the NT9X6534 or NT9X6580 bulkheads.
  - 4) Provide one (1) P0736273 optical fiber danger label per link interface shelf assembly NT9X7204.
  - 5) Provision one (1) rear bottom designation label, one (1) rear top designation label, one (1) front top designation label, and one (1) FLIS Designation strip (REAR) per LIS shelf provisioned.
  - 6) Provision four (4) P097F813 screws, one (1) P0284154 washer and one (1) P0183220 locker washer when a link interface shelf assembly NT9X7204 is required in shelf position 26.
  - 7) Provision one (1) sheet of LIU cable routing lables per half shelf when EIU's are provisioned.

SHELF	SLOTS	LABEL
-----	-----	-----
26	31R-21R	P0735397
26	19R-09R	P0714420

NOTE: An office to be equipped with a (F)LIS has to be pre-configured with

- NT9X13DC Processor (to raise MS memory capacity to 10 MB)
- 2 Inter MS Links(IMLS)

- RUL20 1) Provision NT9X19AA Filler Face Plates and NT9X19BA Paddleboard Filler Face Plates for the unoccupied slots.
- RUL21 1) Provide TWO (2) NT9X30AA and TWO (2) NT9X31AA power converters for each NT9X7204 shelf when the DUAL POWER REDUNDANCY feature is not required.
- RUL22 1) Provide FOUR (4) NTDX16AA Power Converter, FOUR (4) P0748922 Designation Labels and TWO (2) NT9X2825 Power

Interface Units per shelf NT9X7204 when DUAL POWER REDUNDANCY is required or as per customer requirement. (-60V DUAL POWER REDUNDANCY is not a valid option on the FLIS frame). (Power converters -48V option is not available until BASE04/TL03 and above).

RUL23 1) Provide the Ethernet interface equipment shown when IEC billing is to be provided on an APC cabinet. This is the only approved FLIS configuration for an IEC billing server.

RUL24 1) Relocated to rule 17.

RUL25 1) Relocated to rule 17.

APC AP LEFT (C/42)

NTZZ35QA

| RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: Provides the necessary functionality for a  
Application Processor on the left side to  
the NT9X80CA cabinet.(C/42)

ISSUE AUTHOR NTC: Kerry Mah Dept. S646 (BRW)

MAIN CONTACT NTC: Kerry Mah Dept. S646 (BRW)

REFERENCE DOCUMENTATION: MS9X80CA 01 01  
SLZZ35QA 00 01  
NTZZ35QA REL 00

MARKETS: Applicable markets:

- Canada
- US
- CALA
- ASIA/PACIFIC
- EUROPE

NTZZ35QA EMB4-04-APL CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 03 17	ECM 675 01	Introduction of Building Blocks.

The APC AP LEFT (C/42) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Power Converter +/-5V	NTDX15AB		2	XX	1F,4F	AP
Filler Faceplate	NT9X19AA		1	XX	7F	AP
Dual Port Msg Controller CP	NT9X86AA		2	XX	12F,15F	AP
CPU (68030) 40MHz CP	NT9X13LA		2	XX	13F,14F	AP
Filler Paddleboard	NT9X19BA		7	XX	7R, 9R-11R, 16R-18R	AP
Bus Terminator PB	NT9X21AB		2	XX	8R,19R	AP
2-Port Subrate DS-512 PB	NT9X62AA		2	XX	12R,15R	AP
Desig. Strip(Application Processor Shelf Front)	P0737164		1	XX	1F-19F	AP
Desig. Strip(Application Processor Shelf Rear)	P0737161		1	XX	7R-19R	AP

NOTES:

RULES:

AP 1) When PEC NTZZ35QA is ordered, these items are provided.

APC AP RIGHT (C/42)

NTZZ35SA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: Provides the necessary functionality for a Application Processor on the right quadrant of a NT9X80CA cabinet.(C/42)

ISSUE AUTHOR NTC: Kerry Mah Dept. S646 (BRW)

MAIN CONTACT NTC: Kerry Mah Dept. S646 (BRW)

REFERENCE DOCUMENTATION: MS8X80CA 01 01  
SLZZ99DA 00 00  
NTZZ99DA REL 00

MARKETS: Applicable markets:

- Canada
- US
- CALA
- ASIA/PACIFIC
- EUROPE

NTZZ35SA EMB4-04-APR CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 03 17	ECM 675 01	Introduction of Building Blocks.

The APC AP Right (C/42) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Dual Port Msg Controller CP	NT9X86AA		2	XX	24F,27F	AP
CPU (68030) 40MHz CP	NT9X13LA		2	XX	25F,26F	AP
Filler Faceplate	NT9X19AA		1	XX	32F	AP
Filler Paddleboard	NT9X19BA		7	XX	21R-23R 28R-30R 32R	AP
Power Converter +/-5V	NTDX15AB		2	XX	33F,36F	AP
Bus Terminator PB	NT9X21AB		2	XX	20R,31R	AP
2-Port Subrate DS-512 PB	NT9X62AA		2	XX	24R,27R	AP
Desig. Strip(Application Processor Shelf Front)	P0737165		1	XX	20F-36F	AP
Desig. Strip(Application Processor Shelf Rear)	P0737160		1	XX	20R-32R	AP

NOTES:

RULES:

AP 1) When PEC NTZZ35SA is ordered, these items are provided.



APC FP LEFT (C/42)

NTZZ35RA

| RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: Provides the necessary functionality for a File Processor on the left side to the NT9X80CA cabinet.(C/42)

ISSUE AUTHOR NTC: Kerry Mah Dept. S646 (BRW)

MAIN CONTACT NTC: Kerry Mah Dept. S646 (BRW)

REFERENCE DOCUMENTATION: MS9X80CA 01 01  
SLZZ35RA 00 01  
NTZZ35RA REL 00

MARKETS: Applicable markets:

- Canada
- US
- CALA
- ASIA/PACIFIC
- EUROPE

NTZZ35RA EMB4-04-FPL CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 03 17	ECM 675 01	Introduction of Building Blocks.

The APC FP LEFT (C/42) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Power Converter +/-5V	NTDX15AB		2	XX	1F,4F	AP
Filler Faceplate	NT9X19AA		1	XX	7F	AP
Dual Port Msg Controller CP	NT9X86AA		2	XX	12F,15F	AP
CPU (68030) 40MHz CP	NT9X13LA		2	XX	13F,14F	AP
Filler Paddleboard	NT9X19BA		3	XX	7R,9R,18R	AP
Bus Terminator PB	NT9X21AB		2	XX	8R,19R	AP
2-Port Subrate DS-512 PB	NT9X62AA		2	XX	12R,15R	AP
Dual Access Buffer Memory CP	NT9X87AA		2	XX	11F,16F	AP
Desig. Label (NT9X87AA)	P0729673		2	XX	11F,16F	AP
Dual SCSI Interface Proc PB	NT9X88AA		4	XX	10R,11R, 16R,17R	AP
Desig. Label (NT9X88AA)	P0729120		4	XX	10R,11R 16R,17R	AP
Desig. Strip(Application Processor Shelf Front)	P0737164		1	XX	1F-19F	AP
Desig. Strip(Application Processor Shelf Rear)	P0737161		1	XX	7R-19R	AP

NOTES:

RULES:

AP 1) When PEC NTZZ35RA is ordered, these items are provided.

APC FP RIGHT (C/42)

NTZZ35TA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: Provides the necessary functionality for a File Processor on the right quadrant of NT9X80CA Cabinet.(C/42)

ISSUE AUTHOR NTC: Kerry Mah Dept. S646 (BRW)

MAIN CONTACT NTC: Kerry Mah Dept. S646 (BRW)

REFERENCE DOCUMENTATION: MS9X80CA 01 01  
SLZZ35TA 00 00  
NTZZ35TA REL 00

MARKETS: Applicable markets:

- Canada
- US
- CALA
- ASIA/PACIFIC
- EUROPE

NTZZ35TA EMB4-04-FPR CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 03 17	ECM 675 01	Introduction of Building Blocks.

The APC FP Right (C/42) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Dual Port Msg Controller CP	NT9X86AA		2	XX	24F,27F	AP
CPU (68030) 40MHz CP	NT9X13LA		2	XX	25F,26F	AP
Filler Faceplate	NT9X19AA		1	XX	32F	AP
Filler Paddleboard	NT9X19BA		3	XX	21R,30R 32R	AP
Power Converter +/-5V	NTDX15AB		2	XX	33F,36F	AP
Bus Terminator PB	NT9X21AB		2	XX	20R,31R	AP
Dual SCSI Interface Proc PB	NT9X88AA		4	XX	22R,23R, 28R,29R	AP
Desig. Label (NT9X88AA)	P0729120		4	XX	22R,23R 28R,29R	AP
Dual Access Buffer Memory CP	NT9X87AA		2	XX	23F,28F	AP
Desig. Label (NT9X87AA)	P0729673		2	XX	23F,28F	AP
2-Port Subrate DS-512 PB	NT9X62AA		2	XX	24R,27R	AP
Desig. Strip(Application Processor Shelf Front)	P0737165		1	XX	20F-36F	AP
Desig. Strip(Application Processor Shelf Rear)	P0737160		1	XX	20R-32R	AP

NOTES:

RULES:

AP 1) When PEC NTZZ35TA is ordered, these items are provided.

APC SD FULL (GLOBAL PWR-C/42)

PEC CODE: NTZZ35ZA  
 CPC CODE: B0242400  
 RATING: Standard  
 REPLACES: NTZZ35WA  
 REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: Provides the Paddleboards, Power Converters necessary to equip an entire storage shelf for Storage Devices and utilizes the Global Power Converter for -48V or -60V applications.

REFERENCE DOCUMENTATION: MS9X80CA 01 06  
 SLZZ35ZA 00 01  
 NTZZ35ZA REL 00

MARKETS: Applicable markets:

- Canada
- US
- CALA
- ASIA/PACIFIC
- EUROPE

ISSUE AUTHOR: NTI: Robert Leydig Dept. 3471 (PPK)  
 MAIN CONTACT: NTI: Robert Leydig Dept. 3471 (PPK)

NTZZ35ZA EMB4-04-SDF-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 02 22	ECM 675 09	EC 018-43745 Introduce NT9X91AC Power Converter into APC and A&M the NT9X91AB Power Converter.



The APC SD FULL (GLOBAL PWR-C/42) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
EQUIPMENT	PEC	ABBR	QTY	POS	POS	RULE
Global +5/+12V Power Conv	NT9X91AC		4	XX	1F,4F, 33F,36F	AP
Filler Faceplate	NT9X19AA		2	XX	7F,32F	AP
Filler Paddleboard	NT9X19BA		18	XX	7R, 10R-13R, 16R-19R, 22R-25R, 28R-32R	AP
SCSI Device I/F (Shelf) PB	NT9X89AA		8	XX	8R,9R, 14R,15R, 20R,21R, 26R,27R	AP
Desig. Strip(Storage Device Shelf Front)	P0737162		1	XX	1F-19F	AP
Desig. Strip(Storage Device Shelf Rear)	P0737159		1	XX	7R-19R	AP
Desig. Strip(Storage Device Shelf Front)	P0737163		1	XX	20F-36F	AP
Desig. Strip(Storage Device Shelf Rear)	P0737157		1	XX	20R-32R	AP
Desig. Strip(Global Power Converter)	P0749955		4	XX	1F,4F, 33F,36F	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES :

RULES :

AP 1) When PEC NTZZ35ZA is ordered, these items are provided.

## APC SD LEFT (GLOBAL PWR-C/42)

PEC CODE: NTZZ35XA

CPC CODE: B0224652

RATING: Standard

REPLACES: NTZZ35UA

REPLACED BY: Not Applicable

## ABBREVIATION NAME:

ENGINEERING DESCRIPTION: Provides the Paddleboards, Power Converters necessary to equip the left side of a storage shelf for Storage Devices and utilizes the Global Power Converter for -48V or -60V applications.

REFERENCE DOCUMENTATION: MS9X80CA 01 06  
SLZZ35XA 00 01  
NTZZ35XA REL 00

MARKETS: Applicable markets:

Canada  
US  
CALA  
ASIA/PACIFIC  
EUROPE

ISSUE AUTHOR: NTI: Robert Leydig Dept. 3471 (PPK)

MAIN CONTACT: NTI: Robert Leydig Dept. 3471 (PPK)

NTZZ35XA EMB4-04-SDL-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 02 22	ECM 675 09	EC 018-43745 Introduce NT9X91AC Power Converter into APC and A&M the NT9X91AB Power Converter.

The APC SD LEFT (GLOBAL PWR-C/42) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Global +5/+12 Power Conv	NT9X91AC		2	XX	1F,4F	AP
Filler Faceplate	NT9X19AA		1	XX	7F	AP
Filler Paddleboard	NT9X19BA		9	XX	7R, 10R-13R, 16R-19R	AP
SCSI Dev I/F (half Shelf) PB	NT9X89BA		4	XX	8R,9R, 14R,15R	AP
Desig. Strip(Storage Device Shelf Front)	P0737162		1	XX	1F-19F	AP
Desig. Strip(Storage Device Shelf Rear)	P0737159		1	XX	7R-19R	AP
Desig. Strip(Global Power Converter)	P0749955		1	XX	1F,4F	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ35XA is ordered, these items are provided.

## APC SD RIGHT(GLOBAL PWR-C/42)

PEC CODE: NTZZ35YA

CPC CODE: B0242399

RATING: Standard

REPLACES: NTZZ35VA

REPLACED BY: Not Applicable

## ABBREVIATION NAME:

ENGINEERING DESCRIPTION: Provides the Paddleboards, Power Converters necessary to equip the right side of a storage shelf for Storage Devices and utilizes the Global Power Converter for -48V or -60V applications.

REFERENCE DOCUMENTATION: MS9X80CA 01 06  
SLZZ35YA 00 00  
NTZZ35YA REL 00

MARKETS: Applicable markets:

Canada  
US  
CALA  
ASIA/PACIFIC  
EUROPE

ISSUE AUTHOR: NTI: Robert Leydig Dept. 3471 (PPK)

MAIN CONTACT: NTI: Robert Leydig Dept. 3471 (PPK)

NTZZ35YA EMB4-04-SDR-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 02 22	ECM 675 09	EC 018-43745 Introduce NT9X91AC Power Converter into APC and A&M the NT9X91AB Power Converter.

The APC SD RIGHT(GLOBAL PWR-C/42) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
SCSI Dev I/F (Half-Shelf) PB	NT9X89BA		4	XX	20R,21R, 26R,27R	AP
Filler Paddleboard	NT9X19BA		9	XX	22R-25R, 28R-32R	AP
Filler Faceplate	NT9X19AA		1	XX	32F	AP
Global +5/+12 Power Conv	NT9X91AC		2	XX	33F,36F	AP
Desig. Strip(Storage Device Shelf Front)	P0737163		1	XX	20F-36F	AP
Desig. Strip(Storage Device Shelf Rear)	P0737157		1	XX	20R-32R	AP
Desig. Strip(Global Power Converter)	P0749955		1	XX	20R-32R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ35YA is ordered, these items are provided.



SUPERNODE BULKHEAD PANEL ASSY

NTZZ13MA

RATING: Limited

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: The SuperNode Bulkhead Panel Assy contains the CPDC bulkhead panels and cable assemblies required when a SuperNode cabinet is in the same lineup as the CPDC.

ISSUE AUTHOR NTC: Samuel Zhou Dept. S646 (BRW)

MAIN CONTACT NTC: Samuel Zhou Dept. S646 (BRW)

CONTACT NTC: Sandy Kwan Dept. S646 (BRW)

REFERENCE DOCUMENTATION: SLZZ13MA 00 02  
NTZZ13MA REL 02

MARKETS: Applicable markets:

US  
Canada

NTZZ13MA EMB4-05-BUL CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 93 04 07	----- ECM 631 09	Previous history not available Correct shelf positions.

The SuperNode Bulkhead Panel Assy is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Connector Plate Assy Feed	NTRX01AM		1	33		AP
Connector Plate Assy Return	NTRX01AK		1	47		AP
EMI Skin Panel	NTRX73AC		1			AP
Mid Line-Up EMI Panel	NTRX73AF		1			AP

NOTES:

RULES:

AP 1) When PEC NTZZ13MA is ordered, these items are provided.

## SUPERNODE CABINET (C42)

PEC CODE: NTZZ01RG

CPC CODE: B0246024

RATING: STD

REPLACES: NTZZ01RF

REPLACED BY: Not Applicable

ABBREVIATION NAME: DPCC

ENGINEERING DESCRIPTION: The SuperNode Cabinet and Common CP contain the shelf assemblies, bulkheads, circuit packs and miscellaneous items that are always required for a SuperNode.

REFERENCE DOCUMENTATION: SLZZ01RG 00 01  
NTZZ01RG REL 01  
MS9X01JB 01 21

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA  
Carrier

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ01RG EMB4-05-001 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 22	ECM 626 30	Initial creation of section. - Power converters are no longer AP. - MS RTIFs are no longer AP. NTZZ01TM created for CPU & RTIF. - CU & FSP are no longer AP. - NT9X54ACs are no longer AP. - Labels are no longer AP. - New CM and MS Common CP.
96 05 24	ECM 626 31	RR62395 - Clarify RUL17 (P0736273) Add Optical Fiber Label for Germany. Modified Series 70 min. memory req. Correct power converter provisioning. Update FASTMEM value for NA005.
96 09 30	ECM 626 33	Modified NT9X17CA rule to require that NT9X17CAs, when provisioned, (4) must be ordered, not just (2). This is a temporary requirement until Design releases a fix for the problem of empty slots between NT9X17CAs causing outages. This requires that both NTZZ01NN and NTZZ01QN be ordered. Changes for ECM 626 33 have been removed. History left for reference.
96 11 22	ECM 626 34	MD the following circuit packs per ECD 018-46903: NT9X13DA, NT9X13DB, NT9X13DC, NT9X17AA, NT9X20BB, NT9X54AA, NT9X54AB, NT9X49CA, NT9X30AA, NT9X31AA MD the following circuit packs per ECD 018-45348: NT9X14BB, NT9X26AA, NT9X26CA MD the following circuit pack per ECD 018-43648: NT9X26DA MD the following circuit pack per ECD 006-17002: NT9X12AB Also clear SR RR6A684 on NT9X13DC.
97 04 10	ECM 626 36	Changed the FSP Terminal Block Cover from provisionable to required per EC 018-48705. MD the NT9X53AB (MS System Clock CP) per EC 018-48230. Show changes to FASTMEM in SLM prov-

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 06 02	ECM 626 37	isioning per System Engineering updates. Also clear SR RR73478. Add the SR70EM processor and RTIF card to NTZZ01RG as a new Functional Block per EC 018-50162. Several minor changes for readability and format. Added the SuperNode Data Manager interface to ECM and EMS per EC 018-50981. MD the System Load Module II unit per ED 018-50148. Add SDM-FT Application to provisioning of the NTZZ01ZA Link Interface FB.
97 09 29	ECM 626 39	MD the +12V Power Converter per EC 018-51494.

The SuperNode Cabinet and Common CP is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Dual Plane Com Core Cab	NT9X01JB		1			AP
C42 Cabinet Mechanical Assy	NT9X95BA		1			AP-01
Msg Sw Shelf Assembly	NT9X0440	MS	2	26,39		AP-01
MS Common CP	NT9X04AL		2	26,39		AP
MS T-Bus Terminator CP	NT9X52AA		2	26,39	7F	AP-02
* MS Ext System Clock I/F CP	NT9X53AB		2	26,39	8F	RUL21
Combined Clock CP	NT9X53AC		2	26,39	8F	RUL21
DMS-Bus System Clock CP	NT9X53AD		2	26,39	8F	RUL21
* CPU 16 MHZ CP(4 MB)	NT9X13DC		2	26,39	9F	RUL19
16M MS Processor & RTIF	NTZZ01TM		1	26		RUL19
CPU 16 MHZ CP(16 MB)	NT9X13DD		2	26,39	9F	RUL19
Filler Circuit Pack	NT9X19AA		2	26,39	10F	RUL20
MS Loading PaddleBoard	NT9X32AA		2	26,39	10R	AP-02
* 6 MB Memory CP	NT9X14BB		2	26,39	10F	RUL20
24 MB Memory CP	NT9X14DB		2	26,39	10F	RUL20
Mapper CP	NT9X15AA		2	26,39	11F	AP-02
4 Port Network & IOC I/F	NTZZ01CB			26	28F,26F 24F,22F 20F,18F 16F,14F 12F	RUL4
4 Port LIM/LPP Interface	NTZZ01DB			26	26F,24F 22F,20F 18F,16F 14F,12F	RUL4
Streamline 4 Port Network & IOC I/F	NTZZ01UB			26	28F,26F 24F,22F 20F,18F 16F,14F 12F	RUL5
Streamline 4 Port LIM/LPP Interface	NTZZ01VB			26	26F,24F 22F,20F 18F,16F 14F,12F	RUL5
Initial ENET I/F	NTZZ01NB			26	27F-12F	RUL6
Intermediate ENET I/F	NTZZ01PA			26	26F-13F	RUL6
Final ENET I/F	NTZZ01QA			26	27F-13F	RUL6
# Initial ENET I/F - 128 Port	NTZZ01NM			26	27F-12F	RUL6
Initial ENET I/F - 128 Port	NTZZ01NN			26	27F-12F	RUL6
Final ENET I/F - 128 Port	NTZZ01QM			26	27F-13F	RUL6
Link I/F FLIS/APC/SDM-FT	NTZZ01ZA			26,39	12F-27F	RUL12
I/F Filler Face Plate	NTZZ01EA			26	12F-29F	RUL7
MS 4-Port CP	NT9X17AD		4	26,39	30F-31F	AP

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MS P-Bus Terminator CP	NT9X49CB		2	26,39	32F	AP
MS Loading PaddleBoard	NT9X32AA		2	26,39	7R	AP-02
Subsystem Clock PB (Ext I/F)	NT9X54AC		2	26,39	8R	RUL22
Subsystem Clock PB (Japan)	NT9X54AD		2	26,39	8R	RUL22
PB Filler Face Plate	NT9X19BA		4	26,39	11R,32R	AP-02
DS-512 PB	NT9X20AA		4	26,39	30R-31R	AP-02
MS Blkhd I/F (Left)	NT9X6556		2	26,39		RUL18
DS30 Blkhd I/F (Right) (DMS)	NT9X6536		2	26,39		RUL18
DS30 Blkhd I/F (Right) (DMS) (Streamline)	NT9X6545		2	26,39		RUL18
DS30 Blkhd I/F (Left) (DMS) (Streamline)	NT9X6546		2	26,39		RUL18
Bulkhead coverplate assy.	NTEX5070			26,39		RUL18
Screw Retainer	A0279319			26,39		RUL18
Inter-MS DS-30 Cable Assy	NTEX5022			26,39		RUL14
Inter-MS DS-30 Cable Assy	NTEX5023			26,39		RUL15
Fiber Optic Cable	A0352268			26,39		RUL16
Optical Fiber Label (Eng.)	P0736273		3	13,26, 39		RUL17
Optical Fiber Label (German)	P0737638		3	13,26, 39		RUL17
<hr/>						
Comp Mod Duplex Sh Assy	NT9X0605	CM	1	13		AP-01
Comp Mod Duplex Comm CP	NT9X06AF		1	13		AP
* 6MB Memory	NTZZ01KA			13	16F-7F	RUL2
24MB Memory	NTZZ01LA			13	16F-7F	RUL2
96MB Memory	NT9X14EA			13	16F-12F 27F-23F 27F-23F	RUL2
Filler Face Plate	NT9X19AA			13	16F-7F, 32F-23F	RUL3
CPU Port CP	NT9X12AD		4	13	17F-18F 21F-22F	AP
* Supernode Series 10 CPU CP	NTZZ01FA			13	19F	RUL8
Supernode Series 20 CPU CP	NTZZ01GA			13	19F	RUL8
Supernode Series 30 CPU CP	NTZZ01HA			13	19F	RUL8
Supernode Series 40 CPU CP	NTZZ01JA			13	19F	RUL8
# Supernode BRISC 50/60 CPU	NTZZ01SB			13	19F	RUL8
BRISC 50/50MX/60 CPU	NTZZ01SC			13	19F	RUL8
Supernode BRISC 70 CPU	NTZZ01SM			13	19F	RUL8
# SN/SNSE BRISC 70EM CPU	NTZZ01SP			13	19F	RUL8
CPU (Static RAM) CP	NT9X13BC			13	19F,20F	RUL8
33MHZ HPM-Based CPU Card	NT9X13GA			13	19F,20F	RUL8
40MHZ 68030 CPU Board	NT9X13HB			13	19F,20F	RUL8
CM Bus Terminator	NT9X21AA		2	13	7R,32R	AP-03
Filler Face Plate	NT9X19BA			13	8R,31R	RUL1



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
PB Filler Face Plate	NT9X19BA		14	13	9R-15R, AP 24R-30R	
Subsystem Clock	NT9X22CA		2	13	16R, 23R	AP-03
DS512 PB	NT9X20AA		4	13	17R-18R 21R-22R	AP-03
Cable Bulkhead (right)	NT9X6539		1	13		AP
Cable Bulkhead (left)	NT9X6540		1	13		AP
RS232C & Curr Loop Ca Assy	NT9X0196		2	13		AP
CM SLM Ext Shelf Assy	NT9X0702	SLM	1	00		AP-01
SLM Common Module	NTZZ01BC			00		RUL1
Filler Packfill	NT9X01FB			00		RUL1
* System Load Module II	NT9X44AB			00	8F, 24F	RUL1
System Load Module III	NT9X44AD			00	8F, 24F	RUL1
Filler Face Plate	NT9X19AA			00	13F-15F 29F-31F	RUL1
FSP & Cooling Unit (-48V)	NTZZ10CU					RUL11
FSP & Cooling Unit (-60V)	NTZZ10CW					RUL11
Global +5V Power Converter	NTZZ34PA			00, 13 26, 39		RUL11
Global -5V Power Converter	NTZZ34PC			13, 26, 39		RUL11
* +12V Power Converter (-48V)	NT9X47AA			00	1F, 33F	RUL11
+12V Power Converter (-60V)	NT9X47AB			00	1F, 33F	RUL11
End of Aisle Lamp Cable	NT9X0146					RUL9
End of Aisle Lamp Cable	NT9X0172					RUL9
Standalone Power Cab. kit	NT9X9532					RUL10
Horizontal Power Cab. kit	NT9X9531					RUL10
Terminal Block Desig. Strip	P0737633		1			RUL10
APC Cab. Power Filter Labels	P0736059		1			RUL10
ESP Ground Terminator Assy.	NT9X0324		1			RUL23
FSP Terminal Block (TB1) Cover Assembly	A0368392		1	52		RUL24
Des Label (NT9X12AD)	P0725905					RUL25
Des Label (NT9X13DC)	P0696240					RUL25
Des Label (NT9X13DD)	P0743628					RUL25
Des Label (NT9X14BB)	P0689619					RUL25
Des Label (NT9X14DB)	P0700802					RUL25
Des Label (NT9X17AD)	P0735096					RUL25
Des Label (NT9X26AB)	P0705003					RUL25
Des Label (NT9X27AA)	P0678448					RUL25
Des Label (NT9X44AD)	P0809344					RUL25
Des Label (NT9X49CB)	P0697532					RUL25
Des Label (NT9X53AB)	P0705004					RUL25
Des Label (NT9X53AC)	P0726965					RUL25

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Des Label (NT9X53AD)	P0803728					RUL25
Des Label (NT9X54AC)	P0705005					RUL25
Des Label (NT9X14EA)	P0736863					RUL25
SLM II Led Label (German)	P0737637					RUL26
C42 Cabinet Mechanical Assy	NT9X95BA					NOTE1

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ01FA	MD	NTZZ01GA
NTZZ01NM	MD	NTZZ01NN
NTZZ01SB	RCP	NTZZ01SC
NTZZ01KA	MD	NT9X14EA
NTZZ01SP	DEV	
NT9X53AB	MD	NT9X53AD
NT9X44AB	MD	NT9X44AD
NT9X47AA	MD	NT9X47AB

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) Refer to NT9X95BA (EMA4-07-001) for additional mechanical hardware requirements for C42 Cabinet.

RULES:

- AP 1) When PEC NTZZ01RG is ordered, these items are provided.
- AP-01 1) These PECs are always provided on the NT9X01JB cabinet, and are indicated here for completeness.
- 2) Refer to NT9X95BA (EMA4-07-001) section for additional mechanical hardware requirements for C42 (S/DMS) Cabinet.
- AP-02 1) These PECs are always provided in the (2) NT9X04AL MS Common CPs that are always provided in the NTZZ01RG, and are indicated here for completeness.
- AP-03 1) These PECs are always provided on the NT9X06AF CM Common CP, and are indicated here for completeness.
- RUL1 1) When the System Load Module (SLM) is a requirement, provide one (1) NTZZ01BC SLM Common fill and either two (2) NT9X44AB SLM II or two (2) NT9X44AD SLM III units. The SLM II is a load gating requirement for NA001 and higher. SLM II is now at MD status and replaced by SLM III.
- SLM II requires software package NTXE54AA. The Device Independent Recording Package (DIRP) on SLM is optional, and it is activated internally by the presence of package module DIRPSLM in NTXJ44AA - SLM File System.
- 2) When the SLM is not a requirement, provide one (1) Filler Packfill NT9X01FB at shelf position 00, and two (2) Filler Face Plates, NT9X19BA, in shelf position 13 for card slots 8R,31R to satisfy the forced air cooling requirements of the frame.
- 3) Provide SLM III when either a disk drive capacity of 1 GByte or a maximum tape drive capacity of 500 MBytes are required in offices with a software load of NA004 or greater.
- 4) An upgrade from SLM II to SLM III is required when load image size exceeds 240 MBytes. The load image is not the same as CM load size. The formula for calculating load image is:  $PS + .6*DS + .72*MS + FASTMEM$ , where PS = Program Store, DS = Data Store, MS = Message Switch load size, and FASTMEM = 27.82M (28.00M in NA005 and higher) when the processor type is a Series 50 or 60. Fastmem is automatically calculated for NA005 and above software loads The MS load size is 7M, 10M, or 16M depending on office configuration. 16M is the only MS load supported in NA004 and higher. The raw PS and DS values in KBytes can be obtained from MEMCALC and converted to MBytes by dividing by 1024.

- 5) Provide six (6) NT9X19AA filler face plates when SLM III is provided.
- RUL2 1) Provision one (1) 24Mb Memory Circuit Pack, NTZZ01LA, for each 24Mb increment of memory required. A reminder that in addition to the operational memory provisioned, one extra memory CP must be provided per plane to be assigned as a reliability spare. The NTZZ01KA 6 MByte CP will be provisioned for STP offices only.
- 2) All offices must equip the Memory CP to the following algorithm: Starting with 24 MByte CP for mixed offices, Slot 16F,15F,14F,13F,12F,11F,10F,09F,08F,07F
- 3) All BRISC Series 50 option offices with the NT9X26DB RTIF must use NT9X14DB only (BCS-33 and above).
- 4) BRISC Series 50 Mixed Memory offices, which must use the NT9X26DC RTIF, may use both the NT9X14DB and the NT9X14EA cards. If two (2) NT9X14EA cards per side are required, mount the cards in slots 15 and 16 for plane 0 and slots 23 and 24 for plane 1. If three (3) NT9X14EA cards per side are required, mount the cards on shelf 13, slots 14, 15, and 16 for plane 0 and slots 23, 24, and 25 for plane 1. NA004 and above is required for Series 50 Mixed Memory.

There must be a minimum of two (2) NT9X14EA per side for sparing purposes.

With two (2) NT9X14EA per side, the minimum number of NT9X14DB per side is four (4) and the maximum is eight (8).

With three (3) NT9X14EA per side, the minimum number of NT9X14DB per side is two (2) and the maximum is five (5).

Only the following memory configurations for Series 50 Mixed Memory are valid:

		SN50 only					No. NT9X14EA 96 MByte Cards	
		0	2	3	4	5		
No. of NT9X14DB 24 MByte Cards	0	xxx	128	224	320	416	← SN60	
	2	56	xxx	248	←			
	3	80	xxx	272				
	4	104	200	296				
	5	128	224	320				
	6	152	248					
	7	176	272					
	8	200	296					
	9	224						
	10	248						

5  
M  
M

Available Memory in MBytes

Note: xxx in the preceding diagram represents an unsupported configuration.

- 5) All BRISC Series 60/70 option offices must use NT9X14EA memory only. BRISC Series 60 uses the NT9X26DB/DC RTIF and is limited to BCS-36 and above. BRISC Series 70 uses the NT9X26EA RTIF and is limited to NA004 and above.

Number NT9X14EA 96 MByte Cards (with spare)									
	0	1	2	3	4	5	6	7	8
SN60	xxx	xxx	128	224	320	416	512	608	yyy
SN70	224	256	352	448	544	640	736	yyy	yyy

Note: xxx in the preceding diagram represents an unsupported configuration.

Note: yyy in the preceding diagram represents a failure situation.

The maximum addressable memory is 400M when the software load is less than NA005. In NA005, the limit was increased to 608M for Series 60 and 736M for Series 70.

WARNING: A minimum of (2) 96M cards per side are required for Series 70. The real time capacity is impacted when the entire software image resides on the NT9X10BA.

All offices must equip memory CP to the following algorithm: Starting with 1st. slots 16F and 23F, 2nd. 15F and 24F, 3rd. 14F and 25F, 4th. 13F and 26F, 5th. 12F and 27F, 6th. 11F and 28F, 7th. 10F and 29F, 8th. 9F and 30F, 9th. 8F and 31F, 10th 7F and 32F.

- RUL3 1) Provision one (1) NT9X19AA, Filler Face Plate, in each card slot not equipped with a memory circuit pack, per the algorithm in RUL2.
- RUL4 1) Non-cabinetized offices: Provide up to nine (9) NTZZ01CB to interface network modules and IOCs per the following formula:

97 09 29

$$\#NTZZ01CB = (\#NM/4) + (\#IOC/8)$$

Note: Round the formula result up to the next integer.

Each NTZZ01CB provides a total of four circuit packs and paddleboards. Two circuit packs and paddleboards are mounted on MS0 (shelf 26). The additional two circuit packs and paddleboards are mounted on MS1 (shelf 39).

Assign NTZZ01CB in the following order:  
Slots 28,26,24,22,20,18,16,14,12

Each circuit pack contains four ports.

Each NM interface uses two ports per plane. The two NM ports per plane must be on separate, but adjacent circuit packs. Port assignments are recommended to proceed from higher number slots toward lower number slots.

Each IOC uses one port per plane. IOC:00 and IOC:01 have fixed assignments. IOC:00 is assigned to MS CP position 29, port 0. IOC:01 is assigned to MS CP position 28, port 0.

- 2) Non-cabinetized offices: Provide up to eight (8) NTZZ01DB to interface the LIM/LPP per the following formula:

$$\#NTZZ01DB = \#Link\ Interface\ Module\ Cabinets / 2$$

Note: Round the formula result up to the next integer.

Each NTZZ01DB provides a total of four circuit packs and paddleboards. Two circuit packs and paddleboards are mounted on MS0 (shelf 26). The additional two circuit packs and paddleboards are mounted on MS1 (shelf 39).

Assign NTZZ01DB in the following order:  
Slots 26,24,22,20,18,16,14,12.

Each circuit pack contains four ports.

Each LIM/LPP interface uses four ports per plane. The LIM ports are assigned in pairs. The LIM/LPP port pairs must be on separate, but adjacent circuit packs. Port assignments are recommended to proceed from higher number slots toward lower number slots.

- 3) Non-cabinetized offices: The cables (NT9X0145) for offices containing NTZZ01CB or NTZZ01DB are connected from the NT9X23\_\_ PBs to the DS\_30 Bulkheads as follows:

FROM CONNECTOR P2 OF NT9X23__ IN PB POSITION	TO	
	CONN DESIG	BULKHEAD DESIGNATION
12R	A	DS30 BULKHEAD INTERFACE (RIGHT) NT9X6536
13R	B	
14R	C	
15R	D	
16R	E	
17R	F	
18R	G	
19R	H	
20R	I	
21R	G	
22R	H	
23R	I	
24R	D	
25R	E	
26R	F	
27R	A	
28R	B	
29R	C	

- RUL5 1) Cabinetized offices, containing Model A or Model B cabinets: Provide up to five (5) NTZZ01UB to interface Network and IOC per the following formula:

$$\#NTZZ01UB = (\#NM/4) + (\#IOC/8)$$

Note: Round the formula result up to the next integer.

Each NTZZ01UB provides a total of four circuit packs and paddleboards. Two circuit packs and paddleboards are mounted in plane 0 (shelf 26). The additional two circuit packs and paddleboards are mounted in plane 1 (shelf 39).

Each circuit pack contains two ports.

Each NM uses two ports per plane. The two NM ports per plane must be on separate, but adjacent circuit packs. Each IOC uses one port per plane.



IOC:00 and IOC:01 have fixed assignments. IOC:00 is assigned to MS CP position 29, port 0. IOC:01 is assigned to MS CP position 28, port 0. Port assignments are recommended to proceed from higher number slots toward lower number slots.

Assign NTZZ01UB in the following order:  
Slots 28,26,24,22,20

Note: Applications needing additional ports will require ENET.

- 2) Cabinetized offices, containing Model A or Model B cabinets: Provide up to four (4) NTZZ01VB to interface the LIM/LPP per the following formula:

#NTZZ01VB = #Link Interface Module Cabinets / 2

Note: Round the formula result up to the next integer.

Each NTZZ01VB provides a total of four circuit packs and paddleboards. Two circuit packs and paddleboards are mounted in plane 0 (shelf 26). The additional two circuit packs and paddleboards are mounted in plane 1 (shelf 39).

Assign NTZZ01VB in the following order:  
Slots 26,24,22,20

Note: Applications needing additional ports will require ENET.

Each circuit pack pack contains two ports.

Each LIM/LPP interface uses four ports per plane. The LIM/LPP ports are assigned in pairs. The LIM/LPP port pairs must be on separate, but adjacent circuit packs. Port assignments are recommended to proceed from higher number slots toward lower number slots.

- 3) Cabinetized offices, containing Model A or Model B cabinets: The cables (NT9X6544) for offices containing NTZZ01UB and NTZZ01VB are connected from the NT9X23\_\_ PBs to the DS\_30 Bulkheads as follows:

CONNECT	FROM			TO	
CONNECTOR DESIGNATION	CARD SLOT	PORT	CONN	CONN DESIG	BULKHEAD DESIGNATION
(P2) ON NT9X23-- (DS30 4 PORT) CIRCUIT PACK	20R	0	P0	A0	DS30 BULKHEAD INTERFACE (RIGHT) REFERENCE NT9X6545
	20R	1	P1	A1	
	20R	2	P2	A2	
	20R	3	P3	A3	
	21R	0	P0	B0	
	21R	1	P1	B1	
	21R	2	P2	B2	
	21R	3	P3	B3	
	22R	0	P0	C0	
	22R	1	P1	C1	
	22R	2	P2	C2	
	22R	3	P3	C3	
	23R	0	P0	D0	
	23R	1	P1	D1	
	23R	2	P2	D2	
	23R	3	P3	D3	
	24R	0	P0	E0	
	24R	1	P1	E1	
	24R	2	P2	E2	
	24R	3	P3	E3	
	25R	0	P0	E0	DS30 BULKHEAD INTERFACE (LEFT) REFERENCE NT9X6546
	25R	1	P1	E1	
	25R	2	P2	E2	
	25R	3	P3	E3	
	26R	0	P0	D0	
	26R	1	P1	D1	
	26R	2	P2	D2	
	26R	3	P3	D3	
	27R	0	P0	C0	
	27R	1	P1	C1	
27R	2	P2	C2		
27R	3	P3	C3		
28R	0	P0	B0		
28R	1	P1	B1		
28R	2	P2	B2		
28R	3	P3	B3		
29R	0	P0	A0		
29R	1	P1	A1		
29R	2	P2	A2		
29R	3	P3	A3		

- RUL6 1) ENET Offices: For the first 64 Messaging Ports for each ENET shelf pair, provide two (2) NTZZ01NB. Two NTZZ01NB provide one (1) NT9X17DA and one (1) NT9X20BC for each of the four port groups. The port groups are defined as follows:

port group 1 = ENET shelf plane 0 / MS0 interface  
port group 2 = ENET shelf plane 0 / MS1 interface  
port group 3 = ENET shelf plane 1 / MS0 interface  
port group 4 = ENET shelf plane 1 / MS1 interface

MS0 and MS1 together can accommodate up to eight (8) NTZZ01NB.

Each NTZZ01NB provides two circuit packs and paddleboards. One circuit pack is mounted in MS0 (shelf 26). The other circuit pack is mounted in MS1 (shelf 39).

Assign NTZZ01NB in the following order:  
Slots 12,14,15...24,25,27.

It is recommended that port assignments proceed from lower number slots towards higher number slots.

- 2) ENET Offices: For the final 64 Messaging Ports for each ENET shelf pair, provide two (2) NTZZ01QA. Two NTZZ01QA provide one (1) NT9X17DA and one (1) NT9X25BA for each of the four port groups. The port groups are defined as follows:

port group 1 = ENET shelf plane 0 / MS0 interface  
port group 2 = ENET shelf plane 0 / MS1 interface  
port group 3 = ENET shelf plane 1 / MS0 interface  
port group 4 = ENET shelf plane 1 / MS1 interface

MS0 and MS1 together can accommodate up to eight (8) NTZZ01QA.

Each NTZZ01QA provides two circuit packs and paddleboards. One circuit pack is mounted in plane 0 (shelf 26). The other circuit pack is mounted in plane 1 (shelf 39).

Assign NTZZ01QA in the following order:  
13,14,15...25,26,27.

It is recommended that port assignments proceed from lower number slots toward higher number slots.

- 3) ENET Offices: When the port requirements exceed 128 Messaging Ports for each ENET shelf pair, provide two (2) NTZZ01PA for each additional 64 ports. Two NTZZ01PA provide one NT9X17DA and one NT9X25AA for each of the four port groups. The port groups are defined as follows:

port group 1 = ENET shelf plane 0 / MS0 interface  
port group 2 = ENET shelf plane 0 / MS1 interface  
port group 3 = ENET shelf plane 1 / MS0 interface  
port group 4 = ENET shelf plane 1 / MS1 interface

MS0 and MS1 together can accommodate up to eight (8) NTZZ01PA.

Each NTZZ01PA provides two circuit packs and paddleboards. One circuit pack is mounted in MS0 (shelf 26). The other circuit pack is mounted in MS1 (shelf 39).

Assign NTZZ01PA in the following order:  
13,14,15...24,25,26.

It is recommended that port assignments proceed from lower number slots toward higher number slots.

- 4) ENET Offices: For the first 128 Messaging Ports for each ENET shelf pair, two (2) NTZZ01NN instead of two (2) NTZZ01NB. Two NTZZ01NN provide one (1) NT9X17CA and one (1) NT9X20BC for each of the four port groups. The port groups are defined as follows:

port group 1 = ENET shelf plane 0 / MS0 interface  
port group 2 = ENET shelf plane 0 / MS1 interface  
port group 3 = ENET shelf plane 1 / MS0 interface  
port group 4 = ENET shelf plane 1 / MS1 interface

MS0 and MS1 together can accommodate up to eight (8) NTZZ01NN.

Each NTZZ01NN provides two circuit packs and paddleboards. One circuit pack is mounted in plane 0 (shelf 26). The other circuit pack is mounted in plane 1 (shelf 39).

Assign NTZZ01NN in the following order:  
Slots 12,13,14,...24,25,26.

It is recommended that port assignments proceed from lower number slots towards higher number slots.

Note: The NTZZ01NN requires BCS35 or higher.

- 5) ENET Offices: For the final 128 Messaging Ports for each ENET shelf pair, provide two (2) NTZZ01QM instead of two (2) NTZZ01QA. Two (2) NTZZ01QM provide one (1) NT9X17CA and one (1) NT9X25BA for each of the four port groups. The port groups are defined as follows:

port group 1 = ENET shelf plane 0 / MS0 interface  
 port group 2 = ENET shelf plane 0 / MS1 interface  
 port group 3 = ENET shelf plane 1 / MS0 interface  
 port group 4 = ENET shelf plane 1 / MS1 interface

MS0 and MS1 together can accomodate up to eight (8) NTZZ01QM.

Note: The NTZZ01QM requires BCS35 or higher.

Each NTZZ01QM provides two circuit packs and paddleboards. One circuit pack is mounted in plane 0 (shelf 26). The other circuit pack is mounted in plane 1 (shelf 39).

Assign NTZZ01QM in the following order:  
 13,14,15,...25,26,27.

It is recommended that port assignments proceed from lower number slots toward higher number slots.

Note: The NT9X17CA and NT9X17DAs can exist in the same port group. However, it is highly recommended that the 17CA occupy the head (first) position in the port group. There is not a significant time difference between switching the order of the cards and adding a card.

- 6) ENET Offices: Assign the ENET ports to the lowest numbered MS slots in ascending order starting from slot 12 (i.e. slots 12, 13, etc.). However, the SAEs and EAES should anticipate and plan all future growth on each ENET shelf and provision the MS cards accordingly, by leaving a spare slot for future expansion as shown below.

For 64 Ports Requirement

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	Front	Rear	
n	NT9X17DA	NT9X20BB	to Plane 0 of ENET
n+1			reserve for future growth

	Front	Rear	
n+2	NT9X17DA	NT9X20BB	to Plane 1 of ENET
n+3			reserve for future growth

For 128 Ports Requirement

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	Front	Rear	
n	NT9X17DA	NT9X20BB	to Plane 0 of ENET
n+1	NT9X17DA	NT9X25BA	
n+2			reserve for future growth

	Front	Rear	
n+3	NT9X17DA	NT9X20BB	to Plane 1 of ENET
n+4	NT9X17DA	NT9X25BA	
n+5			reserve for future growth

	Front	Rear	
12	NT9X17DA	NT9X20BB	to Plane 0 of ENET, 192 PORTS
13	NT9X17DA	NT9X25AA	
14	NT9X17DA	NT9X25BA	
15	NT9X17DA	NT9X20BB	to Plane 1 of ENET, 192 PORTS
16	NT9X17DA	NT9X25AA	
17	NT9X17DA	NT9X25BA	

	Front	Rear	
12	NT9X17DA	NT9X20BB	to Plane 0 of ENET, 256 PORTS
13	NT9X17DA	NT9X25AA	
14	NT9X17DA	NT9X25AA	
15	NT9X17DA	NT9X25BA	
16	NT9X17DA	NT9X20BB	to Plane 1 of ENET, 256 PORTS
17	NT9X17DA	NT9X25AA	
18	NT9X17DA	NT9X25AA	
19	NT9X17DA	NT9X25BA	

RUL7 1) Provide one (1) NTZZ01EA for card slots 12 through 29 (Front and Rear) not equipped with NTZZ01CA/CB, NTZZ01DA/DB, NTZZ01UA/UB, NTZZ01VA/VB, NTZZ01NA/NB, NTZZ01PA, NTZZ01QA, NTZZ01NM/NN, NTZZ01QM, or NTZZ01ZA.

Each NTZZ01EA contains circuit packs and paddleboards for one (1) card slot on shelves 26 and 39. NTZZ01EA can be assigned in card slots from 12 thru 29.

- RUL8 1) Provide one (1) NTZZ01FA CPU CP (for equipping card slots 19F and 20F) for each SuperNode Series 10 office. This processor has been Manufacture Discontinued. If an existing site is configured with a Series 10 processor, the customer is requested to contact the regional sales representative for details on how to upgrade to a Series 20 processor or higher for BCS-35 and above loads. See Section 4.1.2 ECM body for software packaging.
- 2) Provide one (1) NTZZ01GA CPU CP (for equipping card slots 19F and 20F) for each SuperNode Series 20 or STP office. The NT9X13BA and NT9X13BB CPU CP are to be replaced by the NTZZ01GA CPU CP at BCS 26. Note that the NT9X13BB is MD and replaced by the NT9X13BC.
- 3) Provide one (1) NTZZ01HA CPU CP (for equipping card slots 19F and 20F) for each SuperNode Series 30 office.
- 4) Provide one (1) NTZZ01JA CPU CP (for card slots 19F and 20F) for each SuperNode Series 40 office. (When upgrading



97 09 29

from one CPU to another only order the CPU, not the Building Block which comes with NT9X26ABs)

- 5) BRISC Series 50/50MX/60 offices: Provide one (1) NTZZ01SC BRISC CPU CP (for card slots 19F and 20F).
- 6) BRISC Series 70 offices: Provide one (1) NTZZ01SM BRISC CPU CP (for card slots 19F and 20F).
- 7) When upgrading Series 20, 30, or 40 CPU from one CPU to another, order the CPU only, not the Building Block which comes with additional NT9X26ABs. For Series 50/60 or Series 70, order the Building Block as specified below:

Note the CPU PECs as follows:

- a) SuperNode Series 20 offices: Provide two (2) NT9X13BC CPU (68030 20 MHz) Proc CP in card slots 19F and 20F.
- b) SuperNode Series 30 offices: Provide two (2) NT9X13GA CPU (68030 33 MHz) Proc CP in card slots 19F and 20F.
- c) SuperNode Series 40 offices: Provide two (2) NT9X13HB CPU (68030 40 MHz) Proc CP in card slots 19F and 20F.
- d) SuperNode Series 50/60 offices: Provide one (1) NTZZ01SC which fills card slots 19F, 20F, 19R, and 20R. This Building Block provides the NT9X10AA CPU (88000 33 MHz) and the NT9X26DC paddleboard.
- e) SuperNode Series 70 offices: Provide one (1) NTZZ01SM which fills card slots 19F, 20F, 19R, and 20R. This Building Block provides the NT9X10BA CPU (88100 60 MHz) and the NT9X26EA paddleboard. Product is retired for North American applications.
- f) Provision the NTZZ01SP which contains the SN/SNSE NT9X10CA 60 MHz 88110 BRISC CPU CP and the NT9X26FA RTIF in card slots 19F and 20F. The BRISC Series 70EM option is available from NA007 and above. Contact NPI or NPPI until this product reaches general availability.

- RUL9
- 1) Provide one (1) End of Aisle Lamp cable assembly (NT9X0146) for the last cabinet in the line-up. This cable should be provided during the M5 cabling spec. Refer to the CA drawing when this cable is required for end aisle cabling.
  - 2) Provide one (1) End of Aisle Lamp cable assembly (NT9X0172) if the spares cabinet (NT9X01FA/NTRX49AA) is located be-

tween the NT9X01JB and the end of the line-up. This cable should be provided during the M5 cabling spec. Refer to the CA drawing when this cable is required for end aisle cabling.

- RUL10 1) Provide one (1) NT9X9532 standalone cabling interface kit when powering the NT9X01JB cabinet from the 7 foot PDC frame, OR powering from the new CPDC (NTRX31CA) cabinet, OR powering from the NTRX31AA or from the NTRX31BA CPDC cabinet which is in the different lineup than the NT9X01JB. This kit includes cables, filters, and miscellaneous mounting hardware.

When an NT9X9532 standalone cabling interface kit is required, P0736059 APC cabinet power filter labels are also required. Provide one (1) P0736059 per DPCC Cabinet requiring NT9X9532 interface kit.

- 2) Provide one (1) NT9X9531 horizontal power cabling interface kit when powering the NT9X01JB cabinet from the NTRX31AA, or from the NTRX31BA CPDC cabinet which is in the same lineup as the NT9X01JB. This kit includes power cables, terminal blocks, and miscellaneous mounting hardware.

When an NT9X9531 horizontal power cabling interface kit is required, a P0737633 DPCC terminal block designation strip is also required. Provide one (1) P0737633 DPCC terminal block designation strip per DPCC requiring the NT9X9531 interface kit.

- RUL11 1) Provide one (1) NTZZ10CU Cooling Unit & FSP in -48V power installations or provide one (1) NTZZ10CW Cooling Unit & FSP in -60V power installations.
- 2) Provide one (1) NTZZ34PA Global +5V Power Converter per MS, CM, and SLM provided.
- 3) Provide one (1) NTZZ34PC Global -5V Power Converter per MS and CM provided. The NTZZ34PC is not required on the SLM shelf.
- 4) Provide two (2) NT9X47AA +12V Power Converter for SLM applications in -48V power installations (now MD) or provide two (2) NT9X47AB +12V Power Converter for SLM applications in -48/-60V power installations.

- RUL12 1) Provide one (1) NTZZ01ZA (Link Interface to FLIS/APC/SDM-FT) to interface to a FLIS in an Enhanced Multi-Purpose Cabinet or an Application-File Processor in

an APC Cabinet or to an SuperNode Data Manager-FT application.

- RUL13 1) Reserved.
- RUL14 1) Provide NTEX5022 Cable for Inter-MS link option when interfacing with fiber link interface shelf (FLIS) for connection between MS0 and MS1 when copper connection is required for DS-30 paddleboards when supernode cabinets are provisioned.
- RUL15 1) Provide NTEX5023 Cable for Inter-MS link option when interfacing with fiber link interface shelf (FLIS) for connection between MS0 and MS1 when copper connection is required for DS-30 paddleboards when streamline cabinets are provisioned.
- RUL16 1) Provide A0352268 Cable for Inter-MS link option for connection between MS0 and MS1 when fiber optic connection is required for DS-512 paddleboards. This is not yet verified for FLIS application.
- RUL17 1) Provide one (1) P0736273 Optical Fiber Label (English) per shelf when DS-512 Fiber paddleboards are provisioned. (ie. NT9X20xx/NT9X62xx etc..)
- 2) Provide one (1) P0737638 Optical Fiber Label (German) per shelf when DS-512 Fiber paddleboard are provisioned For Germany. (ie. NT9X20xx/NT9X62xx etc..)
- 3) According to Customer based safety regulations, that indicate that "Laser Warning" labels must be affixed to SuperNode cabinets provisioned with fiber optic cables.
- RUL18 1) Provide one (1) NT9X6556 MS Bulkhead Interface Left and one (1) NT9X6536 DS-30 Bulkhead Interface Right per MS shelf in NT9X01JB Cabinet for non-Cabinetized DMS (standalone) application.
- 2) Provide one (1) NT9X6546 DS-30 Bulkhead Interface Left and one (1) NT9X6545 DS-30 Bulkhead Interface Right per MS shelf in NT9X01JB Cabinet for Cabinetized DMS (streamline) application. Also Provide one (1) NTEX5070 Bulkhead cover plate assembly and one (1) A0279319 screw retainer for each unequipped connector position in the NT9X6545 and NT9X6546 Bulkheads per the following formula:

$$\#NTEX5070 = 80 - 16*(\#NTZZ01UB/VB)$$

- RUL19 1) Provide one (1) NTZZ01TM 16M MS Processor and RTIF on all initial jobs in BCS-35 and higher. This Building Block contains (2) NT9X13DDs and (2) NT9X26ABs and provides 16M of memory on the Message Switch.
- 2) Provide one (1) CPU 16MHZ CP (NT9X13DC) in card slot POS 9F in shelf position 26,39 for applications in BCS-29 and higher BCS. The NT9X13DC should not be ordered on new jobs that are BCS-35 and higher.
- 3) Provide one (1) CPU 16 MHZ CP (NT9X13DD) in card slot POS 9F in shelf position 26,39 to upgrade the MS to 16M of memory. The MS requires a minimum of 16M of memory in NA004 and higher.

- RUL20 1) Depending on the memory requirements on the Message Switch provide the following.

NOTE: The NT9X13DD is not compatible with the NT9X14BB. New SN DPCCs should not be provided with the NT9X14BB MS memory for BCS-31 and above loads.

WARNING: The NT9X14DB is COMPATIBLE with the NT9X13DD or NT9X13DC ONLY for Series 10-40 Processors. The NT9X13DD and NT9X14DB combination is NOT supported for any BRISC processor and must be changed before attempting the upgrade. In NA004 and above only two configurations are supported for BRISC processors (Series 50-70):  
 use either the NT9X13DD 16 Meg processor CP.  
 OR  
 use the NT9X13DC 4Meg Processor combined with a NT9X14DB 24Meg memory CP

- 2) If an NT9X14BB or NT9X14DB is not used on the message switch, then provide two (2) NT9X19AA to fill the empty slot 10F.
- 3) Offices at NA004 and higher require a minimum of 16M of memory because there will be one common MS load.

Memory Required on the Message Switch	Circuit Packs Required Per MS PLANE
10 Meg	(1)NT9X13DC (1)NT9X14BB

16 Meg	(1)NT9X13DD
28 Meg	(1)NT9X13DC (1)NT9X14DB
40 Meg	(1)NT9X13DD (1)NT9X14DB

RUL21 1) Provide one (1) NT9X53AD Combined Clock CP in card slot 8F in shelf position 26,39 for NA001 and higher. For Stratum 2 configurations, provision the NT9X53AC instead of the NT9X53AD.

Note that, the NT9X53AB requires BCS28 or higher. NT9X53AC is incompatible with BCS30 or older BCS's. NT9X53AD is incompatible with BCS36 or older BCSs.

RUL22 1) Provide two (2) NT9X54AC MS External I/F PB for all markets except Japan.

2) Provide two (2) NT9X54AD MS External I/F PB for Japan.

RUL23 1) Provide one (1) NT9X0324 ESP Ground Terminator Assembly in all British Telephone systems.

RUL24) 1) Provide one (1) A0368392 for all applications.

RUL25 Provide designation labels as required when thermal labeling is not supported.

RUL26 Provide two (2) P0737637 SLM II LED Label (German) per NT9X44AB SLM II or NT9X44AD SLM III unit.

DMS SUPERNODE SE  
ENI F-BUS COMMON CP

PEC CODE: NTZZ34GB

CPC CODE:

| RATING: Standard

| REPLACES: NTZZ34GA

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The DMS SuperNode SE ENI F-Bus Common CP provides the components required to support LIUs on the ENET shelf.

| REFERENCE DOCUMENTATION: SLZZ34GB 00 04 REL 04

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA  
Carrier  
Wireless

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34GB EMB4-06-ENI-4 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 04 28	ECM 632 01	First issue of insert
92 09 29	ECM 632 02	Add Streamline information
92 11 02	ECM 632 03	Remove NT9X7210,12 cables from SL.
94 09 26	ECM 632 11	Introduce NT9X74DA, remove NT9X74CA.

The DMS SuperNode SE ENI F-Bus Common CP is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
#F-Bus Repeater CP	NT9X74DA		2	13	07F,32F	AP
F-Bus Ext w Terminations PB	NT9X79BA		2	13	07R,32R	AP
F-Bus B Terminator PB	NTEX20BA		1	13	08R	AP
F-Bus A Terminator PB	NTEX20AA		1	13	30R	AP
Design Label (NT9X79BA)	P0689622		2	13	07R,32R	AP
Design Label (NTEX20BA)	P0704361		1	13	08R	AP
Design Label (NTEX20AA)	P0704360		1	13	30R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT9X74CA	A&M	NT9X74DA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

FLAGS:

NOTES:

RULES:



AP 1) When PEC NTZZ34GB is ordered, these items are provided.

Active Equipment  
DMS SuperNode SE  
ENI F-Bus Common CP

NTZZ34GB  
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DMS SNSE 4K ENET

PEC CODE: NTZZ34FB

CPC CODE: B0246094

RATING: Standard

REPLACES: NTZZ34FA

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The NTZZ34FB provides the minimum components necessary for a functional 4K ENET shelf.

REFERENCE DOCUMENTATION: SLZZ34FA 00 06  
NTZZ34FA REL 06

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

	ISSUE AUTHOR: NTI:	Jerry Palmer	Dept. 3471	(PPK)
	MAIN CONTACT: NTI:	Jerry Palmer	Dept. 3471	(PPK)

NTZZ34FB EMB4-06-ENI-5 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 28	ECM 632 18	New section to support FB initiative.

The DMS SNSE 4K ENET is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Clock and Message CP	NT9X36BA		2	13	11F, 21F	AP
8K Crosspoint CP	NT9X35FA		4	13	12F, 13F, 22F, 23F	AP
Filler Paddleboard	NT9X19BA		2	13	12R, 22R	AP
4-Port DS512 Fiber I/F PB	NT9X40BB		2	13	11R, 21R	AP
3-Port DS512 16-Port DS30 PB	NT9X45BA		2	13	13R, 23R	AP
Cable Assembly	A0352269		8	13		AP
Design Labels (NT9X36BA)	P0704531		2	13	11F, 21F	AP
Design Labels (NT9X35FA)	P0735098		4	13	12F, 13F, 22F, 23F	AP
Design Label (NT9X19BA)	P0709516		2	13	12R, 22R	AP
Design Label (NT9X40BB)	P0734155		2	13	11R, 21R	AP
Design Label (NT9X45BA)	P0731527		2	13	13R, 23R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ34FB is ordered, these items are provided.

DMS SUPERNODE SE  
MS LIS/ENI INTERFACE

PEC CODE: NTZZ34CA

| CPC CODE:

| RATING: STD

| REPLACES: Not Applicable

| REPLACED BY:

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS LIS/ENI Interface provides the components required for the message switch to interface with the LIS or ENI shelf.

REFERENCE DOCUMENTATION: SLZZ34CA 00 03 REL 03

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

| ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)  
MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34CA EMB4-06-IF-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 04 28	ECM 632 01	First issue of insert
92 09 29	ECM 632 02	Change description of NT9X79BA
92 11 02	ECM 632 03	Move NT9X7210,11,12,13 cables to this insert from ZZ34EA,GA.
93 01 15	ECM 632 04	RUL1 for FBUS cables moved to NTZZ34AB
96 08 01	ECM 632 20	Remove script label for PLN usage.

The DMS SuperNode SE MS LIS/ENI Interface is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Rate Adapter CP	NT9X73BA		2	39	08F,31F	AP
F-Bus Ext w Terminations PB	NT9X79BA		2	39	08R,31R	AP
Composite Clock Cable Assy	NT9X0170		2	39		AP
Design Label (NT9X73BA)	P0709458		2	39	08F,31F	AP
Design Label (NT9X79BA)	P0689622		2	39	08R,31R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ34CA is ordered, these items are provided.



DMS SUPERNODE SE  
MS 32XDS30 INTERFACE

NTZZ34DA

RATING: LTD

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The DMS SuperNode SE MS 32xDS30 Interface provides the components required for the message switch to interface with JNET and IOCs.

REFERENCE DOCUMENTATION: SLZZ34DA 00 03 REL 03

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

NTZZ34DA EMB4-06-IF-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 04 28	ECM 632 01	Insert introduced
92 09 29	ECM 632 02	Add Streamline information
93 01 15	ECM 632 04	RUL1 is moved to NTZZ34AB section

The DMS SuperNode SE MS 32xDS30 Interface is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
32-Port MS I/F CP	NT9X17BB		4	39	11F,12F, 27F,28F	AP
16-Link DS30 PB	NT9X69BA		4	39	11R,12R, 27R,28R	AP
Design Label (NT9X17BB)	P0726962		4	39	11F,12F, 27F,28F	AP
Design Label (NT9X69BA)	P0726964		4	39	11R,12R, 27R,28R	AP

FLAGS:

NOTES:

RULES:

AP 1) When PEC NTZZ34DA is ordered, these items are provided.

DMS SUPERNODE SE  
MS 8XDS30 INTERFACE

PEC CODE: NTZZ34JA  
| CPC CODE:  
| RATING: STD  
| REPLACES: Not Applicable  
| REPLACED BY:

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS 8xDS30 Interface provides the components required for the message switch to interface with JNET.

REFERENCE DOCUMENTATION: SLZZ34JA 00 02 REL 02

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)  
MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34JA EMB4-06-IF-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 04 28	ECM 632 01	First issue of insert
92 09 29	ECM 632 02	Add Streamline information
93 03 22	ECM 632 05	RULs are removed and placed in ZZ34AC.
96 08 01	ECM 632 20	Remove script label for PLN usage.

The DMS SuperNode SE MS 8xDS30 Interface is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
4-Port MS I/F CP	NT9X17AD		4	39	11F,12F, 27F,28F	AP
4-Link DS30 PB	NT9X23AA		4	39	11R,12R, 27R,28R	AP
Design Label (NT9X23AA)	P0678443		4	39	11R,12R, 27R,28R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ34JA is ordered, these items are provided.

## DMS SUPERNODE SE LIS COMMON CP

PEC CODE: NTZZ34EC

CPC CODE:

RATING: Standard

REPLACES: NTZZ34EB

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The DMS SuperNode SE LIS Common CP provides the minimum components necessary for a functional link interface shelf.

REFERENCE DOCUMENTATION: SLZZ34EC 00 01  
NTZZ34EC REL 01

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA  
Carrier  
Wireless

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34EC EMB4-06-LIS-4 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 11 08	ECM 632 16	First issue of insert. Deleted power supplies from NTZZ34EB for BB Rat. plan and for ECD 006 19337
96 08 01	ECM 632 20	Remove script label for PLN usage.



The DMS SuperNode SE LIS Common CP is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
F-Bus Repeater CP	NT9X74DA		2	26	07F,32F	AP
F-Bus B Terminator PB	NTEX20BA		1	26	08R	AP
F-Bus A Terminator PB	NTEX20AA		1	26	30R	AP
PCB Shorting Lnk Mini Jumper	A0292488		1	26		AP
Design Label (NTEX20BA)	P0704361		1	26	08R	AP
Design Label (NTEX20AA)	P0704360		1	26	30R	AP
Design Label (NT9X74DA)	P0733871		2	26	07F,32F	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ34EC is ordered, these items are provided.

## GLOBAL +5V POWER CONVERTER

PEC CODE: NTZZ34PA

CPC CODE: B0245906

RATING: STD

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The NTZZ34PA provides +5V Power Converters for the C42 cabinets. This Power Converter can operate on either -48V or 60V input.

REFERENCE DOCUMENTATION: SLZZ34PA 00 01  
NTZZ34PA REL 01

MARKETS: Applicable markets:

Canada  
US  
CALA  
Asia/Pacific  
Europe

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Ganesh Ram Dept. 3471 (PPK)

NTZZ34PA EMB4-06-PWR-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
96 03 08	ECM 635 17	First issue of section. Introduce the +5V Global Power Converters for C42 Cabinet (-48/-60V) applications.
96 06 24	ECM 612 19	Correct NTZZ30PA to NTZZ34PA under 'AP' in the rules section.

The +5V Power Converter (-48V/-60V) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
+5V Power Converter CP	NT9X30AB		2	XX	4F,36F	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

- | AP 1) When PEC NTZZ34PA is ordered, these items are provided.

## GLOBAL REDUNDANT POWER CONVERTER

PEC CODE: NTZZ34PB

CPC CODE: B0245446

| RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The NTZZ34PB provides Dual Power Redundancy (48V/60V) Power Converters for the C42 Cabinets. Converters, Power Interface Units and labels are provided for one half-shelf only.REFERENCE DOCUMENTATION: SLZZ34PB 00 01  
NTZZ34PB REL 01

MARKETS: Applicable markets:

Canada  
US  
CALA  
Asia/Pacific  
Europe

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34PB EMB4-06-PWR-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 01 05	ECM 632 17	First issue of section. Introduce NTZZ34PB (-48V/-60V) Power Converters for LIS/FLIS Shelves.

The Power Converter (48V/60V) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Power Converter CP	NTDX16AA		1	XX	YY	AP
Power Converter CP	NTDX16AA		1	XX	YY+3	AP
Design. Label (NTDX16AA)	P0748922		2	XX	YY	AP
Power Interface Unit	NT9X2825		1	XX	YY	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

YY = shelf location where YY  
can be 1 or 33

The NT9X2825 (Power Interface panel) mounts on the LIS shelf and the NTDX16AA Dual Power Converter mounts on the Power Interface panel. Power converters, Power Interface Units and labels are provided for a half-shelf only.

For LPP the shelf (XX) mounting location can be 00, 13 or 26.

For FLIS the shelf (XX) mounting location can be 13 or 26.

For SNSE LIS the shelf (XX) mounting location is 26.

RULES:



AP 1) When PEC NTZZ30PB is ordered, these items are provided.

## GLOBAL -5V POWER CONVERTER

PEC CODE: NTZZ34PC

CPC CODE: B0245907

RATING: STD

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The NTZZ34PC provides -5V Power Converters for the C42 cabinets. These Power Converters can be used with either -48V or -60V input.

REFERENCE DOCUMENTATION: SLZZ34PC 00 01  
NTZZ34PC REL 01

MARKETS: Applicable markets:

Canada  
US  
CALA  
Asia/Pacific  
Europe

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34PC EMB4-06-PWR-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
95 11 07	ECM 632 17	First issue of section. Introduce the -5V Global Power Converters for C42 Cabinet applications.
96 05 22	ECM 632 19	Correct mis-typed title.

The -5V Power Converter (-48V/-60V) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
-5V Power Converter CP	NT9X31AB		2	XX	1F,33F	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ30PC is ordered, these items are provided.

## GLOBAL +5/-5V POWER CONVERTER

PEC CODE: NTZZ34PE

CPC CODE: B0246101

RATING: STD

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The NTZZ34PE provides +5V/-5V Power Converters for the C42 cabinets. This Power Converter can operate on either -48V or 60V input.

REFERENCE DOCUMENTATION: SLZZ34PE 00 01  
NTZZ34PE REL 01

MARKETS: Applicable markets:

- Canada
- US
- CALA
- Asia/Pacific
- Europe
- Carrier
- Wireless

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34PE EMB4-06-PWR-5 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 28	ECM 632 18	First issue of section. Introduce the +5V/-5V Global Power Converters for C42 Cabinet (-48/-60V) applications.



The Global +5V/-5V Power Converter (-48V/-60V) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
+5V/-5V Power Converter	NTDX15AB		2	XX	4F,33F	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ30PE is ordered, these items are provided.

## GLOBAL +5/+12V POWER CONVERTER

PEC CODE: NTZZ34PF

CPC CODE: B0246189

RATING: STD

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The NTZZ34PF provides +5V/+12V Power Converters for the C42 cabinets. These Power Converters can be used with either -48V or -60V input.

REFERENCE DOCUMENTATION: SLZZ34PF 00 01  
NTZZ34PF REL 01

MARKETS: Applicable markets:

Canada  
US  
CALA  
Asia/Pacific  
Europe  
Carrier  
Wireless

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

NTZZ34PF EMB4-06-PWR-6 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 96 03 28	----- ECM 632 18	Previous history not available First issue of section. Introduce the +5V/+12V Global Power Converters for C42 Cabinet applications.
96 05 22	ECM 632 19	Add CPC number for section.

The Global -5V/+12 Power Converter (-48V/-60V) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
+5V/+12V Power Converter	NT9X91AC		2	XX	1F,36F	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ30PF is ordered, these items are provided.

DMS SUPERNODE SE

PEC CODE: NTZZ34AH  
 CPC CODE: B0246093  
 RATING: Standard  
 REPLACES: NTZZ34AF/NTZZ34AG/NTZZ34MD/NTZZ34ME  
 REPLACED BY: Not Applicable

ABBREVIATION NAME: SCC

ENGINEERING DESCRIPTION: The SNSE houses a Computing Module (CM), a System Load Module (SLM1A/SLMIII), a Message Switch (MS), an Enhanced Network (ENET) and a Link Interface Shelf (LIS).

REFERENCE DOCUMENTATION: SL9X01MB 01 13  
 SLZZ34AH 00 01  
 NTZZ34AH REL 01  
 MS9X01MB 01 24

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

ISSUE AUTHOR: NTI: Jerry Palmer Dept. 3471 (PPK)  
 MAIN CONTACT: NTI: Jerry Palmer Dept. 3471 (PPK)

97 07 11

NTZZ34AH EMB4-06-011 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 28	ECM 632 18	New section to replace NTZZ34AF, NTZZ34AG, NTZZ34MD and NTZZ34ME per BB Rationalization and GMF guidelines. Base cabinet block for SNSE.
96 05 22	ECM 632 19	Add FRIU (Frame Relay NTZZ30LA, NIU (Network Interface) NTZZ30MA and CBI (Channel Bus Interface) NTZZ44DB as provisionable to SNSE LIS shelf per ECD 018-45721. Corrected memory card provisioning for SE 70. All new orders for the NA 100 market will use SLM III. All new orders use NT9X62CA CPs with the NT9X17CA CPs. Added to Rull for cables required if LIU functionality on ENI shelf CSR RR6 4444.
96 08 01	ECM 632 20	Add V.35 ISG Inteface per EC 018-44239 Add NTZZ30CN and retire NTZZ30CM. Change NT9X19CA to NT9X19EA Filler faceplate. (RR6-5706) Minor typo revisions. Delete obsolete LIS shelf label per SR RR6-7290. Updated market rules for SNSE 70 processor.
96 08 28	ECM 632 21	Delete extra label in NTZZ34AH per SR RR6-7290.
96 10 28	ECM 632 21	Reword Rule 8 part 2 for clarity per request from RCH Wireless. Modify Rule 10 on memory sparing for Austria per PLM.
96 12 12	ECM 632 22	Modify Rule 9 to show that a total of two CPUs (NT9X13FA or NT9X13KA) are required. SR RR6C058. SLM 1A units expected MD by end of first quarter 1997. MD NTZZ30AM and NTZZ30BM per EC 018 46903. (NT9X78BA) Add general guidelines for SLM provisioning.
97 02 25	ECM 632 23	Replace the NTZZ30AM and NTZZ30BM blocks with the NTZZ30TB, EC 24-97408. Added the new SR70EM processor and and RTIF card as detail and

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 03 21	ECM 632 24	<p>FB NTZZ01SP. MD the NTZZ10CC ENET Processor card card (NT9X13FA) per EC 018-49539. Changed the FSP Terminal Block Cover provisionable to required per EC 018-48705. Added the FB for 6 new 32 Meg ASUs including the NTZZ30NB, NTZZ30MB, NTZZ30ED, NTZZ30TC, NTZZ30CP and NTZZ44DC per EC 018-47110. Clarify text in Rule 5 of section per SR RR72696. Streamline Bulkheads (NT9X8909) have been removed due to low port utilization. (GPRD action) SLM III provisioning (RUL26) modified per info from System Engineering. Added text to clarify Rule5 on LIS and ENI functionality per RR 72696.</p>
97 04 24	ECM 632 25	<p>MD the System Load Module 1A (SLM 1A) per EC 018-50148. Add missing position information to LIS ASUs per SR RR74445. Add NTZZ01SC as the Series 60 Processor and RTIF CPs to replace the NTZZ01SB.</p>
97 07 11	ECM 632 26	<p>Note that Series 20 processor will be MD status 3rdQ1997. Add provisioning for SDM-Ft interface to the SNSE per EC 018-51045. Add memory provisioning for MSL office per SR RR76871. Add references to SEB on Memory Administration Provisioning to the EM section. Add note to rule 11 that the NT9X53AD can be used with Stratum II Osc.</p>



The DMS SuperNode SE is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DMS SuperNode SE Core Cabnt	NT9X01MB		1			AP
FSP Term Blk Cover Assembly	A0368392		1	52		RUL27
Message Switch Shelf Assy	NT9X0470		1	39		AP-01
Global -5V Power Converter	NTZZ34PC		1	39	01F, 33F	RUL20
Global +5V Power Converter	NTZZ34PA		1	39	04F, 36F	RUL21
T-Bus Terminator CP	NT9X49CC		2	39	07F, 32F	AP
Mapper CP	NT9X15AA		2	39	09F, 30F	AP
4-Port MS I/F CP	NT9X17AD		2	39	10F, 29F	RUL2
					12F, 27F	
32-Port MS I/F CP	NT9X17BB		2	39	10F, 29F	RUL2
4-Port MS I/F CP	NT9X17AD		2	39	16F, 23F	AP
MS Processor	NTZZ34JF		1	39	17F, 22F	RUL24
					17R, 22R	
Combined Clock CP	NTZZ34JD		1	39	18F, 21F	RUL11
Enh. DMS-Bus System Clock	NTZZ44NP		1	39	18F, 21F	RUL11
T-Bus Access CP	NT9X52AA		2	39	19F, 20F	AP
4-Link DS30 PB	NT9X23AA		2	39	10R, 29R	RUL2
16-Link DS30 PB	NT9X69BA		2	39	10R, 29R	RUL2
					12R, 27R	
32-Port MS I/F CP	NT9X17BB		2	39	11F, 28F	RUL2
(for up to 3 LPPs, no JNET)						
16-Link DS30 PB	NT9X69BA		2	39	11R, 28R	RUL2
(for up to 3 LPPs, no JNET)						
DMS SNSE MS LIS/ENI I/F	NTZZ34CA		1	39	8F	RUL1
F-BUS Cab Assy 3-shelf (LE)	NT9X7210		2	39		RUL1
F-BUS Cab Assy 3-shelf (RI)	NT9X7212		2	39		RUL1
F-BUS Cab Assy 2-shelf (LE)	NT9X7211		2	39		RUL1
F-BUS Cab Assy 2-shelf (RI)	NT9X7213		2	39		RUL1
DMS SNSE MS 8xDS30 I/F	NTZZ34JA		1	39	11F	RUL2
DMS SNSE MS 32xDS30 I/F	NTZZ34DA		1	39	11F	RUL2
MS Bulkhead Assembly (left)	NT9X6550		1	39		RUL2
(for non-Cab & Mer. Initial)						
MS Bulkhead Assembly (right)	NT9X6551		1	39		RUL2
(for non-Cab & Mer. Initial)						
DS30 Cable Assembly	NT9X0434			39		RUL2
(For non-Cabinetized appl.)						
DS30 Cable Assembly	NT9X0520			39		RUL2
(with 69BA for non-Cab appl)						
DS30 IML DS30 Cable Ass.	NT9X0475		2	39		RUL2
(Overhead appl.)						
DS30 IML DS30 Cable Ass.	NT9X0433		2	39		RUL2
(Raised Floor appl.)						
DS512 IML AP/FP Fiber Link	A0630023		2	39	13R, 26R	RUL2
MS Bulkhead Assembly (left)	NT9X6560		1	39		RUL2

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
(Existing Meridian appl.) MS Bulkhead Assembly (right)	NT9X6561		1	39		RUL2
(Existing Meridian appl.) IML IOC0 Cable Assembly	NT9X0478		1	39		RUL2
(Existing Meridian appl.) IML IOC1 Cable Assembly	NT9X0479		1	39		RUL2
(Existing Meridian appl.) DS30 Cable Assembly	NT9X0474			39		RUL2
(with 23AA for exi. Mer.) DS30 Cable Assembly	NT9X0182			39		RUL2
(23AA in pairs, exi. Mer.) Cabinetized Bulkhead (left)	NT9X6567		1	39		RUL2
(Streamline Application) Cabinetized Bulkhead (right)	NT9X6568		1	39		RUL2
(Streamline Application) 14 port DS30 cable assembly	NT9X0483			39		RUL2
6 port DS30 cable assembly	NT9X0487			39		RUL2
DS30 IML DS30 Cable Ass. (Cab.appl., Overhead appl.)	NT9X0489		2	39		RUL2
DS30 IML DS30 Cable Ass. (Cab.appl., Raised Flr. appl.)	NT9X0488		2	39		RUL2
IML IOC0 Cable Assembly (Cabinetized Application)	NT9X6544		1	39		RUL2
IML IOC1 Cable Assembly (Cabinetized Application)	NT9X6544		1	39		RUL2
Bulkhead Cover Plate	NTEX5070			39		RUL2
4-Port MS I/F CP	NT9X17AD		2	39	13F, 26F	RUL3
SR-512 Fiber Paddle Board	NT9X62BA		2	39	13R, 26R	RUL3
32-Port MS I/F CP	NT9X17BB		2	39	15F, 24F 14F, 25F	RUL3
DMS Bus 64 Port CP	NT9X17DA			39	15F, 24F 14F, 25F	RUL3
DMS Bus 128 Port CP	NT9X17CA			39	15F, 24F 14F, 25F	RUL3
2-Link SR512 PB	NT9X62CA			39	15R, 24R	RUL3
2-Link SR512 PB	NT9X62CA		2	39	14R, 25R	RUL3
MS Port Exp/Term PB	NT9X25BA		2	39	14R, 25R	RUL3
2-Link SR512 PB	NT9X62CA		2	39	16R, 23R	AP
Clock Interface PB	NT9X54AC		2	39	18R, 21R	AP
MS Clock Cable Assembly	NT9X0436		1	39		AP
MS Clock Cable Assembly	NT9X0437		1	39		AP
Cable Assembly	NT9X0438		4	39		AP
MS0-MS1 Cable Assembly	NTEX5026		1	39		AP
Filler Face Plate	NT9X19AA			39		RUL4
PB Filler Face Plate	NT9X19BA			39		RUL4
Design Label (NT9X17AD)	P0735096			39	10F, 29F	RUL12

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Design Label (NT9X23AA)	P0678443			39	10R, 29R	RUL12
Design Label (NT9X17BB)	P0726962			39	10F, 29F	RUL12
Design Label (NT9X69BA)	P0726964			39	10R, 29R	RUL12
Design Label (NT9X17BB)	P0726962			39	15F, 24F 14F, 25F	RUL12
Design Label (NT9X17DA)	P0707891			39	15F, 24F 14F, 25F	RUL12
Design Label (NT9X17CA)	P0678441			39	15F, 24F 14F, 25F	RUL12
Design Label (NT9X62CA)	P0735105			39	15R, 24R 14R, 25R	RUL12
Design Label (NT9X25BA)	P0697531			39	14R, 25R	RUL12
Shelf Strip, MS (rear, top)	P0739091		1	39		AP-01
Shelf Strip, MS (rear, bot)	P0739090		1	39		AP-01
MS Design. Strip (front)	P0739092		1	39		AP-01
MS Design. Strip (rear)	P0735784		1	39		AP-01

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Link Interface Shelf Assy	NT9X7204		1	26		AP
Bulkhead Assembly	NT9X6534		2	26		AP
DMS SNSE LIS Common CP	NTZZ34EC		1	26		RUL5
STP Filler Pack	NT9X19EA		2	26	01F, 33F	RUL5
Global +5V Power Converter	NTZZ34PA		1	26	04F, 36F	RUL5
Design Label (NT9X30AB)	P0738496		2	26	04F, 36F	RUL5
Redundant Power Converter	NTZZ34PB		2	26	01F, 04F 33F, 36F	RUL5
Filler Packfill	NT9X01FB		1	26		RUL5
Cover Plate	NTEX5025		32	26		RUL5
F-Bus Extender PB	NT9X79AA		2	26	07R, 32R	RUL5
Design Label (NT9X79AA)	P0689621		2	26	07R, 32R	RUL5
F-Bus Ext with Term. PB	NT9X79BA		2	26	07R, 32R	RUL5
Design Label (NT9X79BA)	P0689622		2	26	07R, 32R	RUL5
# CCS7 8 Meg LIU (E-DS0A)	NTZZ30AM			26	08F, 10F, 12F, 14F, 16F, 18F, 20F, 22F, 24F, 26F, 28F, 30F	RUL6
# CCS7 8 Meg LIU (E/HC-DS0A)	NTZZ30BM			26	08F, 10F, 12F, 14F, 16F, 18F, 20F, 22F, 24F, 26F, 28F, 30F	RUL6
CCS7 8 Meg LIU (V.35)-ISG	NTZZ30CN			26	08F, 10F, 12F, 14F, 16F, 18F, 20F, 22F, 24F, 26F, 28F, 30F	RUL6
CCS7 32 Meg LIU (V.35)-ISG	NTZZ30CP			26	08F, 10F, 12F, 14F, 16F, 18F, 20F, 22F, 24F, 26F, 28F, 30F	RUL6
# CCS7 8 Meg LIU (V.35)	NTZZ30CM			26	08F, 10F, 12F, 14F, 16F, 18F, 20F, 22F, 24F, 26F, 28F, 30F	RUL6
NIU	NTZZ30MA			26	18F	RUL6
NIU with 32Meg ASU Proc.	NTZZ30MB			26	18F	RUL6

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
XLIU	NTZZ30NA			26	08F,10F, 12F,14F, 16F,18F, 20F,22F, 24F,26F, 28F,30F	RUL6
XLIU with 32Meg ASU Proc.	NTZZ30NB			26	08F,10F, 12F,14F, 16F,18F, 20F,22F, 24F,26F, 28F,30F	RUL6
CCS7 8 Meg LIU (E/HC-DS0A)	NTZZ30TB			26	08F,10F, 12F,14F, 16F,18F, 20F,22F, 24F,26F, 28F,30F	RUL6
CCS7 32Meg LIU (E/HC-DS0A) (Fault Sect.)	NTZZ30TC			26	08F,10F, 12F,14F, 16F,18F, 20F,22F, 24F,26F, 28F,30F	RUL6
Ethernet I/F Unit	NTZZ30EC			26	08F,10F, 12F,14F, 16F,18F, 20F,22F, 24F,26F, 28F,30F	RUL6
Ethernet I/F Unit	NTZZ30ED			26	08F,10F, 12F,14F, 16F,18F, 20F,22F, 24F,26F, 28F,30F	RUL6
Frame Relay I/F Unit	NTZZ30LA			26	08F,10F, 12F,14F, 16F,18F, 20F,22F, 24F,26F, 28F,30F	RUL6
CCS7 E-LIU (CBI)	NTZZ44DB			26	08F,10F, 12F,14F, 16F,18F, 20F,22F,	RUL6

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
CCS7 E-LIU (CBI) with 32Meg Proc.	NTZZ44DC			26	24F, 26F, 28F, 30F 08F, 10F, 12F, 14F, 16F, 18F, 20F, 22F, 24F, 26F, 28F, 30F	RUL6
Filler Face Plate	NT9X19AA		26	26	07F-32F	RUL6
PB Filler Face Plate	NT9X19BA		26	26	07R-32R	RUL6
Shelf Strip LIS (rear, top)	P0739096		1	26		AP
Shelf Strip LIS (rear, bot)	P0739095		1	26		AP
Design.Strip LIS (rear)	P0709179		1	26		AP
Design.Strip LIS (front, top)	P0739097		1	26		AP
Shelf Strip LIS (front)	P0739094		1	26		AP

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
ENI Shelf Assembly	NT9X0810		1	13		AP
Filler Packfill	NT9X01FB		1	13		RUL7
Bulkhead Assembly (left)	NT9X6520		1	13		RUL7,9
Bulkhead Assembly (right)	NT9X6521		1	13		RUL7,9
Bulkhead Assembly (left)	NT9X6530		1	13		RUL7,9
Bulkhead Assembly (right)	NT9X6531		1	13		RUL7,9
Bulkhead Assembly	NT9X0813		2	13		RUL7,9
Global -5V Power Converter	NTZZ34PC		1	13	01F,33F	RUL20
Global +5V Power Converter	NTZZ34PA		1	13	04F,36F	RUL21
DMS SNSE ENI F-Bus Common CP	NTZZ34GB		1	13	7F	RUL8
DMS SNSE 4K ENET	NTZZ34FB		1	13		RUL9
# ENET 8M CPU	NTZZ10CC		2	13	10F,20F 10R,20R	RUL9
ENET 16M CPU	NTZZ10CD		2	13	10F,20F 10R,20R	RUL9
8K Crosspoint CP	NT9X35FA			13	14F-19F, 24F-29F	RUL9
4-Port DS512 Fiber I/F PB	NT9X40BB			13	14R-19R, 24R-29R	RUL9
16-Port DS30 PB	NT9X41BA			13	14R-19R, 24R-29R	RUL9
3-Port DS512 16-Port DS30 PB	NT9X45BA			13	14R-19R, 24R-29R	RUL9
Cable Assembly	NT9X0520			13		RUL9
Cable Assembly	NT9X0524			13		RUL9
Cable Assembly	NT9X0540			13		RUL9
Cable Assembly	NT9X0542			13		RUL9
Cable Assembly (Meridian)	NT9X0815			13		RUL9
Cable Assembly (Meridian)	NT9X0817			13		RUL9
Cable Assy (Streamline, XPM)	NT9X0546			13		RUL9
Cable Assy (Streamline, SLC)	NT9X0544			13		RUL9
Cable Assy (Streamline, XPM)	NT9X0547			13		RUL9
Cable Assy (Streamline, SLC)	NT9X0545			13		RUL9
Design Label (NT9X35FA)	P0735098			13	14F-19F, 24F-29F	RUL12
Design Label (NT9X40BB)	P0734155			13	14R-19R, 24R-29R	RUL12
Design Label (NT9X41BA)	P0704528			13	14R-19R, 24R-29R	RUL12
Design Label (NT9X45BA)	P0731527			13	14R-19R, 24R-29R	RUL12
Optical Fiber Label (Eng.)	P0736273		1	13		RUL16
Optical Fiber Label (Ger.)	P0737638		1	13		RUL16
Shelf Strip, ENI (front)	P0739099		1	13		AP-03
Shelf Strip, ENI (rear, bot)	P0739100		1	13		AP
Shelf Strip, ENI (rear, top)	P0739101		1	13		AP

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Design Strip, ENI (front)	P0739102		1	13		AP
Design Strip, ENI (rear)	P0735786		1	13		AP



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Cmp Mod Sys Load Mod Sh Assy	NT9X0610		1	00		AP-01
Global +5V/+12V Power Conv	NTZZ34PF		1	00	01F,36F	RUL22
Global +5V/-5V Power Conv	NTZZ34PE		1	00	04F,33F	RUL23
# System Load Module 1A	NTZZ34JB		1	00	07F,28F	RUL25
System Load Module III	NTZZ34JC		1	00	07F,28F	RUL26
Des. Labels (SLM1A)	P0727362		2	00	07F,28F	RUL12
Des. Labels (SLMIII)	P0809344		2	00	07F,28F	RUL12
Des. Labels (SLMIII) (Ger.)	P0737637		2	00	07F,28F	RUL12
CPU Port CP	NT9X12AD		2	00	17F,22F	AP
Des. Labels (NT9X12AD)	P0725905		2	00	17F,22F	AP
Dual Port Msg Controller CP	NT9X86AA		2	00	18F,21F	RUL15
Des. Labels (NT9X86AA)	P0727367		2	00	18F,21F	RUL15
Dual Port Msg Controller CP	NT9X86AB		2	00	18F,21F	RUL15
Des. Labels (NT9X86AB)	P0749665		2	00	18F,21F	RUL15
@ SNSE SE 20 Processor	NTZZ34JE		1	00	19F,20F 19R,20R	RUL10
Des. Labels (NT9X13MB)	P0737298		1	00	19F,20F	RUL12
SuperNode BRISC 60 CPU	NTZZ01SB		1	00	19F,20F 19R,20R	RUL10
SuperNode BRISC 60 CPU	NTZZ01SC		1	00	19F,20F 19R,20R	RUL10
SuperNode BRISC 70 CPU	NTZZ01SM		1	00	19F,20F 19R,20R	RUL10
* SN/SNSE BRISC 70EM CPU	NTZZ01SP		1	00	19F,20F 19R,20R	RUL10
Parallel Port Interface PB	NT9X46AA		4	00	07R,17R 22R,28R	AP
P-Bus Terminator PB	NT9X21AB		2	00	12R,27R	AP
2-Link SR512 PB	NT9X62AA		2	00	18R,21R	AP
Des. Labels (NT9X26AB)	P0705003		2	00	19R,20R	RUL12
CM Extension Cable Assembly	NT9X0167		2	00		AP
E/W 2-25 Pin Cable Assembly	NT9X0160		2	00		AP
RS-232C/Curr Loop Cable Assy	NT9X0196		2	00		AP
Cable Assembly	A0379486		8	00		AP
24 Meg Memory CP	NT9X14DB			00	12F-16F, 23F-27F	RUL10
Design Label (NT9X14DB)	P0700802			00	12F-16F, 23F-27F	RUL12
96 Meg Memory CP	NT9X14EA			00	12F-16F, 23F-27F	RUL10
Design Label (NT9X14EA)	P0736863			00	12F-16F, 23F-27F	RUL12
Filler Face Plate	NT9X19AA			00		RUL4
PB Filler Face Plate	NT9X19BA			00		RUL4
ENET/W-CM Bulkhead Assembly	NT9X6552		2	00		RUL7,9
CM/SLM Bulkhead Assembly	NT9X6553		2	00		RUL7,9

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
CM Design. Strip (rear)	P0735782		1	00		AP-01
CM Design. Strip (rear,bot)	P0739105		1	00		AP-01
Shelf Strip, CM/SLM (rear,t)	P0739106		1	00		AP-01
Design Strip, CM/SLM (front)	P0739107		1	00		AP-01
Terminal Block Desig. Strip	P0736058		1			RUL17
Cabinet Power Filter Label	P0736059		1			RUL18
<hr/>						
Cabinet Mechanical Hardware						RUL13
End Panel Assy Kit (Brown)	NTRX07AE		2			RUL13
End Panel Assy Kit (Grey)	NTRX07AB		2			RUL13
C42 FSP and CU (-48V)	NTZZ10CU		1			RUL13
C42 FSP and CU (-60V)	NTZZ10CW		1			RUL13
Stand-alone Power Cab. kit	NT9X9532		1			RUL14
Horizontal Power Cab. kit	NT9X9531		1			RUL14
EMI Contact Strips	P0714698		2			RUL14
ESP Ground Terminator Assy.	NT9X0324		1			RUL19
C42 Cabinet Mechanical Assy	NT9X95BA					Note2

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ30CM	MD	NTZZ30CN
NTZZ34JB	MD	NTZZ34JC
NTZZ30AM	MD	NTZZ30TB
NTZZ30BM	MD	NTZZ30TB
NTZZ01SP	DEV	
NTZZ30CP	DEV	
NTZZ30ED	DEV	
NTZZ30MB	DEV	
NTZZ30NB	DEV	
NTZZ30TC	DEV	
NTZZ44DC	DEV	
NTZZ10CC	MD	NTZZ10CD
NTZZ01SB	PEND	NTZZ01SC
NTZZ34JE	PEND	NTZZ01SC/SP

DEV - DEVELOPMENT. These products are in the development phase.  
Please contact NPPM prior to ordering.

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A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

## NOTES:

- 1) Reserved
- 2) Refer to NT9X95BA (EMA4-07-001) for additional mechanical hardware requirements for C42 Cabinet.
- 3) Global Power Converters are configured for the Global Market, ie:, they will function with a -48V or -60V input.

## RULES:

- AP 1) When PEC NTZZ34AH is ordered, these items are provided.
- AP-01 1) These items are provided with NT9X01MB and are listed here for reference.
- AP-02 1) These items are provided with NT9X7204 and are listed here for reference.
- AP-03 1) These items are provided with NT9X0810 and are listed here for reference.
- RUL1 1) If ASUs are provisioned on either the LIS or ENI shelf, provide one (1) NTZZ34CA DMS SuperNode SE MS LIS/ENI Interface.
- 2) To connect the F-BUS from the MS to the LIS shelf only, provide two (2) NT9X7211 F-BUS Cables (LE) and two (2) NT9X7213 F-BUS Cables (RI).
- 3) To connect the F-BUS from the MS to the ENI and LIS, provide two (2) NT9X7210 F-BUS Cables (LE) and two (2) NT9X7212 F-BUS Cables (RI). If LIU functionality is provided (Reference RUL8) on the ENI shelf, then these cables are required.
- 4) If there are no ASUs in the LIS or ENI shelf, there is no need to extend the F-Bus from the MS down to the LIS or ENI

shelves, in which case, do not order NTZZ34CA Building Block.

- RUL2
- 1) SuperNode SE supports up to six IOCs when configured for the LEC/IEC markets, and up to eight IOCs in the MTX markets. IOC 0, IOC 1, and 2 mandatory Inter-Message-Links (IML), must always be on slot 10 for plane 0 & slot 29 for plane 1.
  - 2) To provision Message Switch for up to two (2) IOCs, equip slots 10F and 29F with NT9X17AD (4 Port MS Interface card) port cards and 10R and 29R with NT9X23AA (4 Link DS-30 Paddle Boards).
  - 3) To provision Message Switch with more than two (2) IOCs and up to eight (8) IOCs, equip slots 10F and 29F with NT9X17BB (32 Port MS Interface card) port cards and 10R and 29R with NT9X69BA (16 Link DS-30 Paddle Boards).
  - 4) To provision Message Switch with up to three (3) LPPs, without JNET, equip slots 10F,11F and 29F,28F with NT9X17BB (32 Port MS Interface card) port cards and 10R,11R and 29R,28R with NT9X69BA (16 Link DS-30 Paddle Boards).
  - 5) The maximum number of JNET network modules that may be provisioned is seven (7) for LEC/IEC markets, except for MSL applications where the limit is ten (10). To support up to four (4) JNET network modules, without LPP, provision one (1) NTZZ34JA DMS SuperNode SE MS 8xDS30 Interface. To support up to ten (10) JNET network modules, and or up to three (3) LPPs, provision one (1) NTZZ34DA DMS SuperNode SE MS 32xDS30 Interface.
  - 6) Bulkheads MUST ALWAYS be job engineered on the MS shelf.
  - 7) For Meridian initials which are not SNSE retrofit, and for non-Cabinetized applications, the NT9X6550 and NT9X6551 Bulkheads can be used, when NT9X23AA PBs or NT9X69BA PBs are used in slots 10 thru 12 for Plane 0 and in slots 29 thru 27 for Plane 1.
    - For non-Cabinetized and Meridian Initials, provision,
      - NT9X0434 DS30 Cable Assemblies for each 9X23AA provisioned.
      - NT9X0520 DS30 Cable Assemblies for each 9X69BA provisioned.
    - Also provision one of the three following IML Cable or Fiber links:
      - two (2) NT9X0475 IML DS30 Cable Assemblies (for

overhead)

- two (2) NT9X0433 IML DS30 Cable Assemblies (for raised floor)
- two (2) A0630023 IML DS512 Fiber links for FP Billing Server applications.

Note that NT9X0434 cables are to be used only with NT9X23AA.

- 8) NT9X6560 and NT9X6561 bulkheads can be used when NT9X23AA PBs are used in slots 10 thru 14 for Plane 0 and in slots 29 thru 25 for Plane 1 for existing Meridian offices. Note that NT9X69BA cannot be used with NT9X6560 and 6561 bulkheads.

- For Existing Meridian applications, provision
  - one (1) NT9X0478 IML IOC0 Cable Assembly(right)
  - one (1) NT9X0479 IML IOC1 Cable Assemblies(left)
  - NT9X0474 DS30 Cable Assembly for each 9X23AA provisioned in slots 11 thru 14 for Plane 0 and in slots 28 thru 25 for Plane 1, only for IOCs.
  - NT9X0182 DS30 Cable Assemblies for each pair of 23AAs provisioned in slots 11 thru 14 for Plane 0 and in slots 28 thru 25 for Plane 1.

- 9) NT9X6567 and NT9X6568 bulkheads can be used when NT9X23AA/69BA PBs are used for Cabinetized(streamline) offices. Provision one (1) NTEX5070 cover plate for each unused cable positions in NT9X6567 and NT9X6558 bulkheads.

- For Streamline application provision,
  - one (1) NT9X6544 IML IOC0 Cable Assembly for 23AA in slot 10 for Plane 0.
  - one (1) NT9X6544 IML IOC1 Cable Assembly for 23AA in slot 29 for Plane 1.

(OR)

- one (1) NT9X0483 14 port Cable Assembly for 69BA in slot 10R for Plane 0.
- one (1) NT9X0487 6 port Cable Assembly for 69BA in slot 11R for Plane 0.
- one (1) NT9X0483 14 port Cable Assembly for 69BA in slot 29R for Plane 1.
- one (1) NT9X0487 6 port Cable Assembly for 69BA in slot 28R for Plane 1.

AND

- two (2) NT9X0489 IML DS30 Cable Assemblies (for overhead)
- two (2) NT9X0488 IML DS30 Cable Assemblies (for raised floor)

Note that JNET is NOT supported with SNSE in streamline application.

Connectors C0-C3;D0-D3;and E0-E3 in the NT9X6567/68 BHs are used for LPP 0, 1 and 2 respectively.

RUL3 1) Message Switch Configurations

The range of port cards and paddle boards that are supported by the SuperNode SE allows it to be configured with up to 8 Input/Output Controllers (IOC), 2 mandatory Inter-Message-Links (IML), up to 3 Link Peripheral Processors (LPP), and either a fully equipped 16K channel Enhanced Network (ENET) or up to 7 junctored Network Modules (JNET/NMs). Note that MSL Cabinet packaged systems can support up to 10 NMs. Where ENET 16K is used, the message switch also provides two slots for interfaces to Application/File Processors (AP/FP) and or Single Shelf LPPs (SSLPP or FLIS) external to the SNSE cabinet.

To Provision Message Switch for internal LIS interface, equip slots 8F and 31F with NT9X73BA (Rate Adapter CP) and 8R and 31R with NT9X79BA, F-Bus Extender Paddle Board.

		ENET	JNET	JNET
	MS SLOTS	MS P-side ports < than 256	1 - 4 Network Modules	5 - 7 Net. Mod. OR 10NMs for MSL appl.
2 IMLs 2 IOCs & 0 LPP & 1 FLIS	10 & 29 11 & 28 12 & 27 13 & 26	17AD/23AA  17AD/62BA	17AD/23AA 17AD/23AA 17AD/23AA 17AD/62BA	17AD/23AA 17BB/69BA 17BB/69BA 17AD/62BA
2 IMLs up to 8 IOcs & 0 LPPs	10 & 29 11 & 28 12 & 27 13 & 26*	17BB/69BA	17BB/69BA 17AD/23AA 17AD/23AA	17BB/69BA 17BB/69BA 17BB/69BA
2 IMLs up to 8 IOcs & 3 LPPs	10 & 29 11 & 28 12 & 27 13 & 26*	17BB/69BA 17BB/69BA	17BB/69BA 17BB/69BA 17BB/69BA	17BB/69BA 17BB/69BA 17BB/69BA

Note that the SuperNode SE can support either ENET or JNET configurations. It cannot support mixed ENET and JNET configurations, because JNET cannot interwork with ENET.

\* Slots 13 and 26 are for the FLIS interface and are shown in subrule 3 below.

- 2) Use the following table to provide the circuit packs necessary for the required maximum number of MS and ENET ports. Note that the single MS port card configuration for ENET are recommended at initial office deployment, and two card configurations for subsequent growth.

The ENET interface provisioning is determined by the number of peripheral message channels required per ENET plane and is shown below.

P-side ports/ MS Plane	P-Side Peripheral Msg channels per ENET Pl.	slot 15 & 24		slot 14 & 25	
		Front Front	Rear Rear	Front Front	Rear Rear
32	< or = 15	17BB	62CA	-	-
64	< or = 31	17BB 17DA	62CA 62CA	17BB -	62CA/25BA -
96	< or = 47	17DA	62CA	17BB	62CA/25BA
128	< or = 63	17DA 17CA	62CA 62CA	17DA -	62CA/25BA -
256	< or = 127	17CA	62CA	17CA	62CA/25BA

The circuit pack fill order is:

- 1) 15F/R (MS 0) and 24F/R (MS 1),
- 2) 14F/R (MS 0) and 25F/R (MS 1).

The NT9X17CA is a 128 port card that has attained General Availability (GA) in BCS36.



The NT9X25BA MS Port Expander with Terminations paddleboard has been used for Message Port growth on SNSE extensions. All new jobs must use the NT9X62CA paddleboard.

- 3) SNSE Interfaces - SR512 Ports 3.1) To add FLIS (SSLPP) provide one (1) NT9X17AD and one (1) NT9X62CA in slots 13 and 26 for coexistence with the SNSE ENET shelf. 3.2) To add FLIS (SSLPP) to coexist with the JNET provide one (1) NT9X17AD and one (1) NT9X62BA in slots 14 and 25 or in slots 15 and 24.  
To add APC provide two (2) NT9X17AD and two (2) NT9X62CA.

- 3.3) For SDM-FT applications, provide two SR256 links on one NT9X17AD card per MS. In the rear of this card provide one NT9X62BA/CA rear paddleboard. The length of the cable between the SDM-FT and the NT9X62BA/CA card must be no more than 229.0 meters and the differential length of the pair must be no more than 50 meters.

The SDM-FT requires one slot per Message switch plane and the cards should be provisioned in slots 12 and 27. The SDM-FT port card can only be used for SDM use, no other application (FLIS, APC etc.) can share any ports on the two slots. Only one SDM-FT is to be connected per SuperNode SE.

- RUL4 1) Provision NT9X19AA Filler Face Plates and NT9X19BA Paddleboard Filler Face Plates for all unoccupied slots.

- RUL5 1) Provide one (1) NTZZ34EC DMS SNSE LIS Common CP in shelf position 26 if LIUs are to be provisioned.

If LIUs are equipped on the LIS and ENI shelves or LIU functionality (Rule 8) is provided on the ENI (Shelf 13) provide:  
two (2) NT9X79AA F-Bus Extender Paddleboards and,  
two (2) NT9X79AA Des. Labels (P0689621).  
These items extend the F-Bus on to the ENI shelf.

If LIUs are equipped on the LIS shelf only and there is no LIU functionality (Rule 8) required on the ENI (Shelf 13) provide:  
two (2) NT9X79BA F-Bus Extender with BUS Termination PBs  
two (2) NT9X79BA Des. Labels (P0689622).  
The NT9X79BA terminate the F-Bus on the LIS shelf.

Provision one (1) NTEX5025 Cover Plate for each unused cable position on the NT9X6534 Bulkhead Assemblies. There are

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a total of 32 cable connector positions on the bulkheads, 16 on each side.

- 2) If ASU functionality is not required on the LIS shelf, provide one (1) NT9X01FB Filler Packfill and thirty-two (32) NTEX5025 Cover Plates. Note that the NT9X6534 BH is always provided with NTZZ34AD.

Bulkheads MUST ALWAYS be equipped on the LIS shelf, even if fillers are the only packs shipped with the SuperNode SE cabinet.

The NT9X01FB filler packfill contains:

- four (4) NT9X19EA Power Filler Face Plates,
- two (2) NT9X0314 FSP Shorting Plugs (B0225296),
- twenty-six (26) NT9X19AA Filler Face Plates and
- twenty-six (26) NT9X19BA Paddleboard Filler Face Plates,

- 3) Provide one (1) NTZZ34PA Global +5V Power Converter for each LIS shelf required. One NTZZ34PA provides two power converters, powering a single shelf. Also provide two (2) STP Power Filler CP and two (2) Designation labels (P0738496) for standard applications,

OR

Two (2) Redundant Power Converters (NTZZ34PB) when dual redundancy for the powering of the LIS shelf is required by the Customer. Each NTZZ34PB powers one half shelf only.

- RUL6 1) A total of up to twelve (12) ASUs may be provisioned on the LIS. Provision any combination of:
- NTZZ30CN CCS7 8 Meg LIU (V.35) - ISG
  - NTZZ30CP CCS7 32 Meg LIU (V.35) - ISG
  - NTZZ30EC Ethernet Interface Unit
  - NTZZ30ED 32 Meg Ethernet Interface Unit
  - NTZZ30LA Frame Relay Interface Unit
  - NTZZ30MA Network Interface Unit
  - NTZZ30MB 32 Meg Network Interface Unit
  - NTZZ30NA XLIU - Packet Handler
  - NTZZ30NB XLIU - 32 Meg Packet Handler
  - NTZZ30TB CCS7 8 Meg LIU (E/HC-DS0A/LFS)
  - NTZZ30TC CCS7 32 Meg LIU (E/HC-DS0A/LFS)
  - NTZZ44DB CCS7 E-LIU (CBI) Unit
  - NTZZ44DC CCS7 32 Meg E-LIU (CBI) Unit
- The following ASUs are now at MD status:
- NTZZ30AM CCS7 8 Meg LIU (E-DS0A)
  - NTZZ30BM CCS7 8 Meg LIU (E/HC-DS0A)

NTZZ30CM CCS7 8 Meg LIU (V.35)

- 2) Provide NT9X19AA Front Filler circuit packs and NT9X19BA Rear Filler paddleboards for all unequipped slots in the LIS shelf.
- 3) Provide one NTZZ30TB 8 Meg LIU with enhanced  
(OR)  
Provide one (1) NTZZ30TC for applications requiring 32Meg memory. This is only to be used in STP Offices until further- notice.
- 4) Provide one NTZZ30CN for V.35 (ISG compliant) links required.  
  
(OR)  
Provide one (1) NTZZ30CP for application requiring 32 Meg memory. This is only to be used in STP Offices until further notice.
- 5) Provide one NTZZ30MA for each Network Interface Unit required. One NIU provides network interface capability for one complete LIS shelf (maximum of eight XLIUs).
- 6) Provide one NTZZ30NA for each X.25/X.75 Link Interface Unit required.  
  
(OR)  
Provide one (1) NTZZ30NB for application requiring 32 Meg memory. This is only to be used in CDPD application for the Wireless market until further notice.
- 7) The LIS will support up to eight (8) DMS Packet Handler plus two (2) LIU7s per application. The LIS shelf can support up to a maximum of eight (8) DMS packet handler and two LIU7s.

Each DMS Packet Handler is composed of two circuit packs and one paddleboard. Note that LIS MUST be provisioned with NIUs to use the DMS Packet Handler configuration.

- 8) The LIS will support one pair of Network Interface Unit (NIU) and up to a maximum of ONE per SNSE Cabinet. The NIU can be located only in the center of the LIS shelf, and it is divided into two halves. Unit 0 for Plane 0 and Unit 1 for Plane 1 respectively. The NIU provides a connection from the LIS shelf to the network.

Each Network Interface Unit (NIU) is composed of two circuit packs and one paddleboard.

Provide one pair NTZZ30MA for the NIU function in SNSE.

(OR)

Provide one pair NTZZ30MB for application requiring 32 Meg memory. This is only to be used in a CDPD application for the Wireless market until further notice.

Refer to Figure below for Unit 0 and Unit 1. Also refer to NTZZ30MA or NTZZ30MB BB sections for ALWAYS PROVIDED circuit packs and paddle boards.

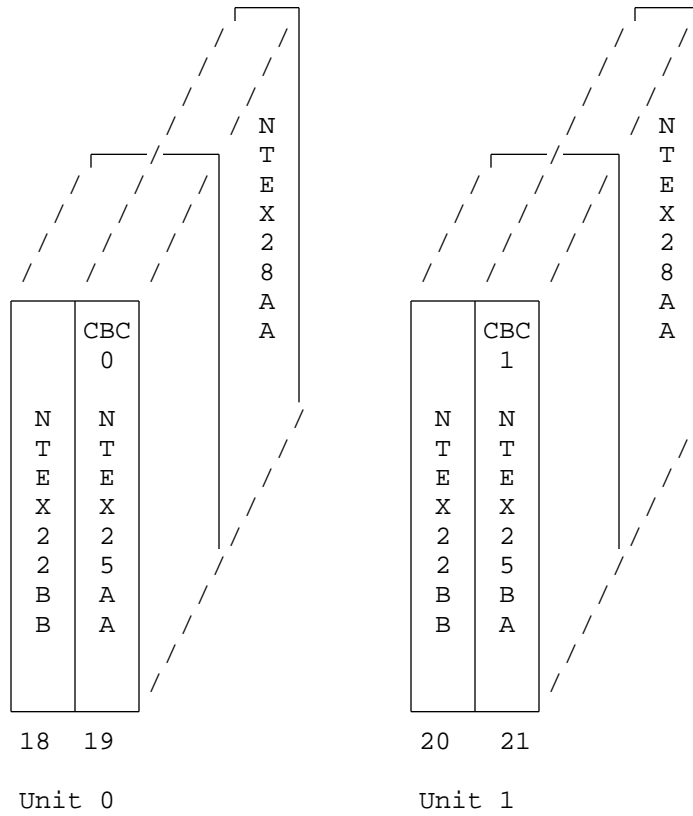


Figure NIU Unit 0 and Unit 1 Configuration.

- 9) Each DMS Packet Handler is composed of two circuit packs and one paddleboard. Note that LIS MUST be provisioned with NIUs to use the DMS Packet Handler configuration.

Refer to Figure below. Also refer to NTZZ30NA BB section for ALWAYS PROVIDED circuit packs and paddle boards.

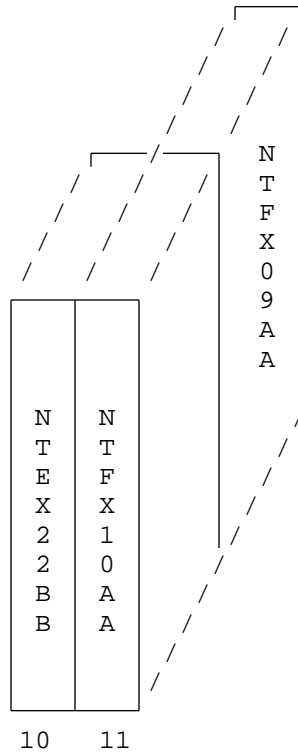


Figure DMS - Packet Handler Configuration

- 10) Provision one (1) P0709181 LIU (two slot) Identification Label per LIU provisioned.

Provision one (1) P0704358 Designation Label per NT9X77AA provisioned.

Provision one (1) P0704359 Designation Label per NT9X78BA provisioned.

- 11) Provide one NTZZ30EC for each Ethernet interface required.  
(OR)

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Provide one (1) NTZZ30ED for application requiring 32 Meg memory. This is only to be used in CDPD application for the Wireless market until further notice.

12) Provide one NTZZ30LA for each Frame Relay interface required.

13) Provide one NTZZ44DB for each Channel Bus interface required.

(OR)

Provide one (1) NTZZ44DC for application requiring 32 Meg memory. This is only to be used in STP offices until further notice. The NTZZ30MA/MB (NIU) must be provided on a LIS shelf for the NTZZ44DB/DC LIU7 CBI to function.

RUL7 1) If ENET or LIU functionality is not required in the ENI shelf, and the cabinet is to be shipped with an empty ENI Shelf Assembly, provide one (1) NT9X01FB Filler Packfill, two (2) ENI bulkheads, and two (2) NT9X6553 CM/SLM bulkheads.

The NT9X01FB filler packfill contains:

- four (4) NT9X19EA Power Filler Face Plates,
- two (2) NT9X0314 FSP Shorting Plugs (B0225296),
- twenty-six (26) NT9X19AA Filler Face Plates and
- twenty-six (26) NT9X19BA Paddleboard Filler Face Plates,

Bulkheads MUST ALWAYS be provided on the ENI shelf, even if fillers are the only packs shipped in the ENI shelf.

Bulkheads MUST ALWAYS be provided on the CM/SLM shelf.

2) The ENI and CM/SLM bulkheads are provisioned as follows:

#### BULKHEAD PROVISIONING

The ENI bulkheads have different connectors for non-Cabinetized, Meridian as well as Streamline applications. The bulkhead NT9X6553 is the common CM/SLM bulkhead for Standard, Meridian and Streamline applications.

The NT9X6520/21 pair always requires the NT9X6553 CM/SLM bulkhead for 1 to 48 DS30 links. The NT9X6520/21 pair always requires the NT9X6552 CM/SLM bulkhead for 49 to 96 DS30 links.

Choose one of the bulkhead options listed below:

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For standard applications without an SLC, with up to 48 DS30 links provision:

one (1) NT9X6520 ENI Bulkhead Assembly (left),  
one (1) NT9X6521 ENI Bulkhead Assembly (right) and  
two (2) NT9X6553 CM/SLM Bulkhead Assemblies.

The NT9X6553 CM/SLM bulkheads have no DS30 connection capability.

For standard applications without an SLC, with more than 48 DS30 links, but less than or equal to 96 DS30 links provision:

one (1) NT9X6520 ENI Bulkhead Assembly (left),  
one (1) NT9X6521 ENI Bulkhead Assembly (right) and  
two (2) NT9X6552 CM/SLM Bulkhead Assemblies

The NT9X6552 CM/SLM bulkheads have extra DS-30 connection capacity.

For standard applications with an SLC, and with more than 48 DS30 links, but less than or equal to 112 DS30 links provision:

one (1) NT9X6530 ENI Bulkhead Assembly (left),  
one (1) NT9X6531 ENI Bulkhead Assembly (right) and  
two (2) NT9X6553 CM/SLM Bulkhead Assemblies.

The CM bulkhead is required when the DS-30 channel capacity exceeds 48 DS-30s per ENET plane, without an SLC. Forty-eight DS-30s is the maximum connection capacity of a single NT9X6520/21 ENI bulkhead.

- 3) For Meridian applications, provision:
  - two (2) NT9X0813 Bulkhead Assemblies and
  - two (2) NT9X6553 CM/SLM Bulkhead Assemblies.

- 4) The NT9X8909 Streamline Bulkhead Assemblies have been removed from provisioning because of cable connector deficiencies in design which limits the ability to fill ports on the Interface cards. Contact PLM if a required product.

RUL8 1) If LIU functionality is required on the ENI shelf, and ENET has been provided, provision one (1) NTZZ34GB DMS SNSE ENI F-Bus Common CP.

- 2) Due to an incompatibility problem, NONE of the following BB may be provisioned on the ENI shelf:
  - NTZZ30AM CCS7 8 Meg LIU (E-DS0A),
  - NTZZ30BM CCS7 8 Meg LIU (E/HC-DS0A),
  - NTZZ30CM CCS7 8 Meg LIU (V.35),
  - NTZZ30TB CCS7 8 Meg LIU (E/HC-DS0A/LFS)
  - NTZZ30EC Ethernet Interface Unit



All of the above functional blocks contain the NTEX22BB which cause a fault when mounted on the ENI shelf.

- 3) Provision any combination of:
- NTZZ30CP CCS7 32 Meg LIU (V.35) - ISG
  - NTZZ30ED 32 Meg Ethernet Interface Unit
  - NTZZ30NB XLIU - 32 Meg Packet Handler
  - NTZZ30TC CCS7 32 Meg LIU (E/HC-DSOA/LFS)
  - NTZZ44DC CCS7 32 Meg E-LIU (CBI) Unit

CAUTION: Check NPI or NPPI for availability for each market.

Note that there are only two slots available on the ENI shelf for ASUs.

Note:

The ENI shelf cannot support LIUs without the provisioning of an ENET. The reason for this restriction is that the ENET processor circuit packs control the power lock-out for the ENI shelf. If there are no ENET processor packs, there is no power supplied to the ENI shelf.

- RUL9 1) The minimum allowable ENET configuration is 4K, with 2K of the initial 4K channels assigned for messaging between the MS and the ENET. The ENET on SuperNode SE is only available in 4K, 8K, 12K and 16K configurations.

- 2) For a 4K ENET, provision one (1) NTZZ34FB DMS SNSE 4K ENET, and provide two (2) NTZZ10CC 8M CPUs for each ENI shelf as required. The NT9X26AB Remote Terminal Interface CP is included in the package. The NTZZ10CC is now at MD status.

OR

Provide two (2) NTZZ10CD 16M CPUs for each ENI shelf as required. The NT9X13KA requires CSP0004 software, and is required at NA006. The NT9X26AB Remote Terminal Interface CP is included in the package.

see item 6) below for cable provisioning requirements.

Provide front fillers (NT9X19AA) and paddleboard fillers (NT9X19BA) for all unprovisioned slots. All slots must be filled to ensure proper air flow for cooling.

- 3) For an 8K ENET, provision one (1) NTZZ34FB DMS SNSE 4K ENET, and provide two (2) NTZZ10CC 8M CPUs for each ENI shelf as required. The NT9X26AB Remote Terminal Interface CP is included in the package. The NTZZ10CC is now at MD status.

OR

Provide two (2) NTZZ10CD 16M CPUs for each ENI shelf as required. The NT9X13KA requires CSP0004 software, and is required at NA006. The NT9X26AB Remote Terminal Interface CP is included in the package.

Provide four (4) NT9X35FA 8K Crosspoint Circuit Packs in slots 14F, 15F for Plane 0, and 24F and 25F for Plane 1.

Also provision any combination of NT9X40BB 4-Port DS512 Fiber Interface Paddleboards, NT9X41BA 16-Port DS30 Paddleboards and NT9X45BA 3-Port DS512 + 16-Port DS30 Paddleboards in slots 14R, 15R, 24R and 25R, provided that slots 14R and 24R have matching paddleboards and slots 15R and 25R also have matching paddleboards.

Also, see 6) below for cable provisioning requirements. Provide front fillers (NT9X19AA) and paddleboard fillers (NT9X19BA) for all unprovisioned slots. All slots must be filled to ensure proper air flow for cooling.

- 4) For a 12K ENET, provision one (1) NTZZ34FB DMS SNSE 4K ENET, and provide two (2) NTZZ10CC 8M CPU for each ENI shelf as required. The NT9X26AB Remote Terminal Interface CP is included in the package. The NTZZ10CC is now at MD status.

OR

Provide two (2) NTZZ10CD 16M CPUs for each ENI shelf as required. The NT9X13KA requires CSP0004 software, and is required at NA006. The NT9X26AB Remote Terminal Interface CP is included in the package.

provide eight (8) NT9X35FA 8K Crosspoint Circuit Packs in slots 14F to 17F for Plane 0 and 24F to 27F for Plane 1.

Also provision any combination of NT9X40BB 4 Port DS512 Fiber Interface Paddleboards, NT9X41BA 16-Port DS30 Paddleboards and NT9X45BA 3-Port DS512 16-Port DS30 Paddleboards in slots 14R to 17R and 24R to 27R, providing that matching paddleboards are used in each of the following pairs of slots:

14R and 24R; 15R and 25R;

16R and 26R; 17R and 27R.

The total number of NT9X41BA and NT9X45BA Paddleboards may not exceed four (4) per ENET plane for Meridian applications.

Also, see 6) below for cable provisioning requirements. Provide front fillers (NT9X19AA) and paddleboard fillers (NT9X19BA) for all unprovisioned slots. All slots must be filled to ensure proper air flow for cooling.

- 5) For a 16K ENET, provision one (1) NTZZ34FA DMS SNSE 4K ENET, and provide two (2) NTZZ10CC 8M CPUs for each ENI shelf as required. The NT9X26AB Remote Terminal Interface CP is included in the package. The NTZZ10CC is now at MD status.

OR

Provide two (2) NTZZ10CD 16M CPUs for each ENI shelf as required. The NT9X13KA requires CSP0004 software, and is required at NA006. The NT9X26AB Remote Terminal Interface CP is included in the package.

provide twelve (12) NT9X35FA 8K Crosspoint Circuit Packs in slots 14F to 19F and 24F to 29F.

Also provision any combination of NT9X40BB 4-Port DS512 Fiber Interface Paddleboards, NT9X41BA 16-Port DS30 Paddleboards and NT9X45BA 3-Port DS512 16-Port DS30 Paddleboards in slots 14R to 19R and 24R to 29R, provided that matching paddleboards are used in each of the following pair of slots:

14R and 24R; 15R and 25R;  
16R and 26R; 17R and 27R;  
18R and 28R; 19R and 29R.

The total number of DS30 ports provided by the NT9X41BA and NT9X45BA Paddleboards may not exceed ninety-six (96) per ENET plane due to the limit of bulkhead cable connectors available to terminate DS30 links.

The total number of NT9X41BA and NT9X45BA Paddleboards may not exceed four (4) per ENET plane for Meridian applications.

The paddleboards in slots 19R and 29R can not be used for DS30 links if NT9X6520 and 6521 bulkheads are provisioned.

Also, see 6) below for cable provisioning requirements.

Provide front fillers (NT9X19AA) and paddleboard fillers (NT9X19BA) for all unprovisioned slots. All slots must be filled to ensure proper air flow for cooling.

- 6) For Standard applications, provision:

one (1) NT9X0520 Cable Assembly per NT9X41BA and  
one (1) NT9X0524 Cable Assembly per NT9X45BA  
(if the NT9X41BA or NT9X45BA is in slot 17R or 18R and requires DS30 connections to the CM bulkhead in position 00, use NT9X0540 instead of NT9X0520 and NT9X0542 instead of NT9X0524).

for Meridian applications, provision:

one (1) NT9X0815 Cable Assembly per NT9X41BA and  
one (1) NT9X0817 Cable Assembly per NT9X45BA.

for up to 64 DS-30s.

For Streamline applications, provision:  
one (1) NT9X0546 Cable Assembly per NT9X41BA and  
one (1) NT9X0547 Cable Assembly per NT9X45BA  
(when an SLC is provided, use NT9X0544 instead of NT9X0546  
and use NT9X0545 instead of NT9X0547).  
Both of the above cabling scenarios for Streamline allow  
the termination of up to 112 DS-30 links.

Note:

The NT9X40BB only has fiber ports and fiber cables do not  
terminate on the bulkhead. The cables from this paddleboard  
go through a hole in the bulkhead and connect directly to  
the fiberized peripheral.

7) BULKHEAD PROVISIONING

The ENI bulkheads have different connectors for Standard,  
Meridian as well as Streamline applications. The bulkhead  
NT9X6553 is the common CM/SLM bulkhead for Standard,  
Meridian and Streamline applications.

The NT9X6520/21 pair always requires the NT9X6553 CM/SLM  
bulkhead for 1 to 48 DS30 links. The NT9X6520/21 pair al-  
ways requires the NT9X6552 CM/SLM bulkhead for 49 to 96  
DS30 links.

The ENI and CM/SLM bulkheads are provisioned as follows:  
Choose one of the bulkhead options listed below:

For standard applications without an SLC, with up to 48  
DS30 links provision:  
one (1) NT9X6520 ENI Bulkhead Assembly (left),  
one (1) NT9X6521 ENI Bulkhead Assembly (right) and  
two (2) NT9X6553 CM/SLM Bulkhead Assemblies.  
The NT9X6553 CM/SLM bulkheads have no DS30 connection capa-  
bility.

For standard applications without an SLC, with more than 48  
DS30 links, but less than or equal to 96 DS30 links pro-  
vision:  
one (1) NT9X6520 ENI Bulkhead Assembly (left),  
one (1) NT9X6521 ENI Bulkhead Assembly (right) and  
two (2) NT9X6552 CM/SLM Bulkhead Assemblies  
The NT9X6552 CM/SLM bulkheads have extra DS-30 connection  
capacity.

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For standard applications with an SLC, and with more than 48 DS30 links, but less than or equal to 112 DS30 links provision:

one (1) NT9X6530 ENI Bulkhead Assembly (left),  
one (1) NT9X6531 ENI Bulkhead Assembly (right) and  
two (2) NT9X6553 CM/SLM Bulkhead Assemblies.

The CM bulkhead is required when the DS-30 channel capacity exceeds 48 DS-30s per ENET plane, without an SLC. Forty-eight DS-30s is the maximum connection capacity of a single NT9X6520/21 ENI bulkhead.

- RUL10
- 1) For offices at BCS35 and higher, provide the NT9X13MB processor circuit board. The NT9X13MB Processor provides ability to function with either NT9X14EA (96 Meg memory) or NT9X14DB (24 Meg memory), but not both. That is NT9X14DB and NT9X14EA WILL NOT be supported in a mixed configuration. The RTIF PB NT9X26AB will have to be provisioned with NT9X13MB processor. Both CPs are included in NTZZ34JE, and can be referred to as the SE 20 processor.
  - 2) The NT9X14EA memory boards have the capability to function in burst mode. Burst mode memory is required to fully utilize the Series 60 BRISC processor. A minimum of two memory cards per side (plane) is required. Order the SE 60 processor (NT9X10AA) if a higher capacity processor is required, BCS 36 or higher is required for base software. The NT9X26DB RTIF will have to be provisioned with this SE 60 BRISC processor. Both CPs are included in NTZZ01SB. Since the status of the NT9X26DB RTIF CP is changing, order instead the NTZZ01SC. See note 3 below.
  - 3) Provision the NTZZ01SC when a Series 60 Processor is required. The NT9X26DC RTIF will have to be provisioned with this SE 60 BRISC processor (NT9X10AA).
  - 4) The SE 70 BRISC processor may be ordered if a higher capacity processor is required. The RTIF required for the SE 70 is the NT9X26EA. Both CPs are included in NTZZ01SM. The SE 70 is available from CSP004 onward. The SE 70 contains 256 MBytes of memory onboard, and one 9X14EA memory card per side is required when provisioning the SE 70. In SNSE block sparing is used, therefore one NT9X14EA is enough unless the last 32MB block on this card is used. This rule applies (but not exclusive) to the following applications: NA100 GL100 EUR100 APC DMS250 DMS500 GSM MTX. This rule does not apply to MSL and Austrian Telecom applications.

MEMORY PROVISIONING FOR MSL100 MARKET

Whenever BRISC 70 Processor (NT9X10BA) is engineered and if the total (PS + DS) memory requirements for the site, does not exceed 224MB, then 96MB Memory Cards (NT9X14EA) are not required, because NT9X10BA has 256MB (224MB usable + 32MB hot spare block) of on board memory.

Sites with 224MB or more memory requirements with BRISC 70 processor (NT9X10BA) must be engineered with only 96MB memory cards (NT9X14EA) to meet total requirement. No memory card mix is allowed.

- 5) Provision the NTZZ01SP which contains the SN/SNSE NT9X10CA 60 MHz 88110 BRISC CPU CP and the NT9X26FA RTIF in card slots 19F and 20F. The BRISC Series 70EM option is available from NA007 and above. Contact NPI or NPPI until this product reaches general availability.
- 6) Provision memory circuit packs in pairs, in slots in the following order:
  - 1) 16F and 23F;
  - 2) 15F and 24F;
  - 3) 14F and 25F;
  - 4) 13F and 26F;
  - 5) 12F and 27F.

The number of pairs to be provisioned depends on the memory requirements for the office.

Refer to the System Engineering Bulletin titled DMS 100F Memory Administration Provisioning (SEB 88-01-002) for information on how to provision offices with memory cards using the MEMCALC program. Also reference the SEB along with the section titled SuperNode/SNSE Hardware Comparison in ECM 632 to obtain the memory limits for a switch based on processor type.

- 7) Existing SNSE offices requiring 96 Meg memory upgrades are not required to order NT9X13MB by the System Application Engineer. The NT9X13MBs can be ordered through "CSO" upgrade program for Canadian market and "88K and Warranty Manager" ordering process for U.S market.

Processor	SE 20 NT9X13MA	SE 20 NT9X13MB	SE 60 NT9X10AA	SE 70 NT9X10BA
RTIF PB	NT9X26AB	NT9X26AB	NT9X26DC	NT9X26EA
Dual Port Msg	NT9X86AA	NT9X86AA	NT9X86AB	NT9X86AB
Memory	24 Meg. NT9X14DB	NT9X14DB OR NT9X14EA	96 Meg. NT9X14EA	96 Meg NT9X14EA
Port Card	NT9X12AC/ NT9X12AD	NT9X12AC/ NT9X12AD	NT9X12AD	NT9X12AD
Software Release	BCS 34	BCS 35	BCS 36	CSP004

Processor	SE 70 EM NT9X10CA
RTIF PB	NT9X26FA
Dual Port Msg	NT9X86AB
Memory	96 Meg NT9X14EA
Port Card	NT9X12AD
Software Release	CSP007

Figure 1. SNSE Processor, Associated Card and Software Requirements.





- RUL11 1) The NT9X53AD is functionally compatible with NT9X53AC. However, the NT9X53AD is the recommended pack.

Note that, NT9X53AC can be used with BCS31 onward. NT9X53AD requires CSP002 or newer software.

The NTZZ34JD package contains two NT9X53AC CPs while the NTZZ44NP contains two NT9X53AD CPs. For CSP 05 or later software, Stratum 2 oscillators can be used with the NT9X53AD.

- RUL12 1) Provide designation labels as required.
- 2) Provide one (1) P0737637 SLM III label per NT9X44AD for applications in German speaking countries.

- RUL13 1) Provide mechanical hardware for the S/DMS cabinet, such as end guards, frame isolating pads and anchors by using the Engineering Manual inserts:

NT9X95BA - Mechanical Hardware for S/DMS Cabinet,  
NTRX73 - Cabinetized DMS Cosmetic Endguards  
and EMI Sidepanels.

- 2) Provision two (2) NTRX07AB End Panel Assy Kits (Grey) for grey cabinets.

OR

- 3) Provision two (2) NTRX07AE End Panel Assy Kits (Brown) for brown cabinets.

- 4) For offices with -48 volt power convertors, provide one (1) E-CORE Frame Supv Panel (NT9X03AA) and one (1) Cooling Unit (-48V) (NT9X95CU), contained in NTZZ10CU. This unit comes with 3 replaceable blower assemblies (A0383325), one (1) MTM alarm card (A0383984), and one (1) relay (A0383985) installed. However customers may desire spares.

- 5) Provide one (1) NT9X03BA, Frame Supervisory Panel, per Cabinet for -60V powered installations. Also provide one (1) NT9X95GU, Cooling Unit, per cabinet for -60V powered installations. The Cooling Unit and FSP are contained in NTZZ10CU.

- RUL14 1) Provide one (1) NT9X9532 stand-alone Cabling Interface Kit when powering the NT9X01MB cabinet from the 7

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foot PDC frame OR powering from the Model B CPDC (NTRX31CA) cabinet, OR powering from the NTRX31AA or from the NTRX31BA CPDC cabinet which is in a different lineup than the NT9X01MB. This kit includes cables, filters, and miscellaneous mounting hardware. Twenty-two (22) white boots are included in the NT9X9532 stand-alone Cabling Interface Kit.

Note:

The twenty-two white boots

MUST NOT

be installed on the manufacturing shop floor. The boots must be shipped separately (loose) and installed at the job site.

- 2) Provide one (1) NT9X9531 Horizontal Power Cabling Interface Kit when powering the NT9X01MB cabinet from the NTRX31AA or from the N CPDC cabinet which is in the same lineup as the NT9X01MB. This kit includes power cables, terminal blocks, and miscellaneous mounting hardware.

Always provide:

two (2) EMI contact strips (P0714698)  
when providing  
the NT9X9531 Horizontal Power Cabling Interface Kit.

- RUL15 1) Provide two (2) NT9X86AA Dual Port Message Controllers when the CM Processor (NT9X13MA or NT9X13MB) is provided.
- 2) Provide two (2) NT9X86AB Dual Port Message Controllers when a BRISC processor (NT9X10AA/BA/CA) is provided.
- RUL16 1) Provide one (1) P0736273 Optical Fiber Danger Label (English) per shelf when DS-512 Fiber paddle boards are provided. Provide the English label for applications in English speaking countries.
- 2) Provide one (1) P0737638 Optical Fiber Danger Label (German) per shelf when DS-512 Fiber paddle boards are provided. Provide the German label for applications in German speaking countries.
- RUL17 1) Provide one (1) P0736058 Terminal Block Designation Strip per SNSE cabinet when powering the SNSE cabinet in a Streamline line u
- RUL18 1) Provide one (1) P0736059 power filter label per SNSE cabinet when powering the SNSE cabinet in a non-Streamline line up or in a Stand alone application.
- RUL19 1) For all UK applications, provide one (1) NT9X0324 ESP Ground Terminator Assembly.

