DACS II Releases 3 Through 6.0, MML Quick Reference Guide -- AT&T 365-353-013 -- Issue 1

Refer to Chapter 19

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1. DACS II Releases 3 Through 6.0, MML Quick Reference Guide

See Figure 1.

2. Unit and NPC Information

2.1 General

See the following for NPC Types.

Type	Name	Hardware
DE	DDC (DS1)	TG-80/TG-80B
IU	DIU	TG-180
DS/DE	S96D (DS1)	TG-183
DS/DE	SS5D (DS1)	TG-184
DE	ZDC	TG-186
TA	EDDC	TG-191
MB	DMB (bridge)	TM-665
MJ	MJU (multipoint)	TM-740
SR	SRM (multipoint)	TM-747

2.2 Unit Numbering

In original interface bays, units 1 through 4 are facility terminating units (FTUs) and units 5 and 6 are digital signal processing units (DSPUs). In flexible interface bays, the units can have varied assignments.

The capacity expansion frame (CEF) has expanded main controller (MC) and expanded cross-connect network (ECCN) plug-ins and allows the use of 16 peripheral units. This capacity requires the use of 2-digit unit numbers and 4-digit extended network processing circuit (NPC) numbers.

See Table A.

3. Unit Growth Commands

NOTE:
The ECCN is used in the capacity expansion frame.

1. CRTE-CNFGRN-EQPT::UNIT-[q]q::[<connectivity>]:mnxyz;
   mnxyz = FT100 or DP100.

2. For CCN plug-ins, continue. (See Section 5.2 for ECCN Commands.)
   RST-EQPT::CCB-sf:;
   s = Side 0 or 1 f = Pack No. (1-6).
   RST-CNFGRN-EQPT::UNIT-[q]q::CCN-s,TSIS; or
   RST-EQPT::TSI-sft; for each separate TSI
   s = Side 0 or 1 f = From unit t = To unit

	DGN-TSIS	RST-TSIS
	A=ATP, C=CATP	C=Cond Compl
	S=STF, D=Denied	D=Denied

3. RST-EQPT::UNIT-[q]q::UC;

4. CRTE-EQPT::UNIT-[q]q::FTMI-d:EQL-l,r;
   l,r = equalization values (1-5) for left and right halves of shelf.

5. RST-EQPT::UNIT-[q]q::{FTMI-d|DSPI};

6. RST-EQPT::UNIT-[q]q::FC-sf;

7. CRTE-EQPT::NPC-<npc No.>[&&-<range>]::mnxyz:
   [<opts field>]:[IW-X-pw];

   mn = DE, DS or IU (in FTU); MB, MJ or
   SR (in DSPU) and "xyz" specification.

8. RST-EQPT::NPC-<npc No.>[&&-<range>]:[SIDE-s];
   s = side (0 or 1) for duplicated TYPE MB, MJ or SR.

4. CCN1 Network

See Figure 2 and Table B.

5. ECCN Network

5.1 General

See Figure 3.

5.2 ECCN Commands

```
RST-EQPT::CCI-s; (Both BTs will also be restored) s = Side 0 or 1.
RST-EQPT::ETSI-sqq    qq = Unit number.
RST-EQPT::ETSIS,ECCN-s; (to restore all ETSIs per side)
RMV-EQPT::ETSIS,ECCN-s; (to remove all ETSIs per side)
```

5.3 Cable Tests (for Added Peripheral Unit)

5.3.1 For Connections to EMC

```
DGN-EQPT::UNIT-qq::UC;
DGN-EQPT::UNIT-qq::FC-sf   (for FTU)
DGN-EQPT::UNIT-qq::FMT-s   (for DS3U)

DGN-EQPT::NPC-<npc No.>,SIDE-s    (for DSPU)
```


6. SYNC Growth Commands

6.1 General

NOTE:
Always allow 30 minutes for oven in newly installed TB pack to warm up before restoring to service.

To add TLI, proceed to Step 8:

1. CRTE-EQPT::SYNC::TBpqr;

2. ED-PRMTR-EQPT::SYNC::{MASTER|SLAVED};

3. RST-EQPT::SYNC-0:; and RST-EQPT::SYNC-1:;

If MASTER, do Steps 4 through 7:

4. CRTE-EQPT::SYNC::TLI-1:TDnyz;

5. RST-EQPT::SYNC-0::TLI-1; and
   RST-EQPT::SYNC-1::TLI-1;

6. CRTE-EQPT::SYNC::TBpqr:TLI-3;

7. RST-EQPT::TLI-3::CRO;

If SLAVED, do Steps 8 through 12:

8. CRTE-EQPT::SYNC::TLI-n:tepqr,SSP-0,SRC-p;
   n = TLI number tepqr = TLI type
   p = priority; 1 (highest) to 8 (lowest).

9. RST-EQPT::SYNC-0::TLI-n:SSP-0; and
   RST-EQPT::SYNC-1::TLI-n:SSP-0;

10. CRTE-EQPT::SYNC::TLI-n:tepqr,SSP-1,SRC-p;

11. RST-EQPT::SYNC::TLI-n:SSP-1; and
    RST-EQPT::SYNC-1::TLI-n:SSP-1;

12. ED-PRMTR-EQPT::SYNC::TLI-n:SSP-b:{tepqr|NPC-<npc No.>};

6.2 Time Base (TB) Types

pqr = 000 for domestic stratum 3
    = 100 for international - local exchange
    = 200 for international - toll exchange
    = 300 for domestic stratum 2

6.3 Timing Link Interface (TLI) Types


```
te = TE for DS1 timing extractor ("pqr" same as NPC type field)
   = TP for 2.048-Mb/s timing extractor (specialized pqr field)
   = TC for composite clock timing extractor ("pqr" not defined, 000-999)
   = TU for unipolar timing extractor ("pqr" not defined, 000-999)
   = TD1 for composite clock distributor ("qr" not defined, 00-099)
   = TD2 for sine wave clock distributor ("qr" not defined, 00-099)
```

6.4 SYNC Plug-Ins

```
TG60      Time base, Stratum 3
TG61      Time base, local
TG62      Time base, toll
TG63      Time base, Stratum 2
TG64      DS1 timing extractor (TE)
TG65      Primary block extractor (TP)
TG66      64 kb/s clock extractor (TC)
TG67(B)   Unipolar clock extractor (TU)
TG68      BSRF extractor (TR)
TG70      64 kb/s clock distributor (TD)
TG71(B)   2.048 Mb/s timing distributor (TD)
TG75      Primary block extractor, coax (TP)
```


7. Retrieve Commands

7.1 General

```
RTRV-STATE-EQPT::UNIT::EQPD;

RTRV-STATE-EQPT::TSI::EQPD;

RTRV-STATE-EQPT::NPC::EQPD;

RTRV-STATE-EQPT::SYNC::EQPD;

RTRV-FPKG-NE;

RTRV-STATE-EQPT::UNIT-[q]q::FTMI-b;

RTRV-STATE-EQPT::[UNIT-[q]q]::{EQPD|OOS|FAIL|PEST|ALL};

RTRV-STATE-EQPT::SYNC:;
     SOURCE: {HOLDOVER/TLI/CRO}; other side = MATE
 IN SERVICE: DPLL, TB, SOURCE <side 0> <side 1>
             1 = in-service
ACTIVE LINK: TLI No. and SSP side.

RTRV-LOC-EQPT::<entity[-argument>];
entity = pack name and number; with UNIT-[q]q
         or SYNC-a prefix when needed.

RTRV-LOG:[xy]::[ww]:ERR:{HWER|SWER}[,INT-mn]
[,ENTY-<entity>];
mn = past 59
```

