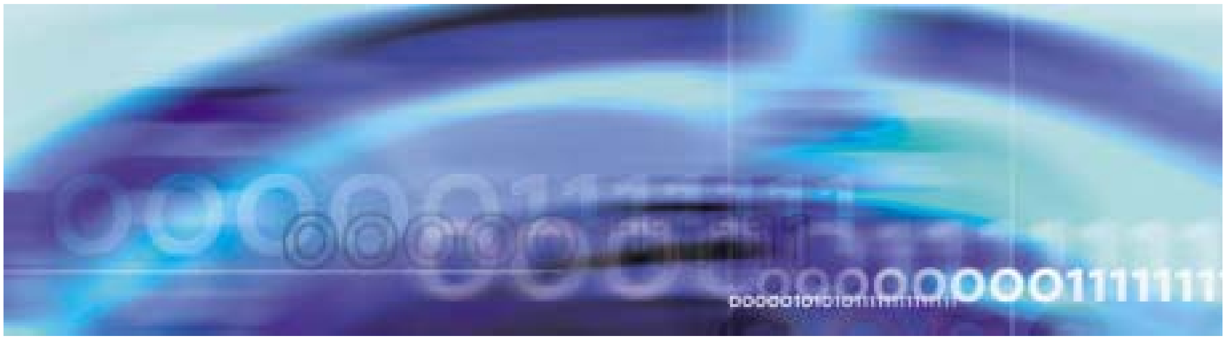


SPM configuration management

What’s new

The following features are new in the 17.2 software release:

A00002431 - LX82BA Capacity Delivery

A CAPINDX in the MNNODE table defines the CEM capacity as one of the following

- standard
- premium
- enhanced

Enhanced and premium values are software optionality control (SOC) dependant.

Configuration management strategy

Configuration of the SPM is controlled by entities called data schema tables. Individual tuples in the data schema tables allow for a variety of features and applications to be provisioned. This strategy is used for provisioning of circuit packs, lines, and trunks.

DSP provisioning

Digital signal processor (DSP) requirements depend on call traffic characteristics. DSP resource provisioning models use the following call traffic parameters based on an individual SPM:

1. percentage of ISUP in the call mix
   a. % calls
   b. % ports
2. percentage of PTS in the call mix
   a. % calls
   b. % ports

3. percentage of PRI in the call mix
   a. % calls
   b. % ports
4. one of the following
   a. average call holding time in seconds for the entire node or per ISUP, PTS, and PRI trunk groups if significant differences are expected
   b. average port utilization for the entire node or per ISUP, PTS, and PRI trunk groups if significant differences are expected
5. percentage of calls that require digit collection, DTMF, or MF (% over total calls)
6. percentage of PTS calls that use MF (% over total PTS calls)
7. percentage of COT on the ISUP calls (% over total ISUP calls)
8. percentage of calls expecting reoriginations (% over total calls)
9. average call holding time for the calls expecting reoriginations, if differences are expected from the above call holding times
10. traffic rate, default reference is 12 h-CPS

The table below, Resource requirements per call type, summarizes the resource requirements for each call type.

Resource requirements per call type

Resource type	Call type		
	ISUP	PTS	PRI
TONESYN	Y	Y	Y
DTMF	Y	Y	Y
MF	-	Y (except DAL)	-
COT	optional	-	-
ABBIT	-	Y	-
ECAN	optional	optional	optional

The table below, DSP resources, shows, for each resource type, the maximum number of resources for a DSP island (DSPI). Each DSP RM can be configured with up to nine DSP islands. Only one resource type can be configured on a DSPI.)

DSP resources

DSP resource	Number of calls serviced (number per DSPI)
Tone Synthesizer (TONESYN)	255
Dual Tone Multi Frequency with dial tone generation (DTMF)	64
Multi Frequency receiver (MF)	40
Continuity Tone transceiver (COT)	80
AB Bit handler (ABBIT)	14
Note: See the restrictions in the following ABBIT provisioning section.	

Allocate resources across Resource Modules (RMs) to evenly distribute the DSP messaging load. In addition to the following section describing ABBIT provisioning, two provisioning examples follow.

ABBIT provisioning restrictions

Provision ABBIT according to the following guidelines:

- do not provision more than 28 ABBIT resources on the same RM
- do not provision more than 14 ABBIT resources on an RM that also provides 255 TONESYN resources since both resources are messaging intensive

DSP provisioning examples

This section provides three standard DSP configurations at 12 h-CPS for an NA-100 application. The configurations are based on provisioning one DSP RM as a spare. The spare RM remains in a warm standby condition ready to replace an active DSP should a failure occur. All configurations support a single spare DSP. This sparing strategy is known as N +1. The table below, Supported NA-100 DSP configurations, lists the three NA-100 DSP configurations and the maximum number of PTS T1 trunks supported.

Supported NA-100 DSP configurations

DSP RM Configuration	Maximum PTS T1s
2 + 1	25
2 + 1	42
3 + 1	56

All three configurations support the following services.

- 100 % digit collection on calls
- 100 % MF on PTS
- 100 % COT on ISUP
- 100 % tone generation on calls

NA100 Application The NA100 market does not use the call reorigination feature; therefore, the application has less need for DTMF resources.

This NA100 recommended 2+1 RM configuration supports up to 25 PTS T1 trunks as shown in the table below, DSP RM Configuration- NA100 2 + 1 (25 PTS T1s).

DSP RM Configuration- NA100 2 + 1 (25 PTS T1s)

Resource	DSP 0	DSP 1	DSP2	Total	DSPIs
COT	80	80	spare	160	2
TONESYN	255	255	spare	510	2
DTMF	128	128	spare	256	4

DSP RM Configuration- NA100 2 + 1 (25 PTS T1s)

Resource	DSP 0	DSP 1	DSP2	Total	DSPIs
ABBIT	14	14	spare	28	2
MF	40	40	spare	80	2

This NA100 recommended 2+1 RM configuration supports up to 42 PTS T1 trunks as shown in the table below, DSP RM Configuration- NA100 2 + 1 (42 PTS T1s).

DSP RM Configuration- NA100 2 + 1 (42 PTS T1s)

Resource	DSP 0	DSP 1	DSP2	Total	DSPIs
COT	80	80	spare	160	1
TONESYN	255	0	spare	255	1
DTMF	128	128	spare	256	4
ABBIT	14	28	spare	42	3
MF	40	40	spare	80	2

The NA100 recommended 3+1 RM configuration supports up to 42 T1 trunks, as shown in the table below, DSP RM Configuration - NA100 3+ 1 (56 PTS T1s).

DSP RM Configuration - NA100 3+ 1 (56 PTS T1s)

Resource	DSP 0	DSP 1	DSP2	DSP3	Total	DSP Is
COT	80	80	0	spare	160	2
TONESYN	255	255	0	spare	510	2
DTMF	64	64	128	spare	256	4
ABBIT	14	14	28	spare	56	4
MF	40	40	80	spare	160	4

VSP provisioning

Voice signal processor (VSP) resources are pooled resources. Each treated call uses an Echo Cancellation (ECAN) resource for the duration of the call and then returns the resource to the resource pool for the next call. Operating company personnel can assign VSP resources according to 0% to 100% treatment of the traffic engineering guidelines for the office. An SPM supports two different VSP resource types:

- NTLX66 which supports 260 ECAN resources
- NTLX86 (Coherent VSP) which supports 356 ECAN resources

The NTLX66 must be configured with 257 or more resources in the MNCKTPAK table. An SPM must use only one type of VSP. VSP types cannot be mixed.

The table below, NTLX66BA resources, shows the capacities of the NTLX66 VSP RM.

NTLX66BA resources

Number of RMs	Protection	Resource pool	Percent of trunks
2	1 + 1	260	13%
3	2 +1	520	26%
4	3 + 1	780	39%
5	4 +1	1040	52%
6	5+ 1	1300	64%
7	6 + 1	1560	77%
8	7 + 1	1820	90%
9	8 + 1	2080	103%

The following table shows the capacities for the NTLX86, Coherent VSP RMs.

NTLX86AA resources

Number of RMs	Protection	Resource pool	Percent of trunks
2	1 to 1	336	17%
3	2 to 1	672	33 %
4	3 to 1	1008	50%
5	4 to 1	1344	67%
6	5 to 1	1680	83 %
7	6 to 1	2016	100%

DLC provisioning

PRI services require two DLC RMs. A DLC RM is capable of terminating 84 D-channels. The second DLC provides a redundant spare. Nortel Networks recommends provisioning DLCs in slots 1 and 7 of shelf 1. A DLC is required only when PRI is supported.

CEM provisioning

A capacity index (CAPINDX) in the MNNODE table defines the CEM (NTLX82) capacity as one of the following

- standard - Call processing capacity equal to NTLX82AA
- enhanced - Call processing capacity near thrice NTLX82AA
- premium - Call processing capacity near twice NTLX82AA

The values are dependant upon the product engineering code (PEC) in the MNCKTPAK table and also on usage software optionality control (SOC) right to use (RTU) settings. The table below, SOC option and MNCKTPAK code dependencies, describes the dependencies.

SOC option and MNCKTPAK code dependencies

CAPINDX	SOC Option	MNCKTPAK PEC
Standard	does not apply	NTLX82AA
Enhanced	SPMS0020 RTU=Y	NTLX82BA
Premium	SPMS0028 RTU=Y	NTLX82BA

The USAGE SOC values denote the maximum number of DMSCP class of SPMs in the office that can be provisioned with the corresponding capacity index. The SOC threshold values are set to 100%

Tools and utilities

Data schema

Data schema tables are accessed using the MAP display commands.

Provisioning a DLC RM

Use this procedure to provision a DLC resource module (RM).

Provisioning a DLC RM

At the MAP level

1 To add a DLC protection group, access table MNPRTGRP:

```
>TABLE MNPRTGRP
```

2 Begin the table addition:

```
>ADD
```

3 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table PMLOADS.

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
GRPKEY:
>SPM 0 DLC_GRP 1
SELECTOR:
>DLC_GRP
SWCHMODE:
>NRVTV
ALRMCTRL:
>NOSPARE MJ RPT
>
TUPLE TO BE ADDED:
SPM 0 DLC_GRP 1 DLC_GRP NRVTV (NOSPARE MJ
RPT)$
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

4 Exit table MNPRTGRP:

```
>QUIT
```

5 Access table MNNODE:

```
>TABLE MNNODE
```

6 Position on the tuple for the SPM being modified:

```
>POS SPM <spm_no>
```

where

spm_no
is the SPM number (0 to 85)

Example

```
>POS SPM 0
```

Example of MAP display

```
NODEKEY       ALIAS        NODEINFO
---------------------------------------------------------------------
SPM  0      SPM_0_0D    DMSCP 0 SYNC INTERNAL 15 (COT 60) (DTMF 60)
                            (ECAN 60) (TONESYN 60) (MF 60) $
                            (SYSB CR RPT) (MANB MJ RPT) (ISTB MN RPT)
                            (SYSBNA CR RPT) (MANBNA MJ RPT)
                            (COTLOW MN RPT) (DTMFLOW MN RPT)
                            (ECANLOW MN RPT) (TONESLOW MN RPT)
                            (MFLOW MN RPT) (CMRLOW MN RPT) $
                            (PRAB SPM250) $ ENHANCED
```

7 Ensure that the proper EXECs are datafilled for Table MNNODE.

Office type	Valid EXEC
DMS100/200	PRAB SPMEX
DMS250	PRAB SPM250
DMS500	PRAB SPMEX

8 Use this table to determine your next step.

If the EXECs	Do
are datafilled properly	step 23
not datafilled properly	step 9

9 Change the tuple to the proper EXEC for the office by performing the following the following steps.

a Begin the table change:

```
>CHA
```

b For each unchanged prompt, press the Enter key. The only value entered in this step should be the new value.