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- RUL20 1) Provide one (1) NTZZ34PC Global -5V Power Converter for each shelf required. One NTZZ34PC provides two power converters, powering a single shelf.
- RUL21 1) Provide one (1) NTZZ34PA Global +5V Power Converter for each shelf required. One NTZZ34PA provides two power converters, powering a single shelf.
- RUL22 1) Provide one (1) NTZZ34PF Global +5V/+12V Power Converter for each CM shelf required. One NTZZ34PF provides two power converters powering a single shelf.
- RUL23 1) Provide one (1) NTZZ34PE Global +5V/-5V Power Converter for each CM shelf required. One NTZZ34PE provides two power converters powering a single shelf.
- RUL24 1) Provide one (1) NTZZ34JF MS Processor for each SNSE office.
- RUL25 1) Provide one (1) NTZZ34JB System Load Module 1A for SNSE offices. The SLM 1A module is now at MD status.
- RUL26 1) Provide one (1) NTZZ34JC System Load Module III for SNSE offices, SLM III requires NA004 or higher software. SLM III should be provided on all new and extension orders.

The formula for calculating load image is:

$PS + FASTMEM + .6*DS + .72*MS$   
where FASTMEM equals 27.82 for SNSE 60,  
PS is Program Store  
DS is Data Store  
MS is Message Switch load size.

FASTMEM is 27.82 for SNSE 60 for NA004 and below. Fastmem is automatically calculated for NA005 and above software loads.

The MS load size is 16M for SNSE. The raw PS and DS values in KBytes can be obtained from MEMCALC and converted to MBytes by dividing by 1024.

Northern Telecom does not recommend AMA type records on the SLM units, preferring to have AMA, (CDR, SMDR etc) on the Disk Drive Units associated with the IOC/IOM equipment.

Sizing of the SLM should include the dual (or single) image requirement, PM loads, a file for Patching and any other Customer required OA&M file space.

RUL27 1) For all applications, provide (1) FSP Terminal  
Block Cover Assembly for each SNSE Cabinet.

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INPUT/OUTPUT SUBSYSTEMS CHAPTER ALL

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INPUT/OUTPUT SUBSYSTEMS CHAPTER ALL

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## INPUT/OUTPUT SUBSYSTEMS CHAPTER ALL

EMB5-01-IOC-4	INPUT/OUTPUT CONTROLLER MODULE	NTZZ09CC
EMB5-01-TC-2	I/O TERM CONT AUTO DIALBACK	NTZZ09EA
EMB5-01-000	INPUT/OUTPUT EQUIPMENT FRAME	NTZZ09AA
EMB5-03-BMC-1	BMC MOUNTING HARDWARE FOR CIOE MODEL B	NTZZ32QD
EMB5-03-DPP-2	DPP MOUNTING HARDWARE	NTZZ32QB
EMB5-03-IOC-2	I/O CONTROLLER MODULE FOR CIOE MODEL B	NTZZ32EN
EMB5-03-IOC-3	I/O CONTROLLER MODULE PACKAGE	NTZZ32EB
EMB5-03-MTD	MAGNETIC TAPE DRIVE ASSEMBLY	NTZZ32BA
EMB5-03-MTD-2	MAGNETIC TAPE DRIVE ASSEMBLY (-48V) FOR	NTZZ32BN
EMB5-03-MTD-3	MAGNETIC TAPE DRIVE ASSEMBLY MODEL B CIO	NTZZ32LB
EMB5-03-ST3	STRATUM II ROS H/W PACKAGE (CIOE)	NTZZ32JN
EMB5-03-002	CABINETIZED INPUT/OUTPUT EQUIPMENT MODEL	NTZZ47EC
EMB5-04-SCSI-1C	DPP SHELF,	NTZZ09DD
EMB5-04-SCSI-1N	DPP SHELF	NTZZ09AD
EMB5-04-SCSI-1T	DPP SHELF,	NTZZ09BD
EMB5-04-SCSI-2C	DPP SHELF,	NTZZ09ED
EMB5-04-SCSI-2T	DPP SHELF,	NTZZ09CD

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## INPUT/OUTPUT CONTROLLER MODULE

PEC CODE: NTZZ09CC

CPC CODE: B0241685

RATING: Standard

REPLACES: NTZZ09CB

REPLACED BY: Not applicable

ABBREVIATION NAME: IOC

ENGINEERING DESCRIPTION: The Input/Output Controller Module houses Device Controller cards, each of which has its own subsidiary MAP position.

REFERENCE DOCUMENTATION: SLZZ09CC 00 02  
NTZZ09CC REL 02  
MS1X61AG 01 04

MARKETS: Applicable markets:

- Canada
- US
- CALA
- Asia/Pacific
- Europe

ISSUE AUTHOR: Erica Keltner Dept. 3471 (PPK)

MAIN CONTACT: Erica Keltner Dept. 3471 (PPK)



NTZZ09CC EMB5-01-IOC-4 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 10 07	ECM 613 24	Introduce NTZZ09CC as a result of ECD 018-43363 - Replace NT1X61AE with its stocklist contents. This is to make all NT0X50AA's provisionable so an extra FP is not provided w/NT1X55FA ET 56913-Problem with extra NT0X50AA when NT1X55FA is provided.
94 11 21	ECM 613 25	Change CPC for NTZZ09CC to B0241685.
95 02 03	ECM 613 26	ET 20809-Show correct slot mounting locations for NT0X50AA filler fplates.
95 04 06	ECM 316 08	EC 024-93972- Introduces the NT2X70AF and its label to replace the NT2X70AE and its label. The design documents will be updated after this EMS.

The Input/Output Controller Module is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
I/O Controller Module	NT1X61AG		1	X		AP
I/O Shelf Assembly	NT1X6113		1	X		AP-01
I/O Message Controller CP	NT1X62CB		1	X	02	AP
Desig. Label (NT1X62CB)	P0745105		1	X	02	AP
I/O Control Terminator	NT0X67AA		1	X	22	AP
Designation Strip	P0588099		1	X		AP
Power Converter	NT2X70AF		1	X	25	AP
Desig. Label (NT2X70AF)	P0809960		1	X	25	AP
I/O Device Controller CP	As Req'd			X	4,6,8, 10,12, 14,16, 18,20	RUL1
Filler Face Plate 0.875	NT0X50AA			X	1,4-21 23-24	RUL2
26AWG Single Green Wire	R0109836			X		RUL3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = Shelf Position 04, 18, 32.

## RULES:

- AP 1) When PEC NTZZ09CC is ordered, these items are provided.
- AP-01 1) This item is always provided to the NT1X61AG and is shown here for completeness.
- RUL1 1) The I/O Controller Module (IOC) provides space to mount up to nine (9) I/O device control cards. Refer to Table B, Section EMB14-02-000, for the types of control cards and their respective labels which can mount on NTZZ09CB and related assignment restrictions.
- RUL2 1) Provide one (1) NT0X50AA for each empty slot position including even and odd numbered slot positions.
- RUL3 1) When IOC NTZZ09CC is field installed, provide 5.0 metres of NT-26CR (R0109836) wire coloured green.

I/O TERM CONT AUTO DIALBACK

NTZZ09EA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: The NTZZ09EA provides an Input/Output Terminal Controller CP and desig. label for interface of the IOC shelf to an automatic dial-back modem.

REFERENCE DOCUMENTATION: SLZZ09EA 00 01  
NTZZ09EA REL 01

The I/O Term Cont Auto Dialback is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
I/O Terminal Controller CP	NT1X67BD		1	X	Y	AP
Desig. Label For NT1X67BD	P0657675		1	X	Y	AP

NOTES:

- 1) The NT1X67BD can be assigned to shelf mounting positions X = 04, 18, 32, and CP position Y = 04, 06, 08, 10, 12, 14, 16, 18, 20.

RULES:

- AP 1) When PEC NTZZ09EA is ordered, these items are provided.

## INPUT/OUTPUT EQUIPMENT FRAME

PEC CODE: NTZZ09AA

CPC CODE: B0231870

RATING: Standard

REPLACES: NTZZ09TB

REPLACED BY: Not Applicable

ABBREVIATION NAME: IOE

ENGINEERING DESCRIPTION: The Input/Output Equipment Frame houses the DMS input/output devices, mountable on a frame.

REFERENCE DOCUMENTATION: SLZZ09AA 00 04  
NTZZ09AA REL 03

MARKETS: Applicable markets:

Canada  
US  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: NTI: Barbara Berkley Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barbara Berkley Dept. 3471 (PPK)

NTZZ09AA EMB5-01-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
92 11 09	ECM 613 08	Change power cable rules for ROS shelf (MS0X43AD)
92 12 06	ECM 613 09	Convert NT0X25AV to NT0X25AH framework
92 12 14	ECM 202 08	The Following Changes Are Included: - Cook ECO #70509 DTD: 910307 Add NT8M04_L Series BMC - Cook ECO #70517 DTD: 910312 Add NT8M04_M Series BMC
93 04 26	ECM 613 13	ET29183 - Clarify rules for the second NT0X36AB cards on the NT0X28AL FSP.
93 07 08	ECM 613 14	ET16819, ET16629 - Correct RUL3.
93 10 27	ECM 613 16	EC 018-41170 - Introduce NTZZ09CB/VB to replace NTZZ09CA/VA. Update DPP cables in RUL3. ET 5819 - Added rules for IOC field installation.
93 11 24	ECM 613 17	State that NTZZ09AA is applied to all applications.
93 12 20	ECM 613 18	1) EC 018-41895: Md NTZZ09VA/VB and replace them by NTZZ09CA/CB. 2) EC 018-42007: Md NTZZ09MA/NA and replace them by NT3X95AB/BB.
94 07 08	ECM 613 22	1) EC 018-42674 MD's NT1X61AD so show NTZZ09CA as MD in flaglist. 2) EC 018-42525 Introduce new read, write, and control cables that are provisional to MTD.
94 07 22	ECM 561 01	1) EC 018-42674 Introduces new SCSI-DDU so show DDU shelf in this EMS as rate change pending.
94 10 07	ECM 613 24	ECD 018-43363 - Replace NT1X61AE with its stocklist contents. This is to make all NT0X50AA's provisionable so an extra FP is not provided w/NT1X55FA ET 56913-Problem with extra NT0X50AA when NT1X55FA is provided.
95 09 25	ECM 613 30	EC 018-45526 Introduces new NT8X48BD DPP into IOE frame. EC 006-20826 introduces Enhanced Alarm Cables for the new NT8X48BD and NT8X48AD DPPs.

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 22	ECM 306 24	Introduce 3.5" DPP BBs into IOE.
96 04 08	ECM 613 33	EC 018-46732 Introduces 3.5 in. BMC. Refer Read, Write, & Control cable provisioning to CAOX15 cable drawing.
96 08 16	ECM 613 34	EC 018-46279 Introduces 3.5 in. Bisync BMC.
96 10 18	ECM 613 35	EC 018-46279 Introduces hardware and associated cabling to enable control of DPP/BMC and MTD devices via the new IOM controller. EC 018-45462 MDs the NT0X4301 and NT0X4302 power cables. Update rules to indicate that read, write, and control cables are fixed length and not job engineered (per current MSs).
97 04 23	ECM 202 18	Per ECD 024-97670 MD several BMC units Per ECD 018-51074 un-MD NT0X4301 and NT0X4302 cables.



The Input/Output Equipment Frame is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Framework	NT0X25AH	FW	1			AP
IOE Frame	NT0X43AD		1			AP
Mag Tape Drive Unit (Cook)	NT0X44AB	MTD		18,51		RUL1
Read Cable Assembly (J1)	NT0X96__			18,51		RUL12
Write Cable Assembly (J2)	NT0X96__			18,51		RUL12
Control Cable Assembly (J3)	NT0X96__			18,51		RUL12
Frame Supervisory Panel	NT0X28AL	FSP	1	45		AP-01
Power Control & Alarm CP	NT0X36AB		1	45		AP
FSP Cover	P0673914		1	45		AP
IOM Pertec Smart Conn Assy (MTD)	NTFX36AA			34,67		RUL13
IOM Pertec Smart Conn Assy (DPP)	NTFX36AA			65 & 67 32 & 41		RUL13 RUL13
Pertec Interface Cable Assy	NT0X4320			32,41,65,67		RUL12, RUL13
# Disk Drive Unit Shelf	NTZZ09BB	DDU		04		RUL7
# I/O Controller Module	NTZZ09CA	IOC		04,18,32		RUL2
# I/O Controller Module	NTZZ09CB	IOC		04,18,32		RUL2
I/O Controller Module	NTZZ09CC	IOC		04,18,32		RUL2
# I/O Controller Module (NT40)	NTZZ09VA	IOC		04,18,32		RUL2
# I/O Controller Module (NT40)	NTZZ09VB	IOC		04,18,32		RUL2
# 380 MByte Dist. Proc. Periph	NTZZ09RA	DPP		18,51		RUL3
# 760 MByte Dist. Proc. Periph	NTZZ09SA	DPP		18,51		RUL3
# DPP Shelf 56Kbps	NTZZ09LA	DPP		18,51		RUL3
# DPP Shelf	NTZZ09XA	DPP		18,51		RUL3
# DPP Shelf Compression	NTZZ09YA	DPP		18,51		RUL3
Distrib. Proc. Peripheral	NT8X48BD	DPP		18,51		RUL3
3.5" DPP Shelf w/1GB NON T	NTZZ09AD	DPP		18,51		RUL3
3.5" DPP Shelf w/1GB TURBO	NTZZ09BD	DPP		18,51		RUL3
3.5" DPP Shelf w/2GB TURBO	NTZZ09CD	DPP		18,51		RUL3
3.5" DPP Shelf w/1GB 56K/C	NTZZ09DD	DPP		18,51		RUL3
3.5" DPP Shelf w/2GB 56K/C	NTZZ09ED	DPP		18,51		RUL3
Read Cable Assembly (J1)	NT0X96__			18,51		RUL12
Write Cable Assembly (J2)	NT0X96__			18,51		RUL12
Control Cable Assembly (J3)	NT0X96__			18,51		RUL12
DPP/BMC Power cable	NT8M99AL			18,51		RUL11
# DPP Control Cables	NT0X96DB			18,51		RUL3
# DPP Control Cables	NT0X96DC			18,51		RUL3
# DPP Control Cables	NT0X96DD			18,51		RUL3

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
# DPP Control Cables	NT0X96HD			18,51		RUL3
# DPP Control Cables	NT0X96HE			18,51		RUL3
# DPP Control Cables	NT0X96HF			18,51		RUL3
# Stratum II Rmt Osc. Shelf	NTZZ09MA	ROS		04,32		RUL4
# Stratum 2.5 Rmt Osc. Shelf	NTZZ09NA	ROS		04,32		RUL4
Stratum II Rmt Osc. Shelf	NT3X95AB	ROS		04,32		RUL4
Stratum 2.5 Rmt Osc. Shelf	NT3X95BB	ROS		04,32		RUL4
Filler Panel	P0575239			04,18,32, 51,65		RUL5
Power Cable	NT0X95BA			18,32		RUL6
Power Cable	NT0X95BD			32		RUL6
Power Cable	NT0X95BF			18,32		RUL6
Power Cable	NT0X95BG			18		RUL6
Power Cable	NT0X95BJ			04		RUL6
Power Cable	NT0X95BK			04		RUL6
Power Cable	NT0X95CE			32		RUL6
Power Cable	NT0X4301			04		RUL6
Power Cable	NT0X4302			04		RUL6
Wiring: Stratum II/2.5 DMS-Core	NT0X43WC					RUL8
Wiring: Stratum II/2.5 DMS-Core	NT0X43WD					RUL9
# BMC Redund SMDR BSC Pseudo	NT8M04_A	BMCS		18,51		RUL10
BMC Redund LSSGR BSC Pseudo	NT8M04_C	BMCA		18,51		RUL10
BMC Sys DMS-100 BSC 1GB	NT8M04GC	BMCA		18,51		RUL10
# BMC Redund LSSGR HDLC Lap B	NT8M04_D	BMCA		18,51		RUL10
BMC Redund LSSGR BX.25	NT8M04_E	BMCA		18,51		RUL10
BMC Sys DMS-100 AMAT 1GB	NT8M04GE	BMCA		18,51		RUL10
BMC Sys DMS-100 AMAT 1GB T	NT8M04HE	BMCA		18,51		RUL10
BMC Sys DMS-100 AMAT 2GB T	NT8M04IE	BMCA		18,51		RUL10
# BMC Redund LSSGR HDLC ADU	NT8M04_F	BMCA		18,51		RUL10
# BMC Deuce e/w 72MB Disk Dr	NT8M04AG	BMCD		04,32, 51,65		RUL10
# BMC Deuce e/w 140MB DDU	NT8M04BG	BMCD		04,32, 51,65		RUL10
# BMC Redund NT HDLC ADU	NT8M04_J	BMCA		18,51		RUL10
# BMC Deuce SMDR ASCII	NT8M04_L	BMCA		18,51		RUL10
# Redundant BMC SMDR/NT ASCII	NT8M04_M	BMCA		18,51		RUL10
BMC Upg Kit, INDP, Bisync, NT/LSSGR, EMC, DMS100	NT6M97IK			18,51		RUL10
BMC Upg Kit, 1GB NT to 2GB T	NT6M97JF			18,51		RUL10
BMC Upg Kit, 1GB T to 2GB T	NT6M97JH			18,51		RUL10

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Read Cable Assembly (J1)	NT0X96__			18,51		RUL12
Write Cable Assembly (J2)	NT0X96__			18,51		RUL12
Control Cable Assembly (J3)	NT0X96__			18,51		RUL12
DPP/BMC Power cable	NT8M99AL			18,51		RUL11

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ09CA	MD	NTZZ09CB
NTZZ09VA	MD	NTZZ09CA
NTZZ09VB	MD	NTZZ09CB
NTZZ09MA	MD	NT3X95AB
NTZZ09NA	MD	NT3X95BB
NT0X96DB	MD	NT0X96HD
NT0X96DC	MD	NT0X96HE
NT0X96DD	MD	NT0X96HF
NT0X96HD	MD	NT0X96__ (Rul 12)
NT0X96HE	MD	NT0X96__ (Rul 12)
NT0X96HF	MD	NT0X96__ (Rul 12)
NTZZ09BB	MD	NT1X55FA
NTZZ09CB	MD	NTZZ09CC
NTZZ09LA	MD	NT8X48BD
NTZZ09RA	MD	NT8X48BD
NTZZ09SA	MD	NT8X48BD
NTZZ09XA	MD	NT8X48BD
NTZZ09YA	MD	NT8X48BD
NT8M04_A	MD	No direct repl.
NT8M04_D	MD	No direct repl.
NT8M04_F	MD	No direct repl.
NT8M04AG	MD	No direct repl.
NT8M04BG	MD	No direct repl.
NT8M04_J	MD	No direct repl.
NT8M04_L	MD	No direct repl.
NT8M04_M	MD	No direct repl.

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- The quantity of equipment that may be mounted in an IOE frame is limited by available shelf positions and by the number of connections available on FSP terminal block TBl. There are four types of TBl connection to consider: -48V Fused at FSP, -48V Unfused, Battery Return, and Switched Power. The following table lists the requirements for each type of equipment. The sum of all connections for all equipment to be mounted must not exceed the 12 available connections on TBl.

```

Example:  1 NTZZ09BB      = 6
          1 NTZZ09CC      = 3
          1 NTZZ09LA or   = 4
          --
          Total            = 13 (this is not a valid
                                IOE frame shelf
                                combination)
    
```

```

Example  1 NTZZ09BB      = 6
          1 NTZZ09CC      = 3
          --
          Total            = 9 (this is a valid
                                IOE frame shelf
                                combination)
    
```

EQUIPMENT	TBl TOTAL AVAILABLE CONNECTIONS				TOTAL
	FUSED	UNFUSED	BR	SW PWR	
	3	2	4	3	12
BMC	0	2	2	0	4
Dual DDU Shelf (NTZZ09BB)	2	0	2	2	6
DPP	0	2	2	0	4
IOC	1	0	1	1	3
Cook MTD	0	1	1	0	2
ROS	2	0	2	2	6

## RULES:

- AP 1) When PEC NTZZ09AA is ordered, these items are provided.
- 2) One additional NT0X36AB Power Control and Alarm card is always provided when NTZZ09AA is ordered. This NT0X36AB card serves an IOC in shelf position 18, an ROS in shelf position 04 or 32, an DDU in shelf position 18, or a DPP in shelf position 18 or 51 (refer to RULE AP-01(2)).
- AP-01 1) This PEC is always provided to the NT0X43AD and is shown here for completeness.
- 2) Each NT0X28AL, FSP, comes equipped with one NT0X36AB, Power Control and Alarm card, which serves IOC or DDU shelves in positions 32 and 04.
- RUL1 1) The standard DMS MTD is the Cook Electric drive, NT0X44AB.
- 2) For an office which will have MTDs only, Magnetic Tape Drive Units are provisioned as follows:
- a) A minimum of two (2) is required per system, one for maintenance and one for back-up or image/spare.
- b) An additional two (2) may be required for LAMA/CAMA or Distributed Processor Peripheral (DPP).
- c) An extra MTD may be provided for separate Operational Measurement (OM) support.
- d) Maximum of ten (10) MTD per system.
- 3) In a disk office one MTD is retained primarily to enable physical transportation of data to and from the office and secondarily as a back up to the DDU.
- 4) The first MTD on an IOE frame should mount on position 51 for ease of mounting and dismounting tapes.
- 5) See figures six (6) through eleven (11) for various frame configurations of MTDs.
- RUL2 1) A minimum of two I/O Controller Modules (IOC:00, IOC:01) is required per system. Provide two (2) NTZZ09CC in a SuperNode system or in an NT40 system. The IOC NTZZ09CC replaces NTZZ09CA, NTZZ09VA, NTZZ09VB and NTZZ09CB.

- 2) Each shelf accommodates up to nine I/O device controller cards.
  - 3) Provide one (1) I/O Controller Module for each additional nine I/O Device Controller Cards to be accommodated. Number these shelves IOC:02 and up.
  - 4) Equip each shelf per MS1X61AG.
  - 5) See figures six (6) through eleven (11) for various frame configurations of IOCs.
  - 6) The IOC shelf and the devices (MTD, DDU, MAP etc.) it interfaces should be cabled to the same power feed on the Power Distribution Center (PDC).
  - 7) When ordering this shelf for field installation, order 5 metres of NT-26CR (R0109836) wire coloured green.
- RUL3
- 1) Provide the Distributed Processor Peripheral (DPP), for remote polling of Automatic Message Accounting (AMA) in the DMS-100F. The current ordering code for an initial DPP is NT8X48BD. Refer to the DPP ECM 306 and NT8X48BD EMS for detail ordering information for initials and upgrades to NT8X48BD.
  - 2) When a DPP/BMC is mounted in an IOE frame, the following restriction should apply:
    - a) A DPP/BMC unit should be mounted on shelf position 51 on initial order.
    - b) A Cook MTD and a DPP/BMC should not be mounted in the same frame.
    - c) An HP MTD and a DPP/BMC can be mounted in the same frame. In this case, the HP MTD should be mounted on shelf position 51, and the DPP/BMC should be mounted on shelf position 18.
    - d) DPP/BMC chassis "A" and chassis "B" should be connected to different power feeds. The two controller CP's for chassis "A" should reside in an IOC which has the same power feed as chassis "A". The two controller CP's for chassis "B" should reside in an IOC which has the same power feed as chassis "B". The two IOC's should be power interlocked. These restrictions are demonstrated by the following three configurations shown in items 3), 4) and 5).

- 3) When a DPP/BMC unit and its controllers are configured to reside in mating paired IOE frames, the following rules should apply:
  - a) The two IOE frames must have different power feeds and are power interlocked.
  - b) The IOC units can be mounted on shelf position 04, 18 or 32 (refer to the following figure).
  - c) Note that this is a standalone system and is independent of other IOE locations.

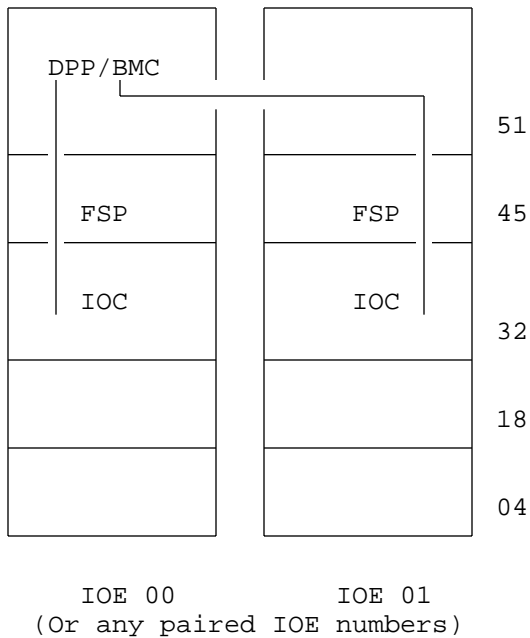
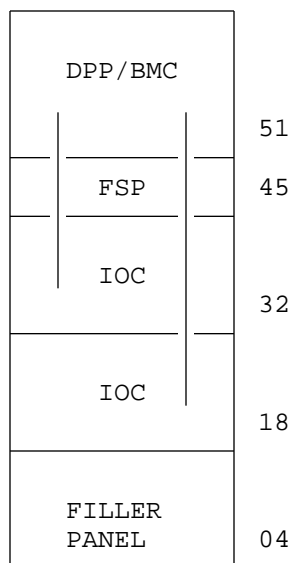


Figure 1. DPP/BMC Controllers in Paired IOEs

- 4) When a DPP/BMC and its controllers are configured to reside in the same IOE frame, the following rules should apply:
  - a) The two IOC units must have different power feeds and are power interlocked.
  - b) Shelf 04 should not be used because of FSP limitation. Provide a filler panel on shelf 04 (refer to the following figure).

- c) This is a standalone system and is independent of other IOE locations. This configuration is used only when single IOE extension is required and must be converted to the configuration as specified in RULE 3(3).



IOE 03  
(Or any extended IOE number)

Figure 2. DPP/BMC and Controllers in SAME IOE Frame

- 5) When a DDP/BMC and its controllers are configured to reside in separate frames, the following rules should apply:
  - a) IOE 03 must be in the same line-up as the other mating paired IOE 00 and 01 where the DPP controller reside (refer to the following figure). Cable length limitations shall apply.
  - b) The two IOC units where the DPP/BMC controllers reside must have different power feeds and are power interlocked.
  - c) If IOC is not required in IOE 03 frame, a ROS unit or a Dual DDU unit can be mounted on shelf 04.
  - d) If space is not available on the IOC units in IOE 00 and 01 for the DPP/BMC controllers, the circuit packs which do not require power interlock must be moved to



the IOC in IOE 03. If none of the circuit packs can be moved, this configuration should not be used.

- e) This configuration should be used upon telco request only.

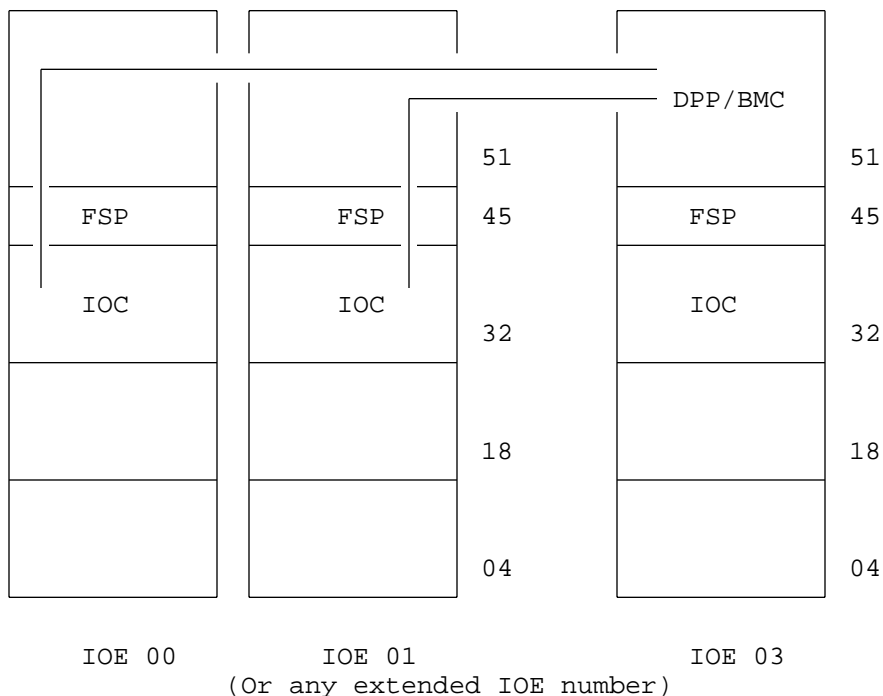


Figure 3. DPP/BMC Controllers in Different IOE Frame

- (6) a) When a DPP module (NTZZ09RA/SA/LA/XA/YA or NT8X48BD) is controlled by an NTZZ09CA/VA IOC, provide two (2) NT0X96DB (read), two (2) NT0X96DC (write) and two (2) NT0X96DD (control) control cables. Job engineered not to exceed 25 feet of length. Refer to CA0X15 for job engineering information. These cables are rated A&M. See RUL 12.

- b) When a DPP module (NTZZ09RA/SA/LA/XA/YA or NT8X48BD) is controlled by an NTZZ09CC/CB/VB IOC, provide two (2) NT0X96HD (read), two (2) NT0X96HE (write) and two (2) NT0X96HF (control) control cables. Job engineered not to exceed 25 feet of length. Refer to CA0X15 for job engineering information. These cables are rated A&M. See RUL 12.

- RUL4 1) For U.S. offices, provide one (1) NT3X95AB Stratum II Oscillator Shelf (remote shelf) when Stratum II feature is required. For Canadian offices, provide one (1) NT3X95BB Stratum 2.5 Oscillator Shelf (remote shelf) when Stratum 2.5 feature is required. The NTZZ09MA is Manufacture Discontinued and replaced by NT3X95AB, and The NTZZ09NA is Manufacture Discontinued and replaced by NT3X95BB.
- 2) The NT3X95AB and NT3X95BB Shelf require two -48V feeds and two sets of alarm and control signals from the FSP.
- 3) The following rules apply to Stratum Shelf configurations:
- a) There must be two available shelf positions in the IOE frame.
  - b) The IOE frame must be located within 200 feet of the CMCs or SuperNode cabinet.
  - c) The Stratum shelf must be powered from the same PDC as the CMC shelf or SuperNode cabinet.
- 4) The NT3X95AB and NT3X95BB have two backplanes mounted on the same shelf. Backplane "A" is located at slot positions 1 through 14 and backplane "B" is located at slot positions 15 through 27. There is a power converter located at slot 6 for backplane "A" and at position 20 for backplane "B".
- RUL5 1) Provide fourteen inch (355.6 millimeters) filler panels in positions not equipped.
- RUL6 1) Depending on position of IOC and NT3X95AB or NT3X95BB shelf, power cables will be ordered as follows:
1. IOC Position
    - \* IOC position 04 NT0X95BK & NT0X95BJ
    - \* IOC position 32 NT0X95BA & NT0X95BD
    - \* IOC position 18 NT0X95BF & NT0X95BG
  2. ROS Position
    - \* ROS position 04 NT0X4301 & NT0X4302 for "A" backplane
    - \* ROS position 04 NT0X95BJ & NT0X95BK for "B" backplane

\* ROS position 32 NT0X95BF & NT0X95CE for "A" back-plane

\* ROS position 32 NT0X95BA & NT0X95BD for "B" back-plane

- RUL7
- 1) The NTZZ09BB is to be mounted in IOE shelf position 04 only.
  - 2) The 1st 5.25" DDU shall be located on the left side (slot 10) of the NT4X00AF Dual Disk Drive shelf (located in shelf Position 04). If a 2nd 5.25" DDU is required on the same shelf, it shall be located on the right side (slot 18).
  - 3) With two 5.25" DDUs equipped, position 18 must be unequipped.
  - 4) The NTZZ09BB and its Controller CP NT1X55DA are replaced by the SCSI Disk Drive Unit (SCSI-DDU) NT1X55FA which is a circuit pack mounted on the IOC shelf in any of the following nine (9) slot positions: 4, 6, 8, 10, 12, 14, 16, 18 and 20. Refer to TABLE B or T\_IOC\_BB\_CP for provisioning of the SCSI DDU.

For initial jobs, provide the SCSI-DDU NT1X55FA when GA, as the DDU shelf on the IOE frame is no longer provisioned. Refer to SCSI-DDU ECM for software restrictions. For field upgrades, remove the NT1X55DA and neighboring NT0X50AA filler face plate to mount the double size faceplate NT1X55FA circuit pack. The NT1X55FA mounts in the same slot as the NT1X55DA Controller CP. The cables connected to the associated ESDI-DDU and the DDU shelf should also be removed.

The elimination of the separate DDU shelf frees up space that can be used to accommodate another IOC shelf if needed. For example, a typical IOE frame can have one MTD, which occupies two shelve positions, and three IOC shelves.

- RUL8
- 1) Provide Interlock Wiring NT0X43WC for the NT3X95AB Stratum II or NT3X95BB Stratum 2.5 Shelf when assigned in position 04.
- RUL9
- 1) Provide Interlock Wiring NT0X43WD for the NT3X95AB Stratum II or NT3X95BB Stratum 2.5 Shelf when assigned in position 32.

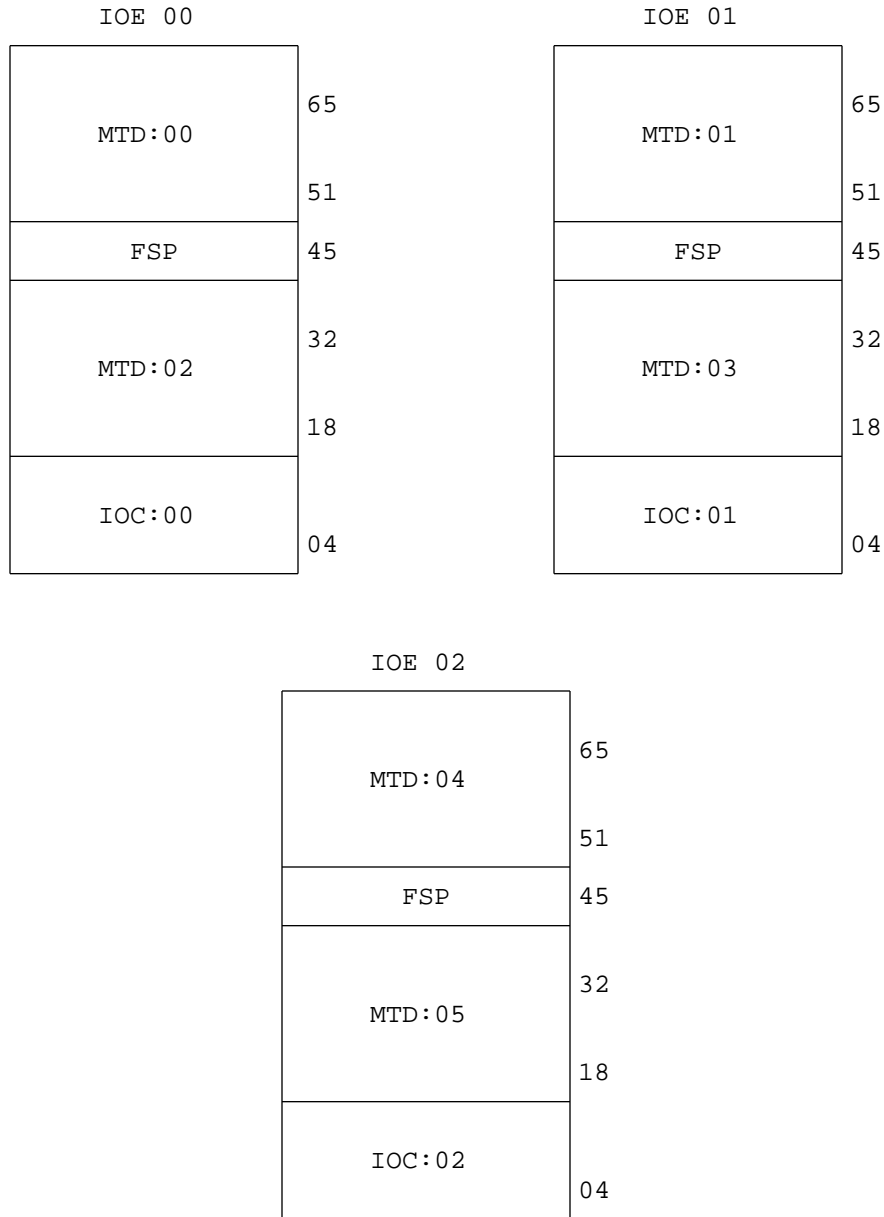


Figure 4. OFFICE WITH MTDs ONLY

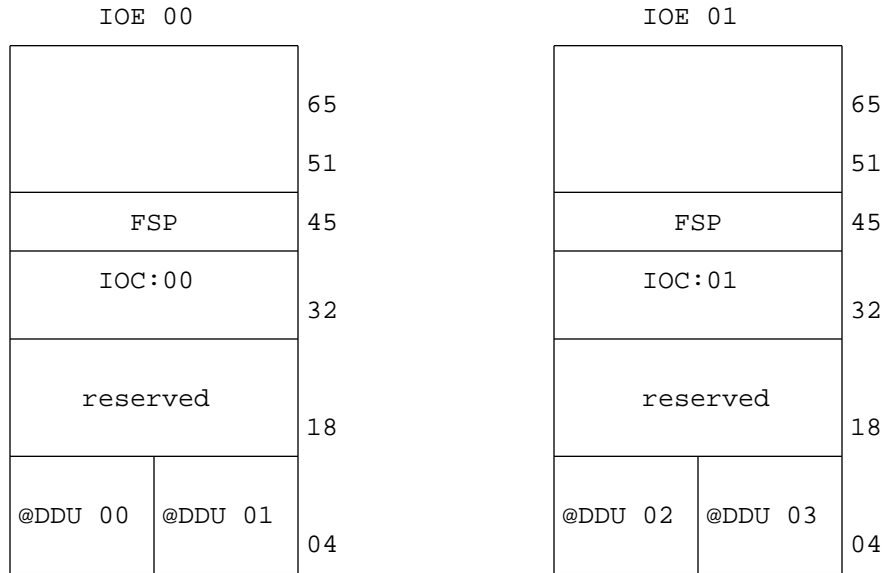


Figure 5. ONLY ONE MTD AND ONE OR MORE DDUs

@ Each of the Disk Drive Units denoted by this symbol are shown mounted on a dual disk drive shelf, NTZZ09BB. The Dual Disk Drive shelf, NTZZ09BB, is restricted to shelf position 04 and shelf position 18 must be unequipped. Refer to note 1 for calculation of valid IOE frame shelf configurations.

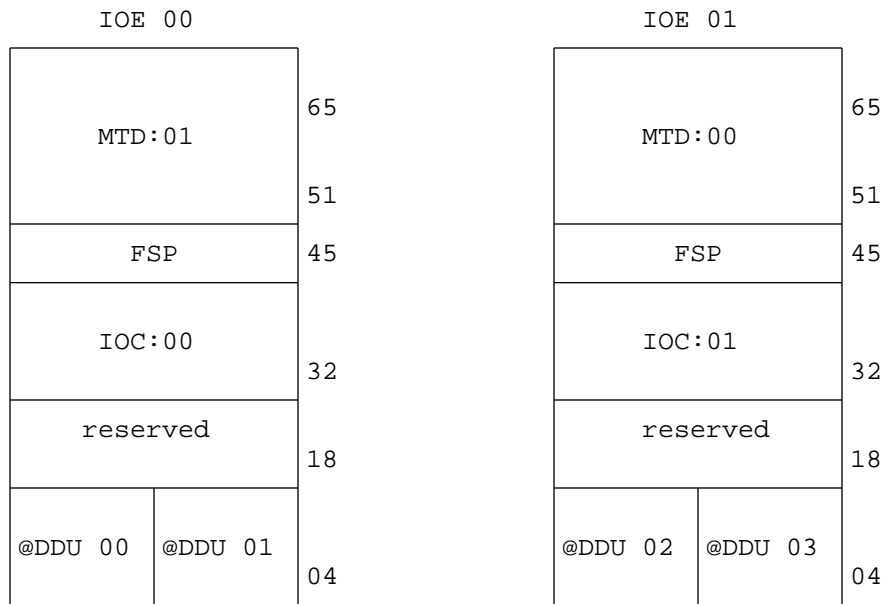


Figure 6. TWO (2) OR MORE MTDs AND TWO (2) OR MORE DDUs

@ Each of the Disk Drive Units denoted by this symbol are shown mounted on a dual disk drive shelf, NTZZ09BB. The Dual Disk Drive shelf, NTZZ09BB, is restricted to shelf position 04 and shelf position 18 must be unequipped. Refer to note 1 for calculation of valid IOE frame shelf configurations.

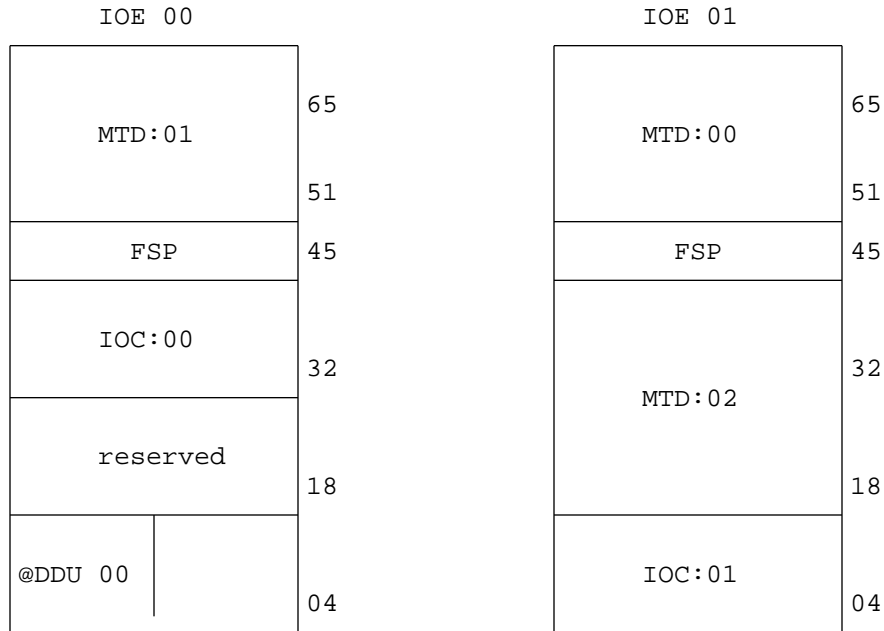


Figure 7. ONE (1) OR MORE MTDs AND ONLY ONE (1) DDU

@ Each of the Disk Drive Units denoted by this symbol are shown mounted on a dual disk drive shelf, NTZZ09BB. The Dual Disk Drive shelf, NTZZ09BB, is restricted to shelf position 04 and shelf position 18 must be unequipped. Refer to note 1 for calculation of valid IOE frame shelf configurations.

IOE 00

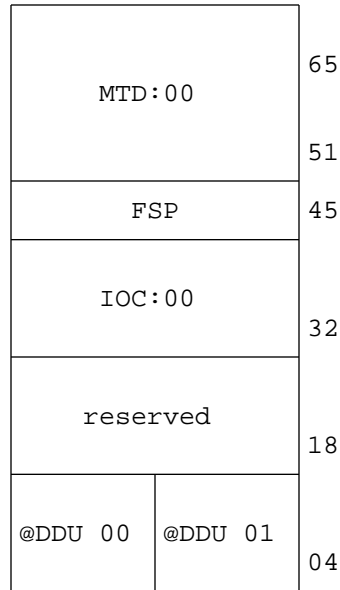


Figure 8. ONLY ONE (1) MTD AND TWO (2) DDUs

@ Each of the Disk Drive Units denoted by this symbol are shown mounted on a dual disk drive shelf, NTZZ09BB. The Dual Disk Drive shelf, NTZZ09BB, is restricted to shelf position 04 and shelf position 18 must be unequipped. Refer to note 1 for calculation of valid IOE frame shelf configurations.



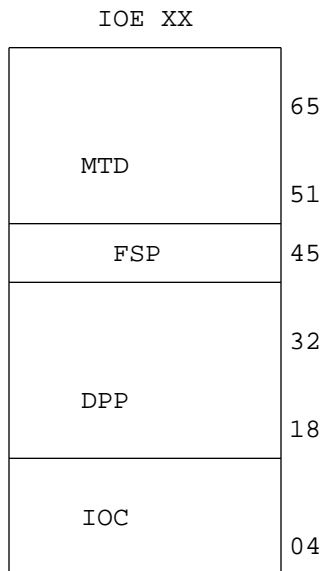


Figure 9. DPP MOUNTING RESTRICTIONS

\*\* NOTE - An NTZZ09RA, NTZZ09SA, NTZZ09LA, NTZZ09XA, or NTZZ09YA DPP unit cannot be equipped in the same frame that has an NTZZ09BB or an NTZZ09MA provided, or any equipment provisioned in shelf position 18 due to fusing limitations at the Frame Supervisory Panel.

RUL10 1) Several configurations of the NSD Billing Media Converter (BMC) are available. The variables used in these configurations are the System Feature Group Protocols and Hard Disk technology. The variations are detailed in separate Engineering Manual sections as follows:

- a) NT8M04\_C: For BMC Redund LSSGR BSC Pseudo, See Section EMA5-01-BMCA-1 and ECM 202
- b) NT8M04GC: For BMC Redund LSSGR BSC Pseudo 1GB, See Section EMA5-01-BMCA-1 and ECM 202
- c) NT8M04\_E: For BMC Redund LSSGR BX.25, See Section EMA5-01-BMCA-4 and ECM 202
- d) NT8M04GE: For BMC Redund LSSGR BX.25, 1GB NON-TURBO, See section EMA5-01-BMCA-1 and ECM 202 Issue 13 & Later

- e) NT8M04HE: For BMC Redund LSSGR BX.25, 1GB TURBO,  
See section EMA5-01-BMCA-42 and  
ECM 202 Issue 13 & Later
- f) NT8M04IE: For BMC Redund LSSGR BX.25, 2GB TURBO,  
See section EMA5-01-BMCA-43 and  
ECM 202 Issue 13 & Later

NOTE: The underscore in the above PECs in the seventh character position are used as a variable in lieu of the actual character which indicates the disk drive size. Refer to the referenced Engineering Manual section for details. Check URTS date on 3.5 in. BMCs and upgrade kits before ordering.

- 2) Provide one dual shelf (Redundant) BMC for remote polling of Automatic Message Accounting (AMA) for one Customer Group. See Figure 7 for a typical frame layout.

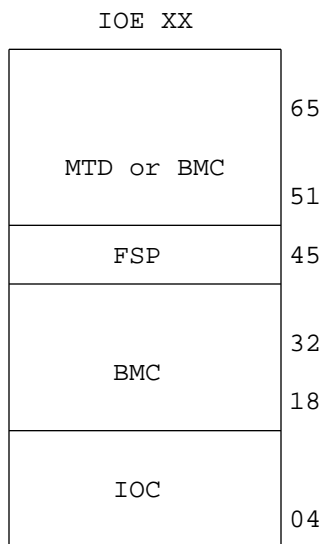


Figure 10. BMC Mounting Restrictions

- RUL11 1) Provide a quantity of two NT8M99AL power cables per DPP NT8X48B or BMC NT8M04GE/HE/IE ordered.

- RUL12
- 1) Provide one each Read, Write, and Control Cable Assemblies NT0X96\_\_ per cable drawing CA0X15 for each MTD when the controlling IOC is NT1X61AG.
  - 2) Provide two each Read, Write, and Control Cable Assemblies NT0X96\_\_ per cable drawing CA0X15 for each NT8M48BD DPP or NT8M04GC/GE/HE/IE BMC when the controlling IOC is NT1X61AG.
  - 3) NT0X96\_\_ Cable Assemblies are fixed length.
  - 4) When a DPP/BMC or MTD is controlled by an IOM, these cables (NT0X96GY, NT0X96GZ, NT0X96HA) are not required; they have been replaced with the NT0X4320 cable assembly (see Rule 13).
- RUL13
- 1) Provide a quantity of two NTFX36AA IOM Pertec Smart Connector Assemblies and quantity of two NT0X4320 Pertec Interface Cable Assemblies for each new DPP/BMC controlled by an IOM.
  - 2) Provide a quantity of one NTFX36AA IOM Pertec Smart Connector Assembly and quantity of one NT0X4320 Pertec Interface Cable Assy for each new MTD controlled by an IOM.

## BMC MOUNTING HARDWARE FOR CIOE MODEL B

PEC CODE: NTZZ32QD

CPC CODE: B0246108

RATING: Standard.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The NTZZ32QD contains the hardware and cables required to mount the BMC assembly on the CIOE model B.

REFERENCE DOCUMENTATION: SLZZ32QD 00 01  
NTZZ32QD REL 01

MARKETS: Applicable markets:

US  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: NTI: Bob Belvin Dept. 3471 (PPK)

MAIN CONTACT: Richard Mathias Dept. 3471 (PPK)

NTZZ32QD EMB5-03-BMC-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 04 08	ECM 613 33	EC 018-46732 introduces 3.5" disk BMC.

The BMC MOUNTING HARDWARE FOR CIOE MODEL B is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Personality Plate (BMC)	P0821302		1	47		AP
25 Pin Filter Adapter	A0316594		7	33		AP
Mounting Hardware	A0317136		28	33		AP
Mounting Hardware	P0148330		14	33		AP
<hr/>						
DPP/Bulkhead Cable	NTRX33EC		3	33		AP
DPP/Bulkhead Cable	NTRX33ED		1	33		AP
DPP/Bulkhead Cable	NTRX33EE		2	33		AP
DPP/Bulkhead Cable	NTRX33EF		2	33		AP
Power & Control Cable Assy	NT8M99AR		1	33		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The BMC will always mount in position 33 in the CIOE Model B.

RULES:

- AP 1) When PEC NTZZ32QD is ordered, these items are provided.
- 2) One A0316594 25 Pin Filter Adapter, four A0317136 and two P0148330 (mounting hardware) are provided for each connector position on the DPP personality plate (P0729518) indicated in the table below:

Personality Plate ----- Filter Adapter	Shelf	Personality Plate Connector Position
P0821302 ----- A0316594	BMC	A J1 - A J4, B J11- B J14, A J16

3) The cables provided herein shall be connected as indicated in the table below:

FROM					TO	
CABLES	QTY	SHELF	SHELF POS	CONN	BULKHEAD POSITION	CONN
NTRX33EC	3	BMC CH/A	33	J1 J2 J3	47	A J1 B J2 B J3
NTRX33ED	1			J4		A J4
NTRX33EE	2	BMC CH/B		J11		B J11
				J12		B J12
NTRX33EF	2			J13		B J13
				J14		B J14
NT8M99AR	1	BMC CH/A & Stratum 0 or DDU 0		J16	A J16	
				J15	MSP (61) J1/61-08	
				SCR		
NT8M99AR	1	BMC CH/B & Stratum 1 or DDU 1		J15,J16	J1/61-09	
			SCR			



DPP MOUNTING HARDWARE  
FOR CIOE MODEL B

PEC CODE: NTZZ32QB

CPC CODE: B0234638

RATING: Standard.

REPLACES: NTZZ32QA

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The NTZZ32QB contains the hardware and cables required to mount the DPP assembly on the CIOE model B.

REFERENCE DOCUMENTATION: SLZZ32QB 00 01  
NTZZ32QB REL 01

MARKETS: Applicable markets:

US  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: NTI: Bob Belvin Dept. 3471 (PPK)

MAIN CONTACT: Richard Mathias Dept. 3471 (PPK)

NTZZ32QB EMB5-03-DPP-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 09 25	ECM 613 30	EC 018-44426 MD's NTRX33MF & NTRX33MG and replaces them with NT8M99AR. Therefore, NTZZ32QB replaces NTZZ32QA since NT8M99AR adds enhanced alarm functionality.
96 04 08	ECM 613 33	EC 018-45526 MD'd P0729518, replaced it with P0821302.

The DPP mounting hardware for CIOE Model B is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
# Personality Plate (DPP)	P0729518		1	47		AP
Personality Plate (DPP)	P0821302		1	47		AP
25 Pin Filter Adapter	A0316594		7	33		AP
Mounting Hardware	A0317136		28	33		AP
Mounting Hardware	P0148330		14	33		AP
<hr/>						
DPP/Bulkhead Cable	NTRX33EC		1	33		AP
DPP/Bulkhead Cable	NTRX33ED		1	33		AP
DPP/Bulkhead Cable	NTRX33EE		2	33		AP
DPP/Bulkhead Cable	NTRX33EF		2	33		AP
Power & Control Cable Assy	NT8M99AR		1	33		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
P0729518	MD	P0821302

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The DPP will always mount in position 33 in the CIOE Model B.

RULES:

- AP 1) When PEC NTZZ32QB is ordered, these items are provided.
- 2) One A0316594 25 Pin Filter Adapter, four A0317136 and two P0148330 (mounting hardware) are provided for each connector position on the DPP personality plate (P0729518) indicated in the table below:

Personality Plate ----- Filter Adapter	Shelf	Personality Plate Connector Position
P0821302 ----- A0316594	DPP	A J1, A J4, B J11-B J14, A J16

3) The cables provided herein shall be connected as indicated in the table below:

FROM					TO	
CABLES	QTY	SHELF	SHELF POS	CONN	BULKHEAD POSITION	CONN
NTRX33EC	1	DPP	33	J1	47	A J1
NTRX33ED	1	CH/A		J4		A J4
NTRX33EE	2			J11		B J11
				J12		B J12
NTRX33EF	2			J13		B J13
				J14		B J14
NT8M99AR	1	DPP CH/A & Stratum 0 or DDU 0		J16	MSP (61)	A J16
				J15		J1/61-08
				SCR		
NT8M99AR		DPP CH/B & Stratum 1 or DDU 1		J15,J16		J1/61-09
			SCR			

I/O CONTROLLER MODULE  
FOR CIOE MODEL B

PEC CODE: NTZZ32EN

CPC CODE: B0240975

RATING: Standard

REPLACES: NTZZ32EM

REPLACED BY: Not applicable

ABBREVIATION NAME: IOC

ENGINEERING DESCRIPTION: The NTZZ32EN package contains the Input/Output Controller Module and associated hardware to mount on the CIOE Model B. The IOC houses device controller cards each of which has its own subsidiary MAP position.

REFERENCE DOCUMENTATION: SLZZ32EN 00 04  
NTZZ32EN REL 04  
MS1X61AG 01 04

MARKETS: Applicable markets:

- US
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: Erica Keltner Dept. 3471 (PPK)

MAIN CONTACT: Erica Keltner Dept. 3471 (PPK)

NTZZ32EN EMB5-03-IOC-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 04 18	ECM 613 19	EC 018-41413 Requires a new BB for the NT1X61AG IOC shelf. This BB contains the new shelf.
94 07 08	ECM 613 22	EC 018-42674 Removes 1 NT0X50AF from NT1X61AE and replaces it with 2 NT0X50AA's. NT1X61AE is broken out in NTZZ32EN so need to put NT1X61AE back into stocklist of NTZZ32EN.
94 10 07	ECM 613 24	ECD 018-43363 - Replace NT1X61AE with its stocklist contents. This is to make all NT0X50AA's provisionable so an extra FP is not provided w/NT1X55FA ET 56913-Problem with extra NT0X50AA when NT1X55FA is provided.
95 02 03	ECM 613 26	ET 61023-Show correct slot mounting locations for NT0X50AA faceplates.
95 04 06	ECM 316 08	EC 024-93972- Introduces the NT2X70AF and its label to replace the NT2X70AE and its label. The design documents will be updated after this EMS.

The I/O Controller Module for CIOE Model B is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
I/O Controller Module	NT1X61AG	IOC	1	19		AP
I/O Shelf Assembly	NT1X6113		1	19		AP-01
I/O Message Controller CP	NT1X62CB		1	19	02	AP
Desig. Label for NT1X62CB	P0745105		1	19	02	AP
I/O Control Terminator	NT0X67AA		1	19	22	AP
Designation Strip	P0588099		1	19		AP
I/O Device Controller CP	As Req'd			19	4,6,8, 10,12, 14,16, 18,20	RUL1
Filler Face Plate 0.875	NT0X50AA			19	1,4-21 23-24	RUL2
Power Converter	NT2X70AF		1	19	25	AP
Desig. Label (NT2X70AF)	P0809960		1	19	25	AP
Personality Plate (IOC)	P0726316		1	33		AP
Personality Plate (IOC)	P0726317		1	19		AP
37 Pin Filter Adapter	A0316599		36	19		AP
Mounting Hardware	A0317136		144	19		AP
Mounting Hardware	P0148330		72	19		AP
Power & Control Cassy	NTRX33MB		1	19		AP
IOC/Bulkhead Cable	NTRX33FG		2	19		AP
IOC/Bulkhead Cable	NTRX33FH		24	19		AP
IOC/Bulkhead Cable	NTRX33FJ		2	19		AP
IOC/Bulkhead Cable	NTRX33FK		2	19		AP
Bolt Cover	P0732389		8	19		AP
Lug	A0292996		3	19		AP
Boot	P0743593		8	19		AP



EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

- AP 1) When PEC NTZZ32EN is ordered, these items are provided.
- 2) One A0316599 37 Pin Filter Adapter, four A0317136, and two P0148330 (mounting hardware) are provided herein for each connector position on the IOC personality plates (P0726316/P0726317) indicated in the table below:

Personality Plate ----- Filter Adapter	Shelf	Personality Plate Connector Position
P0726316 ----- A0316599	IOC	C20 - C39
P0726317 ----- A0316599		C04 - C19

3) Connect cables as indicated in the table below:

FROM					TO	
CABLES	QTY	SHELF	SHELF POS	CONN	BULKHEAD POSITION	CONN
NTRX33MB	1	IOC AND/OR MTD	19	SCR	MSP (61)	J1/61-10
			MSP (61)	J1/61-10		P0737547 R11
NTRX33FG	2	IOC	19	C00,C01	19	C00,C01
NTRX33FH	4 or 8			C04-C11		C04-C11
NTRX33FH	24			C12-C19		C12-C19
				C20-C31 C34,C35 C38,C39	33	C20-C31 C34,C35 C38,C39
NTRX33FJ	2			C32,C33	C32,C33	
NTRX33FK	2			C36,C37	C36,C37	

AP-01 1) This item is always provided with NT1X61AG and is shown here for completeness.

RUL1 1) A minimum of two I/O Controller Modules (IOC:00, IOC:01) are required per system.

2) Each shelf accommodates up to nine I/O device controller cards. Refer to EMA14-02-000 for provisioning of the IOC.

3) The IOC shelf and the devices (MTD, DDU, MAP etc.) it interfaces should be cabled to the same power feed on the Power Distribution Center (PDC). Also, any IOC pairs controlling DPP, DDU, or AMA devices must have different power feeds and be power interlocked by interchanging connections between ILOKOUT and ILOKIN on the terminal block (Pos. 61-02R) on the MSP. These IOC pairs reside in mating CIOE pairs. IOC's which are not controlling DPP or AMA devices may have any feeds as required. However, for reliability, spread devices across IOC's with different power feeds.

- RUL2 1) Provide one (1) NT0X50AA for each empty slot position including even and odd numbered slot positions.

## I/O CONTROLLER MODULE PACKAGE

PEC CODE: NTZZ32EB

CPC CODE: B0242403

RATING: Standard.

REPLACES: NTZZ32EA

REPLACED BY: Not Applicable

ABBREVIATION NAME: IOC

ENGINEERING DESCRIPTION: The NTZZ32EB package contains the Input/Output Controller Module and associated hardware to mount on the CIOE Model A. The IOC houses device controller cards each of which has its' own subsidiary MAP position.

REFERENCE DOCUMENTATION: SLZZ32EB 00 02  
NTZZ32EB REL 02  
MS1X61AG 01 04

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: Erica Keltner Dept. 3471 (PPK)

MAIN CONTACT: Erica Keltner Dept. 3471 (PPK)

NTZZ32EB EMB5-03-IOC-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 02 03	ECM 613 26	Introduce NTZZ32EB to replace NTZZ32EA as a result of EC 018-43363 which introduces the NT1X61AG IOC to replace NT1X61AD.
95 04 06	ECM 316 08	EC 024-93972- Introduces the NT2X70AF and its label to replace the NT2X70AE and its label. The design documents will be updated after this EMS.

The NTZZ32EB is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
I/O Controller Module	NT1X61AG	IOC	1	19		AP
I/O Shelf Assembly	NT1X6113		1	19		AP-01
I/O Message Controller CP	NT1X62CB		1	19	02	AP
Desig. Label for NT1X62CB	P0745105		1	19	02	AP
I/O Control Terminator	NT0X67AA		1	19	22	AP
Designation Strip	P0588099		1	19		AP
I/O Device Controller CP	As Req'd			19	4,6,8, 10,12, 14,16, 18,20	RUL1
Filler Face Plate 0.875	NT0X50AA			19	1,4-21 23-24	RUL2
Power Converter	NT2X70AF		1	19	25	AP
Desig. Label (NT2X70AF)	P0809960		1	19	25	AP
Personality Plate (IOC)	P0726316		1	33		AP
Personality Plate (IOC)	P0726317		1	19		AP
37 Pin Filter Adapter	A0316599		36	19		AP
Mounting Hardware	A0317136		144	19		AP
Mounting Hardware	P0148330		72	19		AP
IOC/Bulkhead Cable	NTRX33FG		2	19		AP
IOC/Bulkhead Cable	NTRX33FH		24	19		AP
IOC/Bulkhead Cable	NTRX33FH			19		RUL4
IOC/Bulkhead Cable	NTRX33FJ		2	19		AP
IOC/Bulkhead Cable	NTRX33FK		2	19		AP
IOC/FSP Cable	NTNX1620		1	19		AP
IOC/FSP Cable	NTNX1621		1	19		AP
Bolt Cover	P0732389		8	19		AP
Lug	A0292996		3	19		AP
Boot	P0743593		8	19		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

- AP 1) When PEC NTZZ32EB is ordered, these items are provided.
- AP-01 1) This item is always provided with NT1X61AG and is shown here for completeness.
- AP-02 1) This item is always provided with NT1X61AE and is shown here for completeness.
- RUL1 1) A minimum of two I/O Controller Modules (IOC:00, IOC:01) are required per system.
  - 2) Each shelf accommodates up to nine I/O device controller cards. Refer to EMA14-02-000 for provisioning of the IOC.
  - 3) The IOC shelf and the devices (MTD, DDU, MAP etc.) it interfaces should be cabled to the same power feed on the Power Distribution Center (PDC).
- RUL2 1) When customer requirements specify that filler face plates are to be ordered, provide one (1) NT0X50AA for each location which is not to be equipped with an I/O device control card.
- RUL3 1) One A0316599 37 Pin Filter Adapter, four A0317136, and two P0148330 (mounting hardware) are provided herein for each

connector position on the IOC personality plates (P0726316/P0726317) indicated in the table below:

Personality Plate	Shelf	Personality Plate Connector Position
Filter Adapter		
P0726316	IOC	C20 - C39
A0316599		
P0726317		C04 - C19
A0316599		



RUL4 1) Connect cables as indicated in the table below:

FROM					TO		
CABLES	QTY	SHELF	SHELF POS	CONN	BULKHEAD POSITION	CONN	
NTRX33FG	2	IOC	19	C00,C01	19	C00,C01	
NTRX33FH (Note 1)	8			C04-C11		C04-C11	
NTRX33FH	24			C12-C19		C12-C19	
				C20-C31 C34,C35 C38,C39	33	C20-C31 C34,C35 C38,C39	
NTRX33FJ	2			C32,C33		C32,C33	
NTRX33FK	2			C36,C37		C36,C37	
NTNX1620	1				SCR	FSP (60)	TB1
NTNX1621	1				SCR		TB1

Note 1: Provide eight (8) NTRX33FH, IOC/Bulkhead Cable, per IOC. Do NOT provide these cables if DPP/MTD or DDU control cards are in slots 4 and/or slot 6 (C04-C07 Slot 4; C08-C11 Slot 6).

MAGNETIC TAPE DRIVE ASSEMBLY

NTZZ32BA

RATING: Limited

ABBREVIATION NAME: MTD

ENGINEERING DESCRIPTION: The NTZZ32BA assembly contains a magnetic tape drive and the cables required to mount this unit on a CIOE.

REFERENCE DOCUMENTATION: SLZZ32BA 00 03  
NTZZ32BA REL 02

The NTZZ32BA is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Mag Tape Drive Unit (Cook)	NT0X44AB	MTD	1	33		AP
Filler Panel 3 Inch	P0654622		1	57		AP
MTD Cable Assembly 79" Blk	NTRX3320		1	33		AP
MTD Cable Assembly 79" Red	NTRX3321		1	33		AP

RULES:

- AP 1) When PEC NTZZ32BA is ordered, these items are provided.
- 2) MTD (NT1X68BC) controller cards can be assigned to only slot 4 or slot 6 of the IOC shelf in the CIOE. The MTD connected to these slots must be inside the same Faraday cage of the CIOE or the adjacent CIOE.
- RUL1 1) An MTD mounted in position 33 occupies mounting position 47 also.

MAGNETIC TAPE DRIVE ASSEMBLY (-48V)  
FOR MODEL B CIOE

PEC CODE: NTZZ32BN

CPC CODE: B0241865

RATING: Standard.

REPLACES: NTZZ32BM

REPLACED BY: Not applicable

ABBREVIATION NAME: MTD

ENGINEERING DESCRIPTION: The NTZZ32BN assembly contains a magnetic tape drive and the cables required to mount this unit on a CIOE.

REFERENCE DOCUMENTATION: SLZZ32BN 00 01  
NTZZ32BN REL 01

MARKETS: Applicable markets:

- US
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: NTI Erica Keltner Dept. 3471 (PPK)

MAIN CONTACT: NTI Erica Keltner Dept. 3471 (PPK)

NTZZ32BN EMB5-03-MTD-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 11 21	ECM 613 25	Introduction of NTZZ32BN to replace NTZZ32BM. This is as a result of EC 024-93121 which makes the FMU and Cooling unit kit always required.

The Magnetic Tape Drive Assembly (-48V) for Model B CIOE is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Mag Tape Drive Unit (Cook)	NT0X44AB	MTD	1	33		AP
Power Cable Assembly	NTRX33MC		1	33		AP
Filler Panel 3 Inch	P0654622		1	57		AP
Screw	P097F813		4	57		AP
Washer	P0284154		1	57		AP
Lock washer	P0183220		1	57		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) An MTD mounted in position 33 occupies mounting position 47 also.

RULES:

- AP 1) When PEC NTZZ32BN is ordered, these items are provided.
- 2) MTD (NT1X68BC) controller cards can be assigned to only slot 4 or slot 6 of the IOC shelf in the CIOE. The MTD connected to these slots must be inside the same Faraday cage of the CIOE or the adjacent CIOE.

MAGNETIC TAPE DRIVE ASSEMBLY  
MODEL B CIOE FOR INTERNATIONAL MARKET

PEC CODE: NTZZ32LB

CPC CODE: B0241893

RATING: Standard.

REPLACES: NTZZ32LA

REPLACED BY: Not Applicable

ABBREVIATION NAME: MTD

ENGINEERING DESCRIPTION: The NTZZ32LB assembly contains a magnetic tape drive and the cables required to mount this unit on a CIOE Model B for International applications.

REFERENCE DOCUMENTATION: SLZZ32LB 00 01  
NTZZ32LB REL 01

MARKETS: Applicable markets:

Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: NTI: Erica Keltner Dept. 3471 (RTP)

MAIN CONTACT: NTC: Erica Keltner Dept. 3471 (RTP)

NTZZ32LB EMB5-03-MTD-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 11 21	ECM 613 25	Introduction of NTZZ32LB to replace NTZZ32LA. This is as a result of EC 024-93121 which makes the FMU and Cooling unit kit always required.



The Magnetic Tape Drive Assembly Model B CIOE for International market is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Mag Tape Drive Unit (Cook)	NT0X44BB	MTD	1	33		AP
Power Cable Assembly	NTRX33MC		1	33		AP
Filler Panel 3 Inch	P0654622		1	57		AP
Screw	P097F813		4	57		AP
Washer	P0284154		1	57		AP
Lockwasher	P0183220		1	57		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
N/A		

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) An MTD mounted in position 33 occupies mounting position 47 also.

RULES:

- AP 1) When PEC NTZZ32LB is ordered, these items are provided.
- 2) MTD (NT1X68BC) controller cards can be assigned to only slot 4 or slot 6 of the IOC shelf in the CIOE. The MTD

connected to these slots must be inside the same Faraday cage of the CIOE or the adjacent CIOE.

## STRATUM II ROS H/W PACKAGE (CIOE)

PEC CODE: NTZZ32JN

CPC CODE: B0246103

RATING: Standard

REPLACES: None

| REPLACED BY: N/A

ABBREVIATION NAME: ROS

ENGINEERING DESCRIPTION: The NTZZ32JN contains the hardware for mounting the Stratum II Remote Oscillator Shelf (ROS) in Cabinetized Input/Output Equipment (CIOE).

REFERENCE DOCUMENTATION: SLZZ32JN 00 01

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: Barbara Berkley Dept. 3471 (PPK)

MAIN CONTACT: Barbara Berkley Dept. 3471 (PPK)

NTZZ32JN EMB5-03-ST3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
96 04 02	ECM 683 22	MD NTZZ32HM and NTZZ32HA which are replaced by this PEC and other PECs.
97 06 24	ECM 613 37	To reflect NTZZ32JN as replaced by NTZZ32JP.
97 09 03	ECM 613 39	NTZZ32HN will NOT be replaced by NTZZ32HP (updated title sheet accordingly).

The Stratum II ROS H/W Package (CIOE) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
37 Pin Filter Adapter	A0316599		2	05		AP
Mounting Hardware	A0317136		8	05		AP
Filter Line EMI Feedthru	A0326932		1	05		AP
Stratum/Bulkhead Cable	NT0X9551		6	05		AP
Stratum Interlock Cassy	NTRX3365		1	05		AP
Stratum/Bulkhead Cable	NTRX33EA		1	05		AP
Stratum/Bulkhead Cable	NTRX33EB		1	05		AP
Hex Nut	P0065747		8	05		AP
Mounting Hardware	P0148330		4	05		AP
Flat Washer	P0160739		4	05		AP
Spring Washer Helical	P0183028		4	05		AP
Personality Plate (Stratum)	P0726321		1	05		AP
Bolt Cover	P0732389		8	05		AP
Boot	P0743593		6	05		AP
Boot	P0744811		2	05		AP
External Tooth Lock	P097Y579		8	05		AP
Bolt	P098A109		2	05		AP
Stratum II Rmt Osc. Shelf (DMS-Core, ISG)	NT3X95AB	ROS	1	05		RUL1
Remote Osc. Shelf Assy	NT3X9507		1	05		AP-01
Osc. (DMS-Core) & I/F CP	NT3X16AB		2	05	01,15	AP-01
Pwr Conv. (+-5V,+12V,+24V)	NT1X78AA		2	05	06,20	AP-01
Filler Face Plate 2.62	NT0X50BE		1	05	12	AP-01
Filler Face Plate 1.72	NT0X50BF		3	05	04,18,26	AP-01
Filler Face Plate 0.875	NT0X50BA		1	05	14	AP-01
Desig. Strip (NT3X95AB)	P0699935		1	05		AP-01
Stratum II Hot Spares	NTZZ09PA		1	05	09	RUL2
Osc. (DMS-Core) & I/F CP	NT3X16AB		2	05	09,23	AP-02
Design. Label (NT3X16AB)	P0702195		2	05	09,23	AP-02
Filler Face Plate 2.62	NT0X50BE		2	05	09,23	RUL2
Stratum/FSP Power Cable	NTNX1697		2	05		RUL3
Stratum/Bulkhead Cable	NTRX3325		1	05		RUL3
Stratum/Bulkhead Cable	NTRX3326		1	05		RUL3
Cable (DDU/Stratum to FSP)	NT6X0325		2	05		RUL3

EQUIPMENT FLAGGED ' # ' :

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES :

- 1) One A0316599 37 Pin Filter Adapter, four A0317136 and two P0148330 (mounting hardware) are provided for each connector position on the Stratum personality plate (P0726321).
- 2) The CIOE Model A cabinet must be adjacent to the Supernode cabinet. The ROS Shelf must be powered from the same CPDC as the Supernode cabinet.
- 3) The Remote Oscillator Shelf requires two -48V feeds and two sets of alarm and control signals from the FSP.
- 4) The Remote Oscillator Shelf has two backplanes mounted on the same shelf. Backplane "A" is located at slot positions 1 through 14 and backplane "B" is located at slot positions 15 through 27. There is a power converter located at slot position 6 for backplane "A" and at slot position 20 for backplane "B".

RULES :

- AP 1) When PEC NTZZ32JN is ordered, these items are provided.
- AP-01 1) These items are Always Provided (AP) on NT3X95AB and are shown here for completeness.

- AP-02 1) These items are Always Provided (AP) on NTZZ09PA and are shown here for completeness.
- RUL1 1) If Stratum is requested provide one (1) NT3X95AB.
- RUL2 1) If 'hot' spares are requested by the customer provide one (1) NTZZ09PA. 2) If "hot spares are not requested then provide two (2) filler face plates (NT0X50BE).
- RUL3 1) Provide two (2) NTN1697, one (1) NTRX3325, one (1) NTRX3326, and two (2) NT6X0325 cables if the Stratum II is to be mounted in Model A cabinet.

CABINETIZED INPUT/OUTPUT  
EQUIPMENT MODEL B

PEC CODE: NTZZ47EC

CPC CODE: B0241894

RATING: Standard.

REPLACES: NTZZ47EB

REPLACED BY: Not Applicable

ABBREVIATION NAME: CIOE

ENGINEERING DESCRIPTION: The Cabinetized Input/Output Equipment Model B houses all the input/output devices, mountable on a frame, that interface the MAP with the DMS machines.

REFERENCE DOCUMENTATION: SLZZ47EC 00 01  
NTZZ47EC REL 01  
MSRX33DA 01 12  
MSRX25AA 00 02

MARKETS: Applicable markets:

US  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: NTI: Barbara Berkley Dept. 3471 (PPK)

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NTZZ47EC EMB5-03-002 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 11 21	ECM 613 25	EC 018-43778 Makes the FMU and Cooling unit kit always required, so MD NTZZ47EB and replace with NTZZ47EC with FMU and Cooling Unit AP. Also, make MTD read,write,and control cables provisionable. EC 024-93121 Remove part 5 on rule 1 the filler panel since FMU is now AP ET 56893 Show P0715616 as provided when MTD or filler panels are put in position 33 in rule 7.
95 02 21	ECM 613 27	ET 20999- Show NTZZ32LA and NTZZ32BM as MD and replaced by NTZZ32LB and NTZZ32BN, respectively.
95 03 17	ECM 683 15	Clarify provisioning rules for NTRX33DY and NTRX33DZ per ET65803.
95 09 25	ECM 613 30	EC 018-45526 Introduces new NT8X48BD DPP into CIOE cabinet. EC 006-20826 introduces Enhanced Alarm Cables for the new NT8X48BD and NT8X48AD DPPs.
95 10 25	ECM 613 31	1) EC 018-45915 changes CPCs for Mag Tape Units NT0X44AB and NT0X44BB. 2) Remove NT8M99AL per EC 018-46054.
96 03 25	ECM 306 24	1) EC 018-47089 introduce Germany specific labels. 2) Add 3.5" SCSI DPP BBs to CIOE.
96 04 08	ECM 613 33	1) EC 018-46732 INTRODUCE 3.5IN BMCS, Upgrade kits and cables. 2) MD NTZZ32HM, replace with NTZZ32JN, MD NTZZ32JM, replace with NTZZ32HN 3) Refer Read, Write, and Control cable provisioning to CARX15 dwg.
96 08 16	ECM 613 34	1) ECD 018-46279: Introduce 3.5 in. 1GB Bisync BMC. 2) ECD 018-48826 Add 60V German Labels
96 10 18	ECM 613 35	EC 018-46279 Introduces hardware and associated cabling to enable control of DPP/BMC and MTD devices via the new IOM controller. Made minor updates to clean up the equipment list section and assoc.

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
		notes.
97 02 28	ECM 202 17	Update rules to indicate that read, write, and control cables are fixed length and not job engineered (per current MSs).
		Clarify cable requirements in RUL13 to avoid double specing of RX33 and 8M99 cables (per SR RR6A781).
97 03 26	ECM 613 36	Clarify Rul5 part 7) re: provisioning of NT1X55FA(per Holyoke Audit/Action)
97 06 24	ECM 613 37	Make corrections to resolve SRs: RR76288, RR76176, and RR73602.
97 09 03	ECM 613 39	MD NTZZ32HP, NTZZ32JP, and NTZZ32KM (revert to NTZZ32HN and NTZZ32JN). Modify ROS provisioning notes.

The Cabinetized Input/Output Equipment Model B is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Cabinetized I/O Equipment	NTRX33DA		1			AP
Fan Management Unit	NTRX54BA	FMU	1	61	19	AP
Design. Label (NTRX54BA)	P0741680		1	61	19	AP
Modular Supervisory Panel Kit	NTRX3373	MSP	1	61		AP
Modular Supervisory Panel	NTRX40AA		1	61		AP-02
Talk Battery Filter Module	NTRX44AA		2	61	1-2,3-4	AP-02
Alarm Module	NTRX41AA		1	61	5-6	AP-02
Thermal Breaker Module	NTRX43AA		1	61	7	AP-02
Breaker Module (10A)	NTRX42AA		3	61	8,9,10	AP-02
Blank Rear Panel 1.20"	P0734476		3	61	11,18, 18R	AP-02
Blank Rear Panel 4.80"	P0734474		2	61	12-15, 12R-15R	AP-02
Blank Rear Panel 2.40"	P0734475		2	61	16-17, 16R-17R	AP-02
Terminal Block (6X3)	P0737547		2	61	2R,11R	AP-02
Terminal Block (4X4)	P0737326		1	61	4R	AP-02
Filler Panel 3 Inch	P0654622			57		RUL1
Screw	P097F813			57		RUL1
Washer	P0284154			57		RUL1
Lock washer	P0183220			57		RUL1
Read Cable Assembly (J1)	NT0X96__			57,33		RUL11
Write Cable Assembly (J2)	NT0X96__			57,33		RUL11
Control Cable Assembly (J3)	NT0X96__			57,33		RUL11
# MTD Cable (Read)	NT0X96AA			57		RUL11
# MTD Cable (Write)	NT0X96AB			57		RUL11
# MTD Cable (Control)	NT0X96AC			57		RUL11
IOM Pertec Smart Connector Assembly	NTFX36AA			47,49,56		RUL15
Pertec Interface Cable Assy	NT0X4320			47,49,56		RUL11, RUL15
CIOE B/HD - FX36AA S/Box Cable Assy	NT0X4321			47,49,56		RUL15
Bulkhead MTD Connector Plate	P0835229			49		RUL15
# DPP Mounting Hdwr CIOE B	NTZZ32QA			47		RUL2
DPP Mounting Hdwr CIOE B	NTZZ32QB			47		RUL2
BMC Mounting Hdwr CIOE B	NTZZ32QD			47		RUL12

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Panel	P0575239			47,33		RUL7
Personality Plate (Blank)	P0715616			47		RUL7
# Magnetic Tape Drive Assembly	NTZZ32BM	MTD		33		RUL1
Magnetic Tape Drive Assembly	NTZZ32BN	MTD		33		RUL1
Mag Tape Drive Unit	NT0X44AB	MTD		33		RUL1
# Mag Tape Drive Int. Market	NTZZ32LA	MTD		33		RUL1
Mag Tape Drive Int. Market	NTZZ32LB	MTD		33		RUL1
Int'l Mag Tape Drive Unit	NT0X44BB	MTD		33		RUL1
Magnetic Tape Drive Hardware	NT0X44AD			33		RUL1
# Magnetic Tape Drive Assembly	A0277744	MTD		33		RUL1
Magnetic Tape Drive Assembly	A0397416	MTD		33		RUL1
# Magnetic Tape Drive Assembly	A0326502	MTD		33		RUL1
Magnetic Tape Drive Assembly	A0397417	MTD		33		RUL1
Power Cable Assembly	NTRX33MC			33		RUL1
# 380 MByte DPP Assembly	NTZZ32PM	DPP		33		RUL2
# 140 MByte DPP Assembly	NTZZ32NA	DPP		33		RUL2
# 380 MByte DPP w/56K	NTZZ09RA	DPP		33		RUL2
# 760 MByte DPP w/56K	NTZZ09SA	DPP		33		RUL2
# 380 MByte DPP w/56K/Compr.	NTZZ32PA	DPP		33		RUL2
# 760 MByte DPP w/56K/Compr.	NTZZ32DM	DPP		33		RUL2
# 140 MByte DPP w/56K/Compr.	NTZZ32NM	DPP		33		RUL2
Dist. Processor Peripheral	NT8X48BD	DPP		33		RUL2
3.5" DPP Shelf w/1GB NON T	NTZZ09AD	DPP		33		RUL2
3.5" DPP Shelf w/1GB TURBO	NTZZ09BD	DPP		33		RUL2
3.5" DPP Shelf w/2GB TURBO	NTZZ09CD	DPP		33		RUL2
3.5" DPP Shelf w/1GB 56K/C	NTZZ09DD	DPP		33		RUL2
3.5" DPP Shelf w/2GB 56K/C	NTZZ09ED	DPP		33		RUL2
BMC Stm DMS-100 Bisync 1GB	NT8M04GC	BMCA		33		RUL12
BMC Stm DMS-100 AMAT 1GB	NT8M04GE	BMCA		33		RUL12
BMC Stm DMS-100 AMAT 1GB T	NT8M04HE	BMCA		33		RUL12
BMC Stm DMS-100 AMAT 2GB T	NT8M04IE	BMCA		33		RUL12
BMC Upg Kit, INDP, Bisync, NT/LSSGR, EMC, DMS100	NT6M97IK			33		RUL12
BMC Upg Kit, 1GB NT to 2GB T	NT6M97JF			33		RUL12
BMC Upg Kit, 1GB T to 2GB T	NT6M97JH			33		RUL12
BMC/DPP to Bulkhead Cable	NTRX33EC			33		RUL13
BMC/DPP to Bulkhead Cable	NTRX33ED			33		RUL13
BMC/DPP to Bulkhead Cable	NTRX33EE			33		RUL13
BMC/DPP to Bulkhead Cable	NTRX33EF			33		RUL13
Power & Control Cable Assy	NT8M99AR			33		RUL13
Personality Plate	P0821302			33		RUL14

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
9 Pin Cover Plate	NTEX5070			33		RUL14
25 Pin Cover Plate	P0686749			33		RUL14
# I/O Controller Module Pkg.	NTZZ32EM	IOC		19		RUL3
# IOC/Bulkhead Cable	NTRX33EH			19		RUL3
I/O Controller Module Pkg.	NTZZ32EN	IOC		19		RUL3
IOC/Bulkhead Cable	NTRX33FH			19		RUL3
Even CIOE, IOC Power Feed	NTRX33WC					RUL3
Odd CIOE, IOC Power Feed	NTRX33WD					RUL3
# Stratum II Rmt Osc. Shelf (DMS-Core, ISG) -48V	NTZZ32HM	ROS		05		RUL4
Stratum II ROS H/W Pkg CIOE	NTZZ32JN	ROS		05		RUL4
# Stratum II ROS (CIOE)	NTZZ32JP	ROS		05		RUL4
# Stratum 2.5 Rmt Osc Shelf (DMS-Core, ISG)	NTZZ32JM	ROS		05		RUL4
Stratum 2.5 ROS H/W Pkg CIOE	NTZZ32HN	ROS		05		RUL4
# Stratum 2.5 ROS (CIOE)	NTZZ32HP	ROS		05		RUL4
# Stratum ROS H/W Pkg (CIOE)	NTZZ32KM	ROS		05		RUL4
# Disk Drive Unit Shelf	NTZZ32FM	DDU		05		RUL5
Power & Control Cassy	NTRX33MD			05		RUL6
Power & Control Cassy	NTRX33ME			05		RUL6
# Power & Control Cassy	NTRX33MF			33		RUL6
# Power & Control Cassy	NTRX33MG			33		RUL6
Filler Panel	NT0X84AA			05		RUL7
Personality Plate (Blank)	P0726351			05		RUL7
IOM-DPP/BMC Interface Kit	NTRX33DW					RUL15
CIOE Retrofit Kit for IOM	NTRX33DX					RUL15
10 " Cooling Unit Kit	NTRX92AA		1	00		AP
CIOE Horizontal Cabling Kit	NTRX33DY					RUL8
CIOE Ext. Power Filter Kit	NTRX33DZ					RUL8
CDSN English Label Kit	NTRX3541					RUL9
CDSN German Label Kit	NTRX3542					RUL9
Des Label 9 Pos (Germany)	P0847106					RUL9
Des Label 13 Pos (Germany)	P0847107					RUL9
Wiring Instructions	LWJRX33DA					RUL10
Frame/Logic Gnd Cluster Kit	NTRX2520		1			AP-01
C28 Cabinet Mechanicals	NTRX25AA					NOTE1
Cabinet Power and Grounding	NTZX16CA					NOTE2
CIOE Door and eqp labels	MS0X60AA					NOTE3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ32EM	MD	NTZZ32EN
NTRX33EH	MD	NTRX33FH
NTZZ32FM	STD*	NT1X55FA
NTZZ32LA	MD	NTZZ32LB
NTZZ32BM	MD	NTZZ32BN
NTZZ32DM	MD	NT8X48BD
NTZZ32NA	MD	NT8X48BD
NTZZ32NM	MD	NT8X48BD
NTZZ32PA	MD	NT8X48BD
NTZZ32PM	MD	NT8X48BD
NTZZ09RA	MD	NT8X48BD
NTZZ09SA	MD	NT8X48BD
NTZZ32QA	MD	NTZZ32QB
NTZZ33MF	MD	NT8M99AR
NTZZ33MG	MD	NT8M99AR
A0277744	MD	A0397416
A0326502	MD	A0397417
NTZZ32HM	MD	NTZZ32JN
NTZZ32JM	MD	NTZZ32HN
NTZZ32HP	MD	NTZZ32HN
NTZZ32JP	MD	NTZZ32JN
NTZZ32KM	MD	No replacement

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

\* Rate change pending. Check product availability.

NOTES:

- 1) The NTZZ47EC has system level provisionable items covering the following:

- \* Seismic Zone provisioning

- \* Grounding options provisioning
- \* Cable routing options provisioning
- \* Cabinet Fail Lamp provisioning
- \* Cabinet door provisioning

For details of the above refer to Engineering Manual Section EMA2-25-001, C28 Cabinet Mechanical Assembly.

- 2) For power and grounding information refer to Engineering Manual Section for EMA17-03-000 Cabinetized Power and Grounding.
- 3) Refer to MS0X60AA for CIOE door label and equipment labeling.

RULES:

- AP 1) When PEC NTZZ47EC is ordered, these items are provided.
- AP-01 1) This item is always provided with NTRX33DA and is shown here for completeness.
- AP-02 1) These items are always provided with NTRX3373 and are shown here for completeness.
- RUL1 1) Reserved for future use.
- 2) An MTD mounted in position 33 occupies mounting position 47 also.
  - 3) For Domestic market, provide one each (1) NT0X44AB, NT0X44AD, A0397416, P0654622, P0284154, P0183220, NTRX33MC, and four (4) P097F813, in place of NTZZ32BN if drive is to be drop shipped to site.
  - 4) For International market, provide one each (1) NT0X44BB, NT0X44AD, A0397417, P0654622, P0284154, P0183220, NTRX33MC, and four (4) P097F813 in place of NTZZ32LB if drive is to be drop shipped to site.
  - 5) With vertical powering, the MTD and its controller card must reside in the same or adjacent cabinet.
  - 6) MTD requires the same power feed as the IOC in the cabinet.

97 09 03

- 7) Refer to the Mag Tape Drive Engineering Manual Sections for more information.
- RUL2
- 1) The Distributed Processor Peripheral (DPP) allows remote polling of Automatic Message Accounting (AMA) in the DMS-100F. Initial DPP units are now ordered by PEC NT8X48BD. Refer to ECM 306 and NT8X48BD EMS for detail ordering information of initial DPPs and upgrades to NT8X48BD.
  - 2) For initial offices, provide (1)NTZZ32QB, DPP mounting hardware, with each DPP ordered. The NT8M99AR power and alarm cable assembly that resides in NTZZ32QB can be provided for existing offices (qty 1 NT8M99AR per NT8X48) with NT8X48AD DPPs per customer request to obtain the enhanced alarm functionality.
  - 3) A DPP mounted in position 33 occupies mounting position 47 also.
- RUL3
- 1) A minimum of two I/O Controller Modules (IOC:00, IOC:01) are required per system.
  - 2) Provide two (2) NTZZ32EN I/O Controller Module packages. One in each frame, in shelf position 19. Number these shelves IOC:00 and IOC:01.
  - 3) Each shelf accommodates up to nine I/O device controller cards.
  - 4) Provide one (1) NTZZ32EN I/O Controller Module Package for each additional nine I/O Device Controller Cards to be accommodated. Number these shelves IOC:02 and up.
  - 5) The IOC shelf and the devices (MTD, DDU, etc.) it interfaces should be cabled to the same power feed on the Cabinetized Power Distribution Center (CPDC).
  - 6) MTD, DPP, or DDU controller cards can be assigned to only slot 4 or slot 6 of the IOC shelf in the CIOE. The cables from these slots to the bulkhead are not normally provided since the MTD/DDU/DPP are cabled directly to the IOC. The MTD,DPP or DDU connected to these slots must be inside the same Faraday cage of the CIOE or the adjacent CIOE. If slots 4 and/or 6 are not occupied by MTD, DDU, or DPP controller cards, other controller cards may be used in these slots. If other controller cards are used, provide 4 NTRX33FH IOC/Bulkhead cables (4 per cp) for a maximum of 8 cables for 2 slots.



Connect NTRX33FH as indicated in the table below:

FROM					TO	
CABLES	QTY	SHELF	SHELF POS	CONN	BULKHEAD POSITION	CONN
NTRX33FH		IOC	19	C04-C11	19	C04-C11

- 7) Provide one (1) NTRX33WC wiring when the IOC is provisioned in an even CIOE cabinet (feed A).
- 8) Provide one (1) NTRX33WD wiring when the IOC is provisioned in an odd CIOE cabinet (feed B).
- 9) Refer to the I/O Controller Module Engineering Manual Section for more information.

RUL4

- 1) Provide one (1) NTZZ32JN Stratum II ROS H/W pkg on shelf position 5 when Stratum II feature is required in a DMS-Core ISG office. The NTZZ32JN is required in markets where -48V power is required. The NT3X95AB Stratum II ROS is NOT always provided (AP) with the NTZZ32JN, but must be ordered per the rules within NTZZ32JN.
- 2) Provide one (1) NTZZ32HN Stratum 2.5 ROS H/W pkg in shelf position 5 when Stratum 2.5 feature is required. The NT3X95BB Stratum 2.5 ROS is NOT always provided (AP) with the NTZZ32HN, but must be ordered per the rules within NTZZ32HN.
- 3) If Stratum II Remote Oscillator Shelf is provided, the following rules apply:
  - a) The CIOE cabinet must be adjacent to the SuperNode cabinet.
  - b) The ROS shelf must be powered from the same CPDC as the SuperNode cabinet.
- 4) If the Stratum 2.5 ROS is provided, the CIOE must be located within 200 feet of the DMS-Core Message Switch Shelf.
- 5) The Remote Oscillator Shelf has two backplanes mounted on the same shelf. Backplane "A" is located at slot positions 1 through 14 and backplane "B" is located at slot positions

15 through 27. There is a power converter located at slot position 6 for backplane "A" and at slot position 20 for backplane "B".

- 6) When ordering this shelf for field installation, provision 5 meters of NT-26CR (R0109836) wire coloured green.
- 7) Refer to the Stratum Engineering Manual Sections for more information.

RUL5

- 1) The NTZZ32FM DDU shelf is to be mounted in CIOE shelf position 05 only.
- 2) Provide a minimum of one (1) maximum of two (2) NTZZ09UA 228MB Disk Drive Units per NTZZ32FM shelf.
- 3) The 1st DDU shall be located on the left side (slot 10) of the NT4X00AF Dual Disk Drive shelf. If a 2nd DDU is required on the same shelf, it shall be located on the right side (slot 18).
- 4) The NT1X55DA disk drive controller must be provisioned with the NT4X00AF (two controllers per shelf). If there are two DDUs, one controller (NT1X55) shall mount on IOC 0 and the other on IOC 1. With vertical powering, the DDU and its controller card must reside in the same or adjacent cabinets.
- 5) In a disk office the Disk Drive Unit Shelf (DDU) replaces the MTD as the office primary mass storage system.
- 6) Refer to the DDU Engineering Manual Section for more information.
- 7) The NTZZ32FM and its Controller CP NT1X55DA are replaced by the SCSI Disk Drive Unit (SCSI-DDU) NT1X55FA which is a circuit pack mounted on the IOC shelf in any of the following nine (9) slot positions: 4, 6, 8, 10, 12, 14, 16, 18, or 20. Refer to TABLE B or T\_IOC\_BB\_CP for provisioning of the SCSI DDU.

For initial jobs, provide the SCSI-DDU NT1X55FA when GA, as the DDU shelf on the CIOE cabinet is no longer provisioned. Refer to SCSI-DDU ECM for software restrictions.

For field upgrades, the NT1X55FA can be mounted in any of the slot positions listed above. If, per the IOC layout, the NT1X55FA is to be mounted in the same slot as the current NT1X55DA, then remove the NT1X55DA, neighboring

NT0X50AA, and cables connected to the associated ESDI-DDU and the DDU shelf.

- RUL6
- 1) Provide one (1) NTRX33MD and one (1) NTRX33ME Power & Control cable assemblies to connect the DDU or Stratum in shelf position 05 to the Modular Supervisory Panel (MSP). However, if a DPP or BMC is being provisioned at the same time, do not provide NTRX33MD or NTRX33ME. Use NT8M99AR Power & Control cable assembly, provided via the DPP Mounting Hardware Building block or provisioned separately for the BMC, to connect the DPP/BMC and DDU or Stratum to the MSP.
  - 2) If an existing office has a DDU or Stratum in shelf position 05 and a DPP or BMC is to be provided in the CIOE in shelf position 33, the existing NTRX33MD and NTRX33ME cables need to be removed and replaced by the NT8M99AR cable assembly.
  - 3) The cables provided herein shall be connected as indicated in the table below:

FROM					TO	
CABLES	QTY	SHELF	SHELF POS	CONN	BULKHEAD POSITION	CONN
NTRX33MD	1	DDU 00 OR STRM-00	05	SCR	MSP (61)	J1/61-08
NTRX33ME		DDU 01 OR STRM-01				J1/61-09
NT8M99AR	1	DPP/BMC CH/A & STR-00 OR DDU_00	33	J16	47	A J16
				J15		J1/61-08
				SCR		B J14
NT8M99AR	1	DPP/BMC CH/B & STR-01 OR DDU_01	33	J15,J16	47	J1/61-09
				SCR		
NTRX33EC	1	DPP or BMC	33	J1	47	A J1
NTRX33ED	1	CH/A		J4		A J4
NTRX33EE	2	DPP or BMC CH/B		J11		B J11
				J12		B J12
NTRX33EF	2	DPP or BMC CH/B		J13		B J13
				J14		B J14
NTRX33EC	2	BMC CH/A		J2,J3		AJ2 AJ3

Figure 1. CABLE CONNECTION TABLE

- RUL7 1) Provide one (1) NTOX84AA filler when position 05 is not equipped and provide one (1) P0575239 filler for each other position (33 or 47) that is not equipped.
- 2) Provide one (1) P0715616 Blank Personality Plate in bulkhead position 47 when filler panels (P0575239) are equipped in 33 and 47.
- 3) Provide one (1) P0726351 Blank Personality Plate in position 05 when filler panel NTOX84AA or dual disk drive is equipped in position 05.
- RUL8 1) Provide one (1) NTRX33DY when the office utilizes the horizontal power configuration. A horizontal power arrangement is used in Cabinetization Model A lineups. The NTRX33DY Horizontal Power Kit may be used when CIOE Cabinets are included in a Model A lineup (i.e. Model B extensions to Model A offices). This kit consists of power cables, a separation bracket, and hardware. See ECM 683 for a description of horizontal power.
- 2) Provide one (1) NTRX33DZ when the office utilizes the vertical/external power configuration. A maximum of three (3) Model B Cabinets, including CIOE, with external power arrangements may be configured in a single lineup of Model A Cabinets (i.e. in Model B extensions to Model A offices). This kit consists of a power filter kit, cables, boots, lugs, and hardware. See ECM 683 for a description of vertical/external power.
- RUL9 1) Provide one (1) NTRX3541 English label kit when the cabinet is required for customers in an English speaking environment.
- 2) Provide one (1) NTRX3542 German label kit, (1) P0847106 9 position label, and/or (1) P0847107 13 position label when the cabinet is required for customers in a German speaking environment.
- RUL10 1) Provide one LWJRX33DA and one ADRX33DA drawing to assist the installer when provisionable shelves are to be field installed.
- RUL11 1) Provide 1 each Read, Write, and Control cable assemblies per CARX15 cable drawing for each MTD, DPP, or BMC. NTOX96\_\_ cables are fixed length. When and MTD, DPP, or BMC is controlled by an IOM, do not provide NTOX96\_\_ cables, they are replaced by the NTOX4320.

RUL12 1) Provide maximum one(1) NT8M04GC, NT8M04GE, NT8M04HE or NT8M04IE Billing Media Converter unit per office requirements. Refer to ECM 202 and EMS for detail ordering information of initial BMCs and upgrades. Check URTS date on any BMC or upgrade kit ordered.

RUL13 1) The NT8M99AR power and alarm cable assembly can be provided for existing offices with NT8X48AD DPPs (per customer request for enhanced alarm functionality).

When engineering a new office using NTZZ32QB (for DPP offices) or NTZZ32QD (for BMC offices) the following cables (in items 2 - 5) are already included within the building blocks and should not be provisioned individually.

2) For each NT8M04GC/GE/HE/IE BMC, provide one each NT8M99AR power and alarm cable assembly.

3) For each NT8M04GC/GE/HE/IE BMC, provide three each NTRX33EC BMC/DPP to bulkhead cable assembly.

4) For each NT8M48BD DPP, provide one each NTRX33EC BMC/DPP to bulkhead cable assembly.

5) For each DPP or BMC, provide one NTRX33ED, two NTRX33EE, and two NTRX33EF bulkhead cable assemblies.

6) See Figure 1 on page 13

RUL14 1) Provide one each P0821302 Personality Plate for each DPP or BMC ordered.

2) Provide two each NTEX5070 9 Pin Cover Plate for each DPP or BMC ordered.

3) Provide two each P0686749 25 Pin Cover Plate for each BMC ordered.

RUL15 1) When a new DPP/BMC is to be controlled by an IOM, provide two (2) NTFX36AA IOM Pertec Smart Connector Assemblies in shelf positions 47 and 56, two (2) NT0X4320 Pertec Interface Cable Assemblies, two (2) NT0X4321 CIOE Bulkhead to FX36AA Cable Assemblies.

2) When a DPP/BMC is to be controlled by an IOM, RUL14 is not required.

3) When an existing DPP/BMC is to be controlled by an IOM, provide one (1) NTRX33DW IOM-DPP/BMC Interface Kit.

- 4) When a DPP is controlled by an IOM, order two (2) extra NTRX33EC cable assemblies for J2 and J3 connectors (on the DPP product only). These cables are for NTFX34AA interface, supplied with NTRX4001 and are connected on the installers side of the bulkhead.
- 5) When a new MTD is to be controlled by an IOM, provide one (1) NTFX36AA IOM Pertec Smart Connector Assembly in shelf position 49, one (1) NT0X4320 Pertec Interface Cable Assembly, and one (1) NT0X4321 CIOE Bulkhead to FX36AA Cable Assembly. Do not provide NT0X96\_\_ cables, they are replaced by the NT0X4320. Order quantity one (1) P0835229 Bulkhead MTD Connector Plate (instead of P0715616) for each MTD provided.
- 6) When an existing MTD is to be controlled by an IOM, provide one (1) NTRX33DX CIOE Retrofit Kit for IOM.

DPP SHELF,  
3.5" DISK, 1GB, 56K COMPRESSION

PEC CODE: NTZZ09DD

CPC CODE: B0246005

RATING: Standard.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: DPP

ENGINEERING DESCRIPTION: The Distributed Processing Peripheral (DPP) is offered with 3.5" disk drive technology with a disk capacity of 1GB. The DPP is designed to capture, store, and forward AMA call records from the DMS-100 family of switches.

REFERENCE DOCUMENTATION: MS8X48BD 01 01

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: Bob Belvin Dept. 3471 (PPK)

MAIN CONTACT: NTI: Richard Mathias Dept. 3471 (PPK)

Active Equipment  
DPP SHELF,  
3.5" DISK, 1GB, 56k Compression

EMB5-04-SCSI-1C  
Page 1



NTZZ09DD EMB5-04-SCSI-1C CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 25	ECM 306 24	Introduce new 3.5 " drive DPP 1GB with 56K Compression.

The DPP SHELF, 3.5" DISK, 1GB, 56k Compression is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
UL DPP Shelf w/3.5" Disk	NT8X48BD		1			AP
1GB Disk Drive Assy	NT6M72GA		2	A,B	21	AP
56K/Compression I/F CP	NT6M94BA		2	A,B	7	AP
56K Crossover CP	NT6M48AA		1	B	16	AP
56K Conn CP	NT6M54AL		1	B	26	AP
56K I/F Xover A Cable Assy	NT6M73AJ		1			AP
56K I/F Xover B Cable Assy	NT6M73AK		1			AP
56K Xover Conn Cable Assy	NT6M85CA		1			AP
Keyed Status Panel Assy	NT6M59AA			A	19	RUL1
Keyless Status Panel Assy	NT6M59AB			A	19	RUL1
Filler Panel Assy	NT8M59BB			B	19	RUL2
Filler Panel Assy, rover	NT6M59BB			B	19	RUL2
RS232-C Modem Cable Assy	NT8M99AG					RUL3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ09DD is ordered, these items are provided.

- RUL1 1) A status panel is needed to provide a display to DPP processor status and manual switch for forcing DPP processor changes.
- 2) If a keylock type switch is ordered, provide one NT6M59AA Keyed status panel in position 19 of the A (upper) Chassis.
- 3) If a keyless type switch is ordered, provide one NT6M59AB Keyless status panel in position 19 of the A (upper) Chassis.
- RUL1 1) A filler panel is needed to provide a point for attaching anti-static wrist straps. Two types are provided, one with a connector jack that is compatible with 20 ma loop rover (portable) maintenance terminal, and one without the connector jack.
- 2) If the customer orders the filler panel without the jack, provide one NT8M59BB filler panel in position 19 of the B (lower) chassis.
- 3) If the customer orders the filler panel with the jack, provide one NT6M59BB panel in position 19 of the B (lower) chassis.
- RUL3 1) If either the 56K or 56K/Compression polling option is selected, the DPP comes equipped with an additional modem port for RS232-C modem communications. Provide one RS232-C Modem Cable Assy if the customer requests to use it for a back-up modem. This cable has a length of 50 feet (15.24 meters).

DPP SHELF  
3.5 DISK 1GB NON-TURBO

PEC CODE: NTZZ09AD

CPC CODE: B0246002

RATING: Standard.

REPLACES: N/A

REPLACED BY: N/A

ABBREVIATION NAME: DPP

ENGINEERING DESCRIPTION: The Distributed Processing Peripheral (DPP) is offered with 3.5" disk drive technology with a disk capacity of 1GB. The DPP is designed to capture, store, and forward AMA call records from the DMS-100 family of switches.

REFERENCE DOCUMENTATION: MS8X48BD 01 01

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

| ISSUE AUTHOR: Barbara Berkley Dept. 3471 (PPK)

| MAIN CONTACT: Barbara Berkley Dept. 3471 (PPK)

NTZZ09AD EMB5-04-SCSI-1N CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 25	ECM 306 24	Introduce new 3.5 " drive DPP with 1GB
97 06 17	ECM 306 27	Remove qty of (2) NT0X9501 cables (they are AP within the NT8X48BD); as noted per SR RR76154.

The DPP SHELF 3.5 DISK 1GB NON-TURBO is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
UL DPP Shelf w/3.5" Disk	NT8X48BD		1			AP
1GB Disk Drive Assy	NT6M72GA		2	A,B	21	AP
Keyed Status Panel Assy	NT6M59AA			A	19	RUL1
Keyless Status Panel Assy	NT6M59AB			A	19	RUL1
Filler Panel Assy	NT8M59BB			B	19	RUL2
Filler Panel Assy, rover	NT6M59BB			B	19	RUL2

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

- AP 1) When PEC NTZZ09AD is ordered, these items are provided.
- RUL1 1) A status panel is needed to provide a display to DPP processor status and manual switch for forcing DPP processor changes.
- 2) If a keylock type switch is ordered, provide one NT6M59AA Keyed status panel in position 19 of the A (upper) Chassis.

- 3) If a keyless type switch is ordered, provide one NT6M59AB Keyless status panel in position 19 of the A (upper) Chassis.
- RUL2 1) A filler panel is needed to provide a point for attaching anti-static wrist straps. Two types are provided, one with a connector jack that is compatible with 20 ma loop rover (portable) maintenance terminal, and one without the connector jack.
- 2) If the customer orders the filler panel without the jack, provide one NT8M59BB filler panel in position 19 of the B (lower) chassis.
- 3) If the customer orders the filler panel with the jack, provide one NT6M59BB panel in position 19 of the B (lower) chassis.

DPP SHELF,  
3.5" DISK 1GB TURBO

PEC CODE: NTZZ09BD

CPC CODE: B0246007

RATING: Standard.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: DPP

ENGINEERING DESCRIPTION: The Distributed Processing Peripheral (DPP) is offered with 3.5" disk drive technology with a disk capacity of 1GB in a Turbo mode. The DPP is designed to capture, store, and forward AMA call records from the DMS-100 family of switches.

REFERENCE DOCUMENTATION: MSZZ09BD 01 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: Bob BELvin Dept. 3471 (PPK)

MAIN CONTACT: NTI: Richard Mathias Dept. 3471 (PPK)



NTZZ09BD EMB5-04-SCSI-1T CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 25	ECM 306 24	Introduce new 3.5 " drive DPP 1GB Turbo.

The DPP SHELF, 3.5" DISK 1GB Turbo is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
UL DPP Shelf w/3.5" Disk	NT8X48BD		1			AP
1GB Disk Drive Assy	NT6M72GA		2	A,B	21	AP
56 Kbps I/F CP	NT6M94AA		2	A,B	7	AP
56K Crossover CP	NT6M48AA		1	B	16	AP
56K Conn CP	NT6M54AL		1	B	26	AP
56K I/F Xover A Cable Assy	NT6M73AJ		1			AP
56K I/F Xover B Cable Assy	NT6M73AK		1			AP
56K Xover Conn Cable Assy	NT6M85CA		1			AP
Keyed Status Panel Assy	NT6M59AA			A	19	RUL1
Keyless Status Panel Assy	NT6M59AB			A	19	RUL1
Filler Panel Assy	NT8M59BB			B	19	RUL2
Filler Panel Assy, rover	NT6M59BB			B	19	RUL2
RS232-C Modem Cable Assy	NT8M99AG					RUL3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ09BD is ordered, these items are provided.

- RUL1 1) A status panel is needed to provide a display to DPP processor status and manual switch for forcing DPP processor changes.
- 2) If a keylock type switch is ordered, provide one NT6M59AA Keyed status panel in position 19 of the A (upper) Chassis.
- 3) If a keyless type switch is ordered, provide one NT6M59AB Keyless status panel in position 19 of the A (upper) Chassis.
- RUL2 1) A filler panel is needed to provide a point for attaching anti-static wrist straps. Two types are provided, one with a connector jack that is compatible with 20 ma loop rover (portable) maintenance terminal, and one without the connector jack.
- 2) If the customer orders the filler panel without the jack, provide one NT8M59BB filler panel in position 19 of the B (lower) chassis.
- 3) If the customer orders the filler panel with the jack, provide one NT6M59BB panel in position 19 of the B (lower) chassis.
- RUL3 1) The DPP comes equipped with an additional modem port for RS232-C modem communications. Provide one RS232-C Modem Cable Assy if the customer requests to use it for a back-up modem. This cable has a length of 50 feet (15.24 meters).

DPP SHELF,  
3.5" DISK, 2GB, 56K COMPRESSION

PEC CODE: NTZZ09ED

CPC CODE: B0246004

RATING: Standard.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: DPP

ENGINEERING DESCRIPTION: The Distributed Processing Peripheral (DPP) is offered with 3.5" disk drive technology with a disk capacity of 2GB. The DPP is designed to capture, store, and forward AMA call records from the DMS-100 family of switches.

REFERENCE DOCUMENTATION: MS8X48BD 01 01

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: Bob Belvin Dept. 3471 (PPK)

MAIN CONTACT: NTI: Richard Mathias Dept. 3471 (PPK)

96 03 25

NTZZ09ED EMB5-04-SCSI-2C CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 25	ECM 306 24	Introduce new 3.5 " drive DPP 2GB with 56K Compression.

Active Equipment  
DPP SHELF,  
3.5" DISK, 2GB, 56k Compression

NTZZ09ED  
EMB5-04-SCSI-2C  
Page 2

The DPP SHELF, 3.5" DISK, 2GB, 56k Compression is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
UL DPP Shelf w/3.5" Disk	NT8X48BD		1			AP
1GB Disk Drive Assy	NT6M72HA		2	A,B	21	AP
56K/Compression I/F CP	NT6M94BA		2	A,B	7	AP
56K Crossover CP	NT6M48AA		1	B	16	AP
56K Conn CP	NT6M54AL		1	B	26	AP
56K I/F Xover A Cable Assy	NT6M73AJ		1			AP
56K I/F Xover B Cable Assy	NT6M73AK		1			AP
56K Xover Conn Cable Assy	NT6M85CA		1			AP
<hr/>						
Keyed Status Panel Assy	NT6M59AA			A	19	RUL1
Keyless Status Panel Assy	NT6M59AB			A	19	RUL1
Filler Panel Assy	NT8M59BB			B	19	RUL2
Filler Panel Assy, rover	NT6M59BB			B	19	RUL2
RS232-C Modem Cable Assy	NT8M99AG					RUL3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ09ED is ordered, these items are provided.

- RUL1 1) A status panel is needed to provide a display to DPP processor status and manual switch for forcing DPP processor changes.
- 2) If a keylock type switch is ordered, provide one NT6M59AA Keyed status panel in position 19 of the A (upper) Chassis.
- 3) If a keyless type switch is ordered, provide one NT6M59AB Keyless status panel in position 19 of the A (upper) Chassis.
- RUL1 1) A filler panel is needed to provide a point for attaching anti-static wrist straps. Two types are provided, one with a connector jack that is compatible with 20 ma loop rover (portable) maintenance terminal, and one without the connector jack.
- 2) If the customer orders the filler panel without the jack, provide one NT8M59BB filler panel in position 19 of the B (lower) chassis.
- 3) If the customer orders the filler panel with the jack, provide one NT6M59BB panel in position 19 of the B (lower) chassis.
- RUL3 1) If either the 56K or 56K/Compression polling option is selected, the DPP comes equipped with an additional modem port for RS232-C modem communications. Provide one RS232-C Modem Cable Assy if the customer requests to use it for a back-up modem. This cable has a length of 50 feet (15.24 meters).

DPP SHELF,  
3.5" DISK 2GB TURBO

PEC CODE: NTZZ09CD

CPC CODE: B0246006

RATING: Standard.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: DPP

ENGINEERING DESCRIPTION: The Distributed Processing Peripheral (DPP) is offered with 3.5" disk drive technology with a disk capacity of 2GB in a Turbo mode. The DPP is designed to capture, store, and forward AMA call records from the DMS-100 family of switches.

REFERENCE DOCUMENTATION: MSZZ09BD 01 01

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: Bob Belvin Dept. 3471 (PPK)

MAIN CONTACT: NTI: Richard Mathias Dept. 3471 (PPK)



NTZZ09CD EMB5-04-SCSI-2T CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 25	ECM 306 24	Introduce new 3.5 " drive DPP 2GB Turbo.

The DPP SHELF, 3.5" DISK 2GB Turbo is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
UL DPP Shelf w/3.5" Disk	NT8X48BD		1			AP
2GB Disk Drive Assy	NT6M72HA		2	A,B	21	AP
56 Kbps I/F CP	NT6M94AA		2	A,B	7	AP
56K Crossover CP	NT6M48AA		1	B	16	AP
56K Conn CP	NT6M54AL		1	B	26	AP
56K I/F Xover A Cable Assy	NT6M73AJ		1			AP
56K I/F Xover B Cable Assy	NT6M73AK		1			AP
56K Xover Conn Cable Assy	NT6M85CA		1			AP
Keyed Status Panel Assy	NT6M59AA			A	19	RUL1
Keyless Status Panel Assy	NT6M59AB			A	19	RUL1
Filler Panel Assy	NT8M59BB			B	19	RUL2
Filler Panel Assy, rover	NT6M59BB			B	19	RUL2
RS232-C Modem Cable Assy	NT8M99AG					RUL3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ09CD is ordered, these items are provided.

- RUL1 1) A status panel is needed to provide a display to DPP processor status and manual switch for forcing DPP processor changes.
- 2) If a keylock type switch is ordered, provide one NT6M59AA Keyed status panel in position 19 of the A (upper) Chassis.
- 3) If a keyless type switch is ordered, provide one NT6M59AB Keyless status panel in position 19 of the A (upper) Chassis.
- RUL2 1) A filler panel is needed to provide a point for attaching anti-static wrist straps. Two types are provided, one with a connector jack that is compatible with 20 ma loop rover (portable) maintenance terminal, and one without the connector jack.
- 2) If the customer orders the filler panel without the jack, provide one NT8M59BB filler panel in position 19 of the B (lower) chassis.
- 3) If the customer orders the filler panel with the jack, provide one NT6M59BB panel in position 19 of the B (lower) chassis.
- RUL3 1) The DPP comes equipped with an additional modem port for RS232-C modem communications. Provide one RS232-C Modem Cable Assy if the customer requests to use it for a back-up modem. This cable has a length of 50 feet (15.24 meters).

97/12/09

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EMB8

OPERATOR EQUIPMENT CHAPTER ALL

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OPERATOR EQUIPMENT CHAPTER ALL

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97/12/09

## OPERATOR EQUIPMENT CHAPTER ALL

EMB8-01-ASY-1	CAB CONCR FLR E/Q ZONE 1-3 ANCHOR ASSY	NTZZ29GA
EMB8-01-ASY-2	CAB CONCR FLR E/Q ZONE 4-7 ANCHOR ASSEMB	NTZZ29HA
EMB8-01-ASY-3	CABINET CONCR FLR NON-E/Q ANCHOR ASSY	NTZZ29JA
EMB8-01-CBT	COMPUTER BASED TRAINING SYSTEM	NTZZ29KA
EMB8-01-CTCP	CABLE TROUGH COVER PLATES	NTZZ29EA
EMB8-01-CTEP	CABLE TROUGH END PLATES	NTZZ29FA
EMB8-01-MFA	MODEM FILLER ASSEMBLY	NTZZ29NA
EMB8-02-JA-2	TOPS MPX HEADSET JACK ASSEMBLY 10 FOOT	NTZZ36AA
EMB8-02-JA-3	TOPS MPX HEADSET JACK ASSEMBLY	NTZZ36EA
EMB8-03-001	TOPS IWS INTEL (166 MHZ) PLATFORM WITHOU	NTZZ36HA
EMB8-03-002	IWS INTEL (166 MHZ) W/O MONITOR W/ PCI A	NTZZ36HB

97/12/09

CAB CONCR FLR E/Q ZONE 1-3 ANCHOR ASSY

NTZZ29GA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Cabinet Anchor Assembly for concrete floor,  
earthquake zone 1-3. (Canada Only)

REFERENCE DOCUMENTATION: SLZZ29GA 00 01  
NTZZ29GA REL 01

The Cab Concr Flr E/Q Zone 1-3 Anchor Assy is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Anchor Assembly	NT0X21AV		4			AP
Shims	NT0X21AH		1			AP

RULES:

- AP 1) When PEC NTZZ29GA is ordered, these items are provided.



CAB CONCR FLR E/Q ZONE 4-7 ANCHOR ASSEMBLY

NTZZ29HA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Cabinet Anchor Assembly for concrete floor,  
earthquake zone 4-7. (Canada Only)

REFERENCE DOCUMENTATION: SLZZ29HA 00 01  
NTZZ29HA REL 01

The Cab Concr Flr E/Q Zone 4-7 Anchor Assy is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Anchor Assembly	NT0X21AW		4			AP
Shims	NT0X21AH		1			AP

RULES:

- AP 1) When PEC NTZZ29HA is ordered, these items are provided.

CABINET CONCR FLR NON-E/Q ANCHOR ASSY

NTZZ29JA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Cabinet Anchor Assembly for concrete floor,  
non-earthquake. (Canada Only)

REFERENCE DOCUMENTATION: SLZZ29JA 00 01  
NTZZ29JA REL 01

The Cabinet Concr Flr Non-E/Q Anchor Assy is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Anchor Assembly	NT0X21AV		4			AP
Levelling Feet	A0329731		4			AP

RULES:

- AP 1) When PEC NTZZ29JA is ordered, these items are provided.

COMPUTER BASED TRAINING SYSTEM

NTZZ29KA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Computer Based Training System

REFERENCE DOCUMENTATION: SLZZ29KA 00 01  
NTZZ29KA REL 01

The Computer Based Training System is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
C.B.T. System	20000019-01		1			AP
C.B.T. Cabinet	940-001-001T		1			AP

RULES:

AP 1) When PEC NTZZ29KA is ordered, these items are provided.

CABLE TROUGH COVER PLATES

NTZZ29EA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Cable Trough Cover Plates (Canada Only)

REFERENCE DOCUMENTATION: SLZZ29EA 00 01  
NTZZ29EA REL 01

The Cable Trough Cover Plates is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Cover Plate	P0688822		2			AP
Screw	P0575598		4			AP
Washer	P0242132		4			AP
Washer	P049C096		4			AP
Screw	P099Q132		2			AP

RULES:

- AP 1) When PEC NTZZ29EA is ordered, these items are provided.



CABLE TROUGH END PLATES

NTZZ29FA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Cable Trough End Plates (Canada Only)

REFERENCE DOCUMENTATION: SLZZ29FA 00 01  
NTZZ29FA REL 01

The Cable Trough End Plates is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
End Cover	P0688821		1			AP
Screws	P0575598		4			AP
Washers	P0242132		6			AP
Washers	P049C096		4			AP
Screws	P099Q132		2			AP

RULES:

AP 1) When PEC NTZZ29FA is ordered, these items are provided.

MODEM FILLER ASSEMBLY

NTZZ29NA

RATING: Standard  
ABBREVIATION NAME: N/A  
ENGINEERING DESCRIPTION: Modem Filler Assembly  
REFERENCE DOCUMENTATION: SLZZ29NA 00 01  
NTZZ29NA REL 01

The Modem Filler Assembly is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Plate	P0687530		1	XX		AP
Mounting Screws	P097F813		4	XX		AP

RULES:

AP 1) When PEC NTZZ29NA is ordered, these items are provided.

NOTES:

1) XX = 42, 33 or 24

TOPS MPX HEADSET JACK ASSEMBLY 10 FOOT

NTZZ36AA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: TOPS MPX Headset Jack Assembly 10 Foot.

REFERENCE DOCUMENTATION: SLZZ36AA 00 01  
NTZZ36AA REL 01

The TOPS MPX Headset Jack Assembly 10 Foot is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Headset Jack Assembly	NTNX5308		2			AP
Spacer	P098D178		1			AP
Screw	P0113616		1			AP
Washer	P0286117		1			AP

RULES:

- AP 1) When PEC NTZZ36AA is ordered, these items are provided.

TOPS MPX HEADSET JACK ASSEMBLY

NTZZ36EA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: TOPS MPX Headset Jack Assembly

REFERENCE DOCUMENTATION: SLZZ36EA 00 01

The TOPS MPX Headset Jack Assembly is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Headset Jack Assembly	NTNX5309		2			AP
Spacer	P098D178		1			AP
Screw	P0113616		1			AP
Washer	P0286117		1			AP

NOTES:

- 1) The cable assembly included in the NTNX5309 Headset Jack Assembly is ten foot in length.

RULES:

- AP 1) When PEC NTZZ36EA is ordered, these items are provided.



## TOPS IWS INTEL (166 MHZ) PLATFORM WITHOUT MONITOR

PEC CODE: NTZZ36HA

CPC CODE: B0249421

RATING: Standard

REPLACES: NTZZ36GG

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The NTZZ36HA contains the NTN51VB (Intel) position. This position has a 166 MHz processor and requires IWS Release 6.0 (06BF version) or higher.

REFERENCE DOCUMENTATION: MSNX51BA 00 29 SLNX51HA 00 01

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

| ISSUE AUTHOR: Dawn Yost Dept. 3471 (PPK)

| MAIN CONTACT: Dawn Yost Dept. 3471 (PPK)

NTZZ36HA EMB8-03-001 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 06 20	ECM 695 17	Introduction of the NTZZ36HA Intel Position building block per EC 011-22461.

The TOPS IWS Intel (166 MHz) Platform without monitor is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
TOPS IWS ISA Intel Position	NTNX51VB		1			AP
ISA Token Ring Card	A0619543		1			AP
TOPS MPX ISA Audio Card	NTNX52BC		1			AP
Universal Wiring Duct	P0803055		1			AP
T.R. Data Cbl, Posn-Junc Box	A0385644		1			AP
Voice Cbl, Posn-Junc Box	NT0R82AB		1			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ36HA is ordered, these items are provided.

## IWS INTEL (166 MHZ) W/O MONITOR W/ PCI AUDIO CARD

PEC CODE: NTZZ36HB

CPC CODE: B0249420

RATING: Standard.

REPLACES: NTZZ36GH

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The NTZZ36HB contains the NTN51VB (Intel) position. This position has a 166 MHz processor and the PCI audio card. This BB requires IWS Release 7.0 or higher.

REFERENCE DOCUMENTATION: MSNX51BA 00 29 SLNX51HB 00 01

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

| ISSUE AUTHOR: Dawn Yost Dept. 3471 (PPK)

| MAIN CONTACT: Dawn Yost Dept. 3471 (PPK)

NTZZ36HB EMB8-03-002 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 06 20	ECM 695 17	Introduction of the NTZZ36HB Intel Position building block per EC 011-22461.

The IWS Intel (166 MHz) w/o monitor w/ PCI audio card is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
TOPS IWS ISA Position	NTNX51VB		1			AP
ISA Token Ring Card	A0619543		1			AP
TOPS MPX PCI Audio Card	NTNX52CC		1			AP
Universal Wiring Duct	P0803055		1			AP
T.R. Data Cbl, Posn-Junc Box	A0385644		1			AP
Voice Cbl, Posn-Junc Box	NT0R82AB		1			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) This BB should be provisioned in all E1 configurations with RS-422 data connections and G.703 audio connections.

RULES:

- AP 1) When PEC NTZZ36HB is ordered, these items are provided.

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EMB9

CELLULAR MOBILE SYSTEMS CHAPTER (ALL)

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CELLULAR MOBILE SYSTEMS CHAPTER (ALL)

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97/12/09

## CELLULAR MOBILE SYSTEMS CHAPTER (ALL)

EMB9-03-DSP-3	MTX - DSPM COMMON CP	NTZZ38RA
EMB9-03-CGM-1	MTXD - FILLER PANEL ASSEMBLY KIT	NTZZ38EM
EMB9-03-DRS-B	DICP - BROWN CABINET	NTZZ38TA
EMB9-03-DRS-G	DICP - GRAY CABINET	NTZZ38SA
EMB9-03-DSP-1	DICP - DSPM SHELF KIT	NTZZ38LA
EMB9-03-DSP-2	MDSP - DSPM SHELF KIT	NTZZ38MA
EMB9-03-FFP	FILLER FACE PLATE PACKAGE	NTZZ38QA
EMB9-03-ICP-1	MTX - ICP COMMON CP (FOR < BCS32+)	NTZZ38WA
EMB9-03-ICP-2	MTX - ICP COMMON CP (FOR >= BCS32+)	NTZZ38XA
EMB9-03-ICP-3	MTX - ICP COMMON CP (FOR XPM PLUS)	NTZZ38YA
EMB9-03-IOE-1	MTXD - I/O BASIC (UNIVERSAL)	NTZZ38AM
EMB9-03-MTD-1	MTXD - MTD ASSEMBLY	NTZZ38DM
EMB9-03-PTM-1	MTXD - PTM	NTZZ38HM
EMB9-10-ICRM-1	ICRM - DUPLEX	NTZZ38AA
EMB9-10-ICRM-2	ICRM - SIMPLEX	NTZZ38BA
EMB9-10-ICRM-3	ICRM EXP SHELF - DUPLEX	NTZZ38CA
EMB9-10-ICRM-4	ICRM EXP SHELF - SIMPLEX	NTZZ38DA
EMB9-15-000	MDSP (GREY)	NTZZ38BM
EMB9-15-MDSP-1	MDSP (GREY)	NTZZ60AA
EMB9-15-MDSP-2	MDSP (BROWN)	NTZZ60KA

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EMB9

CELLULAR MOBILE SYSTEMS CHAPTER (ALL)

MTX - DSPM COMMON CP

NTZZ38RA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This building block contains circuit packs for one (1) DSP unit. This building block mounts on the MDSP cabinet, NTAX82AA or the DICP cabinet, NTAX75AA.

REFERENCE DOCUMENTATION: SLZZ38RA 00 01 REL 01

MARKETS: Applicable markets:  
Wireless

NTZZ38RA EMB9-03-DSP-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 92 12 18	----- ECM 470 09	Previous history not available New insert introduced.

The MTX - DSPM Common CP is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DSP Control Processor	NTAX80AA		1	X	Y	AP
Desig Label NTAX80AA	P0737139		1	X	Y	AP
Backplane Terminator	NTAX79AA		1	X	YR+4R	AP

NOTES:

- 1) X = 5, 19, 33, 47 for the MDSP cabinet, NTAX82AA.
- 2) X = 33, 47 for the DICP cabinet, NTAX75AA.
- 3) Y = 4, 9, 15, 20 for the NTAX75AA and NTAX82AA cabinets.

RULES:

- AP 1) When PEC NTZZ38RA is ordered, these items are provided.

MTXD - FILLER PANEL ASSEMBLY KIT

PEC CODE: NTZZ38EM

CPC CODE: B0237270

RATING: Standard

REPLACES: N/A

REPLACED BY: N/A

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This building block provides the necessary components of a Filler Panel Assembly Kit for the MTXD product.

It mounts on the MCGM cabinet building blocks: NTZZ38HA, NTZZ38JA and NTZZ38NA, NTZZ38PA respectively.

REFERENCE DOCUMENTATION: SLZZ38EM 00 01 REL 01

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Kevin Neville Dept. 5849 (RICH)

| MAIN CONTACT: Kevin Neville Dept. 5849 (RICH)

| CONTACT: Jim Large Dept. 5849 (RICH)

NTZZ38EM EMB9-03-CGM-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 93 02 14	----- ECM 492 05	Previous history not available Add building block engineering
96 03 08	ECM 492 31	KMN: Remove reference to MCEX.

The MTXD - Filler Panel Assembly Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
14 Inch Filler Panel	NT0X84AA		1	X		AP
Mounting Screws	P097F813		4			AP
Washer	P0183220		1			AP
Washer	P0284154		1			AP
50-pin Bulkhead cover plate	P0686751		8			AP
25-pin Bulkhead cover plate	P0686749		4			AP
Mounting screw	P0180923		24			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

1) X = position 05,19,33,47 in the MCGM cabinet

It mounts on the MCGM cabinet building blocks: NTZZ38HA, NTZZ38JA and NTZZ38NA, NTZZ38PA respectively.

RULES:

AP 1) When PEC NTZZ38EM is ordered, these items are provided.

## DICP - BROWN CABINET

PEC CODE: NTZZ38TA

CPC CODE: B0237259

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: DICP

ENGINEERING DESCRIPTION: The DICP is a cabinet that houses one ICP module and one or two DSP shelves as required.

This frame is part of the DMS-MTX system.

REFERENCE DOCUMENTATION: MSAX75AA  
SLZZ38SA

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: Jim Large Dept. 5849 (RICH)

MAIN CONTACT: Jim Large Dept. 5849 (RICH)

CONTACT: Walter Brown Dept. 5849 (RICH)

CONTACT: Richard Martin Dept. 5849 (RICH)



NTZZ38TA EMB9-03-DRS-B CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 12 18	ECM 470 09	New insert introduced.
93 06 02	ECM 470 11	Correct codes for Brown End Panels & add NT6X44AA and NTAX78AA.
94 03 01	ECM 470 13	Add fiberized connections to ENET. Change cable duct covers to kits. Add cable trough. Change shelf design labels.
94 09 16	ECM 470 14	Misc clarifications for NT6X02UF Kits.
94 09 29	ECM 470 15	Corrects reference documents.
94 10 28	ECM 470 16	Add designation label P0803486 for the NTB01AC circuit pack.
94 12 06	ECM 470 17	Corrects typographical errors.
95 04 25	ECM 470 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 08 03	ECM 470 21	JEL: EC 018-45754 replaces the NTB01AB/AC with the NTB01BA.
95 12 22	ECM 470 22	JEL: EC 002-16253 replaces the NT6X45BA, NT6X46BB and NT6X47AC with XPM+. EC 002-16309 adds the NTAX7525 DS-30 cables. EC 002-16643 MD's the NT6X28AA and replaces with the NT6X28AC. Also replaces the left door labels with the new NORTEL door label.

The DICP - Brown Cabinet is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DICP Cabinet	NTAX75AA		1			AP
Top Cooling Unit	NTAX77AA		1	65		AP-01
Frame Supervisory Panel	NTNX26GA		1	60		AP-01
Filler Panel	NT0X84AA			33,47		RUL1
DICP - DSPM Shelf Kit	NTZZ38LA			33,47		RUL7
MTX - DSPM Common CP	NTZZ38RA			33,47	9,15	RUL8
Filler Face Plate Package	NTZZ38QA			33,47		RUL10
DSP Card	NTAX81AA			33,47	05-08 10-13 16-19 21-24	RUL9
Filler Face Plates	NT0X50AA			33,47	05-13 16-24	RUL11
Wiring for DSP	R0109478			33,47		RUL12
Desg. Label NTAX81AA	P0739914			33,47	05-08 10-13 16-19 21-24	RUL9
Desg. Label NT0X50AA	P0578498			33,47	05-13 16-24	RUL11
Peripheral Processor Shelf	NT6X0215		2	05,19		AP-01
DS1 Interface	NT6X50AB			05,19	1-5	RUL2
Filler Face Plate	NT0X50AA			05,19	1-5	RUL2
DS-30A Interface	NTZZ02KA			05,19	6,7	RUL7
Time Switch	NT6X44AA		2	05,19	14	RUL13
Time Switch	NTAX78AA		2	05,19	14	RUL13
Filler Face Plate	NT0X50AA			05,19	6-11 13,17, 19,23, 24	RUL11
ICP Common CP (< BCS32+)	NTZZ38WA			05,19		RUL4
ICP Common CP (>= BCS32+)	NTZZ38XA			05,19		RUL4
ICP Common CP (XPM PLUS)	NTZZ38YA			05,19		RUL4
16 DS-30 NETWORK INTERFACES	NTZZ02GA			05,19	22	RUL4
DS-512 Fiber Interface	NT6X40FA			05,19	22	RUL15
DS-512 Paddleboard	NT6X40GA			05,19	22R	RUL15
# ISDN Signal Proc	NTBX01AB			05,19	16	Ru119
# ISDN Signal Proc (CAP Only)	NTBX01AC			05,19	16	Ru119
ISDN Signal Proc	NTBX01BA			05,19	16	Ru119
# Desg. Label for NTBX01AB	P0735418			05,19	16	RUL19
# Desg. Label for NTBX01AC	P0803486			05,19	16	RUL19

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Desg. Label for NTBX01BA	P0713794			05,19	16	RUL19
Desg. Label for NT6X40FA	P0729895			05,19	22	RUL15
Desg. Label for NT0X50AA	P0578498			05,19	1-5	RUL2
Desg. label for NT6X50AB	P0690976			05,19	1-5	RUL2
Desg. label for NT6X44AA	P0698316		2	05,19	14	RUL13
Desg. label for NTAX78AA	P0737140		2	05,19	14	RUL13
<hr/>						
Cooling Unit	NTNX27CA		1	00		AP-01
<hr/>						
Cabinet Type Label (Brown)	P0706566		1			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP
# Door Label Left (Brown)	P0699464		2			AP
Door Label Left (Brown)	P0818849		2			AP
Door Label Right (Brown)	P0695230		2			AP
End Panel Left - Brown	NTNX2553					RUL3
End Panel Right - Brown	NTNX2546					RUL3
Earthquake Mounting Kit	NTNX2540					RUL5
Earthquake Mounting Kit	NTNX2578					RUL5
Frame Mounting Kit	NTNX2579					RUL5
Frame Mounting Kit	NTNX2580					RUL5
Cable Duct Cover Kit (Bot.)	NTNX2557					RUL6
Cable Duct Cover kit (Top)	NTNX2556					RUL6
Cable Trough	NTNX55AA					RUL14
Duplex Fiber Cable	NT0X97AJ					RUL15
Fiber Adaptor Plate	P0738373					RUL15
DS-30 Cables	NTAX7524		1	05	22R	RUL16
DS-30 Cables	NTAX7525		1	05	22R	RUL16
Fiber Upgrade Kit	NTAX75ZC					RUL17
Universal Fiber XPM Kit	NT6X02UF					RUL17
LGCI/DTCI Offshore Cpmmon CP	NT6X02UB					RUL18

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTBX01AB/AC P0699464	MD MD	NTBX01BA P0818849

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 05.
- 2) Power for the DICP is provided off of the PDC frame from 2 30 AMP fuses in the MTX system.