7.2 Time of Day Utilities

```
RTRV-HDR:[xy]::[ww]; (shows current date and time)

ED-DATE:[xy]::[ww]:[da-mo-yr][,hr-mn-sc][:INT-bb];
bb = display interval 01, 02, 04, 06, 08, 12, or 24 hours

RTRV-PMREPT-SCHED::::CFA;

RTRV-BKUPSCHED-MEM::SEC::DATA;

SCHED-PMREPT-ALL:[xy]::[ww]:hr-mn-sc,{CFA|FAC-X-abcdef];

RTRV-ALM-EQPT:[xy]::[ww];
```

7.3 Output Message

a. See the following list for for definition of variables:
   "ALM:a,b,c,d,e,f,g,h,i,j,k,l,m,n,o,p,q,r,s"


```
  b. PWR line message positions 1 through 10 as follows:

1 through 6 for unit converters      7 and 8 for CPU0 and CPU1
9 and 10 for CCN/ECCN sides 0 and 1  11 through 20 for units 7 through 16.

  c. For NPCs, M means prompt status alarm; * means deferred; I means
     information; and dash means no alarm.

RTRV-STATE-COM:[xy]::[ww]:{OOS|FAIL|PEST|ALL};

                    M RTRV STATE EQPT...COMPLD
                              <subject>
          a = MC    g = Link 1  m = CCN/ECCN 0
          b = MP    h = Link 2  n = CCN/ECCN 1
          c = CI    i = Link 3  o = CCNI/CCI 0
          d = SSC   j = Link 4  p = CCNI/CCI 1
          e = Disk  k = Link 5  q = TOD reset
          f = Tape  l = Link 6  r = DATE reset
                                s = Disk/Tape backup failed
```

7.4 SYNC TLIs

```
M RTRV STATE EQPT...COMPLD
    "TLI:{10},{11},{20},{21},{30},{31},{40},{41}"
    "TLI:a,b,c,d,e,f,g,h"
```

7.5 CCN Packs

```
M RTRV STATE EQPT...COMPLD
    "TSI:11,{0},{1}:12,{0},{1}13 . . . 16,{0},{1}"
    "TSI:21,{0},{1}:22,{0},{1}23 . . . 26,{0},{1}"
        .           .
        .           .
        .           .
    "TSI:61,{0},{1}:62,{0},{1}63 . . . 66,{0},{1}"
```

7.6 ECCN Plug-Ins (ETSIs)

```
    01_ _    02_ _    03_ _    04_ _
    05_ _    06_ _    07_ _    08_ _
    09_ _    10_ _    11_ _    12_ _
    13_ _    14_ _    15_ _    16_ _
    _ _ Represents ofp (OOS, failed, pested); left group for Side 0
    and the right group for Side 1.
```

7.7 Facility Information

```
RTRV-STATE-EQPT::NPC-<npc No.>[&&-<range>]:;
(range not allowed for DSPU NPCs)
```



```
RTRV-PRMTR-EQPT::NPC-<npc No.>[&&-<range>]::
<parameter>:[ALL];

<parameter> = BER, BPV, COFA, CRC,
              ER, ERS, FRER, OOF, SERS, SLIP

INIT-REG::NPC-<npc No.>[&&-<range>]::<parameter>;

INIT-REG::NPC-<npc No.>:;

RTRV-COND-EQPT::<npc>::CS  (for IU/TI facilities)
```

7.8 Channel Information

```
RTRV-CRS-T1::<npc No.>[&&-<range>]::MAP;
RTRV-CRS-T1::NPC::MAP;
RTRV-PRMTR-T0::<npc No.>-ddd[&&-eee]::{TO|FROM};
RTRV-BDCST-T0:[xy]::[ww]:ALL;
RTRV-BDCST-T0::<npc No.>-ddd:;
RTRV-TACC-T1:[xy]::[ww];   (shows test ports)
RTRV-PRMTR-T0::<npc No.>-jjj::MARK;
(shows CUS and RDLD)
RTRV-PRMTR-T1::<npc No.>::MARK;
```


8. Backup Memory Transfers

```
See Figure 4.

CPY-MEM:[xy]::[ww]:PRI,SEC[:{PROG|DBASE}]:[INCL];

CPY-MEM:[xy]::[ww]:SEC,PRI[:{PROG|DBASE}]:;

  PRI = Disk
  SEC = Tape
 PROG = Executables
DBASE = Data Base (Default)
 INCL = Used to request the data base on the disk
        to be transferred to the tape excluding
        generic journal files.

STA-LOCL-RST:[xy]:PRI:[ww]:;  (boot from disk)

RTRV-BKUPSCHED-MEM::SEC::DATA;

SCHED-BKUP-MEM::SEC::DATA:{00|24}-HR:[hr-mn-sc];
(use 00-HR to clear)
```


9. DS0 Cross-Connect Commands

9.1 General

NOTE:
For terminated connections, include the TERM option in commands.

9.2 Two-Point (Two-Way)

```
CONN-CRS-T0::<npc No.1>-ddd[&&-eee],
<npc No.2>-jjj[&&-kkk]::<tc>:[RDLD][,{CUS|INCL}]:
[AIS]:[{NORM,NORM|TERM,TERM}];
```

9.3 Two-Point (One-Way)

```
CONN-CRS1-T0::<npc No.1>-ddd[&&-eee],<npc No.2>-jjj
[&&-kkk]::<tc>:[RDLD][,{CUS|INCL}]::[{NORM|TERM}];

 tc = Trunk conditioning; use dashes in TC-ijkl, mnop
      field for FROM-side of CRS1 circuit.
AIS = Optional, for all 1s; Insertion downstream.

DISC-{CRS|CRS1}-T0::<npc No.1>-ddd[&&-eee],
<npc No.2>-jjj[&&-kkk]::[INCL]:[OOS,DCC];

OOS = Optional, to disconnect circuits while NPC is OOS.
DCC = Optional, to specify IW and signaling of previous CONN circuit.
```

9.4 Broadcast (BDCST)

```
CONN-BDCST-T0::<npc No.1>-ddd[&&-eee],<npc No.2>-
jjj[&<npc No.3>-nnn& <npc No.4>-ttt&...]::<tc>:
[RDLD][,{CUS|INCL}]:[{NTR|LPD|CONV}]:[NORM];

DISC-BDCST-T0::<npc No.1>-ddd[&&-eee],<npc No.2>-
jjj[&&-kkk]::[INCL]: [{OOS|DCC|CONV}];

CHG-RPATH-T0::<npc No.1>-ddd [&<npc No.2>-jjj&
<npc No.3>-nnn&<npc No.4>-ttt&...]::[INCL];

CONV = Optional, to convert last circuit to 2-way.
   & = To list several BDCST return legs
 NTR = No transmit. There is no return path to the source.
 LPD = Looped
```

9.5 Alternate Cross-Connect

```
ED-CRS-T0:[xy]:<npc No.1>-ddd[&&-eee], NEW <npc No.2>
  jjj[-kkk]:[ww]:[INCL]
```


None of the involved NPCs can be: 2.048-Mb/s interface types PB or PC, *SLC(R)* carrier type DS, interface unit types IU or TI, or clear-DS1 types (xyz=9-9).