Example

This example changes the EXEC from (PRAB SPM250) to (PRAB SPMEX)

```
>CHA

ENTER Y TO CONTINUE PROCESSING OR N TO QUIT

>Y

ALIAS: SPM_0_0D

>

CLASS: DMSCP

>

FLOOR: 1

>

CLKMODE: SYNC

>

CLKREF: INTERNAL

>

LEDTIMER: 15

>

RSRUTLIM: COT 60

>

RSRUTLIM: DTMF 60

>

RSRUTLIM: ECAN 60

>

RSRUTLIM: TONESYN 60

>

RSRUTLIM: MF 60

>
```

```
RSRUTLIM:
>
ALRMCTRL: SYSB CR RPT
>
ALRMCTRL: MANB MJ RPT
>
ALRMCTRL: ISTB MN RPT
>
ALRMCTRL: SYSBNA CR RPT
>
ALRMCTRL: MANBNA MJ RPT
>
ALRMCTRL: COTLOW MN RPT
>
ALRMCTRL: DTMFLOW MN RPT
>
ALRMCTRL: ECANLOW MN RPT
>
ALRMCTRL: TONESLOW MN RPT
>
ALRMCTRL: MFLOW MN RPT
>
ALRMCTRL: CMRLOW MN RPT
>
EXECTAB: (PRAB SPM250)
>PRAB SPMEX
EXECTAB:
>$
CAPINDX:
>ENHANCED
```

Perform the following steps to activate the changes to EXECTAB in SPM 0:

```
1: MANBSY the CEM if it’s not already
MANBSY.

2: RTS the inactive CEM.

3. Perform an SPM SWACT

4. MANBSY the new inactive CEM

5. RTS the new inactive CEM.

TUPLE TO BE CHANGED:

SPM 0 SPM0_00D DMSCP 0 SYNC INTERNAL 15
(COT 60) (DTMF 60) (ECAN 60) (TONESYN 60)
(MF 60) $ (SYSB CR RPT) (MANB MJ RPT) (ISTB
MN RPT)(SYSBNA CR RPT) (MANBNA MJ
RPT)(COTLOW MN RPT) (DTMFLOW MN RPT)
(ECANLOW MN RPT) (TONESLOW MN RPT)
(MFLOW MN RPT) (CMRLOW MN RPT) (PRAB SPMEX)
$ ENHANCED

ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.

>Y

TUPLE CHANGED
```

10 The following steps will activate the static data that was modified in step 9. Exit the table:

>QUIT

11 Post the SPM being modified:

>POST SPM <spm_no>

where

spm_no
is the number of the SPM being modified (0 to 85)

Example of MAP display

```
SPM    #   InSv  Class: DMSCP

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
DSP 0  1 A InSv  CEM 1  8 I InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 I InSv  -----  2 - ----  -----  9 - ----
-----  3 - ----  OC3 1 10 A InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  ----- 12 - ----  -----  5 - ----  ----- 12 - ----
-----  6 - ----  ----- 13 - ----  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 - ----  -----  7 - ----  ----- 14 - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

12 Select the inactive CEM:

>SELECT <inactive_cem>

where

inactive_cem
is the number of the inactive CEM

13 Busy the inactive CEM:

>BSY

14 Return the inactive CEM to service:

>RTS

15 Access the PROT level of the MAP:

>PROT

Example of MAP display

```
SPM    #  InSv
Prot Grp: CEM          Mode: N/A              Schema: N/A
Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
 1 -- - - ----    8  1 S I InSv    1 -- - - ----    8 -- - - ----
 2 -- - - ----    9 -- - - ----    2 -- - - ----    9 -- - - ----
 3 -- - - ----   10 -- - - ----    3 -- - - ----   10 -- - - ----
 4 -- - - ----   11 -- - - ----    4 -- - - ----   11 -- - - ----
 5 -- - - ----   12 -- - - ----    5 -- - - ----   12 -- - - ----
 6 -- - - ----   13 -- - - ----    6 -- - - ----   13 -- - - ----
 7  0 W A InSv   14 -- - - ----    7 -- - - ----   14 -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

16 Perform a protection switch on the CEMs:

>MANUAL

17 Exit the protection level:

>QUIT

18 Select the previously active CEM:

>SELECT <inactive_cem>

where

inactive_cem
is the number of the previously active CEM

19 Busy the CEM:

>BSY

20 Return the CEM to service:

>RTS

21 Access the PROT level of the MAP:

>PROT

Example of MAP display

```
SPM    #  InSv
Prot Grp: CEM          Mode: N/A              Schema: N/A
Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
 1 -- - - ----    8  1 S A InSv    1 -- - - ----    8 -- - - ----
 2 -- - - ----    9 -- - - ----    2 -- - - ----    9 -- - - ----
 3 -- - - ----   10 -- - - ----    3 -- - - ----   10 -- - - ----
 4 -- - - ----   11 -- - - ----    4 -- - - ----   11 -- - - ----
 5 -- - - ----   12 -- - - ----    5 -- - - ----   12 -- - - ----
 6 -- - - ----   13 -- - - ----    6 -- - - ----   13 -- - - ----
 7  0 W I InSv   14 -- - - ----    7 -- - - ----   14 -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

22 Perform a protection switch:

>MANUAL

23 Return to the CI level of the MAP:

>QUIT ALL

24 Access table MNCKTPAK:

>TABLE MNCKTPAK

25 Begin the table addition:

>ADD

26 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table MNCKTPAK.

>ADD

CPKKEY:

>SPM 0 1 1

CPKTYPE:

```
>DLC
UNITNO:
>0
DLCGRPID:
>1
WKRSPR:
>WORKING
ALRMCTRL:
>SYSB CR RPT
ALRMCTRL:
>MANB MJ RPT
ALRMCTRL:
>ISTB MN RPT
ALRMCTRL:
>PROTFAIL CR RPT
ALRMCTRL:
>$
PEC:
>NTLX72AA
RELEASE:
>01
LOAD:
>DLC16CF
TUPLE TO BE ADDED:
SPM  0 0 1 DLC 1 1 WORKING ( SYSB CR RPT) (MANB
MJ RPT) (ISTB MN RPT) (PROTFAIL CR RPT) $
NTLX72AA 01 DLC16CF
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

27 The previous example adds a working DLC to Slot 1 of Shelf 1. The following example adds a spare DLC to Slot 7 of Shelf 1.

28 Begin the table addition:

```
>ADD
```

29 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table MNCKTPAK.

```
>ADD
CPKKEY:
>SPM 0 1 7
CPKTYPE:
>DLC
UNITNO:
>1
DLCGRPID:
>1
WKRSPR:
>SPARE
ALRMCTRL:
>SYSB CR RPT
ALRMCTRL:
>MANB MJ RPT
ALRMCTRL:
>ISTB MN RPT
ALRMCTRL:
>PROTFAIL CR RPT
ALRMCTRL:
>$
PEC:
>NTLX72AA
RELEASE:
>01
LOAD:
```

```
>DLC16CF

TUPLE TO BE ADDED:

SPM  0 1 7 DLC 1 SPARE ( SYSB CR RPT) (MANB
MJ RPT) (ISTB MN RPT) (PROTFAIL CR RPT) $
NTLX72AA 01 DLC16CF

ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.

>Y

TUPLE ADDED
```

30 Exit table MNCKTPAK:

```
>QUIT
```

31 Access table MNPRIIID:

```
>TABLE MNPRIIID
```

32 Begin the table addition:

```
>ADD
```

33 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table MNPRIIID.

```
>ADD

PRIIDKEY:

>SPM 0 1

INTID:

>1

TUPLE TO BE ADDED:

SPM  0 1 1

ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.

>Y

TUPLE ADDED
```

34 Exit table MNPRIIID:

```
>QUIT
```

At the equipment frame

35 Ensure ESD precautions are utilized. Verify that your ESD wrist strap is connected properly to the frame.

36 Remove the NTLX60AA filler packs from the appropriate slots.

37 Insert the NTLX72AA DLC RMs in the appropriate slots.

At the MAP level

38 Post the SPM being modified:

>MAPCI;MTC;PM;POST SPM <spm_no>

where

spm_no
is the number of the SPM being modified (0 to 85)

Example of MAP display for dual shelf SPM

```
SPM    0 InSv  Class: DMSCP

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
DSP 0  1 A InSv  CEM 1  8 I InSv  DLC 0  1 A Offl  -----  8 - ----
-----  2 - ----  OC3 0  9 I InSv  -----  2 - ----  -----  9 - ----
-----  3 - ----  OC3 1 10 A InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  ----- 12 - ----  -----  5 - ----  ----- 12 - ----
-----  6 - ----  ----- 13 - ----  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 - ----  DLC 1  7 I Offl  ----- 14 - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

39 Select the DLCs:

>SELECT DLC ALL

40 Busy the DLCs:

>BSY ALL

41 Confirm the BSY command:

>Y

42 Load the DLCs with their software:

>LOADMOD ALL

43 Confirm the LOADMOD command:

>Y

44 Perform an out-of-service test on the DLCs:

>TST ALL

45 Confirm the test:

>Y

46 Return the DLCs to service:

>RTS ALL

47 Confirm the RTS command:

>Y

48 Perform an in-service test on the DLCs:

>TST ALL

49 Confirm the TST command:

>Y

50 Verify that the DLCs are working properly. Monitor logs and the SPM for five minutes. If any problems arise, contact your next level of support.

51 Access the PROT level of the MAP:

>PROT

Example of MAP display

```
SPM # ISTb Prot Grp: DLC_GRP 1 Mode: Non-revertive Schema: m_for_n
Sh0 U R A Stat Sh0 U R A Stat Sh1 U R A Stat Sh1 U R A Stat
 1 -- - - ----  8 -- - - ----  1 0 W A InSv  8   -- - - ----
 2 -- - - ----  9 -- - - ----  2 -- - - ---- 9   -- - - ----
 3 -- - - ---- 10 -- - - ----  3 -- - - ---- 10  -- - - ----
 4 -- - - ---- 11 -- - - ----  4 -- - - ---- 11  -- - - ----
 5 -- - - ---- 12 -- - - ----  5 -- - - ---- 12  -- - - ----
 6 -- - - ---- 13 -- - - ----  6 -- - - ---- 13  -- - - ----
 7 -- - - ---- 14 -- - - ----  7 1 S I InSv  14  -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

52 Determine if the spare DLC is also inactive.

Note: In the example above, DLC 1 slot 7 of the upper shelf is inactive (“I” under the ‘A’ column) and is the spare DLC (“S” under the ‘R’ column).

53 Protection switch the active DLC with the inactive spare DLC:

>MANUAL <active_dlc> <spare_dlc>

where

active_dlc
is the number of an active DLC

spare_dlc
is the number of the inactive spare DLC

Example

>MANUAL 0 1

54 Confirm the protection switch:

```
>Y
```

55 Protection switch from the spare DLC back to the newly inactive DLC:

```
>MANUAL <spare_dlc> <inactive_dlc>
```

where

spare_dlc
is the number of the spare DLC

inactive_dlc
is the number of the newly inactive DLC

Example

```
>MANUAL 1 0
```

56 Confirm the protection switch:

```
>Y
```

57 You have completed this procedure. Return to the CI level of the MAP screen:

```
>QUIT ALL
```

Provisioning a DSP RM

Use this procedure to provision a digital signal processing (DSP) resource module (RM).

Provisioning a DSP RM

At the MAP level

1 Determine the protection status of the DSPs assigned to the SPM being modified. Verify that the RMID and the ProtWhomID fields are the same number for each of the DSPs:

```
>SPMRESMAN SPM <spm_no> DSP <dsp_no>
```

where

spm_no
is the SPM number (0 to 85)

dsp_no
is the DSP number (0 to 27)

Example of response for SPM with no protection switched DSPs

```
SPM 0
ProtGroup: 1
RMID          Activity  ProtWhomID  ProtGrp  Safe to Change?
--------------------------------------------------------------------------
DSP  0  23    ACTIVE         23            1           NO
DSP  1  24    ACTIVE         24            1           NO
DSP  2  25    ACTIVE         25            1           NO
DSP  3  26    INACTIVE       26            1           NO
```

Example of response for SPM with protection switched DSPs

```
SPM 0
ProtGroup: 1
RMID         Activity  ProtWhomID  ProtGrp  Safe to Change?
--------------------------------------------------------------------------
DSP  0 23    ACTIVE         25            1           NO
DSP  1 24    ACTIVE         24            1           NO
DSP  2 25    INACTIVE       26            1           NO
DSP  3 26    ACTIVE         23            1           NO
```

Note: In the second example above, DSP 0 was protection switched with the spare DSP (DSP 3), then DSP 2 (currently inactive) was protection switched with DSP 0. To get the DSPs in the proper state, first protection switch DSP 0 with DSP 2, and then protection switch DSP 3 with DSP 0.

2 Post the SPM:

```
>MAPCI;MTC;PM;POST SPM <spm_no>
```

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv  Loc:  Site HOST  Floor  1  Row AA  FrPos  0
Shlf0  SL  A Stat   Shlf0    SL  A   Stat   Shlf1  SL   A Stat  Shlf1    SL A Stat
-----   1  - ----   CEM 1  8   A  InSv   -----    1   -  ----   -----    8 - ----
-----   2  - ----   OC3 0   9  A  InSv    -----    2   -  ----  DSP 0  9 A InSv
-----   3  - ----   OC3 1 10   I   InSv   -----    3   -  ----  DSP 1 10 A InSv
-----   4  - ----   VSP 3 11  A   InSv   -----    4   -  ----  DSP 2 11 A InSv
-----   5  - ----   VSP 2 12  A   InSv    VSP 4 5 A  InSv DSP 3 12 I InSv
-----   6  - ----  VSP 1  13  A   InSv    VSP 5 6  I  InSv  -----    13 -  ----
CEM 0 7 I InSv  VSP 0  14  A   InSv   -----  7   -  ----   -----    14 -  ----
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In this example DSP 3 in slot 12 of shelf 1 is the spare DSP and is Inactive (I).