There are two connections on the bulkhead for each A+B power and ground runs, however only one cable is needed because the connections are linked.

The connections for EMI bulkhead are as follows:

- 48V(A) to FL00 linked to FL01
- BAT.RTN(A) to FL04 linked to FL05
- 48V(B) to FL02 linked to FL03
- BAT.RTN(B) to FL06 linked to FL07
- 48V(ALARM) to FL08
- RTN(ALARM) to FL09

There are two connections on the bulkhead for each A+B power and ground runs, however, only one cable is needed because the connections are linked.

Power for the MTXM comes from the PMPM end panel with the connections being the same on the DICP bulkhead. Power alarm connects to the PMPM FSP.

3) The following are the designation labels that need to be ordered :

1. P0709277 Frame Des. Label (DICP 00 - 10) for FSP  
P0741382 Frame Des. Label (DICP 11 - 54) for FSP  
P0741383 Frame Des. Label (DICP 55 - 99) for FSP
2. P0709278 Des. Labels for the PDC Frame (DICP 00 - 10)  
P0741384 Des. Labels for the PDC Frame (DICP 11 - 99)
3. P0736858 Shelf Des. Labels for FSP and PDC (ICP 00 - 09)  
P0736859 Shelf Des. Labels for FSP and PDC (ICP 10 - 43)
4. P0736861 Shelf Des. Labels for FSP and PDC (DSPM 00 - 88)

4) For cable information reference these documents:

1. CA0X04 Tables 1KA-KH,1KJ,4AAZ,4ABA-ABC
2. CA0X06 Tables 1HH-HZ

5) DIGITAL FUNCTIONALITY:  
PART A - NEW DICP EQUIPPED WITH DSPMS  
-----

When digital functionality is required, provide the following:

- A) Provide one or two DSP shelves depending on how many DSPMS are required.
- B) Provide circuit packs as required, according to the rules outlined in the following sections. It is recommended that the initial DSPMS are provided over split A and B Power feeds for redundancy. In other words, instead of fully providing DSPM 0 with 4 DSP cards, partially provide DSPM 0 and DSPM 2. Once DSPM 0 and DSPM 2 are fully provisioned continue with DSPM 1 and DSPM 3.
- C) Also provide the following per shelf:

	CPC/PEC	DESCRIPTION	QTY
1)	A0315462	10A Fuse	2 PER DSP SHELF
2)	A0205202	1.33A Fuse Indicator	2 PER DSP SHELF
3)	NTAX7521	DS30A Cable	8 PER DSP SHELF
4)	R0109478	Wiring	3 Meters

NOTE: THE FUSES MOUNT IN THE DICP FSP.

- D) The ICP also requires specific pack upgrades, such as:
  - 1) The NTAX78AA must be used instead of the NT6X44AA.
  - 2) The NTB01BA must be used instead of the NTB01AA/AB/AC.
  - 3) Provide 4 NT6X48AA for DS30 interface to the DSPMS.

PART B - DSPM FIELD UPGRADE  
-----

If the DSPs are being provided as a field upgrade:

- A) If the DICP cabinet was shipped before Sept 12, 1991 the DSPM power cabling may not be installed on the frame. Verify if the power cabling is already installed and if not order the following cables:

CODE	LENGTH (inches)	QTY (per frame)
6X1406	43.5	2
6X0318	39.5	2
6X0331	53.5	2
6X0322	57.0	2

- B) Provide a Field Upgrade Kit comprised of:

CPC/PEC	DESCRIPTION	QTY
-----	-----	-----
DSP EQUIPMENT		
NTAX7601	DSP Shelf	1 or 2 as required
NT2X70AF	Power Converter	As required (note 1)
NTAX80AA	DSP Control Processor	As required (note 1)
NTAX81AA	DSP Card	As required (note 1)
NTAX79AA	Backplane Terminator	As required (note 1)
NT0X50AA	Filler Face Plate	Min 1 per shelf + as req.
NTAX7521	DS30A Cable	8 per DSP Shelf
A0315462	10A Fuse	2 per DSP Shelf
A0205202	1.33A Fuse Indicator	2 per DSP Shelf
P0183220	Washer	1 per DSP Shelf
P0284154	Washer	1 per DSP Shelf
P0642031	Cable support bracket	1 per DSP Shelf
NT0X9538	Logic Ground Strap	3 per DSP Shelf
ICP EQUIPMENT		
NTAX78AA	Time Switch	2 per ICP (note 2)
NTBX01BA	ISDN Signal Proc	2 per ICP (note 2)
NT6X48AA	DS-30 Interface	4 per ICP

NOTES:

- 1) Provide per standard rules and philosophy outlined in Part A of this section.
- 2) Provide only if ICP is not already equipped with these packs.

- 5) Provision circuit packs on an individual level. The packfill must not be used.

AP-01 When the NTAX75AA cabinet is ordered, these items are always provided.

RULES:

- AP 1) When PEC NTZZ38TA is ordered, these items are provided.
- RUL1 1) Provide two filler panels for the blank shelves 33,47 when not provisioned with DSP shelves.
- RUL2 1) Provide a maximum of ten (10) NT6X50AB, DS1 Interface cp for each ICP module as per customer requirements. One NT6X50AB provides interfaces for up to two (2) T-1 spans.

When engineering a digital ICP that supports TDMA (digital mobile subscribers), three times the quantity of DS-1 spans must be engineered relative to analogue provisioning requirements. The two additional DS-1 spans are cabled to loop into each other and do not connect to other peripherals. The extra DS-1 spans are for virtual trunks that are used in order to triple the call capacity from analogue to digital. The two additional DS-1 spans must be datafilled in table TRKMEM as part of the same TRKGRP as the physical DS-1 span from the ICP to the ICRM.

- 2) Assign the T-1 spans sequentially from 0 to 19 as follows:

<u>T-1 I/F Port</u>	<u>DICP Position</u>
0/1	05 - 5
2/3	19 - 5
4/5	05 - 4
6/7	19 - 4
8/9	05 - 3
10/11	19 - 3
12/13	05 - 2
14/15	19 - 2
16/17	05 - 1
18/19	19 - 1

Figure 1. T-1 Span Assignments.



- 3) Provide one designation label for each NT6X50AB or NT0X50AA provisioned.
  - 4) Provide one NT0X50AA Filler Face Plate for each card slot 1-5, shelf position 5 and 19, unequipped.
- RUL3
- 1) For each Brown ICP cabinet line-up, provision:  
one (1) End Panel left,NTNX2553  
one (1) End Panel right,NTNX2546.
  - 2) Assign the door assembly to the frame on the hardware specs. Do not ship the door assemblies as loose items.
- RUL4
- 1) If an ICP is being provisioned at a software release less than BCS32+, provide:  
one (1) NTZZ38WA: ICP Common CP (< BCS32+).
  - 2) If an ICP is being provisioned at a software release greater than or equal to BCS32+, provide:  
one (1) NTZZ38XA: ICP Common CP (>= BCS32+).
  - 3) If an ICP is being provisioned at a software release greater than or equal to BCS35 and there is a requirement for XPM PLUS, provide:  
one (1) NTZZ38YA: ICP Common CP (XPM PLUS).
  - 4) Provide one (1) NTZZ02GA (16 DS-30 NETWORK INTERFACES) in order to allow the interfacing of the ICP to the DMS network module.
- RUL5
- 1) Anchoring kits are an option to be purchased by the customer. When purchased ship anchoring kits loose.
  - 2) Provision one NTNX2540 kit for slab type flooring or one NTNX2578 for computer flooring when installing frames in an earthquake zone ATC Zone 7, NEBS Zone 4, or UBC Zone 4 (Ship loose).
  - 3) Provision one NTNX2579 kit for slab type flooring and one NTNX2580 kit for computer flooring in a non-earthquake zone (Ship loose).
- RUL6
- 1) When cables enter the top of the cabinet, provide one NTNX2557 Cable Duct Cover Kit (Bottom).
  - 2) When cables enter the bottom of the cabinet, provide one NTNX2556 Cable Duct Cover Kit (Top).

- RUL7 1) Provide NTZZ38LA, DICP - DSPM Shelf Kit as required in shelf positions 33, 47. This kit provides two DSPs along with the shelf common circuit packs.
- 2) Provide two (2) NTZZ02KA DS-30 Interface building blocks when the DSPMs are provided in the DICP cabinet.
- RUL8 1) Provision up to two (2) NTZZ38RA MTX - DSPM Common CP per DSPM shelf.
- RUL9 1) Provide one (1) NTAX81AA circuit packs for every 2 digital DRUs. Provide one (1) Designation label P0739914 for each NTAX81AA. The DSP modules are defined as follows:

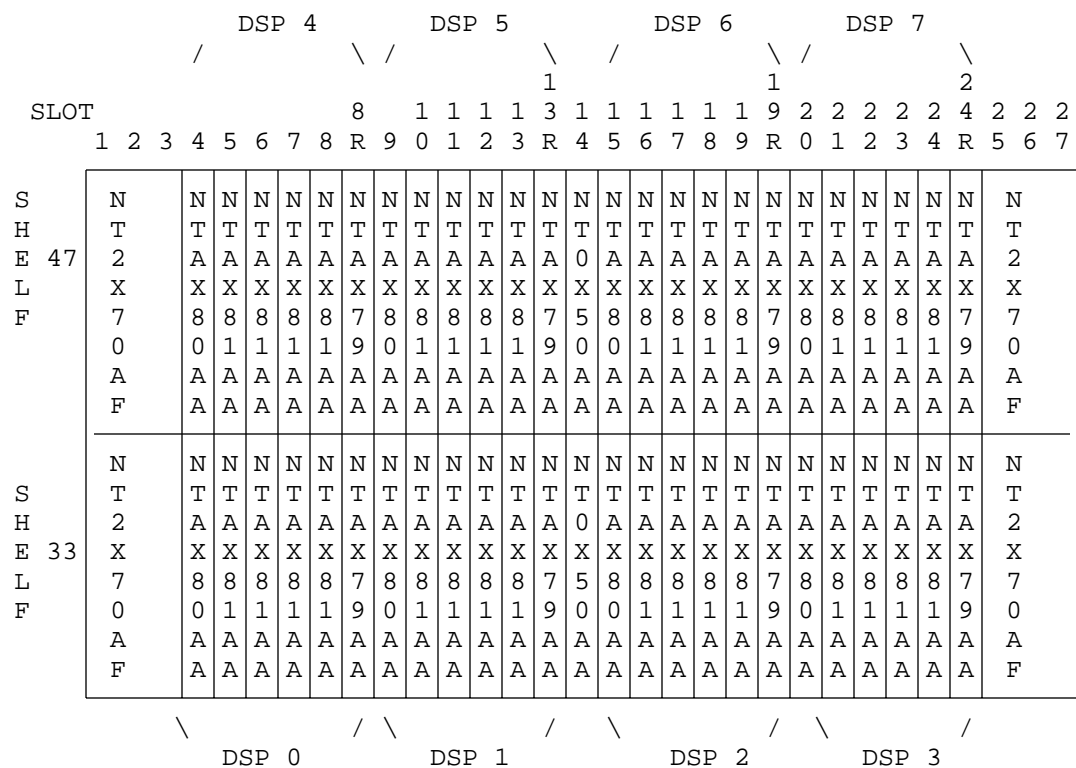


Figure 2. DSP Module Definition.

- RUL10 1) Provide one NTZZ38QA Filler Face Plate Package when unprovisioned DSPM shelves are provided.
- RUL11 1) Provide one NT0X50AA filler face plate and one P0578498 designation label for each unequipped slot.

RUL12 1) Provide 3 meters of R0109478 when providing the DSPM shelves as a field upgrade.

RUL13 1) If the application is pre BCS32, then DO NOT provide a time switch. The time switch will be provided in the NTZZ38WA.

2) If the application is BCS32 or greater, then provide the following:

ANALOG FUNCTIONALITY ONLY

-----  
2 NT6X44AA Time Switch  
2 P0698316 Designation Label (NT6X44AA)

DIGITAL -OR- ANALOG FUNCTIONALITY

-----  
2 NTAX78AA Time Switch  
2 P0737140 Designation Label (NTAX78AA)

RUL14 1) Provide one NTN55AA Brown Cable Trough when required.

RUL15 1) Provide the following for fiberized connections:

2 NT6X40FA DS-512 Fiber Interface  
2 P0729895 Desig. label for NT6X40FA  
2 NT6X40GA DS-512 Paddleboard  
2 P0738373 Fiber Adaptor Plate  
2 NT0X97AJ Duplex Fiber Cable

RUL16 1) Provide one NTAX7524 and one NTAX7525 cable for DS-30 connections.

RUL17 1) For DICP cabinets with release levels less than or equal to 6, provide one NTAX75ZC Fiber Upgrade Kit and one NT6X02UF Universal Fiber XPM Kit only when making fiber connections to the Network.

2) For DICP cabinets with release levels greater than or equal to 7, provide one NTAX75ZC Fiber Upgrade Kit only when making fiber connections to the Network. 3) The NT6X02UF Fiber Kit is AP on NEW Frames coming from the factory.

RUL18 1) Provide one DTCI/LGCI Offshore circuit packfill NT6X02UB per shelf positions 05 and 19 for ICP-0 configuration per customer requirements with provisionable circuit packs. ICP-0 is available with MTX02 software or higher. CP used for ICP-0:

NT6X27BB	Slot 05-02	
NT6X48AA	Slot 06,07	
NTMX77AA	Slot 12	
NTAX78AA	Slot 14	
NT6X92CA	Slot 15	
NTBX01BA	Slot 16	
NT6X69LA	Slot 18	Provision for J-NET only.
NT6X69LB	Slot 18	Provision for J-NET or E-NET.
NT6X28AA	Slot 19	
NTMX71AA	Slot 19R	
NT2X70AF	Slot 24	

NOTE:

The following circuit packs are provisionable per customer req.

NT6X40AC	Slot 22	Provision for DS-30 to J-NET.
NT6X40FA	Slot 22	Provision for DS-512 Fiber I/F to E-NET.
NT6X40GA	Slot 22R	" " " " " "
NT0X50AA	Slots 01,08,09,10,11,13 &17	

- RUL19 1) Provide the NTBX01BA for BCS 31 + or higher applications. The software does not support NTBX01AA and NTBX01AB packs in the same switch. Provide one (1) designation label P0713794 per circuit pack provided.
- 2) Provide the NTBX01BA when ICP is equipped with NTAX74AA Cellular Access Processor. Provide one (1) designation label P0713794 per circuit provided. (Presently Domestic VO applications only).

## DICP - GRAY CABINET

PEC CODE: NTZZ38SA

CPC CODE: B0237258

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: DICP

ENGINEERING DESCRIPTION: The DICP is a cabinet that houses one ICP module and one or two DSP shelves as required.

This frame is part of the DMS-MTX system.

REFERENCE DOCUMENTATION: MSAX75AA  
SLZZ38TA

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: Jim Large Dept. 5849 (RICH)

MAIN CONTACT: Jim Large Dept. 5849 (RICH)

CONTACT: Walter Brown Dept. 5849 (RICH)

CONTACT: Richard Martin Dept. 5849 (RICH)

NTZZ38SA EMB9-03-DRS-G CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 12 18	ECM 470 09	New insert introduced.
93 06 02	ECM 470 11	Add NT6X44AA and NTAX78AA. Replace NT6X48AAs with NTZZ02KA.
94 03 01	ECM 470 13	Add NTZZ38QA and clean-up format. Add fiberized connections to ENET. Change cable duct covers to kits. Add cable trough. Change shelf design labels.
94 09 16	ECM 470 14	Misc clarifications for NT6X02UF Kits.
94 09 29	ECM 470 15	Corrects reference documents.
94 10 28	ECM 470 16	Adds designation label P0803486 for the NTB01AC circuit pack.
94 12 06	ECM 470 17	Corrects typographical errors.
95 04 25	ECM 470 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 08 03	ECM 470 21	JEL: EC 018-45754 replaces the NTB01AB/AC with the NTB01BA.
95 12 22	ECM 470 22	JEL: EC 002-16253 replaces the NT6X45BA, NT6X46BB and NT6X47AC with XPM+. EC 002-16309 adds the NTAX7525 DS-30 cables. EC 002-16643 MD's the NT6X28AA and replaces with the NT6X28AC. Also replaces the left door labels with the new NORTEL door label.

The DICP - Gray Cabinet is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DICP Cabinet	NTAX75AA		1			AP
Top Cooling Unit	NTAX77AA		1	65		AP-01
Frame Supervisory Panel	NTNX26GA		1	60		AP-01
Filler Panel	NT0X84AA			33,47		RUL1
DICP - DSPM Shelf Kit	NTZZ38LA			33,47		RUL7
MTX - DSPM Common CP	NTZZ38RA			33,47	09,15	RUL8
Filler Face Plate Package	NTZZ38QA			33,47		RUL10
DSP Card	NTAX81AA			33,47	05-08 10-13 16-19 21-24	RUL9
Filler Face Plates	NT0X50AA			33,47	05-13 16-24	RUL11
Wiring for DSP	R0109478			33,47		RUL12
Desg. Label NTAX81AA	P0739914			33,47	05-08 10-13 16-19 21-24	RUL9
Desg. Label NT0X50AA	P0578498			33,47	05-13 16-24	RUL11
Peripheral Processor Shelf	NT6X0215		2	05,19		AP-01
DS1 Interface	NT6X50AB			05,19	1-5	RUL2
Filler Face Plate	NT0X50AA			05,19	1-5	RUL2
DS-30A Interface	NTZZ02KA			05,19	6,7	RUL7
Time Switch	NT6X44AA		2	05,19	14	RUL13
Time Switch	NTAX78AA		2	05,19	14	RUL13
Filler Face Plate	NT0X50AA			05,19	6-11 13,17, 19,23, 24	RUL11
ICP Common CP (< BCS32+)	NTZZ38WA			05,19		RUL4
ICP Common CP (>= BCS32+)	NTZZ38XA			05,19		RUL4
ICP Common CP (XPM PLUS)	NTZZ38YA			05,19		RUL4
16 DS-30 Network Interfaces	NTZZ02GA			05,19	22	RUL4
DS-512 Fiber Interface	NT6X40FA			05,19	22	RUL15
DS-512 Paddleboard	NT6X40GA			05,19	22R	RUL15
# ISDN Signal Proc	NTBX01AB			05,19	16	Ru119
# ISDN Signal Proc (CAP Only)	NTBX01AC			05,19	16	Ru119
ISDN Signal Proc	NTBX01BA			05,19	16	Ru119
# Desg. Label for NTBX01AB	P0735418			05,19	16	RUL19
# Desg. Label for NTBX01AC	P0803486			05,19	16	RUL19

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Desg. Label for NTBX01BA	P0713794			05,19	16	RUL19
Desg. Label for NT6X40FA	P0729895			05,19	22	RUL15
Desg. Label for NT0X50AA	P0578498			05,19	1-5	RUL2
Desg. label for NT6X50AB	P0690976			05,19	1-5	RUL2
Desg. label for NT6X44AA	P0698316		2	05,19	14	RUL13
Desg. label for NTAX78AA	P0737140		2	05,19	14	RUL13
<hr/>						
Cooling Unit	NTNX27CA		1	00		AP-01
<hr/>						
Cabinet Type Label (Gray)	P0706567		1			AP
Door Right - Gray	NTNX2513		2			AP
Door Left - Gray	NTNX2515		2			AP
# Door Label Left (Gray)	P0677704		2			AP
Door Label Left (Gray)	P0818848		2			AP
Door Label Right (Gray)	P0699158		2			AP
End Panel Left - Gray	NTNX2518					RUL3
End Panel Right - Gray	NTNX2517					RUL3
Earthquake Mounting Kit	NTNX2540					RUL5
Earthquake Mounting Kit	NTNX2578					RUL5
Frame Mounting Kit	NTNX2579					RUL5
Frame Mounting Kit	NTNX2580					RUL5
Cable Duct Cover Kit (Bot.)	NTNX2557					RUL6
Cable Duct Cover Kit (Top)	NTNX2556					RUL6
Cable Trough-Gray	NTNX5511					RUL14
Duplex Fiber Cable	NT0X97AJ					RUL15
Fiber Adaptor Plate	P0738373					RUL15
DS-30 Cables	NTAX7524		1	05	22R	RUL16
DS-30 Cables	NTAX7525		1	05	22R	RUL16
Fiber Upgrade Kit	NTAX75ZC					RUL17
Universal Fiber XPM Kit	NT6X02UF					RUL17
LGCI/DTCI Offshore Cpmmon CP	NT6X02UB					RUL18



EQUIPMENT FLAGGED ' # ' :

PEC	RATING	REPLACED BY PEC
NTBX01AB/AC P0677704	MD MD	NTBX01BA P0818848

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 05.
- 2) Power for the DICP is provided off of the PDC frame from 2 30 AMP fuses in the MTX system.

There are two connections on the bulkhead for each A+B power and ground runs, however only one cable is needed because the connections are linked.

The connections for EMI bulkhead are as follows:

- 48V(A) to FL00 linked to FL01
- BAT.RTN(A) to FL04 linked to FL05
- 48V(B) to FL02 linked to FL03
- BAT.RTN(B) to FL06 linked to FL07
- 48V(ALARM) to FL08
- RTN(ALARM) to FL09

There are two connections on the bulkhead for each A+B power and ground runs, however, only one cable is needed because the connections are linked.

Power for the MTXM comes from the PMPM end panel with the connections being the same on the DICP bulkhead. Power alarm connects to the PMPM FSP.

3) The following are the designation labels that need to be ordered :

1. P0709277 Frame Des. Label (DICP 00 - 10) for FSP  
P0741382 Frame Des. Label (DICP 11 - 54) for FSP  
P0741383 Frame Des. Label (DICP 55 - 99) for FSP
2. P0709278 Des. Labels for the PDC Frame (DICP 00 - 10)  
P0741384 Des. Labels for the PDC Frame (DICP 11 - 99)
3. P0736858 Shelf Des. Labels for FSP and PDC (ICP 00 - 09)  
P0736859 Shelf Des. Labels for FSP and PDC (ICP 10 - 43)
4. P0736861 Shelf Des. Labels for FSP and PDC (DSPM 00 - 88)

4) For cable information reference these documents:

1. CA0X04 Tables 1KA-KH,1KJ,4AAZ,4ABA-ABC
2. CA0X06 Tables 1HH-HZ

5) DIGITAL FUNCTIONALITY:  
PART A - NEW DICP EQUIPPED WITH DSPMS  
-----

When digital functionality is required, provide the following:

- A) Provide one or two DSP shelves depending on how many DSPMS are required.
- B) Provide circuit packs as required, according to the rules outlined in the following sections. It is recommended that the initial DSPMS are provided over split A and B Power feeds for redundancy. In other words, instead of fully providing DSPM 0 with 4 DSP cards, partially provide DSPM 0 and DSPM 2. Once DSPM 0 and DSPM 2 are fully provisioned continue with DSPM 1 and DSPM 3.
- C) Also provide the following per shelf:

	CPC/PEC	DESCRIPTION	QTY
1)	A0315462	10A Fuse	2 PER DSP SHELF
2)	A0205202	1.33A Fuse Indicator	2 PER DSP SHELF
3)	NTAX7521	DS30A Cable	8 PER DSP SHELF
4)	R0109478	Wiring	3 Meters

NOTE: THE FUSES MOUNT IN THE DICP FSP.

- D) The ICP also requires specific pack upgrades, such as:

- 1) The NTAX78AA must be used instead of the NT6X44AA.
- 2) The NTB01BA must be used instead of the NTB01AA/AB/AC.
- 3) Provide 4 NT6X48AA for DS30 interface to the DSPMS.

PART B - DSPM FIELD UPGRADE  
-----

If the DSPs are being provided as a field upgrade:

- A) If the DICP cabinet was shipped before Sept 12, 1991 the DSPM power cabling may not be installed on the frame. Verify if the power cabling is already installed and if not order the following cables:

CODE	LENGTH (inches)	QTY (per frame)
6X1406	43.5	2
6X0318	39.5	2
6X0331	53.5	2
6X0322	57.0	2

- B) Provide a Field Upgrade Kit comprised of:

CPC/PEC	DESCRIPTION	QTY
-----	-----	-----
DSP EQUIPMENT		
NTAX7601	DSP Shelf	1 or 2 as required
NT2X70AF	Power Converter	As required (note 1)
NTAX80AA	DSP Control Processor	As required (note 1)
NTAX81AA	DSP Card	As required (note 1)
NTAX79AA	Backplane Terminator	As required (note 1)
NT0X50AA	Filler Face Plate	Min 1 per shelf + as req.
NTAX7521	DS30A Cable	8 per DSP Shelf
A0315462	10A Fuse	2 per DSP Shelf
A0205202	1.33A Fuse Indicator	2 per DSP Shelf
P0183220	Washer	1 per DSP Shelf
P0284154	Washer	1 per DSP Shelf
P0642031	Cable support bracket	1 per DSP Shelf
NT0X9538	Logic Ground Strap	3 per DSP Shelf
ICP EQUIPMENT		
NTAX78AA	Time Switch	2 per ICP (note 2)
NTBX01BA	ISDN Signal Proc	2 per ICP (note 2)
NT6X48AA	DS-30 Interface	4 per ICP

NOTES:

- 1) Provide per standard rules and philosophy outlined in Part A of this section.
- 2) Provide only if ICP is not already equipped with these packs.

5) Provision circuit packs on an individual level. The packfill must not be used.

AP-01 When the NTAX75AA cabinet is ordered, these items are always provided.

RULES:

- AP 1) When PEC NTZZ38SA is ordered, these items are provided.
- RUL1 1) Provide two filler panels for the blank shelves 33,47 when not provisioned with DSP shelves.
- RUL2 1) Provide a maximum of ten (10) NT6X50AB, DS1 Interface cp for each ICP module as per customer requirements. One NT6X50AB provides interfaces for up to two (2) T-1 spans.

When engineering a digital ICP that supports TDMA (digital mobile subscribers), three times the quantity of DS-1 spans must be engineered relative to analogue provisioning requirements. The two additional DS-1 spans are cabled to loop into each other and do not connect to other peripherals. The extra DS-1 spans are for virtual trunks that are used in order to triple the call capacity from analogue to digital. The two additional DS-1 spans must be datafilled in table TRKMEM as part of the same TRKGRP as the physical DS-1 span from the ICP to the ICRM.

2) Assign the T-1 spans sequentially from 0 to 19 as follows:

T-1 I/F Port	DICP Position
0/1	05 - 5
2/3	19 - 5
4/5	05 - 4
6/7	19 - 4
8/9	05 - 3
10/11	19 - 3
12/13	05 - 2
14/15	19 - 2
16/17	05 - 1
18/19	19 - 1

Figure 1. T-1 Span Assignments.

- 3) Provide one designation label for each NT6X50AB or NT0X50AA provisioned.
  - 4) Provide one NT0X50AA Filler Face Plate for each card slot 1-5, shelf position 5 and 19, unequipped.
- RUL3
- 1) For each Gray ICP cabinet line-up, provision:  
one (1) End Panel left,NTNX2518  
one (1) End Panel right,NTNX2517.
  - 2) Assign the door assembly to the frame on the hardware specs. Do not ship the door assemblies as loose items.
- RUL4
- 1) If an ICP is being provisioned at a software release less than BCS32+, provide:  
one (1) NTZZ38WA: ICP Common CP (< BCS32+).
  - 2) If an ICP is being provisioned at a software release greater than or equal to BCS32+, provide:  
one (1) NTZZ38XA: ICP Common CP (>= BCS32+).
  - 3) If an ICP is being provisioned at a software release greater than or equal to BCS35 and there is a requirement for XPM PLUS, provide:  
one (1) NTZZ38YA: ICP Common CP (XPM PLUS).
  - 4) Provide one (1) NTZZ02GA (16 DS-30 NETWORK INTERFACES) in order to allow the interfacing of the ICP to the DMS network module.
- RUL5
- 1) Anchoring kits are an option to be purchased by the customer. When purchased ship anchoring kits loose.
  - 2) Provision one NTNX2540 kit for slab type flooring or one NTNX2578 for computer flooring when installing frames in an earthquake zone ATC Zone 7, NEBS Zone 4, or UBC Zone 4 (Ship loose).
  - 3) Provision one NTNX2579 kit for slab type flooring and one NTNX2580 kit for computer flooring in a non-earthquake zone (Ship loose).
- RUL6
- 1) When cables enter the top of the cabinet, provide one NTNX2557 Cable Duct Cover Kit (Bottom).
  - 2) When cables enter the bottom of the cabinet, provide one NTNX2556 Cable Duct Cover Kit (Top).

- RUL7 1) Provide NTZZ38LA, DICP - DSPM Shelf Kit as required in shelf positions 33, 47.  
This kit provides two DSPs along with the shelf common circuit packs.
- 2) Provide two (2) NTZZ02KA DS-30 Interface building blocks when the DSPMs are provided in the DICP cabinet.
- RUL8 1) Provision up to two (2) NTZZ38RA MTX - DSPM Common CP per DSPM shelf.
- RUL9 1) Provide one (1) NTAX81AA circuit packs for every 2 digital DRUs. Provide one (1) Designation label P0739914 for each NTAX81AA.  
The DSP modules are defined as follows:

		DSP 4								DSP 5								DSP 6								DSP 7							
		/				\ /				\				/				\ /				\											
SLOT		8								1 1 1 1 3 1 1 1 1 1 1 1 9 2 2 2 2 2 4 2 2 2								1 2															
		1	2	3	4	5	6	7	8	R	9	0	1	2	3	R	4	5	6	7	8	9	R	0	1	2	3	4	R	5	6	7	
S H E 47 L F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	2	A	A	A	A	A	A	A	A	A	A	A	A	A	A	0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	7	8	8	8	8	8	7	8	8	8	8	8	8	7	5	8	8	8	8	8	7	8	8	8	8	8	8	8	7	8	8	7	
	0	0	1	1	1	1	9	0	1	1	1	1	1	9	0	0	1	1	1	1	9	0	1	1	1	1	1	9	0	1	1	1	
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
F	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	F		
S H E 33 L F	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N		
	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T		
	2	A	A	A	A	A	A	A	A	A	A	A	A	A	0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
	7	8	8	8	8	8	7	8	8	8	8	8	8	7	5	8	8	8	8	8	7	8	8	8	8	8	8	8	7	8	8	7	
	0	0	1	1	1	1	9	0	1	1	1	1	1	9	0	0	1	1	1	1	9	0	1	1	1	1	1	9	0	1	1	1	
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
F	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	F		
		\				/ \				/				\				/ \				/											
		DSP 0								DSP 1								DSP 2								DSP 3							

Figure 2. DSP Module Definition.

- RUL10 1) Provide one NTZZ38QA Filler Face Plate Package when unprovisioned DSPM shelves are provided.

- RUL11 1) Provide one NT0X50AA filler face plate and one P0578498 designation label for each unequipped slot.
- RUL12 1) Provide 3 meters of R0109478 when providing the DSPM shelves as a field upgrade.
- RUL13 1) If the application is pre BCS32, then DO NOT provide a time switch. The time switch will be provided in the NTZZ38WA.
- 2) If the application is BCS32 or greater, then provide the following:

ANALOG FUNCTIONALITY ONLY

- 
- 2 NT6X44AA Time Switch
  - 2 P0698316 Designation Label (NT6X44AA)

DIGITAL -OR- ANALOG FUNCTIONALITY

- 
- 2 NTAX78AA Time Switch
  - 2 P0737140 Designation Label (NTAX78AA)

- RUL14 1) Provide one NTN5511 Gray Cable Trough when required.

- RUL15 1) Provide the following for fiberized connections:

- 2 NT6X40FA DS-512 Fiber Interface
- 2 P0729895 Desig. label for NT6X40FA
- 2 NT6X40GA DS-512 Paddleboard
- 2 P0738373 Fiber Adaptor Plate
- 2 NT0X97AJ Duplex Fiber Cable

- RUL16 1) Provide one NTAX7524 and one NTAX7525 cable for DS-30 connections.

- RUL17 1) For DICP cabinets with release levels less than or equal to 6, provide one NTAX75ZC Fiber Upgrade Kit and one NT6X02UF Universal Fiber XPM Kit only when making fiber connections to the Network.

- 2) For DICP cabinets with release levels greater than or equal to 7, provide one NTAX75ZC Fiber Upgrade Kit only when making fiber connections to the Network. 3) The NT6X02UF Fiber Kit is AP on NEW Frames coming from the factory.

- RUL18 1) Provide one DTCI/LGCI Offshore circuit packfill NT6X02UB per shelf positions 05 and 19 for ICP-0 configuration per customer requirements with provisionable circuit packs.



ICP-0 is available with MTX02 software or higher. CP used for ICP-0:

NT6X27BB	Slot 05-02	
NT6X48AA	Slot 06,07	
NTMX77AA	Slot 12	
NTAX78AA	Slot 14	
NT6X92CA	Slot 15	
NTBX01BA	Slot 16	
NT6X69LA	Slot 18	Provision for J-NET only.
NT6X69LB	Slot 18	Provision for J-NET or E-NET.
NT6X28AA	Slot 19	
NTMX71AA	Slot 19R	
NT2X70AF	Slot 24	

## NOTE:

The following circuit packs are provisionable per customer req.

NT6X40AC	Slot 22	Provision for DS-30 to J-NET.
NT6X40FA	Slot 22	Provision for DS-512 Fiber I/F to E-NET.
NT6X40GA	Slot 22R	" " " ' " "
NT0X50AA	Slots 01,08,09,10,11,13 &17	

- RUL19 1) Provide the NTB01BA for BCS 31 + or higher applications. The software does not support NTB01AA and NTB01AB packs in the same switch. Provide one (1) designation label P0713794 per circuit pack provided.
- 2) Provide the NTB01BA when ICP is equipped with NTAX74AA Cellular Access Processor. Provide one (1) designation label P0713794 per circuit provided. (Presently Domestic VO applications only).

DICP - DSPM SHELF KIT

PEC CODE: NTZZ38LA

CPC CODE: B0237251

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: This building block provides Digital capability for DRUs operating as VCH. This building block mounts on the DICP cabinet, NTAX75AA.

This shelf is part of the DMS-MTX system.

REFERENCE DOCUMENTATION: MSAX75AA

SLZZ38LA

MARKETS: Applicable markets:

Wireless

	ISSUE AUTHOR:	Jim Large	Dept. 5849	(RICH)
	MAIN CONTACT:	Jim Large	Dept. 5849	(RICH)
	CONTACT:	Walter Brown	Dept. 5849	(RICH)
	CONTACT:	Richard Martin	Dept. 5849	(RICH)

NTZZ38LA EMB9-03-DSP-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 12 18	ECM 470 09	New insert introduced.
93 06 02	ECM 470 11	Remove NT6X48AA & designation label.
94 03 01	ECM 470 13	Change code for 10A fuse.
94 09 16	ECM 470 14	Adds CAP XPM Plus functionality.
94 09 29	ECM 470 15	Corrects reference documents.
95 04 25	ECM 470 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.

The DICP - DSPM SHELF KIT is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DSP Shelf	NTAX7601	DSPM	1	X		AP
# Power Converter	NT2X70AE		2	X	1,25	AP
Power Converter	NT2X70AF		2	X	1,25	AP
Desg. Label NT2X70AF	P0809960		2	X	1,25	AP
DSP Control Processor	NTAX80AA		2	X	4,15	AP
Desig Label NTAX80AA	P0737139		2	X	4,15	AP
Filler Faceplate	NT0X50AA		1	X	14	AP
Backplane Terminator	NTAX79AA		2	X	8R,19R	AP
DS30A Cable	NTAX7521		8			AP
<hr/>						
10A Fuse	A0315462		2			AP
1.33A Fuse Indicator	A0205202		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT2X70AE	MD	NT2X70AF

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = postion 33,47 in the DICP cabinet, NTAX75AA.

RULES:

- AP 1) When PEC NTZZ38LA is ordered, these items are provided.

## MDSP - DSPM SHELF KIT

PEC CODE: NTZZ38MA

CPC CODE: B0237252

RATING: Standard

REPLACES: N/A

REPLACED BY: N/A

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This building block provides Digital capability for DRUs operating as VCH. This building block mounts on the MDSP cabinet, NTAX82AA.

This equipment is part of the DMS-MTXD system.

REFERENCE DOCUMENTATION: MSAX82AA

SLZZ38MA

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: NTI: Jim Large Dept. 5849 (RCH)

| MAIN CONTACT: NTI: Jim Large Dept. 5849 (RCH)

| CONTACT: NTI: Walter Brown Dept. 5849 (RCH)

| CONTACT: NTI: Richard Martin Dept. 5849 (RCH)

NTZZ38MA EMB9-03-DSP-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	Adds building block engineering.
94 08 05	ECM 492 13	Removes quantity of eight NTAX8213 cables from this Building block.
94 09 21	ECM 492 15	Adds shelf abbreviation for the DSP shelf and correct authorship.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.

The MDSP - DSPM SHELF KIT is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DSP Shelf	NTAX7601	DSPM	1	X		AP
# Power Converter	NT2X70AE		1	X	1	AP
Power Converter	NT2X70AF		1	X	1	AP
Desg. Label NT2X70AF	P0809960		1	X	1	AP
DSP Control Processor	NTAX80AA		1	X	4	AP
Desig Label NTAX80AA	P0737139		1	X	4	AP
Backplane Terminator	NTAX79AA		1	X	8R	AP
Filler Faceplate	NT0X50AA		1	X	14	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT2X70AE	MD	NT2X70AF

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = position 19,33,47 in the MDSP cabinet building blocks, NTZZ38BM AND NTZZ38NM.  
A DSP shelf is always provided with the MDSP cabinet at position 05.  
Eight (8) DS30A cables are also always provided with an MDSP cabinet.

RULES:

- 1) When PEC NTZZ38MA is ordered, these items are provided.

## FILLER FACE PLATE PACKAGE

PEC CODE: NTZZ38QA

CPC CODE: B0237254

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: This building block contains filler face plates for 1 unprovisioned DSP shelf. This building block mounts on the MDSP cabinet, NTAX82AA or the D1CP cabinet, NTAX75AA.

REFERENCE DOCUMENTATION: SLZZ38QA 00 01 REL 01

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: Richard Martin Dept. 5849 (RICH)

MAIN CONTACT: Richard Martin Dept. 5849 (RICH)

CONTACT: Keith Zaletsky Dept. 5849 (RICH)



NTZZ38QA EMB9-03-FFP CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 12 18	ECM 470 09	New insert introduced.
93 06 02	ECM 470 11	Correct positions for NT0X50AA. Should be 4-24 and NOT 3-24.

The FILLER FACE PLATE PACKAGE is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Face Plate	NT0X50AA		21	X	4-24	AP
Desig Label NT0X50AE	P0578498		21	X	4-24	AP
Filler Face Plate	NT0X50AE		2	X	1,25	AP
Desig Label NT0X50AE	P0591361		2	X	1,25	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 5, 19, 33, 47 for the MDSP cabinet, NTAX82AA.
- 2) X = 33, 47 for the DICP cabinet, NTAX75AA.

RULES:

- AP 1) When PEC NTZZ38QA is ordered, these items are provided.

MTX - ICP COMMON CP  
( < BCS32+ )

PEC CODE: NTZZ38WA

CPC CODE: B0237262

RATING: STD

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: ICP

ENGINEERING DESCRIPTION: The NTZZ38WA building block provides all the necessary circuit packs, except the DMS network interface (DS-30) cards and public network interface (DS-1) cards.

The DS-30 interface cards are provided separately as there is future optionality of fiber interface (DS-512) to the ICP. Currently only the copper interface (DS-30) is available.

The DS-1 interface cards are provisionable as individual cards.

The DS-30 network interface is provided using the building block NTZZ02GA.

This building block mounts on the DICP cabinet, NTAX75AA and the MCTM-I cabinet building blocks, NTZZ38EA and NTZZ38FA.

This building block contains non-XPM+ processors and therefore, is limited to offices using BCS 35 or below.

This building block is designed to support domestic applications only.

REFERENCE DOCUMENTATION: SLZZ38WA 00 01 REL 01

MARKETS:

Applicable markets:

Wireless

	ISSUE AUTHOR: NTI:	Jim Large	Dept. 5849	(RCH)
	MAIN CONTACT: NTI:	Jim Large	Dept. 5849	(RCH)

NTZZ38WA EMB9-03-ICP-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 12 18	ECM 470 09	New insert introduced.
93 02 14	ECM 492 05	Add note for Time Switch Engineering.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 05 30	ECM 470 20	JEL: EC 018-45164 adds the designation labels for NT2X70AF's.
95 08 04	ECM 492 23	DGB: EC 018-45754 replaces the NT6X92BB with the NT6X92BC, and replaces the NTB01AA with the NTB01BA.
95 08 24	ECM 492 24	DKG: Clearly identify this building block as applicable only to offices using BCS 35 or below.
95 10 06	ECM 492 26	DKG: Clarify that this building block supports domestic applications only.
95 12 22	ECM 470 22	JEL: EC 002-16253 replaces the NT6X45BA, NT6X46BB and NT6X47AC with XPM+. EC 002-16309 adds the NTAX7525 DS-30 cables. EC 002-16643 MD's the NT6X28AA and replaces with the NT6X28AC. Also replaces the left door labels with the new NORTEL door label.

The MTX - ICP Common CP (< BCS32+) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Face Plate (0.875)	NT0X50AA		18	X,X+14	6,7,9 13,17, 19,22, 23,24	AP
# XPM Processor CP	NT6X45BA		4	X,X+14	8,12	AP
# Master Proc Memory Plus CP	NT6X47AC		2	X,X+14	10	AP
# Sig Proc Memory Plus CP	NT6X46BB		2	X,X+14	11	AP
Time Switch	NT6X44AA		2	X,X+14	14	AP
# Universal Tone Receiver	NT6X92BB		2	X,X+14	15	AP
Universal Tone Receiver	NT6X92BC		2	X,X+14	15	AP
# ISDN Pre-Processor CP	NTBX01AA		2	X,X+14	16	AP
ISDN Pre-Processor CP	NTBX01BA		2	X,X+14	16	AP
CPP Msg Protocol & Tone CP	NT6X69AC		2	X,X+14	18	AP
Speech Bus	NT6X41AA		2	X,X+14	21	AP
Channel Sup Message	NT6X42AA		2	X,X+14	20	AP
# Power Convertor +/-5,12V	NT2X70AE		2	X,X+14	25	AP
Power Convertor +/-5,12V	NT2X70AF		2	X,X+14	25	AP

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Shelf Desig. Strip (ICP)	P0737463		2	X,X+14		AP
Designation Label (NT6X47AC)	P0711663		2	X,X+14	10	AP
Designation Label (NT6X46BB)	P0711664		2	X,X+14	11	AP
Designation Label (NT6X44AA)	P0698316		2	X,X+14	14	AP
Designation Label (NTBX01BA)	P0713794		2	X,X+14	16	AP
Designation Label (NT6X69AC)	P0710476		2	X,X+14	18	AP
Designation Label (NT2X70AF)	P0809960		2	X,X+14	18	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT2X70AE	MD	NT2X70AF
NT6X92BB	MD	NT6X92BC
NTBX01AA	MD	NTBX01BA
NT6X45BA	A&M	NTMX77AA
NT6X46BB	A&M	NTMX77AA
NT6X47AC	A&M	NTMX77AA

DEV - DEVELOPMENT. These products are in the development phase.  
Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

## NOTES:

- 1) This building block contains non-XPM+ processors and therefore, is limited to offices using BCS 35 or below.
- 2) X = 05 for the DICP cabinet, NTAX75AA which can house one ICP.
- 3) X = 05,33 for the MCTM-I cabinet building blocks, NTZZ38EA and NTZZ38FA, which can house two ICPs.
- 4) The Time Switch CPs (NT6X44AA) are always provided in this building block.

## RULES:

- AP 1) When PEC NTZZ38WA is ordered, these items are provided.

MTX - ICP COMMON CP  
(>= BCS32+)

PEC CODE: NTZZ38XA

CPC CODE: B0237263

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: ICP

ENGINEERING DESCRIPTION: The NTZZ38XA building block provides all the necessary circuit packs, except the DMS network interface (DS-30) cards and public network interface (DS-1) cards.

The DS-30 interface cards are provided separately as there is future optionality of fiber interface (DS-512) to the ICP. Currently only the copper interface (DS-30) is available.

The DS-1 interface cards are provisionable as individual cards.

The DS-30 network interface is provided using the building block NTZZ02GA.

This building block mounts on the DICP cabinet, NTAX75AA and the MCTM-I cabinet building blocks, NTZZ60BA and NTZZ60CA.

This building block contains non-XPM+ processors and therefore, is limited to offices using BCS 35 or below.

This building block is designed to support domestic applications only.

REFERENCE DOCUMENTATION: SLZZ38XA 00 01 REL 01



MARKETS:

Applicable markets:

Wireless

	ISSUE AUTHOR:	Jim Large	Dept. 5849	(RICH)
	MAIN CONTACT:	Jim Large	Dept. 5849	(RICH)

NTZZ38XA EMB9-03-ICP-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 12 18	ECM 470 09	New insert introduced.
93 02 14	ECM 492 05	Add note on Time Switch provisioning.
93 06 02	ECM 470 11	Remove NT6X44AA and NTAX78AA. Remove NT0X50AA from slot 22.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 05 30	ECM 470 20	JEL: EC 018-45164 adds the designation labels for NT2X70AF's.
95 08 04	ECM 492 23	DGB: EC 018-45754 replaces the NT6X92BB with the NT6X92BC, and replaces the NTB01AB with the NTBX01BA.
95 08 24	ECM 492 24	DKG: Clearly identify this building block as applicable only to offices using BCS 35 or below.
95 10 06	ECM 492 26	DKG: Clarify that this building block supports domestic applications only.
95 12 22	ECM 470 22	JEL: EC 002-16253 replaces the NT6X45BA, NT6X46BB and NT6X47AC with XPM+. EC 002-16309 adds the NTAX7525 DS-30 cables. EC 002-16643 MD's the NT6X28AA and replaces with the NT6X28AC. Also replaces the left door labels with the new NORTEL door label.

The MTX - ICP Common CP (>= BCS32+) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Face Plate (0.875)	NT0X50AA		16	X,X+14	6,7,9 13,17, 19,23, 24	AP
# XPM Processor CP	NT6X45BA		4	X,X+14	8,12	AP
# Master Proc Memory Plus CP	NT6X47AC		2	X,X+14	10	AP
# Sig Proc Memory Plus CP	NT6X46BB		2	X,X+14	11	AP
# Universal Tone Receiver	NT6X92BB		2	X,X+14	15	AP
Universal Tone Receiver	NT6X92BC		2	X,X+14	15	AP
# ISDN Pre-Processor CP	NTBX01AB		2	X,X+14	16	AP
ISDN Pre-Processor CP	NTBX01BA		2	X,X+14	16	AP
CPP Msg Protocol & Tone CP	NT6X69AC		2	X,X+14	18	AP
Speech Bus	NT6X41AA		2	X,X+14	21	AP
Channel Sup Message	NT6X42AA		2	X,X+14	20	AP
# Power Convertor +/-5,12V	NT2X70AE		2	X,X+14	25	AP
Power Convertor +/-5,12V	NT2X70AF		2	X,X+14	25	AP
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Shelf Desig. Strip (ICP)	P0737463		2	X,X+14		AP
Designation Label (NT6X47AC)	P0711663		2	X,X+14	10	AP
Designation Label (NT6X46BB)	P0711664		2	X,X+14	11	AP
Designation Label (NTBX01BA)	P0713794		2	X,X+14	16	AP
Designation Label (NT6X69AC)	P0710476		2	X,X+14	18	AP
Designation Label (NT2X70AF)	P0809960		2	X,X+14	18	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT2X70AE	MD	NT2X70AF
NT6X92BB	MD	NT6X92BC
NTBX01AB	MD	NTBX01BA
NT6X45BA	A&M	NTMX77AA
NT6X46BB	A&M	NTMX77AA
NT6X47AC	A&M	NTMX77AA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

## NOTES:

- 1) This building block contains non-XPM+ processors and therefore, is limited to offices using BCS 35 or below.
- 2) X = 05 for the DICP cabinet, NTAX75AA which can house one ICP.
- 3) X = 05,33 for the MCTM-I cabinet building blocks, NTZZ60BA and NTZZ60CA, which can house two ICPs.

## RULES:

- AP 1) When PEC NTZZ38XA is ordered, these items are provided.

MTX - ICP COMMON CP  
(XPM PLUS)

PEC CODE: NTZZ38YA

CPC CODE: B0237264

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: ICP

ENGINEERING DESCRIPTION: The NTZZ38YA building block provides all the necessary circuit packs, except the DMS network interface (DS-30) cards and public network interface (DS-1) cards.

The DS-30 interface cards are provided separately as there is future optionality of fiber interface (DS-512) to the ICP. Currently only the copper interface (DS-30) is available.

The DS-1 interface cards are provisionable as individual cards. The DS-30 network interface is provided using the building block NTZZ02GA.

This building block mounts on the DICP cabinet, NTAX75AA and the MCTM-I cabinet building blocks, NTZZ60BA and NTZZ60CA.

This building block is designed to support domestic applications only.

REFERENCE DOCUMENTATION: SLZZ38YA

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: Deborah Goss Dept. 5849 (RICH)

MAIN CONTACT: Jim Large Dept. 5849 (RICH)

CONTACT: Walter Brown Dept. 5849 (RICH)  
CONTACT: Richard Martin Dept. 5849 (RICH)

NTZZ38YA EMB9-03-ICP-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
92 12 18	ECM 470 09	New insert introduced.
93 02 14	ECM 492 05	Add note on Time Switch provisioning.
93 06 02	ECM 470 11	Remove NT6X44AA and NTAX78AA. Remove NT0X50AA from slot 22.
94 06 06	ECM 492 12	ECD 018-43095 - Remove NT0X50AA from slots 6 & 7.
94 09 21	ECM 492 15	Adds correct authorship.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 05 30	ECM 470 20	JEL: EC 018-45164 adds the designation labels for NT2X70AF's.
95 08 04	ECM 492 23	DGB: EC 018-45754 replaces the NT6X92BB with the NT6X92BC, and replaces the NTB01AB with the NTB01BA.
95 10 06	ECM 492 26	DKG: Clarify that this building block supports domestic applications only.

The MTX - ICP Common CP (XPM PLUS) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
XPM PLUS Term PB	NTMX71AA		2	X,X+14	19R	AP
Filler Face Plate (0.875)	NT0X50AA		18	X,X+14	8,9,10 11,13, 17,19, 23,24	AP
Unified Processor	NTMX77AA		2	X,X+14	12	AP
# Universal Tone Receiver	NT6X92BB		2	X,X+14	15	AP
Universal Tone Receiver	NT6X92BC		2	X,X+14	15	AP
# ISDN Pre-Processor CP	NTBX01AB		2	X,X+14	16	AP
ISDN Pre-Processor CP	NTBX01BA		2	X,X+14	16	AP
CPP Msg Protocol & Tone CP	NT6X69AC		2	X,X+14	18	AP
Speech Bus	NT6X41AA		2	X,X+14	21	AP
Channel Sup Message	NT6X42AA		2	X,X+14	20	AP
# Power Convertor +/-5,12V	NT2X70AE		2	X,X+14	25	AP
Power Convertor +/-5,12V	NT2X70AF		2	X,X+14	25	AP
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Shelf Desig. Strip (ICP)	P0737463		2	X,X+14		AP
Designation Label (NT0X50AA)	P0578498		4	X,X+14	8,11	AP
Designation Label (NTMX77AA)	P0735417		2	X,X+14	12	AP
Designation Label (NTBX01BA)	P0713794		2	X,X+14	16	AP
Designation Label (NT6X69AC)	P0710476		2	X,X+14	18	AP
Designation Label (NT2X70AF)	P0809960		2	X,X+14	18	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT2X70AE	MD	NT2X70AF
NT6X92BB	MD	NT6X92BC
NTBX01AB	MD	NTBX01BA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.



## NOTES:

- 1) X = 05 for the DICP cabinet, NTAX75AA which can house one ICP.
- 2) X = 05,33 for the MCTM-I cabinet building blocks, NTZZ60BA and NTZZ60CA, which can house two ICPs.

## RULES:

- AP 1) When PEC NTZZ38YA is ordered, these items are provided.

## MTXD - I/O BASIC (UNIVERSAL)

PEC CODE: NTZZ38AM

CPC CODE: B0237266

RATING: Standard

REPLACES: Not applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This building block provides all the necessary circuit packs for basic Input/Output for the MTXD product.

It mounts on the MCEX cabinet building blocks NTZZ60EA and NTZZ38JA and MCGM cabinet building blocks NTZZ60JA and NTZZ60LA.

REFERENCE DOCUMENTATION: SLZZ38AM

MARKETS: Applicable markets:

Wireless

	ISSUE AUTHOR:	Kevin Neville	Dept. 5849	(RICH)
	MAIN CONTACT:	Kevin Neville	Dept. 5849	(RICH)
	CONTACT:	Rich McNeill	Dept. 5849	(RICH)

NTZZ38AM EMB9-03-IOE-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 06 11	ECM 492 41	KMN: Remove Jim Large as contact.

The MTXD - I/O Basic (Universal) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Bus Terminator	NT0X67AA		2	X	14,24	AP
Power Converter CP	NT2X70AF		2	X	1,25	AP
I/O Message Controller CP	NT1X62CB		2	X	4,15	AP
<hr/>						
Designation Label (NT1X62CB)	P0745105		2	X	4,15	AP
Designation Label (NT2X70AF)	P0809960		2	X	1,25	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = position 19 in the MCEX cabinet building blocks, NTZZ38HA and NTZZ38JA.
- 2) X = position 47 in the MCGM cabinet building blocks, NTZZ38NA and NTZZ38PA.

RULES:

- AP 1) When PEC NTZZ38AM is ordered, these items are provided.

## MTXD - MTD ASSEMBLY

PEC CODE: NTZZ38DM

CPC CODE: B0237269

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This building block provides the necessary components of a Magnetic Tape Drive (MTD) for the MTXD product. It mounts on the MCEX cabinet building blocks NTZZ38HA and NTZZ38JA.

REFERENCE DOCUMENTATION: SLZZ38DM 00 01 REL 01

MARKETS: Applicable markets:

Wireless  
Canada

ISSUE AUTHOR: Walter Brown Dept. 5849 (RICH)

MAIN CONTACT: Walter Brown Dept. 5849 (RICH)

CONTACT: Richard Martin Dept. 5849 (RICH)

CONTACT: Richard McNeill Dept. 5849 (RICH)

NTZZ38DM EMB9-03-MTD-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
93 02 14	ECM 492 05	Add building block engineering
94 12 06	ECM 492 17	Clarify NT1X68BC slot provisioning.
96 02 20	ECM 492 30	KMN: Replace the A0277744 with the. A0397416.

The MTXD - MTD Assembly is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
RTP 9-Track Tape Drive	A0397416		1	33		AP
MTD Mounting Hardware	NT0X44AD		1	33		AP
9-Track Control CP (COOK)	NT1X68BC		1	19	X	AP
Designation Label (NT1X68BC) P0616642			1	19	X	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ02HB	MD	NTZZ02HM
A0277744	MD	A0397416

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = one of slot 6 or 17 in the IOC shelf on the MCEX cabinet, NTN32AA. Provision in slot 17 if the MTD will be in the same cabinet. Provision in slot 6 when cabling to an MTD for external connection.
- 2) Only one (1) NTZZ38DM building block can be applied to a MCEX cabinet building block. The MCEX cabinet Building blocks are: NTZZ38HA and NTZZ38JA.
- 3) the MTD Mounting Hardware (NT0X44AD) is miscellaneous assigned to shelf position 33.

RULES:

AP 1) When PEC NTZZ38DM is ordered, these items are provided.



MTXD - PTM

PEC CODE: NTZZ38HM

CPC CODE: B0237272

RATING: STD

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: This building block provides all the necessary circuit packs for the PTM test circuits for the MTXD product.

The PTM is part of the DMS-MTX system. This BB mounts on the MCAM cabinet building blocks, NTZZ38UA and NTZZ38VA.

REFERENCE DOCUMENTATION: SLZZ38HM 00 01 REL 01

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: NTI: Jim Large Dept. 5849 (RCH)

MAIN CONTACT: NTI: Jim Large Dept. 5849 (RCH)

NTZZ38HM EMB9-03-PTM-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
93 02 14	ECM 492 05	New insert.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 06 06	ECM 492 20	JEL: Add NT2X70AF designation labels for the MCTM-I cabinet.

The MTXD - PTM is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Face Plate	NT0X50AC		5	47	1,2,9,10,11	AP
Filler Face Plate	NT0X50AC		5	33	1,2,12,15,16	AP
TM Control Card CP	NT4X65AB		2	47,33	3	AP
Group CODEC	NT2X59AA		2	47,33	4	AP
OAU Dead sys w/Comm audible	NT3X82AB		2	47,33	5	AP
OAU Alarm transfer cct.	NT3X83AA		1	47	6	AP
Miscellaneous scanner	NT0X10AA		1	47	7	AP
Miscellaneous scanner	NT0X10AA		1	33	9	AP
Two 102 milliwatt test ccts	NT1X00AB		1	47	8	AP
Signal distribution CP	NT2X57AA		1	47	12	AP
TTU Control and Sig Gen	NT2X47AD		1	47	13	AP
TTU Digital Filter	NT2X56AB		1	47	14	AP
TTT Signal Generator	NT1X90AA		1	47	15	AP
TTT Signal Generator	NT1X90AA		1	33	13	AP
PCM Level Meter	NT2X96AA		1	47	16	AP
PCM Level Meter	NT2X96AA		1	33	14	AP
Multi O/P Power Converter	NT2X09AA		2	47,33	17	AP
Filler Face Plate 0.875	NT0X50AA		2	47,33	19	AP
# Power Converter CP	NT2X70AE		2	47,33	20	AP
Power Converter CP	NT2X70AF		2	47,33	20	AP
Jack Ended Trunk	NT1X54AA		2	33	10,11	AP
101 Communication Line	NT5X30AA		3	33	6,7,8	AP
Comp Bal NTWK (900 ohm)	NT2X77AA		3	33	6,7,8	AP
<hr/>						
MTM Wiring Option Kit	NTNX37WA		1			AP
<hr/>						
Designation strip (PTM)	P0715602		1	47		AP
Design. Label (NT1X00AB)	P0661425		1	47	8	AP
Design. Label (NT0X50AC)	P0580258		3	47	9,10,11	AP
Design. Label (NT2X47AD)	P0676174		1	47	13	AP
Design. Label (NT2X56AB)	P0661422		1	47	14	AP
Design. Label (NT1X90AA)	P0661423		1	47	15	AP
Design. Label (NT2X96AA)	P0661424		1	47	16	AP
<hr/>						
Designation strip (PTM)	P0715601		1	33		AP
Design. Label (NT5X30AA)	P0656329		3	33	6,7,8	AP
Design. Label (NT0X10AA)	P0656328		1	33	9	AP
Design. Label (NT1X54AA)	P0656330		2	33	10,11	AP
Design. Label (NT0X50AC)	P0580258		3	33	12,15,16	AP
Design. Label (NT1X90AA)	P0661423		1	33	13	AP
Design. Label (NT2X96AA)	P0661424		1	33	14	AP
Design. Label (NT2X70AF)	P0809960		1	47,33	20	AP

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
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EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT2X70AE	MD	NT2X70AF

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ38HM is ordered, these items are provided.

ICRM - DUPLEX

NTZZ38AA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This Building Block is a duplex ICRM and mounts in the CE Bay at cell sites for transceiver interface.

This shelf is part of the DMS-MTX system.

ISSUE AUTHOR NTI: Richard Martin Dept. 5849 (RICH)

MAIN CONTACT NTI: Richard Martin Dept. 5849 (RICH)

CONTACT NTI: Keith Zaletsky Dept. 5849 (RICH)

REFERENCE DOCUMENTATION: MSAX86AA 01 02

SLZZ38AA 00 01

MARKETS: Applicable markets:

Wireless

NTZZ38AA EMB9-10-ICRM-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 04 16	ECM 534 08	Initial release of building block.
93 04 28	ECM 534 09	Correct card positions for NTAX91AA.

The ICRM - DUPLEX is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
ICRM with FSP	NTAX86AA		1	X		AP
Desig Strip (ICRM)	P0727625		1	X		AP
Remote Mod FSP	NTAX90AB	RMFS	1	X		AP-01
Remote Mod Alarm Card	NTAX92AA	RMAC	2	X	C01, C02	AP
Remote Mod TCM PAD	NTAX91AA	RMTD	3	X	C03, C04, C05	AP
Rem Mod Time Switch	NTAX88AA	RMTS	2	X	10,15	AP
Rem Mod Controller	NTAX89AA	RMCP	2	X	9,16	AP
DS-1 Interface Card	NT6X50AB		2	X	11,12	AP
Desig Label NT6X50AB	P0690976		2	X	11,12	AP
Power Converter	NT2X70CA		2	X	1,22	AP
Desig Label NT2X70CA	P0727627		2	X	1,22	AP
Rem Mod Digital Port	NT8X47BA	RMDP	1	X	21	AP
Desig Label NT8X47BA	P0689233		1	X	21	AP

## NOTES:

- 1) X = Position 1 or 13

Only if an RCMI is present will the ICRM mount in position 1 otherwise it mounts in position 13.

## RULES:

- AP 1) When PEC NTZZ38AA is ordered, these items are provided.
- AP-01 1) This item provided with the NTAX86AA.

ICRM - SIMPLEX

NTZZ38BA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This Building Block is a SIMPLEX ICRM and mounts in the CE Bay at cell sites for transceiver interface.

This shelf is part of the DMS-MTX system.

ISSUE AUTHOR NTI: Richard Martin Dept. 5849 (RICH)

MAIN CONTACT NTI: Richard Martin Dept. 5849 (RICH)

CONTACT NTI: Keith Zaletsky Dept. 5849 (RICH)

REFERENCE DOCUMENTATION: MSAX86AA 01 02

SLZZ38BA 00 01

MARKETS: Applicable markets:

Wireless



NTZZ38BA EMB9-10-ICRM-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 04 16	ECM 534 08	Initial release of building block.
93 04 28	ECM 534 09	Correct card positions for NTAX91AA.

The ICRM - Simplex is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
ICRM with FSP	NTAX86AA		1	X		AP
Desig Strip (ICRM)	P0727625		1			AP
Rem Mod FSP	NTAX90AB	RMFS	1			AP-01
Rem Mod Alarm Card	NTAX92AA	RMAC	1		C01	AP
Rem Mod TCM PAD	NTAX91AA	RMTP	3		C03, C04, C05	AP
Rem Mod Time Switch	NTAX88AA	RMTS	1	X	10	AP
Rem Mod Controller	NTAX89AA	RMCP	1	X	9	AP
DS-1 Interface Card	NT6X50AB		1	X	11	AP
Desig Label NT6X50AB	P0690976		1	X	11	AP
Power Converter	NT2X70CA		1	X	1	AP
Desig Label NT2X70CA	P0727627		1	X	1	AP
Rem Mod Digital Port	NT8X47BA	RMDP	1	X	21	AP
Desig Label NT8X47BA	P0689233		1	X	21	AP
Filler Face Plate	NT0X50AA		2	X	15,16	AP
Desig Label NT0X50AA	P0578498		2	X	15,16	AP
Filler Face Plate - 3 slot	NT0X50AE		1	X	22	AP
Desig Label NT0X50AE	P0591361		1	X	22	AP

NOTES:

- 1) X = Position 1 or 13

Only if an RCMI is present will the ICRM mount in position 1 otherwise it mounts in position 13.

RULES:

- AP 1) When PEC NTZZ38BA is ordered, these items are provided.
- AP-01 1) This item provided with the NTAX86AA.

ICRM EXP SHELF - DUPLEX

NTZZ38CA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This building block is a DUPLEX ICRM EXPAN-  
SION SHELF which mounts at cell sites in the  
CE Bay. It is required when there are not  
sufficient slots in the Main ICRM to mount  
all the port cards required.

This shelf is part of the DMS-MTX system.

ISSUE AUTHOR NTI: Richard Martin Dept. 5849 (RICH)

MAIN CONTACT NTI: Richard Martin Dept. 5849 (RICH)

CONTACT NTI: Keith Zaletsky Dept. 5849 (RICH)

REFERENCE DOCUMENTATION: MSAX86AA 01 02

SLZZ38CA 00 01

MARKETS: Applicable markets:

Wireless

NTZZ38CA EMB9-10-ICRM-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 04 16	ECM 534 08	Initial release of building block.

The ICRM EXP SHELF - DUPLEX is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
ICRM shelf w/o FSP	NTAX86AC		1	3		AP
Remote Mod Data Buffer	NTAX84AA	RMDB	2	3	10,15	AP
Desig Label NTAX84AA	P0735133		2	3	10,15	AP
Power Converter	NT2X70CA		2	3	1,22	AP
Desig Label NT2X70CA	P0727627		2	3	1,22	AP
Filler Face Plate	NT0X50AA		7	3	9, 11-14 16,21	AP
Desig Label NT0X50AA	P0578498		7	3	9, 11-14 16,21	AP
Designation Strip	P0730375		1	3		AP

NOTES:

RULES:

AP 1) When PEC NTZZ38CA is ordered, these items are provided.

ICRM EXP SHELF - SIMPLEX

NTZZ38DA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This Building Block is a SIMPLEX ICRM EXPAN-  
SION SHELF which mounts at cell sites in the  
CE Bay. It is required when there are not  
sufficient slots in the Main ICRM to mount  
all the port cards required.

This shelf is part of the DMS-MTX system.

ISSUE AUTHOR NTI: Richard Martin Dept. 5849 (RICH)

MAIN CONTACT NTI: Richard Martin Dept. 5849 (RICH)

CONTACT NTI: Keith Zaletsky Dept. 5849 (RICH)

REFERENCE DOCUMENTATION: MSAX86AA 01 02

SLZZ38DA 00 01

MARKETS: Applicable markets:

Wireless

NTZZ38DA EMB9-10-ICRM-4 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 04 16	ECM 534 08	Initial release of building block.

The ICRM EXP SHELF - SIMPLEX is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
ICRM shelf w/o FSP	NTAX86AC		1	3		AP
Remote Mod Data Buffer	NTAX84AA	RMDB	1	3	10	AP
Desig Label NTAX84AA	P0735133		1	3	10	AP
Power Converter	NT2X70CA		1	3	1	AP
Desig Label NT2X70CA	P0727627		1	3	1	AP
Filler Face Plate	NT0X50AA		8	3	9, 11-16, 21	AP
Desig Label NT0X50AA	P0578498		8	3	9, 11-16, 21	AP
Filler Face Plate - 3 slot	NT0X50AE		1	3	22	AP
Desig Label NT0X50AE	P0591361		1	3	22	AP
Designation Strip	P0730375		1	3		AP

NOTES:

RULES:

AP 1) When PEC NTZZ38DA is ordered, these items are provided.



## MDSP (GREY)

PEC CODE: NTZZ38BM

CPC CODE:

RATING: STD

| REPLACES: N/A

| REPLACED BY: NTZZ60AA

ABBREVIATION NAME: MDSP

ENGINEERING DESCRIPTION: The Meridian Digital Signal Processor (MDSP) is a Meridian Cabinet which houses 16 DSP units, four per shelf, on four shelves. This frame can be part of the DMS-MTX or MTXD system.

REFERENCE DOCUMENTATION: MSAX82AA 01 02

ISAX82AA 01 01

SLAX82AA 01 01

SLZZ38BM 01 01

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Jim Large Dept. 5849 (RCH)

| MAIN CONTACT: Jim Large Dept. 5849 (RCH)

| CONTACT: Richard Martin Dept. 5849 (RCH)

NTZZ38BM EMB9-15-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	Adds the MDSP cabinet to the MTXD. First issue of Eng Man section.
93 05 05	ECM 492 07	Retire insert.
95 12 01	ECM 492 27	JEL: Retire building block.

The MDSP (GREY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DSP Shelf	NTAX7601		1	05		AP-01
MDSP Cabinet	NTAX82AA		1			AP
Power Converter	NT2X70AE		1	05	1	AP
Desg. Label NT2X70AE	P0698943		1	05	1	AP
DSP Control Processor	NTAX80AA		1	05	4	AP
Desig Label NTAX80AA	P0737139		1	05	4	AP
Backplane Terminator	NTAX79AA		1	05	8R	AP
DS30A Cable	NTAX8213		8			AP
Frame Supervisory Panel	NTNX26GA		1	60		AP-01
Cooling Unit	NTNX27CA		1	00		AP-01
MDSP - DSPM Shelf Kit	NTZZ38MA			X		RUL1
Filler Panel	NT0X84AA			X		RUL2
DSP Cooling Unit	NTAX77AA		1	65		RUL3
Cooling Unit Filler Panel	P0684448		1	65		RUL3
Power Converter	NT2X70AE			05,X	25	RUL4
Desg. Label NT2X70AE	P0698943			05,X	25	RUL4
Filler Face Plate	NT0X50AE			X	1,25	RUL4
Desg. Label NT0X50AE	P0591361			X	1,25	RUL4
MTX - DSP Common CP	NTZZ38RA			X	9,15	RUL5
Filler Face Plate	NT0X50AA			X	4,9, 15,20	RUL5
Desg. Label NT0X50AA	P0578498			X	4,9, 15,20	RUL5
DSP Card	NTAX81AA			X	5-8 10-13 16-19 21-24	RUL6
Desg. Label NTAX81AA	P0739914			X	5-8 10-13 16-19 21-24	RUL6
Filler Face Plates	NT0X50AA			05,X	5-8, 10-14 16-19 21-24	RUL7
Desg. Label for NT0X50AA	P0578498			05,X	5-8, 10-14 16-19 21-24	RUL7

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Cabinet Type Label (Grey)	P0738784		2			AP
Door Label Left (Grey)	P0677704		2			AP
Door Label Right (Grey)	P0699158		2			AP
Door Right - Grey	NTNX2513		2			AP
Door Left - Grey	NTNX2515		2			AP
Earthquake Mounting Kit	NTNX2540					RUL8
Earthquake Mounting Kit	NTNX2578					RUL8
Frame Mounting Kit	NTNX2579					RUL8
Frame Mounting Kit	NTNX2580					RUL8
End Panel (right,grey)	NTNX2517					RUL8
End Panel (left,grey)	NTNX2518					RUL8
End Panel (right,brown)	NTNX2531					RUL8
End Panel (left,brown)	NTNX2532					RUL8

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ38BM	MD	NTZZ60AA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 19, 33, 47.
- 2) Assign the door assemblies to the frame on the hardware specs. Do not ship these items loose.

## RULES:

- AP 1) When PEC NTZZ38BM is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTAX82AA.
- RUL1 1) Provide one NTZZ38MA MDSP - DSPM Shelf Kit for each shelf position 19,33,47 required. Each shelf supports up to four (4) DSP's.
- RUL2 1) Provide one NT0X84AA filler panel for each shelf (19,33,47) not equipped with a DSPM shelf.
- RUL3 1) Provide one NTAX77AA Top Cooling Unit when providing DSPM shelves at 33 or 47. The cooling unit at the bottom controls shelves 05,19 and the cooling unit at the top controls shelves 33, 47.
- 2) Provide one P0684448 Cooling Unit Filler Panel if DSPM shelves at positions 33 and 47 are not provided.
- RUL4 1) Power converters are always provided in slot 1 for every shelf. One converter in shelf 05 comes with the MDSP cabinet and each shelf kit contains one power converter. Provision one (1) NT2X70AE power converter in slot 25 of each DSPM shelf provisioned. Only provide the NT2X70AE power converters for the DSP's in use.  
provide:  
for shelf 05, one (1) NT2X70AE in slot 25 for DSP 2-3;  
for shelf 19, one (1) NT2X70AE in slot 25 for DSP 6-7;  
for shelf 33, one (1) NT2X70AE in slot 25 for DSP 10-11;  
for shelf 47, one (1) NT2X70AE in slot 25 for DSP 14-15.
- 2) Provide one P0698943 designation label for each NT2X70AE provisioned.
- 3) Provision one (1) NT0X50AE for slot 1,25 on shelf 05,19,33,47 respective DSP's are not in use.
- 4) Provide one P0591361 designation label for each NT0X50AE ordered.
- RUL5 1) Provision one (1) NTZZ38RA MTX - DSP Common CP for each DSP for DS-30A connections to the ICP.  
Each NTZZ38RA interfaces two DS-30 links.
- 2) Provision 1 NT0X50AA for each vacant, unprovisioned NTZZ38RA position.

RUL6 1) Provide one (1) NTAX81AA circuit packs for every 2 digital DRU's. The DSP modules are defined as follows:

		DSP 4								DSP 5					DSP 6					DSP 7										
SLOT		8								1 1 1 1 3					1					2										
		1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7		
S H E L F	19	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
		A	A	A	A	A	A	A	A	A	A	A	A	A	0	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
		7	8	8	8	8	8	7	8	8	8	8	8	7	5	8	8	8	8	7	8	8	8	8	7	8	8	8	8	7
S H E L F	05	0	0	1	1	1	1	9	0	1	1	1	1	9	0	0	1	1	1	1	1	1	9	0	1	1	1	1	9	
		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
		E	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	E	
		DSP 0								DSP 1					DSP 2					DSP 3										

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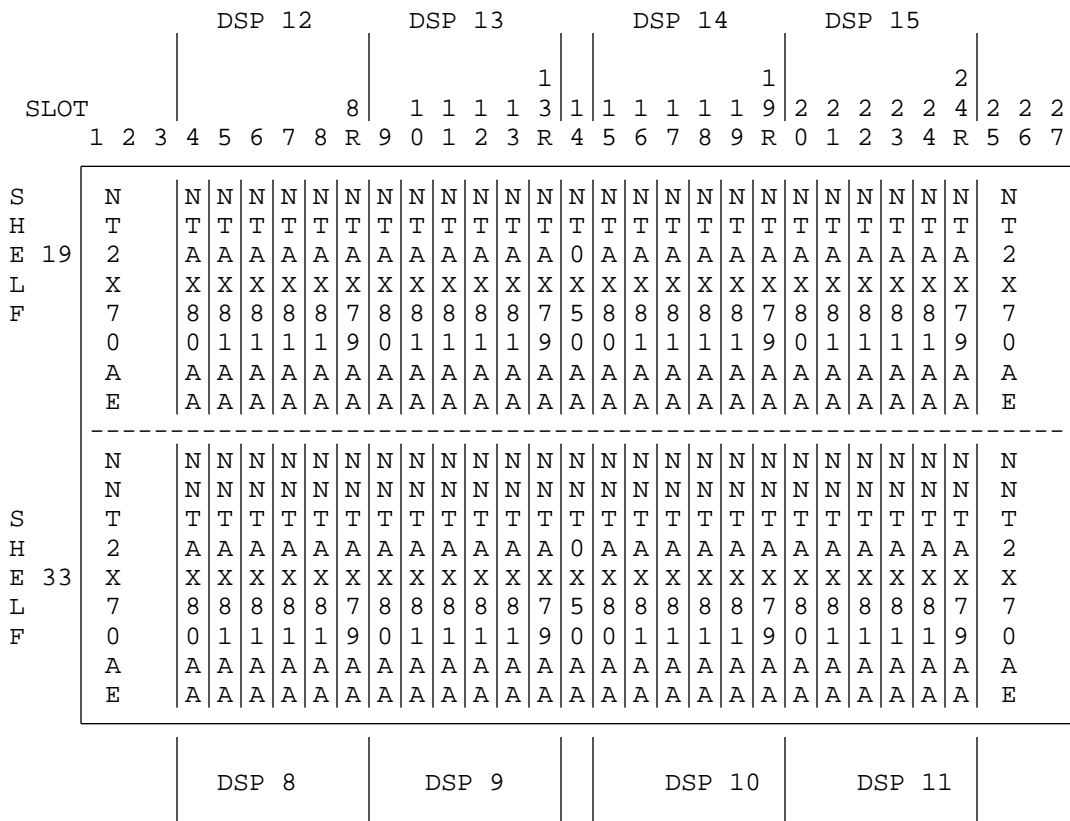


Figure 1. DSPM Shelves.

- RUL7
- 1) Provide one NT0X50AA filler face plate for each slot not provisioned with a circuit pack.
  - 2) Always provide a P0578498 designation label with each NT0X50AA provided.
  - 3) Always provide a NT0X50AA filler face plate in slot 14 on shelf 33,47.
- RUL8
- 1) Anchoring kits are an option to be purchased by the customer.

- 2) Provision one NTNX2540 kit for slab type flooring or one NTNX2578 for computer flooring when installing frames in an earthquake zone ATC Zone 7, NEBS Zone 4, or UBC Zone 4.
- 3) Provision one NTNX2579 kit for slab type flooring or one NTNX2580 kit for computer flooring in a non-earthquake zone.
- 4) End panels are only provisioned if a cabinet is the first or last cabinet in an lineup.  
If a cabinet is the first in a lineup, provide a left end panel.  
If a cabinet is the last in a lineup, provide a right end panel.

The available end panels are as follows:

End Panel (right,grey) : NTNX2517  
End Panel (left,grey) : NTNX2518  
  
End Panel (right,brown) : NTNX2531  
End Panel (left,brown) : NTNX2532



## MDSP (GREY)

PEC CODE: NTZZ60AA

CPC CODE: B0238691

RATING: STD

REPLACES: N/A

REPLACED BY: N/A

ABBREVIATION NAME: MDSP

ENGINEERING DESCRIPTION: The Meridian Digital Signal Processor (MDSP) is a Meridian Cabinet which houses 16 DSP units, four per shelf, on four shelves. This frame can be part of the DMS-MTX or MTXD system.

REFERENCE DOCUMENTATION: MSAX82AA 01 02

ISAX82AA

SLAX82AA

SLZZ60AA

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Kevin Neville Dept. 5849 (RICH)

| MAIN CONTACT: Kevin Neville Dept. 5849 (RICH)

| CONTACT: Rich McNeill Dept. 5849 (RICH)

NTZZ60AA EMB9-15-MDSP-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	Adds the MDSP cabinet to the MTXD. First issue of Eng Man section.
94 08 30	ECM 492 14	Adds NTAX7601 abbr. DSPM.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 12 21	ECM 492 29	JEL: Replacing the door labels left with the new NORTEL door labels left.
97 05 02	ECM 492 40	KMN: Correct FSP PEC.

The MDSP (GREY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MDSP Cabinet	NTAX82AA		1			AP
DSP Shelf	NTAX7601	DSPM	1	05		AP-01
Power Converter	NT2X70AF		1	05	1	AP
Desg. Label NT2X70AF	P0809960		1	05	1	AP
DSP Control Processor	NTAX80AA		1	05	4	AP
Desig Label NTAX80AA	P0737139		1	05	4	AP
Backplane Terminator	NTAX79AA		1	05	8R	AP
Frame Supervisory Panel	NTNX26HA		1	60		AP-01
Cooling Unit	NTNX27CA		1	00		AP-01
Cabinet Type Label (Grey)	P0738784		2			AP
# Door Label Left (Grey)	P0677704		2			AP
Door Label Left (Grey)	P0818848		2			AP
Door Label Right (Grey)	P0699158		2			AP
Door Right - Grey	NTNX2513		2			AP
Door Left - Grey	NTNX2515		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) For more information on the MDSP (NTAX82AA) frame, see EMA9-15-000.

RULES:

- AP 1) When PEC NTZZ60AA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTAX82AA.

MDSP (BROWN)

PEC CODE: NTZZ60KA

CPC CODE: B0238704

RATING: STD

REPLACES: N/A

REPLACED BY: N/A

ABBREVIATION NAME: MDSP

ENGINEERING DESCRIPTION: The Meridian Digital Signal Processor (MDSP) is a Meridian Cabinet which houses 16 DSP units, four per shelf, on four shelves. This frame can be part of the DMS-MTX or MTXD system.

REFERENCE DOCUMENTATION: MSAX82AA

ISAX82AA

SLAX82AA

SLZZ60KA

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Kevin Neville Dept. 5849 (RICH)

| MAIN CONTACT: Kevin Neville Dept. 5849 (RICH)

| CONTACT: Rich McNeill Dept. 5849 (RICH)

NTZZ60KA EMB9-15-MDSP-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	Adds the MDSP cabinet to the MTXD. First issue of Eng Man section.
94 04 11	ECM 492 11	EC 01842709 - Remove quantity of 8 NTAX8213 cables.
94 08 30	ECM 492 14	Adds NTAX7601 abbr. DSPM.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 12 21	ECM 492 29	JEL: Replacing the door labels left with the new NORTEL door labels left.
97 05 02	ECM 492 40	KMN: Correct FSP PEC.

The MDSP (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MDSP Cabinet	NTAX82AA		1			AP
DSP Shelf	NTAX7601	DSPM	1	05		AP-01
Power Converter	NT2X70AF		1	05	1	AP
Desg. Label NT2X70AF	P0809960		1	05	1	AP
DSP Control Processor	NTAX80AA		1	05	4	AP
Desig Label NTAX80AA	P0737139		1	05	4	AP
Backplane Terminator	NTAX79AA		1	05	8R	AP
Frame Supervisory Panel	NTNX26HA		1	60		AP-01
Cooling Unit	NTNX27CA		1	00		AP-01
Cabinet Type Label (Brown)	P0738783		2			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP
# Door Label Left (Brown)	P0699464		2			AP
Door Label Left (Brown)	P0818849		2			AP
Door Label Right (Brown)	P0695230		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) For more information on the MDSP (NTAX82AA) frame, see EMA9-15-000.

RULES:

- AP 1) When PEC NTZZ60KA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTAX82AA.



97/12/09

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EMB10

SL-100 EQUIPMENT CHAPTER ALL

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SL-100 EQUIPMENT CHAPTER ALL

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97/12/09

## SL-100 EQUIPMENT CHAPTER ALL

EMB10-08-001	MNET (BROWN)	NTZZ38LM
EMB10-08-000	MNET (GREY)	NTZZ38KM
EMB10-12-000	MCAM (GREY)	NTZZ38UA
EMB10-12-MCAM-2	MCAM (BROWN)	NTZZ60NA
EMB10-12-MCAM-1	MCAM (GRAY)	NTZZ60MA
EMB10-13-001	MCGM (BROWN)	NTZZ38PA
EMB10-13-MCGM-2	MCGM (BROWN)	NTZZ60LA
EMB10-13-MCGM-1	MCGM (GREY)	NTZZ60JA
EMB10-14-000	MCSS (GREY)	NTZZ38FM
EMB10-14-001	MCSS (BROWN)	NTZZ38JM
EMB10-14-MCSS-2	MCSS (BROWN)	NTZZ60FA
EMB10-17-001	MCEX (BROWN)	NTZZ38JA
EMB10-17-MCEX-1	MCEX (GREY)	NTZZ60EA
EMB10-20-000	MCTM - ISDN (GREY)	NTZZ38EA
EMB10-20-MCTMI	MCTM - ISDN (GREY)	NTZZ60BA
EMB10-21-MCTMI	MCTM - ISDN (BROWN)	NTZZ60CA

97/12/09

MNET (BROWN)

PEC CODE: NTZZ38LM

CPC CODE:

RATING: Standard

| REPLACES: N/A

| REPLACED BY: N/A

ABBREVIATION NAME: MNET

ENGINEERING DESCRIPTION: The Meridian Network/Controller (MNET) houses a 64 port Dual Shelf Network (DSN), and a duplicated Common Peripheral Controller (CPC).

REFERENCE DOCUMENTATION: MSNX40AA 00 06  
SLZZ38LM 00 01 REL 01

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Jim Large Dept. 5849 (RCH)

| MAIN CONTACT: Jim Large Dept. 5849 (RCH)

| CONTACT: Richard Martin Dept. 5849 (RCH)

NTZZ38LM EMB10-08-001 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	New insert.
93 05 05	ECM 492 07	Retire insert.
95 12 01	ECM 492 27	Retire building block.

The MNET (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Meridian Net/Cont Module	NTNX40AA		1			AP
MTXD Designation Label	P0712628		1			AP
Meridian Cabinet Assy	NTNX25AA	FW	1			AP-01
Frame Supv Panel	NTNX26NA	FSP	1	60		AP-01
Network Shelf Assy	NT8X1101	DSN	2	33,47		AP-01
Network Junctor Cable	NT8X1104		4			AP-01
Double Shelf Network	NTZZ07BA		1	33	1	RUL2
Network Clk Interface (SN)	NTZZ07DA		1	33	23	RUL2
MNET to MCTMI conversion kit (SNSE Integration)	NTMX40ZA		1	33,47		RUL5
Com Periph Proc Shelf Assy	NT6X0215	CPC	2	05,19		AP-01
MTX-ICP Common CP (< BCS32+)	NTZZ38WA			05	6	RUL1
MTX-ICP Common CP (>=BCS32+)	NTZZ38XA			05	6	RUL1
MTX-ICP Common CP (XPM PLUS)	NTZZ38YA			05	6	RUL1
10 DS30A LCM Interfaces	NTZZ02KA			05	6,7	RUL1
Time Switch	NT6X44AA		2	05,19	14	RUL1
Desig. Label (NT6X44AA)	P0698316		2	05,19	14	RUL1
Digital Cellular Time Switch	NTAX78AA		2	05,19	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	05,19	14	RUL1
DS-512 Network Interface	NTZZ02HB		1	05	22	RUL1
16 DS30 Network Interfaces	NTZZ02GA		1	05	22	RUL1
E.F.F. DS1 I/F CP	NT6X50AB			05,19	1-5	RUL3
Desig. Label (NT6X50AB)	P0690976			05,19	1-5	RUL3
Digital Trunk Controller	NTZZ04BA		1	05	6	RUL6
30 Universal Tone Rcvr Ccts	NTZZ02FA		1	05	15	RUL6
Continuity Tone Detector	NT6X70AA		2	05,19	13	RUL6
Jumper Kit for Non-ISDN	NTRX36NI		1	05,19		AP
Cooling Unit	NTNX27CA	CU	1	00		AP-01
Cabinet Type Label (Brown)	P0700926		2			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP
Door Label Left (Brown)	P0699464		2			AP
Door Label Right (Brown)	P0695230		2			AP
Anchor Kit (Earthquake Slab)	NTNX2540					RUL4
Anchor Kit (EQ cmptr Floor)	NTNX2578					RUL4
Anchor Kit (Non-EQ Slab)	NTNX2579					RUL4
Anchor Kit (Non-EQ cmp Flr)	NTNX2580					RUL4

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ38LM	MD	N/A

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) RE: CPC (Common Peripheral Controller) and NT6X0223 CPC/ISDN shelf assembly:  
Common Peripheral Array (CPA) 0 is the lower shelf in the module.  
Common Peripheral Array (CPA) 1 is the upper shelf in the module.
- 2) The NTZZ02KA DS30A Interface building block is not provisioned when the CPC is used for DTC applications.

RULES:

- AP 1) When PEC NTZZ38LM is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTMX40AA.
- RUL1 1) Provide one (1) MTX - ICP Common CP (XPM PLUS) building block (NTZZ38YA) if provisioning ICP functionality, using XPM PLUS.  
The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.

If digital and analog functionality is required, provide:  
two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels.

If analog only functionality is required, provide:  
two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels.

- 2) Provide one (1) MTX - ICP Common CP ( $\geq$  BCS32+) building block (NTZZ38XA) if provisioning ICP functionality, using the standard XPM processor packfill using BCS32+ or later software.  
The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.

If digital and analog functionality is required, provide:  
two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels.

If analog only functionality is required, provide:  
two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels.

- 3) Provide one (1) MTX - ICP Common CP ( $<$  BCS32+) building block (NTZZ38WA) if provisioning ICP functionality, using the standard XPM processor packfill using software releases lower than BCS32+.  
The analog Time Switch CPs (NT6X44AA) are included in this building block.

- 4) Provide one (1) NTZZ02GA building block for DS30 (copper) connection of a DTC/ICP module to the DMS network module.

Provide one (1) NTZZ02HB building block for DS512 (fiber) connection of a DTC/ICP module to the DMS network module.  
Network interfaces, DS30 (NTZZ02GA), DS512 (NTZZ02HB) are provided in a quantity of one (1) per module.

- 5) Provide up to two (2) NTZZ02KA DS30A Interface building blocks if the ICP is used in digital cellular applications with Meridian Digital Signal Processing cabinets (MDSPs).

The DS30A ports are assigned in the following sequential order: 19,17,18,16,15,13,14,12,11,9,10,8,7,5,6,4,3,1,2,0.

Slot 6 - 19,18,15,14,11,10,7,6,3 & 2

Slot 7 - 17,16,13,12,9,8,,4,1 & 0

- RUL2 1) Provide:  
one (1) NTZZ07BA Double Shelf Network and  
one (1) NTZZ07BA Network Clock Interface (SuperNode)



in order to provision all the circuit packs required for one (1) 64 port Double Shelf Network (DSN).

- RUL3
- 1) For DTC/ICP applications, provide a maximum of 10 NT6X50AB DS1 I/F EFF (Extended Frame Format) circuit packs in slots 1-5, both shelves of CPC. Provide one (1) CP designation label (P0690976) for every NT6X50AB circuit pack provisioned.
  - 2) NT6X50AB DS1 EFF I/F circuit packs are assigned in selected slots:  
  
first in the shelf 05, then in shelf 19, from the highest numbered slot (5) toward the lowest number slot (1). When any slot 1-5 of either shelf is unequipped, provide Filler Face Plate NT0X50AA and Designation Label.
  - 3) One DS1 I/F or NT6X50AB EFF DS1 I/F circuit pack provides two DS1 ports or spans.
  - 4) The DS1 ports/spans are assigned in the following sequential order:  
0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19.
- RUL4
- 1) Provide one Earthquake Mounting Kit when installing cabinet in ATC zone 6 and 7; NEBS zone 4; and UBC zone 4. Use NTNX2540 kit for slab type flooring or NTNX2578 for computer flooring.
  - 2) Provide one Frame Mounting Kit when installing cabinet in a Non-Earthquake zone. Use NTNX2579 kit for slab type flooring or NTNX2580 for computer flooring.
- RUL5
- 1) Provide one NTMX40ZA MNET to MCTMI conversion kit when an SNSE or ENET are provisioned within the same line-up.
  - 2) Provision the NTNX33SD Fiber conversion hardware kit at the same time as the NTMX40ZA.(Refer to NTNX33CA for fiber kit provisioning needed in conjunction with the upgrade.
  - 3) Provision (1) NTNX33DR DS30A cable kit if NT6X48AA circuit packs are provisioned for the upper module (SHELF 33,47) of the converted MNET to MCTMI.(Refer to NTNX33CA for circuit pack provisioning rules for MCTMI.)
  - 4) Provision (1) NTNX33DW DS1 cable kit if NT6X50 circuit packs are provisioned for the upper module (SHELF 33,47) of the converted MNET to MCTMI. (Refer to NTNX33CA for circuit pack provisioning rules for MCTMI.)

- RUL6
- 1) Provide one (1) NTZZ04BA Digital Trunk Controller and one (1) NTZZ02FA 30 Universal Tone Rcvr Ccts building blocks if provisioning a domestic DTC.
  - 2) Provide two (2) NT6X70AA Continuity Tone Detector CPs if the module requires CCS signalling and continuity checking.

MNET (GREY)

PEC CODE: NTZZ38KM

CPC CODE:

RATING: Standard

| REPLACES: N/A

| REPLACED BY: N/A

ABBREVIATION NAME: MNET

ENGINEERING DESCRIPTION: The Meridian Network/Controller (MNET) houses a 64 port Dual Shelf Network (DSN), and a duplicated Common Peripheral Controller (CPC).

REFERENCE DOCUMENTATION: MSNX40AA 00 06  
SLZZ38KM 00 01 REL 01

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Jim Large Dept. 5849 (RCH)

| MAIN CONTACT: Jim Large Dept. 5849 (RCH)

| CONTACT: Richard Martin Dept. 5849 (RCH)

NTZZ38KM EMB10-08-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	New insert.
93 05 05	ECM 492 07	Retire insert.
95 12 01	ECM 492 27	Retire building block.

The MNET (GREY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Meridian Net/Cont Module	NTNX40AA		1			AP
MTXD Designation Label	P0712628		1			AP
Meridian Cabinet Assy	NTNX25AA	FW	1			AP-01
Frame Supv Panel	NTNX26NA	FSP	1	60		AP-01
Network Shelf Assy	NT8X1101	DSN	2	33,47		AP-01
Network Junctor Cable	NT8X1104		4			AP-01
Double Shelf Network	NTZZ07BA		1	33	1	RUL2
Network Clk Interface (SN)	NTZZ07DA		1	33	23	RUL2
MNET to MCTMI conversion kit (SNSE Integration)	NTMX40ZA		1	33,47		RUL5
Com Periph Proc Shelf Assy	NT6X0215	CPC	2	05,19		AP-01
MTX-ICP Common CP (< BCS32+)	NTZZ38WA			05	6	RUL1
MTX-ICP Common CP (>=BCS32+)	NTZZ38XA			05	6	RUL1
MTX-ICP Common CP (XPM PLUS)	NTZZ38YA			05	6	RUL1
10 DS30A LCM Interfaces	NTZZ02KA			05	6,7	RUL1
Time Switch	NT6X44AA		2	05,19	14	RUL1
Desig. Label (NT6X44AA)	P0698316		2	05,19	14	RUL1
Digital Cellular Time Switch	NTAX78AA		2	05,19	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	05,19	14	RUL1
DS-512 Network Interface	NTZZ02HB		1	05	22	RUL1
16 DS30 Network Interfaces	NTZZ02GA		1	05	22	RUL1
E.F.F. DS1 I/F CP	NT6X50AB			05,19	1-5	RUL3
Desig. Label (NT6X50AB)	P0690976			05,19	1-5	RUL3
Digital Trunk Controller	NTZZ04BA		1	05	6	RUL6
30 Universal Tone Rcvr Ccts	NTZZ02FA		1	05	15	RUL6
Continuity Tone Detector	NT6X70AA		2	05,19	13	RUL6
Jumper Kit for Non-ISDN	NTRX36NI		1	05,19		AP
Cooling Unit	NTNX27CA	CU	1	00		AP-01
Cabinet Type Label (Grey)	P0700925		2			AP
Door Label Left (Grey)	P0677704		2			AP
Door Label Right (Grey)	P0699158		2			AP
Door Right - Grey	NTNX2513		2			AP
Door Left - Grey	NTNX2515		2			AP
Anchor Kit (Earthquake Slab)	NTNX2540					RUL4
Anchor Kit (EQ cmptr Floor)	NTNX2578					RUL4
Anchor Kit (Non-EQ Slab)	NTNX2579					RUL4
Anchor Kit (Non-EQ cmp Flr)	NTNX2580					RUL4

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ38KM	MD	N/A

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) RE: CPC (Common Peripheral Controller) and NT6X0223 CPC/ISDN shelf assembly:  
Common Peripheral Array (CPA) 0 is the lower shelf in the module.  
Common Peripheral Array (CPA) 1 is the upper shelf in the module.
- 2) The NTZZ02KA DS30A Interface building block is not provisioned when the CPC is used for DTC applications.

RULES:

- AP 1) When PEC NTZZ38KM is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTMX40AA.
- RUL1 1) Provide one (1) MTX - ICP Common CP (XPM PLUS) building block (NTZZ38YA) if provisioning ICP functionality, using XPM PLUS.  
The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.

If digital and analog functionality is required, provide:  
two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels.

If analog only functionality is required, provide:  
two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels.

- 2) Provide one (1) MTX - ICP Common CP ( $\geq$  BCS32+) building block (NTZZ38XA) if provisioning ICP functionality, using the standard XPM processor packfill using BCS32+ or later software.  
The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.

If digital and analog functionality is required, provide:  
two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels.

If analog only functionality is required, provide:  
two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels.

- 3) Provide one (1) MTX - ICP Common CP ( $<$  BCS32+) building block (NTZZ38WA) if provisioning ICP functionality, using the standard XPM processor packfill using software releases lower than BCS32+.  
The analog Time Switch CPs (NT6X44AA) are included in this building block.

- 4) Provide one (1) NTZZ02GA building block for DS30 (copper) connection of a DTC/ICP module to the DMS network module.

Provide one (1) NTZZ02HB building block for DS512 (fiber) connection of a DTC/ICP module to the DMS network module.  
Network interfaces, DS30 (NTZZ02GA), DS512 (NTZZ02HB) are provided in a quantity of one (1) per module.

- 5) Provide up to two (2) NTZZ02KA DS30A Interface building blocks if the ICP is used in digital cellular applications with Meridian Digital Signal Processing cabinets (MDSPs).

The DS30A ports are assigned in the following sequential order: 19,17,18,16,15,13,14,12,11,9,10,8,7,5,6,4,3,1,2,0.

Slot 6 - 19,18,15,14,11,10,7,6,3 & 2

Slot 7 - 17,16,13,12,9,8,,4,1 & 0

- RUL2 1) Provide:  
one (1) NTZZ07BA Double Shelf Network and  
one (1) NTZZ07BA Network Clock Interface (SuperNode)

in order to provision all the circuit packs required for one (1) 64 port Double Shelf Network (DSN).

- RUL3
- 1) For DTC/ICP applications, provide a maximum of 10 NT6X50AB DS1 I/F EFF (Extended Frame Format) circuit packs in slots 1-5, both shelves of CPC. Provide one (1) CP designation label (P0690976) for every NT6X50AB circuit pack provisioned.
  - 2) NT6X50AB DS1 EFF I/F circuit packs are assigned in selected slots:  
  
first in the shelf 05, then in shelf 19, from the highest numbered slot (5) toward the lowest number slot (1). When any slot 1-5 of either shelf is unequipped, provide Filler Face Plate NT0X50AA and Designation Label.
  - 3) One DS1 I/F or NT6X50AB EFF DS1 I/F circuit pack provides two DS1 ports or spans.
  - 4) The DS1 ports/spans are assigned in the following sequential order:  
0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19.
- RUL4
- 1) Provide one Earthquake Mounting Kit when installing cabinet in ATC zone 6 and 7; NEBS zone 4; and UBC zone 4. Use NTNX2540 kit for slab type flooring or NTNX2578 for computer flooring.
  - 2) Provide one Frame Mounting Kit when installing cabinet in a Non-Earthquake zone. Use NTNX2579 kit for slab type flooring or NTNX2580 for computer flooring.
- RUL5
- 1) Provide one NTMX40ZA MNET to MCTMI conversion kit when an SNSE or ENET are provisioned within the same line-up.
  - 2) Provision the NTNX33SD Fiber conversion hardware kit at the same time as the NTMX40ZA.(Refer to NTNX33CA for fiber kit provisioning needed in conjunction with the upgrade.
  - 3) Provision (1) NTNX33DR DS30A cable kit if NT6X48AA circuit packs are provisioned for the upper module (SHELF 33,47) of the converted MNET to MCTMI.(Refer to NTNX33CA for circuit pack provisioning rules for MCTMI.)
  - 4) Provision (1) NTNX33DW DS1 cable kit if NT6X50 circuit packs are provisioned for the upper module (SHELF 33,47) of the converted MNET to MCTMI. (Refer to NTNX33CA for circuit pack provisioning rules for MCTMI.)



- RUL6
- 1) Provide one (1) NTZZ04BA Digital Trunk Controller and one (1) NTZZ02FA 30 Universal Tone Rcvr Ccts building blocks if provisioning a domestic DTC.
  - 2) Provide two (2) NT6X70AA Continuity Tone Detector CPs if the module requires CCS signalling and continuity checking.

MCAM (GRAY)

PEC CODE: NTZZ38UA

CPC CODE:

RATING: Standard

| REPLACES: N/A

| REPLACED BY: NTZZ60MA

ABBREVIATION NAME: MCAM

ENGINEERING DESCRIPTION: The Meridian Cabinet Auxiliary Module (MCAM) can house two PTMs (which can be configured for OAU function), one dual STM shelf and a Power Distribution Panel (PDP).

REFERENCE DOCUMENTATION: MSNX37AB 00 08  
SLZZ60MA 00 01 REL 01

MARKETS: Applicable markets:

Wireless

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NTZZ38UA EMB10-12-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	New insert.
93 05 05	ECM 492 07	Retire insert. Add EDRAM and associated EDRAM Wiring Option Remove IDRAM from STM shelf Add international service circuits
95 12 01	ECM 492 27	Retire building block.

The MCAM (GRAY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCAM Cabinet	NTNX37AB		1			AP
MTXD Designation Label	P0712628		1			AP
Frame Supv Panel	NT7X34AA	FSP	1	60		AP-01
<hr/>						
PTM Shelf Assembly	NT2X58CA	PTM	1	47		AP-01
@ IMTM Common Packfill	NT2X58AY			47		RUL27
MCAM Common CP (PTM sh. 47)	NTNX37NH			47	1	RUL1
MTM Wiring Option Kit	NTNX37WA					RUL1
@ Trunk Module Interface	NT2X45BA			47	1	RUL47
@ Trunk Module Proc (32K)	NT0X70AC			47	2	RUL45
@ Trunk Module Proc (UK)	NT0X70AA			47	2	RUL45
@ INT'L Trunk Module Proc	NT0X70BA			47	2	RUL45
@ Trunk Module Control	NT2X53AA			47	3	RUL46
@ A-Law CODEC & Tones (Turkey)	NT2X59BA			47	4	RUL48
@ A-Law TM CODEC E/W BT Tone	NT2X59CA			47	4	RUL48
@ A-Law CODEC E/W CEP Tone	NT2X59DA			47	4	RUL48
Trans'n Term Trunk	NT2X71AA			47	5-16	RUL4
Loop Around Test Line	NT2X75AA			47	5-16	RUL9
@ Loop Around TST LN A-LAW	NT2X75BA			47	5-16	RUL9
102 mw Test	NT1X00AB			47	5-16	RUL10
@ 102 Test mw -20 db Int'l	NT1X00AE			47	5-16	RUL16
102 Test mw -20 db	NT1X00AF			47	5-16	RUL11
TTU-trans Test Module	NT2X47AD			47	5-16	RUL12
@ TTU-trans Test Module Int'l	NT2X47BA			47	5-16	RUL15
Dig'l Filter CP	NT2X56AB			47	5-16	RUL12
@ Dig'l Filter CP Int'l	NT2X56BA			47	5-16	RUL15
TTT-Test Sig Gen	NT1X90AA			47	5-16	RUL13
@ A-LAW Test Signal Gen CP	NT1X90BA			47	5-16	RUL13
@ PCM Level Meter	NT2X96AA			47	5-16	RUL13
@ A-LAW PCM Level Meter CP	NT2X96BA			47	5-16	RUL13
@ Conference Tone Gen. A-Law	NT3X68BA			47	5-15	RUL41
@ MF Dual Tone	NT3X68BB			47	5-15	RUL41
@ Call Waiting Tone Gen.	NT3X68BC			47	5-15	RUL41
@ 6 Party Conf Ckt A-Law	NT3X67BB			47	04-07 12-15	RUL28
OAU Dead SYS w Common AUD	NT3X82AB			47	05	RUL29
OAU Alarm Transfer	NT3X83AA			47	07	RUL29
MTA	NT3X09BA			47	8-11	RUL17
101 Comm Test Line	NT5X30AA			47	5-7,	RUL2

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Jack Ended Trunk CP	NT1X54AA			47	12,16 6,7,	RUL7
Miscellaneous Scanner	NT0X10AA			47	12,16 7,12,16	RUL5
Scan Dist'n Card	NT2X57AA			47	7,12,16	RUL6
IC/OG Test Trunk	NT2X90AD			47	15	RUL8
Comp Bal NTWK(900 ohm)	NT2X77AA			47		RUL3
PTM Shelf Assembly	NT2X58CA	PTM	1	33		AP-01
MTXD - PTM	NTZZ38HM			33		RUL1
@ IMTM Common Packfill	NT2X58AY			33		RUL27
@ Trunk Module Interface	NT2X45BA			33	1	RUL47
@ Trunk Module Proc (32K)	NT0X70AC			33	2	RUL45
@ Trunk Module Proc (UK)	NT0X70AA			33	2	RUL45
@ INT'L Trunk Module Proc	NT0X70BA			33	2	RUL45
@ Trunk Module Control	NT2X53AA			33	3	RUL46
@ A-Law CODEC & Tones (Turkey)	NT2X59BA			33	4	RUL48
@ A-Law TM CODEC E/W BT Tone	NT2X59CA			33	4	RUL48
@ A-Law CODEC E/W CEP Tone	NT2X59DA			33	4	RUL48
Trans'n Term Trunk	NT2X71AA			33	5-16	RUL4
Loop Around Test Line	NT2X75AA			33	5-16	RUL9
@ Loop Around TST LN A-LAW	NT2X75BA			33	5-16	RUL9
102 mw Test	NT1X00AB			33	5-16	RUL10
@ 102 Test mw -20 db Int'l	NT1X00AE			33	5-16	RUL16
TTU-trans Test Module	NT2X47AD			33	5-16	RUL12
@ TTU-trans Test Module Int'l	NT2X47BA			33	5-16	RUL15
Dig'l Filter CP	NT2X56AB			33	5-16	RUL12
@ Dig'l Filter CP Int'l	NT2X56BA			33	5-16	RUL15
TTT-Test Sig Gen	NT1X90AA			33	5-16	RUL13
@ A-LAW Test Signal Gen CP	NT1X90BA			33	5-16	RUL13
@ PCM Level Meter	NT2X96AA			33	5-16	RUL13
@ A-LAW PCM Level Meter CP	NT2X96BA			33	5-16	RUL13
@ Conference Tone Gen. A-Law	NT3X68BA			33	5-15	RUL41
@ MF Dual Tone	NT3X68BB			33	5-15	RUL41
@ Call Waiting Tone Gen.	NT3X68BC			33	5-15	RUL41
@ 6 Party Conf Ckt A-Law	NT3X67BB			33	04-07, 12-15	RUL28
OAS Dead SYS w Common AUD	NT3X82AB			33	05	RUL29
OAS Alarm Transfer	NT3X83AA			33	07	RUL29
101 Comm Test Line	NT5X30AA			33	5-12,16	RUL2
Jack Ended Trunk CP	NT1X54AA			33	6-12,16	RUL7

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Miscellaneous Scanner	NT0X10AA			33	7-9, 12,16	RUL5
Scan Dist'n Card	NT2X57AA			33	7-9, 12,16	RUL6
IC/OG Test Trunk	NT2X90AD			33	15	RUL8
Comp Bal NTWK(900 ohm)	NT2X77AA			33		RUL3
Service Trk Mod Shelf Assy	NT7X3004	STM	1	19	1	AP-01
Filler Face Plate	NT0X50AG			19	1,2	RUL19
Filler Face Plate	NT0X50AC			19	3	RUL19
TM Control Card	NT4X65AB			19	4,12	RUL19
EDRAM CP	NT1X80AA			19	4,5,6	RUL49
Dram Controller CP	NT1X75BA			19	5	RUL20
Dram Memory CP	NT1X77AA			19	6-11	RUL20
EDRAM Wiring Option Kit	NTNX37ED					RUL49
Dram Wiring Option	NTNX29AB			19		RUL21
@ Audio Tone Det (For UK)	NT2X48CC			19	5-8,10 13-16,18	RUL43
@ Conference Tone Gen. A-Law	NT3X68BA			19	5-8,10, 13-16,18	RUL41
@ MF Dual Tone	NT3X68BB			19	5-8,10, 13-16,18	RUL41
@ Call Waiting Tone Gen.	NT3X68BC			19	5-8,10, 13-16,18	RUL41
6 Port Conf CP	NT3X67AA			19	5-8,10 13-16,18	RUL23
@ A-LAW 6 Port Conf CP	NT3X67BA			19	5-8,10 13-16,18	RUL23
4 Chnl Mf RCVR	NT2X48BA			19	5-8,10 13-16,18	RUL24
4 Chnl DTMF RCVR	NT2X48BB			19	5-8,10 13-16,18	RUL24
@ A-LAW DTMF RCVR	NT2X48CC			19	5-8,10 13-16,18	RUL24
@ Loop Around Test Line	NT2X75BA			19	5-8,10, 13-16,18	RUL42
Loop Around Test Line	NT2X75AA			19	5-8,10, 11,13-16, 18	RUL9
102 mw Test	NT1X00AB			19	5-8,10, 11,13-16, 18	RUL10

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
@ Audio Tone Det (UK A-Law)	NT5X29BA			19	5,8,13 16	RUL44
Group Codec Card	NT2X59AA			19	9,17	RUL19
Filler Face Plate	NT0X50AA			19	19	RUL19
Power Converter	NT2X70AE			19	20	RUL19
Codec Wiring Option	NTNX29AC			19		RUL22
Des'n Label (NT1X75AA)	P0666364			19		RUL14
Des'n Label (NT1X77AA)	P0661427			19		RUL14
Des'n Label (NT2X48BA)	P0656335			19		RUL14
Des'n Label (NT2X48BB)	P0653620			19		RUL14
Des'n Label (NT2X59AA)	P0643110			19		RUL14
Des'n Label (NT3X67AA)	P0653623			19		RUL14
Des'n Label (NT3X67BA)	P0677822			19		RUL14
Des'n Label (NT4X65AB)	P0689662			19		RUL14
Power Dist'n Panel	NTNX24BA	PDP	1	00		AP-01
Meridian Cabinet Assy	NTNX25AA	FW	1			AP-01
Filler Face plate	NT0X50AA					RUL18
Filler Face plate	NT0X50AC					RUL18
Filler Face plate	NT0X50AG					RUL18
Filler Face plate	NT0X50AE					RUL18
Des'n Label (NT0X10AA)	P0656328					RUL14
Des'n Label (NT0X50AA)	P0578498					RUL14
Des'n Label (NT0X50AC)	P0580258					RUL14
Des'n Label (NT0X50AE)	P0591361					RUL14
Des'n Label (NT0X50AG)	P0685986					RUL14
Des'n Label (NT1X00AB)	P0661425					RUL14
Des'n Label (NT1X00AE)	P0677809					RUL14
Des'n Label (NT1X54AA)	P0656330					RUL14
Des'n Label (NT1X90AA)	P0661423					RUL14
Des'n Label (NT2X47AD)	P0676174					RUL14
Des'n Label (NT2X47BA)	P0677812					RUL14
Des'n Label (NT2X56AB)	P0661422					RUL14
Des'n Label (NT2X56BA)	P0677815					RUL14
Des'n Label (NT2X57AA)	P0656327					RUL14
Des'n Label (NT2X71AA)	P0661419					RUL14
Des'n Label (NT2X72AA)	P0656333					RUL14
Des'n Label (NT2X75AA)	P0657680					RUL14
Des'n Label (NT2X90AD)	P0688244					RUL14
Des'n Label (NT2X96AA)	P0661424					RUL14

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Des'n Label (NT3X09BA)	P0664847					RUL14
Des'n Label (NT5X30AA)	P0656329					RUL14
Des'n Label (NT3X68BA)	P0675056					RUL14
Des'n Label (NT3X68BB)	P0675057					RUL14
Des'n Label (NT3X68BC)	P0675058					RUL14
Des'n Label (NT2X75BA)	P0677212					RUL14
Des'n Label (NT2X48CC)	P0678469					RUL14
Des'n Label (NT5X29BA)	P0742815					RUL14
Des'n Label (NT0X70AC)	P0664846					RUL14
Des'n Label (NT0X70AA)	P0622869					RUL14
Des'n Label (NT0X70BA)	P0664115					RUL14
Des'n Label (NT2X53AA)	P0558337					RUL14
Des'n Label (NT2X45BA)	P0677811					RUL14
Des'n Label (NT2X59BA)	P0678465					RUL14
Des'n Label (NT2X59CA)	P0677817					RUL14
Des'n Label (NT2X59DA)	P0677246					RUL14
Right Door Assembly-Gray	NTNX2513		1			AP
Left Door Assembly-Gray	NTNX2515		1			AP
Cabinet Type Label (Gray)	P0687608		1			AP
Left Door Label (Gray)	P0677704		1			AP
Right Door Label (Gray)	P0699158		1			AP
End Panel Ass'y Right-Gray	NTNX2517					RUL25
End Panel Ass'y Left-Gray	NTNX2518					RUL25
Anchor Kit (Earthquake Slab)	NTNX2540					RUL25
Anchor Kit (EQ cmptr Floor)	NTNX2578					RUL25
Anchor Kit (Non-EQ Slab)	NTNX2579					RUL25
Anchor Kit (Non-EQ cmp Flr)	NTNX2580					RUL25

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ38UA	MD	NTZZ60MA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.



MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

@ These circuit packs are for international applications.

## NOTES:

## RULES:

- AP 1) When PEC NTZZ38UA is ordered, these items are provided.
- 2) The MCAM PDP comes equipped with "A" feed fuse panel and "B" feed fuse panel equipped with 42 ea. 20a fuses, 43 ea. 1-1/3 fuses and 1 ea. 10a fuse.
- 3) For more information on the PTM (MTM) Shelf Assembly NT2X58CA, see EMA2-01-MTM-1.
- RUL1 1) The MCAM cabinet building block may be packfilled as follows:
- NTZZ38HM equips two (2) PTM, (one each on shelf position 33 and 47). This packfill is standard for initial MTXD MCAM cabinets. Additional service and maintenance circuits can be added based on customer needs using detailed engineering.
- NTNX37NH: equips one (1) PTM on shelf position 47 only. This packfill NTNX37NH includes the MTM control cp NT4X65AB. Always provide MTM Controller Wiring Kit NTNX37WA when NTNX37NH Common CP is provided.
- RUL2 1) Provide NT5X30AA on MCAM as required when additional test lines are required (see RUL3).
- 2) No more than four (4) per shelf.
- RUL3 1) Provide one (1) NT2X77AA Balance Network 900 ohms on MCAM for each NT5X30AA and NT2X90AD provisioned.
- RUL4 1) Provide NT2X71AA on MCAM as required for an AC open or short termination test to check stability of trunks with negative impedance type repeaters.

- RUL5 1) Provide NT0X10AA on MCAM as required when scan points are required (two circuits per pack, and seven scan points per circuit).
- RUL6 1) Provide NT2X57AA on MCAM as required when signal distribution points are required (two circuits per pack and seven points per circuit).
- RUL7 1) Provide NT1X54AA on MCAM as required when additional circuits for access to switching network for analog (vf) test equipment required (two circuits per pack).
- RUL8 1) Provide NT2X90AD on MCAM as required for system test trunks and 14 local test desk or 3 local test cabinet (provides interface for one test trunk) (see RUL3).
- RUL9 1) Provide NT2X75AA on MCAM as required when loop around test line is required for measuring near to far end trunk transmission losses (one loop around circuit per pack).
- 2) For international markets, provide the NT2X75BA on MCAM in accordance with RULE9, item 1.
- RUL10 1) Provide NT1X00AB on MCAM as required when additional 102 test milliwatt is required.
- RUL11 1) Provide one (1) NT1X00AF on MCAM as required when 102 milliwatt test is required.
- RUL12 1) Provide one (1) NT2X47AD (left, odd slot) and one (1) NT2X56AB (right, even slot) for each additional transmission test unit required.
- RUL13 1) Provide one (1) NT1X90AA (left, odd slot) and NT2X96AA (right, even slot) for additional transmission termination trunks.
- 2) Provision the NT1X90BA and the NT2X96BA for international markets in accordance with RUL13, item 1.
- RUL14 1) Provide one per circuit pack provisioned of the appropriate label (NT codes on label should be same as circuit pack provisioned). Affix label on shelf upper designation strip in appropriate position.
- RUL15 1) Provide one (1) NT2X47BA (left, odd slot) and one (1) NT2X56BA (right, even slot) for International Transmission Test Unit required.



95 12 01

- 2) For international markets, provision NT2X48CC A-LAW based Dual-Tone Multifrequency Receiver in accordance with RULE24, item 1.
- RUL25 1) Provide one Earthquake Mounting Kit when installing cabinet in ATC zone 6 and 7; NEBS zone 4; and UBC zone 4. Use NTNX2540 kit for slab type flooring or NTNX2578 for computer flooring.
- 2) Provide:
- one (1) End Panel Ass'y Right-Grey (NTNX2517) if the cabinet is at the end of a cabinet line-up.  
one (1) End Panel Ass'y Left-Grey (NTNX2518) if the cabinet is at the beginning of a cabinet line-up.
- RUL26 1) Provide one Frame Mounting Kit when installing cabinet in a Non-Earthquake zone. Use NTNX2579 kit for slab type flooring or NTNX2580 for computer flooring.
- RUL27 1) The IMTM Common Circuit Packfill contains those cards that are to be provisioned with each IMTM Shelf Assembly ordered for international applications (Turkey).
- RUL28 1) Provision NT3X67BB as one (1) 6-port circuit or as two (2) 3-port circuits.
- RUL29 1) Refer to section EMA14-01-000 for further information on the NT3X82AB and the NT3X83AA.
- RUL41 1) Provision (1 or more) of these circuit packs on an MTM shelf along with (1 or more) designation labels per customer requirement. An NTOX50AC Filler Plate should be placed in the next higher position.
- RUL42 1) Provision (1 or more) of this circuit pack along with the designation label P0677212 per customer requirement.
- RUL43 1) Provision (1 or more) of this circuit pack along with the designation label P0678469 per customer requirement.
- RUL44 1) Provision (1 or more) of this circuit pack along with the designation label P0742815 when ATD is required by the customer. An NTOX50AC Filler Plate should be provided in the next two (higher) slot positions.
- RUL45 1) Provision two (2) of these circuit packs along with its designation label when a module processor is required by the customer.

- RUL46 1) Provision two (2) of these circuit packs along with its designation label when a TM control pack is required by the customer.
- RUL47 1) Provision two (2) of these circuit packs along with its designation label when a Trunk Module Interface is required by the customer.
- RUL48 1) Provision two (2) of these circuit packs along with its designation label when A-Law is required by the customer.
- RUL49 1) Provide one NTN37ED wiring option when Enhanced DRAM (EDRAM) is required by the customer. This option adds two new bulkhead connectors C0 2N and C0 3N, for the EDRAM network connections. Wiring kit NTN29AB cannot be provided if the NTN37ED (EDRAM) kit is provided.
- 2) Provision up to three NT1X80AA EDRAM cards in slots 4,5 or 6 of shelf 19 as required by the by the customer. Provide the first EDRAM in slot 4. When EDRAM is provided, the even numbered STM is no longer available.

## MCAM (BROWN)

PEC CODE: NTZZ60NA

CPC CODE: B0238681

RATING: Standard

REPLACES: NTZZ38VA

REPLACED BY: Not Applicable

ABBREVIATION NAME: MCAM

ENGINEERING DESCRIPTION: The Meridian Cabinet Auxiliary Module (MCAM) can house two PTMs (which can be configured for OAU function), one dual STM shelf and a Power Distribution Panel (PDP).

REFERENCE DOCUMENTATION: MSNX37AB  
SLZZ60NA

MARKETS: Applicable markets:

Wireless

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NTZZ60NA EMB10-12-MCAM-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	New insert. Add EDRAM and associated EDRAM Wiring Option Remove IDRAM from STM shelf
93 10 26	ECM 492 08	Add international service circuits Change EDRAM NT1X80AA slot positions per ECD 002-15441 Add A-LAW DRAM Controller (IDRAM) CP, NT1X75DA Add MTM Wiring Kit NTN37WA Add MTM Controller Wiring Kit NTN37WW Add ATD Wiring Kit NT5X29HK Add DS30 MTM & STM Internal Wiring Option NTN37LK Add DS30 MTM & STM Bulkhead Wiring Option NTN37LJ
94 06 06	ECM 492 12	Change NT3X83AA from shelf 47 slot 7 to slot 6. Remove NT3X83AA from shelf 33 slot 6. Clarify rules for NTN37LK and NTN37LJ kits.
95 02 16	ECM 492 18	Corrections per ET 51943.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF. Also make clarifications found in NTN37AB EMA section.
95 06 06	ECM 492 20	JEL: Corrects EDRAM/CTM provisioning rules for the MCAM cabinet.
95 12 01	ECM 492 27	JEL: Clarify rule 19.2.
95 12 21	ECM 492 29	JEL: Replacing the door labels left with the new NORTEL door labels left.
96 02 20	ECM 492 30	KMN: Add AP01 rule.
96 06 18	ECM 492 32	KMN: Move wiring kits to frame vs shelf associated.
96 09 24	ECM 492 36	KMN: Remove content refer to NTN37AB documentation. EMA10-12-000

The MCAM (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCAM Cabinet	NTNX37AB		1			AP
MTXD Designation Label	P0712628		1			AP
Frame Supv Panel	NT7X34AA	FSP	1	60		AP-01
PTM Shelf Assembly	NT2X58CA	PTM	1	47		AP-01
PTM Shelf Assembly	NT2X58CA	PTM	1	33		AP-01
Service Trk Mod Shelf Assy	NT7X3004	STM	1	19	1	AP-01
Power Dist'n Panel	NTNX24BA	PDP	1	00		AP-01
Meridian Cabinet Assy	NTNX25AA	FW	1			AP-01
Right Door Assembly-Brown	NTNX2552		2			AP
Left Door Assembly-Brown	NTNX2550		2			AP
Cabinet Type Label (Brown)	P0699472		2			AP
# Left Door Label (Brown)	P0699464		2			AP
Left Door Label (Brown)	P0818849		2			AP
Right Door Label (Brown)	P0695230		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

FLAGS:



## NOTES:

- 1) For more information on the NTNX37AB (MCAM) frame, see EMA10-12-000.
- 2) For more information on the PTM (MTM) Shelf Assembly NT2X58CA, see EMA2-01-MTM-1.
- 3) The MCAM PDP comes equipped with "A" feed fuse panel and "B" feed fuse panel equipped with 42 ea. 20a fuses, 43 ea. 1-1/3 fuses and 1 ea. 10a fuse.

## RULES:

- AP 1) When PEC NTZZ60NA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTNX37AB.

MCAM (GRAY)

PEC CODE: NTZZ60MA

CPC CODE: B0238682

RATING: Standard

REPLACES: NTZZ38UA

REPLACED BY: Not Applicable

ABBREVIATION NAME: MCAM

ENGINEERING DESCRIPTION: The Meridian Cabinet Auxiliary Module (MCAM) can house two PTMs (which can be configured for OAU function), one dual STM shelf and a Power Distribution Panel (PDP).

REFERENCE DOCUMENTATION: MSNX37AB  
SLZZ60MA

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: Kevin Neville Dept. 5849 (RICH)

MAIN CONTACT: Kevin Neville Dept. 5849 (RICH)

CONTACT: Jim Large Dept. 5849 (RICH)

CONTACT: Rich McNeill Dept. 5849 (RICH)

NTZZ60MA EMB10-12-MCAM-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	New insert. Add EDRAM and associated EDRAM Wiring Option Remove IDRAM from STM shelf
93 10 26	ECM 492 08	Add international service circuits Change EDRAM NT1X80AA slot positions per ECD 002-15441 Add A-LAW DRAM Controller (IDRAM) CP, NT1X75DA Add MTM Wiring Kit NTN37WA Add MTM Controller Wiring Kit NTN37WW Add ATD Wiring Kit NT5X29HK Add DS30 MTM & STM Internal Wiring Option NTN37LK Add DS30 MTM & STM Bulkhead Wiring Option NTN37LJ
94 06 06	ECM 492 12	Change NT3X83AA from shelf 47 slot 7 to slot 6. Remove NT3X83AA from shelf 33 slot 6. Clarify rules for NTN37LK and NTN37LJ kits.
95 02 16	ECM 492 18	Corrections per ET 51943.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF. Also make clarifications found in NTN37AB EMA section.
95 06 06	ECM 492 20	JEL: Corrects EDRAM/CTM provisioning rules for the MCAM cabinet.
95 12 01	ECM 492 27	JEL: Clarify rule 19.2.
95 12 21	ECM 492 29	JEL: Replacing the door labels left with the new NORTEL door labels left.
96 02 20	ECM 492 30	KMN: Add AP01 rule.
96 06 18	ECM 492 32	KMN: Move wiring kits to frame vs shelf associated.
96 09 24	ECM 492 36	KMN: Remove content refer to NTN37AB documentation. EMA10-12-000

The MCAM (GRAY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCAM Cabinet	NTNX37AB		1			AP
MTXD Designation Label	P0712628		1			AP
Frame Supv Panel	NT7X34AA	FSP	1	60		AP-01
PTM Shelf Assembly	NT2X58CA	PTM	1	47		AP-01
PTM Shelf Assembly	NT2X58CA	PTM	1	33		AP-01
Power Dist'n Panel	NTNX24BA	PDP	1	00		AP-01
Meridian Cabinet Assy	NTNX25AA	FW	1			AP-01
Right Door Assembly-Gray	NTNX2513		2			AP
Left Door Assembly-Gray	NTNX2515		2			AP
Cabinet Type Label (Gray)	P0687608		2			AP
# Left Door Label (Gray)	P0677704		2			AP
Left Door Label (Gray)	P0818848		2			AP
Right Door Label (Gray)	P0699158		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

FLAGS:

## NOTES:

- 1) For more information on the NTN37AB (MCAM) frame, see EMA10-12-000.
- 2) For more information on the PTM (MTM) Shelf Assembly NT2X58CA, see EMA2-01-MTM-1.
- 3) The MCAM PDP comes equipped with "A" feed fuse panel and "B" feed fuse panel equipped with 42 ea. 20a fuses, 43 ea. 1-1/3 fuses and 1 ea. 10a fuse.

## RULES:

- AP 1) When PEC NTZZ60MA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN37AB.

MCGM (BROWN)

PEC CODE: NTZZ38PA

CPC CODE:

RATING: Standard

| REPLACES: N/A

| REPLACED BY: NTZZ60LA

ABBREVIATION NAME: MCGM

ENGINEERING DESCRIPTION: The MCGM frame provides the capability to add custom feature hardware when required, for example, DIO, MTD, DDU, ROS, MTM, and STM modules.

Note that the MCGM cabinet can interface to four (4) network ports maximum.

REFERENCE DOCUMENTATION: MSNX47BA 00 08  
SLZZ60LA 00 01 REL 01

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Jim Large Dept. 5849 (RCH)

| MAIN CONTACT: Jim Large Dept. 5849 (RCH)

| CONTACT: Richard Martin Dept. 5849 (RCH)

NTZZ38PA EMB10-13-001 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	New insert.
93 05 05	ECM 492 07	Retire insert.
95 12 01	ECM 492 27	Retire building block.

The MCGM (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCGM Cabinet	NTNX47BA		1			AP
MTXD Designation Label	P0712628		1			AP
Frame Supv Panel	NTNX26MA	FSP	1	60		AP-01
<hr/>						
DS-5R Modem Shelf	NT5X09BA			47		RUL1
* 9600 Bd Modem Card	049P026-004			47	1-16	RUL1
@ 4800 Bd Modem Card	051P006-002			47	1-16	RUL1
MCGM Modem Hardware Kit	NTNX47AN			47		RUL1
Dual I/O Equipment Shelf	NTNX3401	DIO		47		RUL2
MCGM DIO Hardware Kit	NTNX47BC			47		RUL2
MTXD - I/O Basic (Universal)	NTZZ38AM			47	01	RUL2
I/O Terminal Control CP	NT1X67BC			47	7-10, 19,20	RUL2
I/O Terminal Control CP	NT1X67BD			47	7-10, 19,20	RUL2
X25LAPB Link Cont CP	NT6X91BB			47	7-10, 19,20	RUL2
MTD Control CP	NT1X68BC			47	11,21	RUL2
DDU Control CP	NT1X55DA			47	6,17	RUL2
Enhanced Multi Protocol CP	NT1X89BA			47	7-10, 19,20	RUL2
Filler Face Plate	NT0X50BA			47	6-14, 17-24	RUL2
Filler Face Plate	NT0X50BE			47	01,25	RUL2
Filler Face Plate	NT0X50BF			47	04,15	RUL2
Dual I/O Equipment Shelf	NTNX3401	DIO		47,19		RUL19
& HDLC cp for CSC link(4800 BD)	NT6X91AB			47,19	6-13 17-23	RUL19
HDLC cp for CSC link(9600 BD)	NT6X91CA			47,19	6-13 17-23	RUL19
HDLC cp for MTX link(9600 BD)	NT6X91BA			47,19	6-13 17-23	RUL19
<hr/>						
DS-5R Modem Shelf	NT5X09BA			33,05		RUL20
4800 BD Modem Card	051P006-002			33,05	1-15	RUL20
9600SP BD Modem Card	049M037-011			33,05	1-15	RUL20
* 9600 BD Modem Card	049P026-004			33,05	1-15	RUL20
DIO/Modem hardware Kit(1pr)	NTNX47BL			47,33		RUL21
DIO/Modem hardware Kit(2pr)	NTNX47BM			47,33,19,05		RUL21
Desig. Label (NT2X70AE)	P0698943					RUL17
Desig. Label (NT1X89BA)	P0708961					RUL17



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Desig. Label (NT1X67BC)	P0623517					RUL17
Desig. Label (NT1X67BD)	P0657675					RUL17
Desig. Label (NT6X91BB)	P0689833					RUL17
Desig. Label (NT1X68BC)	P0616642					RUL17
Desig. Label (NT1X55DA)	P0688790					RUL17
Desig. Label (NT0X50BA)	P0599141					RUL17
Desig. Label (NT0X50BE)	P0599142					RUL17
Desig. Label (NT0X50BF)	P0599143					RUL17
Magnetic Tape Drive	A0277744	MTD		05,19,33		RUL3
MTD Mounting Hardware	NT0X44AD					RUL3
MTD Cable (READ)	NTNX4757					RUL3
MTD Cable (WRITE)	NTNX4758					RUL3
MTD Cable (CONTROL)	NTNX4759					RUL3
Dual Disc Drive Unit	NT4X00AF	DDU		05		RUL4
MCGM DDU Hardware Kit	NTNX47AK			05		RUL4
# NT-Mercury 8" Disk Drive	8211D-19-063			05	10,18	RUL4
% 5.25" 220 MB Disk Drive	NT4X00AG			05	10,18	RUL4
DDU H/W Kit	NT4X0038			05		RUL4
Power Converter CP	NT1X78AA			05	02,26	RUL4
Desig. Label (NT1X78AA)	P0668410					RUL17
Filler Face Plate 2.6"	NT0X50BE			05	02,26	RUL4
Desig. Label (NT0X50BE)	P0599142					RUL17
Strat II Rem Osc Shelf	NT3X95AA	ROS		33		RUL5
Stratum 2.5 ISG ROS	NT3X95BB	ROS		33		RUL5
MCGM ROS Hardware Kit	NTNX47AS			33		RUL5
Maint Trunk Module	NT2X58CA	MTM		05,19,33		RUL7
Maint Trunk Module/DRAM	NT2X58CB	MTM		05,19,33		RUL7
Trunk Module I/F CP	NT2X45AB				01	RUL18
Trunk Module Proc CP (32K)	NT0X70AC				02	RUL18
Trunk Module Control CP	NT2X53AA				03	RUL18
Group Codec CP	NT2X59AA				04	RUL18
Multi OP Power Conv CP	NT2X09AA				17	RUL18
Filler Face Plate	NT0X50AA				19	RUL18
+5/12V Power Conv CP	NT2X70AE				20	RUL18
Desig. Label (NT2X70AE)	P0698943				20	RUL18
Desig. Label (NT2X59AA)	P0643110				04	RUL18
Desig. Strip	P0701655					RUL18
Dead Sys Alm w/Unique Aud	NT3X82AA					RUL7
Dead Sys Alm w/Common Aud	NT3X82AB					RUL7
OAU Alm Transfer CP	NT3X83AA					RUL7
Misc Scan CP	NT0X10AA					RUL7
Signal Dist CP	NT2X57AA					RUL7
Desig. Label (NT3X82AA)	P0689912					RUL17

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Desig. Label (NT3X82AB)	P0702196					RUL17
Desig. Label (NT3X83AA)	P0688413					RUL17
Desig. Label (NT0X10AA)	P0656328					RUL17
Desig. Label (NT2X57AA)	P0656327					RUL17
MCGM MTM Hardware Kit	NTNX47AJ			33		RUL7
MCGM MTM Hardware Kit	NTNX47AH			19		RUL7
MCGM MTM Hardware Kit	NTNX47AG			05		RUL7
MCGM MTM/DRA Hardware Kit	NTNX47BK			33		RUL7
MCGM MTM/DRA Hardware Kit	NTNX47BJ			19		RUL7
MCGM MTM/DRA Hardware Kit	NTNX47BH			05		RUL7
Service Trunk Module	NT7X3004	STM		05,19, 33,47		RUL8
MCGM STM Hardware Kit	NTNX47BG			47		RUL8
MCGM STM Hardware Kit	NTNX47BF			33		RUL8
MCGM STM Hardware Kit	NTNX47BE			19		RUL8
MCGM STM Hardware Kit	NTNX47BD			05		RUL8
TM Controller CP	NT4X65AB				04,12	RUL9
Power Converter CP	NT2X70AE				20	RUL9
Filler Face Plate	NT0X50AG				1	RUL9
Filler Face Plate	NT0X50AC				3	RUL9
Filler Face Plate	NT0X50AA				19	RUL9
Desig. Label (NT0X50AG)	P0685986					RUL17
Desig. Label (NT0X50AC)	P0580258					RUL17
Desig. Label (NT0X50AA)	P0578498					RUL17
STM DRAM Wiring Option	NTNX29AB			05,19, 33,47		RUL10
Dram Controller CP	NT1X75BA				05	RUL10
A-Law Dram Controller CP	NT1X75DA				05	RUL10
Dram Memory CP	NT1X77AA				06-11	RUL10
Desig. Strip	P0706654					RUL10
STM CODEC Wiring Option	NTNX29AC			05,19, 33,47		RUL11
Group Codec CP	NT2X59AA				09	RUL11
6 Pt Conf CP	NT3X67BA				05-08, 10	RUL11
4 Ch MF Rcvr CP	NT2X48BA				05-08, 10	RUL11
4 Ch DTMF Rcvr CP	NT2X48BB				05-08, 10	RUL11
4 Ch DTMF Rcvr	NT2X48CC				05-08, 10	RUL11
Desig. Strip	P0706655					RUL11
STM CODEC Wiring Option	NTNX29AC			05,19, 33,47		RUL12
Group Codec CP	NT2X59AA				17	RUL12

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
6 Pt Conf CP	NT3X67BA				13-16, 18	RUL12
4 Ch MF Rcvr CP	NT2X48BA				13-16, 18	RUL12
4 Ch DTMF Rcvr CP	NT2X48BB				13-16, 18	RUL12
Desig. Label (NT2X59AA)	P0643110					RUL17
Desig. Label (NT3X67BA)	P0677822					RUL17
Desig. Label (NT2X48BA)	P0656335					RUL17
Desig. Label (NT2X48BB)	P0653620					RUL17
Audio Tone Detector CP	NT5X29AB				05-08, 13,16	RUL13
Desig. Label (NT5X29AB)	P0706693					RUL17
Auto Service Observing CP	NT5X29AC				05-08, 13,16	RUL13
Desig. Label (NT5X29AC)	P0654974					RUL17
Filler Face Plate	NT0X50AC				06,07, 09-11, 14,15, 17-19	RUL13
Desig. Label (NT0X50AC)	P0580258					RUL17
Desig. Strip	P0698920					RUL13
Network Port Cable (PL0)	NTNX4740					RUL6
Network Port Cable (PL1)	NTNX4741					RUL6
MTXD - Filler Panel Assy Kit	NTZZ38EM				05,19, 33,47	RUL14
25-pin Blkhd Cover Plate	P0686749		28	47		RUL15
Mounting Screws	P0180923		56	47		RUL15
10" Cooling Unit	NTNX27CA	CU		00		AP-01
Common Framework	NTNX25AA	FW	1			AP-01
IMTM Common Packfill	NT2X58AY					RUL22
102 mw Test	NT1X00AB				05-16	RUL24
TTU-trans Test Module Int'l	NT2X47BA				05-16	RUL25
Dig'l Filter CP Int'l	NT2X56BA				05-16	RUL25
A-LAW Test Signal Gen CP	NT1X90BA				05-16	RUL26
A-LAW PCM Level Meter CP	NT2X96BA				05-16	RUL26
6 Party Conf Ckt A-Law	NT3X67BB				04-07, 12-15	RUL27
OAS Dead SYS w Common AUD	NT3X82AB				05	RUL28
OAS Alarm Transfer	NT3X83AA				07	RUL28
101 Comm Test Line	NT5X30AA				05-07,	RUL29

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Jack Ended Trunk CP	NT1X54AA				06,07	RUL32
Miscellaneous Scanner	NT0X10AA				07,12, 16	RUL30
Scan Dist'n Card	NT2X57AA				07,12, 16	RUL31
Anchor Kit E'qke Slab	NTNX2540					RUL16
Anchor Kit E'qke Cmptr	NTNX2578					RUL16
Anchor Kit Non-e.q Slab	NTNX2579					RUL16
Anchor Kit Non-e.q Cmptr	NTNX2580					RUL16
Cabinet Type Label (Brown)	P0699465		2			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP
Door Label Left (Brown)	P0699464		2			AP
Door Label Right (Brown)	P0695230		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ38PA	MD	NTZZ60LA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

# NT-Mercury 8" Disk Drive 8211D-19-063; Rating change pending. Check availability dates.

% New product 5.25" 220 MB Disk Drive NT4X00AG will replace the Mercury (8" disk drive approximately 2Q91. Check RTO/RTS dates.)