9.6 Roll

```
SW-BCAST-T0:[xy]:[s]abc-ddd[&&-eee],[t]ghi-jjj[&&-kkk]:[ww]]:[INCL]

SW-ROLL-T0:[xy]:[s]abc-ddd[&&-eee],[t]ghi-jjj[&&-
kkk]:[ww]:[INCL][:FRC][:OOS]

SW-DISC-T0:[xy]:[s]abc-ddd[&&-eee]:[ww]:[OOS]

[s]abc = Old NPC number
[t]ghi = New NPC number
   ddd = Channel numbers for the beginning of a range
   eee = Channel numbers for the end of a range
   jjj = Channel numbers for the beginning of a range
   kkk = Channel numbers for the end of a range
  INCL = Used to force overwrite of RDC or CUS channels
   FRC = Used to force a roll to and NPC which is in CGA
   OOS = Used to force a roll from an NPC which is OOS
```

9.7 Test Access

```
CRTE-EQPT::NPC-<npc No.>::NPCTP-n;
n = test access digroup/primary (1-4).

CRTE-EQPT::TP-kk:[:<c>]; kk = testport number (1-48).

CONN-TACC-T0:[xy]:<npc No.>-jjj:[ww]:kk:[<c>]:MON;

CHG-TACC-T0:[xy]::[ww]:kk:SPLT;

DISC-TACC-T0:[xy]::[ww]:kk;

CONN-HUB-T0::<npc No.>-jjj::kk:[<tc>];
```

9.8 Termination State

```
ED-PRMTR-T0::<npc No.>-ddd[&&-eee],<range>-jjj
[&&-kkk]::[INCL]:{TERM/RLS}{F|T|B|P|G|A}[:NOT-rst-vvv];

F = From-side    L = All legs toward facilities
T = To-side      G = All legs toward bridge
B = Both sides   A = All legs, both sides
```

9.9 Multipoint Mode (MPM)

```
CONN-CRS-T0::<npc No.1>-ddd[&&-eee],<npc No.2>-jjj
[&&-kkk]::<tc>:[RDLD][,{CUS|NCL}]:fmd,tmd:[NTR-n]:
```



```
[{NORM,NORM|TERM,TERM}];

CONN-CRS1-T0::<npc No.1>-ddd[&&-eee],<npc No.2>-jjj,
[&&-kkk]::<tc>:[RDLD][,{CUS|INCL}]:fmd,tmd:[{NORM|TERM}];

See Table C.
```


10. DS0 Multipoint Circuit Configurations

See Figures 5 and 6.

See the following for Multipoint NPC and Channel Numbers.
Multipoint NPC and Channel Numbers

Command Field	Leg End NPC	Bridge End DMB NPC	Bridge End Virtual NPC
<npc No.>	Any facility NPC*	DMB NPC (Type MB)*	961,962 (or [9]961 - [9]966)*
Channel No. (ddd/jjj)	01-24 (01-96 for *SLC(R) carrier)*	01-85	001-500
Mode (fmd,tmd)	*LEG*	*SYM,BBL,BRD*	*BBL,BRD*

** Up to 2560 NPCs and 6 virtual NPCs (9961-9966) can be used in the CEF.*

11. Clear-Channel DS1 Feature

11.1 NPC Growth

```
CRTE-EQPT::NPC-<npc No.>::DExyz[:rr|l&ss|m...&tt|n};

       x = 9 for no framing
       y = 1 or 2
       z = 9 for no channels
rr,ss,tt = 01-04 for FTU NPCs and 01, 02 for DS3 embedded.
```

11.2 Clear-DS1 Cross-Connections

11.2.1 For 2-Way

```
CONN-CRS-T1::<npc No.1>,<npc No.2>::[RDLD]
[,{CUS|INCL}]:[{NORM,NORM|TERM|,TERM}];
```

11.2.2 For 1-Way

```
CONN-CRS1-T1::<npc No.1>,<npc No.2>::[RDLD]
[,{CUS|INCL}]:[{NORM|TERM}];
```

11.3 Clear-DS1 Test Access

11.3.1 To Establish

```
CONN-TACC-T1::<npc No.1>,<npc No.2>[,npc No.3>]::
<tmode>[:AIS][:INCL];

   <tmode> = F-end NPC or BDCST tributary
<npc No.3> = F-end NPC or BDCST tributary
```

11.3.2 To Change

```
CHG-ACCMD-T1::<npc No.>::<tmode>[:AIS][:INCL];
```

11.3.3 To Change Termination or Idle Signal

```
CHG-TACC-T1::<npc No.1>[,<npc No.2>]
[,<npc No.3>]::[<emode>][,<fmode>][:INCL];
<emode>,<fmode> = NORM,TERM,AIS, or QRSS
```

11.3.4 To Loop Back FAD

```
OPR-LPBK-T1::<npc No.>::LPBKT[:INCL];
```

11.3.5 To Release

```
See Table D.

DISC-TACC-T1::[<npc No.>]:[ALL][:OOS];
```


12. Subrate Data Feature

12.1 Establish Channels

12.1.1 General

NOTE:
SEC is subrate error correction and PCH is parity channel error correction.

12.1.2 DS0A

```
CRTE-CRS-TS::<npc No.>-ddd[&&-eee]::DS0A-rr:[SEC];
rr = 24,48,96
```

12.1.3 DS0B

```
CRTE-CRS-TS::<npc No.>-ddd[&&-eee]::DS0B-nn[:PCH[-ppp]];
nn = 5,10,20
```

12.1.4 56 kb/s

```
CRTE-CRS-TS::<npc No.>-ddd::DS0A-56[:PCH[-ppp]];
```

12.2 Change and Disestablish

```
ED-CRTE-TS::<npc No.1>-ddd[&&-eee],
<npc No.2>-jjj[&&-kkk]:[:PCH-ppp][:DCC];

PCH = parity channel error correction
DCC = inserts the DDS unassigned multiplexer channel
      (UMC) code on old digroup channels.

DLT-CRS-TS::<npc No.>-ddd[&&-eee]:[:PCH[-ppp]][:DCC];
```

12.3 Test Access and Queries

12.3.1 Test Access

```
CONN-TACC-TS::<npc No.>-ddd[-ff]::kk:{MON|SPLT}:
[MJU-ssss]:[BRi];    ff = the TO customer number
DISC-TACC-TS::::{kk|ALL|LINKS}
DISC-TACC-TS::::kk:RLSm;   RLS = Termination released
CHG-TL-TS::::kk:TERMm;   TERM = Termination active
```

12.3.2 Utility Queries

```
RTRV-STATE-TS::<npc No.>-ddd[&&-eee]:;  (DS0 channel information)
RTRV-CRS-T1::<npc No.>[&&[&]-<npc No.>]::MAP;
RTRV-CRS-TS::<npc No.>-ddd[&&-eee]:;  (far-end customer information)
RTRV-PRMTR-TS::<npc No.>-ddd[-ff]:;  (circuit trace)
RTRV-EQPT-TS::<npc No.>-ddd[-ff]::SRHDW;  (hardware trace)
RTRV-EVT-TS::[<npc No.>-ddd[&&-eee]]::SROFF:[ALL]; (SRM framing status)
```



```
RTRV-REG-EQPT::NPC-<npc No.>::[SIDE-s]:ESR;
RTRV-STATE-EQPT::NPC-<npc No.>;
RTRV-CRS-T1::NPC::MAP;
RTRV-REG-EQPT::UNIT-[q]q::DSPI:ESR;
RTRV-PRMTR-NE::::ECLOC;
RTRV-PRMTR-NE::::HUBID;
RTRV-PRMTR-T0::<npc No.>-ddd[&&-eee]::TO;
```

12.4 Establish Channel to Subrate and Customer 2-Point Cross-Connect

See Figure 7.

12.5 Multipoint Junction Unit (MJU)

See Figure 8.

12.6 Customer Connections

12.6.1 General

NOTE:
Channel ranges are allowed if the channels have been established as DS0A (customer number is not required).