3 Select a DSP assigned to the SPM being modified:

`>SELECT DSP <dsp_no>`

where

dsp_no
is the DSP number (0 to 27)

4 Enter the protection level of the MAP:

`>PROT`

Example of MAP display

```
SPM    0 InSv
 Prot Grp: DSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
   1  -- -  -   ----     8    --  -  -   ----      1  --  -  -   ----     8   --  -  -  ----
   2 --  -  -   ----     9    --  -  -   ----      2  --  -  -    ----    9   0 W A InSv
   3 --  -  -  ----    10    --  -  -   ----      3  --  -  -    ----   10  1 W A InSv
   4 --  -  -  ----    11    --  -  -   ----      4  --  -  -    ----   11  2 W A InSv
   5 --  -  -  ----    12    --  -  -   ----      5  --  -  -    ----   12  3  S  I InSv
   6 --  -  -  ----    13    --  -  -   ----      6  --  -  -    ----   13  --  -  -  ----
   7 --  -  -  ----    14   --  -  -   ----       7  --  -  -    ----   14  --  -  -  ----
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In the example above, DSP 3 in slot 12 of the upper shelf is inactive (“I” under the ‘A’ column) and is the spare DSP (“S” under the ‘R’ column).

5 Determine if there are any working DSPs that are protection switched using the results from the SPMRESMAN command in step 1.

If	Do
no working DSP is protection switched	step 10
any working DSP is protection switched	step 6

6 Using the information gathered during step 1, protection switch the DSP, indicated by the ProtWhomID field of the currently Inactive DSP, with the Inactive DSP:

```
>MANUAL <prot_dsp> <inactive_dsp>
```

where

prot_dsp
is the number of the DSP in the inactive DSP's ProtWhomID field from step 1

inactive_dsp
is the number of an inactive DSP

Example

```
>MANUAL 3 0
```

7 Confirm the protection switch:

```
>Y
```

8 Determine the protection status of the DSPs assigned to the SPM being modified:

```
>SPMRESMAN SPM <spm_no> DSP <dsp_no>
```

where

spm_no
is the SPM number (0 to 85)

dsp_no
is the DSP number (0 to 27)

9 Using the output of step 8, verify that the RMID and the ProtWhomID fields are the same number for each of the DSPs.

If the SPM has	Do
any protection switched DSPs	step 6
no protection switched DSPs	step 16

10 Ensure that the inactive DSP is the Spare. Then protection switch the inactive DSP with one of the active DSPs:

>MANUAL <active_dsp> <inactive_dsp>

where

active_dsp
is the number of an active DSP from step 2

inactive_dsp
is the number of the inactive DSP

Example

>MANUAL 0 3

11 Confirm the protection switch:

>Y

Example of MAP display

```
SPM    0  InSv
 Prot Grp: DSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
  1 -- - - ----    8 -- - - ----    1 -- - - ----    8 -- - - ----
  2 -- - - ----    9 -- - - ----    2 -- - - ----    9  0 W I InSv
  3 -- - - ----   10 -- - - ----    3 -- - - ----   10  1 W A InSv
  4 -- - - ----   11 -- - - ----    4 -- - - ----   11  2 W A InSv
  5 -- - - ----   12 -- - - ----    5 -- - - ----   12  3 S A InSv
  6 -- - - ----   13 -- - - ----    6 -- - - ----   13 -- - - ----
  7 -- - - ----   14 -- - - ----    7 -- - - ----   14 -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

12 Verify that the DSP performed the protection switch by viewing the MAP display screen. In the example in step 11, DSP 0 in slot 9 of the upper shelf is now inactive (“I” under the ‘A’ column) and the spare DSP (“S” under the ‘R’ column) is now active.

13 Protection switch back to the original DSP:

>MANUAL <spare_dsp> <inact_dsp>

where

spare_dsp
is the number of the newly active DSP

inact_dsp
is the number of the previously active DSP from step 10

Example

>MANUAL 3 0

14 Confirm the protection switch:

>Y

Example of MAP display

```
SPM    #  InSv
 Prot Grp: DSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
    1  -- -  -   ----     8    --  -  -   ----      1  --  -  -   ----      8   --  -  -  ----
    2 --  -  -   ----     9    --  -  -   ----      2  --  -  -    ----     9   0 W A InSv
    3 --  -  -  ----    10    --  -  -   ----      3  --  -  -    ----    10  1 W A InSv
    4 --  -  -  ----    11    --  -  -   ----      4  --  -  -    ----    11  2 W A InSv
    5 --  -  -  ----    12    --  -  -   ----      5  --  -  -    ----    12  3  S  I InSv
    6 --  -  -  ----    13    --  -  -   ----      6  --  -  -    ----    13  --  -  -  ----
    7 --  -  -  ----    14   --  -  -   ----      7  --  -  -    ----    14  --  -  -  ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

15 Verify that the DSP performed the protection switch by viewing the MAP display screen. In the example in step 14, DSP 3 in slot 9 of the upper shelf is now inactive (“I” under the ‘A’ column) and is the spare DSP (“S” under the ‘R’ column).

16 Exit the PROT level:

```
>QUIT
```

17 Select the spare DSP:

```
>SELECT DSP <spare_dsp>
```

where

spare_dsp
is the number of the spare DSP

18 Busy the spare DSP:

```
>BSY
```

19 Offline the spare DSP:

```
>OFFL
```

20 Exit to the CI level of the MAP:

```
>QUIT ALL
```

21 Access table MNCKTPAK:

```
>TABLE MNCKTPAK
```

22 Position on the tuple that holds the information on the spare DSP:

```
>POS SPM <spm_no> <shelf_no> <slot_no>
```

where

spm_no
is the SPM number (0 to 85)

shelf_no
is the shelf number (0 or 1)

slot_no
is the slot number (1 to 14)

Example

```
>POS SPM 0 1 12
```

23 Remove the tuple:

```
>DEL
```

Note: It is recommended that the spare DSP be deleted and re-added as a working DSP. The final DSP tuple in table MNCKTPAK should be added as the spare DSP.

24 Confirm the deletion:

```
>Y
```

25 Begin the table addition:

```
>ADD
```

26 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table MNCKTPAK.

```
>ADD
CPKKEY:
>SPM 0 1 12
CPKTYPE:
>DSP
UNITNO:
>3
DSPGRPID:
>1
WKRSPR:
>WORKING
RSRTYPE:
>COT 12
RSRTYPE:
```

```
>DTMF 12
RSRTYPE:
>$
```

Note: To configure Downloadable Tones on the SPM, type *INTTONE* at the *RSRTYPE* prompt. Additional *NUM* and *TONETYPE* prompts will be displayed.

Example

```
   RSRTYPE:
   >INTTONE
   NUM:
   >12
   TONETYPE:
   >PORTUGAL
   RSRTYPE:
   >$
ALRMCTRL:
>SYSB CR RPT
ALRMCTRL:
>MANB MJ RPT
ALRMCTRL:
>ISTB MN RPT
ALRMCTRL:
>PROTFAIL CR RPT
ALRMCTRL:
>$
PEC:
>NTLX65BA
RELEASE:
>01
LOAD:
>DSP17CK
```

```
TUPLE TO BE ADDED:

SPM  0 1 12 DSP 3 1 WORKING (COT 12) (DTMF 12)
$ (SYSB CR RPT) (MANB MJ RPT) (ISTB MN RPT)
(PROTFAIL CR RPT) $ NTLX65BA       01 DSP16CK

ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.

>Y

TUPLE ADDED
```

Note: Below is a sample screen output showing the Downloadable Tones choice:

```
SPM  0 1 12 DSP 3 1 WORKING (COT 12) (DTMF 12)
(INTTONE 12 PORTUGAL) $ (SYSB CR RPT) (MANB
MJ RPT) (ISTB MN RPT) (PROTFAIL CR RPT) $
NTLX65BA        01 DSP16CK
```

27 Repeat steps 25 and 26 to add additional DSPs. Datafill the final DSP as a spare DSP. All others should be datafilled as working. When all DSPs have been datafilled, exit table MNCKTPAK:

>QUIT

At the equipment frame

28 Remove the NTLX60AA filler module(s) from the appropriate slot(s).

29 Insert the new DSP (NTLX65) resource module(s) into the appropriate slot(s). Wait for the resource module(s) to pass the self-test. This will take several minutes.

Note 1: DSPs cannot be RTS if they are located (and datafilled) in slots 1, 2, 7, or 8 of shelf 1 of a high-speed backplane (NTLX51BA).

Note 2: The red and green LEDs will light up while the self-test is being performed. The red LED will go out.

At the MAP level

30 Post the SPM being modified:

>MAPCI;MTC;PM;POST SPM <spm_no>

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM 0 InSv  Loc: Site  HOST Floor 1  Row AA FrPos 0
Shlf0   SL A Stat  Shlf0   SL  A  Stat  Shlf1 SL A Stat  Shlf1   SL A Stat
 -----    1   - ----   CEM 1  8  A  InSv   -----   1   -  ----    -----     8   - ----
 -----    2   - ----    OC3 0    9  A  InSv   -----   2   -  ----   DSP 0  9   A InSv
 -----    3   - ----    OC3 1  10  I  InSv    -----   2   -  ----   DSP 1 10   A InSv
 -----    4   - ----    VSP 3  11  A InSv    -----   4    - ----   DSP 2 11  A InSv
 -----    5   - ----    VSP 2  12  A InSv  VSP 4 5 A InSv  DSP 3 12  A Offl
 -----    6   - ----    VSP 1  13  A InSv  VSP 5 6 A InSv  DSP 4 13   I Offl
CEM 0 7 I InSv   VSP 0  14 A InSv    -----   7  -  ----    -----     14   - ----
```

> ***Note:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

31 Select one of the new DSPs just added to the SPM:

>SELECT DSP <dsp_no>

where

dsp_no
is the number of a newly added DSP (0 to 27)

32 Busy the selected DSP:

>BSY

33 Perform a RESETMOD on the DSP:

>RESETMOD FW

34 Load the DSP with the DSP software load:

>LOADMOD

35 Perform an out-of-service test on the DSP:

>TST

36 Return the DSP to service:

>RTS

> ***Note:*** DSPs cannot be RTS if they are located (and datafilled) in slots 1, 2, 7, or 8 of shelf 1 of a high-speed backplane (NTLX51BA).

37 Use this table to determine your next step.

If	Do
additional DSPs were added	step 31
no additional DSPs were added	step 38

38 Verify that the DSPs are working properly. Monitor logs and the SPM for five minutes. If any problems arise, contact your next level of support.

39 Access the PROT level of the MAP:

>PROT

Example of MAP display

```
SPM # ISTb Prot Grp: DSP_GRP 1 Mode: Non-revertive Schema: m_for_n
Sh0 U R A Stat Sh0 U R A Stat Sh1 U R A Stat Sh1 U R A Stat
 1 -- - - ----  8 -- - - ----  1 -- - - ----  8 -- - - ----
 2 -- - - ----  9 -- - - ----  2 -- - - ----  9  0 W A InSv
 3 -- - - ---- 10 -- - - ----  3 -- - - ---- 10  1 W A InSv
 4 -- - - ---- 11 -- - - ----  4 -- - - ---- 11  2 W A InSv
 5 -- - - ---- 12 -- - - ----  5 -- - - ---- 12  3 W A InSv
 6 -- - - ---- 13 -- - - ----  6 -- - - ---- 13  4 S I InSv
 7 -- - - ---- 14 -- - - ----  7 -- - - ---- 14 -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

40 Determine if the spare DSP is also inactive.

Note: In the example above, DSP 4 in slot 13 of the upper shelf is inactive (“I” under the ‘A’ column) and is the spare DSP (“S” under the ‘R’ column).

41 Protection switch an active DSP with the inactive spare DSP:

>MANUAL <active_dsp> <spare_dsp>

where

active_dsp
is the number of an active DSP

spare_dsp
is the number of the inactive spare DSP

Example

`>MANUAL 0 4`

42 Confirm the protection switch:

>Y

43 Protection switch from the spare DSP back to the newly inactive DSP:

>MANUAL <spare_dsp> <inactive_dsp>

where

spare_dsp
is the number of the spare DSP

inactive_dsp
is the number of the newly inactive DSP

Example

```
>MANUAL 4 0
```

44 Confirm the protection switch:

```
>Y
```

45 You have completed this procedure. Return to the CI level of the MAP screen:

```
>QUIT ALL
```

Provisioning an SRM

Use this procedure to provision a Spectrum Resource Module (SRM).

Provisioning an SRM

At the MAP level

1 Access table PECINV:

```
>TABLE PECINV
```

2 Determine if the NTLX44AA PEC code has been previously datafilled:

```
>POS NTLX44AA
```

If the tuple is	Do
found	step 6
not found	step 3

3 Contact the next level of support and obtain the current baseline release and exceptions associated with the pack.

4 Add the NTLX44AA PEC code to the table:

```
>ADD
```

5 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
PEC:
>NTLX44AA
SSYSBASE:
>SPMHW 01 $
SSYSBASE:
>$
TUPLE TO BE ADDED:
NTLX44AA (SPMHW 01          $) $
```

```
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

6 Exit table PECINV:

>QUIT

7 Determine the location of the SRM loads:

>DISKUT;LF <disk_volume>

where

disk_volume
is the name of the SRM load volume

8 Exit the DISKUT level:

>QUIT ALL

9 Access table PMLOADS:

>TABLE PMLOADS

10 Determine if the SRM load is present:

>POS srm_load_name

where

srm_load_name
is the load name for the SRM

Example

>POS SYN16BK

If the SRM load is	Do
found	step 13
not found	step 11

11 Begin the table addition:

>ADD

12 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

```
>Y
LOADNAME:
>SYN16BK
ACTFILE:
>SYN16BK_000001
ACTVOL:
>S00DSPM
BKPFILE:
>SYN16BK_000001
BKPVOL:
>S01DSPM
UPDACT: N
>
TUPLE TO BE ADDED:
SYN16BK
              SYN16BK_000001   S00DSPM
              SYN16BK_000001   S01DSPM   N
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

13 Exit table PMLOADS:

```
>QUIT
```

14 Access table MNPRTGRP:

```
>TABLE MNPRTGRP
```

15 Begin the table addition:

```
>ADD
```

16 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
```

```
>Y
GRPKEY:
>SPM 2 SRM_GRP 1
SELECTOR:
>SRM_GRP
SWCHMODE:
>NRVTV
SPARING:
>UNSPARED
TUPLE TO BE ADDED:
SPM 2 SRM_GRP 1 SRM_GRP NRVTV  UNSPARED
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

17 Exit table MNPRTGRP:

```
>QUIT
```

18 Access table MNCKTPAK:

```
>TABLE MNCKTPAK
```

19 Begin the table addition:

```
>ADD
```

20 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CPKKEY:
>SPM 0 0 6
CPKTYPE:
>SRM
UNITNO:
```

```
>0
SRMGRPID:
>1
WKRSPR:
>WORKING
ALRMCTRL:
>SYSB CR RPT
ALRMCTRL:
>MANB MJ RPT
ALRMCTRL:
>ISTB MN RPT
ALRMCTRL:
>HLDOVR MJ RPT
ALRMCTRL:
>HLDOVR24 CR RPT
ALRMCTRL:
>LOR MJ RPT
ALRMCTRL:
>PATCHFAIL MJ RPT
ALRMCTRL:
>$
BITSALM:
>LOS MJ RPT
BITSALM:
>AIS MJ RPT
BITSALM:
>OOF MJ RPT
BITSALM:
>MTIE MN RPT
BITSALM:
>TLD MJ RPT
BITSALM:
```

```
>BPV MN RPT
BITSALM:
>CRC MN RPT
BITSALM:
>$
BITSAINFO:
>DS1 ESF
BITSBINFO:
>DS1 ESF
BITSOUTINFO:
>DS1 SF Y 3
PQL_ARR:
>NA
```

Note: Datafill the BITS Link in ESF operation only if:

both BITS Links carry SSM data - datafill the PQL_ARR field as NA,

or

both BITS Links carry *no* SSM data - datafill the PQL_ARR field as STU.

```
REV:
>N
PEC:
>NTLX44AA
RELEASE:
>01
LOAD:
>SRM0016
TUPLE TO BE ADDED:
SPM  0 0  6 SRM 0 1 WORKING (SYSB CR RPT) (MANB
MJ RPT) (ISTB MN RPT) (HLDOVR MJ RPT)
(HLDOVR24 CR RPT) (LOR MJ RPT) $ (LOS MJ RPT)
(AIS MJ RPT) (OOF MJ RPT) (MTIE MN RPT) (TLD
MJ RPT) (BPV MN RPT) (CRC MN RPT) $ DS1 ESF
DS1 ESF $ NA N NTLX44AA 01
SRM0016
```

```
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

21 Exit table MNCKTPAK:

```
>QUIT
```

At the equipment frame

22 Ensure that ESD precautions are utilized. Verify that your ESD wrist strap is connected properly to the frame.

23 Remove the NTLX60AA filler packs from card slot 6 in the lower shelf (shelf 0) of the SPM being modified.

24 Insert the SRM in card slot 6 in the lower shelf (shelf 0) of the SPM being modified.

Note 1: SRMs cannot be returned to service (RTS) if they are located (and datafilled) in slots 1, 2, 7, or 8 of shelf 1 of a high-speed backplane (NTLX51BA or NTLX51CA).

Note 2: Wait for the SRM to complete the self-test, which will take several minutes.

25 Connect the NTLX5110 cable assembly for the 15-pin and 9-pin DSUB connectors.

At the MAP level

26 Post the SPM to be updated:

```
>MAPCI;MTC;PM;POST SPM <spm_no>
```

where

spm_no
is the number of the SPM to be upgraded (0 to 85)

Example of a MAP screen:

```
Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
----- 1  -  ---- CEM 1  8 I InSv  DLC 0  1 A InSv  -----   8 - ----
----- 2  -  ---- OC3 0  9 A InSv  -----  2 - ----  DSP 0  9 A InSv
----- 3  - ----  OC3 1 10 I InSv  -----  3 - ----  DSP 1 10 A InSv
----- 4  - ---- -----  11 - ----  -----  4 - ----  DSP 2 11 A InSv
----- 5  - ---- -----  12 - ----  -----  5 - ----  DSP 3 12 A InSv
SRM 0 6  A OffL -----  13 - ----  -----  6 - ----  DSP 4 13 I InSv
CEM 0 7  A InSv -----  14 - ----  DLC 1  7 I InSv  ----- 14 - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

27 Select the SRM:

```
>SELECT SRM 0
```

28 Busy the SRM:

```
>BSY
```

29 Load the SRM with the SRM software load:

```
>LOADMOD
```

30 Return the SRM to service:

```
>RTS
```

31 Access the BITS level of the MAP:

```
>BITS
```

Example of MAP display

```
SPM   2  SRM   0
LinkNo   BitsName    Status    State    SSM    AlmSev
  0      BITSA        InAct    OffL     NIL
  1      BITSB        InAct    OffL     NIL
  2      BITSOUT               Uneq     NIL
```

32 Busy the links:

```
>BSY <link_no>
```

where

link_no
is the link number (0 or 1)

33 Return the links to service:

```
>RTS <link_no>
```

where

link_no
is the link number (0 or 1)

Note: SRMs cannot be RST'd if they are located (and datafilled) in slots 1, 2, 7, or 8 of shelf 1 of a high-speed backplane (NTLX51BA).

34 Repeat step 32 and step 33 for each BITS link.

35 Ensure that the BITS links are both InSv, and verify that one link is ACTIVE and the other INACTIVE.

36 If any BITS link or SRM alarms arise, clear them using the appropriate procedure.

37 Return to the CI level of the MAP screen:

```
>QUIT ALL
```

38 In order to use the SRM for ESI timing, another SRM must be added on a separate SPM. Repeat steps step 14 through step 37 to add an SRM to another SPM.

> ***Note:*** Although it essentially acts as a spare SRM, the second SRM should still be datafilled as working in Table MNCKTPAK.

39 Access table SYNCLK:

```
>TABLE SYNCLK
```

40 List the tuple in the table:

```
>LIST
```

41 Determine the current timing configuration for the SPM using the following table.

Timing configuration cross-reference

Timing type	Example tuple
Master-external	0 STRAT3 MASTEXT F1000 ANALOG T50 OFF
Master-internal	0 STRAT3 MASTINT
OC3 line timing	0 STRAT3 SLAVE SPM 32 OC3 SPM 33 OC3
Slave	0 STRAT3 SLAVE DTC 0 0 0 DTC 1 0 0

42 Exit table SYNCLK:

```
>QUIT
```

43 Use this table to determine your next step.

If the current timing configuration is	Do
Master-External or Slave	step 44
any other configuration	step 45

44 Drop synchronization on the MS clock by performing the following sequence of commands:

```
>MAPCI;MTC;MS;CLOCK;DPSYNC
This action will degrade SPM OC-3 SYNC
performance.
Do you wish to continue?
>Y
```

```
Request to Drop Syncronization on Clock 1:
Submitted

Request to Drop Synchronization on Clock 1:
Passed
```

>QUIT ALL

45 Return to table SYNCLK:

>TABLE SYNCLK

46 Use this table to determine your next step.

If the current timing configuration is	Do
Master-external	step 47
Master-internal	step 48
OC3 line timing	step 49
Slave	step 50

47 Change the timing configuration from Master-external to ESI timing:

Note: The SPM numbers datafilled in table SYNCLK should match the numbers of the SPM in which the SRM were datafilled.

a Begin the table change:

>CHA

b Modify the tuple as needed:

Example

```
>CHA
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLKTYPE: STRAT3
>
OFFCONF: MASTEXT
>SLAVE
LKO_PTYP:
>SPM
LKO_PNUM
```

```
>2
LKO_RMTYP
>SRM
LK1_PTYP
>SPM
LK1_PNUM
>3
LK1_RMTYP
>SRM
Perform a BUSY (BSYMS) and RTS (RTSMS)
without OOBAND option to each MS to setup
the new clock configuration.
TUPLE TO BE CHANGED:
0 STRAT3 SLAVE SPM 2 SRM SPM 33 SRM
ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.
>Y
TUPLE CHANGED
```

c Exit table SYNCLK:

```
>QUIT
```

d Go to step 51.

48 Change the timing configuration from Master-internal to ESI timing:

> ***Note:*** The SPM numbers datafilled in table SYNCLK should match the numbers of the SPM in which the SRM were datafilled.

a Begin the table change:

```
>CHA
```

b Modify the tuple as needed:

Example

```
>CHA
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
```

```
CLKTYPE: STRAT3
>
OFFCONF: MASTINT
>SLAVE
LKO_PTYP:
>SPM
LKO_PNUM
>2
LKO_RMTYP
>SRM
LK1_PTYP
>SPM
LK1_PNUM
>3
LK1_RMTYP
>SRM
Perform a BUSY (BSYMS) and RTS (RTSMS)
without OOBAND option to each MS to setup
the new clock configuration.
TUPLE TO BE CHANGED:
0 STRAT3 SLAVE SPM 2 SRM SPM 33 SRM
ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.
>Y
TUPLE CHANGED
```

c Exit table SYNCLK:

>QUIT

d Go to step 51.

49 Change the timing configuration from OC3 line timing to ESI timing:

> ***Note:*** The SPM numbers datafilled in table SYNCLK should match the numbers of the SPM in which the SRM were datafilled.

a Begin the table change:

```
>CHA
```

b Modify the tuple as needed.

Example

```
>CHA
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLKTYPE: STRAT3
>
OFFCONF: SLAVE
>SLAVE
LKO_PTYP: SPM
>
LKO_PNUM: 32
>2
LKO_RMTYP
>SRM
LK1_PTYP: SPM
>
LK1_PNUM: 33
>3
LK1_RMTYP
>SRM
TUPLE TO BE CHANGED:
0 STRAT3 SLAVE SPM 2 SRM SPM 3 SRM
ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.
>Y
TUPLE CHANGED
```

c Exit table SYNCLK:

```
>QUIT
```

d Go to step 51.

50 Change the timing configuration from Slave to ESI timing:

> ***Note:*** The SPM numbers datafilled in table SYNCLK should match the numbers of the SPM in which the SRM were datafilled.

a Begin the table change:

```
>CHA
```

b Modify the tuple as needed:

Example

```
>CHA

ENTER Y TO CONTINUE PROCESSING OR N TO QUIT

>Y

CLKTYPE: STRAT3

>

OFFCONF: SLAVE

>

LKO_PTYP: DTC

>SPM

LKO_PNUM

>2

LKO_RMTYP

>SRM

LK1_PTYP: DTC

>SPM

LK1_PNUM

>3

LK1_RMTYP

>SRM

TUPLE TO BE CHANGED:

0 STRAT3 SLAVE SPM 2 SRM SPM 33 SRM

ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.
```

```
>Y
TUPLE CHANGED
```

c Exit table SYNCLK:

```
>QUIT
```

51 Use this table to determine your next step.

If the original configuration was	Do
Master-External or Master-Internal	step 52
OC3 line timing or Slave	step 59

52 Access the MS clock:

```
>MAPCI;MTC;MS
```

53 Busy the slave MS:

```
>BSY <slave_ms>
```

where

slave_ms
is the number of the slave MS

54 Return the slave MS to service:

```
>RTS <slave_ms>
```

where

slave_ms
is the number of the slave MS

55 Switch the master clock to the mate MS:

```
>SWMAST
```

56 Busy the new slave MS:

```
>BSY <slave_ms>
```

where

slave_ms
is the number of the new slave MS

57 Return the new slave MS to service:

```
>RTS <slave_ms>
```

where

slave_ms
is the number of the new slave MS

58 Switch back to the original master MS:

>SWMAST

59 Access the Clock level of the MS:

>MAPCI;MTC;MS;CLOCK

Example of MAP display

```
Message Switch Clock Shelf 0 Inter-MS Link 0 1
MS 0 . Master . . .
MS 1 . Slave . . .
Shelf 0 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card 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
Chain | |
MS 0 . . . . . . - - . - - - - - - - - . - - . . . . . .
MS 1 . . . . . . - - . - - - - - - - - . - - . . . . . .
Card 02 Alm Stat %Adj Src | Car Stat Sp PM     RMTyp SSM
MS 0 .   .   Fr +05.5 Nil | Lk0 Smp  - SPM 002 SRM   PRS
MS 1 .   .  Syn -03.0 Ms0 | Lk1 Idl  - SPM 003 SRM   DUS
Links Slipping: NA out of NA
```

60 Confirm the timing reference SRM and the SPMs just datafilled appear as references at the CLOCK level. Column “PM” indicates SPM <number>, and column “RMTyp” indicates SRM.

61 Initiate synchronization on the MS clock:

>SYNC

Example of MAP display when SYNC command is entered

```
Message Switch Clock Shelf 0 Inter-MS Link 0 1
MS 0 . Master . . .
MS 1 . Slave . . .
Shelf 0 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card 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
Chain | |
MS 0 . . . . . . - - . - - - - - - - - . - - . . . . . .
MS 1 . . . . . . - - . - - - - - - - - . - - . . . . . .
Card 02 Alm Stat %Adj Src | Car Stat Sp PM     RMTyp SSM
MS 0  . .   Lkg +05.7 Lk0 | Lk0 Lck -  SPM 002 SRM   PRS
MS 1  . .   Syn -02.2 Ms0 | Lk1 Idl -  SPM 003 SRM   DUS
Links Slipping: NA out of NA
```

> ***Note:*** The SYNC command may take several minutes to complete.

Example of MAP display when SYNC command is completed

```
Message Switch Clock Shelf 0 Inter-MS Link 0 1
MS 0 . Master . . .
MS 1 . Slave . . .
Shelf 0 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2
Card 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
Chain | |
MS 0 . . . . . . - - . - - - - - - - - - . - - . . . . . .
MS 1 . . . . . . - - . - - - - - - - - - . - - . . . . . .
Card 02 Alm Stat %Adj Src | Car Stat Sp PM     RMTyp SSM
MS 0 .   .   Syn +05.7 Lk0 | Lk0 Lck  - SPM 002 SRM   PRS
MS 1 .   .   Syn -03.0 Ms0 | Lk1 Idl  - SPM 003 SRM   DUS
Links Slipping: NA out of NA
```

62 For further assistance, contact the personnel responsible for the next level of support.

63 You have completed this procedure. Return to the CI level of the MAP screen:

>QUIT ALL

Use the following procedure to configure a voice signal processor (VSP), including:

- NTLX66AA, Voice Signal Processor
- NTLX66AB, Voice Signal Processor
- NTLX85AA, 64ms Tail Delay Echo Cancellor RM
- NTLX86AA, 128ms Tail Delay Echo Cancellor RM
- NTLX86VA, IECAN RM (Wireless VSP)

Provisioning a VSP

At the MAP level

1

If there are	Do
VSPs currently assigned to the SPM being modified	step 2
no VSPs currently assigned to the SPM being modified	step 23

2 Determine the protection status of the VSPs assigned to the SPM being modified. Verify that the RMID and the ProtWhomID fields are the same number for each of the VSPs:

```
>SPMRESMAN SPM <spm_no> VSP <vsp_no>
```

where

spm_no
is the SPM number (0 to 85)

vsp_no
is the VSP number (0 to 27)

Example of response for SPM with no protection switched VSPs

```
SPM 0
ProtGroup: 1
        RMID       Activity     ProtWhomID  ProtGrp  Safe to Change?
-------------------------------------------------------------------------
VSP  0     14       ACTIVE              14          1              NO
VSP  1     13       ACTIVE              13          1              NO
VSP  2     12       ACTIVE              12          1              NO
VSP  3     11    INACTIVE               11          1              NO
```

Example of response for SPM with protection switched VSPs

```
SPM 0
ProtGroup: 1
        RMID       Activity      ProtWhomID   ProtGrp  Safe to Change?
------------------------------------------------------------------------------
VSP  0     14       ACTIVE                12            1              NO
VSP  1     13       ACTIVE                13            1              NO
VSP  2     12       ACTIVE                11            1              NO
VSP  3     11    INACTIVE                14            1              NO
```

Note: In the second example above, VSP 0 was protection switched with the spare VSP (VSP 3), then VSP 2 (currently inactive) was protection switched with VSP 0. To get the VSPs in the proper state, first protection switch VSP 0 with VSP 2 and then protection switch VSP 3 with VSP 0.

3 Post the SPM:

```
>MAPCI;MTC;PM;POST SPM <spm_no>
```

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv  Loc:  Site HOST  Floor  1  Row AA  FrPos  0
Shlf0  SL A Stat  Shlf0   SL A Stat  Shlf1  SL A Stat  Shlf1  SL   A  Stat
-----    1  -  ----   CEM 1  8 A  InSv  -----    1  -  ----  -----    8   -   ----
-----    2  -  ----   OC3 0   9 A  InSv  -----    2  -  ----   DSP 0  9  A InSv
-----    3  -  ----   OC3 1  10 I  InSv  -----    3  -  ----   DSP 1 10  A InSv
-----    4  - ----    VSP 3 11 I InSv   -----    4  -  ----  DSP 2 11  A InSv
-----    5  - ----    VSP 2 12 A InSv  VSP 4  5  A InSv  DSP 3 12  I InSv
-----    6  - ----    VSP 1 13 A InSv  VSP 5  6  I  InSv  -----    13   - ----
CEM 0 7  I InSv   VSP 0 14 A InSv  -----    7  -  ----   -----    14   - ----
```

Note: VSP 3 in slot 11 of lower shelf is Inactive (I).

4 Select a VSP assigned to the SPM being modified:

```
>SELECT VSP <vsp_no>
```

where

vsp_no
is the VSP number (0 to 27)

5 Access the protection level of the MAP:

```
>PROT
```

Example of MAP display

```
 SPM    #  ISTb
  Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
  Sh0 U R A Stat   Sh0 U R A    Stat   Sh1 U R A Stat   Sh1 U R A Stat
     1  -- -  -   ----    8   --  -   -   ----     1 --  -    -   ----    8   --    - -   ----
     2  --  -  -  ----    9   --  -   -   ----     2 --  -    -   ----    9   --  -  -  ----
     3  -- -  -   ----   10    --  -  -   ----     3 --  -    -   ----   10   --  -   -   ----
     4  -- -  -   ----   11    3 S  I    InSv    4 --  -    -   ----   11   --  -   -   ----
     5  -- -  -   ----   12    2 W A  InSv    5 --  -   -   ----   12   --  -   -   ----
     6  -- -  -   ----   13    1 W A  InSv    6 --  -   -   ----   13   --  -   -   ----
     7  -- -  -   ----   14    0 W A  InSv    7 --  -   -   ----   14   --  -   -   ----
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In the example above, VSP 3 in slot 11 of the lower shelf is inactive (“I” under the ‘A’ column) and is the spare VSP (“S” under the ‘R’ column).

6 Determine whether there are any working VSPs that are protection switched, using the results from the SPMRESMAN command in step 2.

If	Do
no working VSP is protection switched	step 11
any working VSP is protection switched	step 7

7 Using the information gathered during step 2, protection switch the VSP, indicated by the ProtWhomID field of the currently Inactive VSP, with the Inactive VSP:

>MANUAL <spare_vsp> <inactive_vsp>

where

spare_vsp
is the number of the VSP in the inactive VSP’s ProtWhomID field from step 2

inactive_vsp
is the number of an inactive VSP

Example

>MANUAL 3 0

8 Confirm the protection switch:

>Y

9 Determine the protection status of the VSPs assigned to the SPM being modified:

```
>SPMRESMAN SPM <spm_no> VSP <vsp_no>
```

where

spm_no
is the SPM number (0 to 85)

vsp_no
is the VSP number (0 to 27)

10 Using the output of step 9, verify that the RMID and the ProtWhomID fields are the same number for each of the VSPs.

If the SPM has	Do
any protection switched VSPs	step 7
no protection switched VSPs	step 17

11 Ensure that the inactive VSP is the Spare. Then protection switch the inactive VSP with one of the active VSPs:

```
>MANUAL <active_vsp> <inactive_vsp>
```

where

active_vsp
is the number of an active VSP from step 3

inactive_vsp
is the number of the inactive VSP

Example

```
>MANUAL 0 3
```

12 Confirm the protection switch:

```
>Y
```

Example of MAP display

```
 SPM    #  ISTb
  Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
  Sh0 U R A Stat   Sh0 U R A   Stat   Sh1 U R A Stat   Sh1 U R A Stat
     1  -- -  -   ----    8   --  -   -   ----      1 --  -    -   ----     8   --    - -   ----
     2  --  -  -  ----    9   --  -   -   ----      2 --  -    -   ----     9   --  -  -   ----
     3  -- -  -   ----   10   --  -  -   ----      3 --   -    -   ----   10   --  -   -   ----
     4  -- -  -   ----   11   3 S A  InSv     4 --   -   -    ----   11   --  -   -  ----
     5  -- -  -   ----   12   2 W A InSv     5 --   -   -    ----   12  --   -   -  ----
     6  -- -  -   ----   13   1 W A InSv     6 --   -   -    ----   13   --  -   -  ----
     7 -- -  -   ----    14    0 W I  InSv     7 --   -   -    ----   14 --   -  -   ----
```

> ***Note:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

13 Verify that the VSP performed the protection switch by viewing the MAP display screen. In the example in step 12, VSP 3 in slot 11 of the lower shelf is active (“A” under the ‘A’ column) and is the spare VSP (“S” under the ‘R’ column).

14 Protection switch back to the original VSP:

```
>MANUAL <spare_vsp> <inact_vsp>
```

where

spare_vsp
is the number of the newly active VSP

inact_vsp
is the number of the previously active VSP from step 11

Example

```
>MANUAL 3 0
```

15 Confirm the protection switch:

```
>Y
```

Example of MAP display

```
SPM    0
 Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A    Stat   Sh1 U R A Stat   Sh1 U R A Stat
   1  -- -  -   ----    8   --  -   -   ----     1 --  -    -   ----     8   --   -  -   ----
   2  --  -  -  ----    9   --  -   -   ----     2 --  -    -   ----     9   --  -  -   ----
   3  -- -  -   ----   10   --  -  -   ----      3 --  -    -   ----   10   --  -   -   ----
   4  -- -  -   ----   11   3 S I   InSv    4 --  -   -    ----   11   --  -   -  ----
   5  -- -  -   ----   12   2 W A InSv      5 --  -   -    ----   12  --   -   -  ----
   6  -- -  -   ----   13  1 W A InSv       6 --  -   -    ----   13   --  -   -  ----
   7 -- -  -   ----    14  0 W A InSv       7 --   -   -   ----   14 --   -   -   ----
```

> ***Note:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

16 Verify that the VSP performed the protection switch by viewing the MAP display screen. In the example in step 15, In the example above, VSP 3 in slot 11 of the lower shelf is inactive (“I” under the ‘A’ column) and is the spare VSP (“S” under the ‘R’ column).

17 Exit the Protection level of the MAP:

```
>QUIT
```

18 Select the spare VSP:

```
>SELECT VSP <spare_vsp>
```

where

spare_vsp
is the number of the spare VSP

19 Busy the spare VSP:

```
>BSY
```

20 Take the VSP offline:

```
>OFFL
```

21 Exit to the CI level of the MAP:

```
>QUIT ALL
```

22 Use this table to determine your next step.

If there are	Do
no VSPs on the SPM	step 23
any VSPs on the SPM	step 31

23 Access table PMLOADS:

```
>TABLE PMLOADS
```

24 Ensure that the appropriate loads for VSPs being added are properly datafilled. If they are not present, add them to the table.

Note: The DSP load contains the VSP, as well as the DSP software.

25 Exit table PMLOADS:

```
>QUIT
```

26 Use this table to determine your next step.

If you	Do
are adding VSPs for the first time	step 27
have previously added VSPs to this SPM	step 31

27 Access table MNPRTGRP:

```
>TABLE MNPRTGRP
```

28 Begin the table addition:

```
>ADD
```

29 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table MNPRTGRP.