\* The 049P026-004 9600 BD Modem Card replaces the 049P026-003 9600 BD Modem Card.

@ 4800 Baud modem CP, 051P006-002 is A&M.

& HDLC CP for CSC link (4800BD) NT6X91AB is A&M.

NOTES:

- 1) The MTD is to be installed in the MCGM cabinet just prior to shipment to job site.
- 2) All provisioned items are to be installed by the shop unless otherwise specified in the MCGM cabinet assembly drawing.
- 3) ROS shelf cannot be provisioned in the same MCGM cabinet with a DDU. When a DIO is provided at shelf position 47, shelf position 05 must be reserved for DDU or MTD. MTD requires two (2) shelf positions.
- 4) When the MCGM cabinet is ordered as an extension, the following labels should be ordered:

QTY 1 P0687620  
 QTY 1 P0695393  
 QTY 1 P0695425  
 QTY 1 P0580231  
 QTY 1 P0580232  
 QTY 1 P0695392 (FOR MSL100 JOBS)  
 QTY 1 P0588059 (FOR DMS300 JOBS)  
 QTY 1 P0622886 (FOR DMS250 JOBS)

- 5) For more information on the MTM Shelf Assembly NT2X58CA, see EMA2-01-MTM-1.

RULES:

- AP 1) When PEC NTZZ38PA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN47BA.
- RUL1 1) Provide NT5X09BA GDC modem shelf per customer requirements. The NT5X09BA Modem Shelf can accommodate up to 16 rack mounted modem cards. The NT5X09BA GDC modem shelf may be provisioned as follows:

9600 Bd Modem Card 049P026-004 A0378923 GDC Sync/Async  
 4800 Bd Modem Card 051P006-002 A0301068 GDC R Sync

- 2) The NT5X09BA GDC modem shelf is for Richardson or Bramalea use only. It is not approved for INS (RTP).
- 3) Provide one NTN47AN MCGM Modem hardware kit when Modem Shelf is provisioned. The Modem Shelf hardware kit includes all cables and associated hardware required when the modem shelf is provisioned in the MCGM cabinet.

RUL2 1) The DIO shelf can only be provisioned in shelf location 47. The DIO shelf is provisioned for both IOCs, one on the left side of the shelf, the second on the right side. The following building block is always required when a DIO is equipped:

NTZZ38AM MTXD - I/O Basic (Universal)

- 2) The following circuit packs are provisionable when a DIO is first equipped as above:

		LEFT IOC	RIGHT IOC
NT1X67BC	I/O Terminal Control CP	Slot 7,8,9,10	Slot 19,20
NT1X67BD	I/O Terminal Control CP	Slot 7,8,9,10	Slot 19,20
NT1X89BA	Enhanced MPC CP	Slot 7,8,9,10	Slot 19,20
NT6X91BB	X25LAPB Link Cont CP	Slot 7,8,9,10	Slot 19,20
NT1X68BC	MTD Control CP	Slot 11	Slot 21
NT1X55DA	DDU Control CP	Slot 06	Slot 17

NT1X67BC is the standard terminal controller CP. The NT1X67BD terminal controller CP provides the Auto Dial-back security feature when used with a modem. The customer must have the Enhanced Security software package in the switch in order to utilize the Auto Dial-back feature.

- 3) The following filler face plates are to be provisioned when a slot is not equipped as above:

		LEFT IOC	RIGHT IOC
NT0X50BA	Filler Face Plate	Slot 6-14	Slot 17-24
NT0X50BE	Filler Face Plate	Slot 01	Slot 25
NT0X50BF	Filler Face Plate	Slot 04	Slot 15

- 4) Provision the Mag Tape Controller circuit packs in slot 11 of the DIO shelf if the MTD is mounted in shelf position 05 or 33 of the MCGM.

Provision the MAG Tape Controller circuit packs in slot 21 of the DIO shelf if the MTD is mounted in shelf position 19 of the MCGM.

Provision the Disc Drive Controller circuit packs in slots 6 and 17 of the DIO.

- 5) Provide one MCGM DIO hardware kit when DIO is provisioned. The DIO hardware kit includes all cables and associated hardware required when a DIO shelf is provisioned in the MCGM cabinet.
- RUL3 1) Provide per requirements of office features (see note 1). MTD requires two (2) shelf positions, ie; 05(&19), 19(&33) or 33(&47).
- RUL4 1) Provision one (1) NT4X00AF DDU shelf at position 05 to accommodate a max of two (2) NT-MERCURY Disk Drives 8211D-19-063 or two (2) 5.25" Disk Drives NT4X00AG.
- 2) Provide one NTN47AK MCGM DDU hardware kit when DDU shelf assembly NT4X00AF is provisioned. The DDU hardware kit includes all cables and associated hardware required when a DDU shelf is provisioned in the MCGM cabinet.
  - 3) Provide a maximum of two (2) disk drives per NT4X00AF Dual Disk Drive Unit shelf. The first DDU will mount in position 12 and the second DDU will mount in position 18.
  - 4) Provide one NT1X78AA and one designation label P0668410 per Disk Drive provided. Otherwise, provide one Filler Face Plate NT0X50AE and one Designation Label P0599142.
  - 5) Provide one (1) NT4X0032 DDU H/W kit per disk drive to mount disk drive on the NT4X00AF DDU shelf (maximum of two per shelf).
- RUL5 1) Provision per MS3X95AA or MS3X95BB Remote Oscillator Shelf (ROS) to accommodate customer requirements for Stratum Clocking as required. Refer to the respective Engineering Manual sections for packfill requirements and provisioning on the shelf.
- |          |     |                                 |
|----------|-----|---------------------------------|
| NT3X95AA | ROS | Stratum II/NT40/Non-ISG Office  |
| NT3X95BB | ROS | Stratum 2.5/DMS-Core/ISG Office |
- 2) Provide one (1) MCGM ROS Hardware Kit NTN47AS when the ROS is provisioned.

RUL6 1) One each of these cables to be provided when one or more of the following shelves are provisioned on the MCGM:

NT2X52AG TM8	NT2X58CA MTM	NT5X00AD TAN
NT2X5228 T8A	NT2X58CB MTM	NT7X3004 STM

RUL7 1) Provision per MS2X58CA or MS2X58CB to accommodate customer requirements for each MTM required. Refer to engineering manual for packfill requirements as follows:

NT2X58CA	EMA2-01-MTM-1
NT2X58CB	EMA2-01-MTM-2

2) When OAU (Office Alarm Unit) function is to be provided in the MCGM cabinet, provide two (2) NT2X58CA MTMs and appropriate Common CP Mount the MTM in shelf position 05 and 19. MTM in shelf position 05 is MTM 00; MTM in shelf position 19 is MTM 01. Configure the MTM/OAU as follows:

	PEC	NAME	SH	POS	SLOT
Dead System Alarm	NT3X82**	MTM:00	05		05
Dead System Alarm	NT3X82**	MTM:01	19		05
OAU Alm Transfer	NT3X83AA	MTM:01	19		07
Misc Scan CP	NT0X10AA	MTM:01	19		08
Signal Dist CP	NT2X57AA	MTM:01	19		09

\*\* = AA for Unique Audible Alarms  
AB for Common Audible Alarms

3) Provide one of the following hardware kits as required for each MTM shelf provided. The hardware kits include all cables and associated hardware required when MTM shelf is provisioned in the MCGM cabinet except Network Port cables.

NTNX47AJ when a MTM shelf is provisioned in SHF POS 33.  
NTNX47AH when a MTM shelf is provisioned in SHF POS 19.  
NTNX47AG when a MTM shelf is provisioned in SHF POS 05.

4) Provide one of the following hardware kits as required for each MTM/DRA NT2X58CB shelf provided. The hardware kits include all cables and associated hardware required when MTM/DRA shelf is provisioned in the MCGM cabinet except Network Port cables.

NTNX47BK when a MTM/DRA shelf is provisioned in SHF POS 33.  
NTNX47BJ when a MTM/DRA shelf is provisioned in SHF POS 19.  
NTNX47BH when a MTM/DRA shelf is provisioned in SHF POS 05.



- RUL8 1) Provision one NT7X3004 STM/STM shelf and one of the following hardware kits as required for each STM/STM required. The hardware kits include all cables and associated hardware required when STM/STM shelf is provisioned except for network port cables. A maximum of two (2) STM shelves may be provisioned per MCGM cabinet.

NTNX47BG when a STM shelf is provisioned in SHF POS 47.

NTNX47BF when a STM shelf is provisioned in SHF POS 33.

NTNX47BE when a STM shelf is provisioned in SHF POS 19.

NTNX47BD when a STM shelf is provisioned in SHF POS 05.

- RUL9 1) Always provide these items when STM shelf NT7X3004 is provisioned for shelf locations 05, 19, 33 or 47.

- 2) Provide Filler Face Plate NT0X50AC and Designation Label P02250058 as required in slots 5-11, 13-16 and 8 of shelves 05, 19, 33 or 47 when these STM slots are unequipped.

- RUL10 1) Provision NTNX29AB DRAM Wiring option and listed circuit packs when a STM shelf is provisioned for shelf locations 05, 19, 33 or 47 and DRAM option is a customer requirement. DRAM is always provisioned on the left (even numbered) STM of the STM/STM shelf.

- 2) The NT1X75BA replaces the NT1X75AA and is required for two stage dialing.

- 3) Provide one (1) NT1X75DA DRAM Control CP and NT1X77AA DRAM Memory CP as required for international applications of the DRAM in even numbered (left) STM. The NT1X75DA is the A-Law version of the NT1X75BA and functions similarly.

- RUL11 1) Provision NTNX29AC CODEC Wiring option when a STM shelf is provisioned for shelf locations 05, 19, 33 or 47 and CODEC option is a requirement for the left half of the shelf. Also provision one (1) NT2X59AB and any combination of NT3X67BA's, NT2X48BA's or NT2X48BB's for slot locations 5-8 and 10. Provision designation labels as needed for each circuit pack provided.

- 2) For international markets, provision NT2X48CC A-LAW based Dual-Tone Multifrequency Receiver in accordance with RULE11, item 1.

- RUL12 1) Provision NTNX29AC CODEC Wiring option when a STM shelf is provisioned for shelf locations 05, 19, 33 or 47 and CODEC option is a requirement for the right half of the shelf. Also provision one (1) NT2X59AB and any combination of

NT3X67BA's, NT2X48BA's or NT2X48BB's for slot locations 13-16 and 18. Provision designation labels as needed for each circuit pack provided. Also see RUL12, item 2.

- RUL13 1) Provision either NT5X29AB and designation label P0706693 or NT5X29AC and designation label P0654974 Audio Tone Detectors as needed when NT7X3004 STM shelf has been provisioned in shelf locations 05, 19, 33 or 47. Provision one P0698920 shelf designation strip when Audio Tone Detectors are specified for all four slot positions of an STM shelf.
- 2) Provision Filler Face Plates per the following table:

NT5X29 CP POS	Filler CP POS
-----	-----
05	6,7
08	9-11
13	14,15
16	17-19

- RUL14 1) Provide one (1) NTZZ38EM MTXD Filler Panel Assembly Kit for each unequipped shelf position 05, 19, 33, 47.
- RUL15 1) Provide this hardware if mounting position 47 is unequipped or if MTD is mounted in shelf pos 33 (& 47).
- RUL16 1) Provide one (1) earthquake kit per MCGM cabinet when cabinet is installed at site in the following seismic (earthquake) zones:

ATC	Zones 6 & 7
NEBS	Zone 4
UBC	Zone 4

Provide one (1) NTN2540 earthquake kit for slab type flooring. Provide one (1) NTN2578 earthquake kit for computer floor.

- 2) Provide one (1) NTN2579 anchor kit for non-earthquake zone site with a slab floor.
- 3) Provide one (1) NTN2580 anchor kit for non-earthquake zone site with a computer floor.
- RUL17 1) Provide one (1) label per circuit pack provisioned. (NT code on label should be the same as circuit pack provisioned.) Affix designation label to appropriate position on the designation strip.

- RUL18 1) These circuit packs must be provided whenever an MTM or MTM/DRA shelf assembly is provisioned for shelf positions 05, 19, or 33. Additional packs may be provisioned for slot positions 05-16 as needed for customer requirements (see Engineering Manual EMA 14-01-000, Tables A-3 and A-4.
- RUL19 1) For MTXD applications only: provision the modem shelves and DIO's in pairs. The first pair will assign at pos.47(DIO) and 33(DS-5) and the second pair will assign at pos. 19(DIO) and 05(DS-5).
- 2) Due to bulkhead limitations DS-5 modem shelves located at positions 33 and 05 may only be connected internally to DIO and externally VIA tip & ring connections only at CO01 and CO02 on the bulkhead. THERE ARE NO RS232 CONNECTIONS AVAILABLE FOR THIS MTXD CONFIGURATION.
- 3) Provision one NT6X91AB or one NT6X91CA per each CSC active link plus an additional amount for modem pooling determined by Customer Engineering. Provision one NT6X91BA for each MTX link. The maximum number of HDLC cp's per DIO is 15: slots 6-23.
- 4) Provision the HDLC cp's evenly accross both IO's in the DIO starting with slot 6,17,07,18,08,19 etc.:

NTNX3401  
DIO  
POS. 47,19

NT5X09  
MODEM SHELF  
POS. 33,05

IOC <sub>7</sub>	CP <sub>7</sub>	SLOT <sub>7</sub>	SLOT POS.
00	01	06	01
01	02	17	09
00	03	07	02
01	04	18	10
00	05	08	03
01	06	19	11
00	07	09	04
01	08	20	12
00	09	10	05
01	10	21	13
00	11	11	06
01	12	22	14
00	13	12	07
01	14	23	15
00	15	13	08

Figure 1. NT6X91 Provisioning in the DIO.

- RUL20 1) For MTXD applications only: provision the modem shelves and DIO's in pairs. The first pair will assign at pos.47(DIO) and 33(DS-5) and the second pair will assign at pos. 19(DIO) and 05(DS-5).

- 2) Provision one 4800 baud modem for each NT6X91AB cp for a CSC link. Provision one 9600 baud modem for each NT6X91CA cp for a CSC link. Provision one 9600 baud modem for each NT6X91BA cp for an MTX link.
- RUL21 1) For MTXD applications only: provision one NTNX47BL for the addition of one DIO/Modem pair at shelf pos. 47,33.
- 2) For MTXD applications only: provision one NTNX47BM for the addition of two DIO/Modem pairs. The first pair is assigned to pos. 47,33; the second pair is assigned to pos. 19,05.
- 3) Both kits, the NTNX47BL and NTNX47BM, include all hardware and cable harnessing required to install and cable the two units together and to the bulkhead.
- RUL22 1) The IMTM Common Circuit Packfill contains those cards that are to be provisioned with each IMTM Shelf Assembly ordered for international applications (Turkey).
- RUL23 1) Provide NT2X75AA on MCGM as required when loop around test line is required for measuring near to far end trunk transmission losses (one loop around circuit per pack).
- 2) For international markets, provide the NT2X75BA on MCGM in accordance with RULE9, issue 1.
- RUL24 1) Provide NT1X00AB on MCGM as required when additional 102 test milliwatt is required.
- RUL25 1) Provide one (1) NT2X47BA (left, odd slot) and one (1) NT2X56BA (right, even slot) for International Transmission Test Unit required.
- RUL26 1) Provide one (1) NT1X90AA (left, odd slot) and NT2X96AA (right, even slot) for additional transmission termination trunks.
- 2) Provision the NT1X90BA and the NT2X96BA for international markets in accordance with RUL15, issue 1.
- RUL27 1) Provision NT3X67BB as one (1) 6-port circuit or as two (2) 3-port circuits.
- RUL28 1) Refer to section EMA14-01-000 for further information on the NT3X82AB and the NT3X83AA.
- RUL29 1) Provide NT5X30AA on MCGM as required when additional test lines are required.

- 2) No more than four (4) per shelf.
- RUL30 1) Provide NT0X10AA on MCGM as required when scan points are required (two circuits per pack, and seven scan points per circuit).
- RUL31 1) Provide NT2X57AA on MCGM as required when signal distribution points are required (two circuits per pack and seven points per circuit).
- RUL32 1) Provide NT1X54AA on MCGM as required when additional circuits for access to switching network for analog (vf) test equipment required (two circuits per pack).

MCGM (BROWN)

PEC CODE: NTZZ60LA

CPC CODE: B0238683

RATING: Standard

REPLACES: NTZZ38PA

REPLACED BY: Not Applicable

ABBREVIATION NAME: MCGM

ENGINEERING DESCRIPTION: The MCGM frame provides the capability to add custom feature hardware when required, for example, DIO, MTD, DDU, ROS, MTM, and STM modules.

Note that the MCGM cabinet can interface to four (4) network ports maximum.

REFERENCE DOCUMENTATION: MSNX47BA  
SLZZ60LA

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: Kevin Neville Dept. 5849 (RICH)

MAIN CONTACT: Kevin Neville Dept. 5849 (RICH)

CONTACT: Jim Large Dept. 5849 (RICH)

NTZZ60LA EMB10-13-MCGM-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	New insert.
93 10 26	ECM 492 08	Modify provisioning rules for NTN47AN/BC/BL/BM DIO Hardware Kits
94 06 06	ECM 492 12	Clarify provisioning rules for controller cards in the DIO shelf.
94 08 05	ECM 492 13	Adds TurboLink requirements.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 07 07	ECM 492 22	DGB: Make clarifications to option V provisioning rules.
95 08 04	ECM 492 23	DGB: Make clarifications to option V provisioning rules.
95 12 01	ECM 492 27	JEL: Replace 049P026-004, 9600 Baud Modem Card, with 049P026-001, 9600 Baud Modem Card. Make changes per EC 002-16338. Make corrections to match EMA for NTN47BA, MCGM.
96 02 20	ECM 492 30	KMN: Corrected NTMX47AR to NTN47AR.
96 06 18	ECM 492 32	KMN: REF EC 002-16639.
96 09 24	ECM 492 36	KMN: Remove content refer to NTN47BA documentation. EMA10-13-000



The MCGM (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCGM Cabinet	NTNX47BA		1			AP
MTXD Designation Label	P0712628		1			AP
Frame Supv Panel	NTNX26MA	FSP	1	60		AP-01
10" Cooling Unit	NTNX27CA	CU		00		AP-01
Common Framework	NTNX25AA	FW	1			AP-01
Cabinet Type Label (Brown)	P0699475		2			AP
# Door Label Left (Brown)	P0699464		2			AP
Door Label Left (Brown)	P0818849		2			AP
Door Label Right (Brown)	P0695230		2			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

FLAGS:

NOTES:

- 1) For more information on the MCGM (NTNX47BA) frame, see EMA10-13-000.

- 2) The MTD is to be installed in the MCGM cabinet just prior to shipment to job site.
- 3) All provisioned items are to be installed by the shop unless otherwise specified in the MCGM cabinet assembly drawing.
- 4) ROS shelf cannot be provisioned in the same MCGM cabinet with a DDU. When a DIO is provided at shelf position 47, shelf position 05 must be reserved for DDU or MTD. MTD requires two (2) shelf positions.
- 5) When the MCGM cabinet is ordered as an extension, the following labels should be ordered:

QTY 1 P0687620  
QTY 1 P0695393  
QTY 1 P0695425  
QTY 1 P0580231  
QTY 1 P0580232  
QTY 1 P0695392 (FOR MSL100 JOBS)  
QTY 1 P0588059 (FOR DMS300 JOBS)  
QTY 1 P0622886 (FOR DMS250 JOBS)

- 6) For more information on the MTM Shelf Assembly NT2X58CA, see EMA2-01-MTM-1.

## RULES:

- AP 1) When PEC NTZZ60LA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN47BA.

MCGM (GREY)

PEC CODE: NTZZ60JA

CPC CODE: B0238703

RATING: Standard

REPLACES: NTZZ38NA

REPLACED BY: Not Applicable

ABBREVIATION NAME: MCGM

ENGINEERING DESCRIPTION: The MCGM frame provides the capability to add custom feature hardware when required, for example, DIO, MTD, DDU, ROS, MTM, and STM modules.

Note that the MCGM cabinet can interface to four (4) network ports maximum.

REFERENCE DOCUMENTATION: MSNX47BA  
SLZZ60JA

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: Kevin Neville Dept. 5849 (RICH)

MAIN CONTACT: Kevin Neville Dept. 5849 (RICH)

CONTACT: Jim Large Dept. 5849 (RICH)

NTZZ60JA EMB10-13-MCGM-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	New insert.
93 10 26	ECM 492 08	Modify provisioning rules for NTN47AN/BC/BL/BM DIO Hardware Kits
94 06 06	ECM 492 12	Clarify provisioning rules for controller cards in the DIO shelf.
94 08 05	ECM 492 13	Adds TurboLink requirements.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 07 07	ECM 492 22	DGB: Make clarifications to option V provisioning rules.
95 08 04	ECM 492 23	DGB: Make clarifications to option V provisioning rules.
95 12 01	ECM 492 27	JEL: Replace 049P026-004, 9600 Baud Modem Card, with 049P026-001, 9600 Baud Modem Card. Make changes per EC 002-16338. Make corrections to match EMA for NTN47BA, MCGM.
96 02 20	ECM 492 30	KMN: Corrected NTMX47AR to NTN47AR.
96 06 18	ECM 492 32	KMN: REF EC 002-16639.
96 09 24	ECM 492 36	KMN: Remove content refer to NTN47BA documentation. EMA10-13-000

The MCGM (GREY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCGM Cabinet	NTNX47BA		1			AP
MTXD Designation Label	P0712628		1			AP
Frame Supv Panel	NTNX26MA	FSP	1	60		AP-01
10" Cooling Unit	NTNX27CA	CU		00		AP-01
Common Framework	NTNX25AA	FW	1			AP-01
Cabinet Type Label (Grey)	P0687611		2			AP
Door Label Left (Grey)	P0818848		2			AP
Door Label Right (Grey)	P0699158		2			AP
Door Right - Grey	NTNX2513		2			AP
Door Left - Grey	NTNX2515		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

FLAGS:

NOTES:

- 1) For more information on the MCGM (NTNX47BA) frame, see EMA10-13-000.

- 2) The MTD is to be installed in the MCGM cabinet just prior to shipment to job site.
- 3) All provisioned items are to be installed by the shop unless otherwise specified in the MCGM cabinet assembly drawing.
- 4) ROS shelf cannot be provisioned in the same MCGM cabinet with a DDU. When a DIO is provided at shelf position 47, shelf position 05 must be reserved for DDU or MTD. MTD requires two (2) shelf positions.
- 5) When the MCGM cabinet is ordered as an extension, the following labels should be ordered:  
  
QTY 1 P0687620  
QTY 1 P0695393  
QTY 1 P0695425  
QTY 1 P0580231  
QTY 1 P0580232  
QTY 1 P0695392 (FOR MSL100 JOBS)  
QTY 1 P0588059 (FOR DMS300 JOBS)  
QTY 1 P0622886 (FOR DMS250 JOBS)
- 6) For more information on the MTM Shelf Assembly NT2X58CA, see EMA2-01-MTM-1.

## RULES:

- AP 1) When PEC NTZZ60JA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN47BA.

MCSS (GREY)

PEC CODE: NTZZ38FM

CPC CODE:

RATING: Standard

| REPLACES: N/A

| REPLACED BY: N/A

ABBREVIATION NAME: MCSS

ENGINEERING DESCRIPTION: The MCSS frame is used to store spare circuit packs. It can be accessed from front and rear.

REFERENCE DOCUMENTATION: MSNX22  
SLZZ38FM 00 01 REL 01

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Jim Large Dept. 5849 (RCH)

| MAIN CONTACT: Jim Large Dept. 5849 (RCH)

| CONTACT: Richard Martin Dept. 5849 (RCH)

NTZZ38FM EMB10-14-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	New insert.
93 05 05	ECM 492 07	Retire insert.
95 12 01	ECM 492 27	Retire building block.



The MCSS (GREY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Meridian Spare Storage Cab.	NTNX22AA		1			AP
MTXD Designation Label	P0712628		1			AP
Common Framework	NTNX25AA	FW	1			AP-01
Storage Shelf Assembly	NTNX2201		4			AP-01
Cabinet Type Label (Grey)	P0687619		2			AP
Door Label Left (Grey)	P0677704		2			AP
Door Label Right (Grey)	P0699158		2			AP
Door Right - Grey	NTNX2513		2			AP
Door Left - Grey	NTNX2515		2			AP
<hr/>						
Anchor Kit (Earthquake Slab)	NTNX2540					RUL1
Anchor Kit (EQ cmptr Floor)	NTNX2578					RUL1
Anchor Kit (Non-EQ Slab)	NTNX2579					RUL1
Anchor Kit (Non-EQ cmp Flr)	NTNX2580					RUL1

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ38FM	MD	N/A

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ38FM is ordered, these items are provided.

- AP-01 1) These items are always provided with PEC NTN22AA.
- 2) NTN2201 provides assembly and equipment required for one circuit pack shelf assembly equipped with capacity for a maximum of fifty-four circuit packs (.875" wide, 27 front and 27 rear) or forty-two circuit packs (1.25" wide, 21 front and 21 rear).
- RUL1 1) Provide one (1) Earthquake Mounting Kit when installing cabinet in ATC zone 6 and 7; NEBS zone 4; and UBC zone 4. Use NTN2540 kit for slab type flooring or NTN2578 for computer flooring.
- 2) Provide one (1) Frame Mounting Kit when installing cabinet in a Non-Earthquake zone. Use NTN2579 kit for slab type flooring or NTN2580 for computer flooring.

## MCSS (BROWN)

PEC CODE: NTZZ38JM

CPC CODE:

RATING: Standard

| REPLACES: N/A

| REPLACED BY: N/A

ABBREVIATION NAME: MCSS

ENGINEERING DESCRIPTION: The MCSS frame is used to store spare circuit packs. It can be accessed from front and rear.

REFERENCE DOCUMENTATION: MSNX22  
SLZZ38JM 00 01 REL 01

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Jim Large Dept. 5849 (RCH)

| MAIN CONTACT: Jim Large Dept. 5849 (RCH)

| CONTACT: Richard Martin Dept. 5849 (RCH)

NTZZ38JM EMB10-14-001 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	New insert.
93 05 05	ECM 492 07	Retire insert.
95 12 01	ECM 492 27	Retire building block.

The MCSS (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Meridian Spare Storage Cab.	NTNX22AA		1			AP
MTXD Designation Label	P0712628		1			AP
Common Framework	NTNX25AA	FW	1			AP-01
Storage Shelf Assembly	NTNX2201		4			AP-01
Cabinet Type Label (Brown)	P0699468		2			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP
Door Label Left (Brown)	P0699464		2			AP
Door Label Right (Brown)	P0695230		2			AP
<hr/>						
Anchor Kit (EQ Slab)	NTNX2540					RUL1
Anchor Kit (EQ cmptr Floor)	NTNX2578					RUL1
Anchor Kit (Non-EQ Slab)	NTNX2579					RUL1
Anchor Kit (Non-EQ cmp Flr)	NTNX2580					RUL1

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ38JM	MD	N/A

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ38JM is ordered, these items are provided.

- AP-01 1) These items are always provided with PEC NTN22AA.
- 2) NTN2201 provides assembly and equipment required for one circuit pack shelf assembly equipped with capacity for a maximum of fifty-four circuit packs (.875" wide, 27 front and 27 rear) or forty-two circuit packs (1.25" wide, 21 front and 21 rear).
- RUL1 1) Provide one (1) Earthquake Mounting Kit when installing cabinet in ATC zone 6 and 7; NEBS zone 4; and UBC zone 4. Use NTN2540 kit for slab type flooring or NTN2578 for computer flooring.
- 2) Provide one (1) Frame Mounting Kit when installing cabinet in a Non-Earthquake zone. Use NTN2579 kit for slab type flooring or NTN2580 for computer flooring.

## MCSS (BROWN)

PEC CODE: NTZZ60FA

CPC CODE: B0238700

RATING: MD

REPLACES: NTZZ38JM

REPLACED BY: N/A

ABBREVIATION NAME: MCSS

ENGINEERING DESCRIPTION: The MCSS frame is used to store spare circuit packs. It can be accessed from front and rear.

REFERENCE DOCUMENTATION: MSNX22  
SLZZ60FA

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: Jim Large Dept. 5849 (RICH)

MAIN CONTACT: Jim Large Dept. 5849 (RICH)

CONTACT: Richard Martin Dept. 5849 (RICH)

CONTACT: Mike Brunet Dept. W720 (CALG)

NTZZ60FA EMB10-14-MCSS-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	New insert.
94 06 06	ECM 492 12	ECD 018-43061 - Delete P0712628 FSP label.
95 06 06	ECM 492 20	JEL: EC 018-45440 manufacture discontinues to NTZZ60DA.
95 12 21	ECM 492 29	JEL: Replacing the door labels left with the new NORTEL door labels left.



The MCSS (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Meridian Spare Storage Cab.	NTNX22AA		1			AP
Common Framework	NTNX25AA	FW	1			AP-01
Storage Shelf Assembly	NTNX2201		4			AP-01
Cabinet Type Label (Brown)	P0699468		2			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP
# Door Label Left (Brown)	P0699464		2			AP
Door Label Left (Brown)	P0818849		2			AP
Door Label Right (Brown)	P0695230		2			AP
<hr/>						
Anchor Kit (EQ Slab)	NTNX2540					RUL1
Anchor Kit (EQ cmptr Floor)	NTNX2578					RUL1
Anchor Kit (Non-EQ Slab)	NTNX2579					RUL1
Anchor Kit (Non-EQ cmp Flr)	NTNX2580					RUL1

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
P0699464	MD	P0818849

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ60FA is ordered, these items are provided.

- AP-01 1) These items are always provided with PEC NTN22AA.
- 2) NTN2201 provides assembly and equipment required for one circuit pack shelf assembly equipped with capacity for a maximum of fifty-four circuit packs (.875" wide, 27 front and 27 rear) or forty-two circuit packs (1.25" wide, 21 front and 21 rear).
- RUL1 1) Provide one (1) Earthquake Mounting Kit when installing cabinet in ATC zone 6 and 7; NEBS zone 4; and UBC zone 4. Use NTN2540 kit for slab type flooring or NTN2578 for computer flooring.
- 2) Provide one (1) Frame Mounting Kit when installing cabinet in a Non-Earthquake zone. Use NTN2579 kit for slab type flooring or NTN2580 for computer flooring.

MCEX (BROWN)

PEC CODE: NTZZ38JA

CPC CODE: B0237250

| RATING: MD

REPLACES: N/A

| REPLACED BY: NTZZ60LA

ABBREVIATION NAME: MCEX

ENGINEERING DESCRIPTION: The MCEX cabinet is used to provide the initial Magnetic Tape Drive (MTD) and Disk Drive Unit (DDU) capability on the MTXD.

REFERENCE DOCUMENTATION: MSNX32AA 00 07  
SLZZ38HA 00 01 REL 01

MARKETS: Applicable markets:

Wireless

ISSUE AUTHOR: NTI: Jim Large Dept. 5849 (RICH)

MAIN CONTACT: NTI: Jim Large Dept. 5849 (RICH)

CONTACT: NTI: Richard Martin Dept. 5849 (RICH)

NTZZ38JA EMB10-17-001 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	New insert.
94 04 11	ECM 492 11	EC 01842694 - Remove NT0X50BA fillers from slots 6,12,13,23.
94 08 05	ECM 492 13	Adds TurboLink requirements.
95 04 25	ECM 492 19	JEL: Make corrections per NTN33CA EMA section.
95 06 12	ECM 492 21	DGB: Make corrections to match NTN32AA.
95 10 06	ECM 492 26	DKG: Introduce the NT1X55FA per EC 002-16296.
95 12 01	ECM 492 27	JEL: Make corrections so that the building block match EMA for NTN32AA.
95 12 21	ECM 492 29	JEL: Replacing the door labels left with the new NORTEL door labels left.
96 02 20	ECM 492 30	KMN: MD NTN32AA.

The MCEX (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCEX Cabinet	NTNX32AA		1			AP
MTXD Designation Label	P0712628		1			AP
Cabinet Assembly	NTNX25AA	FW				AP-01
Frame Supervisory Panel	NT7X34AA	FSP	1	60		AP-01
<hr/>						
MTXD - Filler Panel Assy Kit	NTZZ38EM			33,47		RUL7
MTXD - MTD Assembly	NTZZ38DM			19		RUL2
Filler Panel	P0684448			58		RUL14
<hr/>						
DIO Shelf Assembly	NTNX3401	DIO	1	19		AP-01
Designation strip (shelf)	P0696637		1	19		AP
MTXD - I/O Basic (Universal)	NTZZ38AM			19	1	RUL3
IOC SCSI DDU CP	NT1X55FA			19	6-12	RUL12
# Terminal Controller	NT1X67BC		A/R	19	8,11-13	RUL4
					19,21-23	
Terminal Controller	NT1X67BD		A/R	19	8,11-13	RUL4
					19,21-23	
# Enhanced MPC CP	NT1X89BA			19	8,11-13	RUL4
					19,21-23	
Enhanced MPC CP	NT1X89BB		A/R	19	8,11-13	RUL4
					19,21-23	
NEMAS Circuit Pack	NT6X91BA		A/R	19	9,10,	RUL4
					20	
X25LAPB Control Card	NT6X91BB		A/R	19	9,10,	RUL4
					20	
Cook 9-TK Tape Cont.	NT1X68BC			19	6,17	RUL10
Mag Tape Drive Wiring Kit	NTNX32PA			19	6,17	RUL11
Filler Face Plate	NT0X50BA	FFP	A/R	19	6-13,	RUL5
					17-24	
Filler Face Plate	NT0X50BE	FFP	A/R	19	25	RUL5
Filler Face Plate	NT0X50BF	FFP	A/R	19	4,15	RUL5
V.35 Cable Ass'y	NTMX4723					RUL13
RS232 (EMPC) Cable Ass'y	NTMX4724					RUL13
RS232 (HDLC) Cable Ass'y	NTMX4725					RUL13
RS232 or Current Loop	NTMX4726					RUL13
Cover Plate	P0686749					RUL13
Cover Plate Screws	P0670923					RUL13
Desig. Label (NT1X55FA)	P0800155			19	6-12	RUL6
					17-22	
# Desig. Label (NT1X67BC)	P0623517			19	8,11-13	RUL6
					19,21-23	
Desig. Label (NT1X67BD)	P0657675			19	8,11-13	RUL6
					19,21-23	

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Desig. Label (NT1X68BC)	P0616642			19	6,17	RUL6
# Desig. Label (NT1X89BA)	P0708961			19	8,11-13 19,21-23	RUL6
Desig. Label (NT1X89BB)	P0800156			19	8,11-13 19,21-23	RUL6
Desig. Label (NT6X91BA)	P0675184			19	9,10,20	RUL6
Desig. Label (NT6X91BB)	P0689833			19	9,10,20	RUL6
Desig. Label (NT0X50BA)	P0599141		A/R	19	6-13 17-24	RUL6
Desig. Label (NT0X50BE)	P0599142		A/R	19	25	RUL6
Desig. Label (NT0X50BF)	P0599143		A/R	19	15	RUL6
# DDU Shelf Assembly	NT4X00AF	DDU	1	05		AP-01
# MTXD - DDU Assembly	NTZZ38CM			05	2	RUL1
Filler Panel	NT0X84AA			05		AP-01
Cabinet Type Label (Brown)	P0695229		2			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP
# Door Label Left (Brown)	P0699464		2			AP
Door Label Left (Brown)	P0818849		2			AP
Door Label Right (Brown)	P0695230		2			AP
Earthquake Mounting Kit	NTNX2540					RUL8
Earthquake Mounting Kit	NTNX2578					RUL8
Non-EQ Frame Mounting Kit	NTNX2579					RUL9
Non-EQ Frame Mounting Kit	NTNX2580					RUL9

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT4X00AF	MD	NT1X55FA (Note 3)
NTZZ38CM	MD	None (Note 4)
NT1X67BC	MD	NT1X67BD
NT1X89BA	MD	NT1X89BB
P0699464	MD	P0818849

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

## NOTES:

- 1) The MTD and the Disk Drive Units and the mounting hardware for both should be assigned to the frame so that they are installed before the frame is shipped.
- 2) The doors must be assigned to the frame. Do not ship the doors as loose items.
- 3) The NT1X55FA IOC SCSI DDU CP replaces the 5.25" 220 MB DDU (NT4X00AG), the NT-Mercury 8" Disk Drive 8211D-19-063 & Priam disk drive. The NT1X55FA also replaces all earlier versions of the NT1X55 and the NT4X00 products.
- 4) The NTZZ38CM building block contains parts replaced by the NT1X55FA and is no longer appropriate.

## RULES:

- AP 1) When PEC NTZZ38JA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN32AA.
- RUL1 1) Provide one (1) NTZZ38CM MTXD - DDU Assembly as required.
- RUL2 1) Provide one (1) NTZZ38DM, MTXD - MTD Assembly as required (Note 1).
- RUL3 1) Provide one (1) NTZZ38AM for the basic I/O cards for the IOC shelf.
- RUL4 1) Provide specific application cards in slots indicated as required by the customer.
- 2) Slots 8,11-13,19,21-23 are provisionable for EIA or current loop operation.
  - 3) NT1X89BA as provisioned for V.35 EIA port operation can only be used in slots 12, 13, 21 or 23.

- 4) The NT1X67BC is the standard terminal controller CP. The NT1X67BD terminal controller CP provides the Auto Dial-back security feature when used with a modem. The customer must have the Enhanced Security software package in the switch in order to utilize the Auto Dial-back feature.
  - 5) Always provision a minimum of one NT1X89BB on initial installations for TurboLink Interface.
- RUL5 1) Provide appropriate Filler Face Plate for any unused card slot.
- RUL6 1) Provide one (1) Designation Label corresponding to each card provisioned.
- RUL7 1) Provide two (2) NTZZ38EM MTXD Filler Panel Assembly Kits if an MTD is not provisioned.
- RUL8 1) Provide one (1) mounting kit when installing frame in ATC zone 6 and 7, NEBS zone 4, and UBC zone 4.
- 2) Provide one (1) NTN2540 for slab flooring
  - 3) Provide one (1) NTN2578 for computer flooring
- RUL9 1) Provide one (1) mounting kit when installing frame into a non- earthquake zone.
- 2) Provide one (1) NTN2579 for slab flooring
  - 3) Provide one (1) NTN2580 for computer flooring
- RUL10 1) Provide one (1) NT1X68AA in slot 17 if a MTD is equipped in shelf 33, slot 6 is dedicated for external connection(See RUL11).
- RUL11 1) provision one (1) NTN32PA MTD wiring kit when MTD is mounted in an adjacent cabinet to the MCEX. If IOC 01 fo the DIO on shelf 19 is not being used. The MTD controller card must go in slot 6 of IOC 00. If this is the case, provision the NTN32PA wiring kit for the read/write/control cables.
- 2) Provide one (1) NTN2579 for slab flooring
  - 3) Provide one (1) NTN2580 for computer flooring
- RUL12 1) Provide one (1) NT1X55FA IOC SCSI DDU CP (Capacity 220 MB) in place of the (NT1X55DA) DDU Controller, (NT4X00AF) DDU



shelf, and (NT4X00AG) DDU. Provide two (NT1X55FA) SCSI DDU CPs in place of two (2) NT1X55DA & one (1) NT4X00AF/AG combination. IOC 00 & 01 should contain a minimum of one pack each.

- 2) The NT1X55FA IOC SCSI DDU CP requires two (2) card slots. This CP can mount in any two (2) slot locations from 6-12, 17-22, depending on the availability of the locations (except for IOC 0). For example, the NT1X55FA CP can mount in slots 6&7, 7&8, 8&9, 9&10, 10&11, or 11&12, and so forth. When mounting NT1X55FA in IOC 0, only mount the CP in slots 6&7.

RUL13 Provide specific application cards in slots indicated as required by the customer.

- 1) Slots 8, 11-13, 19, 21-23 are provisionable for EIA or current loop operation. Provide (1) NTMX4726 cable for each slot.
- 2) Slots 8, 11-13, 19, 21-23 are provisionable for NT1X67FA, NT1X67DB, and NT6X91BB. Provide (1) NTMX4725 cable for each slot.
- 3) NT1X89BB as provisioned for V.35 EIA port operation can only be used in slots 12, 13, 21, or 23. Provide (1) NTMX4723 cable for each slot.
- 4) Always provision a minimum of (1) NT1X89BB on initial installations for TurboLink interface or Async/Sync RS232 devices (X.25). Provide (1) NTMX4724 for each slot.
- 5) Provision a minimum of (1) NT1X89BB for CCMIC applications. For redundant links provide (2) NT1X89BB circuit packs. See above rules regarding what slots are available for RS232 (EIA) and V.35 physical interfaces.
- 6) The 25 pin bulkhead cover plate (P0686749) can be provisioned up to 42 places assuming that a NTMX47\_\_ is not provisioned. Each plate requires (2) screws (P0670923). This means subtract a cover plate for each NTMX47\_\_ cable provisioned.

RUL14 Provide (1) filler panel (P0684448) if a MTD is provisioned.

MCEX (GREY)

PEC CODE: NTZZ60EA

CPC CODE: B0238699

| RATING: MD

REPLACES: NTZZ38HA

| REPLACED BY: NTZZ60JA

ABBREVIATION NAME: MCEX

ENGINEERING DESCRIPTION: The MCEX cabinet is used to provide the initial Magnetic Tape Drive (MTD) and Disk Drive Unit (DDU) capability on the MTXD.

REFERENCE DOCUMENTATION: MSNX32AA 00 07  
SLZZ60EA 00 01 REL 01

MARKETS: Applicable markets:  
Wireless

ISSUE AUTHOR: NTI: Jim Large Dept. 5849 (RCH)

MAIN CONTACT: NTI: Jim Large Dept. 5849 (RCH)

CONTACT: NTI: Richard Martin Dept. 5849 (RCH)

NTZZ60EA EMB10-17-MCEX-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	New insert.
94 08 05	ECM 492 13	Add TurboLink requirements.
95 04 25	ECM 492 19	JEL: Make corrections per ET 68673.
95 06 12	ECM 492 21	DGB: Make corrections to match NTNX32AA.
95 10 06	ECM 492 26	DKG: Introduce the NT1X55FA per EC 002-16296.
95 12 01	ECM 492 27	JEL: Make corrections so that the building block match EMA for NTNX32AA.
95 12 21	ECM 492 29	JEL: Replacing the door labels left with the new NORTEL door labels left.
96 02 20	ECM 492 30	KMN: MD NTNX32AA.

The MCEX (GREY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCEX Cabinet	NTNX32AA		1			AP
MTXD Designation Label	P0712628		1			AP
Cabinet Assembly	NTNX25AA	FW				AP-01
Frame Supervisory Panel	NT7X34AA	FSP	1	60		AP-01
<hr/>						
MTXD - Filler Panel Assy Kit	NTZZ38EM			33,47		RUL7
MTXD - MTD Assembly	NTZZ38DM			19		RUL2
Filler Panel	P0684448			58		RUL14
<hr/>						
DIO Shelf Assembly	NTNX3401	DIO	1	19		AP-01
Designation strip (shelf)	P0696637		1	19		AP
MTXD - I/O Basic (Universal)	NTZZ38AM			19	1	RUL3
IOC SCSI DDU CP	NT1X55FA			19	6-12	RUL12
# Terminal Controller	NT1X67BC		A/R	19	8,11-13	RUL4
					19,21-23	
Terminal Controller	NT1X67BD		A/R	19	8,11-13	RUL4
					19,21-23	
# Enhanced MPC CP	NT1X89BA			19	8,11-13	RUL4
					19,21-23	
Enhanced MPC CP	NT1X89BB		A/R	19	8,11-13	RUL4
					19,21-23	
NEMAS Circuit Pack	NT6X91BA		A/R	19	9,10,	RUL4
					20	
X25LAPB Control Card	NT6X91BB		A/R	19	9,10,	RUL4
					20	
Cook 9-TK Tape Cont.	NT1X68BC			19	6,17,	RUL10
Mag Tape Drive Wiring Kit	NTNX32PA			19	6,17	RUL11
Filler Face Plate	NT0X50BA	FFP	A/R	19	6-13,	RUL5
					17-24	
Filler Face Plate	NT0X50BE	FFP	A/R	19	25	RUL5
Filler Face Plate	NT0X50BF	FFP	A/R	19	4,15	RUL5
V.35 Cable Ass'y	NTMX4723					RUL13
RS232 (EMPC) Cable Ass'y	NTMX4724					RUL13
RS232 (HDLC) Cable Ass'y	NTMX4725					RUL13
RS232 or Current Loop	NTMX4726					RUL13
Cover Plate	P0686749					RUL13
Cover Plate Screws	P0670923					RUL13
Desig. Label (NT1X55FA)	P0800155			19	6-12	RUL6
					17-22	
# Desig. Label (NT1X67BC)	P0623517			19	8,11-13	RUL6
					19,21-23	
Desig. Label (NT1X67BD)	P0657675			19	8,11-13	RUL6
					19,21-23	

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Desig. Label (NT1X68BC)	P0616642			19	6,17	RUL6
# Desig. Label (NT1X89BA)	P0708961			19	8,11-13 19,21-23	RUL6
Desig. Label (NT1X89BB)	P0800156			19	8,11-13 19,21-23	RUL6
Desig. Label (NT6X91BA)	P0675184			19	9,10,20	RUL6
Desig. Label (NT6X91BB)	P0689833			19	9,10,20	RUL6
Desig. Label (NT0X50BA)	P0599141		A/R	19	6-13 17-24	RUL6
Desig. Label (NT0X50BE)	P0599142		A/R	19	25	RUL6
Desig. Label (NT0X50BF)	P0599143		A/R	19	15	RUL6
# DDU Shelf Assembly	NT4X00AF	DDU	1	05		AP-01
# MTXD - DDU Assembly	NTZZ38CM			05	2	RUL1
Filler Panel	NT0X84AA			05		AP-01
Cabinet Type Label (Grey)	P0699150		2			AP
# Door Label Left (Grey)	P0677704		2			AP
Door Label Left (Grey)	P0818848		2			AP
Door Label Right (Grey)	P0699158		2			AP
Door Right - Grey	NTNX2513		2			AP
Door Left - Grey	NTNX2515		2			AP
Earthquake Mounting Kit	NTNX2540					RUL8
Earthquake Mounting Kit	NTNX2578					RUL8
Non-EQ Frame Mounting Kit	NTNX2579					RUL9
Non-EQ Frame Mounting Kit	NTNX2580					RUL9

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT4X00AF	MD	NT1X55FA (Note 3)
NTZZ38CM	MD	None (Note 4)
NT1X67BC	MD	NT1X67BD
NT1X89BA	MD	NT1X89BB
P0677704	MD	P0818848

DEV - DEVELOPMENT. These products are in the development phase.  
Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

## NOTES:

- 1) The MTD and the Disk Drive Units and the mounting hardware for both should be assigned to the frame so that they are installed before the frame is shipped.
- 2) The doors must be assigned to the frame. Do not ship the doors as loose items.
- 3) The NT1X55FA IOC SCSI DDU CP replaces the 5.25" 220 MB DDU (NT4X00AG), the NT-Mercury 8" Disk Drive 8211D-19-063 & Priam disk drive. The NT1X55FA also replaces all earlier versions of the NT1X55 and the NT4X00 products.
- 4) The NTZZ38CM building block contains parts replaced by the NT1X55FA and is no longer appropriate.

## RULES:

- AP 1) When PEC NTZZ60EA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN32AA.
- RUL1 1) Provide one (1) NTZZ38CM MTXD - DDU Assembly as required.
- RUL2 1) Provide one (1) NTZZ38DM, MTXD - MTD Assembly as required (Note 1).
- RUL3 1) Provide one (1) NTZZ38AM for the basic I/O cards for the IOC shelf.
- RUL4 1) Provide specific application cards in slots indicated as required by the customer.
- 2) Slots 8,11-13,19,21-23 are provisionable for EIA or current loop operation.
  - 3) NT1X89BA as provisioned for V.35 EIA port operation can only be used in slots 12, 13, 21 or 23.

- 4) The NT1X67BC is the standard terminal controller CP. The NT1X67BD terminal controller CP provides the Auto Dial-back security feature when used with a modem. The customer must have the Enhanced Security software package in the switch in order to utilize the Auto Dial-back feature.
  - 5) Always provision a minimum of one NT1X89BB on initial installations for TurboLink Interface.
- RUL5 1) Provide appropriate Filler Face Plate for any unused card slot.
- RUL6 1) Provide one (1) Designation Label corresponding to each card provisioned.
- RUL7 1) Provide two (2) NTZZ38EM MTXD Filler Panel Assembly Kits if an MTD is not provisioned.
- RUL8 1) Provide one (1) mounting kit when installing frame in ATC zone 6 and 7, NEBS zone 4, and UBC zone 4.
- 2) Provide one (1) NTN2540 for slab flooring
  - 3) Provide one (1) NTN2578 for computer flooring
- RUL9 1) Provide one (1) mounting kit when installing frame into a non- earthquake zone.
- 2) Provide one (1) NTN2579 for slab flooring
  - 3) Provide one (1) NTN2580 for computer flooring
- RUL10 1) Provide one (1) NT1X68AA in slot 17 if a MTD is equipped in shelf 33, slot 6 is dedicated for external connection(See RUL11).
- RUL11 1) provision one (1) NTN32PA MTD wiring kit when MTD is mounted in an adjacent cabinet to the MCEX. If IOC 01 for the DIO on shelf 19 is not being used. The MTD controller card must go in slot 6 of IOC 00. If this is the case, provision the NTN32PA wiring kit for the read/write/control cables.
- 2) Provide one (1) NTN2579 for slab flooring
  - 3) Provide one (1) NTN2580 for computer flooring

- RUL12 1) Provide one (1) NT1X55FA IOC SCSI DDU CP (Capacity 220 MB) in place of the (NT1X55DA) DDU Controller, (NT4X00AF) DDU shelf, and (NT4X00AG) DDU. Provide two (NT1X55FA) SCSI DDU CPs in place of two (2) NT1X55DA & one (1) NT4X00AF/AG combination. IOC 00 & 01 should contain a minum of one pack each.
- 2) The NT1X55FA IOC SCSI DDU CP requires two (2) card slots. This CP can mount in any two slot locations 6-12, 17-22, depending on the availability of the locations (except for IOC 0). For example, the NT1X55FA CP can mount in slots 6&7, 7&8, 8&9, 9&10, 10&11, or 11&12, and so forth. When mounting the NT1X55FA in IOC 0, only mount the CP in slots 6&7.
- RUL13 Provide specific application cards in slots indicated as required by the customer.
- 1) Slots 8, 11-13, 19, 21-23 are provisionable for EIA or current loop operation. Provide (1) NTMX4726 cable for each slot.
- 2) Slots 8, 11-13, 19, 21-23 are provisionable for NT1X67FA, NT1X67DB, and NT6X91BB. Provide (1) NTMX4725 cable for each slot.
- 3) NT1X89BB as provisioned for V.35 EIA port operation can only be used in slots 12, 13, 21, or 23. Provide (1) NTMX4723 cable for each slot.
- 4) Always provision a minimum of (1) NT1X89BB on initial installations for TurboLink interface or Async/Sync RS232 devices (X.25). Provide (1) NTMX4724 for each slot.
- 5) Provision a minimum of (1) NT1X89BB for CCMIC applications. For redundant links provide (2) NT1X89BB circuit packs. See above rules regarding what slots are available for RS232 (EIA) and V.35 physical interfaces.
- 6) The 25 pin bulkhead cover plate (P0686749) can be provisioned up to 42 places assuming that a NTMX47\_\_ is not provisioned. Each plate requires (2) screws (P0670923). This means subtract a cover plate for each NTMX47\_\_ cable provisioned.
- RUL14 Provide (1) filler panel (P0684448) if a MTD is provisioned.



MCTM - ISDN (GREY)

PEC CODE: NTZZ38EA

CPC CODE:

RATING: Standard

| REPLACES: N/A

| REPLACED BY: NTZZ60BA

ABBREVIATION NAME: MCTM-ISDN (MCTMI)

ENGINEERING DESCRIPTION: The Meridian Cabinet Trunk Module - ISDN (MCTM-ISDN) is used to house:

two (2) ICPs or  
two (2) DTCs or  
one (1) ICP and one (1) DTC.

This building block is only intended for North American applications at this time.

This building block is based on the NTN33CA cabinet.

REFERENCE DOCUMENTATION: MSNX33CA 00 06  
SLZZ38EA 00 01 REL 01

MARKETS: Applicable markets:

Wireless

| ISSUE AUTHOR: Jim Large Dept. 5849 (RCH)

| MAIN CONTACT: Jim Large Dept. 5849 (RCH)

| CONTACT: Richard Martin Dept. 5849 (RCH)

NTZZ38EA EMB10-20-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 02 14	ECM 492 05	New insert.
93 05 05	ECM 492 07	Retire insert.
95 12 01	ECM 492 27	JEL: Retire building block.

The MCTM - ISDN (GREY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCTM - ISDN Cabinet	NTNX33CA		1			AP
MTXD Designation Label	P0712628		1			AP
Temperature Sensor	NTNX4005		1	70		AP-01
Frame Supv Panel	NTNX26NA	FSP	1	60		AP-01
Meridian Cabinet Assy	NTNX25AA	FW	1			AP-01
37 Pin cover plate	NTNX33CP					RUL7
<hr/>						
ISDN Cont Arry Shf Assy	NT6X0223	CPA1	1	47		AP-01
<hr/>						
ISDN Cont Arry Shf Assy	NT6X0223	CPA0	1	33		AP-01
MTX-ICP Common CP (< BCS32+)	NTZZ38WA			33	6	RUL1
MTX-ICP Common CP (>=BCS32+)	NTZZ38XA			33	6	RUL1
MTX-ICP Common CP (XPM PLUS)	NTZZ38YA			33	6	RUL1
Time Switch	NT6X44AA		2	33,47	14	RUL1
Desig. Label (NT6X44AA)	P0698316		2	33,47	14	RUL1
Digital Cellular Time Switch	NTAX78AA		2	33,47	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	33,47	14	RUL1
10 DS30A LCM Interfaces	NTZZ02KA			33	6,7	RUL1
DS1 I/F CP	NT6X50AB			33,47	5-1	RUL2
Desig. Label (NT6X50AB)	P0690976					RUL2
Digital Trunk Controller	NTZZ04BA		1	33	6	RUL14
30 Universal Tone Rcvr Ccts	NTZZ02FA		1	33	15	RUL14
Continuity Tone Detector	NT6X70AA		2	33,47	13	RUL14
PCM30 Interface CP	NT6X27BB			33,47	1-4	RUL6
Filler Faceplate	NT0X50AA		18	33,47	5,6,7,13,16,17,19,23,24	RUL6
Master Processor Mem Plus CP	NT6X47AC		4	33,47	9,10	RUL6
Sig Proc Mem Plus CP	NT6X46BB		2	33,47	11	RUL6
XPM Processor CP	NT6X45BA		4	33,47	8,12	RUL6
Time Switch	NT6X44EA		2	33,47	14	RUL6
Universal Tone Receiver	NT6X92CA		2	33,47	15	RUL6
Msg Prot & Download Tones CP	NT6X69LB		2	33,47	18	RUL6
Channel Sup Message	NT6X42AA		2	33,47	20	RUL6
Speech Bus Formatter (Turkey)	NT6X41AA		2	33,47	21	RUL6
DS-512 Network Interface	NTZZ02HB		1	33	22	RUL1,6
16 DS30 Network Interfaces	NTZZ02GA		1	33	22	RUL1,6
Power Convertor	NT2X70AE		2	33,47	25	RUL6
Fiber cover plate	P0738373		2	33,47		RUL13
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ISDN Cont Arry Shf Assy	NT6X0223	CPA1	1	19		AP-01

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
ISDN Cont Arry Shf Assy	NT6X0223	CPA0	1	05		AP-01
MTX-ICP Common CP (< BCS32+)	NTZZ38WA			05		RUL1
MTX-ICP Common CP (>=BCS32+)	NTZZ38XA			05		RUL1
MTX-ICP Common CP (XPM PLUS)	NTZZ38YA			05		RUL1
10 DS30A LCM Interfaces	NTZZ02KA			05	6,7	RUL1
DS1 I/F CP	NT6X50AB			05,19	5-1	RUL2
Desig. Label (NT6X50AB)	P0690976					RUL2
Digital Trunk Controller	NTZZ04BA		1	05	6	RUL14
30 Universal Tone Rcvr Ccts	NTZZ02FA		1	05	15	RUL14
Continuity Tone Detector	NT6X70AA		2	05,19	13	RUL14
PCM30 Interface CP	NT6X27BB			05,19	1-4	RUL6
Filler Faceplate	NT0X50AA		18	05,19	5,6,7, 13,16, 17,19, 23,24	RUL6
Master Processor Mem Plus CP	NT6X47AC		4	05,19	9,10	RUL6
Sig Proc Mem Plus CP	NT6X46BB		2	05,19	11	RUL6
XPM Processor CP	NT6X45BA		4	05,19	8,12	RUL6
Time Switch	NT6X44EA		2	05,19	14	RUL6
Universal Tone Receiver	NT6X92CA		2	05,19	15	RUL6
Msg Prot & Download Tones CP	NT6X69LB		2	05,19	18	RUL6
Channel Sup Message	NT6X42AA		2	05,19	20	RUL6
Speech Bus Formatter (Turkey)	NT6X41AA		2	05,19	21	RUL6
DS-512 Network Interface	NTZZ02HB		1	05	22	RUL1,6
16 DS30 Network Interfaces	NTZZ02GA		1	05	22	RUL1,6
Power Convertor	NT2X70AE		2	05,19	25	RUL6
Fiber cover plate	P0738373		2	05,19		RUL13
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Upper Module Filler Kit	NT6X02AB		1	33,47		RUL1
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Jumper Kit Non-ISDN	NTRX36NI		1	05,19 33,47		RUL7
DS-512 Fiber Interface hardware kit	NTNX33SD			05,19 33,47		RUL8
DS30A Fiber Interface hardware kit (NT6X48AA)	NTNX33DT			05,33		RUL9
DS30A Fiber Interface hardware kit (XPM)	NTNX33DU			05,33		RUL10
DS1 Link Interface hardware kit (XPM)	NTNX33DV			05,33		RUL10

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DS30A Fiber Interface hardware kit (XPM)	NTNX33DS			05,19 33,47		RUL11
Cooling Unit	NTNX27CA	CU	1	00		AP-01
Cabinet Type Label (Grey)	P0687618		2			AP
Door Label Left (Grey)	P0677704		2			AP
Door Label Right (Grey)	P0699158		2			AP
Door Right - Grey	NTNX2513		2			AP
Door Left - Grey	NTNX2515		2			AP
Anchor Kit Earthquake-Slab	NTNX2540					RUL5
Anchor Kit Earthquake-Comp	NTNX2578					RUL5
Anchor Kit Non-E/Q-Slab	NTNX2579					RUL5
Anchor Kit Non-E/Q-Comp	NTNX2580					RUL5

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ38EA	MD	NTZZ60BA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The MCTM-ISDN must be in the same lineup as the serving network if the serving network is a JNET (Junctored Network).

- 2) Each equipped controller requires direct cabling to sixteen network ports.
- 3) The DS1 ports for each DTC are fully wired to filter connectors in the rear bulkhead for use as digital trunks or to connect remote modules or both. The DS1 ports are fully connectorized using the new Bandpass RF Filter for improved EMI performance. Additionally, cabling and connectors allow the rear bulkhead to interface to the ISDN Packet Handler.
- 4) The NTZZ38EA can be provisioned with 2-shelf Common Peripheral Control modules for non-ISDN functions. If a module is provisioned for non-ISDN functions (DTC), the NTB01AB circuit packs are not required.
- 5) When upgrading ISDN XPM modules to XPM PLUS, the modules must be equipped with the Enhanced ISDN Sig Pre-Proc (EISP) CP NTB01AB. If the ISDN XPM modules being upgraded to XPM PLUS are equipped with the ISDN Sig Pre-Proc (ISP) CP NTB01AA, then replacement by the NTB01AB CP and Desig. Labels P0735418 is mandatory.

## RULES:

- AP 1) When PEC NTZZ38EA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN33CA.
- RUL1 1) Provide one (1) MTX - ICP Common CP (XPM PLUS) building block (NTZZ38YA) if provisioning ICP functionality with XPM PLUS.  
The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.
- If digital and analog functionality is required, provide:  
two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels.
- If analog only functionality is required, provide:  
two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels.
- 2) Provide one (1) MTX - ICP Common CP ( $\geq$  BCS32+) building block (NTZZ38XA) if provisioning ICP functionality, using

95 12 01

the standard XPM processor packfill using BCS32+ or later software.

The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.

If digital and analog functionality is required, provide: two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels.

If analog only functionality is required, provide: two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels.

- 3) Provide one (1) MTX - ICP Common CP (< BCS32+) building block (NTZZ38WA) if provisioning ICP functionality, using the standard XPM processor packfill using software releases lower than BCS32+. The analog Time Switch CPs (NT6X44AA) are included in this building block.
- 4) Provide up to two (2) NTZZ02KA DS30A Interface building blocks if the ICP is used in digital cellular applications with Meridian Digital Signal Processing cabinets (MDSPs).
- 5) Provide one NT6X02AB CPCE Filler Kit as required when upper module position (shf pos 33, 47) is unequipped.
- 6) Provide Filler Faceplates (NT0X50AA) for all unused slots.
- 7) Provide one (1) NTZZ02GA building block for DS30 (copper) connection of a DTC/ICP module to the DMS network module.

Provide one (1) NTZZ02HB building block for DS512 (fiber) connection of a DTC/ICP module to the DMS network module. Network interface building blocks, DS30 (NTZZ02GA), DS512 (NTZZ02HB), are provided in a quantity of one (1) per module.

- RUL2
- 1) For DTC/ICP applications provide a maximum of ten (10) NT6X50AB DS1 I/F EFF circuit packs in slots 1-5, both shelves of the module.
  - 2) NT6X50AB DS1 I/F Extended Frame Format (EFF) circuit packs are assigned in selected slots: First in the lower of the two shelves of the module and next in the upper of the two shelves, then the lower, then the upper, etc. From the highest numbered slot (5) toward the lowest numbered slot (1).

- 3) One NT6X50AB EFF DS1 I/F circuit pack provides two DS1 ports.
- 4) For each module, the DS1 ports/spans are assigned in the following sequential order: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19.

RUL3 1) Provide Filler Face Plate NT0X50AA and designation label P0578498 on shelves 05, 19, 33 and 47 in slots 1-7, 13 and 16 when unequipped.

RUL4 1) Provision one (1) earthquake mounting kit when installing in the following earthquake zones:

ATC	Zone 6
NEBS	Zone 4
UBC	Zone 4

Provide NTN2540 earthquake anchor kit for slab flooring.  
Provide NTN2578 earthquake anchor kit for computer type flooring.

RUL5 1) Provision one (1) frame anchor kit when installing frame in a non-earthquake zone.

Provide NTN2579 anchor kit for slab flooring. Provide NTN2580 anchor kit for computer type flooring.



- RUL6 1) Provision the following circuit packs when a PDTC is required for international applications. Quantities indicated are for each module. Module 0 (zero) mounts in cabinet locations 05 and 19, module 1 (one) mounts in cabinet locations 33 and 47.
- 2) Provide NT6X27BB PCM30 circuit packs in the quantity required by the customer up to a maximum of 8 per module. Provision filler faceplates in positions not occupied by PCM-30 CPs.
- 3) Provide one (1) NTZZ02GA building block for DS30 (copper) connection of a PDTC module to the DMS network module.

Provide one (1) NTZZ02HB building block for DS512 (fiber) connection of a PDTC module to the DMS network module. Network interface building blocks, DS30 (NTZZ02GA), DS512 (NTZZ02HB), are provided in a quantity of one (1) per module.

DESCRIPTION	PEC	QTY	CP POS
PCM30 Interface CP	NT6X27BB	AR	1-4
Filler Faceplate	NT0X50AA	18	5,6,7, 13,16, 17,19, 23,24
Master Processor Mem Plus CP	NT6X47AC	4	9,10
Sig Proc Mem Plus CP	NT6X46BB	2	11
XPM Processor CP	NT6X45BA	4	8,12
Time Switch	NT6X44EA	2	14
Universal Tone Receiver	NT6X92CA	2	15
Msg Prot & Download Tones CP	NT6X69LB	2	18
Channel Sup Message	NT6X42AA	2	20
Speech Bus Formatter (Turkey)	NT6X41AA	2	21
DS-512 Network Interface	NTZZ02HB	1	22
16 DS30 Network Interfaces	NTZZ02GA	1	22
Power Convertor	NT2X70AE	2	25
Designation strip (shelf)	P0713212	2	

- RUL7 1) Provide one kit per shelf to provide backplane wiring for non-ISDN functionality.

- RUL8 1) Provide one kit per shelf to convert bulkhead for DS-512 fiber interface to the Enhanced Network (ENET) or the ENI module of the SNSE. The associated circuit packs are the NT6X40FA and NT6X40GA. a special cover plate, P0738373 is

provided in the kit and will be placed on the bulkhead at OP7 and 1P7 to route the fiber cable.

The cabling kits that have been created are limited, at this, time to provisioning a complete cabinet, i.e. both modules, or four shelves. Until new kits are provided on a "per module basis", you will need to order the local cables individually. The following is a break down of the cables to assist in correct provisioning:

NTNX33SD DS-512 FIBER INTERFACE KIT

RULE: Provision for DS-512 interface to ENET

1 KIT PROVIDES:

(2) P0738373 COVER PLATE (has fiber port holes)

(2) NT6X02BU FIBER HARDWARE

RUL9 1) Provide one NTNX33DT DS30A cable kit when provisioning NT6X48AA circuit packs.

(1) NTNX3305 FOR SHELF 05

(1) NTNX3306 FOR SHELF 05

(1) NTNX3313 FOR SHELF 05

(1) NTNX3314 FOR SHELF 05

(1) NTNX3315 FOR SHELF 05

(1) NTNX3316 FOR SHELF 05

(1) NTNX3307 FOR SHELF 33

(1) NTNX3308 FOR SHELF 33

(1) NTNX3319 FOR SHELF 33

(1) NTNX3320 FOR SHELF 33

(1) NTNX3321 FOR SHELF 33

(1) NTNX3322 FOR SHELF 33

RUL10 1) Provide one NTN33DU DS30A cable kit when NTN33SD is NOT required.

(1) NTN3317 FOR SHELF 05

(1) NTN3318 FOR SHELF 05

(1) NTN3323 FOR SHELF 33

(1) NTN3324 FOR SHELF 33

3. NTN33DV DS-1 LINK CABLE HARDWARE KIT

RULE: Provision when NT6X50's or NTB01's are required for DS-1 interfacing.

(1) NTN3317 FOR SHELF 05

(1) NTN3318 FOR SHELF 05

(1) NTN3323 FOR SHELF 33

(1) NTN3324 FOR SHELF 33

RUL11 1) Provide one NTN33DS DS30 cable kit when NO FIBER interface is required. These cable provide XPM interface to network.

(1) NTMX3310, NTMX3312 FOR SHELF 05,19

(1) NTMX3311, NTMX3313 FOR SHELF 33,47

(4) P0638261 CONNECTOR KEY BRACKET - 2 PER MODULE

RUL12 1) Provide up to 16 NTN33CP 37 pin cover plates for unused positions depending on what local cables are ordered from kits NTN33DT and NTN33DU.

RUL13 1) Provide P0738373 fiber cover plate to modified bulkeads where ns required.

RUL14 1) Provide one (1) NTZZ04BA Digital Trunk Controller and one (1) NTZZ02FA 30 Universal Tone Rcvr Ccts building blocks if provisioning a domestic DTC.

- 2) Provide two (2) NT6X70AA Continuity Tone Detector CPs if the module requires CCS signalling and continuity checking.

MCTM - ISDN (GREY)

PEC CODE: NTZZ60BA

CPC CODE: B0238696

RATING: Standard

REPLACES: NTZZ38EA

REPLACED BY: N/A

ABBREVIATION NAME: MCTM-ISDN (MCTMI)

ENGINEERING DESCRIPTION: The Meridian Cabinet Trunk Module - ISDN (MCTM-ISDN) is used to house:

two (2) ICPs or  
two (2) DTCs or  
one (1) ICP and one (1) DTC.

This building block is based on the NTNX33CA cabinet and supports domestic applications only.

REFERENCE DOCUMENTATION: MSNX33CA  
SLZZ60BA

MARKETS: Applicable markets:

Wireless

	ISSUE AUTHOR:	Kevin Neville	Dept. 5849	(RICH)
	MAIN CONTACT:	Kevin Neville	Dept. 5849	(RICH)
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NTZZ60BA EMB10-20-MCTMI CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	New insert.
94 06 06	ECM 492 12	Correct 6X27 provisioning. Add NX33TS wiring kit for AX78AA. Add 6X69LA. Update fiber hardware provisioning. Miscellaneous clean-up.
94 08 30	ECM 492 14	Provide XPM Plus provisioning rules.
94 09 21	ECM 492 15	Identify CAP XPM+ as VO provisioning only and correct format.
94 10 19	ECM 492 16	Changes Rule 16 to Rule 8 and adds NTN33SD Fiber Kit (Rule 16).
94 12 06	ECM 492 17	Clarify rules for Cable Kits.
95 02 16	ECM 492 18	Return NT6X44AB into the provisioning rules. Corrections per ET 20709 and ET 64153.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 06 06	ECM 492 20	JEL: Add NT2X70AF designation labels for the MCTM-I cabinet.
95 07 07	ECM 492 22	DGB: Make clarifications to the option V provisioning.
95 08 04	ECM 492 23	DGB: Per EC 002-16248 the NT6X45BA, NTX6X46BB, and NT6X47AC are being replaced by NTMX77AA packs in offices equal to or greater than BCS 35. Also, add the NT6X55JA, and NT6X27JA for Japan applications.
95 08 24	ECM 492 24	DKG: Clarify Rule 6, part 3, correct Rule 12, part 1, add Rule 12, part 2.
95 10 06	ECM 492 26	DKG: Clarify that this building block supports domestic applications only. Remove VO only status from NTAX74AA.
95 12 01	ECM 492 27	JEL: Correct NT0X50AA circuit pack positions and replace the NTZZ02FA with the NTZZ02FB. Make corrections per EC 002-16421.
95 12 11	ECM 492 28	JEL: Replaces the NT6X28AA with the NT6X28AC.
96 02 20	ECM 492 30	KMN: Update per EC 002-16524 to provide ten 37 pin connectors to the bulkhead.
96 03 08	ECM 492 31	KMN: Clarify rule 9 and 10.

The MCTM - ISDN (GREY) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCTM - ISDN Cabinet	NTNX33CA		1			AP
MTXD Designation Label	P0712628		1			AP
Temperature Sensor	NTNX4005		1	70		AP-01
Frame Supv Panel	NTNX26NA	FSP	1	60		AP-01
Meridian Cabinet Assy	NTNX25AA	FW	1			AP-01
Universal Fiber Kit	NT6X02UF		2			AP-01
37 Pin cover plate	NTNX33CP					RUL12
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ISDN Cont Arry Shf Assy	NT6X0223	CPA1	1	47		AP-01
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ISDN Cont Arry Shf Assy	NT6X0223	CPA0	1	33		AP-01
MTX-ICP Common CP (< BCS32+)	NTZZ38WA			33	6	RUL1
MTX-ICP Common CP (>=BCS32+)	NTZZ38XA			33	6	RUL1
MTX-ICP Common CP (XPM PLUS)	NTZZ38YA		1	33		RUL1
ICP Metro (CAP)	NTAX74AA		2	33,47	12	RUL8
Desig. Label (NTAX74AA)	P0800860		2	33,47	12	RUL8
XPM Plus Upgrade Kit	NTNX33ZA		1			RUL8
CAP XPM Plus Upgrade Kit	NTAX75ZB		1			RUL8
PLGC/PDTC Common CP BTI	NT6X02UB		2	33,47		RUL13
Time Switch	NT6X44AA		2	33,47	14	RUL1
Desig. Label (NT6X44AA)	P0698316		2	33,47	14	RUL1
Time Switch	NT6X44AB		2	33,47	14	RUL1
Desig. Label (NT6X44AB)	P0664134		2	33,47	14	RUL1
Digital Cellular Time Switch	NTAX78AA		2	33,47	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	33,47	14	RUL1
ICP Module Wiring Kit	NTNX33TS		1	33		RUL1
10 DS30A LCM Interfaces	NTZZ02KA			33	6,7	RUL1
DS1 I/F CP	NT6X50AB			33,47	5-1	RUL2
Desig. Label (NT6X50AB)	P0690976					RUL2
Digital Trunk Controller	NTZZ04BA		1	33	6	RUL14
30 Universal Tone Rcvr Ccts	NTZZ02FB		1	33	15	RUL14
Continuity Tone Detector	NT6X70AA		2	33,47	13	RUL14
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PCM30 Interface CP	NT6X27BB			33,47	5-2	RUL6
PCM30 Interface CP(Japan)	NT6X27JA			33,47	5-2	RUL6
Desig. Label (NT6X27JA)	P0703369			33,47	5-2	RUL6
# PCM30 Signalling CP	NT6X28AA			33,47	19	RUL17
PCM30 Signalling CP	NT6X28AC			33,47	19	RUL17
# Desig. Label (NT6X28AA)	P0653635					RUL17
Desig. Label (NT6X28AC)	P0725257					RUL17
Filler Faceplate	NT0X50AA		18	33,47	5,6,7,9,13,16,17,19,23,	RUL6

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
					24	
DTC CII/CMI Interface(Japan)	NT6X55JA			33,47	5-2	RUL2
Desig. Label (NT6X55JA)	P0703370			33,47	5-2	RUL2
Master Processor Mem Plus CP	NT6X47AC		4	33,47	10	RUL6
Sig Proc Mem Plus CP	NT6X46BB		2	33,47	11	RUL6
XPM Processor CP	NT6X45BA		4	33,47	8,12	RUL6
Time Switch	NT6X44EA		2	33,47	14	RUL6
Universal Tone Receiver	NT6X92CA		2	33,47	15	RUL6
Msg Prot & Download Tones CP	NT6X69AC		2	33,47	18	RUL6
Msg Prot & Download Tones CP	NT6X69LA		2	33,47	18	RUL6
Msg Prot & Download Tones CP	NT6X69LB		2	33,47	18	RUL6
Channel Sup Message	NT6X42AA		2	33,47	20	RUL6
Speech Bus Formatter	NT6X41AA		2	33,47	21	RUL6
Speech Bus Formatter (Turkey)	NT6X41AB		2	33,47	21	RUL6
# DS-512 Network Interface	NTZZ02HB		1	33	22	RUL1,6
DS-512 Network Interface	NTZZ02HM		1	33	22	RUL1,6
Fiber Cover Plate	P0738373		1			RUL1,6
Universal Fiber Kit	NT6X02UF		1			RUL1,6
16 DS30 Network Interfaces	NTZZ02GA		1	33	22	RUL1,6
# Power Converter	NT2X70AE		2	33,47	25	RUL6
Power Converter	NT2X70AF		2	33,47	25	RUL6
Desig. Label (NT2X70AF)	P0809960		2	33,47	25	RUL6
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ISDN Cont Arry Shf Assy	NT6X0223	CPA1	1	19		AP-01
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ISDN Cont Arry Shf Assy	NT6X0223	CPA0	1	05		AP-01
MTX-ICP Common CP (< BCS32+)	NTZZ38WA			05		RUL1
MTX-ICP Common CP (>=BCS32+)	NTZZ38XA			05		RUL1
MTX-ICP Common CP (XPM PLUS)	NTZZ38YA		2	05		RUL1
ICP Metro (CAP)	NTAX74AA		2	05,19	12	RUL8
Desig. Label (NTAX74AA)	P0800860		2	05,19	12	RUL8
XPM Plus Upgrade Kit	NTNX33ZA		1			RUL8
CAP XPM Plus Upgrade Kit	NTAX75ZB		1			RUL8
PLGC/PDTC Common CP BTI	NT6X02UB		2	05,19		RUL13
Time Switch	NT6X44AA		2	05,19	14	RUL1
Desig. Label (NT6X44AA)	P0698316		2	05,19	14	RUL1
Time Switch	NT6X44AB		2	05,19	14	RUL1
Desig. Label (NT6X44AB)	P0664134		2	05,19	14	RUL1
Digital Cellular Time Switch	NTAX78AA		2	05,19	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	05,19	14	RUL1
ICP Module Wiring Kit	NTNX33TS		1	05		RUL1
10 DS30A LCM Interfaces	NTZZ02KA			05	6,7	RUL1
DS1 I/F CP	NT6X50AB			05,19	5-1	RUL2
Desig. Label (NT6X50AB)	P0690976					RUL2
Digital Trunk Controller	NTZZ04BA		1	05	6	RUL14



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
30 Universal Tone Rcvr Ccts	NTZZ02FB		1	05	15	RUL14
Continuity Tone Detector	NT6X70AA		2	05,19	13	RUL14
PCM30 Interface CP	NT6X27BB			05,19	5-2	RUL6
PCM30 Interface CP(Japan)	NT6X27JA			05,19	5-2	RUL6
Desig. Label (NT6X27JA)	P0703369			05,19	5-2	RUL6
# PCM30 Signalling CP	NT6X28AA			05,19	19	RUL17
PCM30 Signalling CP	NT6X28AC			05,19	19	RUL17
# Desig. Label (NT6X28AA)	P0653635					RUL17
Desig. Label (NT6X28AC)	P0725257					RUL17
Filler Faceplate	NT0X50AA		20	05,19	1,5 6,7,9, 13,16, 17,19, 23,24,	RUL6
DTC CII/CMI Interface(Japan)	NT6X55JA			05,19	5-2	RUL2
Desig. Label (NT6X55JA)	P0703370			05,19	5-2	RUL2
Master Processor Mem Plus CP	NT6X47AC		4	05,19	10	RUL6
Sig Proc Mem Plus CP	NT6X46BB		2	05,19	11	RUL6
XPM Processor CP	NT6X45BA		4	05,19	8,12	RUL6
Time Switch	NT6X44EA		2	05,19	14	RUL6
Digital Cellular Time Switch	NTAX78AA		2	05,19	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	05,19	14	RUL1
ICP Module Wiring Kit	NTNX33TS		1	05		RUL1
Universal Tone Receiver	NT6X92CA		2	05,19	15	RUL6
Msg Prot & Download Tones CP	NT6X69AC		2	05,19	18	RUL6
Msg Prot & Download Tones CP	NT6X69LA		2	05,19	18	RUL6
Msg Prot & Download Tones CP	NT6X69LB		2	05,19	18	RUL6
Channel Sup Message	NT6X42AA		2	05,19	20	RUL6
Speech Bus Formatter	NT6X41AA		2	05,19	21	RUL6
Speech Bus Formatter (Turkey)	NT6X41AB		2	05,19	21	RUL6
# DS-512 Network Interface	NTZZ02HB		1	05	22	RUL1,6
DS-512 Network Interface	NTZZ02HM		1	05	22	RUL1,6
Fiber Cover Plate	P0738373		1			RUL1,6
Universal Fiber Kit	NT6X02UF		1			RUL1,6
16 DS30 Network Interfaces	NTZZ02GA		1	05	22	RUL1,6
# Power Converter	NT2X70AE		2	05,19	25	RUL6
Power Converter	NT2X70AF		2	05,19	25	RUL6
Desig. Label (NT2X70AF)	P0809960		2	05,19	25	RUL6
<hr/>						
Upper Module Filler Kit	NT6X02AB		1	33,47		RUL1
<hr/>						
Jumper Kit Non-ISDN	NTRX36NI		1	M0,M1		RUL7
@ DS30A Interface Cable Assy	NTNX33DT		1			RUL9
Hardware Kit (NT6X48AA)						

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
@ DS30A I/F Cable Assy HW Kit	NTNX33DU		1			RUL10
@ DS1 I/F Cable Assy HW Kit	NTNX33DV		1			RUL15
25 Pin Cover Plate	P0686749		8			RUL15
Mounting Screws	P0180923		16			RUL15
@ DS30 I/F Cable Assy HW Kit	NTNX33DS		1			RUL11
External DS-30 Cable Kit	NTNX33EE		1			RUL11
DS-512 Fiber I/F HW Kit	NTNX33SD		1			RUL16
<hr/>						
Cooling Unit	NTNX27CA	CU	1	00		AP-01
<hr/>						
Cabinet Type Label (Grey)	P0687618		2			AP
# Door Label Left (Grey)	P0677704		2			AP
Door Label Left (Grey)	P0818848		2			AP
Door Label Right (Grey)	P0699158		2			AP
Door Right - Grey	NTNX2513		2			AP
Door Left - Grey	NTNX2515		2			AP
Anchor Kit Earthquake-Slab	NTNX2540					RUL5
Anchor Kit Earthquake-Comp	NTNX2578					RUL5
Anchor Kit Non-E/Q-Slab	NTNX2579					RUL5
Anchor Kit Non-E/Q-Comp	NTNX2580					RUL5

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ02HB	MD	NTZZ02HM
NT2X70AE	MD	NT2X70AF
P0677704	MD	P0818848
NT6X28AA	A&M	NT6X28AC
P0653635	A&M	P0725257

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

## NOTES:

- 1) The MCTM-ISDN must be in the same lineup as the serving network if the serving network is a JNET (Junctored Network).
- 2) Each equipped controller requires direct cabling to sixteen network ports.
- 3) The DS1 ports for each DTC are fully wired to filter connectors in the rear bulkhead for use as digital trunks or to connect remote modules or both. The DS1 ports are fully connectorized using the new Bandpass RF Filter for improved EMI performance. Additionally, cabling and connectors allow the rear bulkhead to interface to the ISDN Packet Handler.
- 4) The NTZZ38EA can be provisioned with 2-shelf Common Peripheral Control modules for non-ISDN functions. If a module is provisioned for non-ISDN functions (DTC), the NTB01AB circuit packs are not required.
- 5) When upgrading ISDN XPM modules to XPM PLUS, the modules must be equipped with the Enhanced ISDN Sig Pre-Proc (EISP) CP NTB01AB. If the ISDN XPM modules being upgraded to XPM PLUS are equipped with the ISDN Sig Pre-Proc (ISP) CP NTB01AA, then replacement by the NTB01AB CP and Desig. Labels P0735418 is mandatory.
- 6) When NT6X48AAs are provisioned, provide 1 NTN33DT and 1 NTN33DU per frame. In this instance, provide no NTN33CP cover plates. If NTN33SD is required, NTN33DU cannot be provisioned.
- 7) When DS512 interface is required to ENET, provide 1 NTN33SD per frame. The NTN33DS cannot be provisioned for the same frame as the NTN33SD because they have the same conflicting functionality.
- 8) When DS30 interface is required to the NETWORK, provide 1 NTN33DS per frame.
- 9) When the NTN33DU is provisioned, the NTN33SD cannot be provided.

- @) The cabling kits provide for a complete cabinet, i.e. both modules, or four (4) shelves. Until new kits are provided, on a modular basis, it is necessary to order local cables individually. See ECM 492 (body) for a breakdown of the particular kits.

## RULES:

- AP 1) When PEC NTZZ60BA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN33CA.
- RUL1 1) Provide two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels. One NTN33TS wiring kit is required per CPC module when using the NTAX78AA in a field upgrade.

If analog only functionality is required, provide:  
two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels or two (2) NT6X44AB Time Switch CPs and two (2) P0664134 CP designation labels.

- 2) Provide one (1) MTX - ICP Common CP ( $\geq$  BCS32+) building block (NTZZ38XA) if provisioning ICP functionality, using the standard XPM processor packfill using BCS32+ or later software.  
The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.

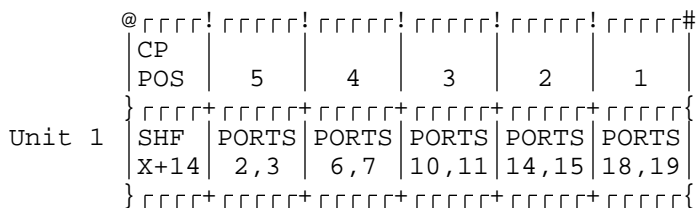
If digital and analog functionality is required, provide:  
two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels. One NTN33TS wiring kit is required per CPC module when using the NTAX78AA.

If analog only functionality is required, provide:  
two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels or two (2) NT6X44AB Time Switch CPs and two (2) P0664134 CP designation labels.

- 3) Provide one (1) MTX - ICP Common CP ( $<$  BCS32+) building block (NTZZ38WA) if provisioning ICP functionality, using the standard XPM processor packfill using software releases lower than BCS32+.  
The analog Time Switch CPs (NT6X44AA) are included in this building block.

- 4) Provide two (2) NTZZ02KA DS30A Interface building blocks per ICP, if the ICP is used in digital cellular applications with Meridian Digital Signal Processing cabinets (MDSPs).
- 5) Provide one NT6X02AB CPCE Filler Kit as required when upper module position (shf pos 33, 47) is unequipped.
- 6) Provide Filler Faceplates (NT0X50AA) for all unused slots.
- 7) Provide one (1) NTZZ02GA building block per CPC module for DS30 (copper) connection of a DTC/ICP module to the DMS network module.
- 8) Each CPC module requires the following for fiber interface:
  - 1 NT6X02UF (AP in new production)
  - 1 NTZZ02HM
  - 1 P0738373
- 9) The MCTMI is equipped with two NT6X02UF in new production. ONLY provide the NT6X02UF for field upgrades.

- RUL2
- 1) For DTC/ICP applications provide a maximum of ten (10) NT6X50AB DS1 I/F EFF circuit packs in slots 1-5, both shelves of the module.
  - 2) NT6X50AB DS1 I/F Extended Frame Format (EFF) circuit packs are assigned in selected slots: First in the lower of the two shelves of the module and next in the upper of the two shelves, then the lower, then the upper, etc. From the highest numbered slot (5) toward the lowest numbered slot (1). A minimum of two must be provided.
  - 3) One NT6X50AB EFF DS1 I/F circuit pack provides two DS1 ports.
  - 4) For each module, the DS1 ports/spans are assigned in the following sequential order: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19.



Unit 0	SHF	PORTS	PORTS	PORTS	PORTS	PORTS
	X	0,1	4,5	8,9	12,13	16,17
	\$ rrrrrj rrrrrrj rrrrrrj rrrrrrj rrrrrrj rrrrrrj rrrrrr%					

- 5) For DTC Applications when interfacing to JAPAN NTT-NCCI#7, provide a maximum of (10) NT6X55JA DTC CII/CMI Interface Circuit Packs in slots 2-5 for both shelves of DTC.

- 6) Provide designation labels (P0703370) for each NT6X55JA on shelves 05, 19, 33 and 47 in positions 2-5.

- RUL3 1) Provide Filler Face Plate NT0X50AA and designation label P0578498 on shelves 05, 19, 33 and 47 in slots 1-7, 13 and 16 when unequipped.

- RUL4 1) Provision one (1) earthquake mounting kit when installing in the following earthquake zones:

ATC	Zone 6
NEBS	Zone 4
UBC	Zone 4

Provide NTN2540 earthquake anchor kit for slab flooring.  
 Provide NTN2578 earthquake anchor kit for computer type flooring.

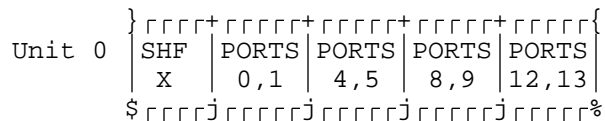
- RUL5 1) Provision one (1) frame anchor kit when installing frame in a non-earthquake zone.

Provide NTN2579 anchor kit for slab flooring. Provide NTN2580 anchor kit for computer type flooring.

- RUL6 1) Provision the following circuit packs when a PDTC is required for international applications. Quantities indicated are for each module. Module 0 (zero) mounts in cabinet locations 05 and 19, module 1 (one) mounts in cabinet locations 33 and 47.

- 2) Provide NT6X27BB PCM30 circuit packs in the quantity required by the customer up to a maximum of 8 per module. Provide in sequence from slot 5 to 2.

@	rrrrr!	rrrrrr!	rrrrrr!	rrrrrr!	rrrrrr!	#
	CP					
	POS	5	4	3	2	
Unit 1	} rrrrr+ rrrrrr+ rrrrrr+ rrrrrr+ rrrrrr+ }					
	SHF	PORTS	PORTS	PORTS	PORTS	
	X+14	2,3	6,7	10,11	14,15	



Provision filler faceplates in positions not occupied by PCM-30 CPs.

- 3) Provide one (1) NTZZ02GA building block for DS30 (copper) connection of a PDTC module to the DMS network module.

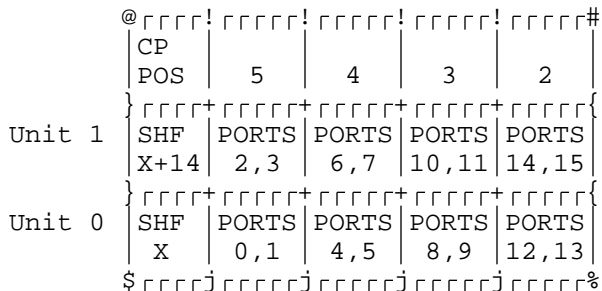
Provide one (1) NTZZ02HM building block for DS512 (fiber) connection of a PDTC module to the DMS network module. Network interface building blocks, DS30 (NTZZ02GA), DS512 (NTZZ02HM), are provided in a quantity of one (1) per module.

Provide NT6X47AC's, NT6X46BB's, and NT6X45BA's in place of the NTMX77AA for non-XPM+ applications with BCS 35 and below.

DESCRIPTION	PEC	QTY	CP POS
PCM30 Interface CP	NT6X27BB	AR	5-2
Filler Faceplate	NT0X50AA	20	1,5 6,7,9, 13,16, 17,19, 23,24
Master Processor Mem Plus CP	NT6X47AC	4	10
Sig Proc Mem Plus CP	NT6X46BB	2	11
XPM Processor CP	NT6X45BA	4	8,12
Time Switch	NT6X44EA	2	14
Universal Tone Receiver	NT6X92CA	2	15
Msg Prot & Download Tones CP	NT6X69	2	18
Channel Sup Message	NT6X42AA	2	20
Speech Bus Formatter (Turkey)	NT6X41AB	2	21
DS-512 Network Interface	NTZZ02HM	1	22
16 DS30 Network Interfaces	NTZZ02GA	1	22
Power Converter	NT2X70AF	2	25
Designation strip (shelf)	P0713212	2	

- 4) Provide two NT6X69AC for domestic systems using North American tones.
- 5) Provide two NT6X69LA for International (Japan) applications with JNET.

- 6) Provide two NT6X69LB when providing fiber interface to ENET in International (Japan) and CALA PDTC applications.
- 7) NT6X41AA is used for North American applications and NT6X41AB is used for International (Japan) and CALA PDTC applications.
- 8) Provide two NT6X92CA in slot 15 for ICP only when required by customer features. Applicable on the ICP with MTX01 S/W or higher.
- 9) Provide designation labels (P0809960) for each NT2X70AF on shelves 05, 19, 33 and 47 in position 25.
- 10) Provide NT6X27JA PCM30 circuit packs in the quantity required by the customer up to a maximum of 8 per module. Provide in sequence from slot 5 to 2.



Provision filler faceplates in positions not occupied by PCM-30 CPs.

- 11) Provide designation labels (P0703369) for each NT6X27JA on shelves 05, 19, 33 and 47 in positions 2-5.

RUL7 1) Provide one kit per module to provide backplane wiring for non-ISDN functionality.

RUL8 1) Provide two (2) Unified Processor circuit packs NTMX77AA with Designation Labels P0735417 per each module for XPM Plus upgrade on shelves 05, 19, 33, and 47 in position 12. In addition, see Rule 8-3 for associated Filler Face Plate provisioning.

- 2) Provide two (2) Cellular Application Processors NTAX74AA with designation labels P0800860 for each ICP or ICP-O module to upgrade to XPM Plus or to upgrade ICP or ICP-O from Unified Processor NTMX77AA to CAP per customer requirement. See RULE 8-5 for NTNX33CA field upgrade to XPM Plus.



- 3) Provide Filler Face Plate NT0X50AA and designation label P0578498 on shelves 05, 19, 33 and 47 in slots 1-7, 13 and 16 when unequipped.
- 4) When upgrading to XPM PLUS, provide eight (8) Filler Face Plates NT0X50AA and designation labels P0578498 if the ISDN XPM module was previously equipped with four NT6X47AB MP Memory Plus CP, or provide six (6) Filler Face Plates NT0X50AA and designation labels P0578498 if the ISDN XPM module was previously equipped with two NT6X47AC MP Memory Plus CP. These plates are used in slots 8-11 as required.
- 5) All NTN33CA cabinets Release 24 and higher are pre-wired for XPM+ which is backwards compatible with NON-XPM Plus modules. For field Upgrade to XPM Plus for all applications use kit NTN33ZA. Use XPM Plus CAP field upgrade kit NTAX75ZB for ICP or ICP-O field upgrade to XPM Plus with Cellular Application Processor per customer requirements.

RUL9 1) Provide one NTN33DT cable kit per cabinet when provisioning NT6X48AA circuit packs. The kit provides the following cables:

- (1) NTN3305 FOR SHELF 05 & 19
- (1) NTN3306 FOR SHELF 05 & 19
- (1) NTN3313 FOR SHELF 05 & 19
- (1) NTN3314 FOR SHELF 05 & 19
- (1) NTN3315 FOR SHELF 05 & 19
- (1) NTN3316 FOR SHELF 05 & 19
- (1) NTN3307 FOR SHELF 33 & 47
- (1) NTN3308 FOR SHELF 33 & 47
- (1) NTN3319 FOR SHELF 33 & 47
- (1) NTN3320 FOR SHELF 33 & 47
- (1) NTN3321 FOR SHELF 33 & 47
- (1) NTN3322 FOR SHELF 33 & 47

RUL10 1) The NTN33DU DS30A cables should be provided when NT6X48AAs are provided. Only one NTN33DU is required per cabinet. These cables use the 0P7 and 1P7 bulkhead connector positions, which are also used by the NTN33SD Kit. Therefore, these additional DS30A cables CAN ONLY Provide up to seven (7) DS30A connectors if the NTN33SD cable kit is provided. See rule 10 part 2.

- (1) NTN3317 FOR SHELF 05 & 19
- (1) NTN3318 FOR SHELF 05 & 19
- (1) NTN3323 FOR SHELF 33 & 47
- (1) NTN3324 FOR SHELF 33 & 47

2) Part 1 of rule 10 is true only with existing MCTM-I cabinets in the field. Any MCTM-I cabinet ordered after

96 03 08

01/11/96 will have connectors 0P7 & 1P7 available for DS30A connections. Fiber cable will be routed to the bulkhead using 0P8 and 1P8 holes.

- RUL11 1) The following cables should be provisioned when linking the XPM shelf to the network when fiber is NOT required. For shelf 05 - NTMX3310, shelf 19 - NTMX3312, shelf 33 - NTMX3311, shelf 47 - NTMX3313. In addition, two (2) connector key brackets P0638261 should be provided per module. (These cables are internal to the lineup.) These cables are provided in the DS30 Interface Cable Assy Hardware Kit, NTN33DS. The NTN33DS connects the MCTM directly to the ENET frame using copper cable. There is no bulkhead connection for this cable. Only one NTN33DS is required per cabinet. Only one NTN33DS is required per cabinet.
- 2) Provide one NTN33EE External DS-30 Cable Kit per cabinet when the MCTM-I is to interface to a custom frame JNET.
- RUL12 1) Provide a maximum of 8 NTN33CP(37 pin cover plates) per module. Reduce the quantities required per module as follows:
- When the NTN33DT is provisioned, subtract 6 cover plates per
  - When the NTN33DU is provisioned, subtract 2 cover plates per
  - When the NTN33DS is provisioned, subtract 2 cover plates per
  - When the NTN33SD is provisioned, subtract 2 cover plates per
- 2) When the NTN33DV is not provided, provide a 25-pin cover plate and screws as follows:
- (8) P0686749 25 pin-cover plate
  - (16) P0180923 screws
- RUL13 1) Provide one (1) NT6X02UB LBGI/DTCI Offshore Common CP for MTXD applications for each ICP-0 module (two shelves) with the following circuit packs. ICP-0 is available with MTX02 software and higher. CP used for ICP-0:
- NT6X27BB SLOTS 05-02
  - NT6X48AA SLOTS 06-07
  - NTMX77AA SLOT 12
  - NTAX78AA SLOT 14
  - NT6X92CA SLOT 15
  - NTBX01AB SLOT 16
  - NT6X69LB SLOT 18 Provision for J-NET or E-NET.
  - NT6X69LA SLOT 18 Provision for J-NET.
  - NT6X28AC SLOT 19

NTMX71AA SLOT 19R  
 NTOX50AA SLOTS 09,10,11,13.17  
 NT6X40AC SLOT 22 Provision for DS-30 to J-NET  
 NT6X40FA SLOT 22 Provision both for DS512 Fiber I/F to  
 NT6X40GA SLOT 22R  
 NT2X70AF SLOT 25

NOTE: The NT6X02UB is only provisionable with the .PDTC, .PLGC  
 .TMS extension. Example: P +1 NT6X02UB.PDTC (SPEC#).

- RUL14 1) Provide one (1) NTZZ04BA Digital Trunk Controller and one (1) NTZZ02FB 30 Universal Tone Rcvr Ccts building blocks if provisioning a domestic DTC.
- 2) Provide two (2) NT6X70AA Continuity Tone Detector CPs if the module requires CCS signalling and continuity checking.
- RUL15 1) If the DS-1 (NT6X50\_\_) or D-Channel Handler (NTBX01\_\_) circuit packs are provisioned, the the following cables should be provided: For shelves 05 & 19 - NTN3309 and NTN3310. For shelves 33 & 47 - NTN3311 and NTN3312. These cables are provided in the DS1 Interface Cable Assy Hardware Kit, NTN33DV. Only one NTN33DV is required per cabinet.
- 2) The NTN33DV can also be used for PCM-30 if the physical link is via twisted pair.
- 3) For Japan applications, the NTN33DV cable kit is also provisioned for PCM30.
- 4) When the NTN33DV is not provisioned, provide (8) 25 pin cover plates P0686749, and (16) mounting screws P0180923.
- RUL16 1) Each CPC module requires the following hardware for fiber interface:
- 1 NT6X02UF (AP in new production - all cabinets ordered after 3 or cabinet release 4. Cabinets with release no.3 or lower must provision the NTOX26UF and NT6X0251.)
  - 1 NT6X0251
  - 1 P0738373
- 2) The NTN33CA cabinet is equipped with two NT6X02UF in new production. ONLY provide the NT6X02UF for field upgrades.

- 3) The NTNX33SD can also be used to provide two each of NT6X0251 and P0738373. One (1) NTNX33SD is required per frame.
- RUL17 1) Provide two (2) NT6X28AC PCM30 Signalling CP circuit packs and two (2) P0725257 CP designation labels per controller ILGC/IDTC/ PDTC/ICP-0 are required when NT6X27\_\_ is provisioned.

MCTM - ISDN (BROWN)

PEC CODE: NTZZ60CA

CPC CODE: B0238697

RATING: Standard

REPLACES: NTZZ38FA

REPLACED BY: N/A

ABBREVIATION NAME: MCTM-ISDN (MCTMI)

ENGINEERING DESCRIPTION: The Meridian Cabinet Trunk Module - ISDN (MCTM-ISDN) is used to house:

two (2) ICPs or  
two (2) DTCs or  
one (1) ICP and one (1) DTC.

This building block is based on the NTNX33CA cabinet and is designed to support domestic applications only.

REFERENCE DOCUMENTATION: MSNX33CA  
SLZZ60CA

MARKETS: Applicable markets:

Wireless

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NTZZ60CA EMB10-21-MCTMI CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 05	ECM 492 07	New insert.
94 06 06	ECM 492 12	Correct 6X27 provisioning. Add NX33TS wiring kit for AX78AA. Add 6X69LA. Update fiber hardware provisioning. Miscellaneous clean-up.
94 08 30	ECM 492 14	Provide XPM Plus provisioning rules.
94 09 21	ECM 492 15	Identify CAP XPM+ as VO provisioning only and correct format.
94 10 19	ECM 492 16	Changes Rule 16 to Rule 8 and adds NTN33SD Fiber Kit (Rule 16).
94 12 06	ECM 492 17	Clarify rules for Cable Kits.
95 02 16	ECM 492 18	Return NT6X44AB into the provisioning rules. Corrections per ET 20709 and ET 64153.
95 04 25	ECM 492 19	JEL: EC 018-45164 replaces the NT2X70AE with the NT2X70AF.
95 06 06	ECM 492 20	JEL: Add NT2X70AF designation labels for the MCTM-I cabinet.
95 07 07	ECM 492 22	DGB: Make clarifications to the option V provisioning.
95 08 04	ECM 492 23	DGB: Per EC 002-16248 the NT6X45BA, NTX6X46BB, and NT6X47AC are being replaced by NTMX77AA packs in offices equal to or greater than BCS 35. Also, add the NT6X55JA, and NT6X27JA for Japan applications.
95 08 24	ECM 492 24	DKG: Clarify Rule 6, part 3. Correct Rule 12 part 1, add Rule 12, part 2.
95 10 06	ECM 492 26	DKG: Clarify that this building block supports domestic applications only. Remove VO only status from NTAX74AA.
95 12 01	ECM 492 27	JEL: Correct NT0X50AA circuit pack positions and replace the NTZZ02FA with the NTZZ02FB. Make corrections per EC 002-16421.
95 12 11	ECM 492 28	JEL: Replaces the NT6X28AA with the NT6X28AC.
96 02 20	ECM 492 30	KMN: Updates per EC 002-16524 to provide ten additional 37 pin connectors to the bulkhead.
96 03 08	ECM 492 31	KMN: Clarify rule 9 and 10.

The MCTM - ISDN (BROWN) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MCTM - ISDN Cabinet	NTNX33CA		1			AP
MTXD Designation Label	P0712628		1			AP
Temperature Sensor	NTNX4005		1	70		AP-01
Frame Supv Panel	NTNX26NA	FSP	1	60		AP-01
Meridian Cabinet Assy	NTNX25AA	FW	1			AP-01
Universal Fiber Kit	NT6X02UF		2			AP-01
37 Pin cover plate	NTNX33CP					RUL12
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ISDN Cont Arry Shf Assy	NT6X0223	CPA1	1	47		AP-01
<hr/>						
ISDN Cont Arry Shf Assy	NT6X0223	CPA0	1	33		AP-01
MTX-ICP Common CP (< BCS32+)	NTZZ38WA			33	6	RUL1
MTX-ICP Common CP (>=BCS32+)	NTZZ38XA			33	6	RUL1
MTX-ICP Common CP (XPM PLUS)	NTZZ38YA		1	33		RUL1
ICP Metro (CAP)	NTAX74AA		2	33,47	12	RUL8
Desig. Label (NTAX74AA)	P0800860		2	33,47	12	RUL8
XPM Plus Upgrade Kit	NTNX33ZA		1			RUL8
CAP XPM Plus Upgrade Kit	NTAX75ZB		1			RUL8
PLGC/PDTC Common CP BTI	NT6X02UB		2	33,47		RUL13
Time Switch	NT6X44AA		2	33,47	14	RUL1
Desig. Label (NT6X44AA)	P0698316		2	33,47	14	RUL1
Time Switch	NT6X44AB		2	33,47	14	RUL1
Desig. Label (NT6X44AB)	P0664134		2	33,47	14	RUL1
Digital Cellular Time Switch	NTAX78AA		2	33,47	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	33,47	14	RUL1
ICP Module Wiring Kit	NTNX33TS		1	33		RUL1
10 DS30A LCM Interfaces	NTZZ02KA			33	6,7	RUL1
DS1 I/F CP	NT6X50AB			33,47	5-1	RUL2
Desig. Label (NT6X50AB)	P0690976					RUL2
Digital Trunk Controller	NTZZ04BA		1	33	6	RUL14
30 Universal Tone Rcvr Ccts	NTZZ02FB		1	33	15	RUL14
Continuity Tone Detector	NT6X70AA		2	33,47	13	RUL14
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PCM30 Interface CP	NT6X27BB			33,47	5-2	RUL6
PCM30 Interface CP(Japan)	NT6X27JA			33,47	5-2	RUL6
Desig. Label (NT6X27JA)	P0703369			33,47	5-2	RUL6
# PCM30 Signalling CP	NT6X28AA			33,47	19	RUL17
PCM30 Signalling CP	NT6X28AC			33,47	19	RUL17
# Desig. Label (NT6X28AA)	P0653635					RUL17
Desig. Label (NT6X28AC)	P0725257					RUL17
Filler Faceplate	NT0X50AA		20	33,47	1,5 6,7,9, 13,16, 17,19,	RUL6

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
					23, 24	
DTC CII/CMI Interface(Japan)	NT6X55JA			05,19	5-2	RUL2
Desig. Label (NT6X55JA)	P0703370			05,19	5-2	RUL2
Master Processor Mem Plus CP	NT6X47AC		4	33,47	10	RUL6
Sig Proc Mem Plus CP	NT6X46BB		2	33,47	11	RUL6
XPM Processor CP	NT6X45BA		4	33,47	8,12	RUL6
Time Switch	NT6X44EA		2	33,47	14	RUL6
Universal Tone Receiver	NT6X92CA		2	33,47	15	RUL6
Msg Prot & Download Tones CP	NT6X69AC		2	33,47	18	RUL6
Msg Prot & Download Tones CP	NT6X69LA		2	33,47	18	RUL6
Msg Prot & Download Tones CP	NT6X69LB		2	33,47	18	RUL6
Channel Sup Message	NT6X42AA		2	33,47	20	RUL6
Speech Bus Formatter	NT6X41AA		2	33,47	21	RUL6
Speech Bus Formatter (Turkey)	NT6X41AB		2	33,47	21	RUL6
# DS-512 Network Interface	NTZZ02HB		1	33	22	RUL1,6
DS-512 Network Interface	NTZZ02HM		1	33		RUL1,6
Fiber Cover Plate	P0738373		1			RUL1,6
Universal Fiber Kit	NT6X02UF		1			RUL1,6
16 DS30 Network Interfaces	NTZZ02GA		1	33	22	RUL1,6
# Power Converter	NT2X70AE		2	33,47	25	RUL6
Power Converter	NT2X70AF		2	33,47	25	RUL6
Desig. Label (NT2X70AF)	P0809960		2	33,47	25	RUL6
<hr/>						
ISDN Cont Arry Shf Assy	NT6X0223	CPA1	1	19		AP-01
<hr/>						
ISDN Cont Arry Shf Assy	NT6X0223	CPA0	1	05		AP-01
MTX-ICP Common CP (< BCS32+)	NTZZ38WA			05		RUL1
MTX-ICP Common CP (>=BCS32+)	NTZZ38XA			05		RUL1
MTX-ICP Common CP (XPM PLUS)	NTZZ38YA		1	05		RUL1
ICP Metro (CAP)	NTAX74AA		2	05,19	12	RUL8
Desig. Label (NTAX74AA)	P0800860		2	05,19	12	RUL8
XPM Plus Upgrade Kit	NTNX33ZA		1			RUL8
CAP XPM Plus Upgrade Kit	NTAX75ZB		1			RUL8
PLGC/PDTC Common CP BTI	NT6X02UB		2	05,19		RUL13
Time Switch	NT6X44AA		2	05,19	14	RUL1
Desig. Label (NT6X44AA)	P0698316		2	05,19	14	RUL1
Time Switch	NT6X44AB		2	05,19	14	RUL1
Desig. Label (NT6X44AB)	P0664134		2	05,19	14	RUL1
Digital Cellular Time Switch	NTAX78AA		2	05,19	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	05,19	14	RUL1
ICP Module Wiring Kit	NTNX33TS		1	05		RUL1
10 DS30A LCM Interfaces	NTZZ02KA			05	6,7	RUL1
DS1 I/F CP	NT6X50AB			05,19	5-1	RUL2
Desig. Label (NT6X50AB)	P0690976					RUL2
Digital Trunk Controller	NTZZ04BA		1	05	6	RUL14



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
30 Universal Tone Rcvr Ccts	NTZZ02FB		1	05	15	RUL14
Continuity Tone Detector	NT6X70AA		2	05,19	13	RUL14
PCM30 Interface CP	NT6X27BB			05,19	5-2	RUL6
# PCM30 Signalling CP	NT6X28AA			33,47	19	RUL17
PCM30 Signalling CP	NT6X28AC			33,47	19	RUL17
# Desig. Label (NT6X28AA)	P0653635					RUL17
Desig. Label (NT6X28AC)	P0725257					RUL17
Filler Faceplate	NT0X50AA		20	05,19	1,5, 6,7,9, 13,16, 17,19, 23,24	RUL6
Master Processor Mem Plus CP	NT6X47AC		4	05,19	10	RUL6
Sig Proc Mem Plus CP	NT6X46BB		2	05,19	11	RUL6
XPM Processor CP	NT6X45BA		4	05,19	8,12	RUL6
Time Switch	NT6X44EA		2	05,19	14	RUL6
Digital Cellular Time Switch	NTAX78AA		2	05,19	14	RUL1
Desig. Label (NTAX78AA)	P0737140		2	05,19	14	RUL1
ICP Module Wiring Kit	NTNX33TS		1	05		RUL1
Universal Tone Receiver	NT6X92CA		2	05,19	15	RUL6
Msg Prot & Download Tones CP	NT6X69AC		2	05,19	18	RUL6
Msg Prot & Download Tones CP	NT6X69LA		2	05,19	18	RUL6
Msg Prot & Download Tones CP	NT6X69LB		2	05,19	18	RUL6
Channel Sup Message	NT6X42AA		2	05,19	20	RUL6
Speech Bus Formatter	NT6X41AA		2	05,19	21	RUL6
Speech Bus Formatter (Turkey)	NT6X41AB		2	33,47	21	RUL6
# DS-512 Network Interface	NTZZ02HB		1	05	22	RUL1,6
DS-512 Network Interface	NTZZ02HM		1	05		RUL1,6
Fiber Cover Plate	P0738373		1			RUL1,6
Universal Fiber Kit	NT6X02UF		1			RUL1,6
16 DS30 Network Interfaces	NTZZ02GA		1	05	22	RUL1,6
# Power Convertor	NT2X70AE		2	05,19	25	RUL6
Power Convertor	NT2X70AF		2	05,19	25	RUL6
Desig. Label (NT2X70AF)	P0809960		2	33,47	25	RUL6
Upper Module Filler Kit	NT6X02AB		1	33,47		RUL1
Jumper Kit Non-ISDN	NTRX36NI		1	M0,M1		RUL7
@ DS30A Interface Cable Assy Hardware Kit (NT6X48AA)	NTNX33DT		1			RUL9
@ DS30A I/F Cable Assy HW Kit	NTNX33DU		1			RUL10

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
@ DS1 I/F Cable Assy HW Kit	NTNX33DV		1			RUL15
25 Pin Cover Plate	P0686749		8			RUL15
Mounting Screws	P0180923		16			RUL15
@ DS30 I/F Cable Assy HW Kit	NTNX33DS		1			RUL11
DS-512 Fiber I/F HW Kit	NTNX33SD		1			RUL16
External DS-30 Cable Kit	NTNX33EE		1			RUL11
<hr/>						
Cooling Unit	NTNX27CA	CU	1	00		AP-01
<hr/>						
Cabinet Type Label (Brown)	P0699471		2			AP
Door Right - Brown	NTNX2552		2			AP
Door Left - Brown	NTNX2550		2			AP
# Door Label Left (Brown)	P0699464		2			AP
Door Label Left (Brown)	P0818849		2			AP
Door Label Right (Brown)	P0695230		2			AP
Anchor Kit Earthquake-Slab	NTNX2540					RUL5
Anchor Kit Earthquake-Comp	NTNX2578					RUL5
Anchor Kit Non-E/Q-Slab	NTNX2579					RUL5
Anchor Kit Non-E/Q-Comp	NTNX2580					RUL5

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ02HB	MD	NTZZ02HM
NT2X70AE	MD	NT2X70AF
P0699464	MD	P0818849
NT6X28AA	A&M	NT6X28AC
P0653635	A&M	P0725257

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

## NOTES:

- 1) The MCTM-ISDN must be in the same lineup as the serving network if the serving network is a JNET (Junctored Network).
- 2) Each equipped controller requires direct cabling to sixteen network ports.
- 3) The DS1 ports for each DTC are fully wired to filter connectors in the rear bulkhead for use as digital trunks or to connect remote modules or both. The DS1 ports are fully connectorized using the new Bandpass RF Filter for improved EMI performance. Additionally, cabling and connectors allow the rear bulkhead to interface to the ISDN Packet Handler.
- 4) The NTZZ38EA can be provisioned with 2-shelf Common Peripheral Control modules for non-ISDN functions. If a module is provisioned for non-ISDN functions (DTC), the NTB01AB circuit packs are not required.
- 5) When upgrading ISDN XPM modules to XPM PLUS, the modules must be equipped with the Enhanced ISDN Sig Pre-Proc (EISP) CP NTB01AB. If the ISDN XPM modules being upgraded to XPM PLUS are equipped with the ISDN Sig Pre-Proc (ISP) CP NTB01AA, then replacement by the NTB01AB CP and Desig. Labels P0735418 is mandatory.
- 6) When NT6X48AAs are provisioned, provide 1 NTN33DT and 1 NTN33DU per frame. In this instance, provide no NTN33CP cover plates. If NTN33SD is required, NTN33DU cannot be provisioned.
- 7) When DS512 interface is required to ENET, provide 1 NTN33SD per frame. The NTN33DS cannot be provisioned for the same frame as the NTN33SD because they have the same conflicting functionality.
- 8) When DS30 interface is required to the NETWORK, provide 1 NTN33DS per frame.
- 9) When the NTN33DU is provisioned, the NTN33SD cannot be provided.
- @) The cabling kits provide for a complete cabinet, i.e. both modules, or four (4) shelves. Until new kits are provided, on a modular basis, it is necessary to order local cables

individually. See ECM 492 (body) for a breakdown of the particular kits.

## RULES:

- AP 1) When PEC NTZZ60CA is ordered, these items are provided.
- AP-01 1) These items are always provided with PEC NTN33CA.
- RUL1 1) The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.

If digital and analog functionality is required, provide: two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels. One NTN33TS wiring kit is required per CPC module when using the NTAX78AA in a field upgrade.

If analog only functionality is required, provide: two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels or two (2) NT6X44AB Time Switch CPs and two (2) P0664134 CP designation labels.

- 2) Provide one (1) MTX - ICP Common CP ( $\geq$  BCS32+) building block (NTZZ38XA) if provisioning ICP functionality, using the standard XPM processor packfill using BCS32+ or later software.  
The Time Switch CPs (NT6X44AA for analog, NTAX78AA for analog and digital cellular) are provisionable in this building block.

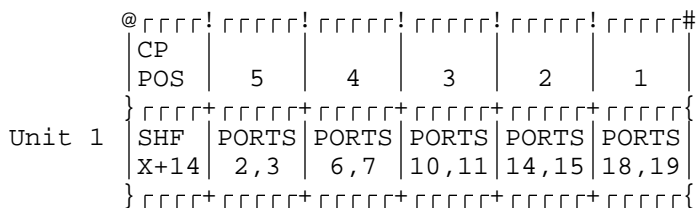
If digital and analog functionality is required, provide: two (2) NTAX78AA Time Switch CPs and two (2) P0737140 CP designation labels. One NTN33TS wiring kit is required per CPC module when using the NTAX78AA.

If analog only functionality is required, provide: two (2) NT6X44AA Time Switch CPs and two (2) P0698316 CP designation labels or two (2) NT6X44AB Time Switch CPs and two (2) P0664134 CP designation labels.

- 3) Provide one (1) MTX - ICP Common CP ( $<$  BCS32+) building block (NTZZ38WA) if provisioning ICP functionality, using the standard XPM processor packfill using software releases lower than BCS32+.  
The analog Time Switch CPs (NT6X44AA) are included in this building block.

- 4) Provide two (2) NTZZ02KA DS30A Interface building blocks per ICP, if the ICP is used in digital cellular applications with Meridian Digital Signal Processing cabinets (MDSPs).
- 5) Provide one NT6X02AB CPCE Filler Kit as required when upper module position (shf pos 33, 47) is unequipped.
- 6) Provide Filler Faceplates (NT0X50AA) for all unused slots.
- 7) Provide one (1) NTZZ02GA building block per CPC module for DS30 (copper) connection of a DTC/ICP module to the DMS network module.
- 8) Each CPC module requires the following for fiber interface:
  - 1 NT6X02UF (AP in new production)
  - 1 NTZZ02HM
  - 1 P0738373
- 9) The MCTMI is equipped with two NT6X02UF in new production. ONLY provide the NT6X02UF for field upgrades.

- RUL2
- 1) For DTC/ICP applications provide a maximum of ten (10) NT6X50AB DS1 I/F EFF circuit packs in slots 1-5, both shelves of the module.
  - 2) NT6X50AB DS1 I/F Extended Frame Format (EFF) circuit packs are assigned in selected slots: First in the lower of the two shelves of the module and next in the upper of the two shelves, then the lower, then the upper, etc. From the highest numbered slot (5) toward the lowest numbered slot (1). A minimum of two must be provided.
  - 3) One NT6X50AB EFF DS1 I/F circuit pack provides two DS1 ports.
  - 4) For each module, the DS1 ports/spans are assigned in the following sequential order: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19.



```
Unit 0 | SHF | PORTS | PORTS | PORTS | PORTS | PORTS |
        | X   | 0,1  | 4,5  | 8,9  | 12,13 | 16,17 |
        $ rrrrrj rrrrrrj rrrrrrj rrrrrrj rrrrrrj rrrrrrj rrrrrrj %
```

- 5) For DTC Applications when interfacing to JAPAN NTT-NCCI#7, provide a maximum of (10) NT6X55JA DTC CII/CMI Interface Circuit Packs in slots 2-5 for both shelves of DTC.
- 6) Provide designation labels (P0703370) for each NT6X55JA on shelves 05, 19, 33 and 47 in positions 2-5.
- RUL3 1) Provide Filler Face Plate NT0X50AA and designation label P0578498 on shelves 05, 19, 33 and 47 in slots 1-7, 13 and 16 when unequipped.

- RUL4 1) Provision one (1) earthquake mounting kit when installing in the following earthquake zones:
  - ATC Zone 6
  - NEBS Zone 4
  - UBC Zone 4

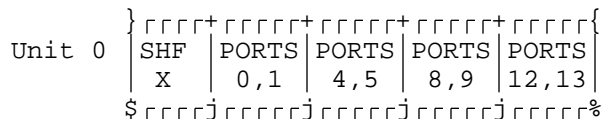
Provide NTN2540 earthquake anchor kit for slab flooring.  
Provide NTN2578 earthquake anchor kit for computer type flooring.

- RUL5 1) Provision one (1) frame anchor kit when installing frame in a non-earthquake zone.

Provide NTN2579 anchor kit for slab flooring. Provide NTN2580 anchor kit for computer type flooring.

- RUL6 1) Provision the following circuit packs when a PDTC is required for international applications. Quantities indicated are for each module. Module 0 (zero) mounts in cabinet locations 05 and 19, module 1 (one) mounts in cabinet locations 33 and 47.
- 2) Provide NT6X27BB PCM30 circuit packs in the quantity required by the customer up to a maximum of 8 per module. Provide in sequence from slot 5 to 2.

```
Unit 1 | @ rrrrr! rrrrrr! rrrrrr! rrrrrr! rrrrrr#
        | CP   | | | | |
        | POS | 5  | 4  | 3  | 2  |
        } rrrrr+ rrrrrr+ rrrrrr+ rrrrrr+ rrrrrr {
        | SHF | PORTS | PORTS | PORTS | PORTS |
        | X+14 | 2,3  | 6,7  | 10,11 | 14,15 |
```



Provision filler faceplates in positions not occupied by PCM-30 CPs.

- 3) Provide one (1) NTZZ02GA building block for DS30 (copper) connection of a PDTC module to the DMS network module.

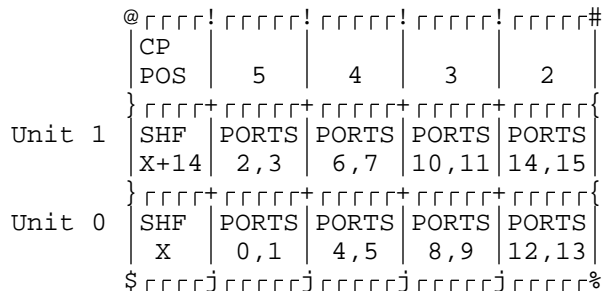
Provide one (1) NTZZ02HM building block for DS512 (fiber) connection of a PDTC module to the DMS network module. Network interface building blocks, DS30 (NTZZ02GA), DS512 (NTZZ02HM), are provided in a quantity of one (1) per module.

Provide NT6X47AC's, NT6X46BB's, and NT6X45BA's in place of the NTMX77AA for non-XPM+ applications with BCS 35 and below.

DESCRIPTION	PEC	QTY	CP POS
PCM30 Interface CP	NT6X27BB	AR	5-2
Filler Faceplate	NT0X50AA	20	1,5, 6,7,9, 13,16, 17,19, 23,24
Master Processor Mem Plus CP	NT6X47AC	4	10
Sig Proc Mem Plus CP	NT6X46BB	2	11
XPM Processor CP	NT6X45BA	4	8,12
Time Switch	NT6X44EA	2	14
Universal Tone Receiver	NT6X92CA	2	15
Msg Prot & Download Tones CP	NT6X69	2	18
Channel Sup Message	NT6X42AA	2	20
Speech Bus Formatter	NT6X41AB	2	21
DS-512 Network Interface	NTZZ02HM	1	22
16 DS30 Network Interfaces	NTZZ02GA	1	22
Power Convertor	NT2X70AF	2	25
Designation strip (shelf)	P0713212	2	

- 4) Provide two NT6X69AC for domestic systems using North American tones.
- 5) Provide two NT6X69LA for International (Japan) applications with JNET.

- 6) Provide two NT6X69LB when providing fiber interface to ENET in International (Japan) and CALA PDTC applications.
- 7) NT6X41AA is used for North American applications and NT6X41AB is used for International (Japan) and CALA PDTC applications.
- 8) Provide two NT6X92CA in slot 15 for ICP only when required by customer features. Applicable on the ICP with MTX01 S/W or higher.
- 9) Provide designation labels (P0809960) for each NT2X70AF on shelves 05, 19, 33 and 47 in position 25.
- 10) Provide NT6X27JA PCM30 circuit packs in the quantity required by the customer up to a maximum of 8 per module. Provide in sequence from slot 5 to 2.



Provision filler faceplates in positions not occupied by PCM-30 CPs.

- 11) Provide designation labels (P0703369) for each NT6X27JA on shelves 05, 19, 33 and 47 in positions 2-5.

RUL7 1) Provide one kit per module to provide backplane wiring for non-ISDN functionality.

RUL8 1) Provide two (2) Unified Processor circuit packs NTMX77AA with Designation Labels P0735417 per each module for XPM Plus upgrade on shelves 05, 19, 33, and 47 in position 12. In addition, see Rule 8-3 for associated Filler Face Plate provisioning.

- 2) Provide two (2) Cellular Application Processors NTAX74AA with designation labels P0800860 for each ICP or ICP-O module to upgrade to XPM Plus or to upgrade ICP or ICP-O from Unified Processor NTMX77AA to CAP per customer requirement. See RULE 8-5 for NTNX33CA field upgrade to XPM Plus.



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- 3) Provide Filler Face Plate NT0X50AA and designation label P0578498 on shelves 05, 19, 33 and 47 in slots 1-7, 13 and 16 when unequipped.
- 4) When upgrading to XPM PLUS, provide eight (8) Filler Face Plates NT0X50AA and designation labels P0578498 if the ISDN XPM module was previously equipped with four NT6X47AB MP Memory Plus CP, or provide six (6) Filler Face Plates NT0X50AA and designation labels P0578498 if the ISDN XPM module was previously equipped with two NT6X47AC MP Memory Plus CP. These plates are used in slots 8-11 as required.
- 5) All NTN33CA cabinets Release 24 and higher are pre-wired for XPM+ which is backwards compatible with NON-XPM Plus modules. For field Upgrade to XPM Plus for all applications use kit NTN33ZA. Use XPM Plus CAP field upgrade kit NTAX75ZB for ICP or ICP-O field upgrade to XPM Plus with Cellular Application Processor per customer requirements.

RUL9 1) Provide one NTN33DT cable kit per cabinet when provisioning NT6X48AA circuit packs. The kit provides the following cables:

- (1) NTN3305 FOR SHELF 05 & 19
- (1) NTN3306 FOR SHELF 05 & 19
- (1) NTN3313 FOR SHELF 05 & 19
- (1) NTN3314 FOR SHELF 05 & 19
- (1) NTN3315 FOR SHELF 05 & 19
- (1) NTN3316 FOR SHELF 05 & 19
- (1) NTN3307 FOR SHELF 33 & 47
- (1) NTN3308 FOR SHELF 33 & 47
- (1) NTN3319 FOR SHELF 33 & 47
- (1) NTN3320 FOR SHELF 33 & 47
- (1) NTN3321 FOR SHELF 33 & 47
- (1) NTN3322 FOR SHELF 33 & 47

RUL10 1) The NTN33DU DS30A cables should be provided when NT6X48AAs are provided. Only one NTN33DU is required per cabinet. These cables use the 0P7 and 1P7 bulkhead connector positions, which are also used by the NTN33SD Kit. Therefore, these additional DS30A cables CAN ONLY Provide up to seven (7) DS30A connectors if the NTN33SD cable kit is provided. See rule 10 part 2.

- (1) NTN3317 FOR SHELF 05 & 19
- (1) NTN3318 FOR SHELF 05 & 19
- (1) NTN3323 FOR SHELF 33 & 47
- (1) NTN3324 FOR SHELF 33 & 47

- 2) Part 1 of rule 10 is true only with existing MCTM-I cabinets in the field. Any MCTM-I cabinet ordered after

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01/11/96 will have connectors 0P7 & 1P7 available for DS30A connections. Fiber cable will be routed to the bulkhead using 0P8 and 1P8 holes.

- RUL11 1) The following cables should be provisioned when linking the XPM shelf to the network when fiber is NOT required. For shelf 05 - NTMX3310, shelf 19 - NTMX3312, shelf 33 - NTMX3311, shelf 47 - NTMX3313. In addition, two (2) connector key brackets P0638261 should be provided per module. (These cables are internal to the lineup.) These cables are provided in the DS30 Interface Cable Assy Hardware Kit, NTN33DS. The NTN33DS connects the MCTM directly to the ENET frame using copper cable. There is no bulkhead connection for this cable. Only one NTN33DS is required per cabinet.
- 2) Provide one (1) NTN33EE External DS-30 Cable Kit per cabinet when the MCTM-i is to interface to a custom frame JNET.
- RUL12 1) Provide a maximum of 8 NTN33CP(37 pin cover plates) per module. Reduce the quantities required per module as follows:
- When the NTN33DT is provisioned, subtract 6 cover plates per
  - When the NTN33DU is provisioned, subtract 2 cover plates per
  - When the NTN33DS is provisioned, subtract 2 cover plates per
  - When the NTN33SD is provisioned, subtract 2 cover plates per
- 2) When the NTN33DV is not provided, provide a 25-pin cover plate and screws as follows:
- (8) P0686749 25 pin-cover plate
  - (16) P0180923 screws
- RUL13 1) Provide one (1) NT6X02UB LBGI/DTCI Offshore Common CP for MTXD applications for each ICP-0 module (two shelves) with the following circuit packs. ICP-0 is available with MTX02 software and higher. CPs used for ICP-0:
- NT6X27BB SLOTS 05-02
  - NT6X48AA SLOTS 06-07
  - NTMX77AA SLOT 12
  - NTAX78AA SLOT 14
  - NT6X92CA SLOT 15
  - NTBX01AB SLOT 16
  - NT6X69LB SLOT 18 Provision for J-NET or E-NET.
  - NT6X69LA SLOT 18 Provision for J-NET.
  - NT6X28AC SLOT 19
  - NTMX71AA SLOT 19R
  - NT0X50AA SLOTS 09,10,11,13.17

NT6X40AC SLOT 22 Provision for DS-30 to J-NET

NT6X40FA SLOT 22 Provision both for DS512 Fiber I/F to  
 NT6X40GA SLOT 22R  
 NT2X70AF SLOT 25

NOTE: The NT6X02UB is only provisionable with the .PDTC, .PLGC  
 .TMS extension. Example: P +1 NT6X02UB.PDTC (SPEC#).

- RUL14 1) Provide one (1) NTZZ04BA Digital Trunk Controller and one (1) NTZZ02FB 30 Universal Tone Rcvr Ccts building blocks if provisioning a domestic DTC.
- 2) Provide two (2) NT6X70AA Continuity Tone Detector CPs if the module requires CCS signalling and continuity checking.
- RUL15 1) If the DS-1 (NT6X50\_\_) or D-Channel Handler (NTBX01\_\_) circuit packs are provisioned, the the following cables should be provided: For shelves 05 & 19 - NTN3309 and NTN3310. For shelves 33 & 47 - NTN3311 and NTN3312. These cables are provided in the DS1 Interface Cable Assy Hardware Kit, NTN333DV. Only one NTN333DV is required per cabinet.
- 2) The NTN333DV can also be used for PCM-30 if the physical link is via twisted pair.
- 3) For Japan applications, the NTN333DV cable kit is also provisioned for PCM30.
- 4) When the NTN333DV is not provisioned, provide (8) 25 pin cover plates P0686749, and (16) mounting screws P0180923.
- RUL16 1) Each CPC module requires the following hardware for fiber interface:
- 1 NT6X02UF (AP in new production - all cabinets ordered after 3 or cabinet release 4. Cabinets with release no.3 or lower must provision the NT0X26UF and NT6X0251.)
- 1 NT6X0251
- 1 P0738373
- 2) The NTN333CA cabinet is equipped with two NT6X02UF in new production. ONLY provide the NT6X02UF for field upgrades.
- 3) The NTN333SD can also be used to provide two each of NT6X0251 and P0738373. One (1) NTN333SD is required per frame.

- RUL17 1) Provide two (2) NT6X28AC PCM30 Signalling CP circuit packs and two (2) P0725257 CP designation labels per controller ILGC/IDTC/ PDTC/ICP-0 are required when NT6X27\_\_ is provisioned.

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EMB11

MAINTENANCE AND TEST EQUIPMENT CHAPTER ALL

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MAINTENANCE AND TEST EQUIPMENT CHAPTER ALL

EMB11-01-PRT-6	MAP PRINTER (DEC LA30)	NTZZ14ED
EMB11-01-PRT-7	MAP PRINTER (DEC LA400)	NTZZ14EE
EMB11-01-001	MAP FURNITURE WITH JACKS	NTZZ14BA
EMB11-01-004	SIMPLEX WORKSTATION	NTZZ14UA
EMB11-01-005	SIMPLEX WORKSTATION	NTZZ14VA
EMB11-01-006	WORKSTATION FOR REMOTE ACCESS	NTZZ14WA

97/12/09

## MAP PRINTER (DEC LA30)

PEC CODE: NTZZ14ED

CPC CODE: B0247545

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: LA30

ENGINEERING DESCRIPTION: The Maintenance and Administration Position (MAP) is the primary man/machine interface between the Telco personnel and the DMS system. The secondary vehicle for providing this interface is the Printer (PTR).