12.6.2 Two-Point

```
CONN-CRS-TS::<npc No.1>-ddd[-ff[&&-mm]],
<npc No.2>-jjj[-ff[&&-nn]]::RATE-rr:[TERM,TERM];

     rr = 24,48,96, or 56
ff & II = Subrate customer channels

DISC-CRS-TS::<npc No.1>-ddd[-ff[&&-mm]],<npc No.2>-jjj
[-ll[&&-nn]]::[RATE-rr];
```

12.6.3 Multipoint

```
CONN-CRS-TS::<npc No.>-ddd[-ff]::MJU-ssss:[RATE-rr]: [MA-tttt-
u],[<branch>][,<branch>][,<branch>] [,<branch>][:TERM,TERM];

  rr = 24,48,96 or 56
tttt = MJU to which control leg of ssss is to be connected
  ff = customer number (01 for DS0A)
ssss = MJU number (1-9999)
   u = branch (1-4) of MJU to which tttt is to be connected.

ED-CONN-TS::<npc No.1>-ddd[-ff],<npc No.2>-jjj
[-ll]::[MPTM];

DISC-CRS-TS::<npc No.>-ddd[-ff]::MJU-ssss:
[RATE-rr]:[BRi]:[ALL];
```


12.7 Termination State

```
ED-PRMTR-TS::<npc No.>-ddd[-ff]::{TERM|RLS}m;

ED-PRMTR-TS::<npc No.>-ddd[-ff]::MJU-ssss:[BRi]:{TERM|RLS}m;
m = {F|T|B}   F = from   T = to   B = both sides
```

12.8 Customer Channels for CONN-CRS-TS

See the following for Customer Numbers.

Customer Numbers

Rate	DS0A Numbers (Note 1)	DS0B Customer Numbers (Note 2)
2.4	01	01-20
4.8	01	01-10
9.6	01	01-05
56	01	01

Notes:
1. Channel range with DS0A
2. Customer No. range with DS0B

13. SLC(R) Carrier Features

13.1 Growth

```
CRTE-EQPT::NPC-<npc No.>[&&-bbb]::DSxyz::[IW-X-pq];

ED-PRMTR-EQPT::[DGA-aaa,DGB-bbb,DGC-ccc,DGD-ddd,
DGP-ppp]::{RT|DL}-ffff,g[g]:[{sss|NDL|RTF}];

  g = 1 or 3 for Mode I or III, C for FPC, 1 for FPB
sss = for DGA misc. alarm (PMN, MMJ, MMN)
RTF = retrofit designation (prevents overwriting RT channel provisioning).

RST-EQPT::NPC-<npc No.>[&&-<range>]::;

RTRV-PRMTR-EQPT::NPC-<npc No.>::SCDG;

INIT-REG::NPC-<npc No.>:;
(clears timing errors while DGP is out-of-service)

RTRV-PRMTR-EQPT::[NPC-<npc No.>]::SCDG:[STATE]:
[{RT-ffff|DL-ffff|ALL}];
```

13.2 Remove RTF Designation

```
ED-PRMTR-EQPT::::RT-ffff:RTF;
```

13.3 Delete Digroups

```
RMV-EQPT::NPC-<npc No.>::[:INCL];
DLT-PRMTR-EQPT::[DGA-aaa,DGB-bbb,DGC-ccc,DGD-ddd,DGP-ppp]
::{RT|DL}-ffff;
```

13.4 Protection Switching

```
SW-TOPROTN-T1::{NPC-<npc No.>|DGx}::[{RT|DL}-ffff]:INCL;
```

13.5 Loop Back

```
{OPR|RLS}-LPBK-T1::{DGA|DGB|DGC|DGD|DGP}::LLB:
{RT|DL}-ffff;
```

13.6 Connections and Queries

```
Same CONN-CRS-T0, CONN-CRS1-T0 and CONN-BDCST-T0 commands with
following channel considerations:

Channel Numbers
```

Type	Channels
Type DE	01-24
Mode I & Series 5	01-24 25-48 (Virtuals-DGB) 49-72 (Virtuals-DGC) 73-96 (Virtuals-DGD)
Mode III	odd channels 01-47 odd channels 49-95 (DGC Virtuals)

RTRV-PRMTR-T0::<npc No.>-jjj[&&-kkk]::T0; (RT/DL digroup or DGA virtuals for RT digroup)

RTRV-PRMTR-T0::<npc No.>-ddd::FROM; (for 1-way circuit)

RTRV-CRS-T1::<npc No.>[&&-bbb]::MAP; (RT digroup, not DGA virtuals)

RTRV-CRS-T1:[xy]::[ww]:[ffff]:{RTMAP|DLMAP};

14. DS3 Termination Feature

14.1 Add Unit

```
1. CRTE-CNFGRN-EQPT::UNIT-[q]q:::DT100;

2. RST-EQPT::CCB-sf; (Side 0 first)

3. RST-CNFGRN-EQPT::UNIT-[q]q::CCN-s; (Repeat for Side 1)

4. RST-EQPT::UNIT-[q]q::UC;

5. RST-EQPT::UNIT-[q]q::FMT-0;

6. RST-EQPT::UNIT-[q]q::FMT-1;

7. RST-EQPT::UNIT-[q]q::FLI-P;

8. RST-EQPT::UNIT-[q]q::FLI-S;

9. CRTE-EQPT::UNIT-[q]q::MXR-c[&&-d]:[MXxyz]:
   [BERM-s][,BERT-t][,LBO-b];

   xyz = 100 for M13 (default) or 200 for c-bit parity
     s = Bipolar or Parity
     t = 3 or 6 for BER threshold
     b = off (default) or on for line buildout (LBO) off or on.

10. CRTE-EQPT::UNIT-[q]q::MIU-c[&&-d]:[MI100];
    (for IU function)

11. CRTE-EQPT::UNIT-[q]q::MIU-P:[MI100]; (for IU function)

12. CRTE-EQPT::NPC-<npc No.>[&&-bbb]::[mnxyz]:
    [rr|l&ss|m...]:[IW-X-pq];
    mn = TE for DS1 without IU function or TI for DS1 with IU
    function.

13. RST-EQPT::UNIT-[q]q::MMFG-P;

14. RST-EQPT::UNIT-[q]q::MMFG-c[&&-d]:[INCL];
```

DS3U NPC Numbers

Unit No.	NPC Numbers
1	001-160,16A-16H
2	161-320,32A-32H
3	321-480,48A-48H
4	481-640,64A-64H
5	641-800,80A-80H
6	801,960,96A-96H

14.2 Alarm Queries

```
RTRV-ALM-EQPT:[xy]::[ww];

RTRV-ALM-T3:[xy]::[ww];

  <xxloba> = xx for status (CR, ER, CL),
(in output   l for LOS (0 or 1), o for
  message)   out-of-frame (0 or 1), and
             a for AIS (0 or 1).

RTRV-STATE-T3::UNIT-[q]q::DS3-c[&&-d];
```

14.3 Remove MMFGs

```
RMV-EQPT::UNIT-[q]q::MMFG-c[&&-d]:[FRC[,INCL]];

FRC = forces remove without switch to protection (may cause
      loss of service); needed to remove multiple MMFGs.
```

14.4 MMFG Protection Switching

```
SW-TOWKG-EQPT::UNIT-[q]q::MMFG-c;

SW-TOPROTN-EQPT::UNIT-[q]q::MMFG-c;

RMV-EQPT::UNIT-[q]q::MMFG-c[&&-d]:[INCL];
(causes switch)

RST-EQPT::UNIT-[q]q::MMFG-c[&&-d]:[INCL];
(causes unswitch)

RTRV-STATE-EQPT::UNIT-[q]q::PROTN;

RTRV-STATE-T3::UNIT-[q]q::DS3-c[&&-d];
Protection Keywords
```

Keyword	Meaning
SLT	FLT selected
USLT	FLT unselected
SALW	MMFG in service, switch allowed
SINH	MMFG in service, switch inhibited
MPALW	Manual switch active, switchback allowed
APALW	Auto switch active, switchback allowed
MPINH	Manual switch active, switchback inhibited
APINH	Auto switch active, switchback inhibited
AVL	Available for switching
NVL	Not available for switching

(dashes) MMFG not equipped or not selected for service

15. DGNDET 82002 Messages

NOTE:
Generally, you do not need to respond to a 82002 message unless it recurs. The second action in Tables E, F, G and H is only needed if the primary action is ineffective.