```
>ADD
GRPKEY:
>SPM 0 VSP_GRP 1
SELECTOR:
>VSP_GRP
SWCHMODE:
>NRVTV
ALRMCTRL:
>NOSPARE MJ RPT
TUPLE TO BE ADDED:
SPM 0 VSP_GRP 1 VSP_GRP NRVTV NOSPARE MJ RPT
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

30 Exit table MNPRTGRP:

```
>QUIT
```

31 Access table MNCKTPAK:

```
>TABLE MNCKTPAK
```

32 Use this table to determine your next step.

If you	Do
are adding VSPs for the first time	step 37
have previously added VSPs to this SPM	step 33

33 Position on the spare VSP assigned to the SPM being modified:

```
>POS SPM <spm_no> <shelf_no> <slot_no>
```

where

spm_no
is the SPM number (0 to 85)

shelf_no
is the shelf number (0 or 1)

slot_no
is the slot number (1 to 14)

34 Delete the tuple for the spare VSP from table MNCKTPAK for the SPM being modified:

```
>DEL
```

35 Confirm the deletion:

```
>Y
```

36 Re-add the VSP that was just deleted as a working VSP.

37 Begin the table addition:

```
>ADD
```

38 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
CPKKEY:
>SPM 0 1 5
CPKTYPE:
>VSP
UNITNO:
>4
VSPGRPID:
>1
WKRSPR:
>WORKING
RSRTYPE:
>ECAN 260
```

Note: RSRTYPE (#_resources_alloc) equals 1 to 260 per NTLX66 and 1 to 336 per NTLX85/NTLX86 (see note 1 below).

```
RSRTYPE:
>$
```

```
ALRMCTRL:
>SYSB CR RPT
ALRMCTRL:
>MANB MJ RPT
ALRMCTRL:
>ISTB MN RPT
ALRMCTRL:
>PROTFAIL CR RPT
ALRMCTRL:
>$
PEC:
>NTLX66BA
RELEASE:
>01
LOAD:
>DSP16CK
TUPLE TO BE ADDED:
SPM  0 1 5 VSP 4 1 WORKING (ECAN 260) $ (SYSB
CR RPT) (MANB MJ RPT) (ISTB MN RPT) (PROTFAIL
CR RPT) $ NTLX66BA        01 DSP16CK
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

Note 1: The NTLX66AA and NTLX66BA VSPs can have 1 to 260 ECAN resources assigned. The NTLX85AA and NTLX86AA can have 1 to 336 ECAN resources assigned.

Note 2: The DSP load contains the NTLX66AA and NTLX66BA VSP, as well as the DSP software.

Note 3: The NLTX85AA and NTLX86AA use the COH load.

Note 4: To configure Downloadable Tones on the SPM, refer to the following example. Notice that typing INTTONE at the RSRTYPE prompt displays the *NUM* and *TONETYPE* prompts.

39 Repeat step 37 and step 38 to add additional VSPs. Datafill the final VSP as a spare VSP. All others should be datafilled as working. When all VSPs have been datafilled, exit table MNCKTPAK:

>QUIT ALL

At the equipment frame

40 Remove the NTLX60AA filler modules from the appropriate slot(s).

41 Insert the new VSP resource module(s) into the appropriate slot(s). Wait for the resource module(s) to pass the self-test. This will take several minutes.

> ***Note 1:*** VSPs cannot be returned to service (RTS) if they are located (and datafilled) in slots 1, 2, 7, or 8 of shelf 1 of a high-speed backplane (NTLX51BA).
>
> ***Note 2:*** The red and green LEDs light up while the self-test is being performed. The red LED goes out when the self test is complete.

At the MAP level

42 Post the SPM being modified:

>MAPCI;MTC;PM;POST SPM <spm_no>

```
SPM    0  InSv  Loc: Site HOST Floor  1 Row AA FrPos  0

Shlf0 SL  A Stat  Shlf0 SL  A Stat  Shlf1 SL  A Stat  Shlf1 SL  A Stat
-----  1 - ----  CEM 1  8  A InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9  A InSv  -----  2 - ----  DSP 0  9  A InSv
-----  3 - ----  OC3 1 10  I InSv  -----  3 - ----  DSP 1 10  A InSv
-----  4 - ----  VSP 3 11  A Offl  -----  4 - ----  DSP 2 11  A InSv
-----  5 - ----  VSP 2 12  A InSv  VSP 4  5 I Offl  DSP 3 12  A InSv
-----  6 - ----  VSP 1 13  A InSv  -----  6 - ----  DSP 4 13  I InSv
CEM 0  7 I InSv  VSP 0 14  A InSv  -----  7 - ----  ----- 14 - ----
```

> ***Note 1:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.
>
> ***Note 2:*** In the above example, VSP 4 was added to the SPM as the spare.

43 Select one of the offline VSPs:

>SELECT VSP <offl_vsp>

where

offl_vsp
is the number of an offline VSP

44 Busy the selected VSP:

>BSY

45 Perform a RESETMOD on the selected VSP:

```
>RESETMOD FW
```

46 Load the selected VSP with its software:

```
>LOADMOD
```

47 Test the selected VSP:

```
>TST
```

48 Return the selected VSP to service:

```
>RTS
```

> ***Note:*** VSPs cannot be RTS if they are located (and datafilled) in slots 1, 2, 7, or 8 of shelf 1 of a high-speed backplane (NTLX51BA).

If	Do
additional VSPs need to be tested	step 43
no additional VSPs need to be tested	step 49

49 Enter the PROT level of the MAP:

```
>PROT
```

```
SPM   0  ISTb
 Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
   1  -- -  -   ----     8   --  -  -   ----      1  --  -  -   ----     8   --  -  -  ----
   2  --  -  -  ----     9   --  -  -   ----      2  --  -  -   ----     9   --  -  -   ----
   3  -- -  -   ----    10   --  -  -   ----      3  --  -  -   ----    10   --  -   -  ----
   4 --  -  -   ----    11   3 W A InSv     4  --  -  -   ----    11   --  -   -  ----
   5 --  -  -   ----    12   2 W A InSv     5   4 S I  InSv  12   --  -   -  ----
   6 --  -  -  ----     13   1 W A InSv     6  --  -  -   ----  13   --  -   - ----
   7 --  -   - ----     14   0 W A InSv     7  --  -  -   ----  14   --  -  -  ----
```

> ***Note:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Determine if the spare VSP is inactive.

> ***Note:*** In the example above, VSP 4 in slot 5 of the upper shelf is inactive (“I” under the ‘A’ column) and is the spare VSP (“S” under the ‘R’ column).

50 Use this table to determine your next step.

If the SPM being modified originally had	Do
any VSPs assigned to it	step 51
no VSPs assigned to it	step 59

51 Protection switch an active VSP with the spare VSP:

```
>MANUAL <active_vsp> <spare_vsp>
```

where

active_vsp
is the number of an active VSP

spare_vsp
is the number of the spare VSP

Example

```
>MANUAL 0 4
```

52 Confirm the protection switch:

```
>Y
```

53 Allow three minutes to pass before proceeding to the next step. The MAP terminal should eventually resemble the following example:

```
SPM   0  ISTb
 Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
   1  -- -  -   ----    8   --  -  -   ----    1  --  -  -   ----    8   --  -  -  ----
   2  --  -  -  ----    9   --  -  -   ----    2  --  -  -   ----    9   --  -  -   ----
   3  -- -  -   ----   10   --  -  -   ----    3  --  -  -   ----   10   --  -   -  ----
   4 --  -  -   ----   11   3 W A InSv   4  --  -  -   ----   11   --  -   -  ----
   5 --  -  -   ----   12   2 W A InSv   5   4 S A  InSv  12   --  -   -  ----
   6 --  -  -  ----    13   1 W A InSv   6  --  -  -   ----   13   --  -   - ----
   7 --  -   - ----    14   0 W I InSv    7  --  -  -   ----   14   --  -  -  ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

54 Verify that the VSP performed the protection switch by viewing the MAP terminal.

Note: In the example above, VSP 4 in slot 5 of the upper shelf is active (“A” under the ‘A’ column) and is the spare VSP (“S” under the ‘R’ column).

55 Protection switch back from the spare VSP to the newly inactive VSP:

```
>MANUAL <spare_vsp> <inactive_vsp>
```

where

spare_vsp
is the number of the spare VSP

inactive_vsp
is the number of the newly inactive VSP

Example

```
>MANUAL 4 0
```

```
SPM    #  ISTb
 Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
   1  -- -  -   ----    8   --  -  -   ----     1  --  -  -   ----    8   --  -  -  ----
   2  --  -  -  ----    9   --  -  -   ----     2  --  -  -   ----    9   --  -  -   ----
   3  -- -  -   ----   10   --  -  -   ----     3  --  -  -   ----   10   --  -   -  ----
   4 --  -  -   ----   11   3 W A InSv    4  --  -  -   ----   11   --  -   -  ----
   5 --  -  -   ----   12   2 W A InSv    5   4 S I   InSv  12   --  -   -  ----
   6 --  -  -  ----    13   1 W A InSv    6  --  -  -   ----   13   --  -   - ----
   7 --  -   - ----    14   0 W A InSv    7  --  -  -   ----   14   --  -  -  ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

56 Verify the VSP performed the protection switch by viewing the MAP terminal.

Note: In the example above, VSP 4 in slot 5 of the upper shelf is inactive (“I” under the ‘A’ column) and is the spare VSP (“S” under the ‘R’ column).

57 Use this table to determine your next step.

If VSPs	Do
were added to the SPM for the first time	step 58
were previously assigned to the SPM	step 59

58 Repeat step 51 through step 57 for each working VSP.

Note: Ensure that after all working VSPs have been protection switched, the Spare VSP is Inactive.

59 Exit the CI level of the MAP:

```
>QUIT ALL
```

60 Enter the LOGUTIL level of the MAP:

```
>LOGUTIL
```

61 Stop log reporting on the specified device:

```
>STOPDEV <device_name>
```

```
>QUIT ALL
```

62 Stop recording onto the disk/printer device:

```
>RECORD STOP ONTO <device_name>
```

63 Using the information from your next level of support, add the entries associated with the SPM being modified into table SPMECAN.

64 If there are any ECAN requirements for the trunk groups assigned to the SPM(s) modified, add the ECAN option to the appropriate trunk subgroups in table TRKSGRP at this time.

65 Take an image to capture software changes made during this procedure.

66 You have completed this procedure.

Changing resource datafill for a DSP or VSP RM

Use this procedure to change the resource datafill for digital signal processing (DSP) or voice signal processing (VSP) resource module (RM).

Changing DSP or VSP resource datafill

At the MAP level

1 Post the SPM:

`>MAPCI;MTC;PM;POST SPM <spm_no>`

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv  Loc:  Site HOST  Floor  1  Row AA  FrPos  0
Shlf0  SL  A Stat   Shlf0    SL  A  Stat   Shlf1  SL  A Stat  Shlf1   SL  A Stat
-----    1  - ----     CEM 1  8  A  InSv   -----    1  -  ----   -----     8 - ----
-----    2  - ----     OC3 0   9  A  InSv   -----    2  -  ----  DSP 0  9 A InSv
-----    3  - ----     OC3 1 10   I  InSv   -----    3  -  ----  DSP 1 10 A InSv
-----    4  - ----     VSP 3 11  A  InSv   -----    4  -  ----  DSP 2 11 A InSv
-----    5  - ----     VSP 2 12  A  InSv   VSP 4 5 A  InSv DSP 3 12 I InSv
-----    6  - ----    VSP 1  13  A  InSv   VSP 5 6  I  InSv  -----    13 -  ----
CEM 0 7 I InSv   VSP 0  14  A  InSv   -----  7  -  ----   -----    14 -  ----
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In this example DSP 3 in slot 12 of shelf 1 is the spare DSP and Inactive (I).

2 Select an RM assigned to be changed:

`>SELECT <RMtype> <RMId>`

where

RM type
is the type of resource module (DSP or VSP)

and

RMId
is the resource module number on the SPM (0 -27)

Example:

`>SELECT DSP 3`

3 Enter the PREPDATACHNG command:

```
>PREPDATACHNG
```

> ***Note:*** If the command is not successful, the display provides further directions. Follow the display instructions and repeat step 2.

4 Change the resource datafill for the RM in table MNCKTPAK.

> ***Note:*** If any messages indicate that the RM is not ManB, or that RMId and ProtWhomId are not the same, repeat this procedure beginning with step 2.

5 You have completed this procedure. Return the RM to service:

```
>RTS
```

> ***Note:*** The selected device is placed in MANB state.

Provisioning ECAN on a trunk subgroup

The following procedure demonstrates how to provision ECAN (echo cancellation) on a trunk subgroup.

This procedure may require bringing an in-service trunk group into an out-of-service condition. Whenever adding, deleting, or changing the ECINDEX field in the TRKSGRP table, PTS or PRI trunks must be temporarily brought out-of-service (OOS) as indicated in this procedure. This restriction does not apply to other trunk types.