This Engineering Insert provides ordering information for the Digital Equipment Corporation (DEC) LA30 Printer with the appropriate accessories.

REFERENCE DOCUMENTATION: SLZZ14ED 00 01  
NTZZ14ED REL 01

MARKETS: Applicable markets:

Canada  
US

ISSUE AUTHOR: NT: Richard Mathias Dept. 3471 (PPK)

MAIN CONTACT: NT: Mark Sorrell Dept. 3471 (PPK)



NTZZ14ED EMB11-01-PRT-6 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 08 27	ECM 607 11	Introduce the LA30 as a replacement for the LA75S-AA.

The MAP Printer (DEC LA30) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DEC LA30N-CA Printer	A0660002		1			AP
DEC Stand & Paper Catcher	LAXXS-DS		1			AP
RS232 Connection Adapter	H8671-A		1			AP
DEC Ribbon (LA30R-KA)	A0660004		1			AP
20 ma Current Loop Adapter	H8673-AC		1			AP
RS-232 Slave Cable (10 ft.)	BC16E-10FT					RUL1
RS-232 Slave Cable (25 ft.)	BC16E-25FT					RUL1
RS-232 Slave Cable (50 ft.)	BC16E-50FT					RUL1

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) If replacing the DEC LA-120 Printer, replace the existing Current Loop Adapter (LA12X-AL) with the H8673-AC CLA.

RULES:

- AP 1) When PEC NTZZ14ED is ordered, these items are provided.
- RUL1 1) Provide proper length and quantity of cable(s) for interfacing this printer with the VT-420 VDUs.

## MAP PRINTER (DEC LA400)

PEC CODE: NTZZ14EE

CPC CODE: B0247546

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: LA400

ENGINEERING DESCRIPTION: The Maintenance and Administration Position (MAP) is the primary man/machine interface between the Telco personnel and the DMS system. The secondary vehicle for providing this interface is the Printer (PTR).

This Engineering Insert provides ordering information for the Digital Equipment Corporation (DEC) LA400 Printer with the appropriate accessories.

REFERENCE DOCUMENTATION: SLZZ14EE 00 01

MARKETS: Applicable markets:

Canada  
US

| ISSUE AUTHOR: NT: Richard Mathias Dept. 3471 (PPK)

MAIN CONTACT: NT: Mark Sorrell Dept. 3471 (PPK)

NTZZ14EE EMB11-01-PRT-7 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 08 27	ECM 607 11	Introduce the LA400 as a replacement for the DEC LA424.

The MAP Printer (DEC LA400) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DEC Printer (LA400-CA)	A0660949		1			AP
DEC Stand (LA40X-PS)	A0660951		1			AP
RS232 Connection Adapter	H8671-D		1			AP
DEC Ribbon (LA40R-KA)	A0660952		1			AP
20 ma Current Loop Adapter	H8673-AC		1			AP
RS-232 Slave Cable (10 ft.)	BC16E-10FT					RUL1
RS-232 Slave Cable (25 ft.)	BC16E-25FT					RUL1
RS-232 Slave Cable (50 ft.)	BC16E-50FT					RUL1

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) If replacing the DEC LA-120 Printer, replace the existing Current Loop Adapter (LA12X-AL) with the H8673-AC CLA.

RULES:

- AP 1) When PEC NTZZ14EE is ordered, these items are provided.
- RUL1 1) Provide proper length and quantity of cable(s) for interfacing this printer with the VT-420 VDUs.

MAP FURNITURE WITH JACKS

NTZZ14BA

RATING: Standard

ABBREVIATION NAME: MAP

ENGINEERING DESCRIPTION: The Maintenance and Administration Position (MAP) is the primary man/machine interface between the Telco personnel and the DMS system for performing I/O functions. This Building Block contains the MAP Furniture with jacks to include Center with jack, counter, and shelf sections.

REFERENCE DOCUMENTATION: MSZZ14BA 00 01

SLZZ14BA 00 02

NTZZ14BA REL 02



The NTZZ14BA is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MAP Furniture Ctr Sect With Tst Trk Jk Assy	NT0X57AB	MAP	1			AP
MAP Furniture Counter Sect	NT0X57AC		1			AP
MAP Furniture Shelf Sect	NT0X57AD		1			AP
Camel Light Chair w/Arms	ER210HFCA4464					RUL1

RULES:

- AP 1) When PEC NTZZ14BA is ordered, these items are provided.
- RUL1 1) Provide one Camel Light Chair with arms for each MAP-Type position requiring a chair.

SIMPLEX WORKSTATION

PEC CODE: NTZZ14UA

CPC CODE: B0238300

| RATING: Cancelled

REPLACES: Not applicable

REPLACED BY: NTZZ14VA

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Simplex Workstation is an Ethernet LAN Peripheral. It comprises a single position Workstation which interfaces with the Ethernet Interface Unit (EIU) in, for example, applications of the Supernode Multicomputing Base (SMB) platform. Examples of SMB platform applications are: CO Voice Mail and Automated Directory Assistance System.

| REFERENCE DOCUMENTATION: Appendix A: ADAS/DMS Mail Phase 2 Ethernet Peripheral Product Specification.  
MS9X85ZA 00 01

MARKETS: Applicable markets:

US

ISSUE AUTHOR: NTI: James Marsden Dept. 3471 (PPK)

MAIN CONTACT: NTI: James Marsden Dept. 3471 (PPK)

NTZZ14UA EMB11-01-004 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 22	ECM 681 01	Initial Issue
94 10 24	ECM 681 02	Cancelled

The Simplex Workstation is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
HP 710 Workstation	A0600278		1			AP
10BaseT Ethernet Tranceiver	A0383333	MAU	1			AP
12-Port 10BaseT Ethernet Hub	A0383332	HUB				RUL1
US Robotics 0094-00 Modem	A0600061					RUL2
GDC 061A032-001 Modem	A0600061					RUL2
Patching Modem to Workstation Cable	A0601464					RUL2
10BaseT Ethernet Tranceiver	A0383333	MAU				RUL3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

- AP 1) When PEC NTZZ14UA is ordered, these items are provided.
- RUL1 1) Provide one (1) 12-Port Ethernet Hub if from 1 to 10 additional connections are required to be made to the workstation LAN. For example for connection of an X-Terminal to the LAN.

- RUL2
- 1) If required provide one (1) A0600061 Modem for dialup/login to workstation via 'Low Speed' RS-232.
  - 2) If required provide one (1) A0600061 Modem for software downloading using the workstation 'High Speed' RS-232 port.
  - 3) Provide one (1) A0601464 cable if 'Low Speed' Workstation RS-232 port connection to a modem is required.
  - 4) Provide one (1) A0601464 cable if 'High Speed' Workstation RS-232 port connection to a modem is required.
- RUL3
- 1) Provide one MAU, A0383333, for mounting on the LPP bulkhead for each Simplex Workstation provided.

SIMPLEX WORKSTATION

PEC CODE: NTZZ14VA  
 CPC CODE: B0241138  
 RATING: Standard  
 REPLACES: NTZZ14UA  
 REPLACED BY: Not applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Simplex Workstation is an Ethernet LAN Peripheral. It comprises a single position Workstation which interfaces with the Ethernet Interface Unit (EIU) in, for example, applications of the Supernode Multicomputing Base (SMB) platform. Examples of SMB platform applications are: CO Voice Mail and Automated Directory Assistance System.

REFERENCE DOCUMENTATION: Appendix A: ADAS/DMS Mail Phase 2 Ethernet Peripheral Product Specification. MS9X85ZA 00 03.

MARKETS: Applicable markets:  
 US

	ISSUE AUTHOR: NTI:	Ganesh Ram	Dept. 3471	(PPK)
	MAIN CONTACT: NTI:	Ganesh Ram	Dept. 3471	(PPK)

NTZZ14VA EMB11-01-005 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 10 24	ECM 681 02	Initial Issue
97 02 14	ECM 681 04	Changed ownership for this section.

The Simplex Workstation is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
HP 712 Workstation	A0616372		1			AP
10BaseT Ethernet Tranceiver	A0383333	MAU	1			AP
12-Port 10BaseT Ethernet Hub	A0383332	HUB				RUL1
GDC 061A032-001 Modem	A0600061					RUL2
Patching Modem to Workstation Cable	A0601464					RUL2
10BaseT Ethernet Tranceiver	A0383333	MAU				RUL3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

- AP 1) When PEC NTZZ14VA is ordered, these items are provided.
- RUL1 1) Provide one (1) 12-Port Ethernet Hub if from 1 to 10 additional connections are required to be made to the workstation LAN. For example for connection of an X-Terminal to the LAN. Refer to the ECM covering the application for which the workstation is used, e.g. ECM 682, ADAS.
- RUL2 1) If required provide one (1) A0600061 Modem for software downloading using the workstation RS-232 port.



- 2) Provide one (1) A0601464 cable if Workstation RS-232 port connection to a modem is required.
- RUL3 1) Provide one MAU, A0383333, for mounting on the LPP bulkhead for each Simplex Workstation provided.

## WORKSTATION FOR REMOTE ACCESS

PEC CODE: NTZZ14WA

CPC CODE: B0248734

RATING: Limited

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: The Remote Access feature enables service administrators to configure, monitor, and support application services from a remote location. Travel to each location is eliminated, allowing service data viewing and changing to be performed quickly. Initially ADAS application functions are available to the remote user. Communication between the Remote and Host ADAS Workstations is through an Ethernet network.

REFERENCE DOCUMENTATION: TOPS07 DRU Product Spec  
AF6541.AA04  
IS9X85ZA 00 05 (draft)

MARKETS: Applicable markets:

US  
Canada

ISSUE AUTHOR: NTI: Ganesh Ram Dept. 3471 (PPK)

MAIN CONTACT: NTI: Ganesh Ram Dept. 3471 (PPK)

NTZZ14WA EMB11-01-006 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 02 14	ECM 681 04	New section for Remote Access WS

The WORKSTATION FOR REMOTE ACCESS is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
HP 712 Workstation	A0669355		1			AP
10BaseT Ethernet Tranceiver	A0383333	MAU	1			AP
10BaseT Ethernet Tranceiver	A0383333	MAU	1			RUL1
MAU-to-Hub Ethernet cable	NT9X8511		2			RUL1
Remote Access Router/Hub	A0667572	HUB	1			RUL2
Remote Access Router/Hub	A0667576		1			RUL2
+S/W on Flash Memory Card						
T1 CSU/DSU	A0674766		2			RUL3
T1A-530 I/F for T1 CSU/DSU	A0601913		2			RUL3
T1A-530 High Speed WAN Cable	NTNX36SE		2			RUL3
T1 Network Cable	NTGB0182		2			RUL3
T1A-530 Low Speed WAN Cable	NTNX36SG		2			RUL3
RS-422 Low Speed WAN Cable	NTNX36SH		2			RUL3
Patching Modem to WS Cable	A0601464		1			RUL4

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ14WA is ordered, these items are provided.

- RUL1 1) Provide one MAU, A0383333, for mounting on the LPP bulkhead for each Ethernet Interface Unit requiring connection to the Router/hub.
- 2) Provision two (2) NT9X8511 MAU-to-Hub Ethernet cables to replace the existing NT9X8510 cable in ADAS base configuration.
- RUL2 1) Provide (1) one A0667572 Router/Hub component per Remote Access option.
- 2) Provide A0667576, the necessary routing software for the Router/Hub. This is provisioned as a separate component to facilitate software upgrades and additional protocol support. Both the A0667572 and the A0667576 must be provisioned when Remote access option is ordered.
- RUL3 1) The customer can select one of two remote access options;
- 1A) For High Speed Remote Access option provision two (2) A0674766 T1 CSU/DSU. Note that the A0601913 is factory installed option for A0674766. Also provide NTN36SE T1A-530 high speed WAN cable and NTGB0182 T1 Network cable. The NTN36SE cable are of fixed length of approximately 2 feet and NTGB0182 cables should be length engineered per site requirement.
- (OR)
- 1B) For Low Speed Remote Access option, provision NTN36SG and NTN36SH cables. These cables are length engineered per site requirement. Note that the NTN36SH is always paired with NTN36SG cable to complete the the connectivity between the router/hub and the channel bank. Also Note that the installer must refer to the T1A-422B standard for the exact cable length restrictions for the desired data rate.
- 2) Mixing high speed and low speed remote access option on the same ADAS system is not supported.
- RUL4 1) Provide one (1) A0601464 cable if workstation RS-232 port connection to a modem is required.

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EMB13

MISCELLANEOUS SUBSYSTEMS CHAPTER ALL

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MISCELLANEOUS SUBSYSTEMS CHAPTER ALL

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## MISCELLANEOUS SUBSYSTEMS CHAPTER ALL

EMB13-01-ALM-1	ALARM EXTENSION	NTZZ18DA
EMB13-01-003	MISCELLANEOUS EQUIPMENT FRAME	NTZZ18AB
EMB13-01-005	MODEL B MISCELLANEOUS EQUIPMENT CABINET	NTZZ47PC
EMB13-02-000	MAINTENANCE SPARE STORAGE FRAME	NTZZ27BA
EMB13-05-003	CABINETIZED REMOTE MISCELLANEOUS EQUIPME	NTZZ31QB
EMB13-05-010	RME POWER DISTRIBUTION MODULE W/EAS	NTZZ15CE
EMB13-08-CDA-1	COOK DIGITAL ANNOUNCER 4 CHAN 2M TRK ACC	NTZZ23MA
EMB13-08-CDA-10	COOK DIGITAL ANNOUNCER 8 CHAN 4M TRK FIX	NTZZ23WA
EMB13-08-CDA-2	COOK DIGITAL ANNOUNCER 8 CHAN 4M TRK	NTZZ23NA
EMB13-08-CDA-3	COOK DIGITAL ANNOUNCER 2 CHAN 1M TRK FIX	NTZZ23PA
EMB13-08-CDA-4	COOK DIGITAL ANNOUNCER 4 CHAN 2M TRK BAS	NTZZ23QA
EMB13-08-CDA-5	COOK DIGITAL ANNOUNCER 4 CHAN 2M TRK FIX	NTZZ23RA
EMB13-08-CDA-6	COOK DIGITAL ANNOUNCER 4 CHAN 1M TRK SP/	NTZZ23SA
EMB13-08-CDA-7	COOK DIGITAL ANNOUNCER 6 CHAN 3M TRK FIX	NTZZ23TA
EMB13-08-CDA-8	COOK DIGITAL ANNOUNCER 8 CHAN 4M TRK BAS	NTZZ23UA
EMB13-08-CDA-9	COOK DIGITAL ANNOUNCER 8 CHAN 1M TRK SP/	NTZZ23VA
EMB13-08-DTH-1	DTT READY DTH-ROTL UNIT	NTZZ18PB
EMB13-09-005	CABINETIZED MISC SPARE STORAGE - MODEL B	NTZZ27FB

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ALARM EXTENSION

NTZZ18DA

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: NTZZ18DA block contains Alarm Extension circuit and associated equipment.

REFERENCE DOCUMENTATION: SLZZ18DA 00 03  
NTZZ18DA REL 03

MARKETS: Applicable markets:

- Canada
- US
- CALA
- Asia/Pacific
- Europe

ISSUE AUTHOR NTI: Charles Maynard Dept. 3471 (PPK)

MAIN CONTACT NTI: Charles Maynard Dept. 3471 (PPK)

NTZZ18DA EMB13-01-ALM-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 93 03 23	----- ECM 602 09	Previous history not available ET 15949 - corrected stocklist by re- placing the P0596114 adapter with the P0613363 per IR# 3529.

The Alarm Extension is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
AUD & Visual ALM. EXT CKT	NT5X85AA		1	XX		AP
Pylon RG-2 Ringing Generator	M1-1063-901		1	XX+2		AP
! Mounting Brackets	P0596114		2			AP
Mounting Brackets	P0613363		2			AP
Mounting Screws	P0148634		4			AP

! FLAGS:

! Rate Change Pending. Replaced by the P0613363.

NOTES:

RULES:

AP 1) When PEC NTZZ18DA is ordered, these items are provided.

MISCELLANEOUS EQUIPMENT FRAME - MIS/  
REMOTE MISC EQUIP FRAME - RME

PEC CODE: NTZZ18AB  
CPC CODE: B0240693  
RATING: STD  
REPLACES: NTZZ15BA  
REPLACED BY: Not applicable  
ABBREVIATION NAME: MIS or RME

ENGINEERING DESCRIPTION: The MIS is a general purpose equipment frame intended to accommodate miscellaneous DMS, common systems and other hardware required in a DMS office. Orderable multi-fuse FSP and grounding hardware provides full flexibility in the use of the frame.

The RME is a general purpose miscellaneous equipment frame (MIS) that serves as the Power Distribution Center (PDC) for an RSC Office.

The RME accommodates a maximum of 60 Fuses (5, 10, 20, and 30 amp). When designated an RME, a MIS frame contains a Power Distribution Module. Without this module the frame is designated a MIS frame, even if used in a remote site.

REFERENCE DOCUMENTATION: SLZZ18AB 00 01  
MSOX02AB 01 37  
EMA13-01-000 (NTOX02AB)

MARKETS: Applicable markets:

US  
CANADA  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: NTI: Steve Martin Dept. 3471 (PPK)  
MAIN CONTACT: NTI: Steve Martin Dept. 3471 (PPK)

NTZZ18AB EMB13-01-003 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 02 23	ECM 602 13	Initial release. Difference between this and NTZZ18AA, which is now used only for the Cdn market, is the NT0X9594 GND Matl. Assy is provisionable. Resolves ET 18499.
94 09 09	ECM 560 01	Introduce the ESTU and ITM into the frame to meet Gate 2 deliverable requirements for an ECM.
95 01 26	ECM 602 19	Added AMH RTU and DRTU for use with CALRS. Also added NT0J04EB DRTU XFM.
95 03 20	ECM 602 20	ECD 6-21517: MD A0367433 Inverter and replaced with NTRX31DH. Changed NT5X69AA provisioning to show that it is no longer to be isolated. Added Grounding note 8. NTMX1665 Lamarche Iso Hdw MD and replaced by NT0X43XD. Revised Inverter Isolation requirements.
95 03 21	ECM 602 21	Updated Inverter mounting locations. ET 21899 Corrected typo in equipment list - NT0X42XD s/b NT0X43XD.
95 11 30	ECM 602 24	Clarified Inverter Rule. ECD 006-23666 Introduced SDM06. Added NTRX50DA and rules. Added Rules 32 thru 36.
96 03 22	ECM 602 25	Clarified rule 1 for NT0X88AF. RR61317: Removed reference to P0148634, PHM screw. Removed reference to ITMDF and the the reference to rules.
96 05 20	ECM 602 26	RR63178: Added verbage to engdesc section to refer to MISC/RME usage. RR62308: Added note to Rule 1 part 8 indicating NT0X07AU application.
96 10 11	ECM 602 27	RR69033: Corrected position of NT3X25BA from 77 to 76.
96 11 27	ECM 602 28	MD NTZZ18CA per EC018-49694.
97 03 05	ECM 602 29	Add CANADA to MKT listing. Remove qty. from RUL items. General clean-up of EMS. Clarify mounting of DTH-ROTL. Add NTZZ15CE as provisionable.

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 04 07	ECM 602 30	Show NTZZ18FA and NTZZ18GA MD'ed. Add NT5X09AA GDC Modem shelf and add shelf mounting positions for GDC shelves.
97 05 20	ECM 602 31	Enhance RUL3 for NT3X25AA shelf mounting position 52 above FSP per SR RR74356.
97 10 08	ECM 602 34	Per EC 018-51464 MD NT0J42BA and NT0J43AA. Enhance RUL1)6 per SR-RR7A701. Add NT3X55BA and NT0X8503 per SR-RR 7A787.

The Miscellaneous Equipment Frame - MIS/ Remote Misc Equip Frame - RME is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Miscellaneous Equip. Frame	NT0X02AB		1			AP
Universal Framework	NT0X25AH		1			AP
Terminal Block Assembly	NT3X25BA			76		RUL4
20A Filt MIS Frame Supv Pnl	NT0X88AF	FSP	1	45		AP
FSP Cover	P0673914		1	45		AP
# Lamarche 500W Inverter	A0367433			04-34		RUL1
500VA AC 500W Inverter	NTRX31DH			04,13,22,31		RUL1
				52,60,70		
Direct Powering Label	P0708015			04,13,22,31		RUL1
				52,60,70		
# Lamarche Frame Isolation Kit	NTMX1665			04-34		RUL1
IOE Inverter ISG Kit	NT0X43XD			04,13,22,31		RUL1
				52,60,70		
Inverter Frame Ground Kit	NTMX1657			04,13,22,31		RUL1
				52,60,70		
Hole Bushing	P0567227					RUL1
# Lamarche Jumper Ground Kit	NTMX1658			04-34		RUL1
# Metallic Test Access Unit	NTZZ18CA			73-50		RUL2
				39-04		
Common Equipment Shelf	NT3X25AA					RUL3
Alarm Extension	NTZZ18DA			04-38		RUL5
				51-72		
AUD Alarm Cutoff Cntrl Unit	NT5X86AA					RUL6
Central Alarm Applique Cct	NT5X72AB					RUL8
MLT Applique Shelf	NT3J00BA					RUL9
LTC 4 Trunk 3 Wire	NT0J62BA					RUL11
LTC 4 Trunk 4 Wire	NT0J63BA					RUL11
LTC 16 Trunk 4 Wire	NT0J64BA					RUL11
RTU-AMH 4-Trunk (for CALRS)	NTAN10AA					RUL27
RTU-AMH 16-Trunk (for CALRS)	NTAN11AA					RUL27
26" Mounting Adapters	NT0J04DD					RUL28
# TCS 1800 1A2 Key System	NTZZ14GA			04-40,		RUL12
				50-73		
# TELLABS 292 Conf/Alert Systm	NTZZ18FA			05-32		RUL13
				51-66		
# TELLABS 292 Line Expnsn Shlf	NTZZ18GA			10-39		RUL13
				51-73		
Inactive System Timing Cct	NT5X69AA					RUL14



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Digital Test Head ROTL	NT7F18AD			05-21		RUL15
DTH-DTT Shelf	NT7F18BA			05-21		RUL15
DTH ROTL/DTT	NT7F18CA			05-21		RUL15
# ESTU Master Module (EMM)	NT0J42BA			00-43, 51-75		RUL26
# ISDN Test Module (ITM)	NT0J43AA			00-39 51-71 51-58		RUL26
RME Power Dist. Mod. w/EAS	NTZZ15CE			12		RUL37
RM70 Modem Card Cage 120V	905-5098-001					RUL16
RM80 Modem Card Cage -48V	905-5118-001					RUL17
RM90 Modem Card Cage 125V	905-5139-001					RUL18
RM4200 Data Set Module 115V	905-5222-001					RUL19
RM4200 Data Set Module -48V	905-5222-003					RUL19
DC Redundant Modem Shelf	A0344310					RUL20
Data Unit RackMount Shelf	NT4X25DH					RUL21
TOPS Tone and Scramble Cage	NT3J00AA					RUL22
TOPS Tone and Scramble CP	NT3J00AB					RUL22
Full Frame 19"-26" Mtg Adapt	P0706032					RUL23
Full Frame 23'-26" Mtg Adapt	P0706033					RUL23
GDC DS-6 Modem Shelf	A0380973			34,52		RUL24
DS-6 Mounting Adapter	A0384166					RUL24
GDC DS-5 Modem Shelf	NT5X09AA			34,52		RUL24
Isolation Hardware	NT0X0013					RUL10
Ground Material Assembly	NT0X9594					RUL25
DRTU XFM	NT0J04EB					RUL29
DRTU Mounting Brackets	P0596114					RUL29
DRTU Mounting Bracket Screws	P0148634					RUL29
DRTU-AMH (for CALRS)	NTAN60AA					RUL30
26" Rack-mount Adapter	NT0J14EA					RUL31
VME SDM06	NTRX50DA					RUL32
VME Proc Card	NTRX50JP					RUL33
32MB Dram						
VME Proc Card	NTRX50JQ					RUL33
64MB Dram						
VME Proc Card	NTRX50JR					RUL33
96MB Dram						
VME Proc Card	NTRX50JS					RUL33
128MB Dram						
1GB SCSI-II Disk Drive	NTRX50JT					RUL34
2GB SCSI-II Disk Drive	NTRX50JU					RUL34

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Ethernet Controller Card	NTRX50JV					RUL35
Ethernet Transition Card	NTRX50JW					RUL35
Baffle	NT6X1402					RUL36
Screw	P097F813(4)					RUL36
Washer	P0284154(1)					RUL36
Lock Washer	P0183220(1)					RUL36
CP Storage Shelf Assy	NT0X8503					RUL38
Line Card Stor Chas Assy	NT3X55BA					RUL39

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ14GA	A&M	NTZX18AB
A0367433	MD	NTRX31DH
NTMX1665	MD	NT0X43XD
NTMX1658	MD	NTMX1657
NTZZ18CA	MD	NT3X09BA
NTZZ18FA	MD	See OEM Manual
NTZZ18GA	MD	See OEM Manual
NT0J42BA	MD	No Replacement
NT0J43AA	MD	No Replacement

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) If front doors are required on this frame, the miscellaneous equipment (e.g. SP-1, No. 5 Crossbar) must be mounted 1" behind the front of the frame supervisory panel.

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- 2) The NTOX88AF FSP provides a total of up to twenty-four (48V filtered) ABS fuses and two (2) 10 amp CB (filtered) are required to power two TELLABS fire report systems, or fifteen CAMA units, or one ROTL unit, or ROTL unit, and up to six CAMA units but can never exceed 10 amp on a per feed basis.
- 3) Wiring between FSP and units mounted on frame is connected using loose wiring methods. Where leads are terminated at a terminal block that requires a ring terminal, make the connection with 22GA wire (or larger as required by current/voltage drop requirements). If three or more wires are terminated in a single terminal, 24GA wire is used (depending upon current/voltage drop requirements).

Wire color is as follows:

Red for bat or -48V ABS  
Black for bat rtn  
Green for alarm leads

Terminals are specified as follows:

TB2 on NTOX87AA use C0054383  
TB2 on NTOX88AA/AB/AC/AD/AE/AF use C0054383  
TB1 on NTOX88AA/AB/AC/AD/AE/AF use RA877  
TB3 on NTOX88AB/AD/AE/AF use C0054383

- 4) The FSP includes an FSP Cover, P0673914 to protect the FSP from foreign material. This cover requires no additional vertical frame space.
- 5) FSP fuse to terminal block cross reference can be found within the corresponding FSP sections that follow.
- 6) In provisioning miscellaneous equipment on this frame Job Engineering must:
  - ( i) Take into account the physical height (or effective clearance requirements) and base offset of each unit. (Base offset is the distance between the bottom of the unit and its lowest mounting hole.)
  - ( ii) Take into account the physical width of the unit and provide mounting adapters where necessary.
  - (iii) Take into account the power requirements (number of feeds and fuse ratings) of each unit and ensure that

the FSP can satisfy the requirements of the fully equipped frame.

- ( iv) Establish the compatibility with DMS of any non-DMS unit being provided, if necessary by detailed interface study and ensure that such units are NTL standardized.
- 7) Modems and modem equipment are not mounted on this frame for Canadian applications. Instead, use the Modem Equipment Frame (MOE).
- 8) When adding any miscellaneous equipment not covered in this document, the customer engineer shall check with BNR grounding design authority to ensure that the following grounding rules are met for existing equipment prior to release of issue 01 34 of MS0X02AB:
  - A) All AC powered misc. equipment must be isolated from the frame.
  - B) DC powered misc. equipment shall be treated as follows:
    - 1) If chassis is connected to battery return, isolate equipment from this frame.
    - 2) If chassis is connected to logic return, isolate equipment from this frame.
    - 3) If chassis is floating, mount equipment directly on frame.

For equipment installed subsequent to release and cut-in of MS0X02AB 01 34 and AD0X02AB 01 19:

- C) Inverters powering MAP positions, ISTD (NT5X69AA) and external protected AC outlets shall be non isolated and have their chassis ground connected to frame ground. The NT5X69AA unit shall also be non-isolated.
- D) Any new equipment added to MS0X02AB shall be evaluated per IS0X00 00 16 (or later) note 304 and mounted accordingly.
- E) No equipment requiring power from an isolated inverter shall be fed from a non-isolated inverter and no equipment

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requiring power from a non-isolated inverter shall be fed from an isolated inverter. If necessary two inverters shall be provided.

## RULES:

- AP 1) When PEC NTZZ18AB is ordered, these items are provided.
- RUL1 1) For all applications, provide one NTRX31DH 500VA AC Inverter per four (4) 120VAC Protected AC feeds required which do not exceed 500 Watts output (250 Watts max each pair of outlets - Circuit 1 and 2). This unit requires one (1) 30-Amp fuse (NTOX42AS) at the PDC. When the RME frame contains PDC equipment, the mounting locations for the 500VA AC Inverters are restricted to 04, 22, and 31. Location 04 may be used only if the Inverter is non-isolated since the isolated ground bar used in this application does not extend to the bottom of the frame.
- The Inverter has a failure mode switch to allow selection between breaker trip failure or breaker trip/inverter failure detection.
- 2) 1" above and below the the unit must be reserved for cooling on initial jobs.
- 3) When frame is used as a RME the inverter may mount in positions 04, 13, 22, 31, 52, 60, and 70 with the following restrictions. If the RME is used as a PDC the inverter may not mount in positions 13, 52, 60, or 70 (only positions 04, 22, and 31 are valid). Location 04 may be used if the RME is used as a PDC only if the Inverter is non-isolated since the isolated ground bar used in this application does not extend to the bottom of the frame.
- 4) Modem frame Applications - For ISG applications, provide 1 (one) NTOX43XD Kit per 500VA AC Inverter for grounding the inverter to the vertical ground bar.
- 5) Non-Modem Frame Applications - Each Inverter supplying End Aisle protected AC outlets and/or MAPs shall be non-isolated (mounted directly to the frame) using (1) NTMX1657 Kit and (3) P0567227 Bushings.
- 6) Provide one (1) P0708015 Direct Powering Label per inverter powered directly from the PDC.

- 7) For Modem Pooling applications provide up to two (2) NTRX31DH 500VA AC Inverter Units. Assume one (1) Inverter can power up to twelve (12) data units.
- 8) When the inverter is powering external equipment (VDU's, Printers, etc) an AC Mounting Plate, NT0X07AU, may be mounted on the rear of the frame at the same position as the Inverter Unit.

NT0X07AU NOTE: This part is no longer to be used in DMS-100 applications but may be used in other applications such as DMS-250.

- 9) All AC powered Misc. eqpt. must be isolated from the frame.
  - 10) Inverters powering MAP positions, ISTC(NT5X69AA) and external protected AC outlets shall be non-isolated and have their chassis ground connected to frame ground. The NT5X69AA unit shall also be non- isolated.
  - 11) No equipment requiring power from an isolated inverter shall be fed from a non-isolated inverter and no equipment requiring power from a non-isolated inverter shall be fed from an isolated inverter. If necessary two inverters shall be provided.
- RUL2
- 1) Provide one (1) NTZZ18CA Metallic Test Access Unit for each ten LM/RLM or LCMs when up to sixteen 2-wire test circuits are provided. (For Canadian Offices only)
  - 2) A 1" space must be provided between adjacent switches to allow the mounting of the MTA Unit Cover.
  - 3) For other information on mounting see AD2X46AB drawing.
- RUL3
- 1) Provide one (1) Common Equipment Shelf, NT3X25AA, to accommodate miscellaneous standalone units up to a maximum of ten shelves per frame.
  - 2) When mounting the CES in a frame with an FSP at 45, the first position above the FSP which can accept the CES is 52. Position 52 is the required mounting position to allow clearance for the FSP cover below the CES.
- RUL4
- 1) Provide Terminal Block Assemblies, NT3X25BA, as required to locally cross-connect MIS frame mounted equipment.
  - 2) Each assembly connects to the DF via a 50 pair cable.

- RUL5 1) Provide one (1) NTZZ18DA Alarm Extension per office when the number of Alarm Audible Panels, NTOX66AA, exceeds two or (and) the number of Exit Alarm Display Panels, NTOX64AA, exceeds four (three for OAS Version I) (see also Office Alarm Visual and Audible Equipment, Section EMA6-01-000). Maximum one circuit per office.
- 2) When applied to offices equipped with OAS Version I, AXU shelf NTOX62AA, must be modified by NTOX62AB.
- RUL6 1) Provide one (1) NT5X86AA in conjunction with an Audible Alarm Cutoff Key Panel, NT5X86AB, when selective audible alarm cutoff control is required. Up to six audible circuits are controlled (see also Section EMA6-01-000). Maximum one circuit per system.
- 2) NT5X86AB does not mount on Miscellaneous Equipment Frame NTOX02AB. The location is to be determined by the customer.
- RUL7 1) RESERVED.
- RUL8 1) Provide one (1) NT5X72AB when NT5X72AA Central Alarm Display Panel is provided in the Alarm Center (see Section EMA6-01-000).
- 2) NT5X72AB is a 2" high panel mounted on the MIS.
- RUL9 1) The NT3J00BA applique shelf is a multifunctional custom designed circuit pack holder used at present for loop test applications.
- 2) The NT3J00BA applique shelf is seven (7) inches high by twenty six (26) inches wide.
- 3) Refer to Engineering Manual Section EMA13-01-MLTS-1 for circuit pack provisioning on the applique shelf.
- RUL10 1) Miscellaneous hardware such as MTDs, etc. must be electrically isolated from the framework upon which they are mounted. Refer to Installation Manual 940 Section 01 for grounding criteria.
- 2) One (1) NTOX0013 Isolation Hardware is provisioned in place of each mounting screw for each piece of miscellaneous equipment with a non-NT\_X\_\_ Product Engineering Code (PEC) that is mounted in Miscellaneous Frame (NTOX02AB).

- 3) The following equipment (which mounts on a Miscellaneous Frame) have isolation hardware always provided as part of their stocklist. Any piece of equipment with a NT\_X\_\_ PEC which mounts on a MIS frame that is not on this list must have NT0X0013 Isolation Hardware provisioned to accommodate ISG.

PEC	DESCRIPTION
NT5X58AA	- 1A2 Key Telephone System (MD'd equipment)
NT5X55AA	- 1A2 Key Telephone System Module (MD'd equip)

- RUL11 1) Provide one (1) NT0J62BA/NT0J63BA/NT0J64BA LTC Mainframe along with other equipment to provide a microprocessor controlled LTC for testing subscriber loop circuits. This unit requires an 8 amp fuse for CO Battery and a 1 1/3 amp fuse for Alarm Battery.
- 3) Refer to Engineering Manual Section for NT0J6\_BA for more details on the NT0J63BA/NT0J63BA/NT0J64BA LTC.
- 4) The LTC requires 19.75 inches of vertical rack space, 3.5 inches of cooling space is required above and below the unit.
- 5) Provide mounting adapters NT0J04DD to convert the unit from 23" mounting to 26" mounting, when mounting unit in a NT0X02AB type frame.
- RUL12 1) NTZZ14GA is A&M and replaced by NTZX18AB. Refer to NTZZ14GA Engineering Manual section for details for this old part. The NTZX18AB NORSTAR Key System Unit (NKSU) does not mount in the MIS Frame but on the wall next to the MAP. Refer to NTZX18AB Engineering Manual section for details.
- RUL13 1) Provide the TELLABS NTZZ18FA as a base component in supplying Telco requirements for a conference/alerting system.
- 2) The TELLABS NTZZ18FA provides the facility to mount up to 10 conference lines and the required control cards.
- 3) The TELLABS NTZZ18FA has the following physical properties:  
  - H 13" W 19" (TELLABS provides adapters for 23" mtg)
- 4) Provide one (1) NTZZ18GA per 10-Lines Conference Lines required in excess of the initial 10-Lines provided with the NTZZ18FA.



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- 5) Refer to NTZZ18FA Engineering Manual section for more details.
- RUL14 1) Provide one (1) NT5X69AA Inactive System Timing Circuit as required. This circuit records the duration of dead system downtime should it occur.
- 2) The Inactive System Timing Circuit must be powered from an inverter mounted on the same MIS frame. The ISTC and the inverter must both be non-isolated.
- RUL15 1) The DTH may be provided for any of three applications ROTL, DTT, or ROTL/DTT as follows:
- \* Provide NT7F18AD for DTH-ROTL Only Applications
  - \* Provide NT7F18BA for DTH-DTT Only Applications
  - \* Provide NT7F18CA for DTH-ROTL/DTT Only Applications
- 2) The NT7F18CA is fused from the PDC or MIS Frame FSP at 10 amps.
- 3) The NT7F18CA requires 14-inches plus 5 empty frame mounting hole locations above and below the unit for cooling purposes, for a total of 14-inches plus the number of inches left open by the 10 empty frame slots of vertical MIS frame space (approximately 25-inches).
- 4) Refer to the NT7F18CA Engineering Manual Section for DTH-ROTL provisioning details.
- RUL16 1) The Rixon Data Set Shelf (RM70) is a 16 slot data set shelf used to mount eight (8) each of the following modems: R103J, R201C, Executive 212A, Intelligent R212A, or any combination of these modems totaling eight (8) dual slot modems per RM70 modem shelf.
- 2) Protected AC is required for this shelf. Provide one Inverter per RM70 shelf installed.
- 3) All telephone and telephone line connections are made directly to the modem. Card cage power is provided by a 3-prong capture AC power cord.
- 4) The RM70 require seven (7) inches of vertical mounting space and adapters for 26" MIS frame mounting.
- 5) Refer to section on 905-5098-001 for more detailed engineering information.

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- RUL17
- 1) The Rixon RM80 is a rack mounted card cage equipped with 16 card slots and power supply. The shelf is used by NTI to house up to eight (8) CA208A/B modems.
  - 2) Protected AC is required for this shelf. Provide one Inverter per RM80 shelf installed.
  - 3) All telephone and telephone line connections are made directly to the modem. Card cage power is provided by a 3-prong capture AC power cord.
  - 4) The RM80 requires fourteen (14) inches of vertical mounting space and adapters for 26" MIS frame mounting.
  - 5) Refer to section on 905-5118-001 for more detailed engineering information.
- RUL18
- 1) The Rixon RM90 is a rack mounted card cage equipped with 18 card slots and power supply. The shelf is used by NTI to house up to nine (9) R96 modems.
  - 2) Protected AC is required for this shelf. Provide one Inverter per RM90 shelf installed.
  - 3) All telephone, telephone line, and test connections are made directly to the modem. Card cage power is provided by a 3-prong capture AC power cord.
  - 4) The RM90 requires 10.5 inches of vertical mounting space and adapters for 26" MIS frame mounting.
  - 5) Refer to section on 905-5139-001 for more detailed engineering information.
- RUL19
- 1) The Case/Datatel RM4200 Data Set Module is a 16 slot data set card mounting enclosure. The shelf is available in a -48V DC and a 115V AC version (where the -48V DC version is preferred).
  - 2) The RM4200 requires a space of seven inches of vertical rack space, plus one inch above and below the shelf for convection cooling. Mounting adapters required to mount the shelf in a 19, 23 or 26 inch frame are always provided by the manufacturer.
  - 3) For more information on the RM4200 -48VDC version, refer to the Engineering Manual Section for the PEC 905-5222-003.

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- 4) For more information on the RM4200 115VAC version, refer to section on 905-5222-001. Note this shelf requires protected AC as follows:
- If the 500VA AC Inverter is used, one 500VA AC Inverter can power up to three (3) 115VAC RM4200 Shelves.
- RUL20 1) Provide one (1) A0344310 23" DC Modem Shelf (RM16M) to accommodate up to sixteen UDS modem cards. (U.S. applications only). See Section EMA13-01-UDS-1 for more details.
- 2) A0344310 shelf requires a space of seven inches high.
- 3) The mounting adapters to convert the unit from 23" to 26" are always provided by UDS.
- RUL21 1) Provide one (1) Data Unit Rackmount LS Shelf on the MIS Frame to accommodate up to sixteen (16) data units (U.S. applications only).
- 2) For more information on the Data Unit Rackmount LS shelf, NT4X25DH, see Engineering Manual section EMA5-02-DRS-2.
- RUL22 1) The TOPS Tone & Scrambler scrambles the speech of a subscriber as heard by the operator during verification, and to introduce an alerting tone to the subscriber when an operator must "barge-in" on an established connection.
- 2) The NT3J00AA card cage is seven (7) inches high and twenty six (26) inches wide. The NT3J00AB is packaged on a double wide circuit pack and should be located in odd slots 03 through 21. Spread all scrambler CPs evenly over all card cages. An NT3J0044 power supply is always provided in slot 01 of the card cage.
- 3) The NT3J00AA card cage should be fused at 1 1/3 amps with power terminations at the FSP on TB1-11 (-48V) and TB1-12 (GND) using 22AWG wire.
- 4) The NT3J00AA card cage is cabled to the distributing frame via three (3) NT0X26UE 50 pin connectorized cables.
- RUL23 1) Provide two (2) P0706032 Full Frame 19" to 26" Mounting Adapters per Telco request.
- 2) Provide two (2) P0706033 Full Frame 23" to 26" Mounting Adapters per Telco request.

- RUL24 1) Provide one (1) DS-6 Modem Shelf on the MIS Frame to accommodate up to sixteen (16) data units.
- 2) For more information on A0380973, see section EMA13-01-GDC-1.
- 3) Provide one (1) DS-5 Modem Shelf, NT5X09AA when modem pooling (Canadian applications) is a requirement. The shelf is powered from the FSP, NT0X88AB, using two (2) ten amp fuses.
- 4) Mounting hardware is always provided with the NT5X09AA shelf.
- 5) For more information on NT5X09AA, see section EMA5-01-DSM-2.
- RUL25 1) Provide one(1) NT0X9594 per NTZZ18AB when the frame or any of its contents require grounding.
- 2) (1) NT0X9594 must be provided for each MIS frame that is dedicated for modem equipment (U.S. applications only).
- RUL26 1) The EMM, NT0J42BA, is designed to provide ISDN 2B1Q Subscriber loop line test maintenance service for up to 2000 lines per EMM. The ITM, NT0J43AA, is optional equipment to the EMM that provides additional test features. Together they are referred to as ESTU, Enhanced Services Test Unit. Refer to EMA13-01-TL1-1 for provisioning information for ESTU.
- RUL27 1) Provision NTAN1\_AA RTU based on number of lines and testing requirements, for testing subscriber loop circuits via CALRS (please contact Prism Systems Engineering Department for final configuration). This unit requires a 5 amp fuse for CO Battery and a 2 amp fuse for Alarm Battery.
- 2) Refer to Engineering Manual Section for NTAN1\_AA for more details.
- 3) The RTU requires 20 inches (50.8 cm) of vertical rack space, 4 inches (10.16 cm) of cooling space above and below the unit.
- RUL28 1) Provide mounting adapters NT0J04DD to convert the LTC/RTU from 23" mounting to 26" mounting, when mounting unit in an NT0X02AB type frame.

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- RUL29 1) Provide the DRTU to enable the NSSD model 3703-03 Local Test Cabinet (located in the host office) to test subscriber lines connected to a DMS Digital Remote Office or Pair Gain Device (eg. DMS1 Line).
- 2) Provide two (2) P0596114 mounting brackets and (4) P0148634 mounting screws per each DRTU.

- RUL30 1) Provide one (1) NTAN60AA to test lines in a Remote or Pair-Gain device from CALRS.

The DRTU is used as a slave device with the Local Test Cabinet or Remote Test Unit (XFM or AMH). The DRTU is approved for the following Digital Remotes: (1) RSC (2) RLM (3) RLCM (for RSE/RME frame mounting).

- RUL31 1) Provide mounting adapter when mounting NTAN60AA in an MIS frame.

- RUL32 1) Provide one (1) NTRX50DA per office when Generic Services Frame- work (GSF) software application is provided. Provides NTRX50JA VME SDM chassis, Frame power/alarm cable, frame logic return cable and mounting hardware.

- RUL33 1) Provide one of NTRX50JP, JQ, JR, or JS processor cards depending upon the amount of DRAM memory required. One of these packs must be provided.

- RUL34 1) Provide either NTRX50JT or NTRX50JU per disk drive capacity required. One of these disk drives must be provided.

- RUL35 1) Provide both NTRX50JV and NTRX50JW when NTRX50DA is to be connected to telephone company LAN.

- RUL36 1) Provide one NT6X1402 baffle and mounting hardware when NTRX50DA is not mounted in frame position 03.

- 2) NTRX50DA SDM VME can only be provisioned on frames equipped with NT0X88AB or NT0X88AF FSPs. When NT0X71CA doors are to be provisioned NT0X88AF is the only fuse panel that can be specified in conjunction with NTRX50DA. The following mounting positions refer to frame mounting position of the lowest screw holding the NTRX50DA mounting brackets to the frame. For new production specify frame mounting position 03 for NTRX50DA; (NT6X1402 baffle is not required when NTRX50DA mounts in position 03). CB1 or CB2 on NT0X88AB/AF FSP and alarm connections to FSP TS1 pins 14,15 must be assigned to NTRX50DA.

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Where the doors are NOT used on the MIS frame, the SDM should be mounted in shelf position 3, and no baffle should be used. If this space is not available, the SDM can be mounted in any available space, with a 4 inch baffle (NT6X1402) placed directly beneath the SDM from position 8 and up.

When the doors are used, these are recommended mounting positions:

- 68, with 4 inch baffle below SDM (fills 64-73)
- 51, with 4 inch baffle below SDM (fills 47-56)
- 34, with 4 inch baffle below SDM (fills 30-39)
- 17 down to 3, using no baffle below 8.
- 17 would fill 13-22, 16 would fill 12-21, etc.

(Baffle position is SDM position minus 4. Baffle occupies 4 inches, SDM occupies 6 inches).

- RUL37 1) Provide one (1) NTZZ15CE when the RME is to function as the power distribution center for the RLCM or RSC office. See EMS NTZZ15CE for details of contents of the functional block.
- RUL38 1) Provide one (1) or more Circuit Pack Storage Shelf Assy, NT0X8503, consisting of 1 Circuit Pack Cage Assy, NT0X33AA, 20 Inline Card Sliders, P0558097 and 20 Offset Card Sliders, P0558098, to house the spare card requirements of the Remote Office.
- 2) Provide up to a maximum of five (5) NT0X8503 per NT0X02AB.
- RUL39 1) Provide one (1) Line Card Storage Chassis, NT3X55BA, (used in conjunction with LCE vintage line cards) to accommodate up to thirty (30) single slot Line Cards, or ten (10) double slot and ten (10) single slot line cards. The chassis will also store two (2) line drawer Bus I/F cards.
- 2) Equip NT3X55AA/BA on shelf NT0X8503. Allow 6" per chassis maximum 4 per shelf.

## MODEL B MISCELLANEOUS EQUIPMENT CABINET (CMIS)

PEC CODE: NTZZ47PC

CPC CODE: B0241635

RATING: STD

REPLACES: NTZZ47PB

REPLACED BY: Not Applicable

ABBREVIATION NAME: CMIS

ENGINEERING DESCRIPTION: The CMIS Building Block may be configured as an EMC compliant (closed) cabinet to house Nortel (Northern Telecom) Supported Equipment, or as a Non-EMC (open) cabinet to house Customer Preferred Equipment (CPE).

The Non-Shielded open CMIS is provided to mount customer-supplied EMI-Compliant equipment, although the option exists for Nortel to provide EMI-Compliant equipment in this cabinet, when necessary.

The CMIS Building Block cannot be used for Non-EMC IDF applications or applications where no power is required since the MSP and Bus Bar Assembly are APE. The IDF application requires that the frame be empty. An example of no power requirements is (4) NTRX34LA 480 Pin Terminal Block Assembly provisioned. This requires the job be engineered using the Detail Provisioning Engineering Manual Section (NTRX56AA).

REFERENCE DOCUMENTATION: MSRX56AA 01 11  
ISRX56AA  
ISRX59--  
MSZX16CA  
NTP 297-1001-109

MARKETS:

Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

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NTZZ47PC EMB13-01-005 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 09 22	ECM 602 17	Initial introduction of this BB. Required to MD NTZZ47PB due to cost delta due to Logic Busbar change. ECD 24-92592 Replaced NTRX56CD Logic Return Busbar Kit with NTN2911 Bus Bar and P097F813 Screws. Added GDC Kit, Shelf, and misc. items. Added UDS Kit, Shelf, and misc. items. Added CDA Kit, Shelf, and misc. items. Added Right Hand Bulkhead Kit. Added Top and Bottom Cover Kits. Added Top/Bottom Cable Bracket parts. Other corrections per design review: Removed NTRX1670 from RUL6. Removed referece to NTRX56CF and CG from RUL36 part 3. Added NTRX54AA provisioning. Added locations for Connector Plates. Corrected mounting locations in Note 4 drawing. Other misc. equipment location changes per PA Review.
94 11 22	ECM 683 12	Changes made per ECD 24-92594: Replaced NTRX59AB with NTRX59AZ and NTRX59AF with NTRX59AY. These are no longer Isolated. Removed Common Equip Shelf and Kit (NT3X25AA/NTRX59AG) Added Alarm Ext Kit NTRX59AP, ESTU/ITM Kit NTRX59AW, and TELLABS Termination Set (various). MD NTRX59AJ, replaced with NTRX59BJ. Other changes per PA Review: Changed A/V Alarm Ext Kit, MLT, ISTL, and Inverter mounting locations. Added specific Cook Digital Announcers which may be used in CMIS. Added Secondary Protectors for non UL 1459 approved telephone line connected units.
95 03 20	ECM 602 20	Introduced new 500VA AC Inverter - A0367433 replaced by NTRX31DH per ECD 6-21505.

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 11 30	ECM 602 24	<p>Corrected P/N - P0746677 was P0746777.                      Removed reference to ISG hardware being in the NTRX59AY Kit.                      ET65493 - added note to NTRX3133 Rule that it can't be used with NTRX56CA.                      ET64753 - corrected positions of panels and screws used when NTRX56CE is not provisioned, RUL8. Was 2 and 2R, now 12 and 12R.                      Misc - Clarified Vert/Horiz powering restrictions in Model B extensions to Model A offices.                      Changes made per ECD 018-46245.                      NTRX59AZ identified as non-isolated inverter. NTRX59AB identified as isolated inverter and rerated STD.                      POS 19,33 added for NTRX59AB.                      NT3X25AA, NTRX59AG added to eqpt list; NTRX59AG, NTRX59AB removed from eqpt. flag table.                      Note 3- NTRX59AZ in EMC closed cabinet changed to 500VA inverter, non-isolated reference added.                      NTRX59AB/NTRX31DH, NTRX59AG/NT3X25AA added to non emc open section.(Note3)                      NTRX59AG/NT3X25AA, NTRX59AB/NTRX31DH added.(Note6)                      Cabinet fail lamp provision removed. (Note7)                      NTRX59AB/NTRX31DH added to non-filtered battery table.(Notell)                      Reference to NTRX59AB Added. (RUL9)                      (RUL15)Section on NTRX59AB added.                      Reference to NT3X25AA (NTRX59AG KIT) added.                      NTRX59AY linked with NTRX59AZ.                      Fuse assignment for NTRX59AB/NTRX31DH added.                      (RUL18) 2. "closed" added to EMC.                      3. Inverter reference changed to non-isolated inverter. Lamarche changed to NTRX31DH.                      (RUL55) Added in entirety.                      Changes made per ECD 018-46245.</p>

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 10 11	ECM 602 27	RR67554: Changed r to ri on the P0730993 and P0730259 to distinguish right from rear, in the equipment list RR68426: Changed quantity of P0734475, position filler, from 2 to 1, when the NTRX56CF or the NTRX56CG is not provided. RR67563: Added more text to the engineering description section to further define "Open","Closed" CMIS.
97 03 05	ECM 602 29	Removed qty. from RUL items. General clean-up of EMS. Changed shelf mounting locations for bulkhead equipment from XXR/Ri to XX. (Per ADRX56AA and SR RR6D166). See added Note 14. Fix RUL52 subsection numbering and clarify NTRX59AW usage.
97 05 20	ECM 602 31	Show NTZZ45PA as MD per SR RR71703. Enhance RUL18 per SR RR74903 to note 'ship loose' items.
97 08 04	ECM 602 32	Per EC 018-51221 add German Des. Label, update slot positions for NT3J00 CPs, update slot positions for NT3X25AA.
97 10 08	ECM 602 34	Per EC 018-51464 MD NT0J42BA and NT0J43AA.

The Model B Miscellaneous Equipment Cabinet (CMIS) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Opt. MISC Equipment Cabinet	NTRX56AA		1			AP
C28 Cab Label Kit (English)	NTRX3541		1			AP
CMIS Mod. Supervisory Panel Kit	NTRX5610	MSP	1	61		AP
Modular Supervisory Panel	NTRX40AA	MSP	1	61		AP-01
Alarm Module	NTRX41AA		1	61		AP-01
Terminal Block (6X3)	P0737547		1	61	2R	AP-01
Terminal Block 4X4	P0737326		1	61	4R	AP-01
Thermal Breaker Module	NTRX43AA		3	61	7-9	AP-01
Fuse 3/4 Amp Brown	A0205209		4	61	7 F01-	AP-01
					F04	AP-01
Fuse Block Designation Brown	P097P242		4	61	7 F01-	AP-01
					F04	AP-01
Fuse Dummy	A0205210		4	61	7 F05-	AP-01
					F08	AP-01
Breaker Module (10A)	NTRX42AA		2	61	10-11	AP-01
Bus Bar Assembly	NTNX2911		1	05		AP
Screw	P097F813		6			AP
CMIS External Power Filter Kit	NTRX56CA					RUL2
CMIS Horizontal Cabling Kit	NTRX56CB					RUL3
Designation Label (Germany)	P0847107					RUL2
Talk Battery Mod Kit (B) 20Amp	NTRX56CF			61	01,13 14,15	RUL6
Talk Battery Module 20 Amp	NTRX44AA		1	61	01	AP-03
Breaker Module 20 Amp	NTRX42CA		1	61	13	AP-03
Breaker Module 10 Amp	NTRX42AA		1	61	14	AP-03
Fuse Module	NTRX43AA		1	61	15	AP-03
Talk Battery Mod Kit (A) 20Amp	NTRX56CG			61	03,16 17,18	RUL6
Talk Battery Module 20 Amp	NTRX44AA		1	61	03	AP-04
Breaker Module 20 Amp	NTRX42CA		1	61	16	AP-04
Breaker Module 10 Amp	NTRX42AA		1	61	17	AP-04
Fuse Module	NTRX43AA		1	61	18	AP-04
FAN Pwr Control Mod (-48 V)	NTRX54BA			61	19	RUL7
Desig Label (NTRX54BA)	P0741680			61	19	RUL7
FAN Pwr Control Mod (-48 V)	NTRX54AA			61	19	RUL7

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Desig Label (NTRX54AA)	P0741735			61	19	RUL7
MSP Desig Label (CU)	P0746680			61	03	RUL7
MSP Blank Panel (Two Pos)	P0734475			61	01,03, 19	RUL8
MSP Blank Panel (One Pos)	P0734476			61	01R,03R	RUL8
				61	13,13R	
				61	14,14R	
				61	15,15R	
				61	16,16R	
				61	17,17R	
				61	18,18R	
				61	19R	
Panel Mounting Screw	P0559409			61	01,01R	RUL8
				61	03,03R	
				61	13,13R	
				61	14,14R	
				61	15,15R	
				61	16,16R	
				61	17,17R	
				61	18,18R	
				61	19,19R	
Cooling Unit Kit (Ten Inch)	NTRX92AA			00		RUL9
CMIS MSP Fuse Desig Label	P0738236					RUL11
CMIS MSP Breaker Desig Label	P0746677					RUL11
CMIS MSP Fuse Desig Label	P0746678					RUL11
CMIS MSP Fuse Desig Label	P0746679					RUL11
Blank Conn Plate (Full Size)	P0715616			05,19, 33,47		RUL12
CMIS Conn Plate Bulkhead Screw Kit (One Full Size)	NTRX34DS			05,19, 33,47		RUL12
Blank Conn Plate (Half Size)	P0730259			05,12, 19,26, 33,40, 47,54,61		RUL13
CMIS Connect Plate Bulkhead Screw Kit (Two Half Size)	NTRX34DT			05,12,19, 26,33,40 47,54		RUL13
480 Pin Terminal Block Assy	NTRX34LA			49,55		RUL14
CMIS Universal Connector Plate(24 x 25 Pin)	P0737132			05,19, 33,47		RUL14

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
CMIS Conn Plate Bulkhead Screw Kit (One Full Size)	NTRX34DS			05,19, 33,47		RUL14
Cable Bracket	P0642031			49R		RUL14
Cable Bracket	P0642031			55R		RUL14
Screw	P097F813					RUL14
25-Pin Filter Adapter	A0316594			AR		RUL14
Female Screwlock	A0317136			AR		RUL14
Flat Washer	P0148330			AR		RUL14
Cover Plate (25-Pin)	P0715775			AR		RUL14
Mounting Screws	P0670923			AR		RUL14
500VA AC Inverter	NTRX31DH			05 (19,33)		RUL15
# Lamarche Inverter	A0367433			05		RUL15
CMIS 500VA AC Inverter Kit (Non-Isolated)	NTRX59AZ			05		RUL15
CMIS Lamarche Inverter Kit (Isolated)	NTRX59AB			05,19,13		RUL15
Breaker Module Kit (20 Amp)	NTRX56CE			61	12	RUL15
MSP Pwr & Bat Rtn Cable	NTRX1670			61	12R	RUL15
Power Cable Desig Label	P0737501			61	12R	RUL15
Breaker Module 20 Amp	NTRX42CA			61	12	AP-02
MSP Blank Panel (One Pos)	P0734476			61	12,12R	RUL8
Panel Mounting Screw	P0559409			61	12,12R	RUL8
CMIS DTH-ROTL KIT	NTRX59AC			07,35		RUL16
DTH/ROTL	NT7F18AD			07,35		RUL16
Connector Plate DTH/ROTL	P0730992			05,34		RUL16
CMIS DTH-ROTL Spares Kit	NT7F19AC					RUL16
Audible/Visual Alarm Ext Unit	NT5X85AA			05,19, 33,47		RUL17
CMIS Audible/Visual Alarm Extension kit	NTRX59AD			05,19, 33,47		RUL17
Conn. Plate A/V Alarm Ext Kit	P0730991			05,19 33,47		RUL17
CMIS Pylon RG-2 Ring Gen Kit	NTRX59AE			09,23 37,51		RUL17
Pylon RG-2 Ring Generator	A0379066			09,23 37,51		RUL17
CMIS Audible Alarm Cutoff Kit	NTRX59AH			07,21, 35,49		RUL17

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Audible Alarm Cutoff Control Unit	NT5X86AA			07,21, 35,49		RUL17
Inactive System Timing Circuit	NT5X69AA			14		RUL18
CMIS Inactive System Timing	NTRX59AY			14		RUL18
# CMIS Inactive System Timing Circuit Kit	NTRX59AF			14		RUL18
115 V ac Power Cable Assy	NTRX34FO					RUL18
24 AWG Solid Wire (Green)	R0109636			14,28,32		RUL18
25-Pin Filter Adapter	A0316594					RUL18
Female Screwlock	A0317136					RUL18
Flat Washer	P0148330					RUL18
MLT Applique Shelf	NT3J00BA			05,19 33,47		RUL20
Conn Plate MLT Applique Shelf	P0730993			05,19 33,47		RUL20
CMIS MLT Applique Shelf Kit	NTRX59BJ			05,19 33,47		RUL20
# CMIS MLT Applique Shelf Kit	NTRX59AJ			05,19 33,47		RUL20
CMIS Conn Plate Bulkhead Screw Kit (Two Half Size)	NTRX34DT					RUL20
MLT Applique Ckt Pack	NT3J00BB			05,19 33,47	03-09, 13-21	RUL20
Signature Off Hook Routing	NT3J00BE			05,19 33,47	03-21	RUL20
9-Pin Filter Adapter	A0344127			AR		RUL21
Female Screwlock	A0317136			AR		RUL21
Flat Washer	P0148330			AR		RUL21
Cover Plate (9-Pin)	P0715809			AR		RUL21
Mounting Screws	P0670923			AR		RUL21
37-Pin Filter Adapter	A0316599			AR		RUL21
Female Screwlock	A0317136			AR		RUL21
Flat Washer	P0148330			AR		RUL21
Cover Plate (37-Pin)	P0715774			AR		RUL21
Mounting Screws	P0670923			AR		RUL21
CMIS CASE/DATATEL RM4200 (-48 V dc) Modem Shelf	A0600770					RUL23
CMIS CASE/DATATEL RM4200	NTRX59AK			09,23		RUL23

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
(-48V dc) Modem Shelf Kit				37,51		
Secondary Protectors	A0361490					RUL22
CASE/DATATEL Modem	A0367996				1-16	RUL24
CASE/DATATEL Modem	A0355258				1-16	RUL25
CASE/DATATEL Modem	A0367994				1-16	RUL26
CASE/DATATEL Modem	A0355259				1-16	RUL27
CASE/DATATEL 829 Data Aux. Set	A0355255				1-16	RUL28
CASE/DATATEL Modem	A0600589				1-16	RUL29
CASE/DATATEL Modem	A0352086				1-16	RUL30
CASE/DATATEL Modem	A0351642				1-16	RUL31
CASE/DATATEL Adapter Plug For Adjustable Xmit Level	A0320894				P2,P4	RUL32
CASE/DATATEL Adapter Plug For Permissive Xmit Level	A0369235				P2,P4	RUL33
CASE/DATATEL Adapter Plug For Fixed Loss Loop Xmit Level	A0369236				P2,P4	RUL34
CMIS DANTEL Digital Alarm Scanner (DMS-100 to SCC Interface)	A0601999					RUL35
CMIS DANTEL Digital Alarm Scanner (DMS-100 to SCC Interface) Kit	NTRX59AL					RUL35
# Remote Maint. Mod. in CMIS	NTZZ45PA	RMM		5,19,33,47		RUL36
Cover, Top-Kit	NTRX3133			TOP		RUL37
Cable Bracket	P0737714			BASE		RUL37
Cable Bracket	P0738577			BASE		RUL37
Screw, Self Tapping	P097F839			BASE		RUL37
Cover, Bottom- Kit	NTRX3134			BASE		RUL38
Cable Bracket	P0737714			TOP		RUL38
Cable Bracket	P0738577			TOP		RUL38
Screw, Self Tapping	P097F839			TOP		RUL38
Right Hand Bulkhead Kit	NTRX56FA			05		RUL39
GDC Modem Shelf DS-6/R-1 Redundant -48VDC	A0380973					RUL40
CMIS GDC Modem Shelf Kit	NTRX59AS			05,19 33,47		RUL40
GDC Modems					1-16	RUL41
Secondary Protectors	A0361490					RUL41



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
UDS Modem Shelf RM16M	A0344310					RUL42
CMIS UDS RM16-23DC Modem Kit	NTRX59AV			05,19 33,47		RUL42
UDS Modems					1-16	RUL43
Secondary Protectors	A0361490					RUL43
CMIS COOK DA Shelf Hardware	NTRX59AN			05,07,09,11,13 15,17,19,21,23 25,27,29,31,33 35,37,39,41,43 45,47,49,51,53 55,57,59		RUL44
2Chan 26" 1M RR/RTA FIXED	NT5M02CC					RUL45
4Chan 26" 2M RR/RTA FIXED	NT5M04DU					RUL46
4Chan 26" 1M RR/RTA SP/DMD	NT5M04DV					RUL47
6Chan 26" 3M RR/RTA FIXED	NT5M06CB					RUL48
8Chan 26" 4M RR/TRK FIXED	NT5M08CC					RUL49
8Chan 26" 1M RR/RTA SP/DMD	NT5M08CH					RUL50
CMIS Alarm Ext. Kit	NTRX59AP			05,19 33,47		RUL51
Cable Tie Bracket	P0744667			10 33,47		RUL51
12-24 HHTS	P097F813					RUL51
CMIS ESTU/ITM KIT	NTRX59AW			07,21 35,49		RUL52
# Enhanced Services Test Unit (ESTU) Master Moudule (EMM)	NT0J42BA			09,23 37,51		RUL52
# ISDN Test Module (ITM)	NT0J43AA			05,19 33,47		RUL52
TELLABS 1014U Universal Mounting Shelf	A0624408					RUL53
TELLABS 1014U Universal Mounting Shelf Kit	NTRX59AX			05,19 33,47		RUL53
Connector Plate TELLABS	P0733320			05,19 33,47		RUL53
TELLABS 4201 Terminating Set Secondary Protectors	A0361743 A0361490				1-14	RUL54 RUL54
Common EQPT Shelf (115VAC)	NT3X25AA			05,13,21, 29,37,45,53		RUL55

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Common EQPT Shelf (115VAC) Kit	NTRX59AG			05,13,21, 29,37,45,53		RUL55
C28 Cabinet Mechanicals	NTRX25AA					NOTE7
Cabinet Power and Grounding	NTZZ16CA					NOTE8
Door and eqp labels	MSOX60AA					NOTE9

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTRX59AF	MD	NTRX59AY
NTRX59AJ	MD	NTRX59BJ
A0367433	MD	NTRX31DH
NTZZ45PA	MD	NTRX56AA
NT0J42BA	MD	No Replacement
NT0J43AA	MD	No Replacement

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The term EMC or Closed Cabinet as used in this document is defined as follows:

A cabinet in which NT Supported equipment which by itself is not EMC compliant will be mounted and rendered EMC compliant by means of cabinet enclosure, bulkhead connector plates, and cable filtering or shielding as required.

- 2) The term Non-EMC or Open Cabinet as used in this document is defined as follows:

A Cabinet in which Customer Preferred (Non NT Supported Equipment) will be mounted. This area will not require enclosure, filtering, or shielding of input/output signals at the cabinet level.

- 3) The following equipment must be mounted in the specified type of cabinet.

In an EMC (Closed) cabinet:

NTRX59AZ / NTRX31DH	500VA AC Inverter (Non-Isolated)
NTRX59AC / NT7F18AD	DTH-ROTL
NTRX59AD / NT5X85AA	Audible/Visual Alarm Extension
NTRX59AE / A0379066	Pylon RG-2 Ring Gen
NTRX59AY / NT5X69AA	Inactive System Timing
NTRX59AH / NT5X86AA	Audible Alarm Cutoff
NTRX59BJ / NT3J00BA	MLT Applique Shelf
NTZZ45PA / NT6X1306	RMM
NTRX59AX / A0624408	TELLABS 1014U Universal Mounting Shelf
NTRX34LA	480 Pin Terminal Block Assy
NTRX56FA	Right Hand Bulkhead Kit

In a Non-EMC (Open) cabinet:

NTRX59AB / NTRX31DH	500VA Inverter (Isolated)
NTRX59AK / A0600770	CASE/DATATEL RM4200
NTRX59AL / A0601999	DANTEL Digital Alarm Scanner
NTRX59AP	CMISC Alarm Ext. Kit
NTRX59AS / A0380973	GDC Modem Shelf
NTRX59AN	COOK DA Shelf Hardware
NTRX59AV / A0344310	UDS RM16M-23DC Modem
NTRX59AW	CMIS ESTU/ITM Kit
NTRX59AG / NT3X25AA	Common EQPT Shelf (115VAC)

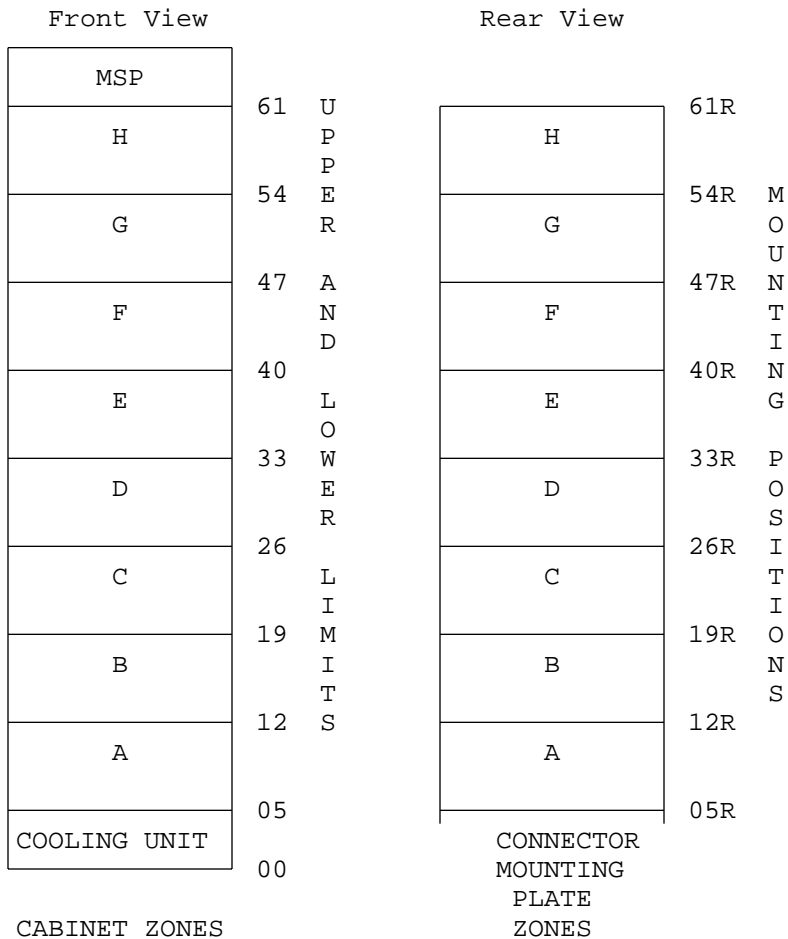
- 4) Detailed below is information relative to the generic placement of equipment and equipment personality plates:

Units can be mounted on the CMIS only in positions indicated. CMIS mounting space is divided into eight seven inch zones labeled " A to H". Mounting positions given for units are the location of the lowest screw holding the unit or the units mounting bracket to the cabinet, as applicable. When a unit requires an associated connector mounting plate, the unit and associated plate mounting positions must be those shown opposite each other in the following table.

The following table covers all units mounting in zones A to H. Full size connector plates occupy two zones (A-B, C-D, E-F, or G-H). Half size connector plates occupy one zone. The terms, "personality plates" and "connector plates" refer to the same thing.

These plates mount on the four panel generic duct to form the EMI Bulkhead where internal and external (SWBD) cables connect. Mounting location and methods for cables and connector plates are shown on unit Assembly Drawings (AD).

Positions 05, 12, 19, 26, 33, 40, 47, and 54 indicated in the sketch below of connector plate zones refer to the position of the bottom mounting screw holding the plate on the duct, and the numeric positions are equivalent to and level with the equivalent equipment mounting positions on the cabinet.



5) Weight restrictions apply to equipment mounted in this cabinet. Total of provisionable equipment excluding Doors, Cooling Unit, Cable Trough, MSP, Internal Cables, and Connector Plates is not to exceed 580 pounds. Fifty-Six inches (56") of equipment mounting space is available for mounting units this leaves a maximum allowable loading of provisionable unit of 10.3 pounds per inch. No units documented in this EMS exceed this limit.

6) ISG (Isolated System Grounding) requirement must be applied to all units mounted in the cabinet. All units mounted in the cabinet must be electrically insulated from the cabinet if:

Unit has Logic Return connected to Chassis Ground.

Unit has Battery Return connected to Chassis Ground

Unit has DC signal connections (metallic connection) to other equipment having logic return or battery return connected to chassis.

Units isolated as defined above, must have their Chassis Ground connected to the Logic Return Busbar.

The following units must be isolated from the cabinet.

NTRX59AG / NT3X25AA	Common EQPT Shelf (115VAC)
NTRX59AK / A0600770	CASE/DATATEL RM4200
NTRX59AS / A0380973	GDC Modem Shelf
NTRX59AV / A0344310	UDS RM16M-23DC Modem
NTRX59AB / NTRX31DH	500VA Inverter (Isolated)

- 7) The NTRX56AA has system level provisionable items covering the following:

Seismic Zone provisioning

Grounding options provisioning

Cable routing options provisioning

Cabinet door provisioning

For details of the above refer to Engineering Manual Section NTRX25AA, C28 Cabinet Mechanical Assembly.

- 8) For power and grounding information refer to Engineering Manual Section for NTZX16CA Cabinetized Power and Grounding.
- 9) Refer to MS0X60AA for equipment labeling.

- 10) The following Fuses and Fuse Designation Discs are provisionable on the NTRX40AA MSP on a per unit basis. It is not necessary to specify Battery Return or Fuse Connections as that is covered by the cabinet wiring document.

FUSE AMPS	FUSE CPC	DESIG DISC
1-1/3	A0205202	P097P235
2	A0205203	P097P236
3	A0205204	P097P237
5	A0205205	P097P238
0.180	A0205206	P097P239
1/4	A0205207	P097P240
1/2	A0205208	P097P241
3/4	A0205209	P097P242
DUMMY	A0205210	NONE

The equipment engineer must only specify unit, fuse(s) assigned, fuse amps, and designation disc. Fuses and designation discs to be specified are shown above.

97 10 08

## 11) NON-FILTERED BATTERY Source

Non-Filtered Battery A-Feed is supplied via fuses in shelf position 61 Slot 08 and/or dual 10 Amp Circuit Breaker in shelf position 61 slot 10 (CB1, CB2).

Non-Filtered Battery B-Feed is supplied via fuses in shelf position 61 Slot 09 and/or dual 10 Amp Circuit Breaker in shelf position 61 slot 11 (CB3, CB4).

The total amperage of fuses in shelf position 61 slots 08 and 09, shall not exceed 30 Amps for a circuit breaker equipped CPDC or PDC.

For a circuit breaker equipped CPDC or PDC, total amperage of fuses supplied in shelf position 61 Slot 08 shall not exceed 10A if both CB1 and CB2 are assigned to units or 20A if only one of CB1 or CB2 is assigned.

For a circuit breaker equipped CPDC or PDC, total amperage of fuses supplied in shelf position 61 Slot 09 shall not exceed 10A if both CB3 and CB4 are assigned to units or 20A if only one of CB3 or CB4 is assigned.

The total amperage of fuses in shelf position 61 slots 08 and 09, shall not exceed 20 Amps for a PDC equipped with 30 Amp Fuses.

For a PDC equipped with 30 Amp Fuses, total amperage of fuses supplied in shelf position 61 Slot 08 shall not exceed 0A if both CB1 and CB2 are assigned to units or 10A if only one of CB1 or CB2 is assigned.

For a PDC equipped with 30 Amp Fuses, total amperage of fuses supplied in shelf position 61 Slot 09 shall not exceed 0A if both CB3 and CB4 are assigned to units or 10A if only one of CB3 or CB4 is assigned.

Non-filtered battery provisionable fuses and assignable breakers on the NTRX40AA.



KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AZ NTRX31DH	1 CB	20	MSP POS 12,CB05 ASSIGNMENT IS FIXED
NTRX59AC NT7F18AD	1 CB	10	MSP POS 10,CB01,02 MSP POS 11,CB03,04
NTRX59AD NT5X85AA	5	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59AE A0379066			POWERED FROM NTRX59AD
NTRX59AF NT5X69AA	1	0.25	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59AH NT5X86AA	1	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59BJ NT3J00BA	1	2	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59AK A0600770 (A0367419 has been MD)	1 1	5 5	MSP POS 08,F01-08 MSP POS 09,F01-08 (ONE FUSE MUST BE IN MODULE 08, THE OTHER IN MODULE 09.)
NTRX59AL A0601999	1	3	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59AN See RUL45	1 for DAs	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59AP NT5X92AB	1	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59AS A0380973	1 CB	10	MSP POS 08,F01-08 MSP POS 09,F01-08 (ONE FUSE MUST BE IN MODULE 08, THE OTHER IN MODULE 09.)

Non-filtered battery provisionable fuses and assignable breakers on the NTRX40AA.

NTZZ45PA NT6X1306	1 CB	10	MSP POS 10,CB01,02 MSP POS 11,CB03,04
NTRX59AV A0344310	1 1	5 5	MSP POS 08,F01-08 MSP POS 09,F01-08 (ONE FUSE MUST BE IN MODULE 08, THE OTHER IN MODULE 09.)
NTRX59AW NT0J42BA NT0J43AA	2	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59AB NTRX31DH	1 CB	20	MSP POS 12,CB05 Assignment ID fixed

12) FILTERED TALK BATTERY Source

Filtered battery A-Feed is supplied via fuses in shelf position 61 Slot 18 and/or dual 10 Amp Circuit Breaker in shelf position 61 slot 17.

Filtered battery B-Feed is supplied via fuses in shelf position 61 Slot 15 and/or dual 10 Amp Circuit Breaker in shelf position 61 slot 14.

The total amperage of fuses plus breakers used for Filtered Talk Battery shall not exceed 20 Amps for the A or B Feeds, individually.

If no CBs are used on a given circuit (A or B), then it may be fused to a maximum of 20 Amps.

If (1) 10 Amp CB is used on a given circuit (A or B), then it may be fuse to a maximum of 10 Amps.

If (2) 10 Amp CB are used on a given circuit (A or B), then no fuses may be assigned to that module.

Always provide dummy fuses A0205210 in unused fuse positions.

Each module may be equipped with a physical maximum of eight (8) fuses.

Filtered battery provisionable fuses and assignable breakers on the NTRX40AA.

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTZZ45PB NT6X1306	1	5	MSP POS 18,F01-08 (A Feed) MSP POS 15,F01-08 (B Feed)

- 13) Customer provided hardware in an Non-EMC cabinet has yet to be defined.
- 14) All bulkhead equipment (personality/conn plates) mount on the rear of the cabinet, and on the left as shown in the rear view per ADRX56AA.

RULES:

- AP 1) When PEC NTZZ47PC is ordered, these items are provided.
- AP-01 1) Equipment always provided when PEC NTRX5610 is provided.
- AP-02 1) Equipment always provided when PEC NTRX56CE is provided.
- AP-03 1) Equipment always provided when PEC NTRX56CF is provided.
- AP-04 1) Equipment always provided when PEC NTRX56CG is provided.
- AP-05 1) Equipment always provided when PEC NT6X13AB is provided.
- RUL1 1) RESERVED
- RUL2 1) Provide one (1) NTRX56CA Kit per cabinet in cases where the office is arranged for external (vertical) power distribution. A maximum of three (3) Model B Cabinets, including CMIS, with external power arrangements may be configured in a single lineup of Model A Cabinets (i.e. in Model B extensions to Model A offices).
- 2) When External Power Distribution Kits are provisioned, the power entering the cabinet from the power plant shall be treated as not EMC filtered. The kit contains a 13 position external power filter module, mounting hardware, cable

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tunnel covers, external power cable boots, cabinet internal power cables, and designation label. If the cabinet is destined for the German market and a German language label is required for the 13 position power filter, provide P0847107 label.

- RUL3
- 1) Provide one (1) NTRX56CB per cabinet in offices where cabinets are arranged for horizontal power distribution. A horizontal power arrangement is used in Cabinetization Model A lineups. The NTRX56CB Horizontal Cabling Kit may be used when CMIS Cabinets are included in a Model A lineup (i.e. Model B extensions to Model A offices).
  - 2) Horizontal power distribution indicates a power delivery arrangement in which power, which has been filtered to reduce EMC, is distributed horizontally along the bottom of a cabinet lineup within the EMC envelope comprising that lineup.
  - 3) When both PECs NTRX56CB and NTRX56CE are provided, provide (2) each of NTRX1670 (cable) and (2) each of P0737501 (label) for MSP Shelf Position 61 Slot 12R.
  - 4) When both PECs NTRX56CB and NTRX56CF are provided, provide (2) each of NTRX1670 (cable) and (2) each of P0737501 (label) for MSP Shelf Position 61 Slot 13R.
  - 5) When both PECs NTRX56CB and NTRX56CG are provided, provide (2) each of NTRX1670 (cable) and (2) each of P0737502 (label) for MSP Shelf Position 61 Slot 16R.
- RUL4
- 1) RESERVED.
- RUL5
- 1) RESERVED.
- RUL6
- 1) Provide one (1) NTRX56CF Talk Battery Mod Kit to provide Filtered Talk Battery (B-Feed) module in the MSP. Refer to the fuse NOTE earlier in this document for a listing of which equipment require Filtered Talk Battery.
  - 2) Provide one (1) NTRX56CG to provide Filtered Talk Battery (A- Feed) module in the MSP. Refer to the fuse NOTE earlier in this document for a listing of which equipment require Filtered Talk Battery.
  - 3) FILTERED TALK BATTERY Source

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Filtered battery A-Feed is supplied via fuses in shelf position 61 Slot 18 and/or dual 10 Amp Circuit Breaker in shelf position 61 slot 17.

Filtered battery B-Feed is supplied via fuses in shelf position 61 Slot 15 and/or dual 10 Amp Circuit Breaker in shelf position 61 slot 14.

The total amperage of fuses plus breakers used for Filtered Talk Battery shall not exceed 20 Amps for the A or B Feeds, individually.

If no CBs are used on a given circuit (A or B), then it may be fused to a maximum of 20 Amps.

If (1) 10 Amp CB is used on a given circuit (A or B), then it may be fuse to a maximum of 10 Amps.

If (2) 10 Amp CB are used on a given circuit (A or B), then no fuses may be assigned to that module.

Always provide dummy fuses A0205210 in unused fuse positions.

Each module may be equipped with a physical maximum of eight (8) fuses.

- RUL7
- 1) Provide either NTRX54AA or NTRX54BA when a cooling unit is provided per the following:
  - 2) Provide one (1) NTRX54BA, P0741680, and P0746680 when office battery is -48V and filtered power output to Cooling Unit is not required. This is the module that should be provisioned most often.
  - 3) Provide one (1) NTRX54AA, P0741735, and P0746680 when office battery is -60V. The NTRX54AA should also be provisioned when office battery is -48V and filtered power output to Cooling Unit is required. Most often this should not be the case.

- RUL8
- 1) Provide a quantity of P0734475 (MSP Blank Panel Two Position), P0734476 (MSP Blank Panel One Position), and P0559409 (Panel Mounting Screws), when equipment is not provided per the following:

When NTRX56CE is not provided, provide two (2) P0734476 and four (4) P0559409 to be equipped on MSP Slot Positions 12 and 12R.

When NTRX56CF is not provided, provide seven (7) P0734476, one (1) P0734475, and (18) P0559409 to be equipped on MSP Slot Positions as follows:

MSP Filler Kit

EQUIPMENT	PEC	QTY	POS	POS
-----	---	---	---	---
MSP Blank Panel (Two Pos)	P0734475	1	61	01
MSP Blank Panel (One Pos)	P0734476	7	61	01R 13,13R 14,14R 15,15R
Panel Mounting Screw	P0559409	18	61	01,01R 13,13R 14,14R 15,15R

When NTRX56CG is not provided, provide seven (7) P0734476, one (1) P0734475, and (18) P0559409 to be equipped on MSP Slot Positions as follows:

MSP Filler Kit

EQUIPMENT	PEC	QTY	POS	POS
-----	---	---	---	---
MSP Blank Panel (Two Pos)	P0734475	1	61	03
MSP Blank Panel (One Pos)	P0734476	7	61	03R 16,16R 17,17R 18,18R
Panel Mounting Screw	P0559409	18	61	03,03R 16,16R 17,17R 18,18R

When NTRX54AA/BA is not provided, provide one (1) P0734475 MSP Blank Panel (Two Pos) at MSP Slot Position 19, (1) P0734476 MSP Blank Panel (One Pos) at MSP Slot Position 19R and (6) P0559409 Panel Mounting Screw.

- RUL9 1) Provide one (1) NTRX92AA Cooling Unit Kit per cabinet under the following conditions:

NTRX59AZ or NTRX59AB (500VA AC Inverter Kit) and 500VA AC Inverter is provided in shelf position 05 and the following conditions apply. A Cooling unit is not required for any other Inverter mounting positions except Shelf Position 05.

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The total units connected to the 500VA AC Inverter draws over 3.75 Amps at 120 V ac.

In cases where any unit other than the NTRX59AY (ISTC) is mounted in the 7" Zone immediately above the Inverter.

NOTE - NO UNIT EXCEPT THE NTRX59AY (ISTC) CAN MOUNT IN THE 7 INCH ZONE IMMEDIATELY ABOVE A 500VA AC INVERTER SUPPLYING MORE THAN 3.75 AMPS.

- 2) When the NTRX59BJ (NT3J00BA) MLT is provisioned and power dissipation exceeds 150 Watts per unit. Power dissipation is calculated per the total number of CPs installed in the MLT Shelf. Each NT3J00BB CP dissipates 15 Watts, each NT3J00BE dissipates 25 Watts. Dissipation of more than 150 Watt is allowed only if the MLT shelf is mounted in shelf position 05 and a Cooling Unit is provisioned - or - the 7" mounting space immediately above the unit is left vacant, for example:

MOUNT IN 05, LEAVE 12 BLANK  
 OR MOUNT IN 12, LEAVE 19 BLANK  
 OR MOUNT IN 19, LEAVE 26 BLANK  
 OR MOUNT IN 26, LEAVE 33 BLANK  
 OR MOUNT IN 33, LEAVE 40 BLANK  
 OR MOUNT IN 40, LEAVE 54 BLANK

RUL10 1) Reserved for future use..

RUL11 1) Provide Shelf Position ID Labels as follows when field upgrades which add units to the cabinet are provided.

2) Provide one (1) P0738236 label when any unit is added.

3) Provide one (1) P0746677 label when added units are assigned to breakers CB1, CB2, CB3 or CB4.

4) Provide one (1) P0746678 label when added units are assigned to breakers CB09 or CB10.

5) Provide one (1) P0746679 label when added units are assigned to breakers CB13 or CB14.

RUL12 1) Provide one (1) P0715616 Full Size Blank Plate and (1) NTRX34DS CMIS Conn Plate Bulkhead Screw Kit in all connector mounting plate positions in EMC cabinets which are not provided with connector mounting plates associated with units.

RUL13 1) Provide one (1) P0730259 (Half Size Blank Plate) when only one half of bulkhead opening is provided with Half Size Connector Plate associated with units. Provide one (1) NTRX34DT for each (2) P0730259 and each combination of (1) NTRX59BJ and (1) P0730259.

RUL14 1) Provide one (1) NTRX34LA, one (1) P0737132, one (1) NTRX34DS, (2) P0642031, and four (4) P097F813 to provide a 480 Pin Wire Wrap Cross Connect field (20) 25-Pin connectors-24 leads/conn) consisting of two rows of terminal blocks, terminal block to bulkhead cabling, and two cross cabinet cable brackets with mounting screws. Mounts in an EMC cabinet.

2) The NTRX34LA consists of two rows of terminal blocks. One row mounts in Shelf Position 49 and one row mounts in pos 55. (1) NTRX34LA and (1) P0737132 must be provided when any unit is provisioned which does not have its own bulkhead connector plates and cables. Currently the NTRX59AY is the only unit in this category.

3) The EAE must specify which connector from the range C01-C20 on P0737132 plate to which each unit cable is assigned. Each cable requires one connector position. The appropriate switchboard cables must be assigned to corresponding connector position, so that the proper internal/external cable matchups are specified. The appropriate cable(s) from each unit to the NTRX34LA must be provisioned per carx---- documents.