NOTE:
When an NPC is removed from service, all 24 channels are out of service.

16. Security Login

16.1 Term/Link

16.1.1 General

```
(Also see link commands in Sections 16.1.2 and 16.1.3.
```

16.1.2 Asynchronous Link

```
ED-PRMTR-LINK::j::PTCOL-S[,BAUD-bb][ALM-k][,BS-e]
   [,ENQ-q][,XON-x][:INIT];

 j = Link number
bb = 03,06,12,24,48 or 96
 k = 2(major), 1(minor)
 e = 1 (underscore), 0 (backspace)
```

16.1.3 Synchronous Link

```
ED-PRMTR-LINK:[xy]:j:[ww]:PTCOL-X[,ALM-k][:INIT];
```

16.2 Language and NPC Numbering

```
SET-PRVG-{USER|TERM}:[xy]::[ww]::{user id|Link No.}:
   [LANG-P|M|T]:[NPCAD-{E|X|H}]:[LEV-a&-b&-c&-d&-e&-f]:
   [{RMON|RMOFF}];

NPCAD = E for extended (for example, 001),
        8 for 4-digit extended, or H for
        hierarchical (for example, 01-1-01)
```

16.3 User

```
CRTE-LGN:[xy]::[ww]:<user id>,NEW;
(for asynchronous link)

CRTE-LGN:[xy]::[ww]:<user id>,NEW,<user password>;
(for synchronous X.25 link) SET-PRVG-{USER|TERM|ALL}::::{<user
id>|l[mm][,INCL]}
   :LANG-{P|M|T}][NPCAD-{E|X|H}:[LEV-a&-b&-c&-d&-e&-f]
   [:{RMON|RMOFF}][:RLK-{A|I}];

DLT-LGN:[xy]::[ww]:<user id>;

ED-PRMTR-{MACRO|MAP}:[xy]::[ww]:<name>;

DLT-{MACRO|MAP}:[xy]::[ww]:<filename>:<user id>;

LGN-USER:[xy]::[ww]:<user id>[,<user pswd>];

LGT-{USER|TERM}:[xy]::[ww]:{<user id>|<Link No.>};
```


16.4 Queries

```
RTRV-PRMTR-LINK::<link No.>;

RTRV-PRVG-USER::LOG::[ALL];

RTRV-PRVG-{USER|TERM}:[xy]::[ww]:{<user id>|<Link No.>};

RTRV-PRMTR-{MACRO|MAP}:[xy]::[ww]:ATTR:{<user id>|ALL};

RTRV-{MACRO|MAP}-COM:[xy]::[ww]:<filename>:[<user id>];
```


17. Macros/Maps

17.1 Macros

1. Enter ED-MACRO:[xy]::[ww]:<filename>;

2. Use LIST, APPEND, and DELETE verbs to display or edit line (for example, APPEND::0;/LIST::1-11;/DELETE::10;). Use 0 for first line; lower number to insert between lines (for example, 11 to go between 11 & 12).

3. See examples in Sections 17.3 and 17.5. Enter component command lines to file.

4. If OK is received after entries, proceed. If not, respond to denials; NOT ALLOWED means command is not allowed or not authorized.

5. Enter next line or END to terminate.

6. To execute macro, enter EXC-MACRO:[xy]::[ww]: <filename>:[(p1[&p2[&p3,...&10]; Where: p1,p2,p3 = Values for variables identified by numbers in component commands.

17.2 Alternate Maps

1. To create reference map or a new map:

   Generic 3: ENT-MAP::::<map name>;

   Generic 4 and later: ED-MAP::::<map name>;

2. To edit existing map:

   Generic 3: ED-PRMTR-MAP::::<map name>;

   Generic 4 or later: ED-MAP::::<map name>;

3. To use the picture feature with a reference map:

   ED-PRMTR-MAP::::<map name>,<refmap>;

4. For a listing of the alternate map:

   RTRV-MAP-COM::::<name>[:<user id>]; (for CONNs)

   RTRV-MAP-EQPT::NPC::<name>[:<user id>]; (for NPCs)

5. To remove CONNs that are already entered in an alternate map:

   CONN-CRS-T0::<npc No.1>-ddd[&&-eee],<npc No.2>-jjj


```
[&&-kkk]::::::DEL;
```

6. To remove NPCs that were added to map:

```
ED-DLT-MAP::NPC-{[<npc No.>&&[&]-<range>]
[<npc No.1>|<npc No.2>|...]}
[&] = Used only with hierarchical numbering.
```

7. When editing to add CONNs, either enter each new CONN or enter command to add NPCs:

```
ED-ADD-MAP::NPC-<listing>:;
```

8. To terminate without writing in data base, enter QTEND;. To write and quit, enter END;.

9. To activate map, enter EXC-MAP::::<filename>:[CLR];.

17.3 Macro Example

17.3.1 Values Entered

```
APPEND::0;
DISC-CRS-T0::001-01,003-01::::STOP;
CONN-CRS-T0::001-01,005-01::TRSP;
CONN-CRS-T0::001-02,005-02::TRSP;
CONN-CRS-T0::001-03,005-03::TRSP;
RTRV-CRS-T1::001::MAP;
END;
```

17.3.2 Values Defined in EXC Command

```
APPEND::0;
DISC-CRS-T0::#001-01,003-01::::STOP;
CONN-CRS-T0::#01-01,#02-01::#03;
CONN-CRS-T0::#01-02,#02-02::#03;
CONN-CRS-T0::#01-03,#02-03::#03;
END;
```

17.4 Exc Command for Macro B

```
EXC-MACRO:[xy]::[ww]:QWKCON:(001&005&TRSP,TRB);
```

17.5 Alternate Map Example

```
ED-MAP:[xy]::[ww]:NEWMAP;
CONN-CRS-T0::001-01,002-02::TRSP;
CONN-CRS-T0::003-01,004-01::TRSP;
CONN-CRS-T0::005-01&&-24,006-01&&-24::TRSP,TRB;
ED-ADD-MAP::NPC-007&&-012;
```


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Document Title: DACS II Releases 3 Through 6.0, MML Quick Reference Guide

Document Number: AT&T 365-353-013 Issue Number: Issue 1
Publication Date: April 1992

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List of Tables

Table A: NPC Extended Numbering

Unit No.	Range FTU (Note 1)	Range DSPU (Note 2)
1	001-160	001/002, 021/022, ...,141/142
2	161-320	161/162, 181/182, ...,301/302
3	321-480	321/322, 341/342, ...,461/462
4	481-640	481/482, 501/502, ...,621/622
5	641-800	641/642, 661/662, ...,781/782
6	801-960	801/802, 821/822, ...,941/942
7	961-1120	961/962, 981/982, ...,1101/1102
8	1121-1280	1121/1122, 1141/1142, ...,1261/1262
9	1281-1440	1281/1282, 1301/1302, ...,1421/1422
10	1441-1600	1441/1442, 1461/1462, ...,1581/1582
11	1601-1760	1601/1602, 1621/1622, ...,1741/1742
12	1761-1920	1761/1762, 1781/1782, ...,1901/1902
13	1921-2080	1921/1922, 1941/1942, ...,2061/2062
14	2081-2240	2081/2082, 2101/2102, ...,2221/2222
15	2241-2400	2241/2242, 2261/2262, ...,2381/2382
16	2401-2560	2401/2402, 2421/2422, ...,2541/2542

Notes:
1. For DS3U type, use letter suffix (A through H) for 8 additional NPCs (for example, 16A through 16H).
2. There are 8 DSPs (2 NPCs) per DSPU. In the DSPU, the NPC number of each additional DSP is 20 higher than the previous one.