The table below, Out of service actions for different trunk types, summarizes the required OOS actions.

Out of service actions for different trunk types

Trunk Type	Action
PTS	busy and return to service (RTS) the trunk group
PRI	busy and RTS the D-channel

This procedure requires activation for each command by pressing the Enter key. The variable “clli_no”, used in this procedure, refers to the trunk group common language locator identification code.

Before beginning this procedure, perform the procedure in this NTP Provisioning a DSP RM or Provisioning a VSP.

Provisioning ECAN on a trunk subgroup

At the MAP level

1 Access the SPMECAN table:

```
>TABLE SPMECAN
```

2 Datafill the table by single command line or by answering individual prompts.

> ***Note:*** The first digit is the ECINDEX field table key. This table key is used in step 14 when provisioning the TRKSGRP table.

Datafill Example

```
>ADD 5 Y Y G165 N Y Y Y Y Y 32MS 6DB 33DB Y N
S2C_NONE 00 00 00 00
```

3 Exit the SPMECAN table:

```
>QUIT
```

If the trunk type is	Do
PRI	step 4
PTS or ISUP	step 9

4 Access the PRADCH command level:

```
>MAPCI;MTC;TRKS;TTP;PRADCH
```

5 Post the D-channels for the PRI trunk group:

```
>POST GD clli_no
```

6

CAUTION

Out Of Service Condition

The commands in step 6 and step 7 place the entire trunk group in an out-of-service condition.

Place the D-channels for the posted trunk group in a busy condition:

```
>BSY
```

7 Place the D-channels for the posted trunk group into an installation busy condition:

```
>BSY INB
```

8 Exit the PRADCH map level:

```
>QUIT ALL
```

9 Access the TRKSGRP table:

```
>TABLE TRKSGRP
```

10 Position on the trunk subgroup targeted for ECAN provisioning:

```
>POS clli_no sbgp_no
```

11 Modify the subgroup:

```
 >CHA
```

12 Until reaching the OPTION field prompt, retain field values by pressing the Enter key for each field prompt.

13 At the OPTION prompt, type

```
>SPMECIDX
```

14 At the EC_IDX prompt, type

```
>ec_idx
```

Note: EC_IDX is the index value entered in the SPMECAN table (in step 2) and associates the trunk subgroup with the required echo canceller parameters.

15 At the next OPTION prompt, type

```
>$
```

16 Continue to press the Enter key until reaching the confirmation prompt. Accept the changes at the confirmation prompt:

```
>y
```

17 Exit the TRKSGRP table:

```
>QUIT
```

If the trunk type is	Do
PTS	step 18
PRI	step 23
ISUP	step 26

18 Access the TTP command level:

```
>MAPCI;MTC;TRKS;TTP
```

19 Post the PTS trunk group for the selected subgroup:

```
>POST G clli_no
```

20

CAUTION

Out Of Service Condition

The following command places the entire trunk group in an out-of-service condition.

Place the posted trunk group into an installation busy condition:

```
>BSY ALL
>BSY INB ALL
```

21 Return the posted trunk group into service:

```
>BSY ALL
```

```
>RTS ALL
```

> ***Note:*** Trunks in a CPD state do not return to service at this time. Perform an RTS on those trunks when the trunk drops to an MB state.

22 Exit the TTP map level:

```
>QUIT ALL
```

Go to step 26.

23 Access the PRADCH command level and post D-channels for the PRI trunk group:

```
>MAPCI;MTC;TRKS;TTP;PRADCH;POST GD clli_no
```

24 Busy the D-channels for the posted trunk group:

```
>BSY
```

25 Return the D-channels for the posted trunk group into service:

```
>RTS
```

> ***Note:*** The trunk group returns to service within 5-10 seconds of issuing the RTS command.

26 You have completed this procedure.

De-provisioning ECAN on a trunk subgroup

The following procedure demonstrates how to de-provision ECAN (echo cancellation) on a trunk subgroup.

This procedure may require bringing an in-service trunk group into an out-of-service condition. Whenever adding, deleting, or changing the ECIDX field in the TRKSGRP table, PTS or PRI trunks must be temporarily brought out-of-service (OOS) as indicated in this procedure. This restriction does not apply to other trunk types.

The table below, Trunk types and OOS actions required, summarizes the required OOS actions.

Trunk types and OOS actions required

Trunk Type	Action
PTS	busy and return to service (RTS) the trunk group
PRI	busy and RTS the D-channel

This procedure requires activation for each command by pressing the Enter key. The variable “clli_no”, used in this procedure, refers to the trunk group common language locator identification code.

De-provisioning ECAN on a trunk subgroup

At the MAP level

1 Proceed based on the trunk type

If the trunk type is	Do
PRI	step 2
PTS or ISUP	step 7

2 Access the PRADCH command level:

```
>MAPCI;MTC;TRKS;TTP;PRADCH
```

3 Post the D-channels for the PRI trunk group:

```
>POST GD clli_no
```

4

> **CAUTION**
> **Out Of Service Condition**
> The commands in step 4 and step 5 place the entire trunk group in an out of service condition.

Place the D-channels for the posted trunk group in a busy condition:

```
>BSY
```

5 Place the D-channels for the posted trunk group into an installation busy condition:

```
>BSY INB
```

6 Exit the PRADCH map level:

```
>QUIT ALL
```

7 Access the TRKSGRP table:

```
>TABLE TRKSGRP
```

8 Position on the trunk subgroup targeted for ECAN provisioning:

```
>POS clli_no sbgp_no
```

9 Modify the subgroup:

```
 >CHA
```

10 Until reaching the OPTION field prompt, retain field values by pressing the Enter key for each field prompt.

11 At the OPTION : SPMECIDX prompt, type

```
 >$
```

12 Continue to press the Enter key until reaching the confirmation prompt. Accept the changes at the confirmation prompt:

```
>y
```

13 Exit the TRKSGRP table:

```
>QUIT
```

14 Access the SPMECAN table:

```
>TABLE SPMECAN
```

15 Delete the datafill for ECAN by ECINDEX field. Datafill the table by single command line or by answering individual prompts.

Example

This is an example of removing datafill from the SPMECAN table. This example removes datafill for ECINDEX 5.

```
>DEL 5
```

16 Exit the SPMECAN table:

```
>QUIT
```

If the trunk type is	Do
PRI	step 17
PTS	step 21
ISUP	step 25

17 Access the PRADCH command level and post D-channels for the PRI trunk group:

```
>MAPCI;MTC;TRKS;TTP;PRADCH;POST GD clli_no
```

18 Busy the D-channels for the posted trunk group:

```
>BSY
```

19 Return the D-channels for the posted trunk group into service:

```
>RTS
```

Note: The trunk group returns to service within 5-10 seconds of issuing the RTS command.

20 Exit the PRADCH map level:

```
>QUIT ALL
```

Go to step 25**.**

21 Access the TTP command level:

```
>MAPCI;MTC;TRKS;TTP
```

22 Post the PTS trunk group for the selected subgroup:

```
>POST G clli_no
```

23

CAUTION
Out Of Service Condition
The following command places the entire trunk group in an out-of-service condition.

Place the posted trunk group in an installation busy condition:

```
>BSY ALL
>BSY INB ALL
```

Note: Trunks that are in a call processing busy (CPB) state go to a call processing deload (CPD) state until the call is released. When released, the trunk goes to a maintenance busy (MB) state.

24 Return the posted trunk group to service:

```
>BSY ALL
>RTS ALL
```

Note: Trunks in a CPD state do not return to service at this time. Perform an RTS on those trunks when the trunk drops to an MB state.

25 You have completed this procedure. Exit the TTP map level:

```
>QUIT ALL
```

De-provisioning a DLC RM

Use this procedure to de-provision a DLC resource module (RM).

De-provisioning a DLC RM

At the MAP level

1 Determine the protection status of the DLCs assigned to the SPM being modified. Verify that the RMID and the ProtWhomID fields are the same number for each of the DLCs:

```
>SPMRESMAN SPM <spm_no> DLC <dlc_no>
```

where

spm_no
is the SPM number (0 to 85)

dlc_no
is the DLC number (0 or 1)

Example of response for SPM with no protection switched DLCs

```
SPM 0
ProtGroup: 1
 RMID  Activity  ProtWhomID  ProtGrp  Safe to Change?
------------------------------------------------------------
DLC  0 8 ACTIVE           8        1              NO
DLC  1 9 ACTIVE           9        1              NO
```

Example of response for SPM with protection switched DLCs

```
SPM 0
ProtGroup: 1
 RMID    Activity  ProtWhomID  ProtGrp  Safe to Change?
------------------------------------------------------------
DLC  0 8   ACTIVE           9        1              NO
DLC  1 9   ACTIVE           9        1              NO
```

Note: In the second example above, DLC 0 was protection switched with the spare DLC (DLC 1). To get the DLCs in the proper state, protection switch DLC 0 with DLC 1.

2 Post the SPM:

```
>MAPCI;MTC;PM;POST SPM <spm_no>
```

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv  Class: DMSCP

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
DSP 0  1 A InSv  CEM 1  8 I InSv  DLC 0  1 A InSv -----  8 - ----
-----  2 - ----  OC3 0  9 I InSv  -----  2 - ---- -----  9 - ----
-----  3 - ----  OC3 1 10 A InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  ----- 12 - ----  -----  5 - ----  ----- 12 - ----
-----  6 - ----  ----- 13 - ----  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 - ----  DLC 1  7 I InSv  ----- 14 - ----
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In this example DLC 1 in slot 7of shelf 1 is the spare DLC and Inactive (I).

3 Select a DLC assigned to the SPM being modified:

>SELECT DLC <dlc_no>

where

dlc_no
is the DLC number (0 to 1)

4 Access the protection level of the MAP:

>PROT

Example of MAP display

```
SPM    0 InSv
 Prot Grp: DLC_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat    Sh0 U R A Stat Sh1 U R A Stat   Sh1 U R A Stat
1 -- - - ----    8 -- - - ----  1  0   W A InSv    8 -- - - ----
2 -- - - ----    9 -- - - ----  2 --   - - ----    9 -- - - ----
3 -- - - ----   10 -- - - ----  3 --   - - ----   10 -- - - ----
4 -- - - ----   11 -- - - ----  4 --   - - ----   11 -- - - ----
5 -- - - ----   12 -- - - ----  5 --   - - ----   12 -- - - ----
6 -- - - ----   13 -- - - ----  6 --   - - ----   13 -- - - ----
7 -- - - ----   14 -- - - ----  7  1   S I InSv   14 -- - - ----
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In the example above, DLC 1 in slot 7 of the upper shelf is inactive (“I” under the ‘A’ column) and is the spare DLC (“S” under the ‘R’ column).

5 Determine if there are any working DLCs that are protection switched using the results from the SPMRESMAN command in step 1.

If	Do
no working DLC is protection switched	step 10
any working DLC is protection switched	step 6

6 Using the information gathered during step 3, protection switch the DLC, indicated by the ProtWhomID field of the currently Inactive DLC, with the Inactive DLC:

```
>MANUAL <prot_dlc> <inactive_dlc>
```

where

prot_dlc
is the number of the DLC in the inactive DLC's ProtWhomID field from step 1

inactive_dlc
is the number of an inactive DLC

Example

```
>MANUAL 1 0
```

7 Confirm the protection switch:

```
>Y
```

8 Determine the protection status of the DLCs assigned to the SPM being modified:

```
>SPMRESMAN SPM <spm_no> DLC <dlc_no>
```

where

spm_no
is the SPM number (0 to 85)

dlc_no
is the DLC number (0 to 27)

9 Using the output of step 8, verify that the RMID and the ProtWhomID fields are the same number for each of the DLCs.

10 Ensure that the inactive DLC is the Spare. Then protection switch the inactive DLC with the active DLC:

```
>MANUAL <active_dlc> <inactive_dlc>
```

where

active_dlc
is the number of the active DLC from

inactive_dlc
is the number of the inactive DLC

Example

>MANUAL 0 1

11 Confirm the protection switch:

>Y

Example of MAP display

```
SPM    0 InSv
 Prot Grp: DLC_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
1 --   - - ----   8 --   - - ----  1 0  S I InSv    8 --   - - ----
2 --   - - ----   9 --   - - ----  2 -- - - ----    9 --   - - ----
3 --   - - ----  10 --   - - ----  3 -- - - ----   10 --   - - ----
4 --   - - ----  11 --   - - ----  4 -- - - ----   11 --   - - ----
5 --   - - ----  12 --   - - ----  5 -- - - ----   12 --   - - ----
6 --   - - ----  13 --   - - ----  6 -- - - ----   13 --   - - ----
7 --   - - ----  14 --   - - ----  7  1 W A InSv   14 --   - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

12 Verify that the DLC performed the protection switch by viewing the MAP display screen. In the example in step 11, DLC 0 in slot 1 of the upper shelf is now inactive (“I” under the ‘A’ column) and the spare DLC (“S” under the ‘R’ column) is now active.