4) Detailed below are the connector arrangement on the NTRX34LA:

```

TOP      C21-C24 (NOT USED)
          C17-C20
          C13-C16
          C09-C12
          C05-C08
BOT      C01-C04
    
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The above depicts the P0737132 connector positions as seen from installer side of the NTRX34LA.

5) Provide one (1) 25-Pin Filter Adapter set per cable connected to the NTRX34LA, Installer side. This set consists of the following equipment and quantities:

EQUIPMENT	PEC	QTY REQ'D
-----	-----	-----



25-Pin Filter Adapter	A0316594	(1)
Female Screwlock	A0317136	(4)
Flat Washer	P0148330	(4)

- 6) Provide one (1) 25-Pin Cover Plate set for any unused Installer side connectors on the NTRX34LA (i.e., not equipped with cables). The number of sets required is equal to 24 minus the number of ports used. (Minimum of (4) P0715775 and (8) P0670923. This set consists of the following equipment and quantities:

EQUIPMENT	PEC	QTY REQ'D
-----	-----	-----
Cover Plate (25-Pin)	P0715775	(1)
Mounting Screws	P0670923	(2)

- RUL15 1) Provision one (1) 500VA AC Inverter, NTRX31DH, if requested by customer to provided 115 V ac to units in CMIS cabinets (and mounted in same cabinet). Customer has the option of providing this circuit.

The Inverter has a failure mode switch to allow selection between breaker trip failure or breaker trip/inverter failure detection.

- 2) Provide one (1) NTRX59AZ (500VA AC Inverter Kit) non-isolated per closed CMIS cabinet to provide support for an Inverter if it was provisioned or if customer is providing. This kit provides isolation and mounting hardware, and Frame Ground Cable. Only mounting pos 05 may be specified.
- 2a) Provide one (1) NTRX59AB (500VA Inverter Kit - Isolated) per open CMIS cabinet to provide support for an inverter if it was provisioned or if customer was providing. Mounting position 05, 19, or 33 may be specified. This kit provides mounting hardware and logic return cable.
- 3) If the Inverter Kit is not provisioned, provide two (2) MSP Blank Panels (One Pos) P0734476 and four (4) Panel Mounting Screws P0559409.
- 4) The 500VA AC Inverter provides standard AC socket outlets for (4) 120 V ac circuits ((2) dual outlets). The maximum total power consumption of all units connected to one Inverter shall not exceed 500 watts (120 V ac nominal, 4.15 amps output). One NTRX34FO (120 V ac Power Cord) is required to distribute power from the Inverter to a each unit which requires protected AC. Refer to the rules for the

unit requiring the power to determine the length of NTRX34FO.

Units listed in the chart below are the only units to date that may be assigned to the CMIS Model B which require this cable:

UNITS REQUIRING AC POWER (120 V ac)	SUPPLY CABLE (ONE PER UNIT)
NT5X69AA (NTRX59AY KIT)	NTRX34FO
NT3X25AA (NTRX59AG KIT)	NTRX34FO

- 5) NTRX59AZ and Inverter may be packaged with the Inactive System Timing Circuit Kit (NTRX59AY).
- 6) Provide one (1) NTRX56CE to provide the 20 amp breaker module in the MSP for provisioning input power for the 500VA AC Inverter. The inverter is powered from the MSP via one 20 amp circuit breaker mounted in slot 12 CB05. Slot 12 is a fixed assignment.

When both NTRX56CB and NTRX56CE are provided, provide two (2) NTRX1670 (cable) and two (2) P0737501 (label) for MSP Shelf Position 61 Slot 12R.

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIGN RANGE
NTRX59AZ NTRX31DH	1 CB	20	MSP POS 12,CB05 ASSIGNMENT ID FIXED
NTRX59AB NTRX31DH	1 CB	20	MSP POS 12,CB05 ASSIGNMENT ID FIXED

- RUL16 1) Provision one (1) DTH/ROTL, NT7F18AD, to provide Remote Office Line Testing, if requested by customer. Customer has the option of providing this circuit. Mounts in an EMC cabinet.

- 2) Provision one (1) NTRX59AC CMIS DTH/ROTL Kit to provide support for a DTH/ROTL if it was provisioned or if customer is providing. The kit provides mounting hardware, bulkhead connector plate, unit to bulkhead cables and filter adapters. Mounts in an EMC cabinet.
- 3) Provision one (1) Connector Plate DTH/ROTL, P0730992, per NTRX59AC Kit provisioned. In the chart below note that when the unit is mounted in shelf position 07, the P0730992 (Full Size Connector Mounting Plate) must be mounted in ZONES A and B, when mounted in shelf position 35, P0730992 must be mount in ZONES E and F. Also, note the unit's fusing specifications included.

NT7F18AD/NTRX59AC MOUNTING and FUSING INFO					
MTG POS	CONN PLATE	CONN PLT ZONE	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG DESIG RANGE
07	P0730992	A,B	1 CB	10	MSP POS 10,CB01,02 MSP POS 11,CB03,04
35		E,F			

- 4) Provide one (1) NT7F19AC spares kit per NTRX59AC, when the Telco specifies maintenance spares for the DTH-ROTL.

- RUL17 1) Provision one (1) Audible/Visual Alarm Ext Unit, NT5X85AA, based on the following. Customer has the option of providing this circuit. Mounts in an EMC cabinet.

When the number of NT0X66-- (Audible Alarm Panels) provisioned exceeds (2), and/or

When the number of NT0X64-- (Exit Alarm Display Panels) provisioned exceeds (4).

- 2) Provide one (1) NTRX59AD and one (1) P0730991 per office to provide support for an Audible/Visual Alarm Ext Unit if it was provisioned or if customer is providing. The NTRX59AD provides Mounting Hardware, Unit to Bulkhead Cables, and Filter Adapters and is mounted in an EMC cabinet.
- 3) When NTRX59AD is provisioned, always provide one (1) Pylon RG-2 Ring Generator, A0379066. Customer has the option of providing this circuit. Mounts in an EMC cabinet.

- 4) When NTRX59AD is provisioned, always provide one (1) CMIS Pylon RG-2 Ring Gen. Kit, NTRX59AE, to provide support for the Pylon RG- 2 Ring Generator on a one per office basis. The NTRX59AE provides Mounting Brackets and Hardware and is mounted in an EMC cabinet.
- 5) When NTRX59AD is provided, provision one (1) Audible Alarm Cutoff Control Unit, NT5X86AA, on a one per office basis when Selective Audible Alarm Cutoff Control is required. Customer has the option of providing this circuit. Mounts in an EMC cabinet.
- 6) Provision one (1) CMIS Audible Alarm Cutoff Kit, NTRX59AH, to provide support for an Audible Alarm Cutoff Control Unit if provisioned or if customer is providing. It supports up to six audible circuits. The NTRX59AH must be used in conjunction with externally mounted NT5X86AB. The NTRX59AH Kit provides Mounting Hardware, Bulkhead Connector Plate, Unit To Bulkhead Cables, and the Filter Adapters and is mounted in an EMC cabinet.

If the NTRX59AH is not required leave its assigned mounting position blank and provide (8) Blank Cover Plates 9 Pin (P0715809) and (16) mounting screws (P0670923) to cover unused connector mounting positions on the P0730991 (Connector Mounting Plate).

- 7) Fusing and power requirements for the system is as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AD NT5X85AA	5	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08
NTRX59AE A0379066			POWERED FROM NTRX59AD
NTRX59AH NT5X86AA	1	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08

- 8) The NTRX59AD, NTRX59AE, and NTRX59AH are provided as a group. However, the NTRX59AH may not be provided initially as a standalone item.
- 9) Provision one (1) Connector Mounting Plate, P0730991, per NTRX59AD Kit provisioned. It provides connector fields for

NT5X85AA and NT5X86AA. However, these units shall be assigned and provisioned as a group (e.g. assign consecutively in cabinet shelf positions 04, 06, 08 or 18, 20, 22 etc.). See the chart below:

KIT/UNIT	MTG POS	CONN PLATE	CONN PLT ZONE	
NTRX59AD NT5X85AA	05	P0730991	A,B	
	19		C,D	
	33		E,F	
	47		G,H	
NTRX59AH NT5X86AA	07			
	21			
	35			
	49			
NTRX59AE A0379066	09			
	23			
	37			
	51			

- RUL18
- 1) Provision one (1) Inactive System Timing Circuit, NT5X69AA, on a one per office basis to record the duration of system downtime, if requested by customer. Customer has the option of providing this circuit. Mounts in an EMC cabinet.
  - 2) Provide one (1) NTRX59AY, Inactive System Timing Circuit Kit (ISTC) to provide support for an Inactive System Timing Circuit if provisioned or if customer is providing. The NTRX59AY Kit provides Mounting Brackets. Mounts in an EMC(closed) cabinet.
  - 3) The following equipment or connections to this equipment is also required:

A Non-Isolated Inverter located in the same cabinet or a connection on an Inverter located in the same cabinet. When the NTRX59AY is provisioned a 120 V ac Inverter socket and one (1) NTRX34FO variable length cable is required. The cable length required is dependent of the shelf position of the two units. Refer to the chart below and provision the NTRX34FO cable and Cable length as indicated:

NTRX31DH SHELF POSITION	NT5X69AA SHELF POSITION	NTRX34FO REQUIRED LENGTH IN INCHES
5	14	36

Six (6) feet of R0109636 (24 AWG Solid Green Wire). This wire connects ISTC unit (NT5X69AA) TSA, PIN 15 to NTRX34LA. Customer engineer must specify PIN 1 on one of connectors C01-C20 as being assigned to ISTC. See ISRX34LA NOTE 208 for actual NTRX34LA terminal block pin to be specified. Customer engineer must ensure that switchboard cable containing "IAST" lead is assigned to the same C01-C20 connector that has been assigned to the internal connection. Refer to ISRX59AY, CAD 1.

One (1) NTRX34LA or a connection on one (1) of the twenty (20) connectors on the NTRX34LA.

One (1) 25-Pin Filter adapter is required on P0732132 which is provisioned per the NTRX34LA. Provide the following, shipped loose:

One (1) 25-Pin Filter Adapter, A0316594

Four (4) Female Screwlock, A0317136

Four (4) Flat Washer, P0148330

- 4) The ISTC legal mounting location and Connector Mounting Plate requirement is as follows:

KIT/UNIT	MTG POS	CONN PLATE	CONN PLT ZONE
NTRX59AY NT5X69AA	14	Via Conn Plate Prov. With NTRX34LA	See NTRX34LA

- 5) The ISTC fusing requirements are as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AY NT5X69AA	1	0.25	MSP POS 08,F01-08 MSP POS 09,F01-08

RUL19 1) Reserved for future use.

RUL20 1) Provide one (1) MLT Applique Shelf, NT3J00BA, per each multiple of ten (10) MLT circuit packs required for loop testing. Customer has the option of providing this shelf themselves. Mounts in an EMC cabinet.

2) Provide one (1) Connector Plate MLT Applique Shelf, P0730993, and one (1) CMIS MLT Applique Shelf Kit, NTRX59BJ, to provide support for each MLT Applique Shelf if provisioned or if customer is providing. This kit provides ISG Mounting Hardware, Bulkhead Connector Plate, Unit to Bulkhead Cables, Filter Adapters, and Logic Return Ground Cable. Mounts in an EMC cabinet.

3) Provide one (1) NTRX34DT for every (2) NTRX59BJ.

4) Provide NT3J00BB CPs in pos 03 to 09 and 13 to 21 or NT3J00BE CPs in pos 03 to 21 (odd positions only) as per job engineering requirements. NOTE: Cooling unit may be required. See NTRX92AA rule for power dissipation limits.

5) The chart below depicts the relationship between the equipment mounting position and the Zone in which the Connector

Mounting Plate must be mounted. Provide a half size blank connector plate in adjacent zone (if unused).

KIT/UNIT	MTG POS	CONN PLATE	CONN PLT ZONE
NTRX59BJ NT3J00BA	05	P0730993	A
	19		C
	33		E
	47		G

6) The NT3J00BA fusing requirements are as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59BJ NT3J00BA	1	2	MSP POS 08,F01-08 MSP POS 09,F01-08

- RUL21 1) Currently, there is no requirement for the 9-Pin or 37- Pin Filter Adapter and associated covers. However, this equipment is included here so as to maintain all items documented by MSRX56AA as provisionable.
- 2) There is no documented requirement for the 9-Pin Filter Adapter or Cover Plates. However, if they should be required, provide the following:

Provide one (1) 9-Pin Filter Adapter set per cable connected to a Bulkhead Connector Plate having 9-Pin cutouts. This set consists of the following equipment and quantities:

EQUIPMENT	PEC	QTY REQ'D
-----	-----	-----
9-Pin Filter Adapter	A0344127	(1)
Female Screwlock	A0317136	(4)
Flat Washer	P0148330	(4)

Provide one (1) 9-Pin Cover Plate set for any unused Installer side connectors on a Bulkhead Connector Plate hav-



ing 9-Pin cutouts. This set consists of the following equipment and quantities:

EQUIPMENT	PEC	QTY REQ'D
Cover Plate (9-Pin)	P0715809	(1)
Mounting Screws	P0670923	(2)

- 3) There is no documented requirement for the 37-Pin Filter Adapter or Cover Plates. However, if they should be required, provide the following:

Provide one (1) 37-Pin Filter Adapter set per cable connected to a Bulkhead Connector Plate having 37-Pin cutouts. This set consists of the following equipment and quantities:

EQUIPMENT	PEC	QTY REQ'D
37-Pin Filter Adapter	A0316599	(1)
Female Screwlock	A0317136	(4)
Flat Washer	P0148330	(4)

Provide one (1) 37-Pin Cover Plate set for any unused Installer side connectors on a Bulkhead Connector Plate having 37-Pin cutouts. This set consists of the following equipment and quantities:

EQUIPMENT	PEC	QTY REQ'D
Cover Plate (37-Pin)	P0715774	(1)
Mounting Screws	P0670923	(2)

- RUL22 1) Provision one (1) Secondary Protector, A0361490, for each CASE/DATATEL modem provisioned. These are installed at the MDF. These are required because these modems are not UL 1459 approved.

- RUL23 1) Provision one (1) CMIS CASE/DATATEL RM4200 (-48VDC) Modem Shelf, A0600770, to accommodate up to sixteen CASE DATATEL 4200 series modems. Customer has the option of providing this shelf themselves. Mounts in a non-EMC (OPEN) cabinet.

- 2) Provision one (1) CMIS CASE/DATATEL RM4200 (-48VDC) Modem Shelf Kit, NTRX59AK, to provide support for each CMIS CASE/DATATEL RM4200 (-48VDC) Modem Shelf if it was provisioned or if customer is providing. Kit provides isolation/mounting brackets, logic ground cable and associated hardware.

- 3) The CMIS CASE/DATATEL RM4200 (-48VDC) Modem Shelf occupies 7" of vertical space. Allow an additional 1" above and below the unit for cooling. Mounting position specified is the lowest screw holding the unit mounting bracket to the cabinet. Bottom edge of the unit is 1-1/2" below this mounting position.
- 4) The modem shelf fusing requirements are as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AK	1	5	MSP POS 08,F01-08
A0600770	1	5	MSP POS 09,F01-08
(A0367419 has been MD)			(ONE FUSE MUST BE IN MODULE 08, THE OTHER IN MODULE 09.)

- RUL24 1) Provide 42011 modem (A0367996) for full duplex synchronous binary serial data transmission/reception over 3002 type 4W private lines or half duplex over 2W private lines and 2W DDD switched network.
- RUL25 1) Provide 42021 modem (A0355258) for asynchronous 4w full duplex operation on private leased lines at 0-1800 bps speed on conditioned lines.
- RUL26 1) Provide 42081 modem (A0367994) for synchronous 4w full duplex operation in a-mode on private leased lines at 4800 bps.
- RUL27 1) Provide 42121 modem (A0355259) for 2W dial-up operation as follows; 1200 BPS operation on FDX PSTN line or 1200 BPS character asynchronous operation on FDX PSTN line or 0-300 BPS asynchronous operation on FDX PSTN line.
- RUL28 1) Provide 42291 Data Auxiliary Set (829 DAS) Modem (A0355255) to terminate 4w private line data channels.
- RUL29 1) Provide 42225 modem (A0600589) for full duplex operation for the transmission of serial data over 2W PSTN or 2W PLL for operation at 1200 or 2400 bps synchronous or 300/1200/2400 bps asynchronous operation.
- RUL30 1) Provide 42323 modem (A0352086) for full duplex operation for the transmission and reception of serial data over 2W PSTN or 4W PLL. Provides operation at 1200/2400/4800/9600

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bps synchronous or 300/1200/2400/4800/9600 bps asynchronous operation.

- RUL31 1) Provide 42961 modem (A0351642) for full duplex operation for the transmission and reception of serial data over 4w PLL at 9600 bps synchronous operation.
- RUL32 1) Provide one (1) adapter plug per side (max. two per RM4200 SHELF) for modems operated in dial up mode on Public Switched Telephone Network (PSTN). Specify adapter in connector pos P2 to determine transmit level of modems in slots 1-8 or in connector pos P4 for slots 9-16. Specify A0320894 (CASE DATATEL 905-6582-01) to provide Telco adjustable transmit level between 0 and -12 dBm.
- RUL33 1) Provide one (1) adapter plug per side (max. two per RM4200 SHELF) for modems operated in dial up mode on Public Switched Telephone Network (PSTN). Specify adapter in connector pos P2 to determine transmit level of modems in slots 1-8 or in connector pos P4 for slots 9-16. Specify A0369235 (CASE DATATEL 905-6582-02) to provide a permissive transmit level of -9 dBm maximum.
- RUL34 1) Provide one (1) adapter plug per side (max. two per RM4200 SHELF) for modems operated in dial up mode on Public Switched Telephone Network (PSTN). Specify adapter in connector pos P2 to determine transmit level of modems in slots 1-8 or in connector pos P4 for slots 9-16. Specify A0369236 (CASE DATATEL 905-6582-03) to provide a Fixed Loss Loop (FLL) transmit level of -4 dBm maximum.
- RUL35 1) Provide one (1) CMIS DANTEL Digital Alarm Scanner (DMS-100 to SCC Interface, fully wired and equipped), A0601999, for each DMS office required to interface with Switch Control Centers (SCC) of Bell Operating Companies (USA). Customer has the option of providing this circuit. Mounts in a non-EMC cabinet.
- 2) Provide one (1) CMIS DANTEL Digital Alarm Scanner Kit, NTRX59AL, to provide support for each CMIS DANTEL Digital Alarm Scanner if provisioned or if customer is providing. Kit provides mounting brackets and associated hardware.
- 3) The CMIS DANTEL Digital Alarm Scanner occupies 6" of vertical space. Allow an additional 1" above and below the unit for cooling. Mounting position to be specified is that of the lowest screw holding the unit mounting bracket to the cabinet. Bottom edge of the unit is 1- 1/2" below this mounting position.

4) The Scanner fusing requirements are as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AL A0601999	1	3	MSP POS 08,F01-08 MSP POS 09,F01-08

RUL36 1) Provide one (1) NTZZ45PA for each RMM required in CMIS Model B up to a maximum of four (4) per CMIS cabinet. Mount the first NTZZ45PA in position 05 on the CMIS with each additional one mounting in 19, 33, then 47. The RMM requires 14 inches of vertical space on the CMIS cabinet. See insert EMB2-24-RMM-3 for more information on NTZZ45PA.

In a mono RCS-S office there may only be a maximum of (3) RMMs, (1) Internal RMM located in the CRSC and (2) External RMMs located in CEXT or CMIS. Therefore, the maximum number of RMM in a CMIS for an RSC-S mono office is (2).

In a dual RCS-S office there may be a maximum of (6) RMMs, (2) Internal RMMs located in the CRSCs and (4) External RMMs located in CEXTs or CMISs. Therefore, the maximum number of RMM in a CMIS for an RSC-S dual office is (4).

2) The RMM is unique in that it requires both Filtered and Non- Filtered TALK BATTERY and is currently the only CMIS equipment that requires Filtered TALK BATTERY. The Fuses are used to power the circuit packs in the RMM shelf; this power is filtered. The RMM fusing requirements are as follows.

The RMM shelf can be powered by "B" or "A" Feed (L-). Use NTRX42AA in pos. 11 of the MSP for Input to PC-48V if "B" feed is required to Shelf. Circuit Breaker # 3 or 4. Use NTRX42AA in pos. 10 of the MSP for Input to PC-48V if "A" feed is required to Shelf. Circuit Breaker # 1 or 2.

See FUSING INFO Table below for connection variations.

Use NTRX43AA in pos. 15 of the MSP for Input to FLT-48V if "B" feed is required to Shelf. Connect to one of the eight Fuse positions available. Use NTRX43AA in pos. 18 of the MSP for Input to FLT-48V if "A" feed is required to Shelf. Connect to one of the eight Fuse positions available.

See FUSING INFO Table below for connection variations.

The first RMM provisioned in the CMIS should be powered from the B Feed (MSP POS 11 - CB03, MSP POS 15, F01-08) since the Internal RMM provided in the CRSC is powered by the A Feed. Fusing should alternate between A and B.

A second RMM provisioned in the CMIS should be powered from the A Feed (MSP POS 10 - CB01, MSP POS 18, F01-08).

A third RMM provisioned in the CMIS should be powered from the B Feed (MSP POS 11 - CB04, MSP POS 15, F01-08) since the Internal RMM provided in the CRSC is powered by the A Feed.

A fourth RMM provisioned in the CMIS should be powered from the A Feed (MSP POS 10 - CB02, MSP POS 18, F01-08).

FUSING INFO		
NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG DESIG RANGE
1 CB	10	MSP POS 10,CB01,02 (A Feed) MSP POS 11,CB03,04 (B Feed)
1	5	MSP POS 18,F01-08 (A Feed) MSP POS 15,F01-08 (B Feed)

- RUL37 1) Provision one (1) NTRX3133 Top Cover Kit, in an OPEN CMIS cabinet only, for covering top opening if cabling is to be done under floor or on raised floor. Also provision one (1) P0737714 Cable Bracket, one (1) P0738577 Cable Bracket and four (4) P097F839 Screws at the bottom of the cabinet to secure cables.

The Top Cover cannot be used in conjunction with the NTRX56CA CMIS External Power Filter Kit. These parts physically interfere with each other and cannot be used together.

- RUL38 1) Provide one (1) NTRX3134 Bottom Cover Kit, in an OPEN CMIS cabinet only, for covering bottom opening if cabling is to be in cable trays on top of cabinet. Also provision one (1) P0737714 Cable Bracket, one (1) P0738577 Cable Bracket and four (4) P097F839 Screws at the top of the cabinet to secure cables.

RUL39 1) If cabinet is a CLOSED type, provision one (1) NTRX56FA Right Hand Bulkhead Kit at the right rear of the cabinet.

RUL40 1) Provision one (1) A0380973 CMIS GDC Data Set Module Shelf, in an OPEN CMIS cabinet only, if requested by customer. Customer has the option of providing this shelf themselves. A maximum of (4) may be provisioned per cabinet. It houses up to sixteen Data Set Modems and is a redundant powered 48 volt DC shelf. One (1) DPS-9 Power Supply can power 16 slot positions, but two (2) are provided per DS-6 shelf. The different series of GDC modems may be mixed within the shelf in any manner desired.

2) Provision one (1) NTRX59AS CMISC GDC Modem Kit, in an OPEN CMIS cabinet only, to provide support for a modem shelf, if the Data Set Module Shelf above was provisioned or per customer requirement if customer is providing a GDC Modem Shelf. Kit provides modem shelf mounting hardware. (kit does not provide Modem shelf, fuses, or designation disks.)

3) The CMIS GDC Data Set Module Shelf occupies 10.5" of vertical space. Allow an additional 1" above and below the unit for cooling. Mounting position specified is the lowest screw holding the unit mounting bracket to the cabinet. Bottom edge of the unit is 1- 1/2" below this mounting position.

4) The modem shelf fusing requirements are as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AS A038097	1CB	10	MSP POS 08,F01-08 MSP POS 09,F01-08 (ONE FUSE MUST BE IN MODULE 08, THE OTHER IN MODULE 09.)

RUL41 1) Provision modem cards, in an OPEN CMIS cabinet only, per customer requirements to provide desired features. For provisionable modems see GDC Modems Engineering Manual Section, EMA13-01-GDC-1 (T\_GDC\_MOD).

2) Provision one (1) Secondary Protector, A0361490, for each GDC modem provisioned which is not UL 1459 approved. These are installed at the MDF. The following GDC modems are UL 1459 approved and do not required the Protector:

Modem Description	Modem CPC
GDC DC 202S/T	A0328524
GDC DC 596	A0378942
GDC DC 596 MNP5	A0378944
GDC DC 596 X.25	A0378946
GDC DC 19202A	A0378920
GDC DC 500F/AXR	A0601470

- RUL42 1) Provision one (1) A0344310 CMIS UDS Modem Shelf RM16, in an OPEN CMIS cabinet only, if requested by customer. Customer has the option of providing this shelf themselves. A maximum of (4) may be provisioned per cabinet. It houses up to sixteen Data Set Modems and is a redundant powered 48 volt DC shelf. One (1) DPS-9 Power Supply can power 16 slot positions, but two (2) are provided per RM16 shelf. The different series of UDS modems may be mixed within the shelf in any manner desired.
- 2) Provision one (1) NTRX59AV CMISC UDS RM16-23DC Modem Kit, in an OPEN CMIS cabinet only, to provide support for a modem shelf, if the Data Set Module Shelf above was provisioned or per customer requirement if customer is providing a UDS Modem Shelf. Kit provides modem shelf mounting hardware. (kit does not provide Modem shelf, fuses, or designation disks.)
- 3) The CMIS UDS Modem Shelf RM16 may be mounted in any position in a non-EMC cabinet. The unit occupies 7" of vertical space. Allow an additional 1" above and below the unit for cooling. Mounting position specified is the lowest screw holding the unit mounting bracket to the cabinet. Bottom edge of the unit is 1-1/2" below this mounting position.

4) The modem shelf fusing requirements are as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AV	1	5	MSP POS 08,F01-08
A0344310	1	5	MSP POS 09,F01-08 (one fuse must be in MOD 08, the other in MOD 09)

RUL43 1) Provision modem cards, in an OPEN CMIS cabinet only, per customer requirements to provide desired features. For provisionable modems see UDS Modems Engineering Manual Section, EMA13-01-UDS-1 (62005220).

2) Provision one (1) Secondary Protector, A0361490, for each modem provisioned. These are installed at the MDF. These are required because these modems are not UL 1459 approved.

RUL44 1) Provision one (1) NTRX59AN CMISC COOK DA Shelf Hardware Kit, in an OPEN CMIS cabinet only, if a COOK Digital Announcer (CDA) is to be provided in this cabinet. A maximum of (8) may be provisioned per cabinet of trunk or line versions or a mix - (4) A Feed and (4) B Feed alternating. This kit provides only mounting hardware for this product. The Announcer must be ordered separately.

2) Fusing and power requirements for the system is as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AN	1	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08

RUL45 1) Provide NT5M02CC CDA for applications requiring two audio outputs and a message length up to one minute.

2) The NT5M02CC CDA is equipped with the following:

- a) 2-Port Fixed Message Length F/W (FIXED) NT5M50AE
- b) 26 inch Mounting Brackets (26")
- c) Remote Record (all units are e/w remote record feature)



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- d) Battery Backup (all units are e/w battery back-up)
  - e) One minute message length (1M)
  - f) Ring Trip (line) Access (RTA)
  - g) Product Color NT Brown (BRN)
- 3) Refer to the Cook Digital Announcer Engineering Manual Section, EMA13-01-CDA-3, NT5M0N, for more information.
- RUL46 1) Provide NT5M04DU CDA for applications requiring four audio outputs and a message length up to two minutes.
- 2) The NT5M04DU CDA is equipped with the following:
- a) 4-Port Fixed Message Length F/W (FIXED) NT5M50AG
  - b) 26 inch Mounting Brackets (26")
  - c) Remote Record (all units are e/w remote record feature)
  - d) Battery Backup (all units are e/w battery back-up)
  - e) Two minute message length (2M)
  - f) Ring Trip (line) access (RTA)
  - g) Product Color NT Brown (BRN)
- 3) Refer to the Cook Digital Announcer Engineering Manual Section, EMA13-01-CDA-3, NT5M0N, for more information.
- RUL47 1) Provide NT5M04DV CDA for applications requiring four audio outputs and a message length up to one minute.
- 2) The NT5M04DV CDA is equipped with the following:
- a) 4-Port Split Memory Demand Phased F/W (SP/DMD) NT5M50AJ
  - b) 26 inch Mounting Brackets (26")
  - c) Remote Record (all units are e/w remote record feature)
  - d) Battery Backup (all units are e/w battery back-up)
  - e) One minute message length (1M)
  - f) Ring Trip (line) access (RTA)
  - g) Product Color NT Brown (BRN)
- 3) Refer to the Cook Digital Announcer Engineering Manual Section, EMA13-01-CDA-3, NT5M0N, for more information.
- RUL48 1) Provide NT5M06CB CDA for applications requiring six audio outputs and a message length up to three minutes.
- 2) The NT5M06CB CDA is equipped with the following:
- a) 6-Port Fixed Length Message F/W (FIXED) NT5M50AG
  - b) 26 inch Mounting Brackets (26")

- c) Remote Record (all units are e/w remote record feature)
  - d) Battery Backup (all units are e/w battery back-up)
  - e) Three minute message length (3M)
  - f) Ring Trip (line) access (RTA)
  - g) Product Color NT Brown (BRN)
- 3) Refer to the Cook Digital Announcer Engineering Manual Section, EMA13-01-CDA-3, NT5M0N, for more information.
- RUL49 1) Provide NT5M08CC CDA for applications requiring eight outputs and a message length up to four minutes.
- 2) The NT5M08CC CDA is equipped with the following:
- a) 8-Port Fixed Message Length F/W (FIXED) NT5M50AG.
  - b) 26 inch Mounting Brackets (26")
  - c) Remote Record (all units are e/w remote record feature)
  - d) Battery Backup (all units are e/w battery back-up)
  - e) Four minute message length (4M)
  - f) Trunk access (TRK)
  - g) Product Color NT Brown (BRN)
- 3) Refer to the Cook Digital Announcer Engineering Manual Section, EMA13-01-CDA-3, NT5M0N, for more information.
- RUL50 1) Provide NT5M08CH CDA for applications requiring eight outputs and a message length up to one minute.
- 2) The NT5M08CH CDA is equipped with the following:
- a) 8-Port Split Memory Demand Phased F/W (SP/DMD) NT5M50AJ.
  - b) 26 inch Mounting Brackets (26")
  - c) Remote Record (all units are e/w remote record feature)
  - d) Battery Backup (all units are e/w battery back-up)
  - e) One minute message length (1M)
  - f) Ring Trip (line) Access (RTA)
  - g) Product Color NT Brown (BRN)
- 3) Refer to the Cook Digital Announcer Engineering Manual Section, EMA13-01-CDA-3, NT5M0N, for more information.
- RUL51 1) Provision one (1) NTRX59AP CMISC Alarm Extension Kit, in an OPEN CMIS cabinet only, to mount in the CMIS if at least one NT0X64AA is provided for a remote office.

- 2) Provision one (1) P0744667 bracket and two (2) P097F813 screws for cable management when the Alarm Extension kit is provided.
- 3) Application of the Alarm Extension Kit is limited by the following factors:

The dry relay contacts are limited in accordance with Table 725- 31(B) of the National Electrical Code (NEC) for not inherently limited power sources (overcurrent protection required). The source of power for these contacts is limited to 60 VDC, 1 A. The dry relay contacts are not allowed to have outside plant connection. This is required in order to reduce hazards from lightning and power cross conditions onto the bay and connected power source(s) supplying the relay contacts.

- 4) Fusing and power requirements for the system is as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AP	1	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08

- RUL52
- 1) Provide one (1) EMM, NT0J42BA, to provide ISDN 2B1Q Subscriber loop line test maintenance service for up to 2000 lines as required by the Customer, in an OPEN CMIS cabinet only,.
  - 2) Provide one (1) ISDN Test Module (ITM), NT0J43AA, per EMM, in an OPEN CMIS cabinet only, to provide the following test functions:
    - \* Cold Start Verification
    - \* Performance Monitoring Detection
    - \* Threshold Crossing Verification Testing
  - 3) Provide one (1) CMIS ESTU/ITM Kit, NTRX59AW, per ESTU/ITM to provide support for each EMM/ITM provisioned, in an OPEN CMIS cabinet only. The kit provides ESTU Splitter Box Assembly (XCONN), EMM/XCONN Cable Assembly, and EMM to ITM Cable Assembly.

- 4) The EMM/ITM require 8 inches of continuous space. They must be mounted in sets with the EMM above the ITM and 2 inches of space between them. The CMIS ESTU/ITM Kit mounts between these units.
- 5) Fusing and power requirements for the system is as follows:

KIT/UNIT	NUMBER OF FUSES	AMPS	FUSE/BREAKER DESIG RANGE
NTRX59AW NT0J42BA NT0J43AA	2	1-1/3	MSP POS 08,F01-08 MSP POS 09,F01-08

- 6) The EMM, ITM and X-CONN UNIT must be mounted within the same CMIS cabinet. The EMM produces the most heat dissipation and should be mounted directly above the ITM unit. The modem shelf can mount within the same CMIS cabinet as the ITM/EMM etc. or another CMIS located within 50 feet. The GDC-596-9600 (A0378942) modem card and the GDC DS-6 modem shelf (A0380973) are recommended for the HSM I/F. The GDC DS-6 modem shelf is not part of the NTRX59AW Kit. The NTRX59AW Kit contains misc. hardware and cables required for mounting the shelf.
- 7) Maximum length for EIA devices is 50 feet. Use shielded cable for external cabling.
- 8) Refer to EMA13-01-TL1-1 (NT0J42BA Eng. Man. Section) for further provisioning information for ESTU.

RUL53

- 1) Provide one (1) TELLABS 1014U Universal Mounting Shelf, A0624408, in a CLOSED cabinet only to provide support for up to (14) 4201 Terminating Sets, if requested by customer. Customer has the option of providing this shelf.
- 2) The TELLABS Mounting Shelf occupies 6 inches of space.
- 3) Provide one (1) TELLABS 1014U Universal Mounting Shelf Kit, NTRX59AX, in a CLOSED cabinet only, if the TELLABS Mounting Shelf was provisioned or per customer requirement if customer is providing a TELLABS Mounting Shelf. Kit provides mounting hardware and other TELLABS 1014U items required to properly install the shelf.
- 4) Provide one (1) Connector Plate, P0733320, per each TELLABS 1014U Universal Mounting Shelf Kit provisioned.

- RUL54 1) Provision TELLABS 4201 Terminating Sets, in a CLOSED cabinet only, per customer requirements. These provide basic toll-grade interfacing between 2W and 4W voice-frequency transmission facilities. It features switchable 600 or 900-ohm impedance termination on the 2W side, while 4W impedance terminations are fixed at 600 ohms. The 4201 Sets should not be used in applications characterized by low impedance (less than 800 ohms) across the A and B leads.
- 2) Provision one (1) Secondary Protector, A0361490, for each Terminating Set provisioned. These are installed at the MDF. These are required because these Terminating Sets are not UL 1459 approved.
- RUL55 1) Provide NT3X25AA (115VAC) common equipment shelf as required by customer for customer provided 115/120 VAC powered equipment.
- 2) Provide one (1) NTRX59AG Kit for each NT3X25AA specified. Provides mounting hardware and logic return cable.
- 3) To be provided in non EMC (open) CMIS only.
- 4) 115/120 VAC power is obtained from NTRX31DH inverter located in same cabinet only. NTRX59AB (isolated) inverter kit must be specified as AC power source.
- 5) Customer is responsible for EMC performance of customer provided units mounted on NT3X25AA.
- 6) Supply NTRX34FO cable in lengths specified below. Each NT3X25AA requires one cable. X in length box indicates non valid mounting position combination.

120 VAC POWER CORD LENGTH-NT3X25AA TO INVERTER  
(NTRX59AG KIT TO NTRX59AB KIT)  
(Length in Inches)

Inverter Location (mtg brkt-bot scr)	NT3X25AA (MTG BRKT-BOT SCR)						
	5	13	21	29	37	45	53
5	X	X	38	46	54	62	70
19	41	33	X	X	40	48	56
33	55	47	39	31	X	X	42

120 VAC POWER CORD LENGTH-NT3X25AA TO NT3X25AA  
(NTRX59AG KIT TO NTRX59AB KIT)  
(Length in Inches)

NT3X25AA Location (mtg brkt-bot scr)	NT3X25AA (MTG BRKT-BOT SCR)						
	5	13	21	29	37	45	53
5	X	31	39	47	55	63	71
13	31	X	31	39	47	55	63
20	39	31	X	31	39	47	55
29	47	39	31	X	31	39	47
37	55	47	39	31	X	31	39
45	63	51	47	39	31	X	31
53	71	63	51	47	39	31	X

## MAINTENANCE SPARE STORAGE FRAME

PEC CODE: NTZZ27BA

CPC CODE: B0233167

RATING: Standard

REPLACES: Not applicable

REPLACED BY: Not applicable

ABBREVIATION NAME: MSS

ENGINEERING DESCRIPTION: The Maintenance Spare Storage Frame houses the spare circuit packs required for a DMS office. Each frame houses approximately 100 spare circuit packs.

REFERENCE DOCUMENTATION: MSZZ27BA 00 01  
SLZZ27BA 00 03  
NTZZ27BA REL 03

MARKETS: Applicable markets:

Canada  
US  
CALA  
Asia/Pacific  
Europe

ISSUE AUTHOR: NTI: Ron Hogan Dept. 3471 (PPK)

MAIN CONTACT: NTI: James Marsden Dept. 3471 (PPK)



NTZZ27BA EMB13-02-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 92 12 07	----- ECM 614 03	Previous history not available NT0X25AH is shown as AP to match SL. EC #018-39307 - Replace NT0X25AV with NT0X25AH. Change status of NT0X25AV to A&M.
95 09 28	ECM 614 04	NT0X25AV rated MD per EC 018-41956.

The Maintenance Spare Storage Frame is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Maintenance Spare Storage Fr	NT0X85AA		1			AP
# Universal Framework (Canada)	NT0X25AV		1			AP
Universal Framework (Canada)	NT0X25AH		1			AP
Common CP Cage Assy	NT0X8501	ASSY	1	63		AP-01
Line Card Stor Chassis Assy	NT3X55AA			63		RUL1
Line Card Stor Chassis Assy	NT3X55BA			63		RUL2
Common CP Cage Assy	NT0X8501	ASSY	1	49		AP-01
Line Card Stor Chassis Assy	NT3X55AA			49		RUL1
Line Card Stor Chassis Assy	NT3X55BA			49		RUL2
Common CP Cage Assy	NT0X8501	ASSY	1	35		AP-01
Line Card Stor Chassis Assy	NT3X55AA			35		RUL1
Line Card Stor Chassis Assy	NT3X55BA			35		RUL2
Common CP Cage Assy	NT0X8501	ASSY	1	21		AP-01
Line Card Stor Chassis Assy	NT3X55AA			21		RUL1
Line Card Stor Chassis Assy	NT3X55BA			21		RUL2
Common CP Cage Assy	NT0X8501	ASSY	1	07		AP-01
Line Card Stor Chassis Assy	NT3X55AA			07		RUL1
Line Card Stor Chassis Assy	NT3X55BA			07		RUL2

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT0X25AV	MD	NT0X25AH

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

## NOTES:

## RULES:

- AP 1) When PEC NTZZ27BA is ordered, these items are provided.
- AP-01 1) These items are included with NT0X85AA and are shown for completeness.
- RUL1 1) Provide one (1) Line Card Storage Chassis, NT3X55AA, to accommodate up to twenty (20) Line Cards, NT2X17 or NT2X18, Ringing Bus MUX cards, NT2X20AB, (size 4" x 4") and up to four (4) I/O Bus Interface cards, NT2X16, (size 4" x 6").
- 2) Allow 6" of shelf width per chassis. Maximum four (4) chassis per shelf.
- 3) The use of this chassis for the storage of other cards of reduced dimensions requires confirmation.
- 4) Chassis are to be shipped loose. Installation will mount on frame per job requirements.
- RUL2 1) Provide one (1) Line Card Storage Chassis, NT3X55BA, to accommodate up to thirty (30) single slot New Peripheral Line Cards, or ten (10) double slot New Peripheral Line Cards and ten (10) single slot New Peripheral Line Cards, and up to one (1) New Peripheral I/O Bus Interface card. For the case of 10 single slot line cards and 10 double slot line cards, each double slot line card may be replaced by two (2) single slot line cards.
- 2) Maximum four (4) chassis and 3 single slot cards in the shelf.
- 3) Chassis are to be shipped loose. Installation will mount on frame per job requirements.

CABINETIZED REMOTE MISCELLANEOUS EQUIPMENT  
(CRME)

PEC CODE: NTZZ31QB  
CPC CODE: B0240542  
RATING: STD  
REPLACES: NTZZ31QA  
REPLACED BY: Not Applicable  
ABBREVIATION NAME: CRME

ENGINEERING DESCRIPTION: The Cabinetized Remote Miscellaneous Equipment (CRME) is a general purpose equipment cabinet for use in Remote Switching Center - Sonet (RSC-S) line-ups. It combines PDC and MIS functions into one cabinet. The CRME is part of the Model B product and uses the NTRX25AA Enhanced Cabinet. The dimensions of the NTRX25AA are 28.5W X 28.7D X 72.0H inches. The approximate weight of the cabinet is 810 pounds.

The CRME can support multiple line-ups composed of up to 76 individual loads and houses a maximum of 2 power distribution panels, each of which distributes power to up to 38 individual fused loads. Additional optional equipment also has reserved breakers which may further limit the number of supported loads. The total DC distribution capability of a CRME is 400 Amperes, 200A on Feeder-A and 200A on Feeder-B. This PDC functionality occupies the top half of the cabinet.

The bottom half is reserved for MIS equipment. Only DC powered equipment is supported. Additional CMIS cabinets may be added as required.

REFERENCE DOCUMENTATION: MSRX31EA 00 05  
SLRX31EA 00 04  
ADRX31EA 00 05

MSRX40AA 00 03  
SLRX40AA 00 03  
SLRX4001 00 02

MARKETS:

Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

	ISSUE AUTHOR: NTI:	Steve Martin	Dept. 3471	(PPK)
	MAIN CONTACT: NTI:	Steve Martin	Dept. 3471	(PPK)

NTZZ31QB EMB13-05-003 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 12 09	ECM 683 13	Initial Release. Replaces NTZZ31QA. Made provisionable Shelf Power Cables NTRX3132 per manuf. request since they are shipped loose and can't be assigned to the cabinet. They were AP in NTZZ31QA.
95 02 14	ECM 691 08	Clarify NTRX31EB provisioning rule.
95 03 20	ECM 602 20	Replaced NTRX31CJ Lamarche Inverter Kit with NTRX31DH 500VA AC Inverter and NTRX31DJ Inverter Kit per ECD 6-21505.
95 08 21	ECM 602 22	EC 24-93936 - Removed P0744667 and P097F813 from CDA Rule. The parts are in SLRX59AN and were therefore being double ordered. Added NTRX2573 Spare Fuse Card. ET28469 - Clarified EAS RUL to state that EAS is not required for non DMS-100 applications such as NAV.
95 11 30	ECM 602 24	ET 30519 - Added rul21 & 22 to specify placement of fillers P0734474, P0734475, & P0734476. Added note to AP01 clarifying location of NTRX41EA.
96 03 22	ECM 602 25	RR60790 - There were two rull19's so assigned the previously reserved rul8 to NTRX3132, shelf power cable. RR62067- Deprovision filler panel, P0734476, in slot 20R, it comes w/ MSP In rull10, reduce # of P0734476's to 4. In rul21, part3, remove filler when provisioning NTRX31EB in 20R.
96 10 11	ECM 602 27	RR64867: Change positions of P0734476's and P0559409's to 15,15R, 16, and 16R. RR66242: Added "AP" items, (P0734476, NTRX2572,P0734475), to equipment list to positions, 9F,10F, and 11F-12F respectively.
97 03 05	ECM 602 29	Correct typo in desc. of P0734476 per

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
		SR RR72262. General clean-up of EMS.

The Cabinetized Remote Miscellaneous Equipment (CRME) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
CRME CABINET	NTRX31EA		1			AP
Cabinet Assembly	NTRX25AA		1			AP03
CRME MSP Kit	NTRX3145		1	62		AP
Modular Supervisory Panel	NTRX40AA	MSP	1	62		AP01
Alarm Module	NTRX41AA		1	62	5	AP01
Breaker Module (10A)	NTRX42AA		1	62	14	AP01
Thermal Breaker Module (1W-Fuse Module)	NTRX43AA		1	62	13	AP01
Power Alarm Module	NTRX41BA		1	62	7	AP01
Power Alarm Backpanel PCP	NTRX4105		1	62	7R	AP01
ABS Module	NTRX41EA		1	62	10R	AP01
Filler Plate (2.40")(double)	P0734475		1	62	09F	AP01
Filler Plate (1.20")(single)	P0734476		2	62	11F,12F	AP01
CP FUSE HOLDER	NTRX2572		1	62	10F	AP01
ESD Label Kit	NTRX3541		1	62	TOP	AP
CB Shelf Assy (30A)	NTRX02CA		1	49		AP
Shelf Busbar Kit	NTRX0245		1	49		AP
Shelf Power Cable	NTRX3132			49		RUL8
<hr/>						
EAS Alarm Card Kit	NTRX41DA			62	15,16	RUL2
EAS MSP Module	NTRX41CA		2	62	15,16	AP02
EAS Jumper Cable	NTRX4067			62		RUL2
Filler Plate	P0734476			62	15,16, 15R,16R	RUL2
Fastener	P0559409			62	15,16 15R,16R	RUL2
EAS Alarm Harness	NTRX3151					RUL3
CB Shelf Assy (30A)	NTRX02CA			35		RUL4
Shelf Busbar Kit	NTRX0245			35		RUL4
Shelf Power Cable	NTRX3132			35		RUL4
CB Shelf Filler	P0737710			35		RUL4
Shelf End Busbar Insulators	P0739909			35		RUL4
RTN Busbar End Insulators	P0739710			35		RUL4
<hr/>						
# Lamarche Inverter Kit	NTRX31CJ			00		RUL5
500VA AC Inverter	NTRX31DH			00		RUL5
500VA AC Inverter Kit	NTRX31DJ			00		RUL5
Inverter Cable Assembly	NTRX3164					RUL5
<hr/>						
Cover, Bottom- Kit	NTRX3134			BASE		RUL6
ISG Cabinet Label	P0741854			49		RUL9
CRME MISC Fuse Card Kit	NTRX31EB			62	18,19, 20R	RUL10



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Plate	P0734476			62	18,19 18R,19R,	RUL10
Fastener	P0559409			62	18,19	RUL10
Bottom Feed Cable Bracket	NTRX3143			15,24		RUL11
Power Kit	NTRX3148			62	1	RUL12
Filler Plate	P0734476			62	1R	RUL12
Fastener	P0559409			62	1	RUL12
GDC Modem Shelf DS-6/R-1 Redundant -48VDC	A0380973			18		RUL13
CMISC GDC Shelf Modem Kit	NTRX59AM			18		RUL13
Cable Tie Bracket 12-24 HHTS	P0744667 P097F813			13,27		RUL13 RUL13
GDC Modems	VARIOUS					RUL14
CMISC Cook DA Shelf Hardware Cook DA 5M Series Options	NTRX59AN VARIOUS			32		RUL16 RUL17
CMISC Alarm Ext. Kit	NTRX59AP			10		RUL19
Cable Tie Bracket 12-24 HHTS	P0744667 P097F813			10		RUL19 RUL19
Spare Fuse Card	NTRX2573			62	10	RUL20
Cabinet mechanicals	Note 2					
Cosmetic Endguards/EMI	Note 4					
Cabinet labels	Note 5					
Power and grounding	Note 6					
Filler Plate (1.20" )(single)	P0734476			62		RUL21
Filler Plate (2.40" )(double)	P0734475			62		RUL21
Filler Plate (4.80" )(quad)	P0734474			62		RUL21
Fastener	P0559409			62		RUL22

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTRX31CJ	MD	NTRX31DH/NTRX31DJ

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) Multiple feed is the only option supported.

The maximum capacity for the CRME is 200A per feed. The 'A' and 'B' feed to CRME unit must be protected with 65 VDC min., 250 amp maximum fuses (BUSMAN type TPL or TPN or equivalent), or equivalent circuit breakers at the supply source.

An A & B circuit breaker is required on each panel of the cabinet to provide alarm sensing for the EAS option. Each distribution panel includes both A & B feeds.

- 2) Refer to NTRX25AA Engineering Manual Section for doors, anchors, cable troughs, frame fail lights and cabinet mechanical information.

- 3) The MSP fuse assignments for this product are:

MSP Fuse Card Position		MSP 18	MSP 19		
		Fuse A	Fuse B	Disk A	Disk B
NTRX59AN CDA	F01	1.33 A0205202	NONE	WHITE P097P235	NONE
NTRX59AM DS-6 Modem	F02	5.00 A0205205	5.00 A0205205	GREEN P097P238	GREEN P097P238

NTRX3148 LTC	F03	5.00	NONE	GREEN	NONE
		A0205205		P097P238	
NTRX59AP ALARM	F04	1.33	NONE	WHITE	NONE
		A0205202		P097P235	
TBD	F05				
TBD	F06				
TBD	F07				
TBD	F08				

- 4) Refer to NTRX73 Engineering Manual Section for provisioning cosmetic endguards and EMI sidepanels.
- 5) Refer to MS0X60AA for cabinet labels.
- 6) Refer to NTZX16CA Engineering Manual Section for System Power and Grounding information.
- 7) IMAP is the only topology to be used for the Maintenance and Administration Position (MAP).
- 8) DC-coupled links (for example, EIA-232) must not be used to connect the DC modems to any other external or internal devices.
- 9) The DC modems must only be terminated to an MDF via a 4-wire null modem cable.

RULES:

- AP 1) When PEC NTZZ31QB is ordered, these items are provided.
- AP01 1) Equipment always provided when PEC NTRX3145 is provided. Note that the ABS Module, NTRX41EA is a double width card and occupys slots 10R and 11R.
- AP02 1) Equipment always provided when PEC NTRX41DA is provided.
- AP03 1) Equipment always provided when PEC NTRX31EA is provided.
- RUL1 1) Reserved for future use.
- RUL2 1) Provision (1) NTRX41DA EAS Alarm Card kit per CB shelf to support an Enhanced Alarm System. (CRME has individual A & B power feeds for each shelf) The first card provisioned is assigned to slot 15; the second card is assigned to slot

16. The EAS Alarm Card kit shall be supplied for all U.S. DMS-100 applications and is provisionable, based on customer requirements, for all other markets. Non DMS-100 applications, such as NAV, do not require EAS.

- 2) Provision one NTRX4067 EAS cable assembly if an EAS kit is provisioned in slot 16.
- 3) Provision the following parts to fill each position not filled by EAS Alarm Cards:

QTY	CPC	DESCRIPTION
2	P0734476	Filler Plate
4	P0559409	Fastener

RUL3 1) Provision (1) NTRX3151 EAS Harness per cabinet if EAS is a desired option.

RUL4 1) Provision a second NTRX02CA CB Shelf Assy in shelf position 35 if required. If not required, provision (1) P0737710 shelf filler, (1) P0739909 Shelf End Busbar Insulators, and (1) P0739710 RTN Busbar End Insulator.

2) If a second NTRX02CA CB Shelf Assy is required, also provision (1) NTRX0245 Shelf Equalizer Kit to provide a busbar and hardware to connect CB panel and busbar.

3) If a second NTRX02CA CB Shelf Assy is required, also provision (4) NTRX3132 Shelf Power Cables per shelf to power a single shelf. The cables are only 15 feet long and limits the location of the cabinet with respect to the power source. They are to be shipped loose and not assigned to the cabinet.

NOTE: These cable are flex cables with heat shrink covering the barrel of the lug. If this is not allowed in the product owners region, please provision material and fabricate cables on site.

4) This product is equipped only with the multiple feed power feed method. This option is defined as having an A & B Feed for each shelf being provided from the power source to the CRME. An A and B circuit breaker is required on each panel of the cabinet to provide alarm sensing of the EAS option.

5) Protection capabilities for the two provisionable breaker panel assembly are as follows:

NTRX02CA	RATING
CB00A-CB19A	30A, 65VDC
CB00B-CB19B	30A, 65VDC

The breakers are to be populated in ascending numerical order with the following exceptions:

SHELF POSITION 49

BREAKER	SHELF	REMARK
CB FA	49	RESERVED FOR FILTER CAPACITORS A
CB FB	49	RESERVED FOR FILTER CAPACITORS B
CB01A	49*	RESERVED EAS ALARM A OPT
CB01B	49*	RESERVED EAS ALARM B OPT
CB02A	49*	RESERVED FOR ABS POWER OPTION OPT
CB02B	49*	RESERVED FOR 500VA AC INVERTER OPT
CB03A	49*	RESERVED FOR POWERING MISC EQ. OPT
CB03B	49*	RESERVED FOR POWERING MISC EQ. OPT

CB04 A & B - CB19 A & B are available to assign to power products There are 16 A and 16 B breakers available.

SHELF POSITION 35

BREAKER	SHELF	REMARK
CB FA	35	Reserved For Filter Capacitors A
CB FB	35	Reserved For Filter Capacitors B
CB01A	35*	RESERVED FOR ALARM A OPT
CB01B	35*	RESERVED FOR ALARM B OPT

CB02 A & B - CB19 A & B are available to assign to power products. There are 18 A and 18 B breakers available.

- 6) Provision sufficient A0386311 two hole power lugs for terminating 10-14 AWG power cables. There are 2 lugs required for each circuit breaker or feed that is required. A maximum of 80 lugs per shelf will be required.
- 7) Provision A0614961 two hole power lugs as required for terminating 8 AWG power cables for special applications.
- 8) Provision A0614959 two hole power lugs as required for terminating 6 AWG power cables for special applications.

- 9) Provision A0615493 two hole power lugs as required for terminating 1/0 AWG power cables for terminating to the RTN Busbar in non-domestic applications where there is an LRE in the office for logic return. Do not use LRE in U.S. market.
- RUL5 1) Provision (1) 500VA AC Inverter, NTRX31DH, and (1) 500VA AC Inverter Kit, NTRX31DJ per customer requirements for End Aisle A/C. Kit includes Inverter, 120VAC cables, and conduit assembly. Kit is only available for -48VDC to 120VAC applications.
- The Inverter has a failure mode switch to allow selection between breaker trip failure or breaker trip/inverter failure detection.
- 2) Provision (1) Inverter Cable Assembly, NTRX3164, if Inverter Kit is provisioned.
- RUL6 1) Provide (1) NTRX3134 Bottom Cover Kit for covering bottom opening if cabling is to be in cable trays on top of cabinet.
- RUL7 1) Reserved for future use.
- RUL8 1) Always provision (4) NTRX3132 Shelf Power Cables to power the always provided CB Shelf in location 49. The cables are only 15 feet long and limits the location of the cabinet with respect to the power source. They are to be shipped loose and not assigned to the cabinet. They can not be an AP item since CADES must assign all AP items to the cabinet.
- RUL9 1) Provision (1) ISG Label, P0741854, per cabinet as required to identify grounding method. Label is to be mounted on the right side of the top circuit breaker panel. Label is required for all ISG offices in North America. Label is not required for European offices.
- RUL10 1) Provision (1) NTRX31EB MISC Fuse Kit if any MISC shelf requiring power is to be provisioned. Kit provides (2) fuse cards with (8) fuses on each card, power cables, terminal block, label and related hardware. (no fuses provided) The fuse cards (NTRX43AA) mount in slots 18 and 19 (Front) and the terminal board (P0737326) mounts in slot 20R. A filler plate mounts in slot 20 (Front). A maximum of one NTRX31EB kit is currently provisionable.

- 2) Provision the following parts for the cabinet if no MISC kits requiring fuses are provided.

QTY	CPC	DESCRIPTION
4	P0734476	FILLER PLATE
8	P0559409	FASTENER

- RUL11 1) Provision Bottom Feed Cable Bracket NTRX3143 to provide bracket and fasteners to support dressing 4/0 power feed cables from the bottom up the left rear side of the cabinet.

- RUL12 1) Provision (1) NTRX3148 Power Kit to provide terminal block and associated hardware to power such items as a Local Test Cabinet. Refer to CS 4122 for power, bonding, and isolation requirements when equipment is powered from the DMS. For specific details consult ISZX16CA for system information.

- 2) Provision the following parts to fill space if the power kit is not provided:

QTY	CPC	DESCRIPTION
1	P0734476	FILLER PLATE
2	P0559409	FASTENER

- 3) While (1) A0205205 5A fuse for the Power Kit is shown on the MS, manufacturing has asked that the part not be provisioned. They will provide.

- 4) While (1) P097P238 Green Designation Disks for fuse holders is shown on the MS, manufacturing has asked that the part not be provisioned. They will provide.

- RUL13 1) Provision (1) A0380973 Data Set Module Shelf if requested by customer. It houses up to sixteen Data Set Modems and is a redundant powered 48 volt DC shelf. One (1) DPS-9 Power Supply can power 16 slot positions, but two (2) are provided per DS-6 shelf. The different series of GDC modems may be mixed within the shelf in any manner desired.

- 2) Provision (1) NTRX59AM CMISC GDC Modem Kit to provide support for a modem shelf, if the Data Set Module Shelf above was provisioned or per customer requirement if customer is providing a GDC Modem Shelf. Kit provides modem shelf mounting hardware. (kit does not provide Modem shelf, fuses, or designation disks.)

- 3) If the CMISC GDC Modem Kit is provisioned, provision the following items for each Kit provisioned.
- \*
- \* (2) P0744667 Brackets for controlling modem cable dressing. See ADRX59AM for mounting details.
- \* (2) P097F813 per bracket for a total of (4) fasteners to secure brackets.
- 4) While (2) A0205205 5 AMP Fuses for each CMISC GDC Modem Kit are shown on the MS, manufacturing has asked that the part not be provisioned. They will provide.
- 5) While (2) P097P238 Green Designation Disks for fuse holders are shown on the MS, manufacturing has asked that the part not be provisioned. They will provide.
- RUL14 1) Provision modem cards per customer requirements to provide desired features. For provisionable modems see GDC Modems Engineering Manual Section, EMA13-01-GDC-1 (T\_GDC\_MOD).
- RUL15 1) Reserved for future use.
- RUL16 1) Provision (1) NTRX59AN CMISC Cook DA Shelf hardware if a Cook Digital Announcer (CDA) is to be provided in this cabinet. This kit provides only mounting hardware for this product. The Announcer must be ordered separately.
- 2) While (1) A0205202 1.33 AMP Fuse for the MSP to power CDA is shown on the MS, manufacturing has asked that the part not be provisioned. They will provide.
- 3) While (1) P097P235 WHT Designation Disk for fuse holders is shown on the MS, manufacturing has asked that the part not be provisioned. They will provide.
- RUL17 1) Provision 5M Series Cook Digital Announcers per customer requirements to provide desired features. For provisionable CDAs see NT5M Series Engineering Manual Section EMA13-01-CDA-3 (NT5MON\_\_).
- RUL18 1) Reserved for future use.
- RUL19 1) Provision (1) NTRX59AP CMISC Alarm Extension Kit to mount in the CRME if at least one NT0X64AA is provided for a remote office.



- 2) Provision (1) P0744667 bracket and (2) P097F813 screws for cable management when the Alarm Extension kit is provided.
- 3) Application of the Alarm Extension Kit is limited by the following factors:

The dry relay contacts are limited in accordance with Table 725- 31(B) of the National Electrical Code (NEC) for not inherently limited power sources (overcurrent protection required). The source of power for these contacts is limited to 60 VDC, 1 A. The dry relay contacts are not allowed to have outside plant connection. This is required in order to reduce hazards from lightning and power cross conditions onto the bay and connected power source(s) supplying the relay contacts.

- RUL20 1) Provide (1) NTRX2573 Spare Fuse Holder to provide storage space for spare fuses for products already in the field. Please note new shipments of CRME after 9535 will contain this card as part of the cabinet MSP kit and it will not be necessary to order separately.

- RUL21 1) Provide blank panels to cover vacant card positions and openings in the front and rear of the MSP. The double and quad width panels should only be applied when future growth is expected, use single width panels for ease of field installation of modules.

- 2) Double width modules occupy only a single position in the rear so an additional single width panel is required to close the opening.

- 3) A single width panel in position 20 (rear) is always provided as part of the MSP. When the NTRX31EB is provisioned, manufacturing removes this P0734476, filler panel, from 20R.

- RUL22 1) Provide mounting screws to secure equipment to the MSP per the following:

Screw code	Qty.	Equipment
-----	-----	-----
P0559409	2	P0734476 - blank panel, 1.2"
P0559409	4	P0734475 - blank panel, 2.4"
P0559409	4	P0734474 - blank panel, 4.8"

- 2) Modules which insert from the front come equipped with a captive screw for positive retention.

RME POWER DISTRIBUTION MODULE W/EAS

PEC CODE: NTZZ15CE

CPC CODE: B0243923

RATING: STD

REPLACES: NTZZ15CB

REPLACED BY: Not Applicable

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: This Building Block contains the required hardware to equip the Remote Miscellaneous Equipment Frame to perform the power distribution function in a remote office using UL listed fuse panels and an FSP that supports the Enhanced Alarm System (EAS).

While this new alarm scheme enhances the DMS-100 alarm system in remotes by powering the ABS alarms from the power board, this is not EAS in it's full functionality.

REFERENCE DOCUMENTATION: SLZZ15CE 00 01  
MSOX02AB 01 35  
ADOX02AB 01 20

MARKETS: Applicable markets:

- Canada
- US
- CALA
- Asia/Pacific
- Europe

| ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

| MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ15CE EMB13-05-010 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 08 22	ECM 690 08	Initial release. Changes from NTZZ15CB - Replaced NT0X40UA and NT0X0201 with NT0X40UB and NT0X0202.
96 10 11	ECM 602 27	RR68727: Added a note stating that the NT0X42AN is part of the NT0X0202, and provision if more than 2 needed.

The RME POWER DISTRIBUTION MODULE W/EAS is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Ground Panel (5.5")	NT0X42AM		1	72		AP
U.L. Fuse Panel "A" Feed	NT0X42UB	FPA 0	1	67		AP
U.L. Fuse Panel "A" Feed	NT0X42UB	FPA 1	1	59		AP
U.L. Fuse Panel "B" Feed	NT0X42UC	FPB 0	1	63		AP
U.L. Fuse Panel "B" Feed	NT0X42UC	FPB 1	1	55		AP
U.L. Frame Supervisory Panel	NT0X40UB	FSP	1	50		AP
U.L. Filter Panel	NT0X42UG		1	12		AP
Spare 10 Amp Fuse	A0315462		1	12		AP
Spare 1-1/3 Amp Fuse	QFF1A		1	12		AP
Power Pnl Misc Material Assy	NT0X0202		1	12		AP
30 Amp Fuse	NT0X42AS					RUL1
20 Amp Fuse	NT0X42AK					RUL1
10 Amp Fuse	NT0X42AJ					RUL1
05 Amp Fuse	NT0X42AN					RUL1
Dummy Fuse	A0205210					RUL1

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The RME Power Distribution Module provides two A and B Fuse Panels to accomodate up to 30 distribution circuits on each feed.

## RULES:

- AP 1) When PEC NTZZ15CE is ordered, these items are provided.
- RUL1 1) Provision fuses as required. Equip a dummy fuse in all un-equipped fuse locations.
- 2) Note that two (2) NTOX42AN 05 amp fuses are provided with the NTOX0202 AP item in shelf 63 position 13 and shelf 67 position 13. Therefore only provision additional NTOX42AN 05 amp fuses if more than two (2) are required and then as needed.

COOK DIGITAL ANNOUNCER  
4 CHAN 2M TRK ACCESS

PEC CODE: NTZZ23MA

CPC CODE: B0239440

| RATING: A&amp;M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23MA is comprised of a 4 Channel 2 minute Trunk Access CDA and the hardware to mount the CDA on the CMIS Model A. The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message. The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

| ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

| MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23MA EMB13-08-CDA-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 08 19	ECM 543 03	Introduce the 4 Chan TRK Access CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so will be available for the CMIS Mod A in field.

The Cook Digital Announcer 4 Chan 2M TRK Access is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
4 Chan 26" 2M RR/TRK MUSR	NT5M04DT	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		2	Z		AP
Screws	A0317136		8	Z		AP
Washers	P0148330		8	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

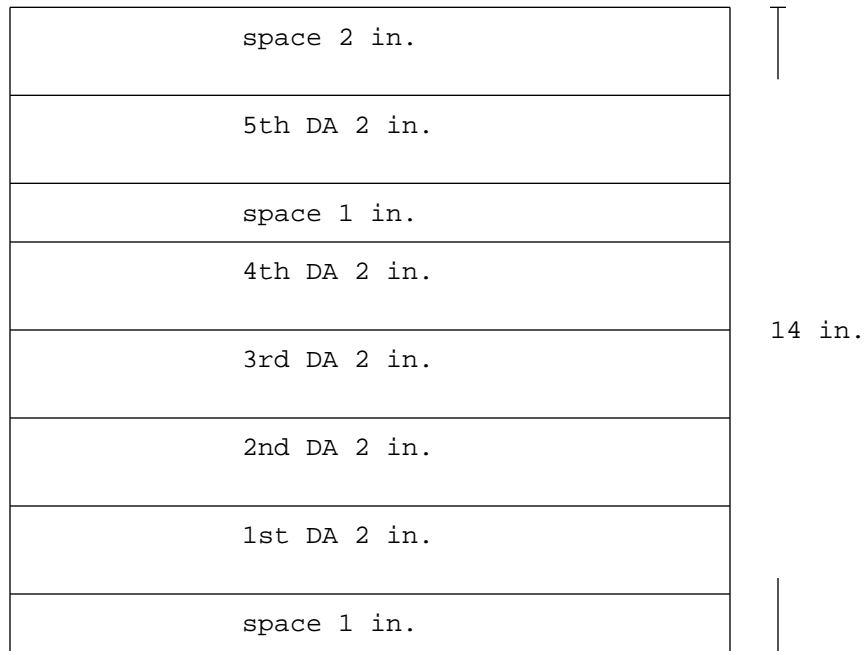
MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:



- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS



- 2) Z = 3, 18, 34, and 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23MA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
8 CHAN 4M TRK FIXED

PEC CODE: NTZZ23WA

CPC CODE: B0224512

RATING: A&M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23WA is comprised of an 8 Channel 4 minute Trunk Access fixed message length CDA and the hardware to mount the CDA on the CMIS Model A.

The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message.

The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23WA EMB13-08-CDA-10 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 29	ECM 543 04	Introduce the 8 Channel 4 minute trunk i/f fixed message length CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so will be available for CMIS Mod A in field.

The Cook Digital Announcer 8 Chan 4M TRK FIXED is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
8 Chan 26" 4M RR/TRK FIXED	NT5M08CC	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Cable Assembly (Chan 5-8)	NTRX34MW		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		4	Z		AP
Screws	A0317136		16	Z		AP
Washers	P0148330		16	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

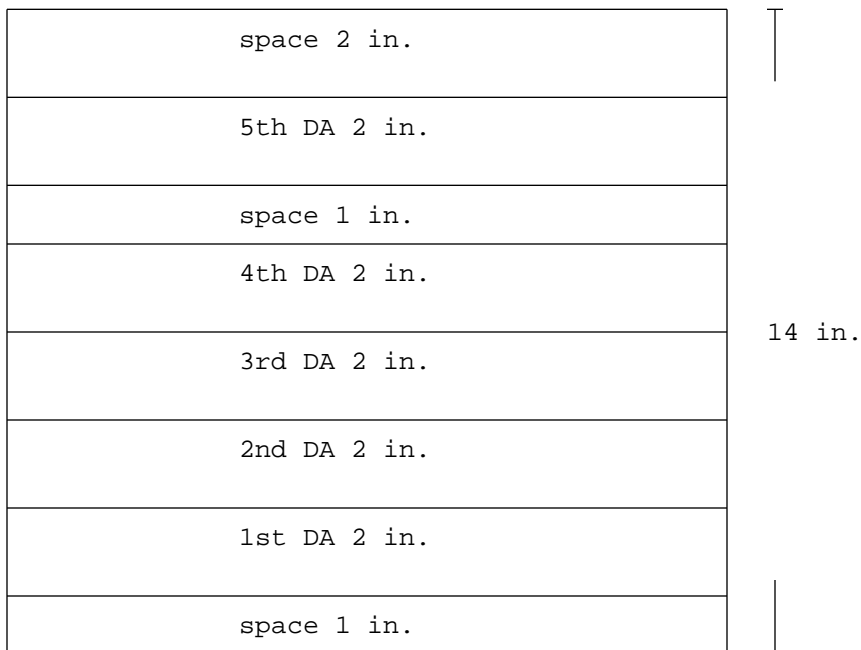
A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS



- 2) Z = 3, 18, 34, or 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23WA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
8 CHAN 4M TRK

PEC CODE: NTZZ23NA

CPC CODE: B0239441

| RATING: A&M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23NA is comprised of an 8 Channel 4 minute Trunk Access CDA and the hardware to mount the CDA on the CMIS Model A. The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message. The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

| ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

| MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

96 03 22

NTZZ23NA EMB13-08-CDA-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 08 19	ECM 543 03	EC 018-40612 Introduce the 8 Channel 4 minute TRK access CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so will be available for CMIS mod A in field.

The Cook Digital Announcer 8 Chan 4M TRK is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
8 Chan 26" 4M RR/TRK MUSR	NT5M08CF	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Cable Assembly (Chan 5-8)	NTRX34MW		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		4	Z		AP
Screws	A0317136		16	Z		AP
Washers	P0148330		16	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

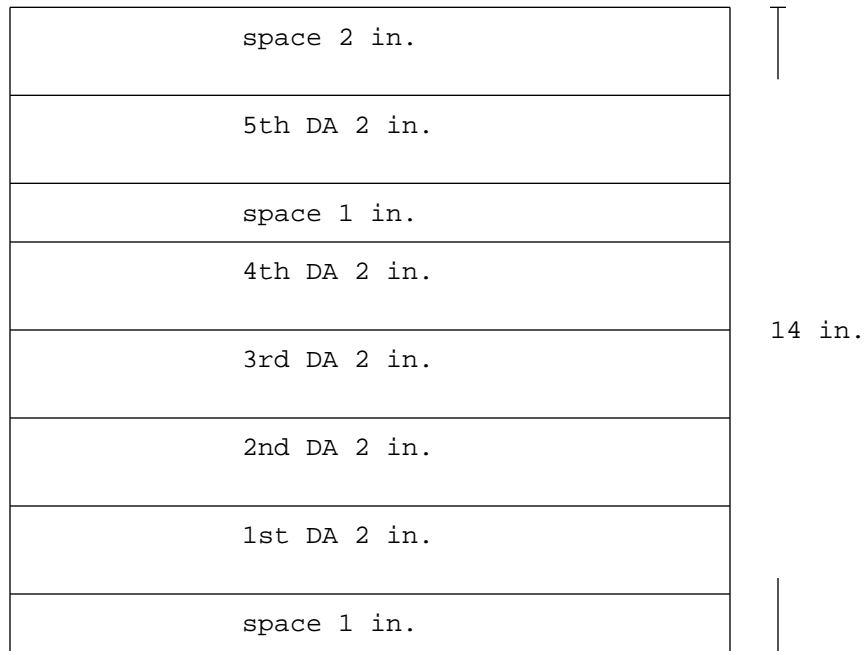
MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:



- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS  
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- 2) Z = 3, 18, 34, or 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23NA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
2 CHAN 1M TRK FIXED

PEC CODE: NTZZ23PA

CPC CODE: B0224501

RATING: A&M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23PA is comprised of a 2 Channel 1 minute Trunk Access fixed message length CDA and the hardware to mount the CDA on the CMIS Model A.

The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message.

The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23PA EMB13-08-CDA-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 29	ECM 543 04	Introduce the 2 Chan TRK Access CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so it will be available for CMIS Mod A in field.

The Cook Digital Announcer 2 Chan 1M TRK Fixed is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
2 Chan 26" 1M RR/TRK FIXED	NT5M02CB	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		2	Z		AP
Screws	A0317136		8	Z		AP
Washers	P0148330		8	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

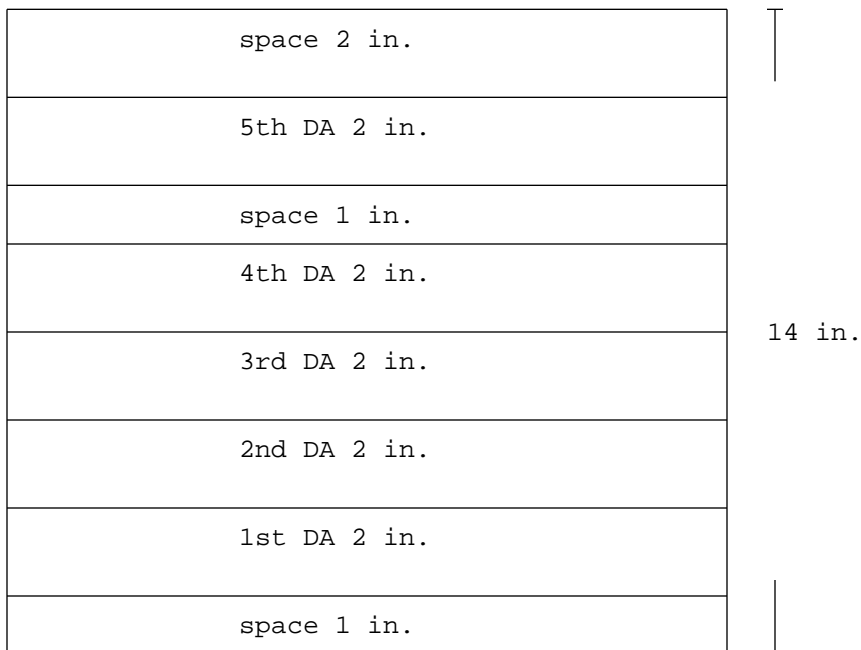
A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS



- 2) Z = 3, 18, 34, and 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23PA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
4 CHAN 2M TRK BASIC

PEC CODE: NTZZ23QA

CPC CODE: B0224502

RATING: A&M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23QA is comprised of a 4 Channel 2 minute Trunk Access basic multi-channel CDA and the hardware to mount the CDA on the CMIS Model A.

The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message.

The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23QA EMB13-08-CDA-4 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 29	ECM 543 04	Introduce the 4 Chan 2M Basic Trunk Access CDA into CMIS Model A.
96 03 22	ECM 602 25	Chang rating to A&M so will be available for CMIS Mod A in field.

The Cook Digital Announcer 4 Chan 2M TRK Basic is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
4 Chan 26" 2M RR/TRK BASIC	NT5M04DP	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		2	Z		AP
Screws	A0317136		8	Z		AP
Washers	P0148330		8	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

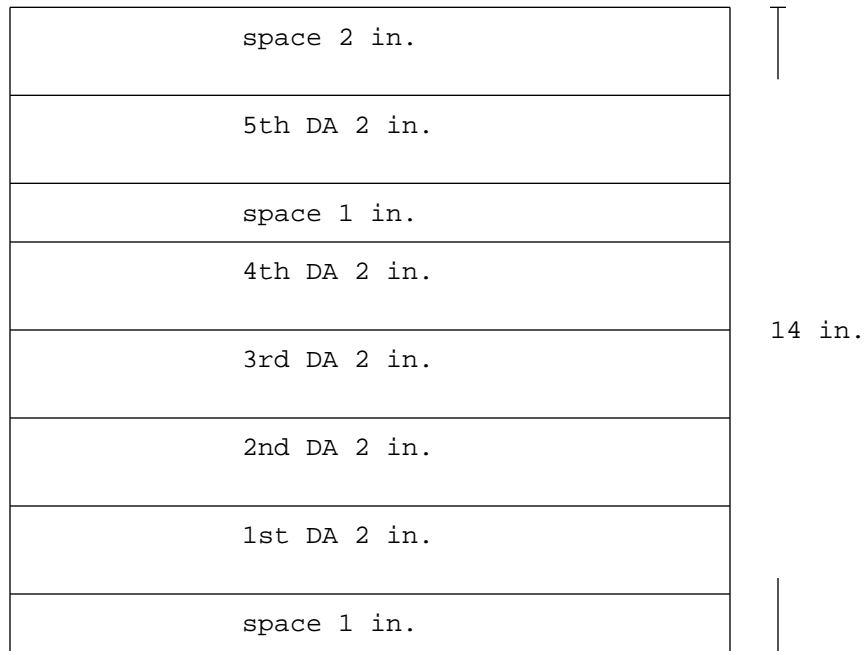
MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:



- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS



- 2) Z = 3, 18, 34, and 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23QA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
4 CHAN 2M TRK FIXED

PEC CODE: NTZZ23RA

CPC CODE: B0224503

RATING: A&M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23RA is comprised of a 4 Channel 2 minute Trunk Access fixed message length CDA and the hardware to mount the CDA on the CMIS Model A.

The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message.

The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23RA EMB13-08-CDA-5 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 29	ECM 543 04	Introduce the 4 Chan 2M Fixed Trunk Access CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so will be available for CMIS Mod A in field.

The Cook Digital Announcer 4 Chan 2M TRK Fixed is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
4 Chan 26" 2M RR/TRK FIXED	NT5M04DQ	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		2	Z		AP
Screws	A0317136		8	Z		AP
Washers	P0148330		8	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

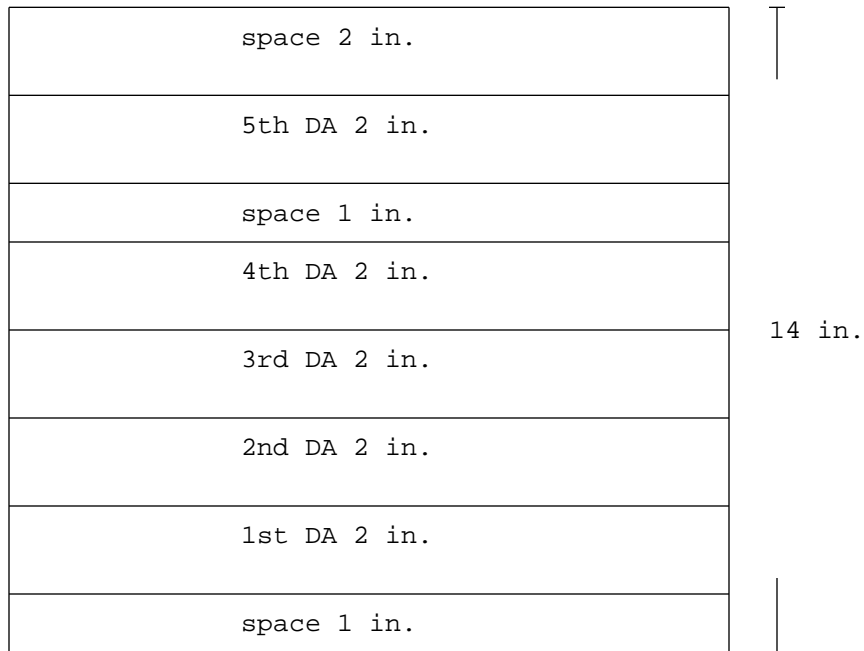
A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS  
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- 2) Z = 3, 18, 34, and 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23RA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
4 CHAN 1M TRK SP/DMD

PEC CODE: NTZZ23SA

CPC CODE: B0224504

RATING: A&M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23SA is comprised of a 4 Channel 1 minute Trunk Access split memory demand phased CDA and the hardware to mount the CDA on the CMIS Model A.

The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message.

The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23SA EMB13-08-CDA-6 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 29	ECM 543 04	Introduce the 4 Chan 1M SP/DMD Trunk Access CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so will be available for CMIS Model A in field.

The Cook Digital Announcer 4 Chan 1M TRK SP/DMD is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
4 Chan 26" 1M RR/TRK SP/DMD	NT5M04DR	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		2	Z		AP
Screws	A0317136		8	Z		AP
Washers	P0148330		8	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

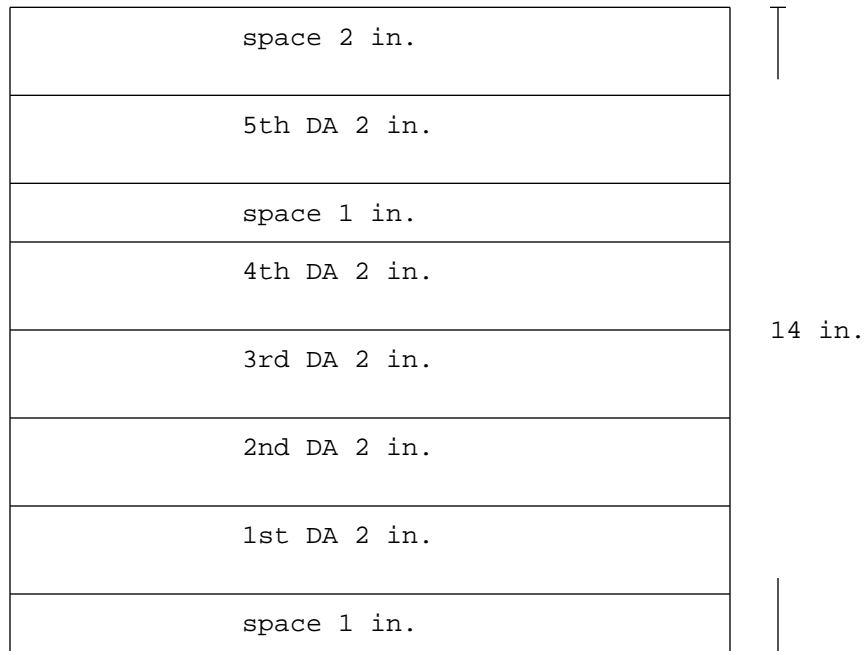
MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:



- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS



- 2) Z = 3, 18, 34, and 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23SA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
6 CHAN 3M TRK FIXED

PEC CODE: NTZZ23TA

CPC CODE: B0224505

RATING: A&M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23TA is comprised of a 6 Channel 3 minute Trunk Access fixed message length CDA and the hardware to mount the CDA on the CMIS Model A.

The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message.

The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23TA EMB13-08-CDA-7 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 29	ECM 543 04	Introduce the 6 Channel 3 minute fixed message length CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so it will be available for CMIS Mod A in field.

The Cook Digital Announcer 6 Chan 3M TRK Fixed is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
6 Chan 26" 3M RR/TRK FIXED	NT5M06CA	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Cable Assembly (Chan 5-8)	NTRX34MW		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		4	Z		AP
Screws	A0317136		16	Z		AP
Washers	P0148330		16	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

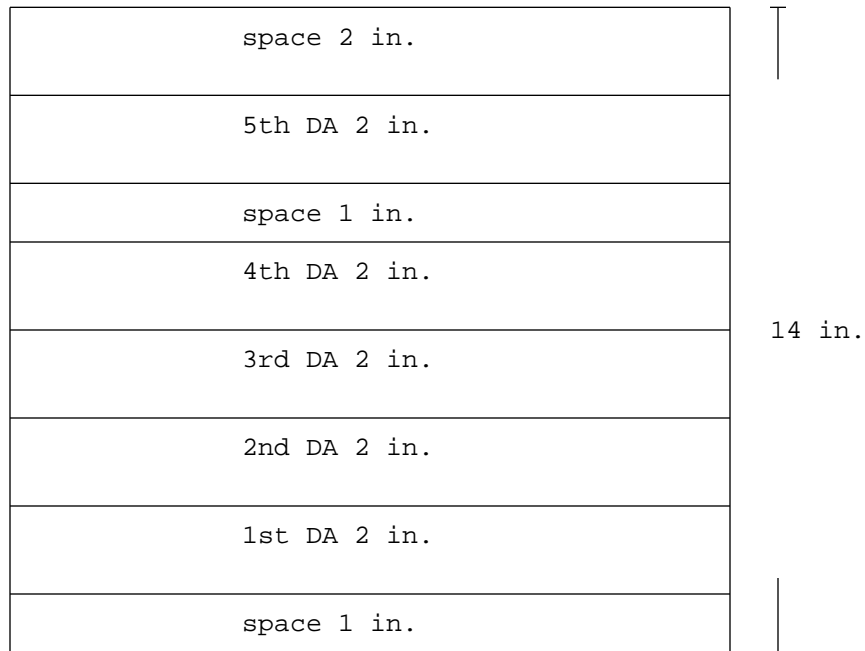
A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS  
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- 2) Z = 3, 18, 34, or 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23TA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
8 CHAN 4M TRK BASIC

PEC CODE: NTZZ23UA

CPC CODE: B0224506

| RATING: A&amp;M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23UA is comprised of an 8 Channel 4 minute Trunk Access multi channel message CDA and the hardware to mount the CDA on the CMIS Model A.

The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message.

The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

| ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

| MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23UA EMB13-08-CDA-8 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 29	ECM 543 04	Introduce the 8 Channel 4 minute multi channel message CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so will be available for CMIS Mod A in field.

The Cook Digital Announcer 8 Chan 4M TRK Basic is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
8 Chan 26" 4M RR/TRK BASIC	NT5M08CB	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Cable Assembly (Chan 5-8)	NTRX34MW		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		4	Z		AP
Screws	A0317136		16	Z		AP
Washers	P0148330		16	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

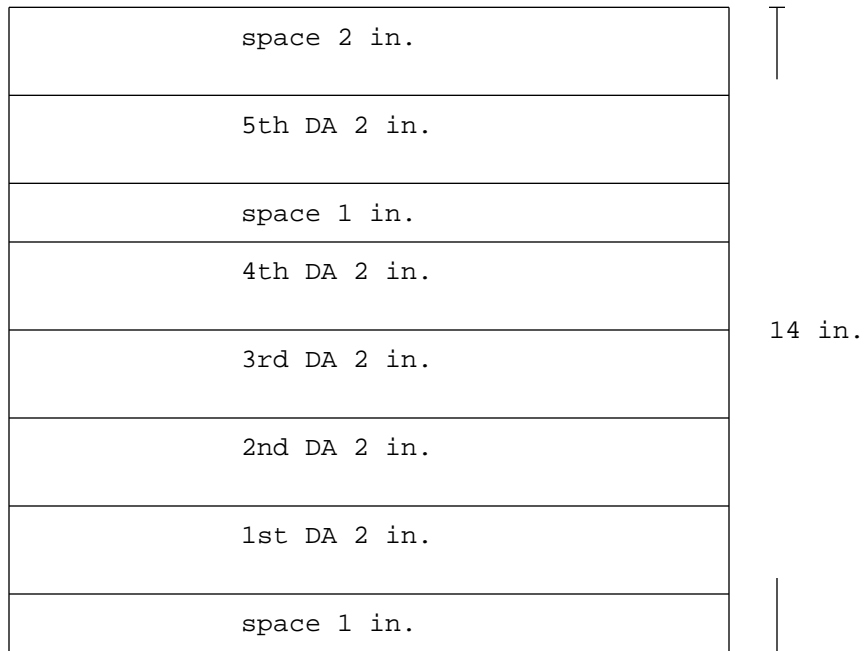
MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:



- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS  
-----



- 2) Z = 3, 18, 34, or 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23UA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

COOK DIGITAL ANNOUNCER  
8 CHAN 1M TRK SP/DMD

PEC CODE: NTZZ23VA

CPC CODE: B0224507

RATING: A&M.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CDA

ENGINEERING DESCRIPTION: The NTZZ23VA is comprised of an 8 Channel 1 minute Trunk Access split memory demand phased CDA and the hardware to mount the CDA on the CMIS Model A.

The CDA records analog messages in a digital format and stores the information in memory. When the appropriate signals are received for the interface circuits, the message is converted back to an analog format for output to the trunk or line requesting the message.

The Trunk Access CDA is offered for use in Automatic Call Distribution (ACD) environments where several subscribers may be grouped together on one 4-wire E&M Trunk, then attached to the CDA for message output.

REFERENCE DOCUMENTATION: MSRX34AB 00 13

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ23VA EMB13-08-CDA-9 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 09 29	ECM 543 04	Introduce the 8 Channel 1 minute split memory demand phased CDA into CMIS Model A.
96 03 22	ECM 602 25	Change rating to A&M so it will be available for CMIS Mod A in field.

The Cook Digital Announcer 8 Chan 1M TRK SP/DMD is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
8 Chan 26" 1M RR/TRK SP/DMD	NT5M08CD	CDA	1	X		AP
Handset with Jack & Cord	213360		1			RUL1
Cable Assembly (Chan 1-4)	NTRX34MV		1	X		AP
Cable Assembly (Chan 5-8)	NTRX34MW		1	X		AP
Grounding Cable	NTRX34MX		1	X		AP
Cup Screw	P0069242		1	X		AP
Nut	P0065747		1	X		AP
Washer	P097Y579		2	X		AP
Flat Washer	P0160739		1	X		AP
Helical Washer	P0183028		1	X		AP
Power Cable	NTRX34LF		1	X		AP
Screws	P097F813		4	X		AP
Filter Adapter	A0316594		4	Z		AP
Screws	A0317136		16	Z		AP
Washers	P0148330		16	Z		AP
Cable Support Bracket	P0642031		2	X+2, X+7		AP
Screws	P097F813		4	X+2, X+7		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

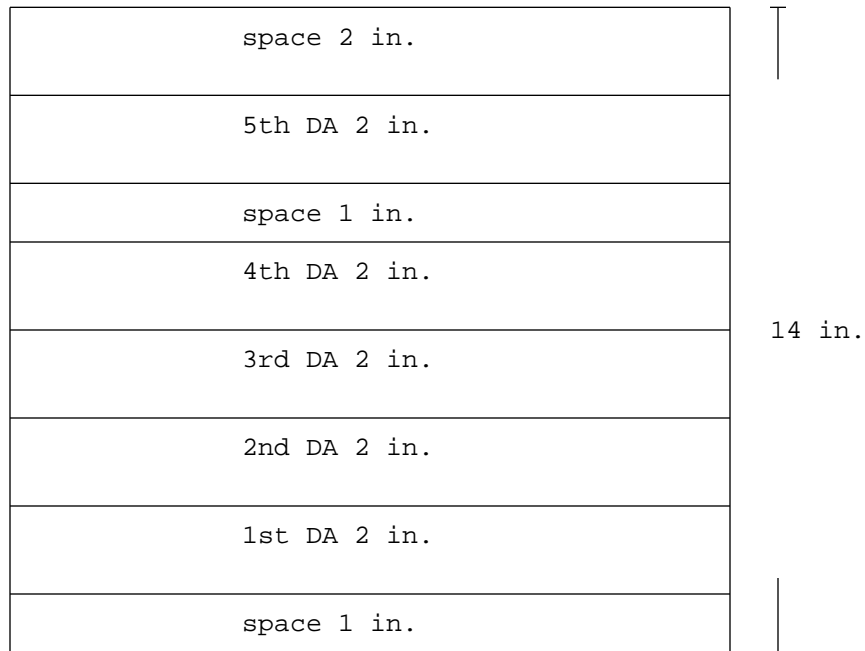
A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) X = 6,8,10,12,15, or 20,22,24,26,29, or 34,36,38,40,43, or 48,50,52,54,57. Mount up to 5 CDA's in the following configuration to cover zones A & B, C & D, E & F, and G & H. Fill one set of zones with 5 CDA's before proceeding to another set of zones.

Configuration for Trunk interface CDA in CMIS  
-----



- 2) Z = 3, 18, 34, or 49 on the bulkhead.

RULES:

- AP 1) When PEC NTZZ23VA is ordered, these items are provided.
- RUL1 1) Provide one 213360 type 'G' handset and cord combination (modified for direct connect to a cassette player or other audio device) for recording voice messages on the CDA via the Modular Jack located on the front panel.

## DTT READY DTH-ROTL UNIT

PEC CODE: NTZZ18PB

CPC CODE: B0234803

RATING: Standard

REPLACES: NTZZ18PA

REPLACED BY: Not Applicable

ABBREVIATION NAME: DTH-ROTL

ENGINEERING DESCRIPTION: The Digital Test Head-Remote Office Test Line Unit comes complete with all the circuit packs required to perform the ROTL function. The NTZZ18PB contains the NT7F18AD DTH-ROTL and the hardware required to mount this unit on the CMIS.

REFERENCE DOCUMENTATION: SLZZ18PB 00 01  
NTZZ18PB REL 01  
MS7F18AD 01 01

MARKETS: Applicable markets:

Canada  
US  
CALA  
Asia/Pacific  
Europe

| ISSUE AUTHOR: NTI: Rena Fisher Dept. 3471 (PPK)

| MAIN CONTACT: NTI: Rena Fisher Dept. 3471 (PPK)

NTZZ18PB EMB13-08-DTH-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
93 08 17	ECM 479 07	NSD EC 92-1151 which MDs NT7F18AB and replaces it with NT7F18AD.
93 12 24	ECM 479 08	EC 011-18704 Add DTH On/Off switch. Also, add all rules for EMS.
95 12 05	ECM 479 14	EC 018-46106 - Delete reference to NT7F27BA cable kit. Cables are provided in CA0X04 Issue 55.

The NTZZ18PB is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DTH/ROTL Unit	NT7F18AD		1	XX		AP
DTH/ROTL Wiring	NTRX34WF		1	XX		AP
Cable Support Bracket	P0642031		1	XX+1		AP
Screw	P097F813		2	XX+1		AP
DTH-ROTL Spares Kit	NT7F19AC					RUL1
# DTH-ROTL Cable Kit	NT7F27BA					RUL2
Amber Video Display Unit	C1007A					RUL3
Green Video Display Unit	C1007G					RUL3
White Video Display Unit	C1007W					RUL3
DTH Bracket/Switch Assembly	NT7F15AA					RUL4

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT7F27BA	STD	No Replacement; Refer to CA0X04 55
Not Applicable		

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The NT7F18AD is fused from the CMIS Frame FSP circuit breaker at 10 Amps. The -48V terminal on the DTH-ROTL connects to TB1-12 and the 48V RTN terminal connects to TB1-3



(using #14 AWG). The Logic Gnd terminal connects to the Logic Ground Bar.

- 2) XX can be any of the following positions: 07, 35.

## RULES:

- AP 1) When PEC NTZZ18PB is ordered, these items are provided.
- RUL1 1) Provide the DTH-ROTL Spares Kit when the Telco specifies maintenance spares for the NT7F18AD.
- RUL3 1) Provision VDUs per telco specifications when the DTH-ROTL/DTT or DTH-DTT is provisioned. Note: VDU Cabling is always supplied with a 50ft length.
- RUL4 1) Provide one NT7F15AA DTH On/Off Switch per Telco Request or WHEN THE DTH SHELF IS INSTALLED IN FRAME/CABINET/RELAY rack where the shelf power cannot be turned On/Off at the frame/cabinet/relay rack.

## CABINETIZED MISC SPARE STORAGE - MODEL B

PEC CODE: NTZZ27FB

CPC CODE: B0241782

RATING: Standard

REPLACES: NTZZ27FA

REPLACED BY: Not applicable.

ABBREVIATION NAME: CMSS

ENGINEERING DESCRIPTION: The Cabinetized Miscellaneous Spare Storage (CMSS) provides for storage of spare circuit packs and is colored either brown or grey. The storage cabinet can be provisioned with up to four spare storage shelf assemblies which can hold 0.875", 1.125", or SuperNode size circuit packs.

REFERENCE DOCUMENTATION: SLRX49BA 00 01  
MSRX49BA 00 04

MARKETS: Applicable markets:

US  
Canada  
Asia/Pacific  
CALA  
Europe

ISSUE AUTHOR: NTI: Ron Hogan Dept. 3471 (PPK)

MAIN CONTACT: NTI: Ron Hogan Dept. 3471 (PPK)

NTZZ27FB EMB13-09-005 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 11 11	ECM 683 11	Initial Issue
95 09 14	ECM 683 17	Correct provisioning rules for English and German Label Kits per ET28229.

The Cabinetized Misc Spare Storage - Model B is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Cabinetized Misc Spare Storage	NTRX49BA		1			AP
C28B Mechanical Assembly	NTRX25AA		1			AP-01
Spare Storage Shelf Assy	NTNX2201			07,21 35,49		RUL1
Spare Storage Shelf Assy Super-Node Circuit Packs	NTNX2203			08,22 37,51		RUL2
MSP Card Storage Chassis	NTRX4001			02,10,15 24,29,38 43,52,57		RUL3
Screw (Mounting Hardware)	P097F813					RUL3
Washer (Grounding Hardware)	P0284154					RUL3
Washer (Grounding Hardware)	P0183220					RUL3
Line Card Storage Chassis	NT3X55BA			07,21, 35,49		RUL4
Tool Tray	P0700829		1	63		AP
Screw (Mounting Hardware)	P097F813		4			AP
Washer (Grounding Hardware)	P0284154		1			AP
Washer (Grounding Hardware)	P0183220		1			AP
Horizontal Cabling Bracket	P0739584					RUL5
Screw Mounting Hardware	P097F839					RUL5
C28 English Label Kit	NTRX3541		1			RUL6
C28 German Label Kit	NTRX3542		1			RUL7
C28 Cabinet Mechanicals	NTRX25AA					NOTE1
Cabinet Power and Grounding	NTZX16CA					NOTE2
Door and eqp. labels	MS0X60AA					NOTE3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The NTZZ27FB has system level provisionable items covering the following:
  - \* Seismic Zone provisioning
  - \* Grounding options provisioning
  - \* Cable routing options provisioning
  - \* Cabinet Fail Lamp provisioning
  - \* Cabinet door provisioning

For details of the above refer to Engineering Manual Section NTRX25AA, C28 Cabinet Mechanical Assembly.

- 2) For power and grounding information refer to Engineering Manual Section for NTZX16CA Cabinetized Power and Grounding.
- 3) Refer to MS0X60AA for equipment labeling.
- 4) Shelf provisioning should always begin with P0700829 Tool Tray first, NTN2201 shelves second, NTN2203 shelves third, and the NTRX4001 chassis fourth, when mixing shelf types in the same storage cabinet.
- 5) Always provision NTN2201 first beginning in position 49 and providing additional NTN2201 shelves downwards.

- 6) When no NTN2201 shelves are provisioned, always provision NTN2203 shelves beginning with position 51 and provision downwards.
- 7) Always provision NTRX4001 MSP beginning in the highest permissible but unoccupied position and add additional chassis downwards.
- 8) Provision Line Card Storage Chassis NT3X55BA in NTN2201 from left to right, beginning from the left. To install the NT3X55BA, remove circuit pack sliders from the NTN2201 shelf that is to receive the Chassis and insert and secure the NT3X55BA to the top of the shelf using the provided hardware. Provision the NT3X55BA starting with the topmost NTN2201 shelf position, from top to bottom filling each shelf completely before provisioning the next lower shelf.
- 9) Always provision the NTRX4001 MSP Card Storage Chassis beginning at the highest available, permissible position and add additional chassis downwards. If no Horizontal Cabling Bracket P0739584 is provisioned, the NTRX4001 MSP Card Storage Chassis may be provisioned in position 02 when the cabinet is fully loaded with (4) shelves.

## RULES:

- AP 1) When PEC NTZZ27FB is ordered, these items are provided.
- AP-01 1) This PEC is always provided as part of NTRX49BA and is shown here for completeness.
- RUL1 1) Provide one (1) NTN2201, Spare Storage Shelf Assembly, to store up to fifty four (54) 0.875 inch spare circuit packs or up to forty two (42) 1.125 inch spare circuit packs. A maximum of four (4) NTN2201 may be provisioned in one NTRX49BA cabinet.
- RUL2 1) Provide one (1) NTN2203, Spare Storage Shelf Assembly, to store up to two (2) power converters and twenty (20) SuperNode size (ECORE, ENET, LPP) cards on the front side and a maximum of twenty six (26) paddle boards on the rear side. A maximum of four (4) NTN2201 may be provisioned in one NTRX49BA cabinet.
- RUL3 1) Provide one (1) NTRX4001 MSP Card Storage Chassis to store a maximum of twenty (20) MSP Cards. A maximum of two (2)

NTRX4001 MSP Card Storage Chassis can be provisioned in a NTRX49BA cabinet.

- 2) Provide four (4) Screw P097F813, one (1) Washer P0284154 and one (1) Washer P0183220 for each NTRX4001 MSP Card Storage Chassis provided.

RUL4 1) Provide one (1) NT3X55BA, Line Card Storage Chassis, to store a maximum of ten (10) Double Slot Line Cards or ten (10) Single Slot Line Cards plus one (1) IF card. Four (4) NT3X55BA can be mounted in a NTN2201 shelf assembly.

RUL5 1) Provide one (1) Horizontal Cabling Bracket P0739584 and two (2) P097F839 Screw Mounting Hardware when the Storage Cabinet is included in a lineup with 'Horizontal' power arrangement.

RUL6 1) Provide one (1) NTRX3541 Label Kit for English language applications.

RUL7 1) Provide one (1) NTRX3542 Label Kit for German language applications.

97/12/09

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EMB14

TABLES CHAPTER ALL

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TABLES CHAPTER ALL



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97/12/09

TABLES CHAPTER ALL

EMB14-01-000	TABLE A - TRUNK MODULE PROVISIONABLE CAR	BB-TAB-A
EMB14-02-000	TABLE B - I/O CONTROLLER MODULE	BB-TAB-B
EMB14-05-000	TABLE E - REMOTE MAINTENANCE MODULE PROV	T_RMM_CARDS

97/12/09

TABLE A - TRUNK MODULE PROVISIONABLE CARDS

PEC CODE: BB-TAB-A

CPC CODE: Not Applicable

RATING: See descriptions for individual CPs.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: Not Applicable

ENGINEERING DESCRIPTION: Tables A-1, A-2, A-3 and A-4 list all DMS-100 Family trunk, maintenance, analog interface and service circuits and provides their important characteristics (Tables A-1 and A-2) and assignment data (Tables A-3 and A-4).

For convenience Tables A-1 and A-3 are restricted to metallic trunks while Tables A-2 and A-4 deal with the other circuit types.

Comprehensive notes accompany all tables. To obtain all relevant details the user must refer to both tables of the pair which lists the particular card.

REFERENCE DOCUMENTATION: All MS documents listed in the "NOTE:" section.

MARKETS: Applicable markets:

- US
- Canada
- Europe
- Asia/Pacific
- CALA

ISSUE AUTHOR: Steve Martin Dept. 3471 (PPK)

MAIN CONTACT: Steve Martin Dept. 3471 (PPK)

BB-TAB-A EMB14-01-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
92 07 31	ECM 531 02	Add changes to support A-Law.
92 11 25	ECM 532 04	MD CDC NT3X08AA
93 03 17	ECM 601 09	Correct rules on NT3X82AA/AB
93 05 07	ECM 464 07	Update ITM8 provisionable cards info.
93 07 30	ECM 548 01	Introduction of Conference Trunk Module (CTM) NT1X81AA.
		ET8363 - The NT5X30BA comes equipped with a balance network and therefore does not require an external balance network (i.e. NT2X77BB) to be mounted on it.
93 11 03	ECM 548 02	The CTM NT1X81AA requires BCS-35 or later software to be in the DMS switch. Modify rule a3 so that it is in sync with rule a3 in EMA14-01-000. Modify rule a9 so that it is in sync with rule a9 in EMA14-01-000. Remove NT3X33AA Line Traffic Simulator CP. SCA#QT300606: # added to 9 building block PECs; # added to 3 detailed PECs; corrections made to NT1X76GM, NT1X76HC, NT1X76HD.
93 11 18	ECM 690 01	Introduces equipment that is required for EAS.
94 01 28	ECM 200 04	ET112130, ECD 018-40153 - Revise provisioning rules pertaining to 6 port & 3 port conference circuits, Conference Trunk Modules (CTM), and digital modems. Revise RULE av.
		Dial-Up Autoquote feature requires NT3X02BA to be used in a stand-alone configuration. Revise RULE ao.
94 06 15	ECM 601 14	Include configuration constraints Induced by PM Software Load and Load Execs. Refer to ET 18679.
94 09 24	ECM 601 15	ECD 018-41658 - Provide provisioning

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 10 24	ECM 389 08	rule for NT3X91AA/TM08/DTH ROTL combination on same frame. ECD 018-43463 - MD NT2X78AA, 4 wire analog trunk cp. Update rule on NT4X23AA.
95 02 24	ECM 601 17	ET 18679 - Correct provisioning rule for NT2X10--/NT2X11-- (MTU) in combination with NT3X68-- Tone Gen. in the same MTM.
95 05 05	ECM 557 11	ET 21099 - Correct provisioning rule NT1X90--/NT2X96-- (TTT) in combination with NT3X68-- Ton Gen in the same MTM
95 05 22	ECM 557 12	Introduce EDTU
95 07 14	ECM 531 06	Correction of editorial error
96 10 04	ECM 601 35	MD NT1X75/76/79 Series of DRAM cards. The EDRAM, NT1X80AA, is now standard for all applications. Provisioning of -48/-60V SP Power is mandatory for CTM CPs in Trunk Modules
96 10 16	ECM 531 12	Redo/update this table to align with Table A. MD NT3X67AA/BA/BB and NT4X98BB per EC018-48036.
96 11 19	ECM 276 08	Change number of channels for EDRAM from 30 to 29 per NT Tech. Add Rul at to show EDRAMs require -48V SP kit on extension offices. (POPS)
96 12 11	ECM 601 36	MD NT2X46AB per EC018-49694. Per EC018-49399 and PRS BY46633 correct the replacement pec for MD'ed NT2X48AA (rep by NT2X48BA). Also see Engineering Bulletin 771 for SW datafill information.
97 01 02	ECM 557 29	Enhance rule 'y' to describe the physical width of the NT2X48 CPs. Enhance rules for assignment of the EDTU CP NT4X45AA. Correct CPs replaced by EDTU CP NT4X45AA in flaglist and rule a23.
97 01 31	ECM 601 37	Un-MD the following PECs per EC018-50459-NT2X48AB, NT4X98BB.
97 04 30	ECM 531 13	Change power dissipation for NT1X80BA to 7 watts per NT Tech.
97 05 15	ECM 352 07	Enhance RUL a14 for DTUs per input from users and NTACCESS.

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 06 23	ECM 557 34	Un-md NT2X47AB per EC018-50897. Enhance RUL a23 for EAE3 automation Correct several spelling errors. Update per EC 018-39871 for rules about MF receiver CPs.
97 08 04	ECM 557 35	MD NT1X00AA/AB/AC/AD/AE/AF/AG/AH/KA per EC 018-51285. MD NT2X72BB and NT2X95BB per EC 018-51320.
97 09 08	ECM 557 36	MD NT4X65AB per EC 018-51169. MD NT2X57AB per EC 018-51378. MD NT3X82AC/AD/AE/AA/AB/NT3X84AA/ NT3X85AA per EC 018-51284.
97 10 16	ECM 601 38	MD NT2X55AA and NT2X67AA per EC 018-51486. MD NT2X10AB, NT2X11AA, and NT2X11AC PER 018-51489.

The Table A - Trunk Module Provisionable Cards is comprised of the following:

PEC	CIRCUIT TYPE	BAL NET	NO CKT	NO SLT	LST SLT	PRD CRD	PWR DIS	RULE
NT1X54AA	Jack Ended Trunk		2	1			0.5	a
NT2X65AA	CAMA Pos Sign Trk	*	1	1				b,c,ab
NT2X66AA	CAMA CW Susp LP Trk		1	1			1	a5
NT2X72AA	4W E&M Type D1 600 I/F		2	1			1	ar
NT2X72AB	4W E&M Type D1 600 E SUPR CONT		2	1			1	d
NT2X72AC	4W E&M 600 L GN E SUPR CONT		2	1			1	d
NT2X72BA	4W DC5A Tie Trunk		2	1			1	
# NT2X72BB	4W CAIA 600 ohm Trunk		2	1			1	
# NT2X78AA	4W INC/OG (2600 Hz) MF/DP		2	1				
NT2X81AA	2W E&M 900 2WY INC/OG MF/DP	*	2	1				a19
NT2X81AB	2W E&M 600 2WY INC/OG MF/DP	*	2	1				a19
NT2X81BA	2W DC5A Tie Trunk	*	2	1				ay
NT2X82AA	2W LP 900 INC REV BAT MF/DP	*	2	1				a19
NT2X83AA	2W LP 900 OG REV BAT MF/DP	*	2	1				a19
NT2X84BA	Earth Calling Trunk		1	1				ay,a8
NT2X85AA	RCDG COMPL TRK H-L Coin	*	1	1				aq
NT2X86AA	Toll SW 3RD W Coin FX Ring	*	1	1				aq
NT2X88AA	4W INC/OG 600 E&M MF/DP		2	1			1	
# NT2X90AA	2W INC from NE-14 LTD 900	*	1	1				b,h
# NT2X90AB	INC/OG TST TRK	*	1	1			1.5	b
# NT2X90AC	INC/OG TST TRK	*	1	1			1.5	ax
NT2X90AD	INC/OG TEST TRK	*	1	1			1.5	a4
NT2X92AA	2W LP 900 OG REV BAT MF	*	2	1				a19
NT2X95AA	2WY PBX TRK DID/DOD	*	1	1				
NT2X95BA	Direct Dial Inward Trunk	*	1	1				ay
# NT2X95BB	2W JUSMAG 600 ohm DDO Trunk	*	1	1				ay
NT2X98AA	2W INC 900 DP RB SLV CONT		2	1				
NT3X04AA	INC TST from AECO LTD		2	1			28	
NT3X06AA	2W OGT TRK to AE/3CL CO-LO	*	1	1			0.5	aq
NT3X07AA	2W INC TRK to AE/3CL CO-LO	*	2	1				aq
NT3X91AA	REM OFF. TST Line I/F TRK		2	1				a21
NT5X03AA	CCITT R1 Trk, 101 Tst Ln DMS-300		2	1				f
# NT5X04AA	CCITT #5 Trk		2	1				f
NT5X04AB	CCITT #5 Trk		2	1				f

TABLE A-1

TRUNK MODULE PROVISIONABLE CARDS  
METALLIC TRUNKS CIRCUIT CHARACTERISTICS

PEC	CIRCUIT TYPE	BAL NO	NO	LST PRD	PWR
		NET CKT	SLT	SLT	CRD DIS
NT5X06AA	CCITT #6 Trk	2	1		f
# NT5X25AA	1WY CO TRK OG GRD ST or INC LP	2	1		
NT5X30AA	101 Comm Test Line	*	1	1	3 g,a19
NT5X30BA	101 Comm Test Line UK	1	1	1	3 az
NT0X10AA	MISC Scanner	2	1	2	i,j,ag,a22
# NT1X00AA	102 Test (milliwatt)	2	1	4	k
# NT1X00AB	102 Test (milliwatt)	2	1	4	k
# NT1X00AC	ROH Tone Generator	2	1	4	k,l
# NT1X00AD	ROH Tone Generator	2	1	4	k,l
# NT1X00AE	ROH Tone Int'l 102 Tst Trk	2	1	4	k,m
# NT1X00AF	ROH Tone 102/10db Tst Trk	2	1	4	k
# NT1X00AG	ROH Tone 102/20db Tst Trk	2	1	4	k
# NT1X00AH	ROH Tone 102/15db Tst Trk	2	1	4	k
# NT1X00KA	102 Test Trunk (China)	2	1	4	k
# NT1X31AA	3-Port Conference Circuit	6	3	3	n,o



TABLE A-1 (Continued)

TRUNK MODULE PROVISIONABLE CARDS  
METALLIC TRUNKS CIRCUIT CHARACTERISTICS

PEC	CIRCUIT TYPE	BAL NET	NO CKT	NO SLT	LST SLT	PRD CRD	PWR DIS	RULE
# NT1X75AA	DIG. Recorded Ann Cont	30	12	05	6L	23		l,p,t,a9,a12
# NT1X75BA	Enhanced Dig. Rec Ann Cont	30	12	05	6L	3		l,p,t,a9,a12
# NT1X75DA	A-Law Dig. Rec Ann Cont	30	12	05	6L	23		l,p,t,a9,a12
# NT1X76AA	DRA Standard Ann-English	-	1		6R	10		r,q,t,a9
# NT1X76AB	U.S. Bell Standard Ann CP	-	1		6R	10		r,q,t,a9
# NT1X76AE	ACTS DRA CP	-	1			10		r,q,t,a9,a13
# NT1X76AF	AOSSVR English Ann (Part 1)	-	1		6R	2.5		r,q,t,a9,a10
# NT1X76AG	AOSSVR English Ann (Part 2)	-	1		6R	2.5		r,q,t,a9,a10
# NT1X76AH	CCC Standard English Ann	-	1		6R	2.5		r,q,t,a9,a11
# NT1X76HC	CCC Standard English Ann for QTel, MT&T and NBTel	-	1		6R	5		r,q,t,a9,a11
# NT1X76AJ	CLASS Phase 1 English Announcements (1) of (2) CP	-	1		6R	5		r,q,t,a15
# NT1X76AK	CLASS Phase 1 English Announcements (2) of (2) CP	-	1		6R	5		r,q,t,a15
# NT1X76AM	Call Forward Remote Activation - English	-	1		6R	2.5		r,q,t,a9,a16
# NT1X76AP	CLASS Phase 2 English Announcements (1) of (8) CP	-	1		6R	5		r,q,t,a15
# NT1X76AQ	CLASS Phase 2 English Announcements (2) of (8) CP	-	1		6R	5		r,q,t,a15

TABLE A-2  
TRUNK AND REMOTE MODULES PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
CIRCUIT CHARACTERISTICS

PEC	CIRCUIT TYPE	BAL NET	NO CKT	NO SLT	LST SLT	PRD CRD	PWR DIS	RULE
# NT1X76AR	CLASS Phase 2 English Announcements (3) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76AS	CLASS Phase 2 English Announcements (4) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76AT	CLASS Phase 2 English Announcements (5) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76AU	CLASS Phase 2 English Announcements (6) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76AV	CLASS Phase 2 English Announcements (7) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76AW	CLASS Phase 2 English Announcements (8) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BA	DRA Standard Ann-French	-	1	1	6R	12.5		r,q,t,a9
# NT1X76BF	AOSSVR French Ann (Part 1)	-	1	1	6R	2.5		r,q,t,a9,a10
# NT1X76BG	AOSSVR French Ann (Part 2)	-	1	1	6R	2.5		r,q,t,a9,a10
# NT1X76BH	CCC Standard French Ann	-	1	1	6R	2.5		r,q,t,a9,a11
# NT1X76HD	CCC Standard French Ann for QTel, MT&T and NBTel	-	1	1	6R	5		r,q,t,a9,a11
# NT1X76BJ	CLASS Phase 1 French Announcements (1) of (2) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BK	CLASS Phase 1 French Announcements (2) of (2) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BP	CLASS Phase 2 French Announcements (1) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BQ	CLASS Phase 2 French Announcements (2) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BR	CLASS Phase 2 French Announcements (3) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BS	CLASS Phase 2 French Announcements (4) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BT	CLASS Phase 2 French Announcements (5) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BU	CLASS Phase 2 French Announcements (6) of (8) CP	-	1	1	6R	5		r,q,t,a15
# NT1X76BV	CLASS Phase 2 French Announcements (7) of (8) CP	-	1	1	6R	5		r,q,t,a15

TABLE A-2 (Continued)  
TRUNK AND REMOTE MODULES PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
CIRCUIT CHARACTERISTICS

PEC	CIRCUIT TYPE	BAL NET	NO CKT	NO SLT	LST SLT	PRD CRD	PWR DIS	RULE
# NT1X76BW	CLASS Phase 2 French Announcements (8) of (8) CP	-	1		6R	5		r,q,t,a15
# NT1X76CA	MCCS Std Announcement CP	-	1		6R	10		r,q,t,a9
# NT1X76GA	CLASS Phase 2 English Announcements (1) of (4) CP	-	1		6R	5		r,q,t,a15
# NT1X76GB	CLASS Phase 2 English Announcements (2) of (4) CP	-	1		6R	5		r,q,t,a15
# NT1X76GC	CLASS Phase 2 English Announcements (3) of (4) CP	-	1		6R	5		r,q,t,a15
# NT1X76GE	CLASS Phase 2 U.S. Custom Feature Names Announcements-Type I CP for Bell South	-	1		6R	5		r,q,t,a15
# NT1X76GF	CLASS Phase 2 U.S. Custom Feature Names Announcements-Type II CP for Bell Atlantic	-	1		6R	5		r,q,t,a15
# NT1X76GG	CLASS Phase 2 U.S. Custom Feature Names Announcements-Type III CP for United Tel.	-	1		6R	5		r,q,t,a15
# NT1X76GH	CLASS Phase 2 U.S. Custom Feature Names Announcements-Type IV CP for GTE	-	1		6R	5		r,q,t,a15
# NT1X76GJ	CLASS Phase 2 U.S. Custom Feature Names Announcements-Type V CP for Pacific Bell	-	1		6R	5		r,q,t,a15
# NT1X76GK	CLASS Phase 2 U.S. Custom Feature Names Announcements-Type VI CP for Ameritech	-	1		6R	5		r,q,t,a15
# NT1X76GL	CLASS Phase 2 U.S. Custom Feature Names Announcements-Type VII CP for Southwest Bell	-	1		6R	5		r,q,t,a15
# NT1X76GM	CLASS Phase 2 U.S. Custom Feature Names Announcements-Type VIII CP for US West	-	1		6R	5		r,q,t,a15
# NT1X76JA	Automatic Recall Date/Time Announcements (1) or (2) CP	-	1		6R	5		r,q,t,a9,a17
# NT1X76JB	Automatic Recall Date/Time Announcements (2) or (2) CP	-	1		6R	5		r,q,t,a9,a17
# NT1X77AA	DRA Recordable Memory	-	1		6R	11		s,q,t,a9
# NT1X79AA	MCCS/ACTS Custom Ann. CP	-	1		6R	5		s,q,t,a9

TABLE A-2  
TRUNK AND REMOTE MODULES PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
CIRCUIT CHARACTERISTICS

PEC	CIRCUIT TYPE	BAL NET	NO CKT	NO SLT	LST SLT	PRD CRD	PWR DIS	RULE
NT1X80AA	Enhanced Digital Recorded Announcement Machine (EDRAM) CP	29	1				9	a18,at
NT1X80BA	Enhanced Digital Recorded Announcement Machine (EDRAM) CP (16 Min.)	29	1				7	a24,at
NT1X81AA	Conference Trunk Module (CTM) CP	29	1				5	a20
# NT1X90AA	Test Signal Generator	-	1	15	1L		6	t
NT1X90BA	Test Signal Gen. (A-Law)	-	1	15	9L		6	t
NT2X01AA	AIOD Trunk CP	4	2				19	au
# NT2X10AB	Line Tst Unit Analog Cd	-	1	15	4LO		6.7	t,u,q,a3
# NT2X10AC	Line Tst Unit Analog Cd	-	1	15	4LO		6.7	t,u,q,a3
NT2X10BA	Multi-line Test Unit Analog Card	-	1	15	10LO		15	t,q,as,at,a3
# NT2X11AA	Line Tst Unit Digital Cd	1	1		4RE		8.5	t,u,a3
# NT2X11AC	Line Tst Unit Digital Cd	1	1		4RE		8.5	t,u,a3
# NT2X11AD	Line Tst Unit Digital Cd	1	1		4RE		8.5	t,u,a3
NT2X11BA	Multi-line Test Unit Controller Card	2	1		10RE		9	t,as,ata3
NT2X43AB	Office Alarm circuit #3	-	2	15			13	v,q
NT2X47AB	TRMSN TST MOD CON SIG GEN	1	1	15	2LO		8.7	m,t,w,x
# NT2X47AC	TRMSN TST MOD CON SIG GEN	1	1	15	3LO		8.7	t,w,x
# NT2X47AD	TTU Control Processor	1	1	15	3LO		8.7	t,w,x
NT2X47BA	Trmsn Tst Ctrl (A-Law)	1	1	15	8LO		8.7	t,w,x
# NT2X48AA	DGTL 4 Channel MF RCVR	4	2	15			12	o,y
NT2X48AB	DGTL 4 Chan Digitone RCVR	4	2	15			12	o,y
NT2X48BA	DGTL 4 Chan MF RCVR	4	2	15			12	o,y
NT2X48BB	DGTL 4 Chan DYMF RCVR	4	2	15			12	o,y
NT2X48CA	MF Receiver - A Law	4	2	15			16	o,y
NT2X48CB	DTMF Receiver (British Tel)	4	2	15			16	o,y
NT2X48CC	DTMF Receiver - A Law	4	2	15			16	o,y
# NT2X50AB	Minibar Driver	1	1				4.8	z
# NT2X55AA	SD Card II	2	1				5.1	i,aa
# NT2X56AA	TRMSN TST MOD Dig. Filter	-	1		2RE		12.9	t,x,q
# NT2X56AB	TRMSN TST MOD Dig. Filter	-	1		3RE		12.9	t,x,q
# NT2X56BA	Trmsn Test Filter (A-Law)	-	1		8RE		12.9	t,x,q
NT2X57AA	SD Card I	2	1				4.5	i,aa
# NT2X57AB	SD Card I with OAU MON	2	1				4.5	i,aa
NT2X71AA	Transmission Termination Trk	1	1				3	b

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TABLE A-2 (Continued)  
 TRUNK MODULE PROVISIONABLE CARDS  
 TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
 CIRCUIT CHARACTERISTICS

PEC	CIRCUIT TYPE	BAL NET	NO CKT	NO SLT	LST SLT	PRD CRD	PWR DIS	RULE
NT2X75AA	Loop Around Test Line		2	1			1	ab
# NT2X96AA	PCM Level Meter		1	1		1R	6	t
NT2X96BA	PCM Level Meter (A-Law)		1	1		9R	6	t
NT3X02AA	TOPS Control Processor		4	2	15	5LO	8	t,ao,av
NT3X02BA	Dial up Auto/TOPS Cont Proc		4	2	15	5LO	8	t,ao,av
NT3X03AA	TOPS DGTL Signal Processor		-	1		5RE	5	t,q,av
# NT3X05AA	Digital Data Line Card		1	1			7	
# NT3X05AB	Digital Data Line Card		1	1			7	
NT3X05AC	Digital Data Line Card		1	1			7	
# NT3X08AA	Coin Detection Circuit		-	1			15	an
# NT3X08AB	Coin Detection Circuit		-	1			15	an
NT3X09AA	Remote Metallic Access		1	1			11.5	aw,a2
NT3X09BA	8X8 Metallic Test Access CP		1	1			11.5	a2
# NT3X67AA	6 Port Conference Circuit		6	3			7.5	n
# NT3X67BA	6 Party Conf Ckt (A-Law)		6	3			7.5	n
# NT3X67BB	6 Party Conf Ckt (A-Law)		6	3			7.5	n
NT3X68AA	TONE GEN: PRMT/PST/CONF		4	2			3	ad,a3
NT3X68AB	TONE GEN: DTMF Tone		4	2			3	ad,a3
NT3X68AC	TONE GEN: CALL WAITING		4	2			3	l,ad,a3
NT3X68BA	TONE GEN: PRMT/PST/CONF		4	2			3	ad,a3
NT3X68BB	TONE GEN: DTMF Tone		4	2			3	ad,a3
NT3X68BC	TONE GEN: CALL WAITING		4	2			3	l,ad,a3
# NT3X82AA	OAS Dead SYS w Unique AUD		1	2	15		9	v,ai
# NT3X82AC	OAS Dead SYS w Unique AUD		1	2	15		9	v,ai
# NT3X82AB	OAS Dead SYS w Common AUD		1	1			4	ai
# NT3X82AD	OAS Dead SYS w Common AUD		1	1			4	ai
# NT3X83AA	OAS Alarm Transfer		1	1			13	ai
# NT3X84AA	OAS Alarm Sending		1	1			2	ai
# NT3X85AA	OAS Alarm Grouping		1	1			5	
NT3X85AB	OAS Alarm Grouping		1	1			5	
# NT4X23AA	DTU BERT Unit CP		2	1			10	a14
# NT4X45AA	Enhanced Digital Test Unit		4	2	15		10.8	a23
NT4X97AA	MTU Controller		2	1		7RE	9	t,as,a3
# NT4X98BA	MTU Analog (International)		-	1	15	7LO	15	t,as,q, a3,at
NT4X98BB	MTU Analog (International)		-	1	15	11LO	15	t,as,q,
NT4X98BC	MTU Analog (International)		-	1	15	11LO	15	t,as,q, a3,at

TABLE A-2 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
CIRCUIT CHARACTERISTICS

PEC	CIRCUIT TYPE	BAL NET	NO CKT	NO SLT	LST SLT	PRD CRD	PWR DIS	RULE
NT5X29AA	CCIS CONT CKET TONE DET/GEN	16	8	07			3.5	ap
NT5X29AC	CTS TONE DET DTMF TONE GEN	16	8	07			3.5	ap
NT5X29BA	A-Law ATD Tone Generator	16	8	07			3.5	ap
# NTZZ06DA	Line Test Unit	1	2	15	4LO	15.2		t,u,q,a3
NTZZ06EA	Multi-line Test Unit	2	2	15	10LO	24		t,q,as, at,a3
NTZZ06FA	Transmission Test Unit	1	2	15	3LO	21.6		t,q,w,x
NTZZ06GA	Transmission Test Trunk	1	2	15	9L	12		t
NTZZ06HA	Digital Modem	4	2	15	5LO	13		t,q,ao,av
# NTZZ06JA	CLASS/CMS Phase I	-	2		6R	10		r,q,t,a15
# NTZZ06KA	CLASS Phase II	-	3		6R	15		r,q,t,a15
# NTZZ06LA	CLASS/CMS Phase II	-	4		6R	20		r,q,t,a15
# NTZZ06MA	CLASS/CMS Phase II	-	3		6R	15		r,q,t,a15
# NTZZ06TA	CMS French Phase I	-	2		6R	10		r,q,t,a15
# NTZZ06UA	CMS French Phase II	-	4		6R	20		r,q,t,a15
# NTZZ06VA	AOSS Voice Response English	-	2		6R	5		r,q,t,a9, a10
# NTZZ06WA	AOSS Voice Response French	-	2		6R	5		r,q,t,a9, a10
# NTZZ06XA	CMS French Phase II	-	4		6R	20		r,q,t,a15

TABLE A-2 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
CIRCUIT CHARACTERISTICS

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT2X90AA	MD	NT2X90AD
NT2X90AB	MD	NT2X90AD
NT2X90AC	MD	NT2X90AD
NT5X04AA	MD	NT5X04AB
NT1X00AA	MD	NT1X00AB
NT1X00AB	MD	NT1X80AA
NT1X00AC	MD	NT1X00AD
NT1X00AD	MD	NT1X80AA
NT1X00AE	MD	NT1X80AA
NT1X00AF	MD	NT1X80AA
NT1X00AG	MD	NT1X80AA
NT1X00AH	MD	NT1X80AA
NT1X00KA	MD	NT1X80AA
NT1X31AA	MD	NT3X67AA
NT1X75AA	MD	NT1X80AA
NT1X75BA	MD	NT1X80AA
NT1X75DA	MD	NT1X80AA
NT1X76AA	MD	NT1X80AA
NT1X76AB	MD	NT1X80AA
NT1X76AE	MD	NT1X80AA
NT1X76AF	MD	NT1X80AA
NT1X76AG	MD	NT1X80AA
NT1X76AH	MD	NT1X80AA
NT1X76AJ	MD	NT1X80AA
NT1X76AK	MD	NT1X80AA
NT1X76AM	MD	NT1X80AA
NT1X76AP	MD	NT1X80AA
NT1X76AQ	MD	NT1X80AA
NT1X76AR	MD	NT1X80AA
NT1X76AS	MD	NT1X80AA
NT1X76AT	MD	NT1X80AA
NT1X76AU	MD	NT1X80AA
NT1X76AV	MD	NT1X80AA
NT1X76AW	MD	NT1X80AA
NT1X76BA	MD	NT1X80AA
NT1X76BF	MD	NT1X80AA
NT1X76BG	MD	NT1X80AA
NT1X76BH	MD	NT1X80AA
NT1X76BJ	MD	NT1X80AA
NT1X76BK	MD	NT1X80AA
NT1X76BP	MD	NT1X80AA
NT1X76BQ	MD	NT1X80AA
NT1X76BR	MD	NT1X80AA
NT1X76BS	MD	NT1X80AA

PEC	RATING	REPLACED BY PEC
NT1X76BT	MD	NT1X80AA
NT1X76BU	MD	NT1X80AA
NT1X76BV	MD	NT1X80AA
NT1X76BW	MD	NT1X80AA
NT1X76CA	MD	NT1X80AA
NT1X76GA	MD	NT1X80AA
NT1X76GB	MD	NT1X80AA
NT1X76GC	MD	NT1X80AA
NT1X76GE	MD	NT1X80AA
NT1X76GF	MD	NT1X80AA
NT1X76GG	MD	NT1X80AA
NT1X76GH	MD	NT1X80AA
NT1X76GJ	MD	NT1X80AA
NT1X76GK	MD	NT1X80AA
NT1X76GL	MD	NT1X80AA
NT1X76GM	MD	NT1X80AA
NT1X76HC	MD	NT1X80AA
NT1X76HD	MD	NT1X80AA
NT1X76JA	MD	NT1X80AA
NT1X76JB	MD	NT1X80AA
NT1X77AA	MD	NT1X80AA
NT1X79AA	MD	NT1X80AA
NT2X10AC	STD	NT4X98BB(int'l) NT2X10BA(US, CAN)
NT2X11AC	MD	NT4X97AA(int'l) NT2X11BA(US, CAN)
NT2X11AD	STD	NT4X97AA(int'l) NT2X11BA(US, CAN)
NT2X47AC	MD	NT2X47AD
NT2X56AA	STD	NT2X56AB
NT2X78AA	MD	QPP601E Transmission prod.
NT3X05AA	MD	NT3X05AC
NT3X08AA	MD	NT3X08AB
NT3X08AB	STD	
NT3X67AA	MD	NT1X81AA
NT3X67BA	MD	NT3X67BB
NT3X67BB	MD	NT1X81AA
NT4X23AA	STD	
NT4X98BA	MD	NT4X98BB
NTZZ06DA	MD	NTZZ06EA
NTZZ06JA	MD	NT1X80AA
NTZZ06KA	MD	NT1X80AA
NTZZ06LA	MD	NT1X80AA
NTZZ06MA	MD	NT1X80AA
NTZZ06TA	MD	NT1X80AA



PEC	RATING	REPLACED BY PEC
NTZZ06UA	MD	NT1X80AA
NTZZ06VA	MD	NT1X80AA
NTZZ06WA	MD	NT1X80AA
NTZZ06XA	MD	NT1X80AA
NT4X45AA	DEV	Check availability before ordering
NT4X23AA	STD	2 rep by NT4X45AA
NT1X90AA	STD	4 rep by NT4X45AA
NT2X47AC/AD	STD	4 rep by NT4X45AA
NT2X96AA	STD	4 rep by NT4X45AA
NT2X56AB	STD	4 rep by NT4X45AA
NT1X29AA	MD	No Replacement
NT2X48AA	MD	NT2X48BA
NT2X50AB	MD	NT3X09BA
NT3X33AA	MD	No Replacement
NT3X82AA	MD	NT3X82AF
NT3X82AB	MD	NT3X82AG
NT4X65AA	MD	NT4X65AB
NT4X65AB	MD	No Replacement
NT5X25AA	MD	NT6X50AA
NT2X46AB	MD	NT3X09BA
NT2X72BB	MD	No Replacement
NT2X95BB	MD	No Replacement
NT2X57AB	MD	No Replacement
NT3X82AC	MD	No Replacement
NT3X82AD	MD	No Replacement
NT3X82AE	MD	No Replacement
NT3X83AA	MD	No Replacement
NT3X83AB	MD	No Replacement
NT3X84AA	MD	No Replacement
NT3X85AA	MD	No Replacement
NT2X55AA	MD	No Replacement
NT2X67AA	MD	No Replacement
NT2X10AB	MD	No Replacement
NT2X11AA	MD	No Replacement

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

TABLE A-3  
TRUNK MODULE PROVISIONABLE CARDS  
METALLIC TRUNKS - VALID MODULE TYPES

PEC	TM2	TM4	TM8		ATM	T8A	MTM	MTM	MTM	MTM	OAU	RSM	RULE
			(T8A)	ATM			-AA	-AC	-AG	-AK			
NT1X54AA		*	*				*	*	*	*			ac
NT2X65AA			*			*							
NT2X66AA	*	*	*										
NT2X72AA			*		*								af
NT2X72AB			*		*								
NT2X72AC			*		*								
# NT2X78AA		*	*		*								
NT2X81AA			*										
NT2X81AB			*										
NT2X82AA	*	*	*										
NT2X83AA	*	*	*										
NT2X85AA	*	*	*										
NT2X86AA	*	*	*										
NT2X88AA			*	*	*								af
NT2X90AA			*										h, ag
NT2X90AB			*								*		ag
NT2X90AC			*								*		
NT2X90AD			*								*		
NT2X92AA	*	*	*										
NT2X95AA	*	*	*										
NT2X98AA		*	*										
NT3X04AA			*										
NT3X06AA		*	*										
NT3X07AA			*										
NT3X91AA			*										a21
NT5X03AA						*							
NT5X04AA						*							
NT5X04AB						*							
NT5X06AA						*							
NT5X25AA				*									
NT5X30AA	*	*	*		*	*							

TABLE A-3  
TRUNK MODULE PROVISIONABLE CARDS  
METALLIC TRUNKS - VALID MODULE TYPES

PEC	RMM	IMTM (-AT)	IMTM (-AU)	ITM8	IT8A	RULE
NT1X54AA		*	*	*		
NT2X65AA				*		
NT2X66AA				*		
NT2X71AA		*	*			
NT2X72AA				*		
NT2X72AB				*		
NT2X72AC				*		
NT2X72BA				*		
NT2X72BB				*		
# NT2X78AA				*		
NT2X81AA				*		
NT2X81AB				*		
NT2X81BA				*		
NT2X82AA				*		
NT2X83AA				*		
NT2X84BA				*		
NT2X85AA				*		
NT2X86AA				*		
NT2X88AA				*		
NT2X90AA				*		
NT2X90AB	*			*		b,ax
NT2X90AC	*	*		*		b,ax
NT2X90AD	*					b,ax
NT2X92AA				*		
NT2X95AA				*		
NT2X95BA				*		
NT2X95BB				*		
NT2X98AA				*		
NT3X04AA	*			*		
NT3X07AA				*		
NT3X91AA				*		a21
NT5X03AA					*	
NT5X04AA					*	
NT5X04AB					*	
NT5X06AA					*	
NT5X30AA		*		*		
NT5X30BA		*		*		

TABLE A-3 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
METALLIC TRUNKS  
VALID MODULE TYPES

PEC	TM2	TM4	TM8	TM8		TM8	TM8	TM8	TM8	TM8	OAU	RSM	RULE
				(T8A)	ATM								
NT0X10AA							*	*			*	*	ag, ah, ak, a22
NT1X00AA							*	*					
NT1X00AB							*	*					
NT1X00AC							*	*					
NT1X00AD							*	*					
NT1X00AE							*	*					
NT1X00AF							*	*					
NT1X00AG							*	*					
NT1X00AH							*	*					
NT1X31AA	*	*	*			*	*	*	*	*	*		aj
NT1X75AA							*	*	*	*			
NT1X75BA							*	*	*	*			
NT1X76AA									*	*			
NT1X76AB									*	*			
NT1X76AE									*	*			
NT1X76AF									*	*			
NT1X76AG									*	*			
NT1X76AH									*	*			
NT1X76HC									*	*			
NT1X76AJ									*	*			
NT1X76AK									*	*			
NT1X76AM									*	*			
NT1X76AP									*	*			
NT1X76AQ									*	*			
NT1X76AR									*	*			
NT1X76AS									*	*			
NT1X76AT									*	*			
NT1X76AU									*	*			
NT1X76AV									*	*			
NT1X76AW									*	*			
NT1X76BA									*	*			
NT1X76BF									*	*			
NT1X76BG									*	*			
NT1X76BH									*	*			
NT1X76HD									*	*			

TABLE A-4  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
VALID MODULE TYPES

PEC	TM2	TM4	TM8	TM8 (T8A)	ATM	T8A	MTM	MTM	MTM	MTM	OAU	RSM	RULE
							-AA	-AC	-AG	-AK			
							/CA		/CB				
							/AN		/AM				
							/AL						
NT1X76BJ									*	*			
NT1X76BK									*	*			
NT1X76BP									*	*			
NT1X76BQ									*	*			
NT1X76BR									*	*			
NT1X76BS									*	*			
NT1X76BT									*	*			
NT1X76BU									*	*			
NT1X76BV									*	*			
NT1X76BW									*	*			
NT1X76CA									*	*			
NT1X76GA									*	*			
NT1X76GB									*	*			
NT1X76GC									*	*			
NT1X76GE									*	*			
NT1X76GF									*	*			
NT1X76GG									*	*			
NT1X76GH									*	*			
NT1X76GJ									*	*			
NT1X76GK									*	*			
NT1X76GL									*	*			
NT1X76GM									*	*			
NT1X76JA									*	*			
NT1X76JB									*	*			
NT1X77AA									*	*			
NT1X79AA									*	*			
NT1X80AA								*	*	*			
NT1X80BA								*	*	*			
NT1X81AA								*	*	*			
NT1X90AA							*	*	*	*			am
NT2X01AA								*					au
NT2X10AA								*	*	*		*	
NT2X10AB								*	*	*		*	
NT2X10BA								*	*	*		*	
NT2X11AA								*	*	*		*	
NT2X11AC								*	*	*		*	

TABLE A-4 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
VALID MODULE TYPES

PEC	TM2	TM4	TM8		ATM	T8A	MTM	MTM	MTM	MTM	OAU	RSM	RULE
			(T8A)	ATM			-AA	-AC	-AG	-AK			
							/CA	/CB	/AM				
							/AN	/AM					
							/AL						
NT2X11AD							*	*	*		*		
NT2X11BA							*	*	*				
NT2X43AB							*	*					ak
NT2X47AA							*						
NT2X47AB							*						
NT2X47AC							*						
NT2X47AD							*						
NT2X48AA	*	*	*		*	*	*	*	*				aj
NT2X48AB	*	*	*		*	*	*	*	*		*		al,aj
NT2X48BA	*	*	*		*	*	*	*	*		*		al,aj
NT2X48BB	*	*	*		*	*	*	*	*		*		al,aj
NT2X50AA							*	*	*				
NT2X50AB							*	*	*		*		
NT2X55AA							*	*	*		*		ag
NT2X56AA							*						
NT2X56AB							*						
NT2X57AA							*	*			*		ag,ah, ak
NT2X57AB							*						ag,ak
NT2X71AA							*	*	*				ac
NT2X75AA							*	*	*				aj
NT2X96AA							*	*	*				am
NT3X02AA							*						
NT3X02BA							*						
NT3X03AA							*						
NT3X05AA							*	*	*				am
NT3X05AB							*						am
NT3X05AC							*						am
NT3X08AA							*	*	*				
NT3X08AB							*	*	*				
NT3X09AA													aw,a2
NT3X09BA							*				*		aw,a2, ag

TABLE A-4 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
VALID MODULE TYPES

PEC	TM2	TM4	TM8	TM8 (T8A)	ATM	T8A	MTM	MTM	MTM	MTM	OAU	RSM	RULE
							-AA	-AC	-AG	-AK			
							/CA		/CB				
							/AN		/AM				
							/AL						
NT3X67AA							*	*	*				
NT3X68AA							*	*	*				
NT3X68AB							*	*	*				
NT3X68AC							*	*	*				
NT3X82AA							*	*	*				ah
NT3X82AC							*	*	*				ah
NT3X82AB							*	*	*				ah
NT3X82AD							*	*	*				ah
NT3X83AA							*	*	*				ag, ah
NT3X84AA							*	*	*				ag, ah
NT3X85AA							*	*	*				ah
NT4X23AA							*	*	*	*			
NT4X45AA							*	*	*	*			
NT5X29AA							*						
NT5X29AB							*						
NT5X29AC							*						
NT0X10AA	*						*						ag, ah, ak, a22
NT0X50AC	*			*									
NT1X00AB	*												
NT1X00AE	*			*									
NT1X00AF	*												
NT1X00KA	*												

TABLE A-4 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
VALID MODULE TYPES

PEC	IMTM -AT	IMTM -AU	ITM8	RMM	RULE
NT1X31AA			*		
NT1X54AA	*	*			
NT1X75DA		*			
NT1X76AA		*			
NT1X77AA		*			
NT1X79AA		*			
NT1X80AA	*	*			
NT1X80BA	*	*			
NT1X81AA	*	*			
NT1X90BA	*	*			am
NT2X10AA	*	*		*	a3
NT2X10AB	*	*		*	a3
NT2X10AC				*	a3
NT2X10BA				*	
NT2X11AA	*	*		*	a3
NT2X11AC				*	a3
NT2X11AD				*	a3
NT2X11BA				*	
NT2X47BA	*	*			
NT2X47AB				*	
NT2X48AA			*	*	a1,aj
NT2X48AB			*	*	a1,aj
NT2X48BA			*	*	a1,aj
NT2X48BB			*	*	a1,aj
NT2X48CA	*	*	*	*	a7
NT2X48CB	*	*	*	*	a7
NT2X48CC	*	*	*	*	a7
NT2X50AB		*			
NT2X55AA		*			
NT2X56BA	*				
NT2X57AA	*			*	
NT2X57AB				*	ag,ah,ak
NT2X71AA	*	*			
NT2X75AA		*			
NT2X75BA	*	*			



TABLE A-4 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
VALID MODULE TYPES

PEC	IMTM -AT	IMTM -AU	ITM8	RMM	RULE
NT2X96BA	*	*			am
NT3X02AA	*				
NT3X02BA	*				
NT3X03AA	*				
NT3X09AA				*	aw, a2, ag
NT3X09BA	*	*		*	a2, ag, aw
NT3X67BA	*				
NT3X67BB	*	*			
NT3X68BA	*	*			
NT3X68BB	*	*			
NT3X68BC	*	*			
NT3X82AA	*				
NT3X82AC	*				
NT3X82AB	*				
NT3X82AD	*				
NT3X83AA	*				
NT3X84AA	*				
NT3X85AA	*				
NT4X97AA	*	*		*	
NT4X98BB	*	*		*	a7
NT4X98BC	*	*		*	a7
NT5X29AC	*				
NT5X29BA	*				

TABLE A-4 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
VALID MODULE TYPES

PEC	MTM 6BA 6NA	MTM/DRA 6CA 6SA	MTM 6AM	RULE
NTZZ06DA	*	*		
NTZZ06EA	*	*		
NTZZ06FA	*			
NTZZ06GA	*	*		am
NTZZ06HA	*			
NTZZ06JA		*		
NTZZ06KA		*		
NTZZ06LA		*		
NTZZ06MA		*		
NTZZ06TA		*		
NTZZ06UA		*		
NTZZ06VA	-	*		
NTZZ06WA	-	*		
NTZZ06XA		*		

TABLE A-4 (Continued)  
TRUNK MODULE PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER AND SIGNAL DISTRIBUTOR CIRCUITS  
VALID MODULE TYPES

NOTES:

- 1) One Balance Network plug-in (daughter board) must be provided for each 2-wire trunk circuit on each card (see BAL NET field) as follows:
  - a) For H88 loaded cable select Precision Balance Network - H88, NT2X80AA,
  - b) For other loaded or non-loaded arrangements select Compromise Balance Network, NT2X77 as follows:

DISTANCES UP TO	TRUNK IMPEDANCE	
	600 OHM	900 OHM
750 feet	NT2X77AD	NT2X77AC
9000 feet	NT2X77AB	NT2X77AA

- c) For International applications, select the following Balanced Networks:

PEC	DESCRIPTION	BAL NET
NT2X81BA	2W DCS5A Tie Trunk	NT2X77BA
NT2X95BA	Direct Dial Inward Trunk	
NT2X95BB	JUSMAG 2W 600 ohm DDO Trunk	

- 2) Number of circuits (NO. CKT), number of slots (NO. SLT) per card and highest assignable slot on MTM if other than slot 16 (LST SLT):
  - a) By definition, the number of circuits in a given card is related to the number of trunk enable lines utilized when the card is installed. However, while this facilitates internal shelf function, it does not always reflect the card circuit capacity from the standpoint of assignable hardware. Noted exceptions are the cards which function in pairs. Entries under CKT/CARD represent assignable circuits and are consistent with the treatment in S/W translations. Exceptions are stated in the notes and a '-' indicates no assignable circuit.

- b) Unless noted, each card occupies one physical slot on its assigned shelf and in spare card storage.
- c) The MTM backplane is designed to access up to 30 enable signals (circuits). Each provisionable MTM CP slots have access to these 30 enable signals per the following chart:

SLOT	ENABLE/CIRCUIT	ENABLE/CIRCUIT ACCESS	TOTAL ENABLES
05	00	00-29	30
06	02	02-29	28
07	04	04-29	26
08	06	06-13	8
09	08	08-15	8
10	10	10-17	8
11	12	12-19	8
12	14	14-21	8
13	16	16-23	8
14	18	18-25	8
15	20	20-27	8
16	22	22-29	8

The ENABLE/CIRCUIT column represents the initial circuit the slot accesses.

The ENABLE/CIRCUIT ACCESS column represents the entire range of enable/circuits the slot accesses.

The TOTAL ENABLES column represents the total number of enable/circuits the slot accesses.

- d) The enable signals on the backplane are arranged to allow 2-circuit cards to be placed in adjacent slots, 4-circuit cards to be placed in alternating slots, and 8-circuit cards to be placed in every fourth slot, etc. CPs that use less than the available enables for that slot will access the lowest available enables.

Certain card types, as noted, do not violate the reserved slot requirements of multi-circuit cards. This is usually true of one member of a functional pair.

- e) Slots 05, 06 and 07 are the only slots that have access to more than eight (8) enable signals, therefore, cards such as the NT5X29 that utilize 16 circuits may only be assigned to slots 05, 06 or 07. If the NT5X29 is assigned to slot 05, the next available slot is 13. If the NT5X29 is assigned to slot 06, the next available

slot is 14. The NT5X29 can not be provisioned to use less than 16 circuits when it is located in slots 05-07 because it will always use the 16 enables if it has access to them. It is possible, however, to assign the NT5X29 to a card slot that accesses 8 enable signals allowing only 8 circuits on the NT5X29 to be accessed. This would allow more of the MTM to be used for other cards. When an 8 slot 16 circuit card is located in slot 05 then slots 13-16 are still available for other cards if enough enables are available. Remember that the MTM PM load should be verified prior to mixing NT5X29's with any other CP.

- 3) Functional pairs or groups (PRD CRD) are discussed in note (t). Table entries are as follows:

1st character - pair or group number per note (t)

2nd character - left/right orientation

3rd character - odd/even slot requirement if required

- 4) Maximum power dissipation (PWR DIS) column provides the maximum power consumption (in watts) of the cards which mount on MTM and OAU shelves. The total 48-volt power consumption of the provisionable packs in the MTM must not exceed 110 watts.

Normally, all circuit packs requiring -48V SP are to be mounted in shelf positions 51 or 65. For TME frame NTOX46AB in the field, Product Change Kit NTOX82XA extends -48V SP to positions 32, 18 and 04. It also modifies the way the -48V SP will be delivered to shelf position 51 from the FSP (i.e. wiring information NTOX46WC connects NT7X3746 Cable Assembly to terminal block TB3 pin 12B of the FSP). Hence, when -48V SP is required on shelf positions 51, 32, 18 and 04, provide one (1) PC Kit NTOX82XA.

For initial applications (initial and extension jobs), when frame type is "TME" and only one (1) power source (A or B) is required, provide one (1) FSP Strapping Information NTOX82WA and one (1) Cable Assembly NTOX8211. Along with the modified FSP, this hardware always provides the -48V SP to MTM/IMTM shelves in positions 65, 51, 32, 18 and 04.

For initial applications (initial and extension jobs), when frame type is "DCE" and two (2) power sources (A and B) are required, provide one (1) FSP Strapping Information NTOX82WB, one (1) Cable Assembly NTOX95CL and one (1) Cable

Assembly NT7X3406. Along with the modified FSP, this hardware always provides the -48V SP to MTM/IMTM shelves in position 65, 51, 32, 18 and 04.

-48V SP can be provided to a maximum of any four (4) of the five (5) positions.

The following circuit packs require -48V SP power:

CIRCUIT PACK	-48V SP
NT1X80AA	*
NT1X81AA	*
NT2X10BA NT2X11BA (NTZZ06EA)	*
NT3X83AA	*
NT3X84AA	*
NT4X98 NT4X97	*

- 5) Module Types Overview (refer to appropriate MS sections for details):

TABLE A HEADING	FUNC ABBR	SHELF PEC	MS DOCUMENT	DESCRIPTION	NOTE
TM2	TM2	NT2X52AA	MS2X52AA	Rated MD	D
		NT2X52AE	MS2X52AE	Standard TM2	
		NT2X52AM	MS2X52AM	Standard TM2 for Cdn Appl.	
TM4	TM4	NT2X52AB	MS2X52AB	Rated MD	D
		NT2X52AF	MS2X52AF	Standard TM4	
		NT2X52AN	MS2X52AN	Standard TM4 for Cdn Appl.	
TM8	TM8	NT2X52AC	MS2X52AC	Rated MD	D
		NT2X52AG	MS2X52AG	Standard TM8	
		NT2X52AP	MS2X52AP	Rated MD	
		NT2X52AV	MS2X52AP	Standard TM8 for Cdn appl.	
T8A (TM8)	T8A	NT2X52AG	MS2X52AG	DMS-100 PBX & IBN offices only	A
		NT2X52AP	MS2X52AP	DMS-100 PBX & IBN offices only (Canadian applications)	
T8A	T8A	NT2X52AD	MS2X52AD	DMS-300 Gateway offices only	A
		NT2X52AR	MS2X52AR	DMS-300 Gateway offices only (Canadian applications)	
ITM8	ITM8	NT2X52BB	MS2X52BB	International TM8	
IT8A	IT8A	NT2X52CC	MS2X52CB	DMS-300 Int'l Gateway office	
MTM (-AA)	MTM	NT2X58AA	MS2X58AA	Rated MD	D
MTM (-AC)	MTM	NT2X58AC	MS2X58AC	Replaced by NT2X58CA	B
MTM (-AG)	MTM	NT2X58AG	MS2X58AG	Required for DRA Systems	B
				Replaced by NT2X58AK	
MTM (-AK)	MTM	NT2X58AK	MS2X58AK	Replaced by NT2X58CB	B
MTM (CA)	MTM	NT2X58CA	MS2X58CA	Standard MTM	
		NT2X58AL	MS2X58AL	Standard MTM (Cdn appl.)	
MTM (CB)	MTM	NT2X58CB	MS2X58CB	Required for DRA Systems	
		NT2X58AL	MS2X58AL	Required for DRA Systems (Canadian applications)	
IMTM (-AT)	IMTM	NT2X58AT	MS2X58AT	Int'l Maintenance Trunk Module	
IMTM (-AU)	IMTM	NT2X58AU	MS2X58AU	Int'l Mtce Trunk Module for DRA	
OAU	OAU	NT2X58AB	MS2X58AB	Rated MD	
		NT2X58AD	MS2X58AD	Retired product	
		NT2X58AF	MS2X58AF	Retired product	
RMM	RMM	NT6X1301	MS6X10AC	Standard RMM	C
			MS6X14AA		
			MS6X14CA		
			MS8X01AA		
RSM	RSM	NT2X58AE	MS2X58AE	Rated MD	B
		NT2X58CF	MS2X58CF	Standard RSM	

TABLE A HEADING	FUNC ABBR	SHELF PEC	MS DOCUMENT	DESCRIPTION	NOTE
MTM	MTM	NTZZ06BA		Modular Eng MTM U.S.	
DRA	DRA	NTZZ06CA		Modular Eng MTM for DRA U.S.	
TM8	TM8	NTZZ06RA		Modular Eng TM8 Cdn.	A
TM8	TM8	NTZZ06RB		Modular Eng TM8 Cdn.	A
MTM	MTM	NTZZ06NA		Modular Eng MTM Cdn.	
MTM	MTM	NTZZ06SA		Modular Eng MTM for DRA Cdn.	
MTM	MTM	NTZZ06AM		Modular Eng MTM NT5X29AC (US)	
ITM8	ITM8	NTZZ37WA		International CTME TM8 Package	

NOTES

A. TM8, T8A (TM8) and ATM are identical hardware types; they differ only in the functions which they support by virtue of different S/W loads and execs.

Some cards may not be valid on all types or may have different applications on some.

B. Cards with leads which cable out of the building are restricted to even-numbered slots on these shelves. Odd slots must not be used due to an increased risk of voltage breakdown between shelf backplane traces (see also Note ag.).

C. RMM shelf assembly NT6X1301 is not equipped with any circuit packs. To create a functional RMM, the shelf assembly must be equipped with RMM Common CP fill NT6X13AB.

D. An office equipped with any of the hardware types, NT2X52AA, NT2X52AB, NT2X52AC, NT2X58AA, and in any quantity is restricted as follows:

- a) Cards with Type ID circuits shall not mount on any MTM, and
- b) Cards without Type ID circuits shall not mount on any TM.

Problem circuit packs are identified in the rules

6) Unless established to the contrary below or in the notes, cards can be equipped only on those module types marked with an asterisk (\*).



- 7) An asterisk (\*) under T8A indicates that the card type has been used on this TM in the Teleglobe DMS-300 office. Other card types may also be valid on this shelf.
- 8) The functional characteristics of a TME, CTME, ISME or CISM module, e.g. an MTM, is determined, to some extent, by the related PM (Peripheral Module) software load. The PM load used depends upon the module function and the type of switch in which the PM resides. The following table correlates the PM load name with switch type and PM type.

PM TYPE	DMS 100 /IBN	DMS 200 /TOPS	DMS 250	DMS 300 GATEWAY	MTX CELLULAR	SL 100 /IBN
TM2, 4, 8	BTMKA02	BTMKA02	BTMKA02	BTMKA02	BTMKA02	BTMKA02
T8A	KTMA02	N/A	N/A	TTMNA01	N/A	KTMA02
PTM	N/A	N/A	RMTMKA01	N/A	N/A	N/A
STM	N/A	N/A	RMTMKA01 MTMKA02	N/A	N/A	N/A
MTM	MTMKA02	MTMKA02	RMTMKA01 MTMKA02	MTMKA02	MTMKA02	MTMKA02
OAU	MTMKA02	MTMKA02	N/A	N/A	MTMKA02	N/A
TAN	MTMKA02	MTMKA02	MTMKA02	MTMKA02	MTMKA02	MTMKA02

Table 1, PM Loads - PM Type to Office Type Cross Reference

The information given in the above table is subject to change upon release of new PM software loads. Refer to the latest Peripheral Module Release Document for PM load information.

- 9) The functional characteristics of a TME, CTME, ISME or CISM PM is determined, overall, by the PM load applied. At load time, a PM load exec further defines the functional characteristics of the host PM. The characteristics, defined by the PM load exec, impose configuration restrictions on the service circuits which reside in the host PM. The following table correlates PM type with PM load and PM load Exec name. In the 'Comment' column there is description of the

types of service circuit which may be used with the PM type associated PM load/Exec line up. This table is applicable to shelf modules and their service circuit CPs. The table is not applicable to the CPs which operate as PMs, e.g. EDRAM and CTM CPs. Refer to EMA14-01-000 for CP functionality.

PM TYPE	HARDWARE REQUIRED	PM LOAD	EXEC LINE UP	COMMENT
TM2		BTMKA02	TM2EX	2 WIRE POTS TRUNK
TM4		BTMKA02	TM4EX	2/4 WIRE POTS TRUNK
TM8	NT ONLY	FSTMDA02 TSTMKA02	TM8EX	FEATURE SIMULATOR LOAD
TM8		BTMKA02	TM8EX	2,4,8 WIRE ANALOG TRUNKS
MTM		MTMKA02	MTMEX or MTMDT *	BASIC MTM+TTT+LTU+POTS RECEIVERS+SD,SC+DEAD SYSTEM ALM+DRAM+EDTU
IMTM		MTMKA02	IMTMEX or IMTMDT *	BASIC MTM+TTT+LTU+POTS RECEIVERS+SD,SC+DEAD SYSTEM ALM+DRAM+EDTU
MTM		MTMKA02	DDLCEX	BASIC MTM+DDL
MTM		MTMKA02	OAUEX	SD,SC POINTS & DEAD SYS ALM
MTM		MTMKA02	AMTMEX	BASIC MTM+DTMF SENDER+ SV06S-V(5X29AB)+3X68AA

Continued..

PM TYPE	HARDWARE REQUIRED	PM LOAD	EXEC LINE UP	COMMENT
MTM	5X29AC 0X70AC	RMTMKA01	AMTMATD	BASIC MTM+RECEIVERS(MF, DTMF & ATD
MTM	4X65AB	RMTMKA01	AMTMTTT	MAINTENANCE CCTS,DRAM (CANADIAN MARKET ONLY)
MTM DMS 250	0X70AC	RMTMKA01	MTM250	RECEIVERS (MF,DTMF & ACD)+AIOD FEATURES
MTM DMS 250	0X70AC	MTMKA02	MTMTTT	MAINTENANCE CCTS,DRAM
PTM	0X70AC	RMTMKA01	TM250P	MTC.& SERVICE CCT FOR PACKAGED SWITCHES
STM	0X70AC	RMTMKA01	MTM250 MTMTTT MTMEX	RECEIVERS(MF,DTMF,ACD)+ AIOD FEATURE MAINTENANCE CCTS MTX CCTS
TAN		MTMKA02	TANEX	TEST ACCESS NTWK WITH METALLIC TEST PATH FOR TESTING SATELLITE TRKS
OAU		MTMKA02	OAUEX	SD,SC POINTS & DEAD SYS ALARMS

Table 2, EXEC Line up - PM Load and Type

The information given in the above table is subject to change upon release of new PM software loads. Refer to the latest Peripheral Module Release Document for PM load information.

## RULES:

- a Specifically required for use as a jack-ended trunk in DMS-100 and DMS-100/200 offices. Can also be used for this function in other DMS-100 Family offices.

- b One assignable circuit utilizing 2 TLC and enables.
- c Each card contains one Talk circuit (on TLC1) and one Key circuit (on TLC0). Provide one card per position. Talk circuit must be provisioned with a compromise Balance Network plug-in, (daughter board), types NT2X77AB or NT2X77AD.
- d DMS-100/200 Common Base Software supports all card functions other than echo suppressor control.
- f Required for DMS-300 only. These cards are equipped for metallic access by the Test Access Network and therefore must be provisioned on T8A and IT8A (NT2X52AD/AG/AP/AR and NT2X52CC respectively) shelves only.
- g No restriction on number of cards per TM; however, a maximum of 4 cards per TM can be assigned in software as 101 Test Lines (i.e. terminating only).
- h Equip on NT2X52AG/AP shelves only. Do not equip on NT2X52AC.
- i Two (2) circuits per card, each circuit having seven (7) Scanner or Signal Distributor points depending on the card type.
- j The following scanner functional modes are selectable by means of card mounted miniature switches:
  - 1. loop detector,
  - 2. ground detector,
  - 3. battery detector.
- k One physical circuit per card which can be connected to either or both of two speech channels; hence two circuits/card.
- l Time Switch Broadcasting (TSB) employed to distribute tones or announcements simultaneously to multiple users. Maximum one TSB card per shelf. Shelves containing TSB cards should be connected to ports on different Network Sub Groups.
- m Required for DMS-300 only.
- n Two 3-port circuits. Since each card utilizes 6 enables two adjacent slots on the right must be left vacant on the shelf. These two slots should be filled with Filler Face Plates (NT0X50AC). However, cards may be mounted in slot 16 of MTM.

NT3X67 can be used as one (1) 6-port circuit or as two 3-port circuits.

- o Assignment is restricted to either one NT2X48\_\_ or two NT1X31AA cards per TM. Rule does not apply to MTM. NT1X31AA is rated MD, replaced by NT3X67AA.

- p 1) Card mounted switches permit this card to be configured as an 8, 16, 24 or 30 circuit interface. The number of circuits and number of slots shown in Table A-2 reflect the maximum switch setting.

Card should be restricted to slot 05 on the MTM.

Each DRA System consists of a group of cards which includes one NT1X75\_\_ and up to eight memory cards NT1X76 and NT1X77AA. Cards occupy a continuous group of MTM slots with the NT1X75\_\_ in the left-most slot.

If the NT1X75\_\_ card is configured as 8 or 16 channels, card slots not reserved for DRA can be assigned to other cards.

The following chart is for mounting other cards in a DRA.

CP --	Card Slots Occupied -----	Card Slots Available -----
NT1X75__.08	05 to 08	09 to 16
NT1X75__.16	05 to 12	13 to 16
NT1X75__.24	05 to 16	none
NT1X75__.30	05 to 16	none

NT1X75\_\_.08 - 08 circuit card

NT1X75\_\_.16 - 16 circuit card

NT1X75\_\_.24 - 24 circuit card

NT1X75\_\_.30 - 30 circuit card

- 2) For new DRA applications, provide the EDRAM card, NT1X80AA or NT1X80BA.

- q 1) Can be equipped in slots designated as reserved for multi circuit cards. (see Note 2 d) above).

- 2) For new DRA applications, provide the EDRAM card, NT1X80AA or NT1X80BA.

r Maximum one card of each type per shelf depending on applica-  
tion.

s Maximum eight cards per shelf.

t These card types are provided in functional pairs (or groups)  
and must occupy continuous odd/even slots with specific  
left/right orientations as indicated below.

PAIR =====	PEC ===	SIDE =====	SLOT # =====	NOTE =====
1.	NT1X90__ NT2X96__ (NTZZ06GA)	LEFT RIGHT	- -	1,2,9
2.	NT2X47AA/AB NT2X56AA	LEFT RIGHT	ODD EVEN	1,3,4,8
3.	NT2X47AC/AD NT2X56AB (NTZZ06FA)	LEFT RIGHT	ODD EVEN	1,3,4,8
4.	NT2X10AB/AC NT2X11AA/AC/AD (NTZZ06DA)	LEFT RIGHT	ODD EVEN	1,3,4,8
5.	NT3X02AA/BA NT3X03AA (NTZZ06HA)	LEFT RIGHT	ODD EVEN	1,3,4,7,8
6.	NT1X75__ NT1X76__ NT1X77AA NT1X79AA	LEFT RIGHT RIGHT RIGHT	ODD OTHER OTHER OTHER	1,3,5,8
7.	NT4X97AA NT4X98BA	RIGHT LEFT	EVEN ODD	1,3,4,6,8
8.	NT2X47BA NT2X56BA	LEFT RIGHT	ODD EVEN	1,3,4,6,8
9.	NT1X90BA NT2X96BA	LEFT RIGHT	- -	1,2,6,8
10.	NT2X10BA NT2X11BA (NTZZ06EA)	LEFT RIGHT	ODD EVEN	1,3,4,8