Table B: TSIs and CCBs for Full Unit Connectivity

Unit No.	TSI No.	CCB No.	Unit No.	TSI No.	CCB No.
1	11	1	1,2, 3,4, 5	11,12,13,14,15,21, 22,23,24,25,31,32, 33,34,35,41,42,43, 44,45,51,52,53,54	1,2, 3,4, 5
1,2	11,12, 21,22	1,2			
1,2, 3	11,12,13, 21,22,23, 31,32,33	1,2, 3			
1,2, 3,4	11,12,13,14, 21,22,23,24, 31,32,33,34, 41,42,43,44	1,2, 3,4	1,2, 3,4, 5,6	11,12,13,14,15,16, 21,22,23,24,15,26, 31,32,33,34,35,36, 41,42,43,44,45,46, 51,52,53,54,55,56, 61,62,63,64,65,66	1,2, 3,4, 5,6

Table C: DSPU NPCs In Units 5 And 6 (Note)

Unit	NPC Numbers
5	641-642,661-662,681-682,701-702, 721-722,741-742,761-762,781-782
6	801-802,821-822,841-842,861-862, 881-882,901-902,921-922,941-942

Note: Units 5 and 6 in original interface bay are designated DSPUs.

Table D: Test Access Modes

Mode	Meaning
MONE	Monitor Equip (E) End of Idle Port or Cross-Connection
MONF	Monitor Facility (F) END of Idle Port or Cross-Connection
MONEF	Monitor Both Ends
SPLTA	Splits E-to-F Connection to Test E-to-F Direction
SPLTB	Splits F-to-E Connection to Test F-to-E Direction
SPLTE	Splits E-to-F Connection to Test E End
SPLTF	Splits F-to-E Connection to Test F End
SPLTEF	Splits Both Directions to Test E and F Ends
LOOPE	Loops E End and Monitors Signal; on 2-Way Circuit, F End Is Disconnected
LOOPF	Loops F End and Monitors Signal; on 2-Way Circuit, F End Is Disconnected

Table E: 82002 Test Numbers

ttt =	Pack	Data Bytes	Corrective Action
002	FTMI	d5=unit No.(01-16)	Enter RMV-EQPT::UNIT-[q]q::UC;
003	FC	d4=pack No. (01-06)	and RST-EQPT::UNIT-[q]q::UC;
007	UNIT		
032	DSPI		
011	NPC	d5=unit No.	Enter RMV-EQPT::NPC-<npc No.>;
		d4=NPC No. (HEX 01-A0)*	and RST-EQPT::NPC-<npc No.>;
021	CCN	d5=side (00 or 01)	(1) Remove and restore any
022	CCNI	d4=pack No. (01-06)	pack on subject side
023	CCB		(2) Enter STA-LOCL-
024	TSI	TSI=d5,d4,d3	RST::PRI;
025	CCN	d5=side (00 or 01)	Enter STA-LOCL-RST::PRI;
205	FTMI	d5=unit No.	(1) Enter RMV-EQPT and RST-EQPT
207	FC	d4=pack No. (01-04)	commands for subject pack
208	NPC	(NPCs=HEX 01-A0)*	(2) Look for DGN-STF
209	NPC		(3) If recurs, enter RMV-EQPT::UNIT-[q]q::UC;, and RST-EQPT::UNIT-[q]q::UC;
210	FC	d3=side, d4=FTMI	RMV-EQPT::UNIT-[q]q::FC-sf;
		d5=unit No.	and RST-EQPT::UNIT-[q]q::FC-sf;
301	CCN	d5=side	Remove and restore any
	Group		pack on side. If side is active, go to other side first (SW-DX-EQPT::XC-a;)

302	TSI	TSI=d5,d4,d3	Enter commands to RMV-EQPT
303	CCB	d5=side, d4=CCB No.	and RST-EQPT subject pack
308	LINK	d5=link No. (01-06)	Enter commands to remove and restore link
004,005,006	d5=Unit No.	(1) Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC; (2) If recurs, enter STA-LOCL-RST::PRI;	
012,013,014, 015,016,017	d5=Unit No. d4=NPC No. (HEX 01-A0)*	(1) Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC; (2) Enter RMV-EQPT::NPC <npc No.>; and RST-EQPT::NPC-<npc No.>;	
026-029	d5=ECCN side (0,1)	Enter RMV-EQPT::ETSI-sqq; and RST-EQPT::ETSI-sqq;	
211,215, 216,217, 220-229 230-239	d5=Unit No. d4=NPC No.	(1) Enter RMV-EQPT::NPC-<npc No.>; and RST-EQPT::NPC-<npc No.>; (2) If recurs, remove 2 NPCs, reseat pack, and restore	
102,103,104, 105,106,112, 113,114,115, 116,125,126, 127,128,135, 136,154,155, 156,157		Enter STA-LOCL-RST::PRI;	
121,122,123, 131,132,133, 150,151,152, 160,161,162, 163,164,165, 166,167,168	d5=Unit No. d4=NPC No.	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;	
305,306,307, 310,311,312, 313,314,315	d5=SYNC side (0,1) d4=TLI No. (01-04)	(1) If TLI is named, remove and restore SYNC TLI (2) Enter RTRV-STATE-EQPT::SYNC;, look for SOURCE TLI,MATE (3) Enter RMV-EQPT::SYNC-a; and RST-EQPT::SYNC-a;	
316,317	d5=ECCN side (0,1)	Enter RMV-EQPT::CCI-s; and RST-EQPT::CCI-s;	

* To obtain NPC number, convert HEX digits to decimal; the left digit is 16s place (x16) and A=10, B=11, C=12, D=13, E=14, F=15. Add 160 to get NPC No. in Unit 2, add 320 for Unit 3, and add 480 for Unit 4, etc.

Table F: Facility Error Thresholds

ttt =	Data Bytes	Corrective Action
171,172,173, 174	d5=Unit No. d4=NPC No.	(1) Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC; (2) Enter RMV-EQPT::NPC-<npc No.>; and RST-EQPT::NPC-<npc No.>;
019,01A,01B 01C,01D	d5=Unit No. d4=NPC No.*	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
215,216,220, 221,222,223, 224,225,226, 227,228,229, 230,231,232, 233,234,235, 236,237,238, 239	d5=Unit No. d4=NPC No.*	(1) Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC; (2) Enter RMV-EQPT::NPC-<npc No.>; and RST-EQPT::NPC-<npc No.>;

* To obtain NPC number, convert HEX digits to decimal; the left digit is 16s place (x16) and A=10, B=11, C=12, D=13, E=14, F=15. Add 160 to get NPC No. in Unit 2, add 320 for Unit 3, and add 480 for Unit 4, etc.

Table G: SLC(R) Carrier and Subrate Data

ttt=	Data Bytes	Corrective Action
033,035,036, 037,038,039, 042,050,052, 250,251	d5=Unit No. d4=NPC (for 251)	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
055,056,057, 058,059,060, 061,062,063, 064,065,066 089-093 095,102	d5=Unit No. d4=RT/DL (coded)	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
069-074, 076-081, 084	d4=MJU, SRM, or channel No. d1=NPC No.	Enter RMV-EQPT::NPC-<npc No.>::SIDE-s; and RST-EQPT::NPC-<npc No.>::SIDE-s;
240,241,242	d5=Unit No. d4=NPC No.	(1) Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]::UC; (2) Enter RMV-EQPT::NPC-<npc No.>; and RST-EQPT::NPC-<npc No.>;

Table H: DS3 Feature

ttt=	Data Bytes	Corrective Action
009,00A, 00B,00C	d4=Entity No. d5=Unit No.	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
03B,03C,03D, 03E,03F	d4=Entity No. d5=Unit No.	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
040,041,042, 043,044,045, 046,047	d4=Entity No. d5=Unit No.	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
253,254,255, 256,257,258, 259,25A,25B, 25C,25D,25E, 25F	d4=Entity No. d5=Unit No.	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
048,049,04A, 04C,04D 260,261,262, 263,264,265	d5=Unit No.	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
320,321,322, 323,324,325, 326,327,328, 329,32A	d4=MXR No. d5=Unit No.	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;
32B,32C,32D, 32E,32F,330, 331,332,333, 334,335,336	d4=NPC No. d5=Unit No.	Enter RMV-EQPT::UNIT-[q]q::UC; and RST-EQPT::UNIT-[q]q::UC;

List of Figures

Figure 1: Simplified Digital Access and Cross-Connect System II (DACS II) Block Diagram

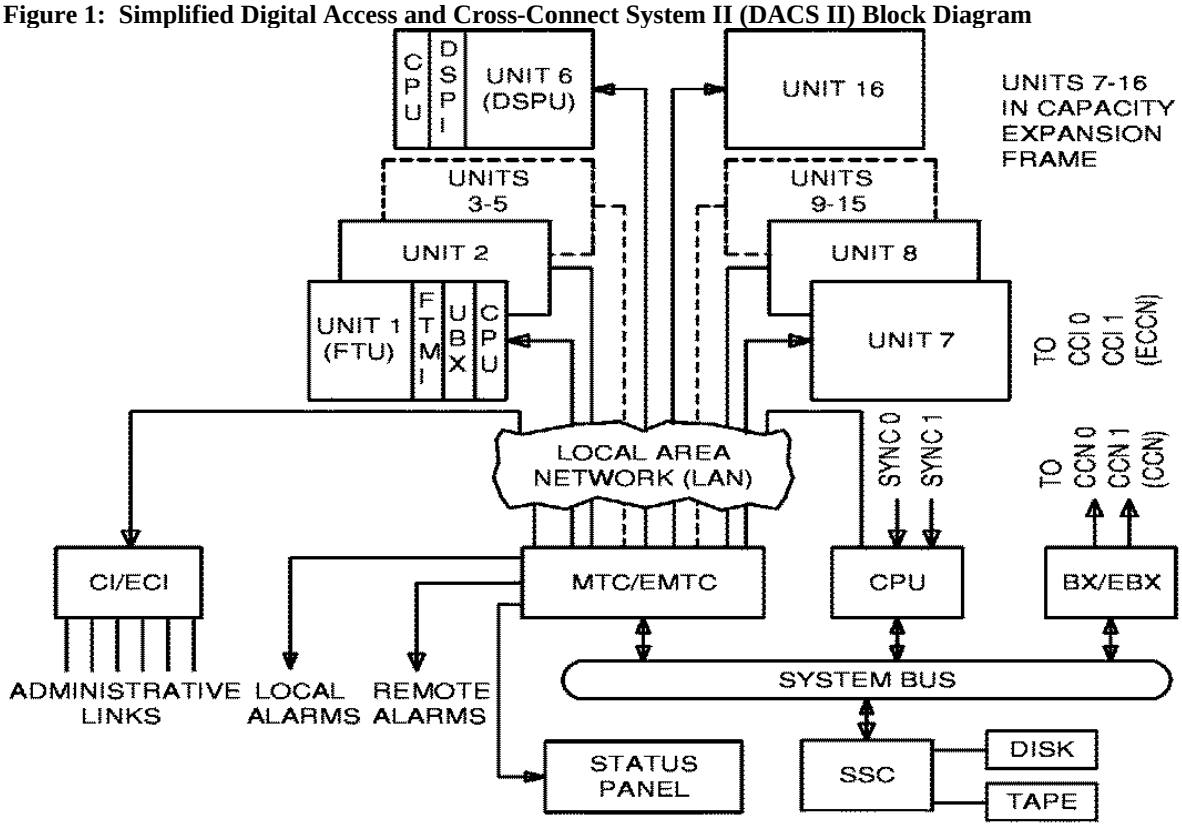

Figure 2: CCN1 Network

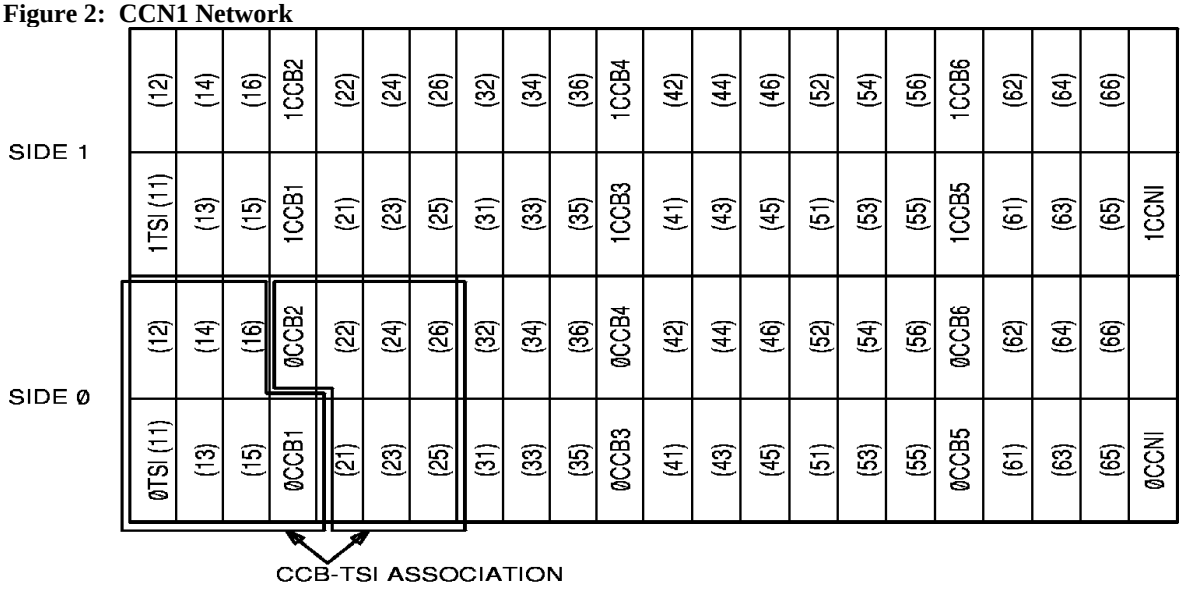

Figure 3: ECCN Network

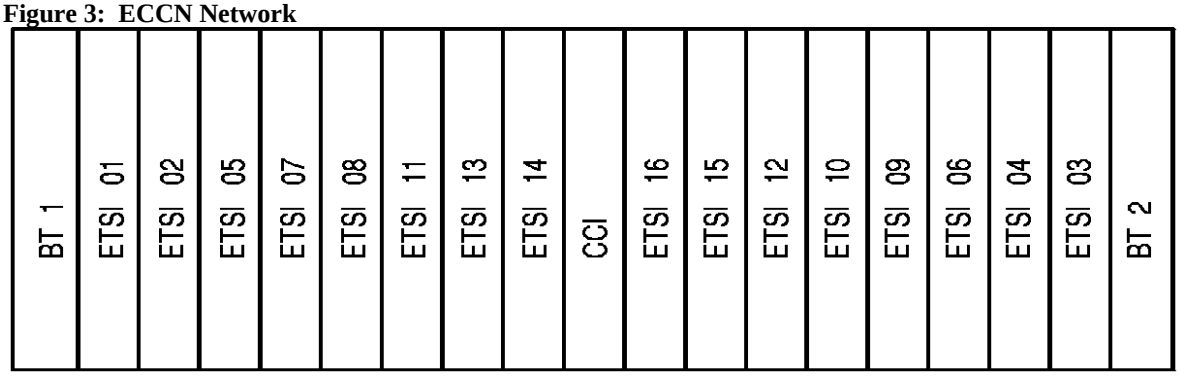

Figure 4: Backup Memory Transfers