11.	NT4X97AA	RIGHT	EVEN	1,3,4,6,8,10
	NT4X98BB/BC	LEFT	ODD	

## NOTES:

1. Circuits per card shown only against the primary MTM I/F card of each pair or group (i.e. the card identified in translations).
2. Pair does not utilize the MTM Intercard Bus; therefore,
  - no specific slot requirement,
  - can be equipped on shelf NT2X58AA,
  - can be assigned to any slot pair on NT2X58AG or NT2X58AK/AM.
3. Not to be assigned on shelf NT2X58AA.
4. Restricted to slots 15 and 16 on shelf NT2X58AG, NT2X58AK, NT2X58AU, NT2X58CB, NT2X58AM, NTZZ06CA and NTZZ06SA.
5. See also Note p above. Can be assigned on shelf NT2X58AC (one pair per shelf) if for the ultimate office size each DRA system consists of the DRA Controller plus one memory card only.
6. Only for international application.
7. Physically NT3X02AA requires one slot, but electrically it requires two slots. However, NT3X03AA can physically mount right beside it.
8. Card pairs are interconnected via the Intercard Bus of the MTM shelf (not provided in NT2X58AA).
9. Minimum of two (2) of each per office. Maximum of two (2) of each per shelf.
10. Do not assign to the following shelf slots:

IRMM NT6X13 - Slots 9, 10

IMTM NT2X58 - Slots 11, 12

- u 1) In the DMS standalone office or host: Provide one NT2X10 and one NT2X11 or NTZZ06EA (MTU) for each MTA which directly connects LME (i.e. one for each Row 0 (or base) MTA). Assign to Horizontal 0 of each Row 0 MTA. Provide another per office to be multiplied over all MTA in one Row. Assign to a vacant Horizontal and Row. The NTZZ06DA is A&M.



- 2) At the Remote Site: Provide a minimum of one LTU for each RLM site serving up to approximately 6,000 lines.
- v Due to physical dimensions one adjacent slot to the right must be left vacant. Provide two slots for each card in spare card storage.
- w By internal design this card derives the higher (odd) circuit number associated with any slot into which it is placed.
- x One Transmission Test Unit (TTU) consists of one NT2X47\_\_ and one NT2X56\_\_ or NTZZ06FA. A minimum of two (2) TTUs per office, maximum of two (2) TTUs per shelf must be installed only in paired card positions ((5,6), (7,8) (9,10), (11,12), (13,14), (15,16)) with NT2X56 occupying the even numbered position.

The TTU is required, in appropriate pairs subject to other notes, in all DMS-100 Family offices to provide for MF and Digitone receiver diagnostics.

For compatibility with Automatic Transmission Measuring and Signaling Testing Equipment (ATME-2) in International offices, the NT2X47AB Mu-law TTU Controller is to be provided in combination with the NT2X56BA A-Law Transmission Test filter.

- y Four circuits per card, therefore one adjacent slot to the right must be left vacant for each card assigned. Fitted with a double-width faceplate to enforce this requirement, the CPs NT2X48AA/AB/CA/CB fill two physical slots, whereas the CPs NT2X48BA/BB/CC fill one physical slot and are only fitted with a single-width faceplate.

When the Emergency Stand Alone (ESA) feature is required, the last card slot that the NT2X48\_\_ can be assigned to is slot 13.

When the Emergency Stand Alone (ESA) feature is required, provide one NT2X48AB for each RLM Double Bay Frame in the RLM office.

For SuperNode office, no more than three (3) MF receiver (NT2X48xx) CPs may reside in an MTM Shelf.

- z Two (2) circuits one having 10 horizontal driver points and the other having 20 vertical driver points.

Provide one for every Metallic Test Access (MTA) unit NT2X46AA.

aa The following Signal Distributor functional modes are selectable by card mounted miniature switches for each circuit:

- 1) Normally open ground operation,
- 2) Normally closed ground operation,
- 3) Normally open loop operation,
- 4) Normally closed loop operation.

ab One physical circuit per card with two (2) speech channel appearances (loop around). Treat as two circuits per card, each to be assigned to a separate trunk group.

ac Not to be equipped on MTM shelves in offices configured per Note 5) D above.

- ad
1. One physical circuit per card which can be connected to any or all of four (4) speech channels; hence four circuits per card.
  2. For DMS-250 trunks on DCM, DTC or LTC using DTMF outpulsing, do not supply the DTMF Sender CP, NT3X68AB.
  3. For the other DMS applications, as of BCS-16 (or later) in case of digital trunks outpulsing DTMF on DTC or LTC, do not supply the DTMF Sender CP, NT3X68AB.
  4. The tones for the above situations will be outpulsed straight from the respective peripheral modules.

af In DMS-200 offices valid as a jack ended trunk when mounted on TM8 only.

ag When mounted on NT2X58AC, NT2X58AG, NT2X58AK, NT2X58AE, NT2X58AU, NT2X58AT, NT2X58CA, NT2X58CB, NT2X58AL, NT2X58AM, NTZZ06BA, NTZZ06CA, NTZZ06NA, or NTZZ06SA and when leads are to be cabled out of the building, these cards must be located in even numbered card slots only due to a risk of voltage breakdown between backplane wiring associated with odd numbered positions.

ah Version II Office Alarm System (OAS):

Two MTM shall be identified as components of the Office Alarm System (OAS) referred to as primary and secondary alarm MTM.

These MTM shall be fed from different power feeds (A and B) and connect to different Network Modules (if only one NM, to different NSG). Both MTMs must be supplied with -48V SP.

The primary MTM shall be mounted in shelf position 51 immediately below the AXU. The secondary MTM shall be mounted on another frame in shelf position 65. When both the Alarm Cross Connect Shelf NT3X89AA/AB and the MTM are on or expected to be on the same frame, the MTM should be placed in position 51. If the NT3X89AA/AB is not required with the MTM, the MTM shall be placed in position 65.

These cards shall be equipped as follows:

PEC	MOUNT ON	
	PRIMARY MTM	SECONDARY MTM
NT3X82AA or NT3X82AB (1 per each MTM)	YES	YES
NT3X82AC or NT3X82AD (1 per MTM EAS)	YES	YES
NT3X83AA	YES	NO
NT3X84AA	YES	NO
NT3X85AA	SEE NOTE	
NT2X57AA (for basic OAS)	YES	NO
NT0X10AA (for basic OAS)	YES	NO
NT0X10AA (for RDB and Equip Rows)	SEE NOTE	

Note: Mount on primary or secondary or other MTM as required in that order of preference.

It is preferred that the primary MTM be provided with the majority of alarm CP and the critical scan points. The primary MTM must be equipped with an NT2X57AA, an NT0X10AA and either an NT3X83AA or an NT3X84AA.

In small offices (less than 12 equipment rows), the alarm circuits are interconnected via the DF. In large offices (12 or more equipment rows), the interconnection is made via the 3X89AA/AB Alarm Crosspoint Shelf. Alarm systems range in size from two alarm CPs to a full alarm system, accommodating 40 equipment rows.

ai Do not mix the NT3X82AA/AC and the NT3X82AB/AD on the same MTM. When used in a small office, 20 Hz for NT0X61AB may be obtained from the 1A Key Set. In addition, provide one NT0X63\_\_ Alarm Control & Display Panel (NT0X63AA or NT0X63AC) per customer requirements. NT0X63AA is ordered when NT3X82AA/AC is equipped; NT0X63AC is ordered when NT3X82AB/AD is equipped. Refer to section EMA6-01-000 for further information on the Alarm Control & Display Panel

NT3X83AA and NT3X84AA must be provided in even circuit pack positions. Do not equip these two cards on the same MTM. These cards require -48V SP.

aj Not to be equipped on TM shelves in offices configured per Note 5) D above.

ak Version I Office Alarm System (OAS):

For OAU Alarm Battery alarm and Dead System alarm functions, a group of MTM mounted circuits consisting of two (2) scan points (on card NT0X10AA), four (4) SD points (on card NT2X57AA), and one (1) Office Alarm Card #3 (NT2X43AB) must be provided together on one MTM which is powered from a different feed from the OAU and connected to a different Network Module (or different NSG if only one NM). Remaining scan and SD points on these cards may be assigned to other functions. If office is equipped with the new OAU (NT2X58AF) then NT2X57AB replaces NT2X57AA in this note.

The Office Alarm Card #3 NT2X43AB is MD.

al Provide one card for each RLM furnished with the Emergency Stand Alone (ESA) feature. Assign only to slot 06 of the associated RSM. Note, these cards function only during ESA and do not serve normal remote office traffic.

am The DDLIC card NT3X05AA cannot mount on an MTM which already houses TTT cards (i.e. NT1X90AA and NT2X96AA or NTZZ06GA).

an The coin detection circuit pack physically occupies one card slot on a MTM. The CDC will use eight (8) time slots and therefore four (4) consecutive card slots are required. A maximum of three (3) NT3X08-- circuit pack's can be housed in any MTM (NT2X58AC/CA/AL) with placement being in card slots 05, 09 and 13. If desired, the CDC card can be placed on a MTM with other cards provided the next three (3) slots following the NT3X08-- are empty and provisioning rules for these other packs are followed.

ao The Dial-Up Autoquote feature requires the NT3X02BA to be used in a stand-alone configuration. This circuit pack is generally used with the NT3X03AA mounted in the slot to its right, but this must not be done for the Dial-Up Autoquote feature, since this would disable all four (4) ports on the NT3X02BA. Therefore, a NT3X03AA must not be provisioned and the TM card slot to the right of the NT3X02BA must be left vacant (except for the applicable filler face plate).

ap NT5X29AA-Tone detector and generator for common channel inter-office signaling (CCIS) continuity checker.

NT5X29AB-Tone detector for service observing circuits. Used by DMS-100 equipment with Traffic Operator Position System (TOPS).

NT5X29AC-Tone detector for audible ringing, answer, and digitone multifrequency tones.

aq There are a number of restrictions that still exist in the use of NT3X06AA, NT3X07AA, NT2X85AA and NT2X86AA trunk circuits for interfacing switchboards (regular operator or SOST) from DMS-200 switches.

The restrictions are the following:

- 1) Upon calling party disconnect of a leave word call, there is no 120 IPM flash of board lamps.
- 2) Only line no. method of coin control is supported (T&R to inband conversion capability has not been provided in DMS-200).
- 3) In order to transfer calls from TOPS to SOST via NT3X06AA or NT2X85AA a looparound arrangement is required (termination of TOPS to 3CL directly is not supported).
- 4) SOST operators are unable to re-ring TOPS operators on calls routed from TOPS to SOST.

It is recommended that the use of NT3X06AA, NT3X07AA, NT2X85AA, and NT2X86AA trunks be avoided where possible through the use of digital trunks.

ar

1. In the case of CCIS, the analog trunk card NT2X72AA is to be used to interface the transfer links to the DMS and the analog interface of the modem to the network.
2. In the NT2X72AA used for modem output, the second circuit is to be left unassigned (unused). For the transfer link (VFL) from reliability point of view, it is preferred if the second circuit of the NT2X72AA and NT6X50AA is left unassigned (unused).

as

1. When MTA, NT2X46AB is used, provide one (1) MTU measurement circuit (NT4X97 and NT4X98 pair provides two circuits: NT2X10BA and NT2X11BA pair or NTZZ06EA provides two circuits) for each MTA which directly connects LCE (i.e. one circuit for each row 0 (or base) MTA). Assign to horizontal 0 of each row 0 MTA. Provide an additional MTU circuit (on a separate NT4X97/NT4X98 pair or NT2X10BA/NT2X11BA pair or NTZZ06EA as applicable) per office to be multiplied over all MTA in one row. Assign to a vacant horizontal and row. Minimum number of MTU circuits should be 4 (i.e. 2 hardware units). The NT2X46AB is MD'ed, and replaced by NT3X09BA.

2. When MTA, NT3X09BA is used, provide one (1) MTU measurement circuit (NT4X97 and NT4X98 pair provides two circuits; NT2X10BA and NT2X11BA pair or NTZZ06EA provides two circuits) for up to two (2) NT3X09BA Metallic Test Access CPs. Assign to row zero of the first MTA and multiple it to horizontal zero of the second MTA. The MTU circuit will be dedicated to up to eight (8) LCMs. Provide an additional MTU circuit (rover) to multiple across all of the MTAs in a row. This circuit is assigned to a vacant horizontal in the row.
  3. At the remote site, provide a minimum of one (1) MTU for each RLCM/IRLCM site.
  4. The NT4X98 and NT2X10BA circuit packs require -48V SP connection. The -48V SP connection is only available on frame positions 51 and 65 on the TME frame. When the change kit NT0X82XA is applied, the -48V SP connection becomes available on any four of the five MTM shelves on the TME frame. Therefore, the MTU packs can only be assigned to MTM shelves. (See note 4.) Refer to Section EMB2-01-000 (TME Frame NT0X46AB) for more information on -48V SP and the corresponding cabling per MTM shelf.
- at 1) -48V SP is required for the operation of this card. This card can be assigned to the MTM/IMTM. Provide local cabling per Section EMB2-01-000. LTUs and MTUs can be assigned to the RMM, provide one (1) NT6X1438 cable. (reference EMB2-14-000, EMB2-15-000). (See note 4.)
- au 1) A maximum of six (6) NT2X01AA CP (i.e. 24 AIOD receivers) can be accommodated in an MTM.
- 2) The first of four receivers on a single AIOD pack must be placed in an MTM circuit number which is divisible by four (i.e. circuits 0, 4, 8, 12, 16, 20).
  - 3) Quantities of NT2X01AA packs are dependent upon the security or standby arrangement selected by the customer. When multiple receivers are provided for a single data link or for multiple data links from a single PBX, it is recommended that these receivers not be located on the same NT2X01AA pack and that the additional packs not be located in the same MTM.
- av 1) The Control Processor card, NT3X02AA, is a four (4) port I/O (Input/Output) controller capable of handling duplex communication to four (4) modems or terminals simultaneously.

The Digital Signal Processor card, NT3X03AA, is a four (4) port digital interface used to enable the NT3X02AA to handle duplex communication simultaneously to four (4) modems or terminals via TM (Trunk Module) or DCM (Digital Carrier Module) to Digital Channel Bank trunks.

An NT3X02AA and an NT3X03AA plug into two (2) adjacent card slots within an MTM (Maintenance Trunk Module).

One (1) pair of circuit packs consisting of one (1) NT3X02AA and one (1) NT3X03AA or consisting of one (1) NTZZ06HA constitutes a DMODEM (Digital Modem). One (1) DMODEM has four (4) ports (circuits).

A digital modem provides a data interface between Business Service Attendant Consoles (BSAC) and the Central Processing Unit (CPU).

A digital modem provides a data interface between Traffic Operator Position System (TOPS) positions and TOPS teletypewriters (TTY) and the Central Processing Unit (CPU).

Since one (1) DMODEM has four (4) ports (circuits), theoretically, it can service four (4) TOPS positions, four (4) TOPS TTYS, or four (4) BSACs. However, there are provisioning limitations.

\* TOPS Offices Only

In TOPS offices (which have only TOPS positions and TOPS TTYS, and no BSACs), provide up to a maximum of one (1) DMODEMs per MTM. This will provide up to a maximum of 4 modem ports per MTM. Hence, up to a maximum of 4 TOPS positions or TOPS TTYS can be accommodated per MTM. Also

Conference cards (NT1X31\_\_, NT3X67\_\_) cannot be mounted onto an MTM which has a DMODEM. However, up to a maximum of twelve (12) Conference Trunk Modules (CTM), NT1X81AA, can be provisioned on the same MTM. TOPS TTYS can be accommodated per MTM.

\* IBN Offices with BSACs Only

In IBN offices (which have only BSACs and no TOPS positions or TOPS TTYS), provide only one (1) DMODEM per MTM. Although there are four (4) ports per DMODEM, only up to a maximum of two (2) BSACs can be assigned to one (1) DMODEM. Conference cards (NT1X31\_\_, NT3X67\_\_) cannot be mounted onto an MTM which has a DMODEM connected to a BSAC. How-



ever, up to a maximum of twelve (12) Conference Trunk Modules (CTM), NT1X81AA, can be provisioned on the same MTM.

\* Combined TOPS and IBN Offices

In combined TOPS and IBN offices, follow the provisioning rules outlined above for TOPS Offices Only if only TOPS positions and TOPS TTYS are assigned to any specific MTM. Similarly, follow the provisioning rules outlined above for IBN Offices with BSACs Only if only BSACs are assigned to any specific MTM.

If a combination of TOPS positions, TOPS TTYS, and BSACs are assigned to an MTM, then provide only one (1) DMODEM per MTM. Up to a maximum of three (3) TOPS positions or TOPS TTYS and one (1) BSAC can be assigned to one (1) DMODEM. Conference cards (NT1X31\_\_, NT3X67\_\_) cannot be mounted onto an MTM which has a DMODEM. However, up to a maximum of twelve (12) Conference Trunk Modules (CTM), NT1X81AA, can be provisioned on the same MTM.

In each of the above cases (TOPS Offices Only, IBN Offices with BSACs Only, Combined TOPS and IBN Offices), spread the DMODEMs evenly across all MTMs for reliability purposes.

aw When mounted on a RMM shelf and when leads are to be cabled out of the building, these cards must be located in even numbered card slots only due to a risk of voltage breakdown between backplane wiring associated with odd numbered positions. On RSM shelf the NT3X09AA is assignable to slots 8, 10, 12.

- ax 1) NT2X90AD replaces the NT2X90AC in the US market only. NT2X90AC is required to support Mechanized Loop Testing (MLT).
- 2) NT2X90AD, NT2X90AC and NT2X90AB can co-exist in the same offices, therefore, NT2X90AB will not be retrofitted.

ay Provide Balance Network as follows:

PEC	BN
NT2X81BA	NT2X77BA
NT2X95BA	NT2X77BA
NT2X95BB	NT2X77BA
NT2X84BA	-

az NT5X30BA is the U.K. version of the communication test line. It has complex impedance for BT application and in addition can interface to UK key telephone system.

a1 Not used at this time.

a2 1) The NT3X09BA card is designed to replace the existing MTA unit, NT2X46AB, in the host office and in the RLM site. It will also replace the Remote MTA card, NT3X09AA, in the RSC, remote sites. Refer to Table A-2 in this section. Presently NT3X09BA is not applicable to RLCM and IRLCM for Canadian offices only.

2) The NT3X09BA card will work as an extension to an NT2X46AB.

3) Provide one (1) NT3X09BA for each 4 LM/RLM/LCM when up to 8 test circuits are required.

4) Each NT3X09BA card is assigned to a column, (0 to 63) and up to eight rows (0 to 7), per column.

5) Until BCS-24 is present in an office, all MTA units within a column must be of the same type(i.e., the same PEC). MTA units within a row can be of different types. Multiplying of test equipment over columns with different MTA types is allowed. Mixing of MTA types within a column is allowed with BCS-24.

6) NT3X09BA card must be provisioned in an OPM RMM shelf when battery maintenance and diagnostics are required.

7) To allow the testing of the universal SLC96 subscriber carrier system using a Pair Gain Test Controller (PGTC), the total NT3X09BA multiple cable length must not exceed the figures shown in Table X of CA0X06. Otherwise, an Intermediate Distribution Frame (IDF) (i.e. customer provided) close to the DMS line up will be required.

The total multiple cable length is the sum of all multiple cables to the distribution frame, both horizontal and vertical.

The overall MTA circuit distance must be calculated based on the longest metallic path from any PGTC to any universal SLC96 Central Office Terminal Channel Unit (COT CU) in the central office.

The MTA multiple cables can be minimized by placing the TME that house the MTAs close to the cable racks and the MDF as much as possible.

- a3
- 1) NT2X10, NT2X11, NTZZ06DA, NTZZ06EA, NT4X97 or NT4X98 cannot be provisioned in CP POS 13-16 on the RMM shelf. They must be provisioned in CP POS 3-12 because the pair bus of CP POS 13-16 have been merged for use with the DRA feature.
  - 2) The NT2X10BA, NT2X11BA pair will not operate if it is installed onto slot 9 & 10 of the RMM; therefore, they cannot be provisioned in CP POS 9-10 on the RMM shelf.
  - 3) NT2X10AC and NT2X11AC are provisionable on the OPM only. They must be provisioned on the RMM in CP POS 3-4. NT2X10AC and NT2X11AC can be replaced by NT2X10BA and NT2X11BA.
  - 4) The IMTU may be added to systems with existing LTUs (NT2X10/NT2X11). The system must be equipped with software at BCS-19 or higher.
  - 5) The NT2X11AD Line Test Unit Digital Card (U.S. applications only) is introduced to correct a problem with volume reset on the Enhanced Business Set (EBS). BCS-26 or higher is required.
  - 6) For every MTA that has a ISDN 2B1Q LCM (LCME) on the vertical there must be at least one MTU on a horizontal of that MTA. A LTU that has access to a MTA that has a LCME on the vertical will NOT be used to perform any metallic testing on the 2B1Q lines. Any rover test units (ones shared across MTAs) that has access to the MTA that has a LCME on it must be a MTU for it to be used on the LCME.
  - 7) For the U.S. applications only, the MTUs are to be used for ISDN offices only. No LTUs can be assigned to an MTA that has an LCME on the vertical. No MTA that has an LCME on the vertical can be daisy-chained to other MTAs that does not have an LCME on the vertical.
  - 8) For U.S. applications, NT2X10/NT2X11 cannot be mounted in an MTM with an NT3X68 Tone Generator card. This restriction is imposed because there are 2 different MTM EXECs supporting these cards, and only one EXEC can run on an MTM at one time.
  - 9) For International applications, NT4X98/NT4X97 cannot be mounted in an MTM that has been configured with a NT3X68

Tone Generator card. This restriction is imposed because there are 2 different MTM EXECs supporting these cards, and only one EXEC can run on an MTM at one time.

- 10) NT1X90/NT2X96 (TTT) cannot be mounted in an MTM with an NT3X68 Tone Generator card.
- a4
- 1) NT2X90AD provides an extra feature for testing SLC-96 Integrated Carrier.
  - 2) The NT2X90AD replaces the NT2X90AB and NT2X90AC. The NT2X90AD will support all existing test systems.
  - 3) The NT2X90AD can co-exist with the NT2X90AC and NT2X90AB test trunks, therefore, there is no need to retrofit existing offices. The particular test trunk being used must be identified (datafilled) at the trunk subgroup level within the office.
  - 4) The office must be equipped with BCS-19 or later software to support the NT2X90AD.
- a5
- 1) When NT2X66AA is ordered, also provide the following:
    1. one Call Waiting Signal Circuit SD95868-01
    2. one CAMA Suspension Key Lamp & Control Circuit SD95872-01
    3. one Call Waiting Lamp Indication ED26764-11 Grp 1The above equipment will mount on an MIS frame.
- a6
- 1) Used in conjunction with SD95853-01, SD95481-01 and SD95482-01. These common system circuits are no longer available from NT. Use NT5X74AA, NT5X75AA and NT5X76AA as replacements per customer requirements (see Section EMB13-01-000).
- a7
- 1) For international use only.
- a8
- 1) The Earth Calling Trunk Card NT2X84BA must not be mixed with any other trunk card on the ITM8 shelf.
- a9
- 1) To determine the maximum number of DRA cards that may be job engineered onto one shelf, use the following chart. For each of the speech memory cards supplied for one shelf, add the virtual card credit (128K - eight bit). The total must not exceed eight. For example, one NT1X76BA plus one

NT1X76AA plus four NT1X79AA cards total seven, so one more card may be added if its VCARD credit is only one.

## DRA SPEECH MEMORY CARD

CARD	PEC CODE	VCARD CREDIT
-----	-----	-----
ROM	NT1X76AA	1
ROM	NT1X76AB	2
ROM	NT1X76AE	2
ROM	NT1X76AF	2
ROM	NT1X76AG	2
ROM	NT1X76AH	2
ROM	NT1X76AJ	2
ROM	NT1X76AK	2
ROM	NT1X76AM	2
ROM	NT1X76AP	2
ROM	NT1X76AQ	2
ROM	NT1X76AR	2
ROM	NT1X76AS	2
ROM	NT1X76AT	2
ROM	NT1X76AU	2
ROM	NT1X76AV	2
ROM	NT1X76AW	2
ROM	NT1X76BA	2
ROM	NT1X76BF	2
ROM	NT1X76BG	2
ROM	NT1X76BH	2
ROM	NT1X76BJ	2
ROM	NT1X76BK	2
ROM	NT1X76BP	2
ROM	NT1X76BQ	2
ROM	NT1X76BR	2
ROM	NT1X76BS	2
ROM	NT1X76BT	2
ROM	NT1X76BU	2
ROM	NT1X76BV	2
ROM	NT1X76BW	2
ROM	NT1X76CA	2
ROM	NT1X76JA	2
ROM	NT1X76JB	2
ROM	NT1X76GA	2
ROM	NT1X76GB	2
ROM	NT1X76GC	2
ROM	NT1X76GE	2

DRA SPEECH MEMORY CARD

CARD	PEC CODE	VCARD CREDIT
ROM	NT1X76GF	2
ROM	NT1X76GG	2
ROM	NT1X76GH	2
ROM	NT1X76GJ	2
ROM	NT1X76GK	2
ROM	NT1X76GL	2
ROM	NT1X76GM	2
ROM	NT1X76HC	2
ROM	NT1X76HD	2
ROM	NT1X76RR	2
RAM	NT1X77AA	1
EEPROM	NT1X79AA	1

Provide combinations of RAM and/or ROM cards (speech memory cards) on a job engineered basis within card positions 6 to 14.

- a10 1) For AOSS Voice Response, the DRA Modules will consist of a controller card (NT1X75BA) and four (4) double density PROM speech cards.

If English announcements are required, provide one card each of NT1X76AF and NT1X76AG or NTZZ06VA.

If French announcements are required, provide one card each of NT1X76BF and NT1X76BG or NTZZ06WA.

If both English and French announcements are required, provide one card each of NT1X76AF, NT1X76AG, NT1X76BF, and NT1X76BG or NTZZ06VA and NTZZ06WA.

- 2) A DRA Module used for the AOSS Voice Response feature cannot be used for other applications. Features such as Mechanized Calling Card Service (MCCS) and Automatic Coin Toll Service (ACTS) must use different DRA devices.

- a11 1) For Custom Charge Calling (CCC), the DRA Modules will consist of a controller card (NT1X75BA) and two (2) double density PROM speech cards.

If English announcements are required, provide either one (1) NT1X76AH or one (1) NT1X76HC. Use NT1X76HC if the CCC feature is required for Telcos: MT&T, QTel of NBTel, otherwise use NT1X76AH.

If French announcements are required, provide either one (1) NT1X76BH or one (1) NT1X76HD. Use NT1X76HD if the CCC feature is required for Telco: MT&T, QTel or NBTel, otherwise use NT1X76BH.

If both English and French announcements are required, provide one (1) NT1X76HC and one (1) NT1X76HD if CCC feature is required by Telco: MT&T, QTel or NBTel, otherwise provide (1) NT1X76AH and one (1) NT1X76BH.

- 2) A DRA Module used for the Custom Charge Calling feature should not be used for other applications. Features such as AOSS Voice Response and Automatic Coin Toll Service (ACTS) must use different DRA devices.
- a12
- 1) Either of these circuits are always provided in position 5 on a job engineered basis. The NT1X75BA is an enhanced NT1X75AA. NT1X75BA is fully compatible with and replaces the NT1X75AA. The NT1X75DA is used for A-law.
  - 2) The NT1X75BA/DA must be provided if the NT1X79 EEPROM is used.
- a13
- 1) One (1) NT1X76AE is required on the ACTS DRAM. The slot location for the DRA circuit pack should follow the controller circuit pack (NT1X75BA). Recommended card slot locations are for the controller (NT1X75BA) card slot five (5) and for the ACTS announcement circuit pack (NT1X76AE) card slot six (6).
- a14
- 1) Up until BCS-24 the maximum number of IBERT Line Cards (NT6X99AA) and DTU BERT Unit Circuits (NT4X23AA) (i.e. two circuits per card) allowed in an office (host plus all associated remotes) is 64.

For more information on IBERT Line Card (NT6X99AA) see Table C Line Drawer Provisionable Cards.

As of BCS-25, the maximum number of NT6X99AA cards and NT4X23AA circuits allowed in an office is 128.

While BER testing can be performed by either the NT6X99AA card, mounted in an LCM, or by the NT4X23AA card, mounted in an MTM, there is a software problem that prevents the NT4X23AA from successfully testing Datapath Extension trunks. Therefore, it is recommended that the NT6X99AA be used for DMS-100 and DMS-100/200 offices (local and local/toll applications) and the NT4X23AA be used for DMS-200 offices (toll applications).



A minimum of twelve NT4X23AA CPs should be provisioned for DMS-200 offices.

Use 2 DTU's (NT4X23AA) when software bridging the OHBT (Offhook Balance Test) to BCS35 and BCS36 in SWBT applications. Also, if WLC (World Line Card) and the OHBT feature is required for SWBT, provision the DTUs as follows:

- (2) NT4X23AA CPs needed for 25,000 Lines
- (3) NT4X23AA CPs needed for 30,000 Lines
- (4) NT4X23AA CPs needed for 75,000 Lines

- a15 1) For Phase 1 CLASS DRA Announcements, the DRA modules will consist of a controller card NT1X75BA and up to four (4) double density PROM speech cards (i.e. NT1X76AJ/AK/BJ/BK or NTZZ06JA/TA).

If bilingual announcements are required (e.g. French followed by English on the same announcement), then the Phase 1 CLASS DRA Announcement cards must be provisioned on the same DRA shelf (i.e. NT1X76AJ/AK/BJ/BK or NTZZ06JA/TA).

The Phase 1 CLASS DRA Announcement cards are only available in sets (e.g. NT1X76AJ/AK or NTZZ06JA or NT1X76BJ/BK or NTZZ06TA) and cannot be provisioned separately. However, if the customer chooses to create their own announcements, and if the Automatic Recall (AR) feature with the Voice Back Option within NTXA00AA is activated, then the CLASS Phase 1 English Announcements (2) of (2) CP card, NT1X76AK, and/or the CLASS Phase 1 French Announcements (2) of (2) CP card, NT1X76BK, must be provided. Otherwise, if the Voice Back Option is not to be activated, then NT1X76AK and/or NT1X76BK are optional. Also, the NT1X76AK card can be ordered separately for the Call Forward Remote Activation (CFRA) feature.

- 2) For Phase 2 CLASS DRA Announcements, the DRA modules will consist of a controller card NT1X75BA and up to four (4) double density PROM speech cards (i.e. NT1X76AP-AW or NTZZ06LA/MA/AW, NT1X76BP-BW or NTZZ06XA/UA, NT1X76GA-GC or NTZZ06KA, NT1X76GE-GL).

For provisioning, two groups of Phase 2 CLASS DRA Announcements are available:

- ( i ) Phase 2 CLASS DRA Announcements (List 1-12)
- (ii) Phase 2 CLASS DRA Announcements (List 13-31)

The following are the Phase 2 CLASS DRA Announcement (List 1-12) cards:

- ( i ) NT1X76AP/AQ/AR/AS/AT/AU/AV/+English "Personality" Card or NTZZ06LA/MA + "Personality" Card
- (ii) NT1X76BP/BQ/BR/BS/BT/BU/BV/+French "Personality" Card or NTZZ06XA/UA

The following are the Phase 2 CLASS DRA Announcement (List 13-31) cards:

NT1X76GA/GB/GC + English "Personality" Card  
or NTZZ06KA + English "Personality" Card

If Customers want Phase 2 CLASS DRA Announcements, the group of List 13-31 cards are optional.

If either group or both groups of Phase 2 CLASS DRA Announcements are required, provide a "Personality" card for each group. Note that if both groups are required, two "Personality" cards of the same type (i.e. one for each group) must be provided.

The following are the Phase 2 CLASS DRA "Personality" cards:

NT1X76AW/BW/GE/GF/GG/GH/GJ/GK/GL/GM

The Phase 2 CLASS DRA Announcement cards are only available in sets (e.g. NT1X76AP/AQ/AR/AS/AT/AU/AV/AW or NTZZ06LA/MA/AW or NT1X76BP/BQ/BR/BS/BT/BU/BV/BW or NTZZ06XA/UA or NT1X76GA/GB/GC or NTZZ06KA) and cannot be provisioned separately. Note that the only exception to this is the "Personality" card (e.g. NT1X76AW) which will be provisionable with other Telco specific packs (as highlighted above).

Cards NT1X76AP/AQ/AR/AS or NTZZ06LA must be mounted together onto the same DRA module. Cards NT1X76AT/AU/AV/AW or NTZZ06MA/AW must be mounted together on the same DRA module. Similarly, cards NT1X76BP/BQ/ BR/BS or NTZZ06XA must be mounted together onto the same DRA module and cards NT1X76BT/BU/BV/BW must be mounted together onto the same DRA module. Cards NT1X76GA/GB/BC "Personality" card must be mounted together onto the same DRA module. The previous cards within each DRA module can be in any order.

- a16 1) For Call Forward Remote Activation, the DRA Modules consist of a controller card (NT1X75BA) and two (2) double density PROM speech cards, the NT1X76AM and NT1X76AK cards.
- 2) The NT1X76AM card can be provisioned onto an existing DRA module that has the space to allow it, but must be on the same DRA as an NT1X76AK card.
- a17 1) For Automatic Recall Date and Time activation, the DRA Modules consist of a controller card (NT1X75BA), and sets of one (1) double density ROM speech card NT1X76JA and one (1) double density ROM speech card NT1X76JB.
- 2) The NT1X76AJ and the NT1X76AK cards are required and should be assigned to the same DRA module as the NT1X76JA and NT1X76JB cards. In a Class Phase 1 English office, the NT1X76JA/JB can be assigned to a DRA where the NT1X76AJ/AK cards are existing and there is room. Otherwise, in other offices or where the DRAs with NT1X76AJ/AK cards are filled, an additional set of NT1X76AJ/AK cards must be ordered.
- a18 1) The EDRAM is provisioned using the same provisioning rules as the existing DRA Module as given in NTP 8991-104 entitled DMS-100 Family Provisioning.
- The EDRAM Module provides 29 announcement channels and 4.3 minutes of announcement time for announcement playback/recording.
- For each DMS office, provision the number of EDRAM as required to accommodate the standard announcements.
- Depending on the optional recorded announcement features ordered by the customer, provision additional EDRAM Modules as required. The optional features are described in ECM 531 - EDRAM.
- 2) As a customer requested option, each EDRAM may either have N +1 or Full duplication for reliability. The need is more pronounced for toll offices where it is important to get the message sent to the subscriber.
- 3) The EDRAM card is inserted into one (1) of the thirteen (13) provisionable trunk card slots of the ISM Shelf. When all thirteen (13) slots are equipped with EDRAM cards, the maximum power dissipation per ISM Shelf is not exceeded. It derives +5V power from the shelf power converter, but otherwise, it is independent of the ISM Shelf.

Although the EDRAM can mount onto existing MTM/DRA shelves, no new MTM/DRA shelves should be ordered. For new and existing offices, provision only ISM shelves to mount the EDRAM.

Each EDRAM requires one (1) DS-30 network port appearance on the network. Each DS-30 network port (link) has 32 channels; 30 voice channels, channel 0 as the message channel, and channel 16 is not used.

The EDRAM has its own pair of DS-30 links for connecting to both planes of the JNET/ENET, and communicates with the Message Switch/Central Message Controller (MS/CMC) directly via the message channel of this DS-30 link.

The DS-30 cable for the EDRAM can be plugged directly into the pins at the back of the ISM/MTM/DRA backplane at the slot corresponding to the position of the EDRAM. The other end of the DS-30 cable is terminated at the Peripheral Speech Link (PSL) Panel mounted on the Speech Link Connecting (SLC) Frame or at the Enhanced Network (ENET) depending on office requirements.

The EDRAM can be engineered into the two (2) vacant adjacent slots on the right of 3 Port Conference Cards (NT1X31AA) and on the right of 6 Port Conference Cards (NT3X67) on existing MTM/IMTM/DRA/IDRA shelves.

- 4) NOTE-One EDRAM CP provides the same functionality and capacity as one DRA shelf with NT1X76 PROM memory and NT1X77 RAM memory, but not the functionality of NT1X79 non volatile memory since the EDRAM memory is volatile. The functionality of NT1X79 non volatile memory is provided by EDRAM in BCS-36 with Feature No. AQ0984 - EDRAM Announcement Up-loading. Until BCS-36, a manual action is required to restore customer recorded announcements lost due to MTM power converter failure.

- a19 1) One or two balance networks must be provisioned per circuit on each board. The following types of balance networks are available.

Balance Network	Circuit Type
NT2X77AA	Compromise balance network 900 OHMs
NT2X77AB	Compromise balance network 600 OHMs
NT2X77AC	Compromise balance network 900 OHMs fixed
NT2X77AD	Compromise balance network 600 OHMs fixed
NT2X80AA	Precision balance network -H88

- a20 1) Although the CTM can mount onto existing DRA/IDRA shelves, no new DRA/IDRA shelves should be ordered. For new and existing offices, provision only MTM/IMTM shelves to mount the CTM.

The CTM NT1X81AA requires BCS-35 or later software to be in the DMS switch. It plugs into any one or up to all twelve (12) of provisionable card slots of the MTM/DRA/IMTM/IDRA shelf and uses the shelf for the purposes of housing, logic power, and cable mounting. When all twelve (12) slots are equipped with CTM cards, the maximum power dissipation limit of 110 watts per MTM/DRA/IMTM/IDRA shelf is not exceeded.

The CTM circuit pack requires -48V SP power. When adding CTM to existing TM shelves ensure that -48V SP power is applied to the shelf. This may require ordering of SP Power extension kits. Reference ECM 601.

The CTM can be engineered into the two (2) vacant adjacent slots on the right of 3 Port Conference Cards (NT1X31AA) and on the right of 6 Port Conference Cards (NT3X67) on existing MTM/IMTM/DRA/IDRA shelves.

If the CTM is the only type of conference circuit in an office, a minimum of two (2) CTM cards should be provisioned, each installed on a different MTM/IMTM.

As a general rule, it is recommended that CTM cards be spread out on as many MTM/IMTM/DRA/IDRA shelves as possible, so that power converter failure on a single MTM/IMTM/DRA/IDRA would result in as little disruption as possible.

A maximum of 512 CTM cards can be supported in each office. This is a limitation imposed by software.

Each CTM requires one (1) DS-30 network port appearance on the network. Each DS-30 network port (link) has 32 channels; 30 voice channels, channel 0 as the message channel, and channel 16 is not used.

The CTM has its own pair of DS-30 links for connecting to both planes of the Network Module (NM), and communicates with the Central Control/Central Message Controller (CC/CMC) directly via the message channel of this DS-30 link.

The DS-30 cable for the CTM plugs directly into the pins at the back of the MTM/IMTM/DRA/IDRA backplane at the slot corresponding to the position of the CTM. The other end of the DS-30 cable is terminated at the Peripheral Speech Link (PSL) Panel mounted on the Speech Link Connecting (SLC) Frame or at the Enhanced Network (ENET) depending on office requirements.

- a21 1) To meet customer requirements for noise levels, the NT3X91AA should not be provisioned in slots 5,12 or 19 of the TM8 shelf when the DTH ROTL is provided on the same frame.
- a22 1) There is a relationship between the floor plan arrangement of frames and the provisioning of alarm scan cards (NT0X10AA) on the primary MTM. The relationship is as follows.

Office Aisles Equipped	Primary Alm MTM Card Slot Equipped	Primary Alm MTM Cable Conn.Equipped	AXU Cable Conn. Equipped
A-F	10	C05	A00
G-M	11	C06	A01
N-BB	12	C07	A02
CC-RR	13	C08	A03

- a23 1) The EDTU CP contains 4 VTUs (Virtual Test Units). A VTU can be statically assigned to perform the function a single circuit of either a TTU (NT4X23AA, 2 Circuits per card) or a TTT (NT1X90AA and NT2X96AA, 1 circuit per card pair) or a TTU (NT2X47AC/AD and NT2X56AB, 1 circuit per card pair). An EDTU CP may be installed in any slot on an MTM Shelf. If the MTM Shelf is mounted in a TME frame, the slot to the immediate RIGHT of the EDTU CP must either be vacant or equipped with a CP that seizes no trunk enables, such as EDRAM or CTM. If the MTM is an ISM Shelf, the slot to the immediate LEFT of the EDTU CP must either be vacant or equipped with a CP that seizes no trunk enables, such as EDRAM or CTM.

The EDTU CP design provides a new platform to house the DTU (BERT and OHBT), TTT, and TTU functionality. The EDTU CP has four (4) circuit enables. When available, the EDTU CP is the preferred CP for DTU, TTT, and TTU applications.

A single EDTU CP can replace any of the following service CPs: (Domestic Market only)

replaces two (2) NT4X23AA Digital Test Unit (DTU) or  
replaces four (4) NT1X90AA Test Signal Gen (TTT) or  
replaces four (4) NT2X96AA PCM Level Meter (TTT) or  
replaces four (4) NT2X47AC/AD Trans. Test Unit (TTU) or  
replaces four (4) NT2X56AB TTU Digital Filter (TTU) or  
some combination of the above CPs.

The CC S/W associated with the EDTU provides mechanisms for  
static selection of any combination of DTU, TTT, and TTU  
applications.

To achieve robustness, all offices deploying EDTUs must  
provision at least two (2) separate EDTU CPs, and these  
should be installed on at least two (2) separate shelves.

The total number of EDTUs required is based on the equiv-  
alent number of DTUs, TTTs, and TTUs that would otherwise  
be required in the office.

--Add up the total number of TTTs, TTUs, and DTU circuits  
needed for BERT/BERP, and the total number of DTU circuits  
needed for OHBT in the office.

--If this total is not a multiple of 4, increase it to the  
next larger multiple of 4. If the result is less than 8,  
use 8.

--Divide this value by 4 to obtain the number of EDTU CPs  
required for the office. This is at least 2.

--Install these CPs on at least two separate ISM (MTM)  
Shelves.

--For robustness, distribute the circuits of each type  
needed across as many EDTU CPs as possible. For example,  
if there are to be three EDTU CPs, and 6 TTT trunk members  
are required in the office, provision two TTT trunk members  
on each of the three EDTU CPs.

See the Engineering Manual Sections for more information on  
CP location in the specific shelf types. See EMS NTFX4101  
for ISM Shelf information, and EMS Table A or BB-TAB-A for  
MTM Shelf information.

- a24 1) The EDRAM 16 is provisioned using the same provisioning  
rules as for the existing EDRAM 4 as shown in this table.

The EDRAM 16 Module provides 30 announcement channels and 17.23 minutes of announcement time for announcement playback/recording.

For each DMS office, provision the number of EDRAM 16 required to accommodate office announcements.

Currently the first application is in Japan only for a Notification of Time and Charge.

- 2) As a customer requested option, each EDRAM may either have N +1 or Full duplication for reliability. The need is more pronounced for toll offices where it is important to get the message sent to the subscriber.
- 3) The EDRAM CP is inserted into one of thirteen provisionable trunk card slots of the ISM Shelf. When all thirteen slots are equipped with EDRAM CPs, the maximum power dissipation per ISM Shelf is not exceeded. It derives +5V power from the shelf power converter, but otherwise, it is independent of the ISM Shelf.

Although the EDRAM can mount onto existing MTM/DRA shelves, no new MTM/DRA shelves should be ordered. For new and existing offices, provision only ISM shelves to mount the EDRAM.

Each EDRAM requires one DS-30 network port appearance on the network. Each DS-30 network port (link) has 32 channels; 30 voice channels, channel 0 as the message channel, and channel 16 is not used.

The EDRAM has its own pair of DS-30 links for connecting to both planes of the JNET/ENET, and communicates with the Message Switch/Central Message Controller (MS/CMC) directly via the message channel of this DS-30 link.

The DS-30 cable for the EDRAM can be plugged directly into the pins at the back of the ISM/MTM/DRA backplane at the slot corresponding to the position of the EDRAM. The other end of the DS-30 cable is terminated at the Peripheral Speech Link (PSL) Panel mounted on the Speech Link Connecting (SLC) Frame or at the Enhanced Network (ENET) depending on office requirements.

The EDRAM can be engineered into the two vacant adjacent slots on the right of 3 Port Conference Cards (NT1X31AA) and on the right of 6 Port Conference Cards (NT3X67) on existing MTM/IMTM/DRA/IDRA shelves.



TABLE B - I/O CONTROLLER MODULE PROVISIONABLE CARDS

PEC CODE: T\_IOC\_BB\_CP

CPC CODE: Not Applicable

RATING: N/A

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Table B-1 lists all DMS-100 FAMILY input and output device control cards which could mount on the various I/O Controller Module versions.

Tables B-2, B-3, B-4 and B-5 detail assignment restrictions relating to the system Initial Program Load (IPL) and ETAS requirements.

REFERENCE DOCUMENTATION: MS1X61AA 01 06  
MS1X61AB 01 18  
MS1X61AD 01 15  
MS1X61AG 01 04  
MS2X76AA 01 07  
MS2X76BA 01 11

MARKETS: Applicable markets:

US  
Canada  
Europe  
Asia/Pacific  
CALA

ISSUE AUTHOR: NTI: Bob Belvin Dept. 3471 (PPK)

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T IOC BB CP EMB14-02-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
93 10 27	ECM 613 16	EC 018-40888 - Introduce NT1X61AG.
93 12 20	ECM 613 18	1) EC 018-40186 - Md NTZZ09GA and replace it with NTZZ09KA. 2) EC 018-38958 - State that NTZZ09EA is backward compatible with NTZZ09DA.
94 07 08	ECM 613 22	1) EC 018-42674 - Md'd NT1X68AC so show NTZZ09HA as MD and replaced by NT1X68BC.
94 07 22	ECM 561 01	1) EC 018-42674 - Introduces new SCSI-DDU so show NTZZ09JA as rate change pending to be replaced by NT1X55FA.
95 02 03	ECM 613 26	EC 018-43363 MDs NT1X67DB and replaces it with NT1X89BB. EC 018-43966 MDs NT1X67BB, NT1X67FA & NT1X67DB on NT1X61AG and replaces them with NT1X89BB. EC 018-43479 MDs NT1X67DB in NT2X76BA and replaces it with NT1X89BB. Show designation label for NT1X89BB. EC 018-43459 MDs NT1X67BA.
95 05 18	ECM 613 29	ET 22249 - Clarify rules to ensure any NT1X67AA/AB is upgraded to NTZZ09DA/EA when converting an NT40 office to a Supernode office.
95 09 25	ECM 613 30	EC 018-45526 Introduces new NT8X48BD DPP into IOE frame.
96 03 19	ECM 613 32	MD NTZZ09DA and NTZZ09JA per ECD 018-45271. Reformat table B-2. Update baud rate for NTZZ09EA/NT1X67BD to avoid confusion in the field.
96 06 19	ECM 388 08	Clarify NT1X89BB vs NT1X67BD usage.

The Table B - I/O Controller Module Provisionable Cards is comprised of the following:

PEC	CIRCUIT TYPE	CKT/ CARD	R U L E	EQUIP ON	
				IOC	NTZZ09CA/CB/CC NTZZ09VA/VB
# NTZZ09DA	I/O Terminal Ctrl CP	4	a, f	*	
NTZZ09EA	I/O Terminal Ctrl CP	4	a, e, f	*	
# NTZZ09GA	Multi-Protocol Cont	4	d	*	
# NTZZ09KA	Enhanced MPC	4	h	*	
NT1X89BB	Enhanced MPC	4	h	*	
P0800156	Des. label NT1X89BB		h		
# NTZZ09HA	9 Track Tape Ctrl Cook	1	b	*	
NT1X68BC	9 Track Tape Ctrl Cook	1	b	*	
# NTZZ09JA	MSD DDU Ctrl Memory	1	c	*	
	System Division (MSD)				
NT1X55FA	SCSI Disk Drive Unit	1	c	*	
P0800155	Des. label NT1X55FA		c		
# NT1X67FA	SMDI Interface	1	g	*	

TABLE B-1  
I/O CONTROLLER PROVISIONABLE CARDS

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTZZ09GA	MD	NTZZ09KA
NTZZ09HA	MD	NT1X68BC
NTZZ09JA	MD	NT1X55FA
NTZZ09DA	MD	NTZZ09EA
NTZZ09KA	MD	NT1X89BB
NT1X67FA	MD	NT1X89BB

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

\* Rate change pending. Check product availability.

NOTES:

- 1) Unless established to the contrary in the notes, cards can be equipped only on those module types marked with an asterisk (\*).

RULES:

- (a) 1) Provide one (1) Terminal Controller card for every four I/O devices, teleprinters, visual display units (VDU) etc, to be assigned I/O ports.
- 2) Terminal Controllers are equipped with two types of transmission interfaces. The type selected for use will depend on the cabling distance between the I/O Device and the IOC as follows:

CABLING DISTANCE (feet)	INTERFACE TYPE	MODEM REQUIRED
< 50	EIA- RS 232	NO
<= 1200	EIA- Current Loop	NO
>1200	EIA- RS 232	YES

Modems are arranged for either dial-up or private line operation.

- 3) Automatic Dial Back feature. All Terminal Controller CPs used in conjunction with automatic dial back must be NTZZ09EA. Provide one (1) NT0X26TG cable per intelligent modem. Connect from IOC connector CXX to modem connector DTE.
- 4) Distributed Peripheral Processing (DPP). Provide two (2) ports per each equipped NTZZ09LA/RA/SA or NT8X48BD DPP. These two ports should be located on separate IOC modules.

- (b)
- 1) Provide one (1) Nine Track Tape Controller Card for each Magnetic Tape Drive (MTD) to be equipped in the office.
  - 2) Provide two (2) NT1X68BC per each equipped DPP. These two cards should be located on separate IOC modules.
  - 3) Cabling distance to MTD shall not exceed 15 feet for HP drive and 17 feet for cook drive.
  - 4) Provide two (2) NT1X68BC per each redundant BMC NT8M04-A/C/D/F provided. These two cards should be located on separate IOC modules.
  - 5) Provide one (1) NT1X68BC per each non-redundant BMC Deuce NT8M04-G provided.
- (c)
- 1) The ESDI-DDU (5.25") and its Controller CP NTZZ09JA are replaced by the SCSI Disk Drive Unit (SCSI-DDU) NT1X55FA and label P0800155 which mount on the IOC shelf in any of the following nine (9) slot positions: 4, 6, 8, 10, 12, 14, 16, 18 and 20. The NT1X55FA is a double face plate circuit pack so it also takes up the neighboring slot positions 5, 7, 9, 11, 13, 15, 17, 19, and 21. Do not provide a filler face plate in these neighboring positions when the NT1X55FA is provided.

For initial jobs, provide one SCSI-DDU NT1X55FA and label when GA, for each DDU required. If 2 DDU's are required, mount the first NT1X55FA in IOC:00 and the second in IOC:01. Refer to SCSI-DDU ECM for software restrictions.

- (d)
- 1) Each NTZZ09GA has four interfaces for connection to I/O devices. The first two (Ports 2 and 3) are independent full duplex RS-232C data communications interfaces. These have the proper handshaking to support most synchronous or asynchronous data sets and can operate at speeds up to 19,200 bits per second. The NTZZ09GA and NTZZ09KA are Manufacture Discontinued and replaced by NT1X89BB.
  - 2) Cabling to these interfaces is done as per CA0X15. Each IOC shelf slot has four (4) thirty-four pin connectors in a vertical row. These two interfaces occupy the top two.
  - 3) The third interface (port 1) is a RS-366 Auto Call Unit interface. An Auto Call Unit is a device that dials a telephone number, then turns control of the telephone line over to a data set. This interface uses the third connector on the IOC shelf slot.

- 4) The fourth interface (port 0) available on the NTZZ09GA is a high speed asynchronous interface designed to work with Video Display Units. It is a simple two-wire interface, conforming to RS-232C electrical specifications with no hardware handshaking.
- 5) The DMS-100F interfaces to the Engineering and Administrative Data Acquisition System (EADAS) minicomputer over a dedicated synchronous 2400 bit per second data link. This is accomplished by using one (1) RS232 synchronous communication link on the NTZZ09GA MPC CP (link 2 or 3).

The NT1X89BB also replaces the NT1X67BB and NT1X67DB for special high speed EIA communication applications.

The NT1X89BB CANNOT be used as a replacement for the NTZZ09EA as a driver for MAP, Port. VDU, or ETAS positions.

- 6) The maximum measured current consumption for NTZZ09GA under operation is as follows:

Voltage	Current Required
+ 5 volts	2.200 amps
+12 volts	0.090 amps
-12 volts	0.100 amps

Total DC power consumption is 13.28 watts.

- (e) 1) NTZZ09EA can be provisioned for Auto Dial Back applications and may also be used for standard applications.
- 2) The NTZZ09EA is backward compatible with the NTZZ09DA.
- 3) When converting an NT40 office to a Supernode office, upgrade any NT1X67AA/AB CPs to NTZZ09DA/EA. This will prevent a condition known as "sleepy terminal" which refers to slow terminal response.
- (f) 1) These cards succeed the NT1X67AB and NT1X67CB and also have four ports. These ports can support one device per port at variable baud rates using either EIA or 20mA current loop operation. Previous NTI specifications dictate that no single port on these cards exceed 2400 baud. However, cards ordered after May, 1993 will support a baud rate of up to 9600 for EIA operation and 4800 for current loop operation total if the following conditions are met:

- The terminal must be able to support the higher baud rates.
- The sum of the baud rates for all ports on a single card must not exceed 9600(EIA) or 4800(CL) baud. ---

Refer to Figure X for examples of port configurations.

Terminals used for the operator position must be configured for a maximum baud rate of 1200 baud due to potential communication problems that may be created during emergency situations if higher baud rates are used.

Example A		Example B			
PORT	0	-- 2400 Baud maximum	PORT	0	-- No Connection
PORT	1	-- 2400 Baud maximum	PORT	1	-- 1200 Baud (4800) Note 2
PORT	2	-- 2400 Baud maximum	PORT	2	-- 3600 Baud (4800) Note 2
PORT	3	-- 2400 Baud maximum	PORT	3	-- No Connection
Example C		Example D			
PORT	0	-- No Connection	PORT	0	-- No Connection
PORT	1	-- No Connection	PORT	1	-- 600 Baud
PORT	2	-- No Connection	PORT	2	-- 600 Baud
PORT	3	-- 4800 Baud (9600) Note 2	PORT	3	-- 3600 Baud

- Note 1: These are examples only and not set configurations.
- Note 2: Note that for a card that has a port exceeding 2400 baud, the sum of the baud rates for all ports does not exceed 4800 baud, for CL, or 9600 baud, for EIA, on cards ordered after May, 1993.
- Note 3: Example A illustrates the normal operating condition. All others are for special applications.

Figure X : NTZZ09DA and NTZZ09EA  
Port Configurations



- (g) 1) The NT1X67FA is Manufacture Discontinued and replaced by NT1X89BB.
- 2) Provide one (1) NT1X67FA I/O Terminal Controller CP per SMDI Message Desk. These cards have one (1) port for Message Desk stations. These ports can support one device per port at a variable baud rate from 110 to 1200 baud.
- 3) The NT1X67FA is a special card designed for special applications. It is not functionally similar to the other NT1X67 cards and cannot be used as a substitute.
- (h) 1) Each NTZZ09KA has four interfaces for connection to I/O devices. The following ports correspond to the four block connectors provided for each IOC slot at the rear of the IOC shelf. The four connector are arranged such that Port Zero is the bottom connector and Port Three is top connector. However, these four physical connectors map to three data links, Ports One and Three use the same data link. These ports are:
1. Port 0: Asynchronous Only with an RS-232 Interface
  2. Port 1: Synchronous CCITT V.35 Interface
  3. Port 2: Synchronous/Asynchronous with an RS-232 Interface
  4. Port 3: Synchronous/Asynchronous with an RS-232 Interface

- 2) The above EMPC ports are used/configured as follows:

Port 0

- \* Port zero is arranged for Async-Only RS-232 transmissions. This port provides the following modem controls signals (this is an enhancement over the MPC):

- Ring Indicator (RI)
- Data Terminal Ready (DTR)
- Data Set Ready (DSR)
- Request To Send (RTS)
- Clear To Send (CTS)
- Receive Line Signal Detect (RLSD)

However, Port Zero is used for Debug purposes only by the current software loads. Future applications are planned which may permit this port to be used to transmit and receive customer data.

Port 1

- \* Port one is arranged for CCITT V.35 Synchronous interface. This port is designed to share a common data stream with

Port #3 called Link3 which means if port one is used then port 3 can not be used and visa-versa. Port one supports 0-64Kbps data transmissions with external clocking only.

## Port 2

- \* Port Two is arranged for Asynchronous or Synchronous transmission with a RS-232 interface. This port facilitates Synchronous data transmissions from 300bps to 19.2Kbps with internal or external clocking.

## Port 3

- \* Port Three is arranged for Asynchronous or Synchronous transmission with a RS-232 interface. This port facilitates Synchronous data transmissions from 300bps to 19.2Kbps with internal or external clocking.

- 3) The NTZZ09KA (Enhanced Multi-Protocol Controller (EMPC)) physical/ electrical characteristics are as follows:

## Input Voltage

+5V at 2.00A = 10.0W

-12V at 0.05A = 00.6W

+12V at 0.05A = 00.6W

Power Consumption 11.2 watts

Current Drain See Input Voltage above

Thermal Dissipation Unavailable BTU/hr

Fusing Requirements Not Applicable

Physical Dimensions One IOC Card Slot

IOC DEVICE ADDRESS (HEX)	CARD SLOT & BASE CKT NO. ON SHELF PEC:		FIXED ASSIGNED DEVICES ON MODULE:		
	NTZZ09CA/VA/CB/VB SLT CKT		IOC:00	IOC:01	NOTES
04	04	00	MTD:00	MTD:01	b,c
08	06	04	MTD:02	MTD:00	b,d
0C	08	08	MAP:00	PORT.VDU	b,e
0F	08	11	ETAS	ETAS	b,f
10	10	12	AR	AR	a,b
14	12	16	AR	AR	a,b
18	14	20	AR	AR	a,b
1C	16	24	AR	AR	a,b
20	18	28	AR	AR	a,b
24	20	32	AR	AR	a,b

TABLE B-2  
FIXED I/O PORT ASSIGNMENTS FOR LAYOUT WITH MTDs ONLY

NOTES FOR TABLE B-2

- (a) AR, assign additional MTD or terminals as required.
- (b) Select and provide the appropriate I/O device control card according to Table B-1.  
  
Fixed-assigned devices are assigned to the lowest numbered circuit associated with the slot. Unused circuits may be assigned to other functions.
- (c) Minimum of two (2) MTD per system. MTD:00 and MTD:01 are assigned as shown here.
- (d) If provided MTD:02 and MTD:03 shall be assigned as shown. If not provided, other devices may be assigned to these locations. However the user may wish to reserve the slots for future MTD additions.
- (e) MAP:00 is interpreted to mean the office primary general maintenance position. PORT.VDU is the portable visual display unit (VDU) provided for maintenance use within the main equipment aisles. These devices are always provided.
- (f) ETAS service assignments for the VDU and printer are IOC:00 VDU and IOC:01 printer.

IOC DEVICE ADDRESS (HEX)	CARD SLOT & BASE CKT NO. ON SHELF PEC:		FIXED ASSIGNED DEVICES ON MODULE:		
	NTZZ09CA/VA/CB/VB SLT CKT		IOC:00	IOC:01	NOTE
04	04	00	DDU:00	DDU:01	b,c
08	06	04	DDU:02	MTD:00	b,d
0C	08	08	MAP:00	PORT.VDU	b,e
0F	08	11	ETAS	ETAS	b,f
10	10	12	AR	AR	a,b
14	12	16	AR	AR	a,b
18	14	20	AR	AR	a,b
1C	16	24	AR	AR	a,b
20	18	28	AR	AR	a,b
24	20	32	AR	AR	a,b

TABLE B-3  
FIXED I/O PORT ASSIGNMENTS FOR LAYOUT WITH ONLY  
ONE MTD AND ONE OR MORE DDUs

NOTES FOR TABLE B-3

- (a) AR, assign additional DDU, DPP, BMC or terminals as required.
- (b) Select and provide the appropriate I/O device control card according to Table B-1.  
  
Fixed-assigned devices are assigned to the lowest numbered circuit associated with the slot. Unused circuits may be assigned to other functions.
- (c) Minimum of one (1) DDU per system. DDU:00 and DDU:01 are assigned as shown here.
- (d) If provided DDU:02 shall be assigned as shown. If not provided, other devices may be assigned to this location. However, the user may wish to reserve the slot for a future DDU addition.  
  
Minimum of one (1) MTD per system. MTD:00 is assigned as shown here.
- (e) MAP:00 is interpreted to mean the office primary general maintenance position. PORT.VDU is the portable visual display unit (VDU) provided for maintenance use within the main equipment aisles. These devices are always provided.

IOC DEVICE ADDRESS (HEX)	CARD SLOT & BASE CKT NO. ON SHELF PEC:		FIXED ASSIGNED DEVICES ON MODULE:		
	NTZZ09CA/VA/CB/VB SLT CKT		IOC:00	IOC:01	NOTE
04	04	00	DDU:00	DDU:01	b,c
08	06	04	MTD:01	MTD:00	b,d
0C	08	08	MAP:00	PORT.VDU	b,e
0F	08	11	ETAS	ETAS	b
10	10	12	AR	AR	a,b
14	12	16	AR	AR	a,b
18	14	20	AR	AR	a,b
1C	16	24	AR	AR	a,b
20	18	28	AR	AR	a,b
24	20	32	AR	AR	a,b

TABLE B-4  
FIXED I/O PORT ASSIGNMENTS FOR LAYOUT WITH  
TWO OR MORE MTDs AND WITH TWO OR MORE DDUs

NOTES FOR TABLE B-4

- (a) AR, assign additional DDU, MTD, DPP, BMC or terminals as required.
- (b) Select and provide the appropriate I/O device control card according to Table B-1.  
  
Fixed-assigned devices are assigned to the lowest numbered circuit associated with the slot. Unused circuits may be assigned to other functions.
- (c) Minimum of one (1) DDU per system. DDU:00 and DDU:01 are assigned as shown here.
- (d) Minimum of one (1) MTD per system. MTD:00 and MTD:01 are assigned as shown here.
- (e) MAP:00 is interpreted to mean the office primary general maintenance position. PORT.VDU is the portable visual display unit (VDU) provided for maintenance use within the main equipment aisles. These devices are always provided.

IOC DEVICE ADDRESS (HEX)	CARD SLOT & BASE CKT NO. ON SHELF PEC:		FIXED ASSIGNED DEVICES ON MODULE:		
	NTZZ09CA/VA/CB/VB SLT CKT		IOC:00	IOC:01	NOTE
04	04	00	DDU:00	MTD:02	b,c
08	06	04	MTD:01	MTD:00	b,d
0C	08	08	MAP:00	PORT.VDU	b,e
0F	08	11	ETAS	ETAS	b
10	10	12	AR	AR	a,b
14	12	16	AR	AR	a,b
18	14	20	AR	AR	a,b
1C	16	24	AR	AR	a,b
20	18	28	AR	AR	a,b
24	20	32	AR	AR	a,b

TABLE B-5  
FIXED I/O PORT ASSIGNMENTS FOR LAYOUT  
WITH ONE OR MORE MTDs AND WITH ONLY ONE DDU

NOTES FOR TABLE B-5

- (a) AR, assign additional MTD, DPP, BMC or terminals as required.
- (b) Select and provide the appropriate I/O device control card according to Table B-1.

Fixed-assigned devices are assigned to the lowest numbered circuit associated with the slot. Unused circuits may be assigned to other functions.

- (c) Minimum of one (1) DDU per system. DDU:00 is assigned as shown here.

If provided MTD:02 shall be assigned as shown. If not provided, other devices may be assigned to this location. However, the user may wish to reserve the slot for a future MTD addition.

- (d) Minimum of one (1) MTD per system. MTD:00 and MTD:01 are assigned as shown here.

- (e) MAP:00 is interpreted to mean the office primary general maintenance position. PORT.VDU is the portable visual display unit (VDU) provided for maintenance use within the main equipment aisles. These devices are always provided.



## REMOTE MAINTENANCE MODULE PROVISIONABLE CARDS T\_RMM\_CARDS

RATING: Standard

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Tables 1 and 2 list all DMS-100 Family Remote Maintenance Module (RMM) frame applications and defines the analog interface and service circuits. In addition, the important characteristics about the RMM itself and each provisionable card type is included.

Comprehensive Notes and Rules accompany all tables. Notes are used to provide instructions on how to use the associated table. Rules detail particulars about items within the tables.

REFERENCE DOCUMENTATION: All MS documents listed in the "NOTE:" section.

MARKETS: Applicable markets:

Canada  
US  
CALA  
Europe  
Asia/Pacific

T RMM CARDS EMB14-05-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 93 02 22	----- ECM 514 05	Previous history not available Reword RUL8 for clarification.

The Table 1 Remote Maintenance Module (RMM) Provisionable Cards is comprised of the following:

PEC	RCE	RMM				MARKET APPLICATION	
		OPM256	OPM640	RLCM	RLCC	U.S.	Canada
NT0X10AA	*	*	*	*	*	*	*
NT2X10AB	*	*	*	*	*	*	*
NT2X10BA	*	*	*	*	*	*	*
NT2X10AC	*	*	*	*	*	*	*
NT2X11AD	*	*	*	*	*	*	*
NT2X11BA	*	*	*	*	*	*	*
NT2X48AB	*	*	*	*	*	*	*
NT2X57AA	*	*	*	*	*	*	*
NT2X90AC	*	*	*	*	*	*	*
NT2X90AD	*	*	*	*	*	*	*
NT3X04AA	*	*	*	*	*	*	*
NT3X09AA	*	*	*	*	*	*	All except RCE
NT3X09BA	*	*	*	*	*	*	All except RLCM,RLCC

Table 1  
 REMOTE MAINTENANCE MODULE FRAME APPLICATIONS  
 AND  
 PROVISIONABLE CARD PECS

NOTES:

a) Table 1 Heading Description And Usage

Table 1 HEADING	FATHER ABBR	SHELF PEC	MS DOCUMENT	DESCRIPTION
RMM	RCE	NT6X1301	MS6X10AC	Remote Controller Equipment Frame
RMM	RLCM	NT6X1301	MS6X14AA	Remote Line Concentrating Module
RMM	RLCC	NT6X1301	MSNX14AA	Remote Line Concentrating Cabinet
RMM	OPM256	NT6X1301	MS8X01BB	Outside Plant Module-256
RMM	OPM640	NT6X1301	MS8X01BA	Outside Plant Module-640
PEC				Product Engineering Code

## FLAGS:

- \* Used to indicate PEC is provisionable on the associated Module.
- b) The RMM shelf assembly NT6X1301 is not equipped with any circuit packs. To create a functional RMM, the shelf assembly must be equipped with RMM Common CP fill NT6X13AB.
- c) Unless established to the contrary below or in the notes, cards can be equipped only on those module types marked with an asterisk (\*).

The Table 2 RMM Provisionable Cards is comprised of the following:

PEC	CIRCUIT TYPE	BAL NET	NO CKT	NO SLT	LST SLT	PRD CRD	PWR DIS	RULE
NT2X48AB	DGTL 4 Chan Digitone RCVR		4	2	15		12.0	1
NT2X90AC	INC/OG TEST TRK	*	1	1			1.5	2
NT2X90AD	INC/OG TEST TRK	*	1	1			1.5	2
NT0X10AA	Misc Scanner		2	1			2.0	3
NT2X57AA	SD Card I		2	1			4.5	4
NT3X04AA	INC Test Trunk AE #1 LTD		2	1			28.0	5
NT2X10AB	Line Test Unit Analog CP		-	1	15	LO	15.0	6
NT2X10AC	Line Test Unit Analog CP		-	1	15	LO	15.0	6
NT2X10BA	Multi-line Test Unit Analog Card		-	1	15	LO	15.0	6
NT2X11AD	Line Test Unit Digital CP		2	1		RE	9.0	6
NT2X11BA	Line Test Unit Digital CP		2	1		RE	9.0	6
NT3X09AA	4X4 Metallic Test Access CP		1	1			4.0	7
NT3X09BA	8X8 Metallic Test Access CP		1	1			11.5	7

Table 2  
RMM PROVISIONABLE CARDS  
TEST, SERVICE, SCANNER, SIGNAL DISTRIBUTOR CIRCUITS  
AND METALLIC ACCESS CIRCUIT CHARACTERISTICS

NOTES:

a) Table 2 Heading Description And Usage

1. NO CKT: Refers to the Number Of Circuits (NO CKT) per card type.

The Number Of Circuits in a given card is related to the Number Of Trunk Enable Signals/Circuits utilized when the card is installed.

Entries under the NO CKT heading represent assignable circuits and are consistent with the treatment in S/W translations.

Exceptions are stated in the notes and a '-' indicates no assignable circuit. Noted exceptions are the cards which function in pairs.

2. NO SLT: Refers to the Number Of SLoTs (NO SLT) physical card slots required to install the card.
3. LST SLT: Refer to the LaST assignable card SLoT on the RMM, if other than card slot 16 (LST SLT).
4. PRD CRD: Refers to functional pairs or groups (PRD CRD). Table entries are defined as follows:
  - \* 1st character - left/right orientation
  - \* 2nd character - odd/even slot requirement if required
5. PWR DIS: Refers to the maximum power dissipation (PWR DIS) or power consumption (in watts) of the cards. The total 48-volt power consumption of the provisionable packs in the RMM must not exceed 110 watts.
6. RULE: This item references an area where additional information unique to the line item referenced may be found.
  - a) Unless established to the contrary in the notes, each card occupies one physical slot on its assigned shelf and in spare card storage.

b) RMM Notes

- 1) The RMM is designed with an access bus equipped with 30 access points labeled 00 to 29. These access points are call Enable Circuits or Signals. Each RMM card slots accesses the Enable Signals at different starting points along the bus. The slot then has access to a range of other Enable Signals sequentially (See Chart Below):

CARD SLOT	ENABLE CIRCUIT START	ENABLE CIRCUIT RANGE	TOTAL ENABLE CIRCUITS ACCESSABLE
05	00	00-29	30
06	02	02-29	28
07	04	04-29	26
08	06	06-13	8
09	08	08-15	8
10	10	10-17	8
11	12	12-19	8
12	14	14-21	8
13	16	16-23	8
14	18	18-25	8
15	20	20-27	8
16	22	22-29	8

The enable signals on the backplane are arranged to allow 2-circuit cards to be placed in adjacent slots, 4-circuit cards to be placed in alternating slots, and 8-circuit cards to be placed in every fourth slot, etc. CP that use less than the available enables for that slot will access the lowest available enables.

Certain card types, as noted, do not violate the reserved slot requirements of multi-circuit cards. This is usually true of one member of a functional pair.

RULES:

- RUL1 1) The NT2X48AB has four (4) circuits per card. Therefore one (1) adjacent slot to the right must be left vacant for each card assigned. Fitted with a double-width face plate to enforce this requirement.

- 2) When the Emergency Stand Alone (ESA) feature is required (for RMM applications) the last card slot that the NT2X48AB can be assigned to is slot 13.
- RUL2
- 1) Effective on issue 02 of ECM-618 the NT2X90AC is replaced with NT2X90AD for all Canadian and US applications for new jobs.
  - 2) Provide one (1) Incoming/Outgoing Test Trunk CP (NT2X90AC/AD) with an accompanying Balance Network (NT2X77AA) on an "as required" basis. A NT2X90AC/AD must be combined with an LTU on a per circuit basis to provide the talk monitor feature. When connected to circuits terminating outside of the Switching Center, these CPs must be located in even card slot positions.
  - 3) The NT2X90AC/AD is provisioned to support:
    - \* Mechanized Loop Testing (MLT).
    - \* SLC-96 testing in Integrated Carrier Networks (U.S. only)
    - \* All existing test systems.
  - 4) One Balance Network plug-in (daughter board) must be provisioned for each 2-wire trunk circuit on each card (see BALNET field) as follows:
    - a) For H88 loaded cable select Precision Balance Network - H88, NT2X80AA,
    - b) For other loaded or non-loaded arrangements select Compromise Balance Network, NT2X77 as follows:

DISTANCES UP TO	TRUNK IMPEDANCE	
	600 OHM	900 OHM
750 feet	NT2X77AD	NT2X77AC
9000 feet	NT2X77AB	NT2X77AA



c) For International applications, select the following Balanced Networks:

PEC	DESCRIPTION	BAL NET
NT2X81BA NT2X95BA NT2X95BB	2W DCS5A Tie Trunk Direct Dial Inward Trunk JUSMAG 2W 600 ohm DDO Trunk	NT2X77BA
NT5X30BA	Communication Test Trunk	NT2X77BB

- RUL3
- 1) Provide one (1) Scan Point Circuit Pack (NT0X10AA) for every 14 scan points required in a remote office. One NT0X10AA is required in Slot 10 of ALL RMMs provisioned effective on Issue 02 of ECM-618, for the RSC and RSCI. When connected to out of office leads, these CP must be located in even card slot positions. This is due to a risk of voltage breakdown between backplane wiring associated with odd numbered positions.
  - 2) The NT0X10AA is equipped with two (2) circuits per card, each circuit having seven (7) Scanner points for a total of 14 point per cp.
  - 3) The following scanner functional modes are selectable by means of card mounted miniature switches:
    1. loop detector,
    2. ground detector,
    3. battery detector.

- RUL4
- 1) Provide one (1) Signal Distributor (SD) Circuit Pack (NT2X57AA) for every 14 SD points required in a remote office. When connected to out of office leads, these CP must be located in even card slot positions. The Even Numbered Slot Requirement is due to a risk of voltage breakdown between backplane wiring associated with odd numbered positions.
  - 2) The NT2X57AA is equipped with two (2) circuits per card, each circuit having seven (7) SD points for a total of 14 point per cp.

- 3) The following Signal Distributor functional modes are selectable by card mounted switches for each circuit:

- \* Normally open ground operation,
- \* Normally closed ground operation,
- \* Normally open loop operation,
- \* Normally closed loop operation.

RUL5 1) Provide one (1) incoming test trunk (NT3X04AA) for each Automatic Electric CO. local test board interface on an "as required" basis.

RUL6 1) One Line Test Unit (LTU) consists of one (1) NT2X10\_\_ CP and one (1) NT2X11\_\_ CP. The LTU must be installed with the NT2X10 occupying an odd card slot followed by the NT2X11 occupying an even card slot.

- 2) The Circuit number shown in Table E-2 are for the primary RMM interface card of each pair or group (i.e. the card identified in translations). Card pairs are interconnected via the Intercard Bus of the RMM shelf. These pairs can be equipped in slots designated as reserved for multi-circuit cards.

- 3) The NT2X10, NT2X11, pair cannot be provisioned in card slots 13 thru 16 on the RMM shelf. They must be provisioned in slots 3-12 only. This requirement is due to the pair bus for card slots 13 thru 16 having been merged for use with the DRA feature.

- 4) The NT2X10AC and NT2X11AD pair are provisionable on the OPM for U.S. applications only. Valid assignment for this pair on the OPM RMM shelf is card slots 3 and 4 respectively.

RUL7 1) Provide one NT3X09AA in card slot 06 of the RMM shelf mounted on the OPM cabinet for line testing.

- 2) The NT3X09AA shall be mounted in even numbered card slots when its leads are to be cabled outside of the building. This is due to a risk of voltage breakdown between the backplane wiring associated with odd numbered slots.

- 3) When the NT3X09AA is installed on the RSM, it shall be mounted in card slots 8, 10, or 12 as required.

- 4) NT3X09AA is provisioned on the RMM shelf mounted on RLCM/RLCC for Canadian applications only.

- RUL8
- 1) Provide one (1) NT3X09BA for each 4 RLCM/LCM when up to 8 test circuits are required. Each NT3X09BA card is assigned to a column, (0 to 63) and up to eight rows (0 to 7), per column. NT3X09BA is assignable to RLCM/RLCC for U.S. applications only.
  - 2) The NT3X09BA card must be provisioned in an OPM RMM shelf, slot 05, for battery maintenance and diagnostics.
  - 3) To allow the testing of the universal SLC96 subscriber carrier system using a Pair Gain Test Controller (PGTC), the total NT3X09BA multiple cable length must not exceed the figures shown in Table E of CA0X06. Otherwise, an Intermediate Distribution Frame (IDF) (i.e. customer provided) close to the DMS line up will be required.
  - 4) The total multiple cable length is the sum of all multiple cables to the distribution frame, both horizontal and vertical.

The overall MTA circuit distance must be calculated based on the longest metallic path from any PGTC to any universal SLC96 Central Office Terminal Channel Unit (COT CU) in the central office.

The MTA multiple cables can be minimized by placing the TME that house the MTAs close to the cable racks and the MDF as much as possible.

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EMB16

POWER REQUIREMENTS CHAPTER ALL

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POWER REQUIREMENTS CHAPTER ALL

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## POWER REQUIREMENTS CHAPTER ALL

EMB16-02-FFP-1	FILLER PANEL ASSEMBLY A/B	NTZZ13GA
EMB16-02-FP-1	FUSE PANEL "A/B" FEED	NTZZ13FA
EMB16-02-FP-2	A AND B FUSE PANELS	NTZZ13CA
EMB16-02-000	POWER DISTRIBUTION CENTRE	NTZZ13EA
EMB16-02-003	POWER DISTRIBUTION CENTER (CPDC) CABINET	NTZZ47CB
EMB16-02-010	PDC BOTTOM-FEED	NTZZ13UB
EMB16-02-020	PDC TOP-FEED (U.L. LISTED)	NTZZ13RE
EMB16-02-021	PDC TOP-FEED FULLY-EQUIPPED (U.L. LISTED)	NTZZ13TE
EMB16-02-022	PDC BOTTOM-FEED (U.L. LISTED)	NTZZ13VE
EMB16-02-023	PDC BOTTOM-FEED FULLY-EQUIPPED (U.L. LIS	NTZZ13WE
EMB16-02-024	FULLY EQUIPPED TOP OR BOTTOM FEED PDC	NTZZ13GB
EMB16-04-BFK-2	CMIS MSP B-FEED FILTERED BATTERY FILLER	NTZZ45MA
EMB16-04-BFK-3	CMIS MSP B-FEED FILTERED BATTERY FILLER	NTZZ45MM

97/12/09

FILLER PANEL ASSEMBLY A/B

NTZZ13GA

RATING: Standard.

ABBREVIATION NAME: N/A

ENGINEERING DESCRIPTION: Filler Panel Assembly A/B provides the necessary hardware to fill unused "A/B" Feed Fuse Panel positions.

REFERENCE DOCUMENTATION:	SLZZ13GA 00 02
	NTZZ13GA REL 02

The Filler Panel Assembly A/B is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Panel Assembly	NT0X42AD		2	X,X+4		AP

RULES:

AP 1) When PEC NTZZ13GA is ordered, these items are provided.



FUSE PANEL "A/B" FEED

NTZZ13FA

RATING: Standard. For Canadian applications only.

ABBREVIATION NAME: FPA

ENGINEERING DESCRIPTION: From its position on the PDC, the FPA distributes "A" feed power to up to fifteen individually fused loads, and the FPB distributes "B" feed power to up to fifteen individually fused loads. Fuses can be rated at 5, 10, 20, or 30 Amps.

REFERENCE DOCUMENTATION: MSZZ13FA 00 01

SLZZ13FA 00 02

NTZZ13FA REL 02

| MS0X42AA 01 10

The Fuse Panel "A/B" Feed is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Fuse Panel "A" Feed	NT0X42AB		1	X+4		AP
Fuse Panel "B" Feed	NT0X42AC		1	X		AP
Fuse Panel Assy "A" Feed	NT0X4203	FPA	1	X+4		AP-01
Fuse Panel Assy "B" Feed	NT0X4203	FPB	1	X		AP-02
Fuse	AR			X+4	F00-14	RUL1
Fuse	AR			X	F00-14	RUL1
Dummy Fuse	A0205210			X+4	F00-14	RUL2
Dummy Fuse	A0205210			X	F00-14	RUL2

NOTES:

- 1) X in shelf position can be one of 37, 29, 21.
- 2) The CP POS column indicates fuse positions.

RULES:

- AP 1) When PEC NTZZ13FA is ordered, these items are provided.
- AP-01 1) Items marked AP-01 are supplied with NT0X42AB and are listed for sparing purposes.
- AP-02 1) Items marked AP-02 are supplied with NT0X42AC and are listed for sparing purposes.
- RUL1 1) The FPA and FPB can each accommodate up to 15 Fuses.
- 2) Fuses of the following types and ratings may be provided:
  - a) NT0X42AN, Rated at 5 Amps,
  - b) NT0X42AJ, Rated at 10 Amps,
  - c) NT0X42AK, Rated at 20 Amps.
  - d) NT0X42AS, Rated at 30 Amps.
- 3) Provide one NT0X42AN Fuse for each power distribution circuit requiring a 5 A fuse.

- 4) Provide one NT0X42AJ Fuse for each power distribution circuit requiring a 10 A fuse.
  - 5) Provide one NT0X42AK Fuse for each power distribution circuit requiring a 20 A fuse.
  - 6) Provide one NT0X42AS Fuse for each power distribution circuit requiring a 30 A fuse.
- RUL2
- 1) Provide 1 Dummy Fuse A0205210 for each fuse position 00 to 14 which is not equipped with a fuse.
  - 2) If the LCE has no ringing generators and the absent ringing generators were not cabled to the PDC, then at the PDC, fuse positions must be reserved for the absent ringing generators. This applies to the absent second LCM/LGC/DTC/LTC on the LCE/LGE/DTE/LTE frame.

A AND B FUSE PANELS

NTZZ13CA

RATING: Standard. For U.S. applications only.

ABBREVIATION NAME: PDC

ENGINEERING DESCRIPTION: Each Fuse Panel "A" (FPA) and Fuse Panel "B" (FPB) will accommodate 30 additional fuses per office requirements (i.e. 15 fuses for FPA and 15 fuses for FPB).

REFERENCE DOCUMENTATION: SLZZ13CA 00 01  
NTZZ13CA REL 01

The A and B Fuse Panels is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Fuse Panel "A" Feed	NT0X42UB	FPA	1	X+4		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	X		AP

RULES:

- AP 1) When PEC NTZZ13CA is ordered, these items are provided.
- 3) X can be shelf position 37,29, or 21.

## POWER DISTRIBUTION CENTRE

PEC CODE: NTZZ13EA

CPC CODE: B0232124

RATING: Standard. For International applications only.

REPLACES: N/A

REPLACED BY: N/A

ABBREVIATION NAME: PDC

ENGINEERING DESCRIPTION: The PDC frame houses equipment required to interface between the -48V office batteries and up to 150 individual loads within the DMS system. The PDC frame can house a maximum of ten fuse distribution panels each of which distributes power to up to fifteen individual fused loads.

REFERENCE DOCUMENTATION: SLZZ13EA 00 03  
NTZZ13EA REL 02

MARKETS: Applicable markets:

Canada  
Asia/Pacific

ISSUE AUTHOR: NTI: Mark Sorrell Dept. 3471 (PPK)

MAIN CONTACT: NTI: Mark Sorrell Dept. 3471 (PPK)

NTZZ13EA EMB16-02-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
92 11 20	ECM 631 06	EC #018-39307 - Replace NT0X25AV with NT0X25AH. Change status of NT0X25AV to A&M.
93 02 19	ECM 631 08	1) ECD 006-16761 - Power ABS fuse from 'A' Feed Fuse Distribution Panel in NT0X42AA/BA/UA.
93 08 10	ECM 631 10	1) PRT 192010 - Provide loose wire for loose shipped NTZZ13FA panels.
93 11 30	ECM 631 12	2) ECD 006-17545 - Introduce NT0X42XC. 1) Change the title of NT0X25AH to "Universal Framework".
95 01 16	ECM 631 16	Add wire for fuse panel extensions.
95 03 16	ECM 690 06	Added ABS Power Cable and Fuse for clarification, they have always been on SLOX42AA and explained in Note 8. Added NTN2656 removal reference to NT0X42XC for clarification - reference has always been in PCOX42XC.
95 05 30	ECM 631 20	Change status of NT0X42AH from AP to provisionable.
96 06 03	ECM 631 29	Include NT0X42XA and NT0X42XB in NTZZ13EA per SR RR63575.
97 06 27	ECM 631 31	Per SR RR73998 add mounting position to filler panel in NTZZ13EA .

The Power Distribution Centre is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Framework	NT0X25AH	FW	1			AP
Power Distribution Centre Fr	NT0X42AA		1			AP
Ground Panel - Top Feed	NT0X42UE		1	68		AP
Fuse Panel "A" Feed	NT0X42AB	FPA	1	62		AP-01
Fuse Panel "B" Feed	NT0X42AC	FPB	1	58		AP-01
Fuse Panel "A" Feed	NT0X42AB	FPA	1	54		AP-01
Power Cable Assembly	NTNX2656		1	54		AP-01
20A Power Distribution Fuse	NT0X42AK		1	54	F14	AP-01
Fuse Panel "B" Feed	NT0X42AC	FPB	1	50		AP-01
Frame Supervisory Panel	NT0X40AB	FSP	1	45		AP-01
Fuse Panel "A/B" Feed	NTZZ13FA			37, 29, 21		RUL1
Black Wire 22 Gauge	R0108329					RUL1
ISDN Fuse Panel Assy	NT0X42AU			21, 29		RUL2
Filter Panel	NT0X42AG		1	16		AP-01
10 Amp Fuse	A0286407		1	16		AP
1 1/3 amp fuse	A0205202		1	16		AP
Cable Assembly	NT0X4204		2	68		AP
Cable Assembly	NT0X4208		2	68		AP
Filler Panel	NT0X42AH		1	05		RUL4
Filler Panel Assembly A/B	NTZZ13GA			37, 29, 21		RUL3
ISG/EMI Logical Return Equalizer Busbar Assembly	NT0X42AT			05		RUL4
ISG Auxiliary Battery Return Panel Kit	NT0X42XA			05		RUL4
Non-ISG Auxiliary Battery Return Panel Kit	NT0X42XB			05		RUL4
Enhanced Alarm Service Upgrade Kit	NT0X42XC			45R		RUL5



EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The feeders to the PDC from the office battery splice plate and the returns to the office return splice plate, consist of two separate sets of cables. One set is designated Feeder-A and Return-A and the other set, Feeder-B and Return-B.
- 2) The total DC distribution capability of a PDC is 800 Amperes, 400A on Feeder-A and 400A on Feeder-B. The two feeder cables from the office battery to each PDC are fused in the power room at 600A maximum. If the actual feeder demand current is less than 400A, the value of the fuse should be selected to be as close to 1.5 times the actual current as possible, consistent with mechanical compatibility of the fuse- holder. The feeder fuse capability should be increased proportionally as the office expansion occurs.
- 3) Depending on PDC distribution capability, one PDC can be shared by multiple (normally a maximum of three) line-ups. Cross-aisle power cable runs, when necessary, are limited to one cable tray.

RULES:

- AP 1) When PEC NTZZ13EA is ordered, these items are provided.
- AP-01 1) Items marked AP-01 are supplied with NT0X42AA and are listed for sparing purposes.

- 2) The PDC comes equipped with two Fuse Panels "A" Feed (FPA), pos 62 and 54, and two Fuse Panels "B" Feed, pos 58 and 50; a Filter Panel NT0X42AG at position 16; and a Top Feed Ground Panel NT0X42UE at position 68.
- 3) The PDC will accommodate an initial sixty (60) fuses without the addition of extra fuse panels.
- 4) Equip the FPA and FPB per MS0X42AB and MS0X42AC respectively.
- 5) The maximum current drain per power feed (A/B) per PDC frame is 400 amps, calculated based on the sum of the maximum steady state load of the individual equipment being fed.
- 6) The loads on the two feeds should be as equal as possible.
- 7) Provide one spare 10 amp fuse, A0286407, and one spare QFF1A 1 1/3 amp fuse, A0205202, per filter panel, NT0X42AG.
- 8) The PDC supplies Alarm Battery Supply (ABS) to the PDC FSP through a 20 Amp (NT0X42AK) Fuse located at the fuse position F14 at a 'A' Feed Fuse Distribution Panel NT0X42AB at shelf position 54. This NT0X42AK fuse is designated as 'ABS Alarm'. A cable NTNX2656 provides the connection from the ABS Fuse post (top) of the FSP to the F14 on shelf position 54. For field upgrades, this fuse position (F14 at shelf position 54) should be the first choice for the ABS Alarm Fuse. If this fuse position in which case is already utilized, another 20 Amp 'A' feed fuse should be made available as the ABS Alarm fuse. This change is to be applied on all existing PDC frames on a next time in basis and will be controlled by Customer Service Operations (CSO). Refer to RUL5 for the Enhanced Alarm Service (EAS) option.

- RUL1
- 1) Provide one NTZZ13FA Fuse Panel "A/B" Feed to accommodate each additional thirty (30) fuses or part thereof.
  - 2) Equip per NTZZ13FA.
  - 3) Locate additional panels in sequence: position 37, 29, then 21.
  - 4) For each NTZZ13FA Fuse Panel "A/B" Feed shipped loose to site for extensions, provide 24ft of R0108329, 22 gauge black wire (not stranded), to loop alarm and ground source for alarms.

- RUL2
- 1) Provide one (1) NT0X42AU when up to 6 Fuses (3A and 3B Feed) with a fuse capacity of 35 to 60 amp are required.
  - 2) The first Fuse Panel must be provided in position 21.
  - 3) The initial application of NT0X42AU is to power the access/resource module of the Digital Packet Network in a DMS-100 ISDN office.

- RUL3
- 1) Provide one NTZZ13GA Filler Panel A/B Assy in each position 37, 29, 21, which is not to be equipped with a Fuse Panel A/B.

RUL4 1) Provide one (1) NT0X42AT Logic Return Equalizer Busbar Assembly if the office is to be equipped with Isolated System Grounding and EMI protection for PDC 00.

- 2) ISG Offices: Provide one (1) NT0X42XA ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NT0X42XA Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.
- 3) ISG EMI Offices: Do not provide a NT0X42XA or NT0X42XB Kit for PDC 00.
- 4) Non-ISG Offices: Provide one (1) NT0X42XB non-ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NT0X42XB Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.
- 5) Provide one (1) Filler Panel, NT0X42AH for position 5 if not equipped with a NT0X42AT Logic Return Equalizer Busbar Assembly.

RUL5 1) When Enhanced Alarm Service and Catastrophic Power Loss Alarms are required, provide one (1) Enhanced Alarm Service Upgrade Kit NT0X42XC mounted at the rear of NT0X40AB FSP. The Enhanced Alarm Service Upgrade Kit

NT0X42XC provides "ABS" directly from a 20Amp Power Plant feed and also provides catastrophic power loss alarms.

- 2) The NT0X42XC Kit connector P1 Term A is powered via the 'A' feed 5 Amp fuse F13 at shelf position 54, and connector P2 Term A is powered via the 'B' feed 5 Amp fuse F13 at shelf position 50. For field upgrades, the above listed fuse positions are the first choice, and if not possible, the connector P1 Term A should be powered via any available 'A' feed fuse and the connector P2 Term A should be powered via any available 'B' feed fuse.
- 3) When the NT0X42XC Kit is provided, the 20 Amp ABS Alarm fuse F14 at shelf position 54, NTN2656 Power Cable Assembly, and the 'ABS Alarm' label are no longer necessary and should be removed.

POWER DISTRIBUTION CENTER (CPDC)  
CABINET MODEL B

PEC CODE: NTZZ47CB  
CPC CODE: B0240383  
RATING: Standard.  
REPLACES: NTZZ47CA  
REPLACED BY: Not Applicable.  
ABBREVIATION NAME: CPDC

ENGINEERING DESCRIPTION: The CPDC Model B is a Cabinetized Power Distribution Center (CPDC). Because the CPDC is not an EMI generator, EMI shielding is not required. The CPDC is capable of mounting one (1) to four (4) Circuit Breaker (CB) Panels.

The panels are powered in the Single Feed Configuration i.e. two (2) -48V inputs (A and B feeds) from the Central Office Power Plant are fed to all installed CB Panels. In this configuration, the Power Plant feeds to the CPDC are fused at 600 amps at the Power Plant. Each feed may be loaded to a maximum of 400 amps.

REFERENCE DOCUMENTATION: ADRX31CA 00 07  
ISRX31CA 00 02  
MSRX31CA 00 07  
SLRX31CA 00 05  
SLZZ47CA 00 01

MARKETS: Applicable markets:  
US  
Canada  
CALA  
Europe  
Asia/Pacific

ISSUE AUTHOR: NTI: Bonnie Temple Dept. 3471(PPK)

MAIN CONTACT: NTI: Bonnie Temple Dept. 3471 (PPK)

NTZZ47CB EMB16-02-003 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
94 03 11	ECM 683 03	Initial introduction.
94 08 04	ECM 683 07	Incorporating ET 45573 Introduce inverter filler kit. Add external boots and change cable lugs. Remove Cover Top-Kit.
94 09 02	ECM 683 08	Correct provisioning rule 2 and update equipment list.
94 11 17	ECM 631 15	Correct provisioning rules 2 and 3. Change cable lugs and add screws for dual connections. Remove cable boots. Resolved ETs 20199, 20209, 59933.
95 03 10	ECM 631 18	Introduce a new inverter per EC 006-21505, resolve ET 65113 by clarifying RUL3.
96 03 11	ECM 631 26	Close SR RR60513 by adding NTRX2572 Spare Fuse Holder per EC024-93936. Also remove NTRX55BC & BD Cable troughs. Cable troughs found in NTRX25AA.
97 06 27	ECM 631 31	Per SR RR74324 correct product description in NTZZ47CB. Per SR RR75843 add additional information to Rule 3 in NTZZ47CB.
97 10 08	ECM 631 32	Add comment to rule 2 per EC 024-98619 to restrict the assignment of the circuit breaker panels in descending order only from the top of the cabinet to the bottom of the cabinet.

The Power Distribution Center (CPDC) Cabinet Model B is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Cab. Power Distrib. Center	NTRX31CA		1			AP
Cabinet Assembly	NTRX25AA		1			AP-01
CPDC MSP Kit	NTRX3135		1	62		AP
Modular Supervisory Panel	NTRX40AA	MSP		62		AP-02
Quad Blank Panel 4.80"	P0734474		1	62	1-4	AP-02
Quad Blank Panel 4.80"	P0734474		1	62	1R-4R	AP-02
Alarm Module	NTRX41AA		1	62	5-6	AP-02
Alarm Backpanel	NTRX4002		1	62	5R-6R	AP-02
Power Alarm Module	NTRX41BA		1	62	7-8	AP-02
Power Alarm Backpanel	NTRX4105		1	62	7R-8R	AP-02
Single Blank Panel 1.20"	P0734476		1	62	9	AP-02
Spare Fuse Holder	NTRX2572		1	62	10	AP-02
Blank Rear Panel 4.80"	P0734475		1	62	11,12	AP-02
Single Blank Panel 1.20"	P0734476		1	62	9R	AP-02
ABS Module	NTRX41EA		1	62	10R-11R	AP-02
Single Blank Panel 1.20"	P0734476		1	62	12R	AP-02
Fuse Module	NTRX43AA		1	62	13	AP-02
Circuit Breaker Module	NTRX42AA		1	62	14	AP-02
EAS Alarm Card Kit	NTRX41DA			62	15	RUL1
EAS Alarm Cable Assy	NTRX3137			62	15	RUL1
Single Blank Panel 1.20"	P0734476			62	15,15R	RUL1
Mounting Screw No. 6	P0559409			62	15,15R	RUL1
Quad Blank Panel 4.80"	P0734474		1	62	16-19	AP-02
Quad Blank Panel 4.80"	P0734474		1	62	16R-19R	AP-02
Single Blank Panel 1.20"	P0734476		1	62	20	AP-02
Single Blank Panel 1.20"	P0734476		1	62	20R	AP-02
CB Shelf Assy (30A)	NTRX02CA			49,35,		RUL2
				22,8		
CB Shelf Assy(S/DMS)	NTRX02CD			49,35,		RUL2
				22,8		
CB Shelf Filler Panel	P0737710			49,35,		RUL2
				22,8		
Cable 10-14 Gauge (Lug)	A0386311					RUL2
Cable 8 Gauge (Lug)	A0614961					RUL2
Cable 6 Gauge (Lug)	A0614959					RUL2



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Cabinet Busbar Assembly	NTRX31CW			13		RUL3
Hex Head Cap Screws	P0210741			13		RUL3
Shelf Busbar Kit	NTRX0232			49,35, 22,8		RUL3
Shelf End Busbar Insulators	NTRX31CQ			49,35, 22,8		RUL3
#LaMarche Inverter Kit	NTRX31CJ			00		RUL4
Inverter	NTRX31DH			00		RUL4
Inverter Hardware Kit	NTRX31DJ			00		RUL4
Inverter Filler Kit	NTRX31CY			07		RUL4
7" Filler Panel	P0737723			01		RUL4
Cover, Bottom-Kit	NTRX3134			BASE		RUL5
ESD Label Kit (English)	NTRX3541			62-TOP		RUL7
ISG Cabinet Label	P0741854			49		RUL7
CPDC LABELS -CLCE CAB MOD B	P0743866			A/R		RUL8
CPDC LABELS -CLGE CAB MOD B	P0743868			A/R		RUL8
CPDC LABELS -CMIS CAB MOD B	P0743869			A/R		RUL8
CPDC LABELS -CTME CAB MOD B	P0743871			A/R		RUL8
CPDC LABELS -CLMI CAB MOD B	P0743873			A/R		RUL8
CPDC LABELS -CIPE CAB MOD B	P0743876			A/R		RUL8
CPDC LABELS -CDSN CAB MOD B	P0743877			A/R		RUL8
CPDC LABELS -CIOE CAB MOD B	P0743879			A/R		RUL8
CPDC LABELS -CDTE CAB MOD B	P0743880			A/R		RUL8
CPDC LABELS -CLTE CAB MOD B	P0743889			A/R		RUL8
CPDC LABELS -CSME CAB MOD B	P0743890			A/R		RUL8
C28 Cabinet Mechanicals	NTRX25AA					NOTE1
Cabinet Power and Grounding	NTZX16CA					NOTE2
Door and eqp labels	MS0X60AA					NOTE3

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTRX31CJ	MD	NTRX31DH & NTRX31DJ

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The NTZZ47CB has system level provisionable items covering the following:
  - \* Seismic Zone provisioning
  - \* Grounding options provisioning
  - \* Cable routing options provisioning
  - \* Cabinet Fail Lamp provisioning
  - \* Cabinet door provisioning

For details of the above refer to Engineering Manual Section NTRX25AA, C28 Cabinet Mechanical Assembly.
- 2) For power and grounding information refer to Engineering Manual Section for NTZX16CA Cabinetized Power and Grounding.
- 3) Refer to MS0X60AA for equipment labeling.
- 4) Single Feed Configuration: This is defined as having a single A & B Power feed from the power plant to the CPDC and then distributing the power to each cabinet. In this configuration, the maximum capacity for the CPDC is 400 Amp per feed. The 'A' and 'B' feed from the Power Plant to the CPDC must be protected with 170Vdc, 600 amp maximum fuses.

Use the bussman type fuses (TPL, TPN, or equivalent), or an equivalent circuit breakers at the supply source.

- 5) Fuses for the Modular Supervisory Panel are part of the NTRX3135 CPDC MSP Kit and are to be applied per the following table:

FUSE NO	AMPS	FUSE CPC	DESIGNATION DISKS	
			COLOR	CPC
F01	0.75	A0205209	BROWN	P097P242
F02	0.75	A0205209	BROWN	P097P242
F03	0.75	A0205209	BROWN	P097P242
F04	0.75	A0205209	BROWN	P097P242
F05	0.75	A0205209	BROWN	P097P242
F06	SPARE	A0205210	---	----
F07	SPARE	A0205210	---	----
F08	SPARE	A0205210	---	----

- 6) CPDC Secondary Power Distribution requirements to other cabinets are as follows:

FRAME	PEC	FROM SIGNAL(Qty)	CPDC	PROT(SP)	TO SHELF POSITION
CCPE	NTRX36AA	BAT A(1)	30A CB	10A CB	05
				10A CB	33
	BR B(1)	----	1 1/3A F	CU	
					05,33 CU
		BAT B(1)	30A CB	10A CB	19
				10A CB	47
		BR B (1)		1 1/3A F	CU
					19,47 CU
	NTRX36AB	BAT A(2)	30A CB	15A CB	05
				15A CB	33
				3A FUSE	CU

		BR B(2)	----		05,33 CU
		BAT B(2)	30A CB	15A CB 15A CB 3A FUSE	19 47 CU
		BR B(2)	----		19,47 CU
CDSN	NTRX35AA	BAT A(2)	30A CB	10A CB 10A CB 3A FUSE	33 47 CU
		BR A(2)	----		33,47 CU
		BAT B(2)	30A CB	10A CB 10A CB 3A FUSE	05 19 CU
		BR B (2)	----		05,19 CU
CIOE	NTRX33AA	BAT A(2)	30A CB	10A CB 10A CB 3A FUSE	05 19 CU
		BR A(2)	----		05,19 CU
		BAT B(2)	30A CB	10A CB 10A CB 3A FUSE	05 19 CU
		BR B (2)	----		05,19 CU

FRAME	PEC	FROM SIGNAL(Qty)	CPDC	PROT(SP)	TO SHELF POSITION
CLCE	NTRX30AA	BAT A(2)	30A CB	? ? 10A CB 10A CB 1 1/3A F	05 33 33 47 CU
		BR A(2)	----	-----	05,33,47 CU
		BAT B(2)	30A CB	10A CB 10A CB ? ? 1 1/3A F	05 19 19 47 CU
		BR B(2)	----	-----	05,33,47 CU
CMS7	NTRX48AA	BAT A(2)	30A CB	10A CB 10A CB 10A CB 10A CB	05 05 33 47

	BR A(2)	----	3A FUSE	CU
			-----	05,33,47 CU
	BAT B(2)	30A CB	10A CB	19
			10A CB	19
			10A CB	33
			10A CB	47
			3A FUSE	CU
	BR B(2)	----	-----	05,33,47 CU

7) CPDC Restrictions

- \* 3/4 Amp fuses must be used in the MSP Fuse Module in the top five (5) positions.
- \* All (A) & (B) Feeds from equipment cabinets to CPDC Circuit Breakers (CBs) shall:
  - Be run with 10 AWG Stranded Cable standard.
  - Current drain shall not exceed 17 Amps at 50 Volts
  - When using 10 AWG Stranded Cable, the one way cable length shall not exceed 37 Feet.
  - For higher current loads or greater cable lengths greater than 37 ft use either 6 or 8 AWG Stranded Cable.
  - When 6 or 8 AWG Cable is required, ensure that the one way cable length and wire gauge selected are engineered such that the total voltage drop is less than a One (1) Volt. Note that when 6 or 8 AWG cable is used cable congestion physically reduces the CPDCs capability to below its full electrical capacity.

RULES:

- AP 1) When PEC NTZZ47CB is ordered, these items are provided.
- AP-01 1) Equipment always provided when PEC NTRX31CA is provided.
- AP-02 1) Equipment always provided when PEC NTRX3135 is provided.

- RUL1 1) Provide one (1) NTRX41DA EAS Alarm Card Kit in Slot 15 if the Enhanced Alarm System (EAS) is required. This item fills up both Slot 15 and 15R of the MSP. Also, provide one (1) NTRX3137 EAS Alarm Cable Assembly for Slot 15.
- 2) Provision one (1) P0734476 Single Blank Panel 1.20" and two (2) P0559409 Mounting Screw No. 6 per unequipped slot (Slot 15 and 15R) if the EAS Alarm Card Kit is not provided.
- RUL2 1) Provision the NTRX02CA CB Shelf Assy starting from shelf position 49, assigning in descending order(top of cabinet to bottom), then shelves 35, 22, & 8, - as needed when cabinet is to supply power to a NT-40 based system or any lineup which does not contain a C42 Type Cabinet (i.e. Supernode, LPP, ENET).
- 2) Provision the NTRX02CD CB Shelf Assy starting from shelf position 49, assigning in descending order(top of cabinet to bottom), then shelves 35, 22, & 8 - as needed when cabinet is to supply power to a C42 Type Cabinet(i.e. SuperNode, LPP, ENET).
- 3) There are no CB panels available that provide appropriate protection for products packaged in NT9X0101 42-inch SuperNode style cabinets.
- 4) Protection capabilities for the two provisionable breaker panel assy are as follows:

NTRX02CA	RATING	NTRX02CD	RATING
CB00A-CB19A	30A,65VDC	CB00A-CB15A	30A,65VDC
CB00B-CB19B	30A,65VDC	CB00B-CB15B	30A,65VDC
		CB16A-CB19A	10A,65VDC
		CB16B-CB19B	10A,65VDC

Use the following table to match the power requirements with the above breaker panels:

CABINET CONFIGURATION	CURRENT REQUIRED	
	10 AMP	30 AMP
SUPERNODE, LPP (SDMS)	1A,1B	4A,4B
ENET PLANE 0 (SDMS)	2A	8A
ENET PLANE 1 (SDMS)	2B	8B

- 5) The breakers are to be populated in ascending numerical order with the following exceptions:

BREAKER	SHELF	REMARKS
CB00A,CB00B	49	RESERVED FILTER CAPACITORS
CB01A	49	RESERVED EAS ALARM A OPTION
CB01B	49	RESERVED EAS ALARM B OPTION
CB02A	49	RESERVED ABS POWER OPTION
CB02B	49	RESERVED LaMARCHE INVERTER OPT.
CB16A-CB19A	49	USED SDMS ASSIGNMENT (Note 1)
CB16B-CB19B	49	USED SDMS ASSIGNMENT (Note 1)
CB00A,CB00B	35,22,8	RESERVED FILTER CAPACITORS
CB16A-CB19A	35,22,8	USED SDMS ASSIGNMENT (Note 1)
CB16B-CB19B	35,22,8	USED SDMS ASSIGNMENT (Note 1)
<p>Note 1 - ONLY if the shelf in 49,35,22,8 is a NTRX02CD CB Shelf Assy (S/DMS).</p>		

- 6) Provision a sufficient quantity of two hole lugs for termination CPDC power cables as follows (See CA-Drawing for cable Designations):

CABLE AWG	Required Lugs (2-Lugs Per Breaker)
10-14	A0386311
8	A0614961
6	A0614959

- 7) Provide one (1) P0737710 to provide a filler panel in shelf positions 49, 35, 22, or 8 when a CB Shelf Assembly is not provided.

- RUL3 1) Provide one (1) NTRX31CW Cabinet Busbar Set, which requires an A and B power feed, to power one (1) to four (4) CB Shelves. This equipment is assigned miscellaneously to the cabinet.

Provide four (4) P0210741 Hex Head Cap Screws if dual connections to the busbar system are required.

- 2) Provision one (1) NTRX0232 Shelf Busbar Kit per each CB Shelf. Kit provides three (3) busbars and hardware for connecting CB Shelf and busbar system.
- 3) Provision NTRX31CQ Shelf End Busbar Insulator Kit to cover the end of unused busbars if the total quantity of CB Panels provided in a given CPDC is less than four (4), per the following:
  - \* Provision 3 kits if a single CB Shelf is provided.
  - \* Provision 2 kits if 2 CB Shelves are provided.
  - \* Provision 1 kits if 3 CB Shelves are provided.

Kit provides 3 insulators to cover unused CB Shelf end and unused Splice ends of busbars.

RUL4 1) Provision both the inverter, inverter hardware kit, and inverter filler kit when End Aisle A/C is a customer requirement. The inverter hardware kit includes 120Vac cables and conduit assembly and is only available for -48Vdc to 120Vac applications.

2) Provision one (1) P0737723 (7" Filler Plate) in shelf position 01 when End Aisle A/C is not a customer requirement in -48Vdc to 120Vac systems.

RUL5 1) Provide one (1) Cover Bottom-Kit to cover the bottom opening in the cabinet when the CPDC is used in Top Feed applications. If the CPDC is used in Bottom Feed applications, no cover is required.

RUL6 1) Reserved for Future use.

RUL7 1) Provide labels per this rule for all North American Applications.

2) Affix the NTRX3541 label to the MSP.

3) Affix the P0741854 label to the right side of the top CB Panel to identify the Grounding Method used.

RUL8 1) Provide CPDC labels for cabinet and shelves Functional Name per the following chart:

EXISTING MODEL A LABELS	NEW MODEL B LABELS
-------------------------	--------------------

Active Equipment  
Power Distribution Center (CPDC)  
Cabinet Model B

NTZZ47CB  
EMB16-02-003  
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PEC	DESCRIPTION	QTY PER CABINET		QT CA
P0732576	CPDC LABELS - CDSN	1/10	P0743877	1
P0732578	CPDC LABELS - CDTE	1/10	P0743880	1
P0732579	CPDC LABELS - CIOE	1/10	P0743879	1
P0732582	CPDC LABELS - CLCE	1/10	P0743866	1
P0732584	CPDC LABELS - CLGE	1/10	P0743868	1
P0732585	CPDC LABELS - LIM	1/10	USE AS IS, NO CHANGE	1
P0732586	CPDC LABELS - CLTE	1/10	P0743889	1
P0732587	CPDC LABELS - CMIS	1/10	P0743869	1
P0732588	CPDC LABELS - CSME	1/10	P0743890	1
P0732589	CPDC LABELS - CTME	1/10	P0743871	1
P0732590	CPDC LABELS - DPCC	1/10	USE AS IS, NO CHANGE	1
P0734157	CPDC LABELS - MISC	1/10	USE AS IS, NO CHANGE	1
P0734158	CPDC LABELS - SCE	1/10	OBSOLETE PRODUCT, NC	1
P0734159	CPDC LABELS - CLMI	1/10	P0743873	1
P0734160	CPDC LABELS - CIPE	1/10	P0743876	1
P0734161	CPDC LABELS - CIDC	1/10	USE AS IS, NO CHANGE	1
P0734162	CPDC LABELS - CMS7	1/10	USE AS IS, NO CHANGE	1
P0734163	CPDC LABELS - CEXT	1/10	NA*	1
P0734164	CPDC LABELS - CRSC	1/10	NA*	1

Note: 1/10 = 1 Label PEC per 10 Cabinets provisioned.

- 2) Provide CPDC labels for cabinet discrimination numbers per the following chart:

P0732553	000	P0732563	011-015
P0732555	001	P0732564	016-020
P0732557	002	P0732565	021-030
P0732559	003	P0732566	031-040
P0732560	004	P0732567	041-050
P0732561	005	P0732570	051-075
P0732562	006-010	P0732572	076-100

PDC BOTTOM-FEED

PEC CODE: NTZZ13UB  
 CPC CODE: B0240250  
 RATING: Standard  
 REPLACES: NTZZ13UA  
 REPLACED BY: Not Applicable.  
 ABBREVIATION NAME: PDC

ENGINEERING DESCRIPTION: The PDC frame houses equipment required to interface between the -48V office batteries and up to 150 individual loads within the DMS system. The PDC frame can house a maximum of ten fuse distribution panels each of which distributes power to up to fifteen individual fused loads. Power feeder cables enter from the bottom of the frame. This is for Non EMI and Non ISG.

REFERENCE DOCUMENTATION: SLZZ13UB 00 01  
 NTZZ13UB REL 01

MARKETS: Applicable markets:  
 Europe  
 Asia/Pacific

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTC: Lily Ahluwalia Dept. 3471 (PPK)

NTZZ13UB EMB16-02-010 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 11 30	ECM 631 12	Initial introduction.
95 01 16	ECM 631 16	Add wire for fuse panel extensions.
95 03 16	ECM 690 06	Added ABS Power Cable and Fuse for clarification, they have always been on SLOX42AA and explained in Note 8. Added NTNX2656 removal reference to NTOX42XC for clarification - reference has always been in PCOX42XC.

The PDC Bottom-Feed is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Framework	NT0X25AH	FW	1			AP
Power Distribution Centre Fr	NT0X42AA		1			AP
Ground Panel - Bottom Feed	NT0X42UF		1	05		AP
Fuse Panel "A" Feed	NT0X42AB	FPA	1	62		AP-01
Fuse Panel "B" Feed	NT0X42AC	FPB	1	58		AP-01
Fuse Panel "A" Feed	NT0X42AB	FPA	1	54		AP-01
Power Cable Assembly	NTNX2656		1	54		AP-01
20A Power Distribution Fuse	NT0X42AK		1	54	F14	AP-01
Fuse Panel "B" Feed	NT0X42AC	FPB	1	50		AP-01
Frame Supervisory Panel	NT0X40AB	FSP	1	45		AP-01
Fuse Panel "A/B" Feed	NTZZ13FA			37,29, 21		RUL1
Black Wire 22 Gauge	R0108329					RUL1
ISDN Fuse Panel Assy	NT0X42AU			21,29		RUL2
Filter Panel	NT0X42AG		1	16		AP-01
10 Amp Fuse	A0286407		1	16		AP
1 1/3 amp fuse	A0205202		1	16		AP
Filler Panel	NT0X42AH		1	68		AP
Filler Panel Assembly A/B	NTZZ13GA			37,29, 21		RUL3
Cable Assembly	NT0X4206		2	05		AP
Cable Assembly	NT0X95BU		2	05		AP
Enhanced Alarm Service Upgrade Kit	NT0X42XC			45R		RUL4

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The feeders to the PDC from the office battery splice plate and the returns to the office return splice plate, consist of two separate sets of cables. One set is designated Feeder-A and Return-A and the other set, Feeder-B and Return-B.
- 2) The total DC distribution capability of a PDC is 800 Amperes, 400A on Feeder-A and 400A on Feeder-B. The two feeder cables from the office battery to each PDC are fused in the power room at 600A maximum. If the actual feeder demand current is less than 400A, the value of the fuse should be selected to be as close to 1.5 times the actual current as possible, consistent with mechanical compatibility of the fuse- holder. The feeder fuse capability should be increased proportionally as the office expansion occurs.
- 3) Depending on PDC distribution capability, one PDC can be shared by multiple (normally a maximum of three) line-ups. Cross-aisle power cable runs, when necessary, are limited to one cable tray.

RULES:

- AP 1) When PEC NTZZ13UB is ordered, these items are provided.
- AP-01 1) Items marked AP-01 are supplied with NT0X42AA and are listed for sparing purposes.

- 2) The PDC comes equipped with two Fuse Panels "A" Feed (FPA), pos 62 and 54, and two Fuse Panels "B" Feed, pos 58 and 50; a Filter Panel NT0X42AG at position 16; and a Top Feed Ground Panel NT0X42UE at position 68.
- 3) The PDC will accommodate an initial sixty (60) fuses without the addition of extra fuse panels.
- 4) Equip the FPA and FPB per MS0X42AB and MS0X42AC respectively.
- 5) The maximum current drain per power feed (A/B) per PDC frame is 400 amps, calculated based on the sum of the maximum steady state load of the individual equipment being fed.
- 6) The loads on the two feeds should be as equal as possible.
- 7) Provide one spare 10 amp fuse, A0286407, and one spare QFF1A 1 1/3 amp fuse, A0205202, per filter panel, NT0X42AG.
- 8) The PDC supplies Alarm Battery Supply (ABS) to the PDC FSP through a 20 Amp (NT0X42AK) Fuse located at the fuse position F14 at a 'A' Feed Fuse Distribution Panel NT0X42AB at shelf position 54. This NT0X42AK fuse is designated as 'ABS Alarm'. A cable NTNX2656 provides the connection from the ABS Fuse post (top) of the FSP to the F14 on shelf position 54. For field upgrades, this fuse position (F14 at shelf position 54) should be the first choice for the ABS Alarm Fuse. If this fuse position in which case is already utilized, another 20 Amp 'A' feed fuse should be made available as the ABS Alarm fuse. This change is to be applied on all existing PDC frames on a next time in basis and will be controlled by Customer Service Operations (CSO). Refer to RUL4 for the Enhanced Alarm Service (EAS) option.

- RUL1
- 1) Provide one NTZZ13FA Fuse Panel "A/B" Feed to accommodate each additional thirty (30) fuses or part thereof.
  - 2) Equip per MSNTZZ13FA.
  - 3) Locate additional panels in sequence: position 37, 29, then 21.
  - 4) For each NTZZ13FA Fuse Panel "A/B" Feed shipped loose to site for extensions, provide 24ft of R0108329, 22 gauge black wire (not stranded), to loop alarm and ground source for alarms.

- RUL2 1) Provide one (1) NT0X42AU when up to 6 Fuses (3A and 3B Feed) with a fuse capacity of 35 to 60 amp are required.
- 2) The first Fuse Panel must be provided in position 21.
- 3) The initial application of NT0X42AU is to power the access/resource module of the Digital Packet Network in a DMS-100 ISDN office.
- RUL3 1) Provide one NTZZ13GA Filler Panel A/B Assy in each position 37, 29, 21, which is not to be equipped with a Fuse Panel A/B.
- RUL4 1) When Enhanced Alarm Service and Catastrophic Power Loss Alarms are required, provide one (1) Enhanced Alarm Service Upgrade Kit NT0X42XC mounted at the rear of NT0X40AB FSP. The Enhanced Alarm Service Upgrade Kit NT0X42XC provides "ABS" directly from a 20Amp Power Plant feed and also provides catastrophic power loss alarms.
- 2) The NT0X42XC Kit connector P1 Term A is powered via the 'A' feed 5 Amp fuse F13 at shelf position 54, and connector P2 Term A is powered via the 'B' feed 5 Amp fuse F13 at shelf position 50. For field upgrades, the above listed fuse positions are the first choice, and if not possible, the connector P1 Term A should be powered via any available 'A' feed fuse and the connector P2 Term A should be powered via any available 'B' feed fuse.
- 3) When the NT0X42XC Kit is provided, the 20 Amp ABS Alarm fuse F14 at shelf position 54, NTN2656 Power Cable Assembly, and the 'ABS Alarm' label are no longer necessary and should be removed.





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## PDC TOP-FEED (U.L. LISTED)

PEC CODE: NTZZ13RE

CPC CODE: B0244023

RATING: Standard

REPLACES: NTZZ13RA, NTZZ13RB, NTZZ13RC, NTZZ13RD

REPLACED BY: Not Applicable

ABBREVIATION NAME: PDC

ENGINEERING DESCRIPTION: The New Underwriters Laboratories Listed PDC frame is compliant with U.L. Standard 1459 for Telephone Equipment. The New U.L. Listed PDC frame houses equipment required to interface between the -48v office batteries and up to 150 individual loads within the DMS system, and up to 165 ground terminations per ground panel. The PDC frame can house a maximum of ten fuse distribution panels each of which distributes power to up to fifteen individual fused loads.

REFERENCE DOCUMENTATION: SLZZ13RE 00 01  
NTZZ13RE REL 02

MARKETS: Applicable markets:

US

ISSUE AUTHOR: NTI: Mark Sorrell Dept. 3471 (PPK)

MAIN CONTACT: NTI: Mark Sorrell Dept. 3471 (PPK)

NTZZ13RE EMB16-02-020 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 09 08	ECM 631 21	Correct ground panel provisioning and close ET 24589.
95 12 20	ECM 631 24	Correct CPC code per ET 30649. Include provisioning information for NT0X42AT per ET 76033. Change NT0X4204 and NT0X4208 Cables to provisionable equipment per ET 31549.
96 09 27	ECM 631 30	Include NT0X42AN fuses in FSP per SR RR66560.

The PDC Top-Feed (U.L. Listed) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Framework	NT0X25AH	FW	1			AP
U.L. PDC Frame	NT0X42UA		1			AP
Ground Panel - Top Feed	NT0X42UE		1	68		RUL5
Fuse Panel "A" Feed	NT0X42UB	FPA	1	62		AP-01
Fuse Panel "B" Feed	NT0X42UC	FPB	1	58		AP-01
Fuse Panel "A" Feed	NT0X42UB	FPA	1	54		AP-01
Power Cable Assembly	NTNX2656		1	54		RUL7
20A Distribution Fusing	NT0X42AK		1	54	F14	RUL7
Fuse Panel "B" Feed	NT0X42UC	FPB	1	50		AP-01
Frame Supervisory Panel	NT0X40UA	FSP	1	45		RUL7
Enhanced Alarm Service	NT0X42XC			45R		RUL7
Upgrade Kit						
Frame Supervisory Panel	NT0X40UB	FSP	1	45		RUL7
EAS Cable Assembly	NT0X4235		2			RUL7
EAS Cable Assembly	NT0X4236		2			RUL7
EAS Label Kit	P0743002		1			RUL7
5 Amp Fuse Kit	NT0X42AN		2	50,54		RUL7
Fuse Panel "A/B" Panel	NTZZ13CA			37,29 21		RUL1
Black Wire 22 Gauge	R0108329					RUL1
ISDN Fuse Panel Assy	NT0X42AU			21,29		RUL2
Filler Panel Assembly A/B	NTZZ13GA			37,29 21		RUL3
Filter Panel	NT0X42UG		1	16		AP-01
ISG/EMI Logical Return	NT0X42AT			05		RUL4
Equalizer Busbar Assembly						
ISG Auxiliary Battery	NT0X42XA			05		RUL5
Return Panel Kit						
Non-ISG Auxiliary Battery	NT0X42XB			05		RUL5
Return Panel Kit						
PDC Battery Return Kit	NT0X42XE			05,68		RUL5

Active Equipment  
PDC Top-Feed (U.L. Listed)

NTZZ13RE  
EMB16-02-020  
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EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
for ISG Offices Filler Panel	NT0X42AH			05		RUL6
Cable Assy.	NT0X4204		2	68		RUL5
Cable Assy.	NT0X4208		2	68		RUL5
Caution Label	P0729112		1			AP-01
Current Rating Label	P0729674		1			AP-01
Fuse Warning Label	P0727015		1			AP-01
UL Listing Label	P0686657		1			AP-01

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The feeders to the PDC from the office -48 volt power board and the returns to the office return splice plate, consist of two separate sets of cables. One set is designated Feeder-A and Return-A and the other set, Feeder-B and Return-B.
- 2) The total DC distribution capability of a PDC is 800 Amperes, 400A on Feeder-A and 400A on Feeder-B. The two feeder cables from the office battery to each PDC are fused in the power room at 600A maximum. If the end of planning period maximum current drain is determined to be less than 400 amps per feed, the fuse size can be reduced to 1.5

times the anticipated maximum current drain per feed. The feeder fuse and cable should not have to be increased as office expansion occurs.

- 3) Depending on PDC distribution capability, one PDC can be shared by multiple (normally a maximum of three) line-ups. Cross-aisle power cable runs, when necessary, are limited to one cable tray.
- 4) The PDC will accommodate an initial sixty (60) fuses without the addition of extra fuse panels.
- 5) As a recommendation, provide 10% spare fuses.

## RULES:

- AP 1) When PEC NTZZ13RE is ordered, these items are provided.
- 2) Provide one spare 10 amp fuse, A0315462, and one spare QFF1A 1 1/3 amp fuse, A0205202, per filter panel, NTOX42UG.
- AP-01 1) This PEC is always provided on the NTOX42UA Frame, and is shown here for completeness.
- RUL1 1) Provide one NTZZ13CA to accommodate each additional thirty (30) fuses or part thereof. Provisioning the first NTZZ13CA will equip fuse panels in shelf positions 37, the second in shelf positions 29, and the third in shelf positions 21.
- 2) For each NTZZ13CA Fuse Panel "A/B" Feed shipped loose to site for extensions, provide 24ft of R0108329, 22 gauge black wire (not stranded), to loop alarm and ground source for alarms.
- RUL2 1) Provide one (1) NTOX42AU when up to 6 fuses (3A & 3B Feed) with a fuse capacity of 35 to 60 amp are required.
- 2) The first fuse panel must be provided in position 21.
- 3) The initial application of the NTOX42AU is to power the Access/Resource Module of the digital packet network in a DMS-100 ISDN office.

- RUL3 1) Provide one (1) NTZZ13GA Filler Panel Assembly A/B in each position 37, 29, 21 which is not to be equipped with an NTZZ13CA Fuse Panel A/B or an NTOX42AU ISDN Fuse Panel.

RUL4 1) Provide one (1) Logic Return Equalizer Busbar Assembly (NTOX42AT) for PDC if office is to be equipped with Isolated System Grounding and EMI Protection. Provide one (1) NTOX42AT per office located in PDC 00.

RUL5 1) ISG Offices: Provide one (1) NTOX42XE Kit for all new NTOX42UA orders that required more than 164 battery return terminations. The kit includes one (1) NTOX42UE (pos 68), one (1) NTOX42UF (pos 05) ground panel, cables, and hardware for the dual panel configuration. Power feeder cables can be routed from the frame top or bottom. When the NTOX42XE Kit is provided the NTOX4204 and NTOX4208 cables are contained in this kit. Do not provision any NTOX4204 and NTOX4208 cables when providing the NTOX42XE Kit.

- 2) ISG Offices: Provide one (1) NTOX42XA ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NTOX42XA Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.
- 3) ISG EMI Offices: Do not provide NTOX42XA Kit or NTOX42XE Kit for PDC 00.
- 4) Non-ISG Offices: Provide one (1) NTOX42XB non-ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NTOX42XB Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.
- 5) Connection of more than one battery return to a single Ground Panel termination is not allowed.
- 6) Provide one (1) NTOX42UE Ground Panel when a PDC requires a Top Feed ground panel and requires less than 164 battery

return terminations. Provide two (2) NT0X4204 cables and two (2) NT0X4208 cables when the NT0X42UE Ground Panel is the only ground panel provided.

RUL6 1) Provide one (1) Filler Panel, NT0X42AH for position 05 if not equipped with an NT0X42AT.

RUL7 1) For all new offices, always provision with EAS compatible FSPs. Provide one (1) NT0X40UB, two (2) NT0X4235, two (2) NT0X4236, two (2) NT0X42AN, and one (1) P0743002. The NT0X40UB provides "ABS" directly from a 20 amp power plant feed and also provides catastrophic power loss alarms. Provide two (2) NT0X42AN Fuses. One (1) for shelf 50 fuse position 13, and one (1) for shelf 54 fuse position 13.

2) The NT0X40UA FSP (non-EAS FSP), NTN2656 Power Cable Assembly, and NT0X42AK 20A Distribution Fusing may be provisioned only to extend non-EAS offices which do not wish to upgrade to EAS.

3) For field upgrades for PDCs equipped with NT0X40UA, when Enhanced Alarm Service and Catastrophic Power Loss Alarms are required, provide one (1) Enhanced Alarm Service Upgrade Kit NT0X42XC mounted at the rear of NT0X40UA FSP. The Enhanced Alarm Service Upgrade Kit NT0X42XC provides "ABS" directly from a 20Amp Power Plant feed and also provides catastrophic power loss alarms.

4) The NT0X42XC Kit connector P1 Term A is powered via the 'A' feed 5 Amp fuse F13 at shelf position 54, and connector P2 Term A is powered via the 'B' feed 5 Amp fuse F13 at shelf position 50. For field upgrades, the above listed fuse positions are the first choice, and if not possible, the connector P1 Term A should be powered via any available 'A' feed fuse and the connector P2 Term A should be powered via any available 'B' feed fuse.

5) When the NT0X42XC Kit is provided, the 20 Amp ABS Alarm fuse F14 at shelf position 54, NTN2656 Power Cable Assembly, and the 'ABS Alarm' label are no longer necessary and should be removed. For additional mounting detail see PC0X42XC.





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## PDC TOP-FEED FULLY-EQUIPPED (U.L. LISTED)

PEC CODE: NTZZ13TE

CPC CODE: B0244024

RATING: Standard

REPLACES: NTZZ13TA, NTZZ13TB, NTZZ13TC, NTZZ13TD

REPLACED BY: Not Applicable

ABBREVIATION NAME: PDC

ENGINEERING DESCRIPTION: The New Underwriters Laboratories Listed PDC frame is compliant with U.L. Standard 1459 for Telephone Equipment. The New U.L. Listed PDC frame houses equipment required to interface between the -48v office batteries and up to 150 individual loads within the DMS system, and up to 165 ground terminations per ground panel. The fully equipped PDC comes complete with ten fuse distribution panels each of which distributes power to up to fifteen individual fused loads.

REFERENCE DOCUMENTATION: SLZZ13TE 00 01  
NTZZ13TE REL 02

MARKETS: Applicable markets:  
  
US

ISSUE AUTHOR: NTI: Mark Sorrell Dept. 3471 (PPK)

MAIN CONTACT: NTI: Mark Sorrell Dept. 3471 (PPK)

NTZZ13TE EMB16-02-021 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 09 08	ECM 631 21	Correct ground panel provisioning and close ET 24589.
95 12 20	ECM 631 24	Correct CPC code per ET 30649. Correct NT0X4204 and 4208 cable provisioning per ET 31549.
96 03 11	ECM 631 26	Updated to close SR RR60367 which adds clarification on filler panels.
96 04 19	ECM 631 28	Add quantities to rule 2 of NTZZ13TE per SR RR62577.
96 06 03	ECM 631 29	Add NT0X42AN to rule 2 of NTZZ13TE per SR RR64605.

The PDC Top-Feed Fully-Equipped (U.L. Listed) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Framework	NT0X25AH	FW	1			AP
U.L. PDC Frame	NT0X42UA		1			AP
Ground Panel - Top Feed	NT0X42UE		1	68		RUL1
Fuse Panel "A" Feed	NT0X42UB	FPA	1	62		AP-01
Fuse Panel "B" Feed	NT0X42UC	FPB	1	58		AP-01
Fuse Panel "A" Feed	NT0X42UB	FPA	1	54		AP-01
Power Cable Assembly	NTNX2656		1	54		RUL2
20A Distribution Fusing	NT0X42AK		1	54	F14	RUL2
Fuse Panel "B" Feed	NT0X42UC	FPB	1	50		AP-01
Frame Supervisory Panel	NT0X40UA	FSP	1	45		RUL2
Enhanced Alarm Service	NT0X42XC			45R		RUL2
Upgrade Kit						
Frame Supervisory Panel	NT0X40UB	FSP	1	45		RUL2
EAS Cable Assembly	NT0X4235		2			RUL2
5 Amp Fuse Kit	NT0X42AN		2			RUL2
EAS Cable Assembly	NT0X4236		2			RUL2
EAS Label Kit	P0743002		1			RUL2
Fuse Panel "A" Feed	NT0X42UB	FPA	1	41		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	37		AP
Fuse Panel "A" Feed	NT0X42UB	FPA	1	33		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	29		AP
Fuse Panel "A" Feed	NT0X42UB	FPA	1	25		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	21		AP
Filter Panel	NT0X42UG		1	16		AP-01

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Filler Panel	NT0X42AH			05		RUL1
ISG Auxiliary Battery Return Panel Kit	NT0X42XA			05		RUL1
Non-ISG Auxiliary Battery Return Panel Kit	NT0X42XB			05		RUL1
PDC Battery Return Kit for ISG Offices	NT0X42XE			05,68		RUL1
Cable Assy.	NT0X4204		2	68		RUL1
Cable Assy.	NT0X4208		2	68		RUL1

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Caution Label	P0729112		1			AP-01
Current Rating Label	P0729674		1			AP-01
Fuse Warning Label	P0727015		1			AP-01
UL Listing Label	P0686657		1			AP-01

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The feeders to the PDC from the office -48 volt power board and the returns to the office return splice plate, consist of two separate sets of cables. One set is designated Feeder-A and Return-A and the other set, Feeder-B and Return-B.

- 2) The total DC distribution capability of a PDC is 800 Amperes, 400A on Feeder-A and 400A on Feeder-B. The two feeder cables from the office battery to each PDC are fused in the power room at 600A maximum. If the end of planning period maximum current drain is determined to be less than 400 amps per feed, the fuse size can be reduced to 1.5 times the anticipated maximum current drain per feed. The feeder fuse and cable should not have to be increased as office expansion occurs.
- 3) Depending on PDC distribution capability, one PDC can be shared by multiple (normally a maximum of three) line-ups. Cross-aisle power cable runs, when necessary, are limited to one cable tray.
- 4) As a recommendation, provide 10% spare fuses.

## RULES:

- AP 1) When PEC NTZZ13TE is ordered, these items are provided.
- 2) Provide one spare 10 amp fuse, A0315462, and one spare QFF1A 1 1/3 amp fuse, A0205202, per filter panel, NT0X42UG.
- AP-01 1) This PEC is always provided on the NT0X42UA Frame, and is shown here for completeness.
- RUL1 1) ISG Offices: Provide one (1) NT0X42XE Kit for all new NT0X42UA orders that required more than 164 battery return terminations. The kit includes one (1) NT0X42UE (pos 68), one (1) NT0X42UF (pos 05) ground panel, cables, and hardware for the dual panel configuration. Power feeder cables can be routed from the frame top or bottom. When the NT0X42XE Kit is provided, the NT0X4204 and NT0X4208 cables are contained in this kit. Do not provision any NT0X4204 and NT0X4208 cables when providing the NT0X42XE Kit.
- 2) ISG Offices: Provide one (1) NT0X42XA ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NT0X42XA Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.

- 3) ISG EMI Offices: Do not provide NTOX42XA Kit for PDC 00.
- 4) Non-ISG Offices: Provide one (1) NTOX42XB non-ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NTOX42XB Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.
- 5) Provide one (1) Filler Panel, NTOX42AH for position 5 if not equipped with a NTOX42XA Battery Return Panel Kit, NTOX42XB Battery Return Panel Kit, or a NTOX42XE Battery Return Kit.
- 6) Connection of more than one battery return to a single Ground Panel termination is not allowed.
- 7) Provide one (1) NTOX42UE Ground Panel when a PDC requires a Top Feed ground panel and requires less than 164 battery return terminations. Provide two (2) NTOX4204 cables and two (2) NTOX4208 cables when the NTOX42UE Ground Panel is the only ground panel provided.

- RUL2
- 1) For all new offices, always provision with EAS compatible FSPs. Provide one (1) NTOX40UB, two (2) NTOX4235, two (2) NTOX42AN, two (2) NTOX4236, and one (1) P0743002. The NTOX40UB provides "ABS" directly from a 20 amp power plant feed and also provides catastrophic power loss alarms. Provide two (2) NTOX42AN Fuses. One (1) for shelf 50 fuse position 13, and one (1) for shelf 54 fuse position 13.
  - 2) The NTOX40UA FSP (non-EAS FSP), NTN2656 Power Cable Assembly, and NTOX42AK 20A Distribution Fusing may be provisioned only to extend non-EAS offices which do not wish to upgrade to EAS.
  - 3) For field upgrades for PDCs equipped with NTOX40UA, when Enhanced Alarm Service and Catastrophic Power Loss Alarms are required, provide one (1) Enhanced Alarm Service Upgrade Kit NTOX42XC mounted at the rear of NTOX40UA FSP. The Enhanced Alarm Service Upgrade Kit NTOX42XC provides "ABS" directly from a 20Amp Power Plant feed and also provides catastrophic power loss alarms.



- 4) The NT0X42XC Kit connector P1 Term A is powered via the 'A' feed 5 Amp fuse F13 at shelf position 54, and connector P2 Term A is powered via the 'B' feed 5 Amp fuse F13 at shelf position 50. For field upgrades, the above listed fuse positions are the first choice, and if not possible, the connector P1 Term A should be powered via any available 'A' feed fuse and the connector P2 Term A should be powered via any available 'B' feed fuse.
- 5) When the NT0X42XC Kit is provided, the 20 Amp ABS Alarm fuse F14 at shelf position 54, NTN2656 Power Cable Assembly, and the 'ABS Alarm' label are no longer necessary and should be removed. For additional mounting detail see PC0X42XC.



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## PDC BOTTOM-FEED (U.L. LISTED)

PEC CODE: NTZZ13VE

CPC CODE: B0244025

RATING: Standard

REPLACES: NTZZ13VA, NTZZ13VB, NTZZ13VC, NTZZ13VD

REPLACED BY: Not Applicable

ABBREVIATION NAME: PDC

ENGINEERING DESCRIPTION: The New Underwriters Laboratories Listed PDC frame is compliant with U.L. Standard 1459 for Telephone Equipment. The New U.L. Listed PDC frame houses equipment required to interface between the -48V office batteries and up to 150 individual loads within the DMS system, and up to 165 ground terminations per ground panel. The PDC frame can house a maximum of ten fuse distribution panels each of which distributes power to up to fifteen individual fused loads. Power feeder cables enter from the bottom of the frame. This is for Non EMI and Non ISG.

REFERENCE DOCUMENTATION: SLZZ13VE 00 01

MARKETS: Applicable markets:

US

ISSUE AUTHOR: NTI: Mark Sorrell Dept. 3471 (PPK)

MAIN CONTACT: NTI: Mark Sorrell Dept. 3471 (PPK)

NTZZ13VE EMB16-02-022 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 09 08	ECM 631 21	Correct ground panel provisioning and close ET 24589.
95 12 20	ECM 631 24	Correct CPC code per ET 30649.

The PDC BOTTOM-FEED (U.L. LISTED) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Framework	NT0X25AH	FW	1			AP
U.L. PDC Frame	NT0X42UA		1			AP
Filler Panel	NT0X42AH			68		RUL1
ISG Auxiliary Battery	NT0X42XA			68		RUL1
Return Panel Kit						
Non-ISG Auxiliary Battery	NT0X42XB			68		RUL1
Return Panel Kit						
PDC Battery Return Kit for ISG Offices	NT0X42XE			05,68		RUL1
Fuse Panel "A" Feed	NT0X42UB	FPA	1	62		AP-01
Fuse Panel "B" Feed	NT0X42UC	FPB	1	58		AP-01
Fuse Panel "A" Feed	NT0X42UB	FPA	1	54		AP-01
Power Cable Assembly	NTNX2656		1	54		RUL5
20A Distribution Fusing	NT0X42AK		1	54	F14	RUL5
Fuse Panel "B" Feed	NT0X42UC	FPB	1	50		AP-01
Frame Supervisory Panel	NT0X40UA	FSP	1	45		RUL5
Enhanced Alarm Service Kit	NT0X42XC			45R		RUL5
Frame Supervisory Panel	NT0X40UB	FSP	1	45		RUL5
EAS Cable Assembly	NT0X4235		2			RUL5
EAS Cable Assembly	NT0X4236		2			RUL5
EAS Label Kit	P0743002		1			RUL5
Fuse Panel "A/B" Feed	NTZZ13CA			37,29,21		RUL2
Black Wire 22 Gauge	R0108329					RUL2
ISDN Fuse Panel Assy	NT0X42AU			21,29		RUL3
Filler Panel Assembly A/B	NTZZ13GA			37,29,21		RUL4
Filter Panel	NT0X42UG		1	16		AP-01
Ground Panel - Bottom Feed	NT0X42UF		1	05		RUL1
Cable Assembly	NT0X4206		2	05		AP
Cable Assembly	NT0X95BU		2	05		AP
Caution Label	P0729112		1			AP-01
Current Rating Label	P0729674		1			AP-01

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Fuse Warning Label	P0727015		1			AP-01
UL Listing Label	P0686657		1			AP-01

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The feeders to the PDC from the office battery splice plate and the returns to the office return splice plate, consist of two separate sets of cables. One set is designated Feeder-A and Return-A and the other set, Feeder-B and Return-B.
- 2) The total DC distribution capability of a PDC is 800 Amperes, 400A on Feeder-A and 400A on Feeder-B. The two feeder cables from the office battery to each PDC are fused in the power room at 600A maximum. If the actual feeder demand current is less than 400A, the value of the fuse should be selected to be as close to 1.5 times the actual current as possible, consistent with mechanical compatibility of the fuse- holder. The feeder fuse capability should be increased proportionally as the office expansion occurs.
- 3) Depending on PDC distribution capability, one PDC can be shared by multiple (normally a maximum of three) line-ups. Cross-aisle power cable runs, when necessary, are limited to one cable tray.

- 4) As a recommendation, provide 10% spare fuses.

## RULES:

- AP 1) When PEC NTZZ13VE is ordered, these items are provided.
- 2) Provide one spare 10 amp fuse, A0315462, and one spare QFF1A 1 1/3 amp fuse, A0205202, per filter panel, NT0X42UG.
- AP-01 1) This PEC is always provided on the NT0X42UA Frame, and is shown here for completeness.
- RUL1 1) ISG Offices: Provide one (1) NT0X42XE Kit for all new NT0X42UA orders that required more than 164 battery return terminations. The kit includes one (1) NT0X42UE (pos 68), one (1) NT0X42UF (pos 05) ground panel, cables, and hardware for the dual panel configuration. Power feeder cables can be routed from the frame top or bottom.
- 2) ISG Offices: Provide one (1) NT0X42XA ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NT0X42XA Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.
- 3) ISG EMI Offices: Do not provide NT0X42XA Kit for PDC 00.
- 4) Non-ISG Offices: Provide one (1) NT0X42XB non-ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NT0X42XB Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.
- 5) If neither the NT0X42XA Battery Return Panel Kit for ISG nor the NT0X42XB Battery Return Panel Kit for non-ISG is provisioned, provision one (1) NT0X42AH Filler Panel.
- 6) Connection of more than one battery return to a single Ground Panel termination is not allowed.



7) Provide one (1) NT0X42UF Ground Panel when a PDC requires a Bottom Feed ground panel and requires less than 164 battery return terminations.

- RUL2
- 1) Provide one NTZZ13CA Fuse Panel "A/B" Feed to accomodate each additional thirty (30) fuses or part thereof.
  - 2) Equip per EMB16-02-FP-2.
  - 3) Locate additional panels in sequence: position 37, 29, then 21.
  - 4) For each NTZZ13CA Fuse Panel "A/B" Feed shipped loose to site for extensions, provide 24ft of R0108329, 22 gauge black wire (not stranded), to loop alarm and ground source for alarms.
- RUL3
- 1) Provide one (1) NT0X42AU when up to 6 Fuses (3A and 3B Feed) with a fuse capacity of 35 to 60 amp are required.
  - 2) The first Fuse Panel must be provided in position 21.
  - 3) The initial application of NT0X42AU is to power the access/resource module of the Digital Packet Network in a DMS-100 ISDN office.
- RUL4
- 1) Provide one (1) NTZZ13GA Filler Panel Assembly A/B in each position 37, 29, 21 which is not to be equipped with a NTZZ13CA Fuse Panel A/B or an ISDN Fuse Panel NT0X42AU.
- RUL5
- 1) For all new offices, always provision with EAS compatible FSPs. Provide (1) NT0X40UB, NT0X4235, NT0X4236, and P0743002. The NT0X40UB provides "ABS" directly from a 20 amp power plant feed and also provides catastrophic power loss alarms.
  - 2) The NT0X40UA FSP (non-EAS FSP), NTNX2656 Power Cable Assembly, and NT0X42AK 20A Distribution Fusing may be provisioned only to extend non-EAS offices which do not wish to upgrade to EAS.
  - 3) For field upgrades for PDCs equipped with NT0X40UA, when Enhanced Alarm Service and Catastrophic Power Loss Alarms are required, provide one (1) Enhanced Alarm Service Upgrade Kit NT0X42XC mounted at the rear of NT0X40UA FSP. The Enhanced Alarm Service Upgrade Kit NT0X42XC provides "ABS" directly from a 20Amp Power Plant feed and also provides catastrophic power loss alarms.

- 4) The NT0X42XC Kit connector P1 Term A is powered via the 'A' feed 5 Amp fuse F13 at shelf position 54, and connector P2 Term A is powered via the 'B' feed 5 Amp fuse F13 at shelf position 50. For field upgrades, the above listed fuse positions are the first choice, and if not possible, the connector P1 Term A should be powered via any available 'A' feed fuse and the connector P2 Term A should be powered via any available 'B' feed fuse.
- 5) When the NT0X42XC Kit is provided, the 20 Amp ABS Alarm fuse F14 at shelf position 54, NTN2656 Power Cable Assembly, and the 'ABS Alarm' label are no longer necessary and should be removed. For additional mounting detail see PC0X42XC.



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## PDC BOTTOM-FEED FULLY-EQUIPPED (U.L. LISTED)

PEC CODE: NTZZ13WE

CPC CODE: B0244026

RATING: Standard

REPLACES: NTZZ13WA, NTZZ13WB, NTZZ13WC, NTZZ13WD

REPLACED BY: Not Applicable

ABBREVIATION NAME: PDC

ENGINEERING DESCRIPTION: The New Underwriters Laboratories Listed PDC frame is compliant with U.L. Standard 1459 for Telephone Equipment. The New U.L. Listed PDC frame houses equipment required to interface between the -48V office batteries and up to 150 individual loads within the DMS system, and up to 165 ground terminations per ground panel. The PDC frame houses ten fuse distribution panels each of which distributes power to up to fifteen individual fused loads. Power feeder cables enter from the bottom of the frame. This is for Non EMI and Non ISG. This PDC is used when EAS is required.

REFERENCE DOCUMENTATION: SLZZ13WE 00 02  
NTZZ13WE 00 02

MARKETS: Applicable markets:  
US

ISSUE AUTHOR: NTI: Mark Sorrell Dept. 3471 (PPK)

MAIN CONTACT: NTI: Mark Sorrell Dept. 3471 (PPK)

NTZZ13WE EMB16-02-023 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 09 08	ECM 631 21	Correct ground panel provisioning and close ET 24589.
95 12 20	ECM 631 24	Correct CPC code per ET 30649.
96 03 11	ECM 631 26	Correct cable provisioning and close SR RR60087.

The PDC BOTTOM-FEED FULLY-EQUIPPED (U.L. LISTED) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Framework	NT0X25AH	FW	1			AP
U.L. PDC Frame	NT0X42UA		1			AP
Filler Panel	NT0X42AH			68		RUL1
ISG Auxiliary Battery	NT0X42XA			68		RUL1
Return Panel Kit						
Non-ISG Auxiliary Battery	NT0X42XB			68		RUL1
Return Panel Kit						
PDC Battery Return Kit for ISG Offices	NT0X42XE			05,68		RUL1
Fuse Panel "A" Feed	NT0X42UB	FPA	1	62		AP-01
Fuse Panel "B" Feed	NT0X42UC	FPB	1	58		AP-01
Fuse Panel "A" Feed	NT0X42UB	FPA	1	54		AP-01
Power Cable Assembly	NTNX2656		1	54		RUL2
20A Distribution Fusing	NT0X42AK		1	54	F14	RUL2
Fuse Panel "B" Feed	NT0X42UC	FPB	1	50		AP-01
Frame Supervisory Panel	NT0X40UA	FSP	1	45		RUL2
Enhanced Alarm Service Upgrade Kit	NT0X42XC			45R		RUL2
Frame Supervisory Panel	NT0X40UB	FSP	1	45		RUL2
EAS Cable Assembly	NT0X4235		2			RUL2
EAS Cable Assembly	NT0X4236		2			RUL2
EAS Label Kit	P0743002		1			RUL2
Fuse Panel "A" Feed	NT0X42UB	FPA	1	41		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	37		AP
Fuse Panel "A" Feed	NT0X42UB	FPA	1	33		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	29		AP
Fuse Panel "A" Feed	NT0X42UB	FPA	1	25		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	21		AP
Filter Panel	NT0X42UG		1	16		AP-01

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Ground Panel - Bottom Feed	NT0X42UF		1	05		RUL1
Cable Assembly	NT0X4206		2	05		RUL1
Cable Assembly	NT0X95BU		2	05		RUL1

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Caution Label	P0729112		1			AP-01
Current Rating Label	P0729674		1			AP-01
Fuse Warning Label	P0727015		1			AP-01
UL Listing Label	P0686657		1			AP-01

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The feeders to the PDC from the office battery splice plate and the returns to the office return splice plate, consist of two separate sets of cables. One set is designated Feeder-A and Return-A and the other set, Feeder-B and Return-B.
- 2) The total DC distribution capability of a PDC is 800 Amperes, 400A on Feeder-A and 400A on Feeder-B. The two feeder cables from the office battery to each PDC are fused in the power room at 600A maximum. If the actual feeder



demand current is less than 400A, the value of the fuse should be selected to be as close to 1.5 times the actual current as possible, consistent with mechanical compatibility of the fuse holder. The feeder fuse capability should be increased proportionally as the office expansion occurs.

- 3) Depending on PDC distribution capability, one PDC can be shared by multiple (normally a maximum of three) line-ups. Cross-aisle power cable runs, when necessary, are limited to one cable tray.
- 4) As a recommendation, provide 10% spare fuses.

## RULES:

- AP 1) When PEC NTZZ13WE is ordered, these items are provided.
- 2) Provide one spare 10 amp fuse, A0315462, and one spare QFF1A 1 1/3 amp fuse, A0205202, per filter panel, NT0X42UG.
- AP-01 1) This PEC is always provided on the NT0X42UA Frame, and is shown here for completeness.
- RUL1 1) ISG Offices: Provide one (1) NT0X42XE Kit for all new NT0X42UA orders that required more than 164 battery return terminations. The kit includes one (1) NT0X42UE (pos 68), one (1) NT0X42UF (pos 05) ground panel, cables, and hardware for the dual panel configuration. Power feeder cables can be routed from the frame top or bottom.
- 2) ISG Offices: Provide one (1) NT0X42XA ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NT0X42XA Kit CANNOT be installed in the shop. This kit must be shipped loose and installed in the field.
- 3) ISG EMI Offices: Do not provide NT0X42XA Kit for PDC 00.
- 4) Non-ISG Offices: Provide one (1) NT0X42XB non-ISG Battery Return Panel Kit to add an additional 164 battery return terminations to frames already installed in the field. Typically, this kit will be needed when Fuse Panels are added to positions 25 or 21 (assuming other Fuse Panels are fully equipped). The NT0X42XB Kit CANNOT be installed in the

shop. This kit must be shipped loose and installed in the field.

- 5) If neither the NTOX42XA Battery Return Panel Kit for ISG nor the NTOX42XB Battery Return Panel Kit for non-ISG is provisioned, provision one (1) NTOX42AH Filler Panel.
- 6) Connection of more than one battery return to a single Ground Panel termination is not allowed.
- 7) Provide one (1) NTOX42UF Ground Panel when a PDC requires a Bottom Feed ground panel and requires less than 164 battery return terminations.
- 8) When the NTOX42UF is the only ground panel provided in a PDC frame, supply cables NTOX95BU (quantity 2) and NTOX4206 (quantity 2).

- RUL2
- 1) For all new offices, always provision with EAS compatible FSPs. Provide (1) NTOX40UB, NTOX4235, NTOX4236, and P0743002. The NTOX40UB provides "ABS" directly from a 20 amp power plant feed and also provides catastrophic power loss alarms.
  - 2) The NTOX40UA FSP (non-EAS FSP), NTN2656 Power Cable Assembly, and NTOX42AK 20A Distribution Fusing may be provisioned only to extend non-EAS offices which do not wish to upgrade to EAS.
  - 3) For field upgrades for PDCs equipped with NTOX40UA, when Enhanced Alarm Service and Catastrophic Power Loss Alarms are required, provide one (1) Enhanced Alarm Service Upgrade Kit NTOX42XC mounted at the rear of NTOX40UA FSP. The Enhanced Alarm Service Upgrade Kit NTOX42XC provides "ABS" directly from a 20Amp Power Plant feed and also provides catastrophic power loss alarms.
  - 4) The NTOX42XC Kit connector P1 Term A is powered via the 'A' feed 5 Amp fuse F13 at shelf position 54, and connector P2 Term A is powered via the 'B' feed 5 Amp fuse F13 at shelf position 50. For field upgrades, the above listed fuse positions are the first choice, and if not possible, the connector P1 Term A should be powered via any available 'A' feed fuse and the connector P2 Term A should be powered via any available 'B' feed fuse.

- 5) When the NTOX42XC Kit is provided, the 20 Amp ABS Alarm fuse F14 at shelf position 54, NTNX2656 Power Cable Assembly, and the 'ABS Alarm' label are no longer necessary and should be removed. For additional mounting detail see PC0X42XC..par

## FULLY EQUIPPED TOP OR BOTTOM FEED PDC

PEC CODE: NTZZ13GB

CPC CODE: B0246025

RATING: Standard

REPLACES: NTZZ13TE &amp; NTZZ13WE

REPLACED BY: None

ABBREVIATION NAME: PDC

ENGINEERING DESCRIPTION: The New Underwriters Laboratories Listed PDC frame is compliant with U.L. Standard 1459 for Telephone Equipment. The New U.L. Listed PDC frame houses equipment required to interface between the -48V office batteries and up to 150 individual loads within the DMS system, and up to 165 ground terminations per ground panel. The PDC frame houses ten fuse distribution panels each of which distributes power to up to fifteen individual fused loads. Power feeder cables enter from the bottom or top of the frame. This is for Non EMI and ISG. This PDC is used when EAS is required.

REFERENCE DOCUMENTATION: SLZZ13GB 00 01  
NTZZ13GB 00 02

MARKETS: Applicable markets:

US

ISSUE AUTHOR: NTI: Mark Sorrell Dept. 3471 (PPK)

MAIN CONTACT: NTI: Mark Sorrell Dept. 3471 (PPK)

NTZZ13GB EMB16-02-024 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 03 20	ECM 631 27	Initial release. Created per the Functional Block program.
96 09 27	ECM 631 30	Show NT0X4204 and NT0X4208 cables as always provided in the NT0X42XE Kit per SR RR66761.
97 06 27	ECM 631 31	Per SR RR73129 add comment to Rule 1 in NTZZ13GB.

The FULLY EQUIPPED TOP OR BOTTOM FEED PDC is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Framework	NT0X25AH	FW	1			AP
U.L. PDC Frame	NT0X42UA		1			AP
PDC Battery Return Kit for ISG Offices	NT0X42XE		1	05,68		AP
Cable Assy.	NT0X4204		2			AP-02
Cable Assy.	NT0X4208		2			AP-02
Fuse Panel "A" Feed	NT0X42UB	FPA	1	62		AP-01
Fuse Panel "B" Feed	NT0X42UC	FPB	1	58		AP-01
Fuse Panel "A" Feed	NT0X42UB	FPA	1	54		AP-01
Power Cable Assembly	NTNX2656		1	54		RUL1
20A Distribution Fusing	NT0X42AK		1	54	F14	RUL1
Fuse Panel "B" Feed	NT0X42UC	FPB	1	50		AP-01
Frame Supervisory Panel	NT0X40UA	FSP	1	45		RUL1
Enhanced Alarm Service Upgrade Kit	NT0X42XC			45R		RUL1
Frame Supervisory Panel	NT0X40UB	FSP	1	45		RUL1
EAS Cable Assembly	NT0X4235		2			RUL1
EAS Cable Assembly	NT0X4236		2			RUL1
EAS Label Kit	P0743002		1			RUL1
Fuse Panel "A" Feed	NT0X42UB	FPA	1	41		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	37		AP
Fuse Panel "A" Feed	NT0X42UB	FPA	1	33		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	29		AP
Fuse Panel "A" Feed	NT0X42UB	FPA	1	25		AP
Fuse Panel "B" Feed	NT0X42UC	FPB	1	21		AP
Filter Panel	NT0X42UG		1	16		AP-01

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Caution Label	P0729112		1			AP-01
Current Rating Label	P0729674		1			AP-01
Fuse Warning Label	P0727015		1			AP-01
UL Listing Label	P0686657		1			AP-01

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The feeders to the PDC from the office battery splice plate and the returns to the office return splice plate, consist of two separate sets of cables. One set is designated Feeder-A and Return-A and the other set, Feeder-B and Return-B.
- 2) The total DC distribution capability of a PDC is 800 Amperes, 400A on Feeder-A and 400A on Feeder-B. The two feeder cables from the office battery to each PDC are fused in the power room at 600A maximum. If the actual feeder demand current is less than 400A, the value of the fuse should be selected to be as close to 1.5 times the actual current as possible, consistent with mechanical compatibility of the fuse- holder. The feeder fuse capability should be increased proportionally as the office expansion occurs.

- 3) Depending on PDC distribution capability, one PDC can be shared by multiple (normally a maximum of three) line-ups. Cross-aisle power cable runs, when necessary, are limited to one cable tray.
- 4) As a recommendation, provide 10% spare fuses.
- 5) All initial U.S. offices are ISG: One (1) NT0X42XE Kit for all new NT0X42UA orders that required more than 164 battery return terminations is provided. The kit includes one (1) NT0X42UE (pos 68), one (1) NT0X42UF (pos 05) ground panel, cables, and hardware for the dual panel configuration. Power feeder cables can be routed from the frame top or bottom.
- 6) Connection of more than one battery return to a single Ground Panel termination is not allowed.
- 7) Provide one spare 10 amp fuse, A0315462, and one spare QFF1A 1 1/3 amp fuse, A0205202, per filter panel, NT0X42UG.
- 8) Items marked AP are always provided in the NTZZ13GB, and is shown here for completeness.
  - 9) Items marked AP-01 are always provided on the NT0X42UA Frame and is shown here for completeness.
- 10) Items marked AP-02 are always provided on the NT0X42XE Kit, and is shown here for completeness.

## RULES:

- AP 1) When PEC NTZZ13GB is ordered, these items are provided.
- RUL1 1) For all new offices or extensions that require EAS, always provision EAS compatible FSPs. Provide (1) NT0X40UB, NT0X4235, NT0X4236, and P0743002. The NT0X40UB provides "ABS" directly from a 20 amp power plant feed and also provides catastrophic power loss alarms.
- 2) The NT0X40UA FSP (non-EAS FSP), NTNX2656 Power Cable Assembly, and NT0X42AK 20A Distribution Fusing may be provisioned only to extend non-EAS offices which do not wish to upgrade to EAS.



- 3) For field upgrades for PDCs equipped with NT0X40UA, when Enhanced Alarm Service and Catastrophic Power Loss Alarms are required, provide one (1) Enhanced Alarm Service Upgrade Kit NT0X42XC mounted at the rear of NT0X40UA FSP. The Enhanced Alarm Service Upgrade Kit NT0X42XC provides "ABS" directly from a 20Amp Power Plant feed and also provides catastrophic power loss alarms.
- 4) The NT0X42XC Kit connector P1 Term A is powered via the 'A' feed 5 Amp fuse F13 at shelf position 54, and connector P2 Term A is powered via the 'B' feed 5 Amp fuse F13 at shelf position 50. For field upgrades, the above listed fuse positions are the first choice, and if not possible, the connector P1 Term A should be powered via any available 'A' feed fuse and the connector P2 Term A should be powered via any available 'B' feed fuse.
- 5) When the NT0X42XC Kit is provided, the 20 Amp ABS Alarm fuse F14 at shelf position 54, NTN2656 Power Cable Assembly, and the 'ABS Alarm' label are no longer necessary and should be removed. For additional mounting detail see PC0X42XC..par

## | CMIS MSP B-FEED FILTERED BATTERY FILLER KIT (FBFK)

PEC CODE: NTZZ45MA

| CPC CODE: B0238676

| RATING: Standard.

| REPLACES: Not Applicable

| REPLACED BY: Not Applicable

ABBREVIATION NAME: FBFK

ENGINEERING DESCRIPTION: This kit is designed to provide Filler Plates and mounting hardware required when equipment to provide Filtered Talk Battery, either A-Feed is not supplied.

REFERENCE DOCUMENTATION: MSRX56AA 00 01

MARKETS: Applicable markets:

US  
Europe  
Asia/Pacific  
CALA  
Carrier  
Wireless

ISSUE AUTHOR: NTI: Merdia Drummer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Merdia Drummer Dept. 3471 (PPK)

NTZZ45MA EMB16-04-BFK-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 11 16	ECM 683 01	Initial Release of EMS per EC 02489715

The CMIS MSP B-Feed Filtered Battery Filler Kit (FBFK) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MSP Blank Panel (Two Pos)	P0734475		1	61	01	AP
MSP Blank Panel (One Pos)	P0734476		6	61	13,13R 14,14R 15,15R	AP
Panel Mounting Screw	P0559409		16	61	01, 13,13R 14,14R 15,15R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
Not Applicable		

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) When PEC NTRX56CF is not provided, provide one NTZZ45MA to equip open MSP Slot Positions.

RULES:

- AP 1) When PEC NTZZ45MA is ordered, these items are provided.

CMIS MSP B-FEED FILTERED BATTERY FILLER KIT (FBFK)

PEC CODE: NTZZ45MM

CPC CODE: Pending.

RATING: Standard.

REPLACES: Not applicable

REPLACED BY: Not applicable

ABBREVIATION NAME: FBFK

ENGINEERING DESCRIPTION: This kit is designed to provide Filler Plates and mounting hardware required when equipment to provide Filtered Talk Battery, either B-Feed is not supplied.

REFERENCE DOCUMENTATION: MSRX56AA 00 01

MARKETS: Applicable markets:

- US
- Europe
- Asia/Pacific
- CALA
- Carrier
- Wireless

ISSUE AUTHOR: NTI: Merdia Drummer Dept. 3471 (PPK)

MAIN CONTACT: NTI: Merdia Drummer Dept. 3471 (PPK)

NTZZ45MM EMB16-04-BFK-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 11 16	ECM 683 01	Initial Release of EMS

The CMIS MSP B-Feed Filtered Battery Filler Kit (FBFK) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
MSP Blank Panel (Two Pos)	P0734475		1	61	03	AP
MSP Blank Panel (One Pos)	P0734476		6	61	16,16R 17,17R 18,18R	AP
Panel Mounting Screw	P0559409		16	61	03, 16,16R 17,17R 18,18R	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
Not Applicable		

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) When PEC NTRX56CG is not provided, provide one NTZZ45MM to equip open MSP Slot Positions.

RULES:

- AP 1) When PEC NTZZ45MM is ordered, these items are provided.





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EMB19

VOICE MESSAGING SUBSYSTEMS CHAPTER ALL

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VOICE MESSAGING SUBSYSTEMS CHAPTER ALL

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## VOICE MESSAGING SUBSYSTEMS CHAPTER ALL

EMB19-02-INV	MDS INVERTER BUILDING BLOCK	NTZZ42MA
EMB19-02-IOC-2	MDS IOC (RS232) BUILDING BLOCK	NTZZ42LA
EMB19-02-IOC-3	MDS IOC (V.35) BUILDING BLOCK	NTZZ42KB
EMB19-02-IOC-4	IOC (V.35) BUILDING BLOCK	NTZZ42KC
EMB19-02-IOC-5	IOC (V.35) BUILDING BLOCK	NTZZ42KD
EMB19-03-AIK-1	MERIDIAN APPLIC. CAB. ANCHORING AND ISOL	NTZZ50GA
EMB19-03-ALM-1	MS-1 ALARM INTERFACE BUILDING BLOCK	NTZZ50KA
EMB19-03-CTCP-1	MERIDIAN APPLIC. CAB. CABLE TROUGH COVER	NTZZ50EA
EMB19-03-CTEC-1	MERIDIAN APPLIC. CAB. CABLE TROUGH END C	NTZZ50EM
EMB19-03-DNET-1	MS-1 DATANET BUILDING BLOCK	NTZZ50CM
EMB19-03-HDW-1	MERIDIAN APPLICATIONS CABINET HARDWARE -	NTZZ50DA
EMB19-03-HDW-2	MERIDIAN APPLICATIONS CABINET HARDWARE -	NTZZ50DM
EMB19-03-LEC-1	MERIDIAN APPLIC. CAB. LINEUP END COVER (	NTZZ50FA
EMB19-03-LEC-2	MERIDIAN APPLIC. CAB. LINEUP END COVER (	NTZZ50FM
EMB19-03-MGW-1	MS-1 GATEWAY LINK HARDWARE	NTZZ50PA
EMB19-03-OCEX-1	OPERATIONS NODE - CONFERENCE NODE EXPANS	NTZZ50MA
EMB19-03-OCEX-2	OPERATIONS NODE - CONFERENCE NODE EXPANS	NTZZ50PM
EMB19-03-PRT-1	MS-1 SERIAL PRINTER BUILDING BLOCK	NTZZ50HA
EMB19-03-UDS-1	MS-1 19.2K/9.6K UDS MODEM BUILDING BLOCK	NTZZ50JA
EMB19-03-UDS-2	MS-1 UDS 224AT/D DIALUP ACCESS BUILDING	NTZZ50LA
EMB19-03-VDT-1	MS-1 M4120 VOICE AND DATA TERMINAL	NTZZ50GM
EMB19-03-VDT-2	MS-1 M4110 DATA TERMINAL	NTZZ50NM
EMB19-03-000	MS-1 OPERATIONS CONFERENCE NODE CABINET	NTZZ50AA
EMB19-03-001	MS-1 OPERATIONS NODE CABINET	NTZZ50AM
EMB19-03-002	MS-1 CONFERENCE NODE CABINET	NTZZ50BA
EMB19-03-003	MERIDIAN AUXILIARY CABINET-OVERHEAD CABL	NTZZ50BM
EMB19-03-004	MERIDIAN AUXILIARY CABINET - RAISED FLR	NTZZ50CA
EMB19-03-006	MS-1 OPERATIONS CONFERENCE NODE CABINET	NTZZ50MM
EMB19-03-007	MS-1 OPERATIONS NODE CABINET	NTZZ50NA
EMB19-03-48PE	MS-1 CONFERENCE NODE 48-PORT EXPANSION	NTZZ50KM
EMB19-04-BDTL	BACKUP DTL KIT	NTZZ51LA
EMB19-04-FDDI	FDDI KIT	NTZZ51PA
EMB19-04-HUB1	HUB UNIT 12-PORT	NTZZ52CA
EMB19-04-MM-1	MODEM SHELF	NTZZ51GA
EMB19-04-OC-3	OPERATIONS CONTROLLER SHELF	NTZZ51DE
EMB19-04-OC-5	OPERATIONS CONTROLLER SHELF	NTZZ51DG
EMB19-04-RDTL	REDUNDANT DTL KIT	NTZZ51KA
EMB19-04-SC-3	UNIX-BASED SERVICE CONTROLLER SHELF	NTZZ51EC
EMB19-04-SC-4	SERVICE CONTROLLER SHELF - NAV BASE 002	NTZZ51ED
EMB19-04-SDTL	STANDARD DTL KIT	NTZZ51HA
EMB19-04-UM	UNIVERSAL MODEM KIT	NTZZ51NA
EMB19-04-VME	VME DISK TM KIT	NTZZ51QA
EMB19-04-VME1	VME DISK TM KIT	NTZZ51QB
EMB19-04-001	NAV LAN BAY	NTZZ52AA
EMB19-04-003	NAV CONTROLLER BAY B003	NTZZ51AB

97/12/09

MDS INVERTER BUILDING BLOCK

PEC CODE: NTZZ42MA

CPC CODE: B0236091

RATING: Standard

REPLACES: Not applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MDS Inverter Building Block provides a LaMarche Inverter with mounting brackets and filler panels to be mounted in the MDS LAN Bay.

REFERENCE DOCUMENTATION: SLZZ42MA 00 01 REL 01

MARKETS: Applicable markets:

- | US
- | Canada
- | Wireless

ISSUE AUTHOR: NTI: Lily Ahluwalia Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ42MA EMB19-02-INV CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
93 12 03	ECM 689 01	Initial release of BB EMS in ECM.
95 08 08	ECM 697 02	Update Markets and change inverter.

The MDS Inverter Building Block is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Inverter 48V 500VA	NTRX31DH		1			AP
Mounting Bracket	P0736348		2			AP
Filler Panel	P0736349		2			AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ42MA is ordered, these items are provided.

## IOC (RS232) BUILDING BLOCK

PEC CODE: NTZZ42LA

CPC CODE: B0236090

RATING: Standard

REPLACES: Not applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The IOC (RS232) Building Block provides eight (8) RS232 interfaces at up to 19.2Kbaud.

| REFERENCE DOCUMENTATION: SLZZ42LA 00 03

MARKETS: Applicable markets:

US  
Canada  
Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ42LA EMB19-02-IOC-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
-----	-----	Previous history not available
93 12 03	ECM 689 01	Initial release of BB EMS in ECM.
95 08 08	ECM 697 02	Update Markets.
95 10 10	ECM 697 03	Changed Shelf position from 37 to XX.
95 12 11	ECM 697 04	Added location XX YZR for NTFX8514.



The IOC (RS232) Building Block is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Input Output Cont (RS232)	NTFX79AA	IOC	1	XX	YYF	AP
Input Output Cont (RS232) TM	NTFX80AA	IOCTM	1	XX	YYR	AP
OA&M Telemetry Cable	NTFX8514		1	XX	YYR	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The OA&M Telemetry Cable connects between the IOC TM and the Bulkhead. On the IOC end the cable has (1) connector and on the Bulkhead end there are eight (8) smaller connectors which provide connections for eight (8) telemetry links.

RULES:

- 1) When PEC NTZZ42LA is ordered, these items are provided.

IOC (V.35) BUILDING BLOCK

PEC CODE: NTZZ42KB

CPC CODE: B0241068

RATING: Standard

REPLACES: NTZZ42KA

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The IOC (V.35) Building Block provides two (2) external X.25 (V.35) connections.

REFERENCE DOCUMENTATION: SLZZ42KB 00 04

MARKETS: Applicable markets:

- US
- Canada
- Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ42KB EMB19-02-IOC-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
----- 94 05 10	----- ECM 689 02	Previous history not available ECD 024-91307 - Change NTFX81AA to BA. Change NTFX82AA to BA.
95 08 08	ECM 697 02	Changes per ET 22999, update markets.
95 10 10	ECM 697 03	Removed Connector 25-pin EMI Filter (FCP01F25NH50G, A0600137, QTY 2), and Female Screw Lock (CRP14FSKR750, A0370071, QTY 4). They are no longer required per MSFX55BA.
95 12 11	ECM 697 04	Added location XX YZR for NTFX8565, added location XX YY for NTOX98AC.

The IOC (V.35) Building Block is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Input Output Cont (X.25)	NTFX81BA	IOC	1	XX	YYF	AP
Input Output Cont (X.25) TM	NTFX82BA	IOCTM	1	XX	YYR	AP
TM Modem Cable	NTFX8565		2	XX	YYR	AP
V.35 Interbay Cable	NT0X98AC		2	XX	YY	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NTFX8519	MD	NTFX8565

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ42KB is ordered, these items are provided.

## IOC (V.35) BUILDING BLOCK

PEC CODE: NTZZ42KC

CPC CODE: B0241068

RATING: Standard.

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

| ENGINEERING DESCRIPTION: The IOC (V.35 Building Block provides two  
(2) external X.25 (V.35) connections.

REFERENCE DOCUMENTATION: SLZZ42KC 00 01

MARKETS: Applicable markets:

US  
Canada  
Wireless

ISSUE AUTHOR: Otis Gibbs Dept. 3471 (PPK)

MAIN CONTACT: Otis Gibbs Dept. S646 (BRW)

NTZZ42KC EMB19-02-IOC-4 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 12 03	ECM 699 04	Initial release

The IOC (V.35) BUILDING BLOCK is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Input Output Cont (X.25)	NTFX81BA	IOC	1	XX	YYF	AP
Input Output Cont (X.25) TM	NTFX82CA	IOCTM	1	XX	YYR	AP
TM Modem Cable	NTFX8565		2	XX	YYR	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ42KC is ordered, these items are provided.

## IOC (V.35) BUILDING BLOCK

PEC CODE: NTZZ42KD

CPC CODE:

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

| ENGINEERING DESCRIPTION: The IOC (V.35) Building Block provides two  
(2) external X.25 (V.35) connections.

REFERENCE DOCUMENTATION: SLZZ42KD 00 01

MARKETS: Applicable markets:

US  
Canada  
Wireless

ISSUE AUTHOR: NTI: Otis Gibbs Dept. 3471 (PPK)

MAIN CONTACT: NTI: Otis Gibbs Dept. 3471 (PPK)



NTZZ42KD EMB19-02-IOC-5 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 12 03	ECM 699 04	Initial Release

The IOC (V.35) BUILDING BLOCK is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Input Output Cont (X.25)	NTFX81BA	IOC	1	XX	YYF	AP
Input Output Cont (X.25) TM	NTFX82BA	IOCTM	1	XX	YYR	AP
TM Modem Cable	NTFX8565		2	XX	YYR	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) The NTZZ42KB IOC V.35 building block has been replaced with the NTZZ42KD IOC V.35 building block for NAV Base 003 applications. The NTZZ42KB is still valid for NAV Base 002 applications.
- 2) The NTZZ42KB and the NTZZ42KD building blocks contain the NTFX82BA IOC V.35 transition module. The NTFX82BA will be manufactured discontinued once existing stock has been depleted. It will be replaced with the NTFX82CA. The NTZZ42KB and the NTZZ42KD will be replaced with the NTZZ42KC building block at that time.

RULES:

- AP 1) When PEC NTZZ42KD is ordered, these items are provided.

MERIDIAN APPLIC. CAB. ANCHORING AND ISOLATION KIT NTZZ50GA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Applications Cabinet Anchoring and Isolation Kit contains two (2) Isolation Pads, four (4) Anchor Plates, two (2) Grounding Kit, four (4) Raised Floor Anchor Assembly, four (4) Concrete Anchor Assembly for Earthquake Zone 1 to 2, four (4) Concrete Anchor Assembly for Earthquake Zone 3 to 4 and one(1) EMI Contact H/W Kit.

REFERENCE DOCUMENTATION: SLZZ50GA 00 01

MARKETS: Applicable markets:

- US
- Canada
- CALA

NTZZ50GA EMB19-03-AIK-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Applic. Cab. Anchoring and Isolation Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Isolation Pads	P0688332		2			AP
Anchor Plates	P0677746		4			AP
Grounding Kit	NT0X0004		2			AP
EMI Contact H/W Kit	NTNX2545		1			AP
Raised Flr. Anchor Assembly Concrete Anchor Assembly	NTNX56AA					RUL1
for Earthquake Zone 1-2	NT0X21AV					RUL1
Concrete Anchor Assembly for Earthquake Zone 3-4	NT0X21AW					RUL1

NOTES:

RULES:

- AP 1) When PEC NTZZ50GA is ordered, these items are provided.
- RUL1 1) Provision four (4) NTNX56AA for raised floor layout.
- 2) Provision four (4) NT0X21AV or four (4) NT0X21AW for concrete floor layout according to the Earthquake Zone requirement.

MS-1 ALARM INTERFACE BUILDING BLOCK

NTZZ50KA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 Alarm Interface Building Block provides control and monitoring of MS-1 Cabinet Frame Supervisory Panel (FSP) Alarms. One MS-1 Alarm Interface BB is required for each MS-1 Operations Node, Conference Node, and Operations Conference Node.

NTZZ50KA mounts on the NT1M41AC LIU Shelf, which in turn mounts on the Meridian Applications Cabinet.

REFERENCE DOCUMENTATION: SLZZ50KA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50KA EMB19-03-ALM-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The MS-1 Alarm Interface Building Block is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
ALIU Option Card	NT1M41BW		1			AP
Bulkhead to ALIU Cable	NT1M41BM		1			AP

NOTES:

RULES:

AP 1) When PEC NTZZ50KA is ordered, these items are provided.



MERIDIAN APPLIC. CAB. CABLE TROUGH COVER PLATE (BROWN)NTZZ50EA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Applications Cabinet Cable Trough Cover Plate Building Block contains the hardware necessary to cover the gap between two adjacent NTN55AA Brown Cable Troughs.

REFERENCE DOCUMENTATION: SLZZ50EA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50EA EMB19-03-CTCP-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Applic. Cab. Cable Trough Cover Plate (Brown) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Cover Plate	P0688822		2			AP
Screws	P0575598		4			AP
Washers	P0242132		4			AP
Washers	P049C096		4			AP
Screws	P099Q132		2			AP

NOTES:

RULES:

AP 1) When PEC NTZZ50EA is ordered, these items are provided.

MERIDIAN APPLIC. CAB. CABLE TROUGH END COVER (BROWN) NTZZ50EM

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Applications Cabinet Cable Trough End Cover Building Block contains the hardware necessary to cover the end of a NTN55AA Brown Cable Trough lineup.

REFERENCE DOCUMENTATION: SLZZ50EM 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50EM EMB19-03-CTEC-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Applic. Cab. Cable Trough End Cover (Brown) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
End Cover	P0688821		1			AP
Screws	P0575598		4			AP
Washers	P0242132		6			AP
Washers	P049C096		4			AP
Screws	P099Q132		2			AP

NOTES:

RULES:

AP 1) When PEC NTZZ50EM is ordered, these items are provided.

MS-1 DATANET BUILDING BLOCK

NTZZ50CM

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 DATANET Building Block provides the MS-1 Operations Node, Conference Node, or Operations Conference Node connectivity to a Ring Local Area Network of other like nodes.

REFERENCE DOCUMENTATION: SLZZ50CM 00 01

MARKETS: Applicable markets:

- US
- Canada
- CALA

NTZZ50CM EMB19-03-DNET-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release



The MS-1 DATANET Building Block is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DATANET SRU	NT4G54BA		1			AP
DATANET SRU-Blkhd Cable	NT1M40AM		1			AP

NOTES:

1) Remove previously provisioned SRU Filler for the above SRU.

RULES:

AP 1) When PEC NTZZ50CM is ordered, these items are provided.

MERIDIAN APPLICATIONS CABINET HARDWARE - BROWN NTZZ50DA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Applications Cabinet Hardware (Brown) contains the front and rear doors, frame fail lamp, and Lime NT Logo label required for all brown Meridian Applications Cabinets.

REFERENCE DOCUMENTATION: SLZZ50DA 00 01

MARKETS: Applicable markets:

- US
- Canada
- CALA

NTZZ50DA EMB19-03-HDW-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Applications Cabinet Hardware - Brown is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Frame Fail Lamp (Brown)	NT1M41BC		1			AP
Right Front Door (Brown)	NT1M41AT		1			AP
Left Front Door (Brown)	NT1M41AU		1			AP
Rt. Front/Rear Door (Brown)	NTNX2552		1			AP
Lt. Front/Rear Door (Brown)	NTNX2550		1			AP
NT Logo (Lime)	P0728013		2			AP

NOTES:

RULES:

AP 1) When PEC NTZZ50DA is ordered, these items are provided.

MERIDIAN APPLICATIONS CABINET HARDWARE - GREY NTZZ50DM

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Applications Cabinet Hardware (Grey) contains the front and rear doors, frame fail lamp, and Aqua NT Logo label required for all grey Meridian Applications Cabinets.

REFERENCE DOCUMENTATION: SLZZ50DM 00 01

MARKETS: Applicable markets:

- US
- Canada
- CALA

NTZZ50DM EMB19-03-HDW-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Applications Cabinet Hardware - Grey is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Frame Fail Lamp (Grey)	NT1M4104		1			AP
Right Front Door (Grey)	NT1M41AV		1			AP
Left Front Door (Grey)	NT1M41AW		1			AP
Rt. Front/Rear Door (Grey)	NTNX2513		1			AP
Lt. Front/Rear Door (Grey)	NTNX2515		1			AP
NT Logo (Aqua)	P0728012		2			AP

NOTES:

RULES:

AP 1) When PEC NTZZ50DM is ordered, these items are provided.

MERIDIAN APPLIC. CAB. LINEUP END COVER (BROWN) NTZZ50FA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Applications Cabinet Lineup End Cover Building Block contains one (1) left end panel (Brown) and one (1) right end panel (Brown).

REFERENCE DOCUMENTATION: SLZZ50FA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA



NTZZ50FA EMB19-03-LEC-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Applic. Cab. Lineup End Cover (Brown) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Right End Panel (Brown)	NTNX2531		1			AP
Left End Panel (Brown)	NTNX2532		1			AP

NOTES :

RULES :

AP 1) When PEC NTZZ50FA is ordered, these items are provided.

MERIDIAN APPLIC. CAB. LINEUP END COVER (GREY)

NTZZ50FM

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Applications Cabinet Lineup End Cover Building Block contains one (1) left end panel (Grey) and one (1) right end panel (Grey).

REFERENCE DOCUMENTATION: SLZZ50FM 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50FM EMB19-03-LEC-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Applic. Cab. Lineup End Cover (Grey) is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Right End Panel (Grey)	NTNX2517		1			AP
Left End Panel (Grey)	NTNX2518		1			AP

NOTES :

RULES :

AP 1) When PEC NTZZ50FM is ordered, these items are provided.



MAIN CONTACT NTC: George Kong

Dept. N211

(MER)

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MS-1 GATEWAY LINK HARDWARE

NTZZ50PA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 Gateway Link Hardware consists of a LanLink SRU, LanLink to bulkhead cable, a DVLink card (for customer's Gateway PC) and a teledapt cable. This cable connects the PC DVLink card and the MS-1 LANLink.

REFERENCE DOCUMENTATION: SLZZ50PA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50PA EMB19-03-MGW-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 06	ECM 674 01	Initial release

The MS-1 Gateway Link Hardware is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
LANLink SRU	NT4G14DB		1	YY	01U	AP
LANLink to Bulkhead Cable	NT1M40AE		1	YY	01U	AP
Gateway DVLink Card	NT4G46BD		1			AP
Teledapt Cable (3 ft.)	NT0M96CA					RUL1
Teledapt Cable (7 ft.)	NT0M96CB					RUL1
Teledapt Cable (14 ft.)	NT0M96CC					RUL1
Teledapt Cable (25 ft.)	NT0M96CD					RUL1
Teledapt Cable (37 ft.)	NT0M96CE					RUL1
Teledapt Cable (50 ft.)	NT0M96CF					RUL1
Teledapt Cable (100 ft.)	NT0M96TF					RUL1
Teledapt Cable (150 ft.)	NT0M96TH					RUL1
Teledapt Cable (200 ft.)	NT0M96RB					RUL1
Teledapt Cable (3 ft.)	NT0M96SR					RUL2
Teledapt Cable (7 ft.)	NT0M96SS					RUL2
Teledapt Cable (14 ft.)	NT0M96ST					RUL2
Teledapt Cable (25 ft.)	NT0M96SU					RUL2
Teledapt Cable (37 ft.)	NT0M96SV					RUL2
Teledapt Cable (50 ft.)	NT0M96SW					RUL2
Teledapt Cable (100 ft.)	NT0M96TG					RUL2
Teledapt Cable (150 ft.)	NT0M96TJ					RUL2
Teledapt Cable (200 ft.)	NT0M96SX					RUL2

NOTES:

- 1) SHF POS 'YY' means either 05 or 33 depending on whether it is an ON or OCN, respectively.
- 2) The DVLink card is installed in the customer's Gateway PC.
- 3) Installation of Gateway PC is described in NTP 203-2001-101 and NTP 203-2001-303.
- 4) Remove the previously provisioned SRU Fillers for the above SRUs.

RULES:

- AP 1) When PEC NTZZ50PA is ordered, these items are provided.

- RUL1 1) For Non-Plenum teledapt cable, provision one (1) NT0M96xx of the required length. This cable connects the PC DVLink card to the Gateway LANLink via the BIX Cross-Connect Panel.
- 2) Each DVLink card is equipped with a NT0M96CC (14 ft.) cable. Provide an alternate cable if the cabling distance requires it.
- RUL2 1) For Plenum teledapt cable, provision one (1) NT0M96xx of the required length. This cable connects the PC DVLink card to the Gateway LANLink via the BIX Cross-Connect Panel.
- 2) Each DVLink card is equipped with a NT0M96CC (14 ft.) cable. Provide an alternate cable if the cabling distance requires it.

OPERATIONS NODE - CONFERENCE NODE EXPANSION B. B.

PEC CODE: NTZZ50MA

CPC CODE: A0401230

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The NTZZ50MA Operations Node - Conference Node Expansion Building Block provides the ON with the capability of controlling two additional CN's.

REFERENCE DOCUMENTATION: SLZZ50MA 00 01

MARKETS: Applicable markets:

- US
- Canada
- CALA

ISSUE AUTHOR: NTC: Mark Skrobecki Dept. N112 (MER)

MAIN CONTACT: NTC: Mark Skrobecki Dept. N112 (MER)

NTZZ50MA EMB19-03-OCEX-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release
93 12 22	ECM 670 03	Replace NT4G20QB with NT4G20VA.

The Operations Node - Conference Node Expansion B. B. is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
7 MByte File Processor SRU	NT4G26DB		1	33	YYL	AP
#160 MByte SCSI Disk/Tape	NT4G20QB		1	19	YY-1U	AP
160 MByte SCSI Disk/Tape	NT4G20VA		1	19	YY-1U	AP
SCSI/SCSI Cable (2 ft.)	NT4G09AE		1	19	YY-1U	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT4G20QB	MD	NT4G20VA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) SRU POS 'YYL' means either 05L or 07L depending on whether it is the 2nd or 3rd 7M File Processor installed.
- 2) SRU POS 'YY-1U' is either in 04U or 06U depending on whether it is the 2nd or 3rd 160M SCSI Disk installed.
- 3) Remove the previously provisioned SRU Fillers for the above SRUs.

RULES:

AP 1) When PEC NTZZ50MA is ordered, these items are provided.



## OPERATIONS NODE - CONFERENCE NODE EXPANSION B. B.

PEC CODE: NTZZ50PM

CPC CODE: A0402408

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The NTZZ50PM Operations Node - Conference Node Expansion Building Block provides the ON with the capability of controlling the 5th or 6th CN. For the 2nd or 3rd or 4th CN, simply provision one (1) 160 Mbyte SCSI Disk/Tape and one (1) 2 ft. SCSI cable.

REFERENCE DOCUMENTATION: SLZZ50PM 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

ISSUE AUTHOR: NTC: Mark Skrobecki Dept. N112 (MER)

MAIN CONTACT: NTC: Mark Skrobecki Dept. N112 (MER)

NTZZ50PM EMB19-03-OCEX-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 06	ECM 674 01	Initial release
93 11 08	ECM 674 02	Remove note 1 since this BB is no longer required to build a 4th CN. Also change Engineering Description.

The Operations Node - Conference Node Expansion B. B. is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
7 MByte File Processor SRU	NT4G26DB		1	XX	YY	AP
160 MByte SCSI Disk/Tape	NT4G20VA		1	XX	YY	AP
SCSI/SCSI Cable (2 ft.)	NT4G09AE		1	XX	YY	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT4G20QB	MD	NT4G20VA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

If this is the first time the NT4G20VA Seagate disk is installed in the MS-1 node/system, contact the NAS Technical Support for a new 1A Tape and a Base Increment Tape.

'XX' and 'YY' are the SHF and SRU positions indicated below:

- 1) For the 5th CN, the 7MB FP is in SHF POS 33, CP POS 03U and the 160MB SCSI Disk/Tape is in SHF POS 33, CP POS 04U.

- 2) For the 6th CN, the 7MB FP is in SHF POS 33, CP POS 07U and the 160MB SCSI Disk/Tape is in SHF POS 33, CP POS 08U.
- 3) Remove the previously provisioned SRU Fillers for the above SRUs.

## RULES:

- AP 1) When PEC NTZZ50PM is ordered, these items are provided.

MS-1 SERIAL PRINTER BUILDING BLOCK

NTZZ50HA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 Serial Printer Building Block comprises a serial impact printer and related hardware. The NTZZ50HA can serve as a MS-1 operations printer or maintenance printer.

REFERENCE DOCUMENTATION: SLZZ50HA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50HA EMB19-03-PRT-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The MS-1 Serial Printer Building Block is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Desktop Printer (110V)	A0317073					RUL1
Desktop Printer (240V)	NT3M56AG					RUL1
Pedestal Stand	NPS50457L6		1			AP
Paper Catch Tray	C2501313		1			AP
Serial Printer Cable (10 ft)	NT0M96DT					RUL2
Serial Printer Cable (25 ft)	NT0M96DU					RUL2
Serial Printer Cable (50 ft)	NT0M96DS					RUL2

NOTES:

RULES:

- AP 1) When PEC NTZZ50HA is ordered, these items are provided.
- RUL1 1) Provision one (1) Desktop Matrix Printer, A0317073 for 110V 60Hz power or a NT3M56AG for 240 50Hz power.
- RUL2 1) Provision one (1) NT0M96xx cable in the required length. This cable connects the desktop printer to a LIU, NT4G46CA (110V 60Hz) or NT3M46AA (240V 50Hz).





MAIN CONTACT NTC: George Kong

Dept. N211

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MS-1 19.2K/9.6K UDS MODEM BUILDING BLOCK

NTZZ50JA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 19.2K/9.6K UDS Modem Building Block provides 19.2Kbps/9.6Kbps access to the X.25 network. For MS-1 Operations Node or Operations Conference Node (in a networked OCN configuration), it requires a 19.2Kbps access to the X.25 network. For Conference Node or Operations Conference Node (not networked to other OCN's), it requires a 9.6Kbps access to the X.25 networked.

The MS-1 19.2K/9.6K UDS Modem B. B. mounts on the NT1M41BA UDS Modem Shelf, which in turn mounts on the Meridian Auxiliary Cabinet.

REFERENCE DOCUMENTATION: SLZZ50JA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50JA EMB19-03-UDS-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release
93 05 05	ECM 670 02	Make A0385558 AP. Remove A0385556.

The MS-1 19.2K/9.6K UDS Modem Building Block is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
UDS 19.2K/9.6K Baud Modem	A0385558		1			AP
RS232 Modem Cable (2.5 ft)	NT0M96SH		1			AP

NOTES :

RULES :

AP 1) When PEC NTZZ50JA is ordered, these items are provided.



MAIN CONTACT NTC: George Kong

Dept. N211

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MS-1 UDS 224AT/D DIALUP ACCESS BUILDING BLOCK

NTZZ50LA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 UDS 224AT/D Dialup Access Building Block provides 1200/2400 baud dial up access to the MS-1 Conference Node, Operations Node, or Operations Conference Node for remote maintenance purposes.

NTZZ50LA mounts on the NT1M41BA UDS Modem Shelf which in turn mounts on the Meridian Auxiliary Cabinet.

REFERENCE DOCUMENTATION: SLZZ50LA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50LA EMB19-03-UDS-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release
93 05 05	ECM 670 02	Make A0360825 AP. Remove A0326757.

The MS-1 UDS 224AT/D Dialup Access Building Block is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
UDS 224AT/D Modem Card	A0360825		1			AP
RS232 Modem Cable (2.5 ft)	NT0M96SH		1			AP

NOTES :

RULES :

AP 1) When PEC NTZZ50LA is ordered, these items are provided.

MS-1 M4120 VOICE AND DATA TERMINAL

NTZZ50GM

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 M4120 Voice and Data Terminal Building Block consists of a complete M4120 terminal used by MS-1 Operators and MS-1 administrators.

REFERENCE DOCUMENTATION: SLZZ50GM 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50GM EMB19-03-VDT-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The MS-1 M4120 Voice and Data Terminal is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
M4120 IVD Controller	NT0M90QA		1			AP
M4120 Keyboard	NT0M91BA		1			AP
M4120 Monochrome Monitor	NT0M92DA		1			AP
MS-1 Keycap Kit	NT0M91CA		1			AP
Teledapt Cable (3 ft.)	NT0M96CA					RUL1
Teledapt Cable (7 ft.)	NT0M96CB					RUL1
Teledapt Cable (14 ft.)	NT0M96CC					RUL1
Teledapt Cable (25 ft.)	NT0M96CD					RUL1
Teledapt Cable (37 ft.)	NT0M96CE					RUL1
Teledapt Cable (50 ft.)	NT0M96CF					RUL1
Teledapt Cable (100 ft.)	NT0M96TF					RUL1
Teledapt Cable (150 ft.)	NT0M96TH					RUL1
Teledapt Cable (200 ft.)	NT0M96RB					RUL1
Teledapt Cable (3 ft.)	NT0M96SR					RUL2
Teledapt Cable (7 ft.)	NT0M96SS					RUL2
Teledapt Cable (14 ft.)	NT0M96ST					RUL2
Teledapt Cable (25 ft.)	NT0M96SU					RUL2
Teledapt Cable (37 ft.)	NT0M96SV					RUL2
Teledapt Cable (50 ft.)	NT0M96SW					RUL2
Teledapt Cable (100 ft.)	NT0M96TG					RUL2
Teledapt Cable (150 ft.)	NT0M96TJ					RUL2
Teledapt Cable (200 ft.)	NT0M96SX					RUL2

NOTES:

RULES:

- AP 1) When PEC NTZZ50GM is ordered, these items are provided.
- RUL1 1) For Non-Plenum teledapt cable, provision one (1) NT0M96xx of the required length. This cable connects the M4120 terminal to the BIX Cross-Connect Panel designated for M4120 access.

- 2) Each M4120 is equipped with a NT0M96CC (14 ft.) cable. Provide an alternate cable if the cabling distance requires it.
- RUL2
- 1) For Plenum teledapt cable, provision one (1) NT0M96xx of the required length. This cable connects the M4120 terminal to the BIX Cross-Connect Panel designated for M4120 access.
  - 2) Each M4120 is equipped with a NT0M96CC (14 ft.) cable. Provide an alternate cable if the cabling distance requires it.





MAIN CONTACT NTC: George Kong

Dept. N211

(MER)

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MS-1 M4110 DATA TERMINAL

NTZZ50NM

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 M4110 Data Terminal Building Block consists of a complete M4110 terminal used by MS-1 Operators and MS-1 administrators.

REFERENCE DOCUMENTATION: SLZZ50NM 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50NM EMB19-03-VDT-2 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 06	ECM 674 01	Initial release

The MS-1 M4110 Data Terminal is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
M4110 Data Controller	NT0M90PA		1			AP
M4110 Keyboard	NT0M91BA		1			AP
M4110 Monochrome Monitor	NT0M92DA		1			AP
MS-1 Keycap Kit	NT0M91CA		1			AP
Teledapt Cable (3 ft.)	NT0M96CA					RUL1
Teledapt Cable (7 ft.)	NT0M96CB					RUL1
Teledapt Cable (14 ft.)	NT0M96CC					RUL1
Teledapt Cable (25 ft.)	NT0M96CD					RUL1
Teledapt Cable (37 ft.)	NT0M96CE					RUL1
Teledapt Cable (50 ft.)	NT0M96CF					RUL1
Teledapt Cable (100 ft.)	NT0M96TF					RUL1
Teledapt Cable (150 ft.)	NT0M96TH					RUL1
Teledapt Cable (200 ft.)	NT0M96RB					RUL1
Teledapt Cable (3 ft.)	NT0M96SR					RUL2
Teledapt Cable (7 ft.)	NT0M96SS					RUL2
Teledapt Cable (14 ft.)	NT0M96ST					RUL2
Teledapt Cable (25 ft.)	NT0M96SU					RUL2
Teledapt Cable (37 ft.)	NT0M96SV					RUL2
Teledapt Cable (50 ft.)	NT0M96SW					RUL2
Teledapt Cable (100 ft.)	NT0M96TG					RUL2
Teledapt Cable (150 ft.)	NT0M96TJ					RUL2
Teledapt Cable (200 ft.)	NT0M96SX					RUL2

NOTES:

RULES:

- AP 1) When PEC NTZZ50NM is ordered, these items are provided.
- RUL1 1) For Non-Plenum teledapt cable, provision one (1) NT0M96xx of the required length. This cable connects the M4110 terminal to the BIX Cross-Connect Panel designated for M4110 access.

- 2) Each M4110 is equipped with a NT0M96CC (14 ft.) cable. Provide an alternate cable if the cabling distance requires it.
- RUL2 1) For Plenum teledapt cable, provision one (1) NT0M96xx of the required length. This cable connects the M4110 terminal to the BIX Cross-Connect Panel designated for M4110 access.
- 2) Each M4110 is equipped with a NT0M96CC (14 ft.) cable. Provide an alternate cable if the cabling distance requires it.

## MS-1 OPERATIONS CONFERENCE NODE CABINET

PEC CODE: NTZZ50AA

CPC CODE: A0401190

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: OCN

ENGINEERING DESCRIPTION: The MS-1 Operations Conference Node Cabinet contains the framework, packfill, shelf assemblies, local cables and miscellaneous hardware common to all Meridian Application Cabinet OCN's.

REFERENCE DOCUMENTATION: SLZZ50AA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

ISSUE AUTHOR: NTC: Mark Skrobecki Dept. N112 (MER)

MAIN CONTACT: NTC: Mark Skrobecki Dept. N112 (MER)

NTZZ50AA EMB19-03-000 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release.
93 12 22	ECM 670 03	Replace NT4G20QB with NT4G20VA.



The MS-1 Operations Conference Node Cabinet is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Merid Applic Cab Bay 1	NT1M41CG		1			AP
Upper Cooling Unit	NT1M4114		1	66		AP-01
Frame Supervisory Panel	NT1M4137	FSP	1	61		AP-01
1/4 Wide SRU Filler	NT1M41AD		1	33	01U	AP
Digital Trk Link SRU	NT4G23EA		3	33	03U,05U	AP
DTL to Bulkhead Cable	NT1M41DW		3	33	07U 03U,05U	AP
3 MB Conf Serv SRU	NT4G24DA		1	33	09U	AP
Rack Converter SRU	NT4G50FA		1	33	10U	AP
Double Shelf Assembly	NT1M41AN		1	33		AP-01
LANLink SRU	NT4G14DB		1	33	01L	AP
LANLink to Bulkhead Cable	NT1M40AE		1	33	01L	AP
7 MB File Proc SRU	NT4G26DB		1	33	03L	AP
1/2 Wide SRU Filler	NT1M41AE		1	33	05L	AP
Voice Interface SRU	NT4G27CA			33	07L	RUL1
1/2 Wide SRU Filler	NT1M41AE			33	07L	RUL1
3 MB Conf Serv SRU	NT4G24DA		1	33	09L	AP
Rack Converter SRU	NT4G50FA		1	33	10L	AP
Dig Tone Recvr SRU	NT4G49CA			05	01U	RUL2
1/4 Wide SRU Filler	NT1M41AD			05	01U	RUL2
#160 MB SCSI Disk/Tape	NT4G20QB		1	05	02U	AP
160 MB SCSI Disk/Tape	NT4G20VA		1	05	02U	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	02U	AP
1/4 Wide SRU Filler	NT1M41AD		1	05	03U	AP
1/2 Wide SRU Filler	NT1M41AE		1	05	05U	AP
1/2 Wide SRU Filler	NT1M41AE		1	05	07U	AP
App. Processor 68020-10	NT4G25GB		1	05	09U	AP
Rack Converter SRU	NT4G50FA		1	05	10U	AP
Double Shelf Assembly	NT1M41AN		1	05		AP-01
#160 MB SCSI Disk/Tape	NT4G20QB		1	05	01L	AP
160 MB SCSI Disk/Tape	NT4G20VA		1	05	01L	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	01L	AP
LANLink SRU	NT4G14DB		1	05	02L	AP
LANLink to FSP/Blkhd Cable	NT1M41CK		1	05	02L	AP
6MB SCSI Prime Processor	NT4G16EF		1	05	04L	AP
Prime Proc. to FSP Cable	NT1M40AK		1	05	04L	AP

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Network Service Module	NT4G22DA		1	05	05L	AP
Dig Tone Recvr SRU	NT4G49CA		1	05	06L	AP
DATANET SRU BB	NTZZ50CM			05	07L	RUL6
1/4 Wide SRU Filler	NT1M41AD			05	07L	RUL6
App. Processor 68020-10	NT4G25GB		1	05	09L	AP
Rack Converter SRU	NT4G50FA		1	05	10L	AP
<hr/>						
Lower Cooling Unit	NT1M4113		1	01		AP-01
<hr/>						
Merid Cabinet H/W (Brown)	NTZZ50DA					RUL3
Merid Cabinet H/W (Grey)	NTZZ50DM					RUL3
Cable Trough (Brown)	NTNX55AA					RUL4
Cable Trough (Grey)	NTNX5511					RUL4
Merid Cab Anchor & Isolat.	NTZZ50GA					RUL5
MS-1 ON Label (Aqua)*	P0711175					RUL7
MS-1 ON Label (Lime)*	P0711399					RUL7

\* currently no OCN label exist, use the ON labels as a substitute.

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT4G20QB	MD	NT4G20VA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

- AP 1) When PEC NTZZ50AA is ordered, these items are provided.
- AP-01 1) This PEC is always provided on the NT1M41CG cabinet, and is indicated here for completeness.
- RUL1 1) Provision one (1) NT4G27CA Voice Interface SRU in this position if the Interactive Voice Announcements (IVA) feature is required in the MS-1. Otherwise provision one(1) NT1M41AE 1/2 Wide SRU Filler
- RUL2 1) Provision one (1) NT4G49CA Dig Tone Receiver SRU in this position if the Security Features (DTMF) capability without IVA is required in the MS-1. Otherwise provision one (1) NT1M41AD 1/4 Wide SRU Filler.
- RUL3 1) Provision one (1) NTZZ50DA Meridian Cabinet Hardware Kit (Brown)if this is a brown OCN Cabinet.
- 2) Provision one (1) NTZZ50DM Meridian Cabinet Hardware Kit (Grey) if this is a grey OCN Cabinet.

- RUL4 1) Provision one (1) NTNX55AA Cable Trough (Brown) if this is a brown OCN Cabinet and overhead cabling is required.
- 2) Provision one (1) NTNX5511 Cable Trough (Grey) if this is a grey OCN cabinet and overhead cabling is required.
- RUL5 1) Provision one (1) NTZZ50GA Meridian Cabinet Anchor and Isolation Kit for each OCN cabinet.
- RUL6 1) Provision one (1) NTZZ50CM DATANET B.B. if this OCN is to be connected to other OCN's on the same site via Local Area Network. Otherwise, provision one (1) NT1M41AD SRU Filler.
- 2) NTZZ50CM includes cabling from the DATANET SRU to the OCN bulkhead. The OCN must be connected to the next OCN via a bulkhead to bulkhead cable NT1M41BG (20 ft.), or NT1M41BE (50 ft.), or NT1M41BH (70 ft.).
- 3) A maximum of six (6) OCN's are permitted in a single DATANET LAN. The network topology is a circular daisy chain.
- 4) In the case of OCN's, DATANET is required for the Universal Operator capability. DATANET cannot be used for multi-node OA&M.
- RUL7 1) Provision two (2) P0711175 MS-1 ON Label (Aqua) if this is a grey OCN cabinet.
- 2) Provision two (2) P0711399 MS-1 ON Label (Lime) if this is a brown OCN cabinet.

MS-1 OPERATIONS NODE CABINET

PEC CODE: NTZZ50AM

CPC CODE: A0401209

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: ON

ENGINEERING DESCRIPTION: The MS-1 Operations Node Cabinet contains the framework packfill, shelf assemblies, local cables and miscellaneous hardware common to all Meridian Applications Cabinet ON's.

REFERENCE DOCUMENTATION: SLZZ50AM 00 01

MARKETS: Applicable markets:

- US
- Canada
- CALA

ISSUE AUTHOR: NTC: Mark Skrobecki Dept. N112 (MER)

MAIN CONTACT: NTC: Mark Skrobecki Dept. N112 (MER)

NTZZ50AM EMB19-03-001 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release.
93 12 22	ECM 670 03	Replace NT4G20QB with NT4G20VA.

The MS-1 Operations Node Cabinet is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Merid Applic Cab Bay 1	NT1M41CG		1			AP
Upper Cooling Unit	NT1M4114		1	66		AP-01
Frame Supervisory Panel	NT1M4137	FSP	1	61		AP-01
LANLink SRU	NT4G14DB		1	33	01U	AP
LANLink to Bulkhead Cable	NT1M40AE		1	33	01U	AP
Digital Trunk Link SRU	NT4G23EA		3	33	03U,05U	AP
DTL to Bulkhead Cable	NT1M41DW		3	33	07U 03U,05U	AP
1/2 Wide SRU Filler	NT1M41AE		1	33	09U	AP
Rack Converter SRU	NT4G50FA		1	33	10U	AP
Double Shelf Assembly	NT1M41AN		1	33		AP-01
LANLink SRU	NT4G14DB		1	33	01L	AP
LANLink to Bulkhead Cable	NT1M40AE		1	33	01L	AP
7 MB File Proc SRU	NT4G26DB		1	33	03L	AP
ON-CN Expansion BB	NTZZ50MA			33	05L	RUL1
1/2 Wide SRU Filler	NT1M41AE			33	05L	RUL1
ON-CN Expansion BB	NTZZ50MA			33	07L	RUL2
1/2 Wide SRU Filler	NT1M41AE			33	07L	RUL2
App. Processor 68020-10	NT4G25GB		1	33	09L	AP
Rack Converter SRU	NT4G50FA		1	33	10L	AP
1/4 Wide SRU Filler	NT1M41AD		1	05	01U	AP
#160 MB SCSI Disk/Tape	NT4G20QB		1	05	02U	AP
160 MB SCSI Disk/Tape	NT4G20VA		1	05	02U	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	02U	AP
1/4 Wide SRU Filler	NT1M41AD		1	05	03U	AP
1/4 Wide SRU Filler	NT1M41AD			05	04U	RUL1
1/4 Wide SRU Filler	NT1M41AD		1	05	05U	AP
1/4 Wide SRU Filler	NT1M41AD			05	06U	RUL2
App. Processor 68010-3	NT4G25CD		1	05	07U	AP
App. Processor 68020-10	NT4G25GB		1	05	09U	AP
Rack Converter SRU	NT4G50FA		1	05	10U	AP
Double Shelf Assembly	NT1M41AN		1	05		AP-01
#160 MB SCSI Disk/Tape	NT4G20QB		1	05	01L	AP
160 MB SCSI Disk/Tape	NT4G20VA		1	05	01L	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	01L	AP
LANLink SRU	NT4G14DB		1	05	02L	AP
LANLink to Bulkhead Cable	NT1M41CK		1	05	02L	AP

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
6MB SCSI Primary Proc	NT4G16EF		1	05	04L	AP
Prim. Proc. Cable to FSP	NT1M40AK		1	05	04L	AP
Network Service Module	NT4G22DA		1	05	05L	AP
Dig Tone Recvr SRU	NT4G49CA		1	05	06L	AP
DATANET SRU BB	NTZZ50CM			05	07L	RUL3
1/4 Wide SRU Filler	NT1M41AD			05	07L	RUL3
Applic. Processor 68020-10	NT4G25GB		1	05	09L	AP
Rack Converter SRU	NT4G50FA		1	05	10L	AP
<hr/>						
Lower Cooling Unit	NT1M4113		1	01		AP-01
<hr/>						
Meridian Cabinet H/W (Brown)	NTZZ50DA					RUL4
Meridian Cabinet H/W (Grey)	NTZZ50DM					RUL4
Cable Trough (Brown)	NTNX55AA					RUL5
Cable Trough (Grey)	NTNX5511					RUL5
Merid Cab Anchor & Isolator	NTZZ50GA					RUL6
MS-1 ON Label (Aqua)	P0711175					RUL8
MS-1 ON Label (Lime)	P0711399					RUL8

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT4G20QB	MD	NT4G20VA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:



93 12 22

## RULES:

- AP 1) When PEC NTZZ50AM is ordered, these items are provided.
- AP-01 1) This PEC is always provided on the NT1M41CG cabinet, and is indicated here for completeness.
- RUL1 1) Provision one (1) NTZZ50MA ON-CN Extension Building Block if this ON is to control three or more CN's. Otherwise provision one (1) NT1M41AE 1/2 Wide SRU Filler.
- 2) NTZZ50MA occupies two 1/4-wide slots in shelf position 33 SRU position 05L and one 1/4 wide slot in shelf position 05 SRU position 04U.
- RUL2 1) Provision one (1) NTZZ50MA ON-CN Extension Building Block if this ON is to control five or more CN's. Otherwise provision one (1) NT1M41AE 1/2 Wide SRU Filler.
- 2) NTZZ50MA occupies two 1/4-wide slots in shelf position 33 SRU position 07L and one 1/4 wide slot in shelf position 05 SRU position 06U.
- 3) If NTZZ50MA is provided in this position, one NTZZ50MA must be provided as per RUL1.
- RUL3 1) Provision one (1) NTZZ50CM DATANET BB if this ON is to be connected to other ON's on the same site via Local Area Network. Otherwise provision one (1) NT1M41AD 1/4 Wide SRU Filler
- 2) NTZZ50CM includes cabling from the DATANET SRU to the ON bulkhead. The ON must be connected to the next ON via bulkhead to bulkhead cable NT1M41BG (20 ft.), or NT1M41BE (50 ft.), or NT1M41BH (70 ft.).
- 3) A maximum of six (6) ON's are permitted in a single DATANET LAN. The network topology is a circular daisy chain.
- 4) In the case of ON's, DATANET is required for the Universal Operator capability. DATANET cannot be used for multi-node OA&M.
- RUL4 1) Provision one (1) NTZZ50DA Meridian Cabinet Hardware Kit (Brown) if this is a brown ON Cabinet.
- 2) Provision one (1) NTZZ50DM Meridian Cabinet Hardware Kit (Grey) if this is a grey ON Cabinet.

- RUL5 1) Provision one (1) NTNX55AA Cable Trough (Brown) if this is a brown ON Cabinet and overhead cabling is required.
- 2) Provision one (1) NTNX5511 Cable Trough (Grey) if this is a grey ON cabinet and overhead cabling is required.
- RUL6 1) Provision one (1) NTZZ50GA Meridian Cabinet Anchor and Isolation Kit for each ON cabinet.
- RUL8 1) Provision two (2) P0711175 MS-1 ON Label (Aqua) if this is a grey OCN cabinet.
- 2) Provision two (2) P0711399 MS-1 ON Label (Lime) if this is a brown OCN cabinet.

## MS-1 CONFERENCE NODE CABINET

PEC CODE: NTZZ50BA

CPC CODE: A0401210

RATING: STANDARD

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: CN

ENGINEERING DESCRIPTION: The MS-1 Conference Node Cabinet contains the framework packfill, shelf assemblies, local cables and miscellaneous hardware common to all Meridian Applications Cabinet CN's for 48 ports.

REFERENCE DOCUMENTATION: SLZZ50BA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

ISSUE AUTHOR: NTC: Mark Skrobecki Dept. N112 (MER)

MAIN CONTACT: NTC: Mark Skrobecki Dept. N112 (MER)

NTZZ50BA EMB19-03-002 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14 93 11 08	ECM 670 01 ECM 674 02	Initial release Make VI SRU in 33 07L AP. Remove 1/2 wide filler from 33 07L. Remove DTR SRU from 05 01U. Remove rules 2 and 4. Renumber rule 3 to 2. Renumber rules 5-9 to 3-7.

The MS-1 Conference Node Cabinet is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Merid Applic Cab Bay 1	NT1M41CG		1			AP
Upper Cooling Unit	NT1M4114		1	66		AP-01
Frame Supervisory Panel	NT1M4137	FSP	1	61		AP-01
1/4 Wide SRU Filler	NT1M41AD		1	33	01U	AP
Digital Trunk Link SRU	NT4G23EA		3	33	03U,05U	AP
DTL to Bulkhead Cable	NT1M41DW		3	33	07U 03U,05U	AP
3 MB Conf Serv SRU	NT4G24DA		1	33	09U	AP
Rack Converter SRU	NT4G50FA		1	33	10U	AP
Double Shelf Assembly	NT1M41AN		1	33		AP-01
1/4 Wide SRU Filler	NT1M41AD		1	33	01L	AP
MS-1 CN 48-Port Expansion	NTZZ50KM					RUL1
1/2 Wide SRU Filler	NT1M41AE			33	03L	RUL1
Voice Interface SRU	NT4G27CA			33	05L	RUL2
1/2 Wide SRU Filler	NT1M41AE			33	05L	RUL2
Voice Interface SRU	NT4G27CA		1	33	07L	AP
3 MB Conf Serv SRU	NT4G24DA		1	33	09L	AP
Rack Converter SRU	NT4G50FA		1	33	10L	AP
1/4 Wide SRU Filler	NT1M41AD		1	05	01U	AP
1/2 Wide SRU Filler	NT1M41AE			05	03U	RUL1
1/2 Wide SRU Filler	NT1M41AE			05	05U	RUL1
1/2 Wide SRU Filler	NT1M41AE			05	07U	RUL1
App. Processor 68020-10	NT4G25GB		1	05	09U	AP
Rack Converter SRU	NT4G50FA		1	05	10U	AP
Double Shelf Assembly	NT1M41AN		1	05		AP-01
160 MB SCSI Disk/Tape BB	NT4G20VA		1	05	01L	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	01L	AP
LANLink SRU	NT4G14DB		1	05	02L	AP
LANLink to Bulkhead Cable	NT1M41CK		1	05	02L	AP
6MB SCSI Primary Proc	NT4G16EF		1	05	04L	AP
Prim. Proc. Cable to FSP	NT1M40AK		1	05	04L	AP
Network Service Module	NT4G22DA		1	05	05L	AP
Dig Tone Recvr SRU	NT4G49CA		1	05	06L	AP
DATANET SRU B. B.	NTZZ50CM			05	07L	RUL7
1/4 Wide SRU Filler	NT1M41AD			05	07L	RUL7
App. Processor 68020-10	NT4G25GB		1	05	09L	AP
Rack Converter SRU	NT4G50FA		1	05	10L	AP

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Lower Cooling Unit	NT1M4113		1	01		AP-01
Meridian Cabinet H/W (Brown)	NTZZ50DA					RUL3
Meridian Cabinet H/W (Grey)	NTZZ50DM					RUL3
Cable Trough (Brown)	NTNX55AA					RUL4
Cable Trough (Grey)	NTNX5511					RUL4
Merid Cab Anchor & Isolat.	NTZZ50GA					RUL5
MS-1 CN Label (Aqua)	P0711177					RUL6
MS-1 CN Label (Lime)	P0711400					RUL6

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT4G20QB	AM	NT4G20VA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ50BA is ordered, these items are provided.

93 11 08

- AP-01 1) This PEC is always provided on the NT1M41CG cabinet, and is indicated here for completeness.
- RUL1 1) Provision one (1) NTZZ50KM MS-1 CN 48-Port Expansion Building Block in the positions as per the building block insert if this CN is to contain 96 ports conferencing. Otherwise provision NT1M41AE 1/2 Wide SRU Filler as shown in the Equipment List.
- RUL2 1) Provision a second NT4G27CA Voice Interface SRU if this is a 96-port CN with IVA feature or a 48-port CN that would like additional voice channels. Otherwise provision one (1) NT1M41AE 1/2 Wide SRU Filler.
- RUL3 1) Provision one (1) NTZZ50DA Meridian Cabinet Hardware Kit (Brown) if this is a brown CN Cabinet.  
2) Provision one (1) NTZZ50DM Meridian Cabinet Hardware Kit (Grey) if this is a grey CN Cabinet.
- RUL4 1) Provision one (1) NTN55AA Cable Trough (Brown) if this is a brown CN Cabinet and overhead cabling is required.  
2) Provision one (1) NTN5511 Cable Trough (Grey) if this is a Grey CN cabinet and overhead cabling is required.
- RUL5 1) Provision one (1) NTZZ50GA Meridian Cabinet Anchor and Isolation Kit for each CN cabinet.
- RUL6 1) Provision two (2) P0711177 MS-1 CN Label (Aqua) if this is a grey CN cabinet.  
2) Provision two (2) P0711400 MS-1 CN Label (Lime) if this is a brown CN cabinet.
- RUL7 1) Provision one (1) NTZZ50CM DATANET B.B. if this CN is to be connected to other CN's on the same site via Local Area Network. Otherwise provision one (1) NT1M41AD 1/4 Wide SRU Filler  
2) NTZZ50CM includes cabling from the DATANET SRU to the CN bulkhead. The CN must be connected to the next CN via bulkhead to bulkhead cable NT1M41BG (20 ft.), or NT1M41BE (50 ft.), or NT1M41BH (70 ft.).  
3) A maximum of six (6) CN's are permitted in a single DATANET LAN. The network topology is a circular daisy chain.

MERIDIAN AUXILIARY CABINET-OVERHEAD CABLES

NTZZ50BM

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Auxiliary Cabinet houses the modem shelves, LIU shelves and spares storage shelves for the Meridian-Cabinet MS-1 Teleconferencing System.

The NTZZ50BM is cabled from above. For raised floor applications, where cable entry occurs at the bottom of the cabinet use the NTZZ50CA Meridian Auxiliary Cabinet instead.

REFERENCE DOCUMENTATION: SLZZ50BM 00 01

MARKETS: Applicable markets:

- US
- Canada
- CALA



NTZZ50BM EMB19-03-003 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Auxiliary Cabinet-Overhead Cables is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Meridian Aux Cab -Overhead	NT1M41AB		1			AP
Upper Cooling Unit	NT1M4114		1	66		AP-01
Frame Supervisory Panel	NT1M4116	FSP	1	61		AP-01
Storage Shelf	NT1M41AN		1	33		AP
LIU Shelf	NT1M41AC		1	19		AP
LIU Option Card	NT1M41AF			19	1-16	RUL1
ALIU Option Card BB	NTZZ50KA			19	1-16	RUL2
LIU Filler Face Plate	P0709868			19	1-16	RUL3
LIU Option Card	NT1M41AF		1	19	17	AP
ALIU Option Card	NT1M41BW		1	19	18	AP
ALIU-FSP Cable	NT0M96SD		1			AP
UDS 16 Slot Modem Shelf	NT1M41BA		1	12		AP
Bulkhd to Modem Shelf Cable	NT1M41BJ		2			AP
UDS 19.2K Modem BB	NTZZ50JA			12	1-16	RUL4
UDS 9.6K Modem BB	NTZZ50JA			12	1-16	RUL5
UDS 224AT/D Modem B.B.	NTZZ50LA			12	1-16	RUL6
Filler Panel (7")	P0711183		1	05		AP
Lower Cooling Unit	NT1M4113		1	01		AP-01
Meridian Cabinet H/W (Brown)	NTZZ50DA					RUL7
Meridian Cabinet H/W (Grey)	NTZZ50DM					RUL7
Cable Trough (Brown)	NTNX55AA					RUL8
Cable Trough (Grey)	NTNX5511					RUL8
Merid Cab Anchor & Isolat.	NTZZ50GA					RUL9
MS-1 Aux. Cab Label (Aqua)	P0711179					RUL10
MS-1 Aux. Cab Label (Lime)	P0711401					RUL10
BIX Panel (Pre-wired)	NT1M41BZ					RUL13
BIX Panel (Blank)	NT1M41DT					RUL13
LanLink/BIX-Bulkhead Cable	NT1M41BN					RUL11
BIX-Bulkhead Cable	NT1M41BP					RUL12

## NOTES:

## RULES:

- AP 1) When PEC NTZZ50BM is ordered, these items are provided.
- 2) Cabling to the DF or other telephony cross-connect termination must be provided. The left and right sides of the UDS Modem Shelf are individually cabled to the Auxiliary Cabinet bulkhead. A 25-pair cable from the Auxiliary Cabinet Bulkhead to the cross-connect point provides network connectivity for the each half UDS Modem Shelf.

- AP-01 1) This PEC is always provided on the NT1M41AB cabinet, and is indicated here for completeness.

- RUL1 1) Provision one (1) NT1M41AF LIU Option Card in the specified position as required.

- 2) The NT1M41AF LIU provides the interface between a single LanLink port (originating from a CN, ON, or OCN, for example) and a RS232 device such as a rack-mounted dataset, modem, or ALIU Option Card.

In general for each LanLink port that requires access to such a device requires its own LIU Option Card.

- 3) The LIU Option Card connects to the MS-1 nodes' LanLink ports via BIX Cross-Connect Panel that is provisioned for the Auxiliary Cabinet.

Each LIU Option Card comes equipped with a Teledapt Cable for that purpose.

- 4) The LIU shelf is separated into two halves, each receiving its own power. To minimize the risk of a catastrophic MS-1 system failure in the event of a single LIU shelf power supply failure, it is highly recommended to spread LIU Option Cards on either side of the LIU shelf.

- 5) The LIU Option Card should always be adjacent to its ALIU Option card if the former is used to interface to an ALIU.

- 6) Each Applications Cabinet in a MS-1 system monitors and controls its own FSP alarms via a dedicated ALIU Card on the Auxiliary Cabinet's LIU Shelf.

One Applications Cabinet in a MS-1 system must also monitor and control the Auxiliary Cabinet's FSP alarms as well as its own. The LIU Option Card in LIU Shelf position 17 is designed to allow an external MS-1 Node to monitor the FSP alarms on the Auxiliary Cabinet via the ALIU Card in slot 18.

- RUL2 1) Provision one (1) NTZZ50KA ALIU Option Card Building Block for each MS-1 Node that uses this Auxiliary Cabinet.
- 2) The ALIU Card is designed to monitor various hardware conditions on a MS-1 Cabinet via that cabinet's Frame Supervisory Panel (FSP). Such conditions include power failure, cooling unit fan failure, and audible alarm cutoff. This information is conveyed to the cabinet's OA&M software by way of a LIU Card.

Similarly, the ALIU card is used by the cabinet's OA&M software to control the FSP alarm status indicators, such as the Critical, Major, and Minor Alarm lights. In this way, software-detected conditions, such as a PRU failure, can trigger an appropriate light to be turned on in the cabinet's FSP.

- 3) There should be a maximum of four (4) NTZZ50KA provisioned because the recommended maximum number of MS-1 Application Cabinets supported by an Auxiliary Cabinet is four.
- 4) Each ALIU Card must be connected to a LIU Card. A cable is provided with the ALIU card for that purpose.

The ALIU card and the LIU card that it connects to must be in adjacent slots.

- 5) Each ALIU Card Building Block comes equipped with a NT1M41BM ALIU to bulkhead cable.

Cabling from the Auxiliary Cabinet's bulkhead to the external MS-1 Cabinet's bulkhead must be ordered separately.

- RUL3 1) Provision one (1) P0709868 LIU Filler Face Plate for each unused slot on the LIU shelf.

- RUL4 1) Provision one (1) NTZZ50JA UDS 19.2K/9.6K Modem B. B. for each MS-1 Cabinet requiring a 19.2 Kbits/sec X.25 link.

Primary examples are: Operations Node and also Operations Conference Node when node is networked with other OCN's.

- 2) Each NTZZ50JA requires a dedicated LIU Option Card.
  - 3) Each NTZZ50JA comes equipped with an RS232 cable to the LIU Option Card.
- RUL5
- 1) Provision one (1) NTZZ50JA UDS 19.2K/9.6K Modem B. B. for each MS-1 Cabinet requiring a 9.6 Kbits/sec X.25 link. Configure the modem for 9.6Kbps operation. Primary examples are: Conference Node and Operations Conference Node when node is not networked with other OCN's.
  - 2) Each NTZZ50JA requires a dedicated LIU Option Card.
  - 3) Each NTZZ50JA comes equipped with an RS232 cable to the LIU Option Card.
- RUL6
- 1) Provision one (1) NTZZ50LA UDS 224AT/D Modem Building Block for each MS-1 Node connected to this Auxiliary Cabinet. NTZZ50LA provides
  - 2) Each NTZZ50LA requires a dedicated LIU Option Card.
  - 3) Each NTZZ50LA comes equipped with an RS232 cable to the LIU Option Card.
- RUL7
- 1) Provision one (1) NTZZ50DA Meridian Cabinet Hardware Kit (Brown) if this is a brown Auxiliary Cabinet.
  - 2) Provision one (1) NTZZ50DM Meridian Cabinet Hardware Kit (Grey) if this is a grey Auxiliary Cabinet.
- RUL8
- 1) Provision one (1) NTN55AA Cable Trough (Brown) if this is a brown Auxiliary Cabinet.
  - 2) Provision one (1) NTN5511 Cable Trough (Grey) if this is a grey Auxiliary Cabinet.
- RUL9
- 1) Provision one (1) NTZZ50GA Meridian Cabinet Anchor and Isolation Kit for each Auxiliary cabinet.
- RUL10
- 1) Provision two (2) P0711401 MS-1 Auxiliary Label (Lime) if this is a brown Auxiliary cabinet.
  - 2) Provision two (2) P0711179 MS-1 Auxiliary Label (Aqua) if this is a grey Auxiliary cabinet. cabinet.

- RUL11 1) Provision one (1) NT1M41BN LanLink/BIX-Bulkhead Cable for each external MS-1 Node LanLink that is cabled to this Auxiliary Cabinet.

This cable completes the connection from the LanLink to the NT1M41DL Cross-Connect Panel.

- RUL12 1) Provision one (1) NT1M41BP Bix-Bulkhead Cable for each BIX Block on the NT1M4DL Cross-Connect Panel that is used for outgoing LanLink connections.

- 2) Primarily, the NT1M41DL Cross Connect Panel is designed to give external MS-1 Nodes access to the LIU Option Cards mounted on the LIU Shelf. Each MS-1 Node LanLinks can be cabled to the Auxiliary Bay directly, or via an external Cross Connect Panel. If the former method is used, some of the LanLink ports, such as Printer Ports and M4120 Ports must be cabled back out of the Auxiliary Cabinet to their respective external LIU's and M4120's. The ports are cross-connected onto a separate block on the NT1M41DL and then cabled to the bulkhead via the NT1M41BP cable.

Provision one (1) NT1M41BP for every twelve LanLink Ports that required external access.

- RUL13 1) Provision one (1) NT1M41BZ BIX X-Connect Panel if a NTZZ50AM Building Block is required or an ON networked is configured.

- 2) Provision one (1) NT1M41DT BIX X-Connect Panel if a NTZZ50AA B.B. is required or an OCN network is configured.

- 3) The Aux Cabinet uses either the NT1M41BZ or the NT1M41DT depending on the above Building Block required or the network configuration.

Table 1 LIU Shelf Assignment

Function	Node 1	Node 2	Node 3	Node 4	Aux Bay
X.25	Slot 15	Slot 1	Slot 12	Slot 4	
ALIU	16	2	13	5	Slot 18
ALARM	17	3	14	6	
Rem. Maint.	7	8	9	10	

Table 2 Modem Shelf Assignment

Function	Node 1	Node 2	Node 3	Node 4
----------	--------	--------	--------	--------

-----	-----	-----	-----	-----
X.25	Slot 1	Slot 6	Slot 2	Slot 15
Rem. Maint.	11	10	8	6

## | MERIDIAN AUXILIARY CABINET - RAISED FLR CABLES NTZZ50CA

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Meridian Auxiliary Cabinet houses the modem shelves, LIU shelves and spares storage shelves for the Meridian-Cabinet MS-1 Teleconferencing System.

The NTZZ50CA is cabled from below, making it suitable for a raised floor environment. For overhead cabling applications, use the NTZZ50BM Meridian Auxiliary Cabinet instead.

REFERENCE DOCUMENTATION: SLZZ50CA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA



NTZZ50CA EMB19-03-004 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The Meridian Auxiliary Cabinet - Raised Flr Cables is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Meridian Aux Cab -Raised Flr	NT1M41BL		1			AP
Upper Cooling Unit	NT1M4114		1	66		AP-01
Frame Supervisory Panel	NT1M4116	FSP	1	61		AP-01
Filler Panel (7")	P0711183		1	54		AP
LIU Shelf	NT1M41AC		1	33		AP
LIU Option Card	NT1M41AF			33	1-16	RUL1
ALIU Option Card B.B.	NTZZ50KA			33	1-16	RUL2
LIU Filler Face Plate	P0709868			33	1-16	RUL3
LIU Option Card	NT1M41AF		1	33	17	AP
ALIU Option Card	NT1M41BW		1	33	18	AP
ALIU-FSP Cable	NT0M96SD		1			AP
UDS 16 Slot Modem Shelf	NT1M41BA		1	47		AP
Bulkhd to Modem Shelf Cable	NT1M41BJ		2			AP
UDS 19.2K Modem B.B.	NTZZ50JA			47	1-16	RUL4
UDS 9.6K Modem B.B.	NTZZ50JA			47	1-16	RUL5
UDS 224AT/D Modem B.B.	NTZZ50LA			47	1-16	RUL6
Storage Shelf	NT1M41AN		1	05		AP
Lower Cooling Unit	NT1M4113		1	01		AP-01

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Meridian Cabinet H/W (Brown)	NTZZ50DA					RUL7
Meridian Cabinet H/W (Grey)	NTZZ50DM					RUL7
Merid Cab Anchor & Isolat.	NTZZ50GA					RUL8
MS-1 Aux. Cab Label (Aqua)	P0711179					RUL12
MS-1 Aux. Cab Label (Lime)	P0711401					RUL12
BIX Panel (Pre-wired)	NT1M41BZ					RUL15
BIX Panel (Blank)	NT1M41DT					RUL15
LanLink/BIX-Bulkhead Cable	NT1M41BN					RUL13
BIX-Bulkhead Cable	NT1M41BP					RUL14

NOTES :

RULES :

- AP 1) When PEC NTZZ50BM is ordered, these items are provided.
- 2) Cabling to the DF or other telephony cross-connect termination must be provided. The left and right sides of the UDS Modem Shelf are individually cabled to the Auxiliary Cabinet bulkhead. A 25-pair cable from the Auxiliary Cabinet Bulkhead to the cross-connect point provides network connectivity for the each half UDS Modem Shelf.
- AP-01 1) This PEC is always provided on the NT1M41BL cabinet, and is indicated here for completeness.
- RUL1 1) Provision one (1) NT1M41AF LIU Option Card in the specified position as required.
- 2) The NT1M41AF LIU provides the interface between a single LanLink port (originating from a CN, ON, or OCN, for example) and a RS232 device such as a rack-mounted dataset, modem, or ALIU Option Card.

In general for each LanLink port that requires access to such a device requires its own LIU Option Card.

- 3) The LIU Option Card connects to the other cabinets' LanLink ports via the NT1M41DL Cross-Connect Panel that comes with the Auxiliary Cabinet Building Block.

Each LIU Option Card comes equipped with a Teledapt Cable for that purpose.

- 4) The LIU shelf is separated into two halves, each receiving its own power. To minimize the risk of a catastrophic MS-1 system failure in the event of a single LIU shelf power supply failure, it is highly recommended to spread LIU Option Cards on either side of the LIU shelf.
- 5) The LIU Option Card should always be adjacent to its ALIU Option card if the former is used to interface to an ALIU.
- 6) Each Applications Cabinet in a MS-1 system monitors and controls its own FSP alarms via a dedicated ALIU Card the Auxiliary Cabinet's LIU Shelf.

One Applications Cabinet in a MS-1 system must also monitor and control the Auxiliary Cabinet's FSP alarms as well as its own. The LIU Option Card in LIU Shelf position 17 is designed to allow an external MS-1 Node to monitor the FSP alarms on the Auxiliary Cabinet via the ALIU Card in slot 18.

- RUL2
- 1) Provision one (1) NTZZ50KA ALIU Option Card Building Block for each MS-1 Node that uses this Auxiliary Cabinet.
  - 2) The ALIU Card is designed to monitor various hardware conditions on a MS-1 Cabinet via that cabinet's Frame Supervisory Panel (FSP). Such conditions include power failure, cooling unit fan failure, and audible alarm cutoff. This information is conveyed to the cabinet's OA&M software by way of a LIU Card.

Similarly, the ALIU card can be used by the cabinet's OA&M software to control the FSP alarm status indicators, such as the Critical, Major, and Minor Alarm lights. In this way, software-detected conditions, such as a PRU failure, can trigger an appropriate light to be turned on in the cabinet's FSP.

- 3) There should be a maximum of four (4) NTZZ50KA provisioned because the recommended maximum number of MS-1 Application Cabinets supported by an Auxiliary Cabinet is four.

- 4) Each ALIU Card must be connected to a LIU Card. A cable is provided with the ALIU card for that purpose.

The ALIU card and the LIU card that it connects to must be in adjacent slots.

- 5) Each ALIU Card Building Block comes equipped with a NT1M41BM ALIU to bulkhead cable.

Cabling from the Auxilliary Cabinet's bulkhead to the external MS-1 Cabinet's bulkhead must be ordered separately.

- RUL3 1) Provision one (1) P0709868 LIU Filler Face Plate for each unused slot on the LIU shelf.

- RUL4 1) Provision one (1) NTZZ50JA UDS 19.2K/9.6K Modem B. B. for each MS-1 Cabinet requiring a 19.2 Kbits/sec X.25 link. Primary examples are: Operations Node and also Operations Conference Node when node is networked with other OCN's.

- 2) Each NTZZ50JA requires a dedicated LIU Option Card.

- 3) Each NTZZ50JA comes equipped with an RS232 cable to the LIU Option Card.

- RUL5 1) Provision one (1) NTZZ50JA UDS 19.2K/9.6K Modem B. B. for each MS-1 Cabinet requiring a 9.6 Kbits/sec X.25 link. Configure the modem for 9.6Kbps operation. Primary examples are: Conference Node and Operations Conference Node when node is not networked with other OCN's.

- 2) Each NTZZ50JA requires a dedicated LIU Option Card.

- 3) Each NTZZ50JA comes equipped with an RS232 cable to the LIU Option Card.

- RUL6 1) Provision one (1) NTZZ50LA UDS 224AT/D Modem B. B. for each MS-1 Node connected to this Auxilliary Cabinet.

- 2) Each NTZZ50LA requires a dedicated LIU Option Card.

- 3) Each NTZZ50LA comes equipped with an RS232 cable to the LIU Option Card.

- RUL7 1) Provision one (1) NTZZ50DA Meridian Cabinet Hardware Kit (Brown) if this is a brown Auxilliary Cabinet.

- 2) Provision one (1) NTZZ50DM Meridian Cabinet Hardware Kit (Grey) if this is a grey Auxilliary Cabinet.

- RUL8 1) Provision one (1) NTZZ50GA Meridian Cabinet Anchor and Isolation Kit for each Auxiliary cabinet.
  
- RUL12 1) Provision two (2) P0711401 MS-1 Auxiliary Label (Lime) if this is a brown Auxiliary cabinet.  
  
Provision two (2) P0711179 MS-1 Auxiliary Label (Aqua) if this is a grey Auxiliary cabinet.
  
- RUL13 1) Provision one (1) NT1M41BN LanLink/BIX-Bulkhead Cable for each external MS-1 Node LanLink that is cabled to this Auxiliary Cabinet.  
  
This cable completes the connection from the LanLink to the NT1M41DL Cross-Connect Panel.
  
- RUL14 1) Provision one (1) NT1M41BP Bix-Bulkhead Cable for each BIX Block on the NT1M4DL Cross-Connect Panel that is used for outgoing LanLink connections.  
  
2) Primarily, the NT1M41DL Cross Connect Panel is designed to give external MS-1 Nodes access to the LIU Option Cards mounted on the LIU Shelf. Each MS-1 Node LanLinks can be cabled to the Auxiliary Bay directly, or via an external Cross Connect Panel. If the former method is used, some of the LanLink ports, such as Printer Ports and M4120 Ports must be cabled back out of the Auxiliary Cabinet to their respective external LIU's and M4120's. The ports are cross-connected onto a separate block on the NT1M41DL and then cabled to the bulkhead via the NT1M41BP cable.  
  
Provision one (1) NT1M41BP for every twelve LanLink Ports that required external access.
  
- RUL15 1) Provision one (1) NT1M41BZ BIX X-Connect Panel if a NTZZ50AM Building Block is required or an ON networked is configured.  
  
2) Provision one (1) NT1M41DT BIX X-Connect Panel if a NTZZ50AA B.B. is required or an OCN network is configured.  
  
3) The Aux Cabinet uses either the NT1M41BZ or the NT1M41DT depending on the above Building Block required or the network configuration.

Table 1 LIU Shelf Assignment

Function	Node 1	Node 2	Node 3	Node 4	Aux Bay
----------	--------	--------	--------	--------	---------

-----	-----	-----	-----	-----	-----
X.25	Slot 15	Slot 1	Slot 12	Slot 4	
ALIU	16	2	13	5	Slot 18
ALARM	17	3	14	6	
Rem. Maint.	7	8	9	10	

Table 2 Modem Shelf Assignment

Function	Node 1	Node 2	Node 3	Node 4
-----	-----	-----	-----	-----
X.25	Slot 1	Slot 6	Slot 2	Slot 15
Rem. Maint.	11	10	8	6

## MS-1 OPERATIONS CONFERENCE NODE CABINET

PEC CODE: NTZZ50MM

CPC CODE: A0402404

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: OCN

ENGINEERING DESCRIPTION: The MS-1 Operations Conference Node Cabinet contains the framework, packfill, shelf assemblies, local cables and miscellaneous hardware common to all Meridian Application Cabinet OCN's for 48 ports.

REFERENCE DOCUMENTATION: SLZZ50MM 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

ISSUE AUTHOR: NTC: Mark Skrobecki Dept. N112 (MER)

MAIN CONTACT: NTC: Mark Skrobecki Dept. N112 (MER)



NTZZ50MM EMB19-03-006 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 06	ECM 674 01	Initial release.
93 11 08	ECM 674 02	Make VI SRU in 33 07L AP. Remove 1/2 wide filler from 33 07L. Remove DTR SRU from 05 01U. Remove rules 1 and 2. Renumber rules 3-8 to 1-6.

The MS-1 Operations Conference Node Cabinet is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Merid Applic Cab Bay 1	NT1M41CG		1			AP
Upper Cooling Unit	NT1M4114		1	66		AP-01
Frame Supervisory Panel	NT1M4137	FSP	1	61		AP-01
MS1 Gateway BB	NTZZ50PA			33	01U	RUL6
1/4 Wide SRU Filler	NT1M41AD			33	01U	RUL6
Digital Trk Link SRU	NT4G23EA		3	33	03U,05U	AP
DTL to Bulkhead Cable	NT1M41DW		3	33	03U,05U	AP
3 MB Conf Serv SRU	NT4G24DA		1	33	09U	AP
Rack Converter SRU	NT4G50FA		1	33	10U	AP
Double Shelf Assembly	NT1M41AN		1	33		AP-01
LANLink SRU	NT4G14DB		1	33	01L	AP
LANLink to Bulkhead Cable	NT1M40AE		1	33	01L	AP
7 MB File Proc SRU	NT4G26DB		1	33	03L	AP
1/2 Wide SRU Filler	NT1M41AE		1	33	05L	AP
Voice Interface SRU	NT4G27CA		1	33	07L	AP
3 MB Conf Serv SRU	NT4G24DA		1	33	09L	AP
Rack Converter SRU	NT4G50FA		1	33	10L	AP
1/4 Wide SRU Filler	NT1M41AD		1	05	01U	AP
160 MB SCSI Disk/Tape	NT4G20VA		1	05	02U	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	02U	AP
1/4 Wide SRU Filler	NT1M41AD		1	05	03U	AP
App. Processor 68020-10	NT4G25GB		1	05	05U	AP
1/2 Wide SRU Filler	NT1M41AE		1	05	07U	AP
App. Processor 68020-10	NT4G25GB		1	05	09U	AP
Rack Converter SRU	NT4G50FA		1	05	10U	AP
Double Shelf Assembly	NT1M41AN		1	05		AP-01
160 MB SCSI Disk/Tape	NT4G20VA		1	05	01L	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	01L	AP
LANLink SRU	NT4G14DB		1	05	02L	AP
LANLink to FSP/Blkhd Cable	NT1M41CK		1	05	02L	AP
6MB SCSI Prime Processor	NT4G16EF		1	05	04L	AP
Prime Proc. to FSP Cable	NT1M40AK		1	05	04L	AP
Network Service Module	NT4G22DA		1	05	05L	AP
Dig Tone Recvr SRU	NT4G49CA		1	05	06L	AP
Datanet SRU BB	NTZZ50CM			05	07L	RUL4

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
1/4 Wide SRU Filler	NT1M41AD			05	07L	RUL4
App. Processor 68020-10	NT4G25GB		1	05	09L	AP
Rack Converter SRU	NT4G50FA		1	05	10L	AP
<hr/>						
Lower Cooling Unit	NT1M4113		1	01		AP-01
<hr/>						
Merid Cabinet H/W (Brown)	NTZZ50DA					RUL1
Merid Cabinet H/W (Grey)	NTZZ50DM					RUL1
Cable Trough (Brown)	NTNX55AA					RUL2
Cable Trough (Grey)	NTNX5511					RUL2
Merid Cab Anchor & Isolat.	NTZZ50GA					RUL3
MS-1 ON Label (Aqua)*	P0711175					RUL5
MS-1 ON Label (Lime)*	P0711399					RUL5

\* currently no OCN label exist, use the ON labels as a substitute.

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
PEC	RATING	REPLACED BY PEC
NT4G20QB	AM	NT4G20VA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

If this is the first time the NT4G20VA Seagate disk is installed in the MS-1 node/system, contact the NAS Technical Support for a new 1A Tape and a Base Increment Tape.

RULES:

- AP 1) When PEC NTZZ50MM is ordered, these items are provided.
- AP-01 1) This PEC is always provided on the NT1M41CG cabinet, and is indicated here for completeness.
- RUL1 1) Provision one (1) NTZZ50DA Meridian Cabinet Hardware Kit (Brown) if this is a brown OCN Cabinet.
- 2) Provision one (1) NTZZ50DM Meridian Cabinet Hardware Kit (Grey) if this is a grey OCN Cabinet.
- RUL2 1) Provision one (1) NTN55AA Cable Trough (Brown) if this is a brown OCN Cabinet and overhead cabling is required.

- 2) Provision one (1) NTNX5511 Cable Trough (Grey) if this is a grey OCN cabinet and overhead cabling is required.
- RUL3 1) Provision one (1) NTZZ50GA Meridian Cabinet Anchor and Isolation Kit for each OCN cabinet.
- RUL4 1) Provision one (1) NTZZ50CM DATANET building block if this OCN is to be connected to other OCN's on the same site via Local Area Network. Otherwise, provision one (1) NT1M41AD SRU Filler.
- 2) NTZZ50CM includes cabling from the Datanet SRU to the OCN bulkhead. The OCN must be connected to the next OCN via a bulkhead to bulkhead cable NT1M41BG (20 ft.), or NT1M41BE (50 ft.), or NT1M41BH (70 ft.).
- 3) A maximum of four (4) OCN's are permitted in a single DATANET LAN. The network topology is a circular daisy chain.
- 4) In the case of OCN's, Datanet is required for the Universal Operator capability. Datanet may also be used for multi-node OA&M.
- RUL5 1) Provision two (2) P0711175 MS-1 ON Label (Aqua) if this is a grey OCN cabinet.
- 2) Provision two (2) P0711399 MS-1 ON Label (Lime) if this is a brown OCN cabinet.
- RUL6 1) Provision one (1) NTZZ50PA MS-1 Gateway building block if MS-1 Gateway is required. Otherwise provision one (1) NT1M41AD 1/4 Wide SRU Filler.

## MS-1 OPERATIONS NODE CABINET

PEC CODE: NTZZ50NA

CPC CODE: A0402405

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME: ON

ENGINEERING DESCRIPTION: The MS-1 Operations Node Cabinet contains the framework packfill, shelf assemblies, local cables and miscellaneous hardware common to all Meridian Applications Cabinet ON's.

REFERENCE DOCUMENTATION: SLZZ50NA 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

ISSUE AUTHOR: NTC: Mark Skrobecki Dept. N112 (MER)

MAIN CONTACT: NTC: Mark Skrobecki Dept. N112 (MER)

NTZZ50NA EMB19-03-007 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 05 06	ECM 674 01	Initial release.
93 11 08	ECM 674 02	Replace NTZZ50PM in 33 09L with one NT4G26DB Processor and make it AP. Remove the 1/2 wide filler in 33 09L. Add 160 MB Disk and cable to 05 08U and reference to rule 1 for fourth CN. Add location 08U (4th CN) to rule 1. Remove location 08U (4th CN) from rule 2.

The MS-1 Operations Node Cabinet is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Merid Applic Cab Bay 1	NT1M41CG		1			AP
Upper Cooling Unit	NT1M4114		1	66		AP-01
Frame Supervisory Panel	NT1M4137	FSP	1	61		AP-01
LANLink SRU	NT4G14DB		1	33	01U	AP
LANLink to Bulkhead Cable	NT1M40AE		1	33	01U	AP
ON-CN Expansion BB	NTZZ50PM			33		RUL2
1/2 Wide SRU Filler	NT1M41AE			33	03U	RUL2
1/4 Wide SRU Filler	NT1M41AD			33	04U	RUL2
1/4 Wide SRU Filler	NT1M41AD		1	33	05U	AP
ON-CN Expansion BB	NTZZ50PM			33		RUL2
1/2 Wide SRU Filler	NT1M41AE			33	07U	RUL2
1/4 Wide SRU Filler	NT1M41AD		1	33	08U	RUL2
1/4 Wide SRU Filler	NT1M41AD		1	33	09U	AP
Rack Converter SRU	NT4G50FA		1	33	10U	AP
Double Shelf Assembly	NT1M41AN		1	33		AP-01
LANLink SRU	NT4G14DB		1	33	01L	AP
LANLink to Bulkhead Cable	NT1M40AE		1	33	01L	AP
7 MB File Proc SRU	NT4G26DB		1	33	03L	AP
7 MB File Proc SRU	NT4G26DB		1	33	05L	AP
7 MB File Proc SRU	NT4G26DB		1	33	07L	AP
7 MB File Proc SRU	NT4G26DB		1	33	09L	AP
Rack Converter SRU	NT4G50FA		1	33	10L	AP
MS1 Gateway BB	NTZZ50PA			05	01U	RUL8
1/4 Wide SRU Filler	NT1M41AD			05	01U	RUL8
160 MB SCSI Disk/Tape	NT4G20VA		1	05	02U	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	02U	AP
1/4 Wide SRU Filler	NT1M41AD		1	05	03U	AP
160 MB SCSI Disk/Tape	NT4G20VA			05	04U	RUL1
SCSI/SCSI Cable (2 ft)	NT4G09AE			05	04U	RUL1
1/4 Wide SRU Filler	NT1M41AD			05	04U	RUL1
1/4 Wide SRU Filler	NT1M41AD		1	05	05U	AP
160 MB SCSI Disk/Tape	NT4G20VA			05	06U	RUL1
SCSI/SCSI Cable (2 ft)	NT4G09AE			05	06U	RUL1
1/4 Wide SRU Filler	NT1M41AD			05	06U	RUL1
1/4 Wide SRU Filler	NT1M41AD		1	05	07U	AP
160 MB SCSI Disk/Tape	NT4G20VA			05	08U	RUL1
SCSI/SCSI Cable (2 ft)	NT4G09AE			05	08U	RUL1
1/4 Wide SRU Filler	NT1M41AD			05	08U	RUL1



EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
1/4 Wide SRU Filler	NT1M41AD		1	05	09U	AP
Rack Converter SRU	NT4G50FA		1	05	10U	AP
Double Shelf Assembly	NT1M41AN		1	05		AP-01
160 MB SCSI Disk/Tape	NT4G20VA		1	05	01L	AP
SCSI/SCSI Cable (2 ft)	NT4G09AE		1	05	01L	AP
LANLink SRU	NT4G14DB		1	05	02L	AP
LANLink to FSP/Blkhd Cable	NT1M41CK		1	05	02L	AP
6MB SCSI Primary Proc	NT4G16EF		1	05	04L	AP
Prim. Proc. Cable to FSP	NT1M40AK		1	05	04L	AP
1/2 Wide SRU Filler	NT1M41AE		1	05	06L	AP
Datanet SRU BB	NTZZ50CM			05	07L	RUL3
1/4 Wide SRU Filler	NT1M41AD			05	07L	RUL3
Applic. Processor 68020-10	NT4G25GB		1	05	09L	AP
Rack Converter SRU	NT4G50FA		1	05	10L	AP
Lower Cooling Unit	NT1M4113		1	01		AP-01
Meridian Cabinet H/W (Brown)	NTZZ50DA					RUL4
Meridian Cabinet H/W (Grey)	NTZZ50DM					RUL4
Cable Trough (Brown)	NTNX55AA					RUL5
Cable Trough (Grey)	NTNX5511					RUL5
Merid Cab Anchor & Isolat.	NTZZ50GA					RUL6
MS-1 ON Label (Aqua)	P0711175					RUL7
MS-1 ON Label (Lime)	P0711399					RUL7

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
NT4G20QB	AM	NT4G20VA

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

If this is the first time the NT4G20VA Seagate disk is installed in the MS-1 node/system, contact the NAS Technical Support for a new 1A Tape and a Base Increment Tape.

RULES:

- AP 1) When PEC NTZZ50NA is ordered, these items are provided.
- AP-01 1) This PEC is always provided on the NT1M41CG cabinet, and is indicated here for completeness.
- RUL1 1) Provision one (1) NT4G20VA 160 MB SCSI Disk/Tape and one (1) NT4G09AE SCSI/SCSI Cable in positions 04U and 06U and 08U for the 2nd and 3rd and 4th databases. Otherwise provision one (1) NT1M41AD 1/4 Wide SRU Filler.
- RUL2 1) Provision one (1) NTZZ50PM ON-CN Extension Building Block to control the 5th and 6th CNs. Otherwise provision one (1) NT1M41AE 1/2 Wide SRU Filler and one (1) 1/4 Wide SRU Filler.
- 2) Shelf 33 Pos 03U and Pos 04U is for the 5th CN. Shelf 33 Pos 07U and Pos 08U is for the 6th CN.
- RUL3 1) Provision one (1) NTZZ50CM Datanet BB if this ON is to be connected to other ON's on the same site via Local Area Network. Otherwise provision one (1) NT1M41AD 1/4 Wide SRU Filler
- 2) NTZZ50CM includes cabling from the Datanet SRU to the ON bulkhead. The ON must be connected to the next ON via bulkhead to bulkhead cable NT1M41BG (20 ft.), or NT1M41BE (50 ft.), or NT1M41BH (70 ft.).
- 3) A maximum of six (6) ON's are permitted in a single Datanet LAN. The network topology is a circular daisy chain.

- 4) In the case of ON's, Datanet is required for the Universal Operator capability. Datanet cannot be used for multi-node OA&M.
- RUL4 1) Provision one (1) NTZZ50DA Meridian Cabinet Hardware Kit (Brown) if this is a brown ON Cabinet.
- 2) Provision one (1) NTZZ50DM Meridian Cabinet Hardware Kit (Grey) if this is a grey ON Cabinet.
- RUL5 1) Provision one (1) NTNX55AA Cable Trough (Brown) if this is a brown ON Cabinet and overhead cabling is required.
- 2) Provision one (1) NTNX5511 Cable Trough (Grey) if this is a grey ON cabinet and overhead cabling is required.
- RUL6 1) Provision one (1) NTZZ50GA Meridian Cabinet Anchor and Isolation Kit for each ON cabinet.
- RUL7 1) Provision two (2) P0711175 MS-1 ON Label (Aqua) if this is a grey OCN cabinet.
- 2) Provision two (2) P0711399 MS-1 ON Label (Lime) if this is a brown OCN cabinet. RUL8 1) Provision one (1) NTZZ50PA MS-1 Gateway building block if MS-1 Gateway is required. Otherwise provision one (1) NT1M41AD 1/4 Wide SRU Filler.

MS-1 CONFERENCE NODE 48-PORT EXPANSION

NTZZ50KM

RATING: Standard

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The MS-1 Conference Node 48-Port Expansion increases the CN's teleconferencing port capacity from 48 ports to 96 ports.

REFERENCE DOCUMENTATION: SLZZ50KM 00 01

MARKETS: Applicable markets:

US  
Canada  
CALA

NTZZ50KM EMB19-03-48PE CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
93 01 14	ECM 670 01	Initial release

The MS-1 Conference Node 48-Port Expansion is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
T1 SRU	NT4G23EA		1	33	03L	AP
T1 SRU	NT4G23EA		1	05	03U	AP
3 MByte Conference Svcs SRU	NT4G24DA		2	05	05U, 07U	AP
T1 SRU-Bulkhead Cable	NT1M41DW		2			AP

NOTES:

- 1) Remove the previously provisioned SRU Fillers for the above SRUs.

RULES:

- AP 1) When PEC NTZZ50KM is ordered, these items are provided.

BACKUP DTL KIT

PEC CODE: NTZZ51LA

CPC CODE: B0241231

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Backup DTL Kit is used to provide a backup Digital Trunk Link.

REFERENCE DOCUMENTATION: SLZZ51LA 00 02

MARKETS: Applicable markets:

- Canada
- US
- Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ51LA EMB19-04-BDTL CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 05 12	ECM 697 01	Introduces the Backup DTL Kit.
95 08 08	ECM 697 02	Update markets.
95 12 11	ECM 697 04	Changed to show part located at rear.



The Backup DTL Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DTL CP	NTFX62AA		1	XX	YY	AP
DTL TM	NTFX63BA		1	XX	YYR	AP

EQUIPMENT FLAGGED ' # ' :

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES :

RULES :

AP 1) When PEC NTZZ51LA is ordered, these items are provided.

## FDDI KIT

PEC CODE: NTZZ51PA

CPC CODE: B0242061

| RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The FDDI Kit is used to provide a fiber digital distribution interface.

| REFERENCE DOCUMENTATION: SLZZ51PA 00 04

MARKETS: Applicable markets:

Canada  
US  
Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ51PA EMB19-04-FDDI CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 12 07	ECM 699 01	CHANGE MOUNTING LOCATION OF FDDI DUPLEX RECEPTACLE AND FDDI SCREWS #2 FROM YYR TO YY.
96 06 05	ECM 699 02	Added ( (1) NTFX5505 FDDI Routing Hardware Kit. Per EC 018-48057.

The FDDI Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
FDDI CP	NTFX25AA		1	XX	YY	AP
FDDI TM	NTFX26AA		1	XX	YYR	AP
FDDI Cable	NTFX8582		2	XX	YYR	AP
FDDI Duplex Receptacle	A0632904		2	XX	YY	AP
FDDI Screws #2	P0556309		4	XX	YY	AP
FDDI Routing Hardware Kit	NTFX5505		1	XX	YYR	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ51PA is ordered, these items are provided.

HUB UNIT 12-PORT

PEC CODE: NTZZ52CA

CPC CODE: B0241114

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Hub Unit 12-Port provides a 10BaseT Ethernet hub in a 12-port configuration.

REFERENCE DOCUMENTATION: SLZZ52CA 00 01

MARKETS: Applicable markets:

- Canada
- US
- Wireless

ISSUE AUTHOR: NTI: Lily Ahluwalia Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ52CA EMB19-04-HUB1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 05 12	ECM 697 01	Introduces the Hub Unit 12-Port. Update markets.
95 08 08	ECM 697 02	

The Hub Unit 12-Port is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Hub Unit 12-Port	A0383332		1	XX		AP
Terminal I/F Cable	NTFX8557		1	XX		AP
Mounting Bracket	P0745601		1	XX		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ52CA is ordered, these items are provided.



## MODEM SHELF

PEC CODE: NTZZ51GA

CPC CODE: B0224999

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Modem Shelf houses the modem links used for the NAV Node. This modem shelf accommodates up to sixteen (16) modems.

The Operations Controller requires a modem shelf in the same bay.

REFERENCE DOCUMENTATION: SLZZ51GA 00 06

MARKETS: Applicable markets:

Canada  
US  
Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Scott Maggiolo Dept. 3471 (PPK)

NTZZ51GA EMB19-04-MM-1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 05 12	ECM 697 01	Introduces the Modem Shelf.
95 08 08	ECM 697 02	Update markets.
95 10 10	ECM 697 03	Removed Modem Power Cable NTFX8532. It is now provisionable.
95 12 11	ECM 697 04	Changed to show several parts located at rear.
96 06 05	ECM 699 02	Removed Modem Shelf Side Cover, P0806648, Qty 2. Not required in LAN Bay applications. Added part to Controller Bays as provisionable with Modem Shelf. Per EC 018-48057.
96 06 14	ECM 699 03	Changed qty of NTFX5501 from 3 to 1. The qty of this part was changed on SLZZ51GA 00 06 by EC 024-96655 as part of the ECM69902 changes. The change to this EMS was missed.

The Modem Shelf is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Modem Shelf Assembly	A0344310		1	XX		AP
Modem Sh Layout Label	P0737569		1	XX		AP
Modem Sh Mounting Bracket	P0806070		2	XX		AP
Modem Cable 50-Pin	NTFX8564		2	XXR		AP
Modem Alarm Cable	NTFX8525		1	XXR		AP
Filter Adapter 24-Pin	A0600137		16	XXR		AP
Female Screw Locks 24-Pin	A0370071		32	XXR		AP
Modem Bulk. Conn. Plate	P0725635		1	XX		AP
Shelf Mounting Hardware Kit	NTFX5501		1	XX		AP
Modem Bulkhead Hardware Kit	NTFX5504		1	XX		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ51GA is ordered, these items are provided.

OPERATIONS CONTROLLER SHELF

PEC CODE: NTZZ51DE

CPC CODE: B0246878

RATING: Standard

REPLACES: NTZZ51DB

REPLACED BY: Not Applicable

ABBREVIATION NAME: OC

ENGINEERING DESCRIPTION: The Operations Controller Shelf provides centralized operation, administration, and maintenance for the entire NAV Node.

REFERENCE DOCUMENTATION: SLZZ51DE 00 01

MARKETS: Applicable markets:

- Canada
- US
- Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ51DE EMB19-04-OC-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 06 05	ECM 699 02	Initial release. Replaced NTZZ51DB due to SCSI Terminator and Disk/DAT being added. Per EC 018-48057.

The Operations Controller Shelf is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
NAV Shelf Assembly	NTFX56AA		1	50		AP
Oper. Contr. SH ID Label	P0737580		1	50		AP
Oper. Contr. Cable Kit	NTFX5525		1	50		AP
Bulkhead Connector Plate	P0806646		1	50		AP-01
Shelf Mounting Hardware Kit	NTFX5501		1	50		AP
Service Proc. TM	NTFX91BA		1	50	1R	AP
SCSI Terminator	A0333595		1	50		AP
I/O Controller RS232	NTFX79AA		1	50	17	AP
I/O Controller RS232 TM	NTFX80AA		1	50	17R	AP
2.4GB Disk/DAT	NTFX61BA		1	50	22	AP
Power Converter	NTFX60AA		1	50	23	AP
Oper. Contr. SH Front Label	P0812301		1	50		AP
Oper. Contr. SH Rear Label	P0813871		1	50		AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) SCSI Terminator mounts at Connector P4 of PWR SCSI Back-panel on OC Shelf.

## RULES:

- AP 1) When PEC NTZZ51DE is ordered, these items are provided.
- AP-01 1) When PEC NTFX5525 is provided these items are Always Provided.

## OPERATIONS CONTROLLER SHELF

PEC CODE: NTZZ51DG

| CPC CODE: B0248739

RATING: Standard

REPLACES: NTZZ51DE

REPLACED BY: Not Applicable

ABBREVIATION NAME: OC

ENGINEERING DESCRIPTION: The Operations Controller Shelf provides centralized operation, administration, and maintenance for the entire NAV Node.

REFERENCE DOCUMENTATION: SLZZ51DG 00 02

MARKETS: Applicable markets:

Canada  
US  
Wireless

ISSUE AUTHOR: NTI: Otis Gibbs Dept. 3471 (PPK)

MAIN CONTACT: NTI: Otis Gibbs Dept. 3471 (PPK)



NTZZ51DG EMB19-04-OC-5 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 06 05	ECM 699 02	Initial release. Replaced NTZZ51DB due to SCSI Terminator and Disk/DAT being added. Per EC 018-48057.
97 03 21	ECM 699 05	Replaced NTZZ51DE. The SCSI Disk/DAT is now an option for the OC shelf per EC 06-29854. Replaced A0333595 Terminator with A0664610 Forced Perfect Terminator and P0667972 Screws (QTY 2) per EC 06-29789.

The Operations Controller Shelf is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
NAV Shelf Assembly	NTFX56AA		1	50		AP
Oper. Contr. SH ID Label	P0737580		1	50		AP
Oper. Contr. Cable Kit	NTFX5525		1	50		AP
Bulkhead Connector Plate	P0806646		1	50		AP-01
Shelf Mounting Hardware Kit	NTFX5501		1	50		AP
Service Proc. TM	NTFX91BA		1	50	1R	AP
# SCSI Terminator	A0333595		1	50		AP
SCSI Terminator	A0664610		1	50		AP
SCSI Terminator Screws	P0667972		2	50		AP
I/O Controller RS232	NTFX79AA		1	50	17	AP
I/O Controller RS232 TM	NTFX80AA		1	50	17R	AP
Power Converter	NTFX60AA		1	50	23	AP
Oper. Contr. SH Front Label	P0812301		1	50		AP
Oper. Contr. SH Rear Label	P0813871		1	50		AP

EQUIPMENT FLAGGED ' # ':

PEC	RATING	REPLACED BY PEC
A0333595	MD	A0664610

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) SCSI Terminator mounts with SCSI Terminator Screws at Connector P4 of PWR SCSI Backpanel on OC Shelf.

RULES:

- AP 1) When PEC NTZZ51DG is ordered, these items are provided.
- AP-01 1) When PEC NTFX5525 is provided these items are Always Provided.

REDUNDANT DTL KIT

PEC CODE: NTZZ51KA

CPC CODE: B0241230

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Redundant DTL Kit is used to provide a redundant Digital Trunk Link.

REFERENCE DOCUMENTATION: SLZZ51KA 00 02

MARKETS: Applicable markets:

- Canada
- US
- Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ51KA EMB19-04-RDTL CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 05 12	ECM 697 01	Introduces the Redundant DTL Kit.
95 08 08	ECM 697 02	Update markets.
95 12 11	ECM 697 04	Changed to show several parts located at rear.

The Redundant DTL Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DTL CP	NTFX62AA		1	XX	YY	AP
DTL TM	NTFX63BA		1	XX	YYR	AP
DTL Cable	NTFX8558		1	XX	YYR	AP

EQUIPMENT FLAGGED '##':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ51KA is ordered, these items are provided.

## NAV SERVICE CONTROLLER SHELF

PEC CODE: NTZZ51EC  
CPC CODE: B0246881  
RATING: Standard  
REPLACES: NTZZ51EB  
REPLACED BY: Not Applicable  
ABBREVIATION NAME: SC

ENGINEERING DESCRIPTION: The NAV Service Controller operates on the UNIX based platform or the AIX based platform.

The UNIX based Service Controller can be either a Media Controller (MC) a General or a General Controller (GC), depending on the software selected. It supports interactive voice and network applications and provides the following functions:

- Application run-time environment.
- Resource allocation and connectivity.
- External interfaces.
- Subscriber information collection.
- Voice processing.
- Subscriber information collection.

The AIX based Service Controller is also called a General Controller (GC). It can provide the following functions:

- High performance data processing platform
- High availability database controller
- SS7 communication
- FDDI communication

REFERENCE DOCUMENTATION: SLZZ51EC 00 01

MARKETS:

Applicable markets:

Canada  
US  
Wireless

ISSUE AUTHOR: NTI: Otis Gibbs Dept. 3471 (PPK)

MAIN CONTACT: NTI: Otis Gibbs Dept. 3471 (PPK)



NTZZ51EC EMB19-04-SC-3 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 06 05	ECM 699 02	Initial Release. Replaced NTZZ51EB since NTFX91BA was added as AP. Per EC 018-48057.
97 03 21	ECM 699 05	Changed EMS name to NAV Service Controller Shelf since the same EMS can be used for either UNIX based or AIX based SC shelves. Updated Engineering Description text. Per EC 06-29644: Replaced P0806645 Bulkhead Connector Plate with P0865775 Bulkhead Connector Plate as part of NTFX5527 Cable kit.

The NAV Service Controller Shelf is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
NAV Shelf Assembly	NTFX56AA		1	XX		AP
Serv. Contr. SH ID Label	P0748571		1	XX		AP
Serv. Contr. Cable Kit	NTFX5527		1	XX		AP
# Bulkhead Connector Plate	P0865775		1	XX		AP-01
Shelf Mounting Hardware Kit	NTFX5501		1	XX		AP
Service Proc. TM MSP	NTFX91BA		1	XX	1R	AP
Power Converter	NTFX60AA		1	XX	23	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
P0806645	MD	P0865775

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

- AP 1) When PEC NTZZ51EC is ordered, these items are provided.
- AP-01 1) When PEC NTFX5527 is provided these items are Always Provided.

SERVICE CONTROLLER SHELF - NAV BASE 002

PEC CODE: NTZZ51ED

CPC CODE: B0246883

RATING: Standard

REPLACES: NTZZ51EA

REPLACED BY: Not Applicable

ABBREVIATION NAME: SC

ENGINEERING DESCRIPTION: The Service Controller Shelf provides any combination of the following functions:

- Real time voice processing network.
- Voice connection to telephone network using digital trunks.
- Signal processing resources (DTMF, speech recognition).
- Data connection to network switch or call control computer.

REFERENCE DOCUMENTATION: SLZZ51ED 00 02

MARKETS: Applicable markets:

- Canada
- US
- Wireless

ISSUE AUTHOR: NTI: Otis Gibbs Dept. 3471 (PPK)

MAIN CONTACT: NTI: Otis Gibbs Dept. 3471 (PPK)

NTZZ51ED EMB19-04-SC-4 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 06 05	ECM 697 05	Initial Release. Replaced NTZZ51EA since NTFX91BA Service Proc. TM MSP, NTFX65AA TSI CP, & A0333595 SCSI Terminator were added. Per EC 018-48057.
97 05 09	ECM 697 07	Changes made per EC 006-29789. - MD'ed A0333595 SCSI Terminator and replaced it with A0664610, Forced Perfect SCSI Terminator, and Qty. (2) P0667972 SCSI Terminator mounting screws.

The Service Controller Shelf - NAV Base 002 is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
NAV Shelf Assembly	NTFX56AA		1	XX		AP
Serv. Contr. SH ID Label	P0748571		1	XX		AP
Serv. Contr. Cable Kit	NTFX5521		1	XX		AP
Bulkhead Connector Plate	P0725632		1	XX		AP-01
Shelf Mounting Hardware Kit	NTFX5501		1	XX		AP
Service Proc. TM MSP	NTFX91BA		1	XX	1R	AP
# SCSI Terminator	A0333595		1	XX		AP
SCSI Terminator	A0664610		1	XX		AP
SCSI Terminator Screw	P0667972		2	XX		AP
Time Slot Interchange	NTFX65AA		1	XX	21	AP
Power Converter	NTFX60AA		1	XX	23	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
A0333595	MD	A0664610

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

- 1) SCSI Terminator mounts at Connector P4 of PWR SCSI Back-panel on SC Shelf.

## RULES:

- AP 1) When PEC NTZZ51ED is ordered, these items are provided.
- AP-01 1) When PEC NTFX5521 is provided these items are Always Provided.

STANDARD DTL KIT

PEC CODE: NTZZ51HA

CPC CODE: B0225000

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Standard DTL Kit is used to provide a standard Digital Trunk Link.

REFERENCE DOCUMENTATION: SLZZ51HA 00 02

MARKETS: Applicable markets:

- Canada
- US
- Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ51HA EMB19-04-SDTL CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 05 12	ECM 697 01	Introduces the Standard DTL Kit.
95 08 08	ECM 697 02	Update markets.
95 12 11	ECM 697 04	Changed to show several parts located at rear. Added Screw P0578123, Qty 2.



The Standard DTL Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
DTL CP	NTFX62AA		1	XX	YY	AP
DTL TM	NTFX63BA		1	XX	YYR	AP
DTL Cable Standard	NTFX8511		1	XX	YYR	AP
Thru Bushing	P0638259		2	XX	YYR	AP
Adapter Plate	P0800775		1	XX	YYR	AP
Screw	P0578123		2	XX	YYR	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ51HA is ordered, these items are provided.

## UNIVERSAL MODEM KIT

PEC CODE: NTZZ51NA

CPC CODE: B0241444

RATING: Standard

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The Universal Modem Kit is used to provide a  
V.35 modem (X.25 protocol).

| REFERENCE DOCUMENTATION: SLZZ51NA 00 02

MARKETS: Applicable markets:

Canada  
US  
Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ51NA EMB19-04-UM CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 05 12	ECM 697 01	Introduces the Universal Modem Kit.
95 08 08	ECM 697 02	Update markets.
95 12 11	ECM 697 04	Changed to show part located at rear.

The Universal Modem Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Universal Modem	A0609601		1	XX	YY	AP
V.35 Modem Cable	NTFX8563		1	XX	YYR	AP

EQUIPMENT FLAGGED ' # ' :

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES :

RULES :

AP 1) When PEC NTZZ51NA is ordered, these items are provided.

## VME DISK TM KIT

PEC CODE: NTZZ51QA

| CPC CODE: B0242062

RATING: Limited

REPLACES: Not Applicable

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The VME Disk TM Kit is used to provide an interface to the backpanel for SCSI disk devices.

| REFERENCE DOCUMENTATION: SLZZ51QA 00 02

MARKETS: Applicable markets:

Canada  
US  
Wireless

ISSUE AUTHOR: NTI: Barry Bond Dept. 3471 (PPK)

MAIN CONTACT: NTI: Barry Bond Dept. 3471 (PPK)

NTZZ51QA EMB19-04-VME CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 12 07	ECM 699 01	CHANGE MOUNTING LOCATION OF VME SCSI TM AND SCSI JUMPER CABLE FROM YR TO YR+1. CHANGE MOUNTING LOCATION OF FILLER TM FROM YR+2 TO YR.

The VME Disk TM Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
VME SCSI TM	NTFX29AA		1	XX	YYR+1	AP
SCSI Jumper Cable	NTFX8587		1	XX	YYR+1	AP
Filler TM	NTFX67AA		1	XX	YYR	AP

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ51QA is ordered, these items are provided.

VME DISK TM KIT

PEC CODE: NTZZ51QB

CPC CODE: B0249411

RATING: Standard

REPLACES: NTZZ51QA

REPLACED BY: Not Applicable

ABBREVIATION NAME:

ENGINEERING DESCRIPTION: The VME Disk TM Kit is used to provide an interface to the back panel for SCSI disk devices.

REFERENCE DOCUMENTATION: SLZZ51QB 00 01

MARKETS: Applicable markets:

- Canada
- US
- Wireless

ISSUE AUTHOR: NTI: Otis Gibbs Dept. 3471 (PPK)

MAIN CONTACT: NTI: Otis Gibbs Dept. 3471 (PPK)



NTZZ51QB EMB19-04-VME1 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
97 06 20	ECM 699 06	This Functional Block replaces NTZZ51QA. SR RR75733 initiated a change request to remove the NTFX67AA Filler TM since it is automatically provisioned by the CADES EAE tool.

The VME Disk TM Kit is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
VME SCSI TM	NTFX29AA		1	XX	YXR+1	AP
SCSI Jumper Cable	NTFX8587		1	XX	YXR+1	AP

EQUIPMENT FLAGGED '##':

PEC	RATING	REPLACED BY PEC

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.

NOTES:

RULES:

AP 1) When PEC NTZZ51QB is ordered, these items are provided.

NAV LAN BAY

PEC CODE: NTZZ52AA  
 CPC CODE: B0224904  
 RATING: Standard  
 REPLACES: Not Applicable  
 REPLACED BY: Not Applicable  
 ABBREVIATION NAME: LAN

ENGINEERING DESCRIPTION: The NAV LAN Bay is a C28 cabinet with doors front and rear for EMI compliancy. Cables may enter either at the top for cable trough configurations or from the bottom for raised floor configurations. The NAV LAN Bay is used to house the HUBs and inverters required for the NAV Node.

A Modem Shelf may also be housed in the LAN Bay.

REFERENCE DOCUMENTATION: ADFX52BA 02 04  
 ISFX52BA 01 06  
 MSFX52BA 01 07  
 SLFX52BA 02 04  
 SLZZ52AA 00 01

MARKETS: Applicable markets:  
 Canada  
 US  
 Wireless

ISSUE AUTHOR: NTI: Otis Gibbs Dept. 3471 (PPK)  
 MAIN CONTACT: NTI: Otis Gibbs Dept. 3471 (PPK)

NTZZ52AA EMB19-04-001 CHANGE HISTORY

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
95 05 12	ECM 697 01	Introduces the NAV LAN Bay.
95 08 08	ECM 697 02	Update markets and change items associated with Modem Sh and Hub Unit.
95 12 11	ECM 697 04	Corrected Cable Trough and Leveling Foot provisioning. Changed 25 Pin Cover Plate rule. Kit. Corrected mounting locations. Changed rules to specify that (1) V.35 Modem Cable and (1) RS232 Interbay Cable are required with Universal Modem.
96 06 05	ECM 699 02	Per EC 024-95742: Corrected several mounting locations. Corrected Cable Trough and Leveling Foot provisioning. Changed rules to specify that a Modem to Bulkhead Cable and a RS232 Interbay Cable are required with Universal Modem. Replaced Modem Filler Card A0385011 with A0650426. MD 48-Port Hub NTZZ42CM, Added 24 and 48 Port Hub Kits. Added AP-03 and 04 notes. Added NTFY10AA, NTFY10AD, NTFY10AE, and NTFY10AF kits and MD Peripheral Building Blocks. Added rule for provisioning Modem 9600 Dial-Up independently from a Remote Dialup X.11 Term. Kit due to application requirements. Removed NTRX2567, NTRX2568, NTRX55BA, and NTRX2523 since they are provisioned on NTRX25AA EMS.
96 06 14	ECM 699 03	Due to changes to NTFX5210 Cable Assy both old and new Hubs can't be used. Showing 12 port Hub not to be used for NAV applications. Adding usage of the new 24 port Hub. Changed 48 port Hub from MD to not to be used with NAV.

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
96 12 03	ECM 699 04	Old 12 and 48 port hubs are still used in non-NAV applications which use by current stock. These Hubs have been MD by the vendor.
97 03 21	ECM 699 05	<p>PER EC 018-49303</p> <ul style="list-style-type: none"> <li>- List PEC codes in rules per request from manufacturing.</li> <li>- Flag NTOX98AJ RS-232 Interbay bay cable in equipment list. The cable shall be provided per the CAFX50BA drawing.</li> <li>- Flag 25 pin Cover Plates and Mounting Screws as non-provisioned items</li> </ul> <p>Other Changes:</p> <ul style="list-style-type: none"> <li>- Add note E to clarify equipment flagged</li> </ul> <p>Changes for this issue include:</p> <ul style="list-style-type: none"> <li>- Updated EMS for NAVB005 hardware per EC 06-29644.</li> <li>- Added NTFY01AA Universal 64k modem to equipment list for SS7 applications.</li> <li>- Flagged A0609601 Universal modem for future replacement with NTFY01AA</li> <li>- Added note C with info. pertaining to the future replacement of the A0609602 Standalone Universal modem with the NTFY01AB Universal 64k modem.</li> <li>- Add A0609601 to flag list.</li> <li>- Updated RUL 2.7 with new NTFY01AA modem ordering for SS7 applications</li> </ul>
97 10 03	ECM 699 09	<p>Changes for this issue include:</p> <ul style="list-style-type: none"> <li>- Per EC 102-02231 the NTFX52HA 24-port hub unit will be used in pairs to replace the NTFX52HB 48-port hub. The NTFX52HB 48-port hub and the NTFX84HA 48-port hub kit have been MD'ed. Added new shelf positions for the NTFX52HA. Revised Rule 3 for the new NTFX52HA hub configuration.</li> </ul>

Engineering Manual Section Change History		
DATE	DOCUMENT	REASON
		- Other Changes: Updated Rule 2.7 to remove the reference to SS7.

The NAV LAN Bay is comprised of the following:

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
NAV LAN Bay Cabinet Assembly	NTFX52BA		1			AP
Power Bulkhead	NTRX25AA		1			AP-01
LAN Bay Bulkhead	NTFX5516		1	TOP		AP-01
Blank Bulkhead Plate	NTFX5517		1			AP-01
	P0725637					RUL2
Modular Supervisory Panel	NTFX5510		1	63		AP
Modular Supervisory Panel	NTRX40BA			63		AP-05
Door Label Top-Latch	P0800784					RUL1
Door Label Center-Latch	P0725506					RUL1
Cabinet Door Label (Left)	P0725508					RUL1
Bay Number Label	P0739060					RUL1
Modem Shelf	NTZZ51GA			56		RUL2
Modem Power Cable	NTFX8532			56R		RUL2
Universal Modem Kit	NTZZ51NA			56	1-16	RUL2
Modem to Bulkhead Cable	NTFX8563			56	1R-16R	RUL2
# RS232 Interbay Cable	NTOX98AJ			56	1-16	RUL2
# Universal Modem 4-Wire	A0609601			56	1-16	RUL2
64 Kb/sec Rackmount Modem	NTFY01AA			56	1-16	RUL2
Modem 9600 Dial-Up	A0600472			56	1-16	RUL2
# Modem Filler Card	A0385011			56	1-16	RUL2
Modem Filler Card	A0650426			56	1-16	RUL2
# 25 Pin Cover Plate	P0686749			56		RUL2
# Mounting Screw	P0670923			56		RUL2
# Hub Unit 12-Port	NTZZ52CA			42,38,46		RUL3
# Hub Unit 48-Port	NTZZ42CM			42,38,46		RUL3
24 Port Hub Kit	NTFX84GA			46,41,36 30,25		RUL3
24 Port Hub Unit	NTFX52HA			46,41,36 30,25		AP-03
# 48 Port Hub Kit	NTFX84HA			46,41,36		RUL3
# 48 Port Hub Unit	NTFX52HB			46,41,36		AP-04
Hub 10BaseT Cable Assembly	NTFX5210			46,36 30,25		RUL3
Bulkhead Connector Plate	P0725636		1			AP-02
Hub Blank Bulkhead Plate	P0725640			46,36		RUL3

EQUIPMENT	PEC	ABBR	QTY	SHF POS	CP POS	RULE
Inverter 48V 500VA	NTZZ42MA			12,2		RUL4
# Local X.11 Terminal	NTZZ42VB					RUL2
Local X.11 Terminal Kit	NTFY10AA					RUL2
# Remote Dial-Up X.11 Terminal	NTZZ42WA					RUL2
Remote Dialup X.11 Term. Kit	NTFY10AD					RUL2
# Remote Dedicated X.11 Term.	NTZZ42XA					RUL2
Modem Conn. X.11 Term. Kit	NTFY10AE					RUL2
# Printer	NTZZ42YA					RUL2
Desktop Matrix Printer Kit	NTFY10AF					RUL2
C28 Cabinet Mechanicals	NTRX25AA					NOTE1

EQUIPMENT FLAGGED '#':

PEC	RATING	REPLACED BY PEC
A0385011	MD	A0650426
NTZZ42CM	MD	NTFX84HA (Note A)
NTZZ42VB	MD	NTFY10AA
NTZZ42WA	MD	NTFY10AD
NTZZ42XA	MD	NTFY10AE
NTZZ42YA	MD	NTFY10AF
NTZZ52CA	MD	NTFX84GA (Note A)
NT0X98AJ	STD	NONE (Note B)
P0686749	STD	NONE
P0670923	STD	NONE
A0609601 (Note C)	STD	NTFY01AA (Note C)
NTFX52HB	MD	NONE
NTFX84HA	MD	NONE

DEV - DEVELOPMENT. These products are in the development phase. Please contact NPPM prior to ordering.

A&M - ADDITIONS & MAINTENANCE. These products can only be ordered if they are already in use in that office.

MD - MANUFACTURED DISCONTINUED. These products are no longer manufactured and cannot be ordered.



NOTE A) The A0383332 Hub Unit, in NTZZ52CA, and the A0384880 Hub unit, in NTZZ42CM, are no longer to be used on the NAV application but may be used by other applications so do not MD the parts inside of these Building Block Codes. Kit NTFX84GA, containing the NTFX52HA 24-Port Hub Unit is to be used for all new NAV orders in place of the Building Block codes containing the old Hubs.

The A0383332 and A0384880 Hub Units have been MD by the vendor but there are still A0383332 Hubs in stock, as of 6-13-96, that need to be used up by the other applications.

NOTE B) The NT0X98AJ is still a valid part for NAV applications. Rules for ordering this cable are now available in the NAV cable drawing. Reference CAFX50BA.

NOTE C) The A0609601, Universal rack-mounted modem will be replaced by the NTFY01AA 64kbit/s rack-mounted modem once existing stock has been exhausted.

#### NOTES:

1) The NTZZ52AA has system level provisionable items covering the following:

- Seismic Zone provisioning
- Grounding options provisioning
- Cable routing options provisioning
- Cabinet door provisioning

For details of the above C28 Cabinet Mechanical Assembly, refer to the Modular Structure Document MSRX25AA or NTRX25AA Engineering Manual Section.

#### RULES:

AP 1) When PEC NTZZ52AA is ordered, these items are provided.

AP-01 1) When PEC NTFX52BA is provided these items are Always Provided.

- AP-02 1) When PEC NTFX5210 is provided these items are Always Provided.
- AP-03 1) When PEC NTFX84GA is provided these items are Always Provided.
- AP-04 1) When PEC NTFX84HA(MD) is provided these items are Always Provided.
- AP-05 1) When PEC NTFX5510 is provided these items are Always Provided.

- RUL1 1) Provide one (1) NTFX52BA when a NAV LAN Bay is required.
- 2) Provide one (1) Modular Supervisory Panel (NTFX5510) in Shelf Position 63 for each NAV LAN Bay.
- 3) Provide two (2) each Door Labels, either Center-Latch (P0725506) or Top-Latch (P0800784) for each NAV LAN Bay. Center-Latch Doors and Labels should be used for bays in new line-ups. Top-Latch Doors and Labels should only be used on bays installed in existing line-ups that already have top-latch doors. The Doors themselves are provisioned per NTRX25AA Eng. Manual Section.

For Grey Doors, provide two (2) each of the following labels:

Cabinet Door Label (Left) (P0725508)  
Bay Number Label (P0739060)

Brown Doors on the NAV LAN Bay are presently not available as an option.

- RUL2 1) Provide one (1) Blank Bulkhead Plate (P0725637) in shelf position 56 if the optional Modem Shelf is not required in the NAV LAN Bay.
- 2) Provide the following items if an optional Modem Shelf in the NAV LAN Bay is required:
- QTY (1) Modem Shelf Building Block (NTZZ51GA)  
QTY (1) Modem Power Cable (NTFX8532)
- 3) Provide a maximum of two (2) Modem Connected X.11 Terminal Kits for each NAV Node. Provide the following items when a Modem Connected X.11 Terminal is required to be connected to a modem in a LAN Bay:

QTY (1) Modem Connected X.11 Terminal Kit (NTFY10AE)

Each Modem Connected X.11 Terminal Kit requires one (1) Universal Modem 4-Wire (A0609601) and one (1) Modem to Bulkhead Cable (NTFX8563) to be located in Slots 1 or 9 of the Modem Shelf.

Some applications may require a Universal Modem 4- Wire modem (A0609601) to be provisioned with them. If a modem has been provisioned with the application, and the customer is not providing their own access terminal or printer to use with it, the first Modem Connected X.11 Terminal Kit (NTFY10AE) may use the previously provisioned modem unless a Printer Kit (NTFY10AF) has already been provisioned to use it.

- 4) Provide a maximum of four (4) Printer Kits (NTFY10AF) for each NAV Node. Provide the following items when a Printer is required to be connected to a modem in a LAN Bay:

QTY (1) Desktop Matrix Printer Kit (NTFY10AF)

Each Printer Kit requires one (1) Universal Modem 4-Wire (A0609601) and one (1) Modem to Bulkhead Cable (NTFX8563) to be located in Slots 2, 3, 10, or 11 of the Modem Shelf.

Some applications may require a Universal Modem 4- Wire modem (A0609601) to be provisioned with them. If a modem has been provisioned with the application, and the customer is not providing their own access terminal or printer to use with it, the Printer Kit (NTFY10AF) may use the previously provisioned modem unless a Modem Connected X.11 Terminal Kit (NTFY10AE) has already been provisioned to use it.

- 5) Provide a maximum of two (2) Remote Dialup X.11 Terminal Kits (NTFY10AD) for each NAV Node. Provide the following items when a Remote Dialup X.11 Terminal is required to be connected to a modem in a LAN Bay:

QTY (1) Remote Dialup X.11 Terminal Kit (NTFY10AD)

Each Remote Dialup X.11 Terminal Kit requires one (1) Modem 9600 Dial-Up (A0600472) and (1) Modem to Bulkhead Cable (NTFX8563) to be located in Slots 4 or 12 of the Modem Shelf.

Some applications may require a 9600 Dial-Up modem (A0600472) to be provisioned with them. If a modem has been provisioned with the application, and the customer is not providing their own access terminal to use with it, the

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first Remote Dialup X.11 Terminal Kit (NTFY10AD) may use the previously provisioned modem.

- 6) Provide a maximum of two (2) Local X.11 Terminal Kits for each NAV Node. Each terminal connects directly to the Hub Unit in the LAN Bay. Provide the following items when a Local X.11 Terminal is required:

QTY (1) Local X.11 Terminal Kit (NTFY10AA)

- 7) Provide one (1) Universal Modem Kit Building Block (NTZZ51NA) when a V.35 modem is required. Configure the modem for V.35 (X.25 protocol).
- 8) Provide one (1) Universal Modem Kit Building Block (NTZZ51NA) when a RS232 modem is required for interbay configurations. Configure the modem for RS-232. This is the type modem required for Printer connectivity.
- 9) If a modem is required for dialup modem access, provide one (1) Modem 9600 Dial-Up (A0600472) and one (1) Modem to Bulkhead Cable (NTFX8563) to be located in Slot 4 or 12 of the FIRST Modem Shelf in the NAV node. A maximum of two (2) may be provisioned. The first modem goes in slot 4, the second in slot 12.

If a second modem is required it also requires one (1) Modem to Bulkhead Cable (NTFX8563).

The customer may provide their own peripheral dialup access terminal equipment to connect to this modem. If they wish Nortel to supply terminal equipment, provision a Remote Dialup X.11 Terminal Kit (NTFY10AD) per its rule.

- 10) Provide one (1) Modem Filler Card (A0650426) for each position not provisioned with a modem.
- 11) Reserved for future use. This item originally contained information pertaining to cover plates and mounting screws for empty bulkhead positions. Manufacturing provides this material for each empty or non-configured position on the bulkhead.

RUL3 1) When the LAN Bay requires a 24-port hub configuration, provide the following:

A) Three (3) Hub Kits NTFX84GA in mounting positions 46,41,36. The hub kit in mounting position 46 is HUB A,

the hub kit in mounting position 36 is HUB B and the hub kit in mounting position 41 is the HUB Spare.

B) One (1) 24-port miscellaneous kit, NTFX8424.

- 2) When the LAN Bay requires a 48-port hub configuration, provide the following:

A) Five (5) Hub Kits NTFX84GA in mounting positions 46,41,36,30 and 25. The hub kits in mounting positions 46 and 41 are HUB A and the hub kits in mounting positions 30 and 25 are HUB B. The hub kit in mounting position 36 is the HUB Spare.

B) One (1) 48 port miscellaneous kit NTFX8448.

- 3) In addition to the above requirements provide 10 BaseT Cable Assemblies (NTFX5210) and/or Hub Blank bulkhead Plates (P0725640) for both HUB A and HUB B (Do not provide for HUB Spare) based on the number of ports used as shown in the following table.

Number of Ports Used	Qty of 10BaseT Cable Assembly	Qty Hub Blank Bulkhead Plate
1 - 12	1	3
13 - 24	2	2
25 - 36	3	1
37 - 48	4	0

- 4) Because of inter hub connection requirements, the 24-port configuration will only have 23 ports available and the 48-port configuration will have 45 ports available. For further details on the hub port assignment restrictions, see the CAFX50BA cable drawing.

- RUL4 1) Provide two (2) Inverter 48V 500VA Building Blocks (NTZZ42MA) in Shelf Positions 12 and 2 to provide power to the HUBs. The inverter in Shelf 12 is Inverter A, and the inverter in Shelf 2 is Inverter B.

DMS-100 Family  
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