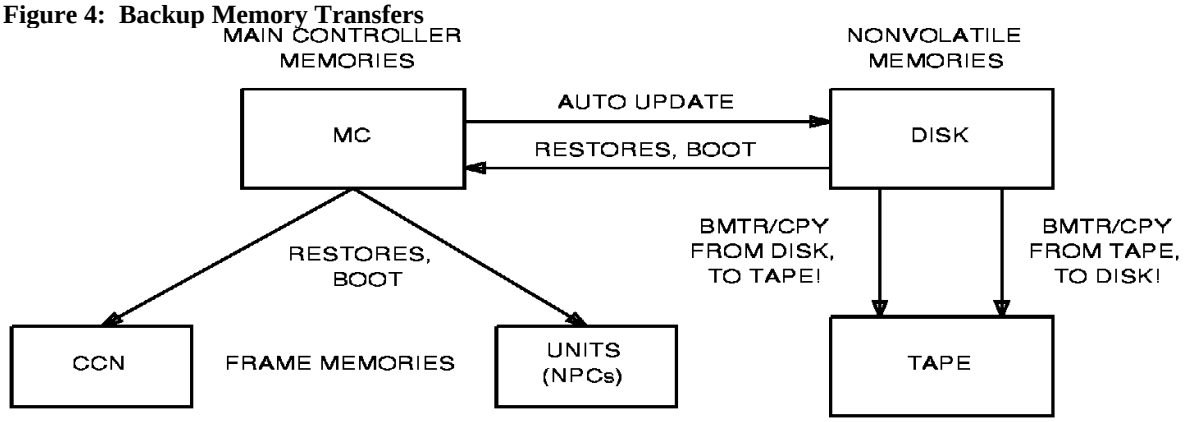

Figure 5: Pure Broadcast (Virtual NPC)

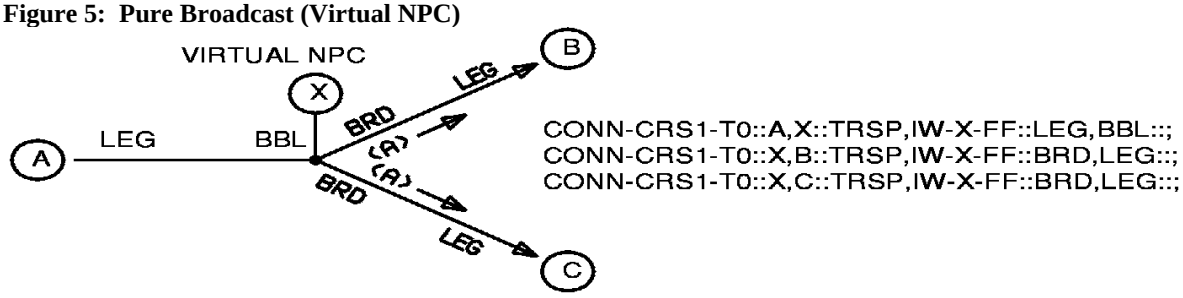

Figure 6: DSPU-DMB Bridges

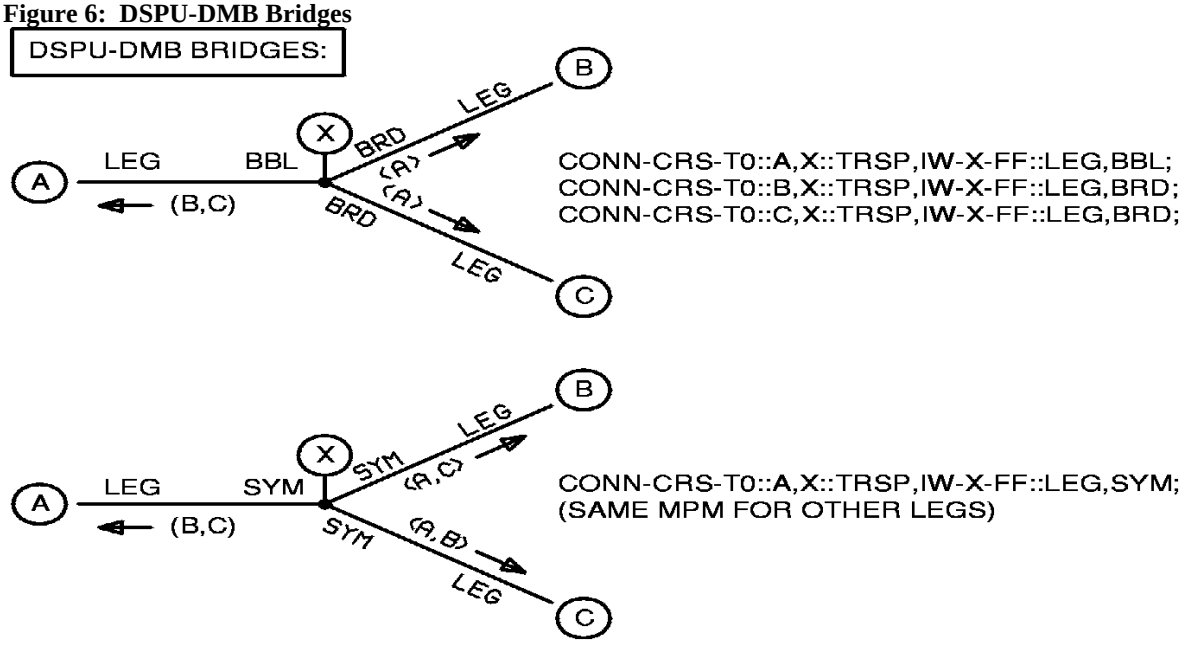

Figure 7: Establish Channel to Subrate and Customer 2-Point Cross-Connect

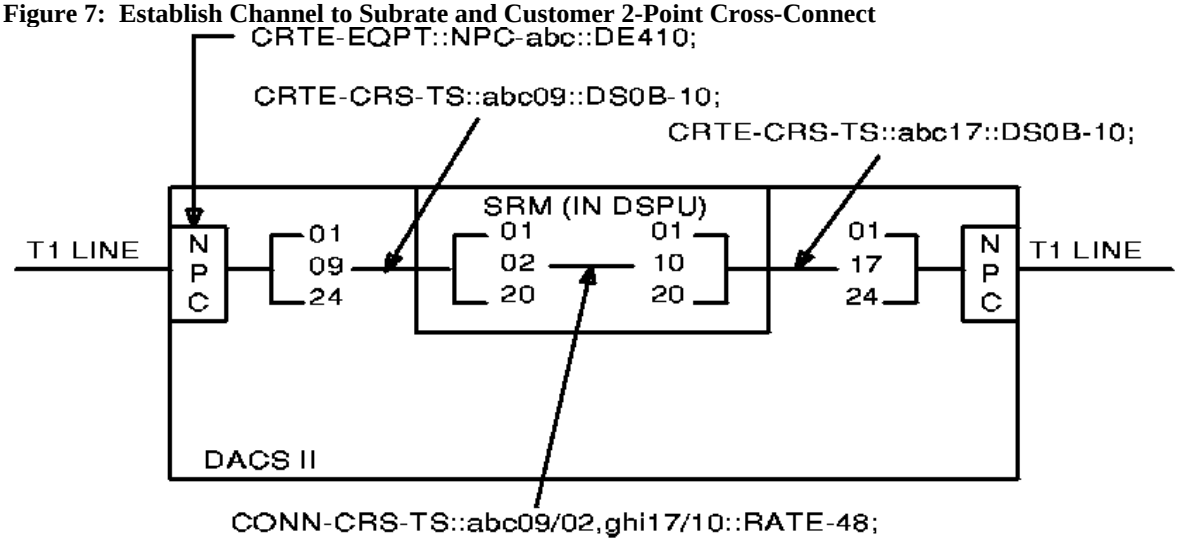

Figure 8: Multipoint Junction Unit (MJU)