13 Protection switch back to the original DLC:

>MANUAL <spare_dlc> <inact_dlc>

where

spare_dlc
is the number of the newly active DLC

inact_dlc
is the number of the previously active DLC from step 10

Example

>MANUAL 1 0

14 Confirm the protection switch:

>Y

Example of MAP display

```
SPM    0 InSv
 Prot Grp: DLC_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat  Sh1 U R A Stat
1 --   - - ----  8 --   - - ----  1   0  W A InSv  8  -- - - ----
2 --   - - ----  9 --   - - ----  2  --  - - ----  9  -- - - ----
3 --   - - ---- 10 --   - - ----  3  --  - - ----  10 -- - - ----
4 --   - - ---- 11 --   - - ----  4  --  - - ----  11 -- - - ----
5 --   - - ---- 12 --   - - ----  5  --  - - ----  12 -- - - ----
6 --   - - ---- 13 --   - - ----  6  --  - - ----  13 -- - - ----
7 --   - - ---- 14 --   - - ----  7   1  S I InSv  14 -- - - ----
```

> ***Note:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

15 Verify that the DLC performed the protection switch by viewing the MAP display screen. In the example in step 15, DLC 3 in slot 1 of the upper shelf is now inactive (“I” under the ‘A’ column) and is the spare DLC (“S” under the ‘R’ column).

16 Exit the PROT level:

>QUIT

17 Select the spare DLC:

>SELECT DLC <inactive_dlc)

where

inactive_dlc
is the number of the inactive DLC

18 Busy the inactive DLC:

>BSY

19 Take the inactive DLC offline:

>OFFL

20 Use this table to determine your next step.

If you are removing	Do
the active DLC RM	step 21
the spare DLC RM	step 24

21 Select the active DLC to be deleted:

>SELECT DLC <active_dlc>

where

active_dlc
is the number of the active DLC to be removed (0 or 1)

22 Busy the DLC:

```
>BSY FORCE
```

23 Take the DLC offline:

```
>OFFL
```

24 Exit to the CI level of the MAP:

```
>QUIT ALL
```

At the equipment frame

25 Remove the DLC RM(s) from the appropriate slot(s).

26 Insert an NLTX60AA filler module in each unoccupied slot on the frame.

At the MAP level

27 Access table MNCKTPAK:

```
>TABLE MNCKTPAK
```

28 Position on the DLC to be deleted:

```
>POS SPM <spm_no> <shelf_no> <slot_no>
```

where

spm_no
is the SPM number (0 to 85)

shelf_no
is the shelf number (0 or 1)

slot_no
is the slot number (1 to 14)

Example

```
>POS 0 1 7
```

29 Remove the tuple:

```
>DEL
```

30 Confirm the deletion:

```
>Y
```

31 Repeat step 28 through step 30 if both DLCs are being deleted.

32 Use this table to determine your next step.

If you are removing	Do
both DLCs	step 42

If you are removing	Do
one DLC	step 33

33 Re-add the remaining DLC to MNCKTPAK:

a Begin the table addition:

```
>ADD
```

b Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table MNCKTPAK.

```
>ADD
CPKKEY:
>SPM 0 1 1
CPKTYPE:
>DLC
UNITNO:
>0
DLCGRPID:
>1
WKRSPR:
>WORKING
ALRMCTRL:
>SYSB CR RPT
ALRMCTRL:
>MANB MJ RPT
ALRMCTRL:
>ISTB MN RPT
ALRMCTRL:
>PROTFAIL CR RPT
ALRMCTRL:
>$
PEC:
>NTLX72AA
```

```
RELEASE:
>01
LOAD:
>DLC16CF
TUPLE TO BE ADDED:
SPM  0 1 1 DLC 0 1 WORKING ( SYSB CR RPT)
(MANB MJ RPT) (ISTB MN RPT) (PROTFAIL CR
RPT) $ NTLX72AA        01 DLC16CF
ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.
>Y
TUPLE ADDED
```

Note: This step should only serve as an example. The actual datafill should be identical to the previous datafill of the DLC, except that it should be added as “WORKING”.

34 Exit table MNCKTPAK:

```
>QUIT
```

35 Post the SPM being modified:

```
>MAPCI;MTC;PM;POST SPM <spm_no>
```

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv  Class: DMSCP

Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
DSP 0  1 A InSv  CEM 1  8 I InSv  DLC 0  1 A Offl  -----  8 - ----
-----  2 - ----  OC3 0  9 I InSv  -----  2 - ----  -----  9 - ----
-----  3 - ----  OC3 1 10 A InSv  -----  3 - ----  ----- 10 - ----
-----  4 - ----  ----- 11 - ----  -----  4 - ----  ----- 11 - ----
-----  5 - ----  ----- 12 - ----  -----  5 - ----  ----- 12 - ----
-----  6 - ----  ----- 13 - ----  -----  6 - ----  ----- 13 - ----
CEM 0  7 A InSv  ----- 14 - ----  -----  7 - ----  ----- 14 - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

36 Select the DLC:

```
>SELECT DLC <dlc_no>
```

where

dlc_no
is the number of the DLC added in step 33

37 Busy the DLC:

```
>BSY
```

38 Perform a RESETMOD on the DLC:

```
>RESETMOD FW
```

39 Load the DLC with the DLC software load:

```
>LOADMOD
```

40 Return the DLC to service:

```
>RTS
```

41 Verify that the DLC is functioning properly. Monitor logs and the SPM for five minutes. If any problems arise, contact your next level of support.

42 You have completed this procedure. Return to the CI level of the MAP screen:

```
>QUIT ALL
```

De-provisioning a DSP RM

Use this procedure to de-provision a digital signal processing (DSP) resource module (RM).

De-provisioning a DSP RM

At the MAP level

1 Determine the protection status of the DSPs assigned to the SPM being modified. Verify that the RMID and the ProtWhomID fields are the same number for each of the DSPs:

`>SPMRESMAN SPM <spm_no> DSP <dsp_no>`

where

spm_no
is the SPM number (0 to 85)

dsp_no
is the DSP number (0 to 27)

Example of response for SPM with no protection switched DSPs

```
SPM 0
ProtGroup: 1
        RMID  Activity  ProtWhomID  ProtGrp  Safe to Change?
------------------------------------------------------------
DSP  0    23    ACTIVE          23        1               NO
DSP  1    24    ACTIVE          24        1               NO
DSP  2    25    ACTIVE          25        1               NO
DSP  3    26  INACTIVE          26        1               NO
```

Example of response for SPM with protection switched DSPs

```
SPM 0
ProtGroup: 1
        RMID  Activity  ProtWhomID  ProtGrp  Safe to Change?
------------------------------------------------------------
DSP  0    23    ACTIVE          25        1               NO
DSP  1    24    ACTIVE          24        1               NO
DSP  2    25  INACTIVE          26        1               NO
DSP  3    26    ACTIVE          23        1               NO
```

Note: In the second example above, DSP 0 was protection switched with the spare DSP (DSP 3), then DSP 2 (currently inactive) was protection switched with DSP 0. To get the DSPs in the proper state, first protection switch DSP 0 with DSP 2 and then protection switch DSP 3 with DSP 0.

2 Post the SPM:

`>MAPCI;MTC;PM;POST SPM <spm_no>`

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv  Loc:  Site HOST  Floor  1  Row AA  FrPos  0
Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL
-----  1 - ----  CEM 1  8 A InSv  -----  1 - ----  -----  8
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  DSP 0  9
-----  3 - ----  OC3 1 10 I InSv  -----  3 - ----  DSP 1 10
-----  4 - ----  VSP 3 11 A InSv  -----  4 - ----  DSP 2 11
-----  5 - ----  VSP 2 12 A InSv  VSP 4  5 A InSv  DSP 3 12
-----  6 - ----  VSP 1 13 A InSv  VSP 5  6 I InSv  ----- 13
CEM 0  7 I InSv  VSP 0 14 A InSv  -----  7 - ----  ----- 14
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In this example DSP 3 in slot 12 of shelf 1 is the spare DSP and Inactive (I)

3 Select a DSP assigned to the SPM being modified:

>SELECT DSP <dsp_no>

where

dsp_no
is the DSP number (0 to 27)

4 Access the protection level of the MAP:

>PROT

Example of MAP display

```
SPM    0 InSv
 Prot Grp: DSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
  1 -- - - ----    8 -- - - ----    1 -- - - ----    8 -- - - ----
  2 -- - - ----    9 -- - - ----    2 -- - - ----    9  0 W A InSv
  3 -- - - ----   10 -- - - ----    3 -- - - ----   10  1 W A InSv
  4 -- - - ----   11 -- - - ----    4 -- - - ----   11  2 W A InSv
  5 -- - - ----   12 -- - - ----    5 -- - - ----   12  3 S I InSv
  6 -- - - ----   13 -- - - ----    6 -- - - ----   13 -- - - ----
  7 -- - - ----   14 -- - - ----    7 -- - - ----   14 -- - - ----
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In the example above, DSP 3 in slot 12 of the upper shelf is inactive (“I” under the ‘A’ column) and is the spare DSP (“S” under the ‘R’ column).

5 Determine whether there are any working DSPs that are protection switched using the results from the SPMRESMAN command in step 1.

If	Do
no working DSP is protection switched	step 10
any working DSP is protection switched	step 6

6 Using the information gathered during step 1, protection switch the DSP, indicated by the ProtWhomID field of the currently Inactive DSP, with the Inactive DSP:

```
>MANUAL <prot_dsp> <inactive_dsp>
```

where

prot_dsp
is the number of the DSP in the inactive DSP's ProtWhomID field from step 1

inactive_dsp
is the number of an inactive DSP

Example

```
>MANUAL 3 0
```

7 Confirm the protection switch:

```
>Y
```

8 Determine the protection status of the DSPs assigned to the SPM being modified:

```
>SPMRESMAN SPM <spm_no> DSP <dsp_no>
```

where

spm_no
is the SPM number (0 to 85)

dsp_no
is the DSP number (0 to 27)

9 Using the output of step 8, verify that the RMID and the ProtWhomID fields are the same number for each of the DSPs.

If the SPM has	Do
any protection switched DSPs	step 6
no protection switched DSPs	step 16

10 Ensure that the inactive DSP is the Spare. Then protection switch the inactive DSP with one of the active DSPs:

>MANUAL <active_dsp> <inactive_dsp>

where

active_dsp
is the number of an active DSP from step 2

inactive_dsp
is the number of the inactive DSP

Example

>MANUAL 0 3

11 Confirm the protection switch:

>Y

Example of MAP display

```
SPM 0  InSv
 Prot Grp: DSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
  1 -- - - ----    8 -- - - ----    1 -- - - ----    8 -- - - ----
  2 -- - - ----    9 -- - - ----    2 -- - - ----    9  0 W I InSv
  3 -- - - ----   10 -- - - ----    3 -- - - ----   10  1 W A InSv
  4 -- - - ----   11 -- - - ----    4 -- - - ----   11  2 W A InSv
  5 -- - - ----   12 -- - - ----    5 -- - - ----   12  3 S A InSv
  6 -- - - ----   13 -- - - ----    6 -- - - ----   13 -- - - ----
  7 -- - - ----   14 -- - - ----    7 -- - - ----   14 -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

12 Verify that the DSP performed the protection switch by viewing the MAP display screen. In the example in step 11, DSP 0 in slot 9 of the upper shelf is now inactive (“I” under the ‘A’ column) and the spare DSP (“S” under the ‘R’ column) is now active.

13 Protection switch back to the original DSP:

>MANUAL <spare_dsp> <inact_dsp>

where

spare_dsp
is the number of the newly active DSP

inact_dsp
is the number of the previously active DSP from step 10

Example

>MANUAL 3 0

14 Confirm the protection switch:

>Y

Example of MAP display

```
SPM    0  InSv
 Prot Grp: DSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
  1 -- - - ----    8 -- - - ----    1 -- - - ----    8 -- - - ----
  2 -- - - ----    9 -- - - ----    2 -- - - ----    9  0 W A InSv
  3 -- - - ----   10 -- - - ----    3 -- - - ----   10  1 W A InSv
  4 -- - - ----   11 -- - - ----    4 -- - - ----   11  2 W A InSv
  5 -- - - ----   12 -- - - ----    5 -- - - ----   12  3 S I InSv
  6 -- - - ----   13 -- - - ----    6 -- - - ----   13 -- - - ----
  7 -- - - ----   14 -- - - ----    7 -- - - ----   14 -- - - ----
```

> ***Note:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

15 Verify that the DSP performed the protection switch by viewing the MAP display screen. In the example in step 14, DSP 3 in slot 9 of the upper shelf is now inactive (“I” under the ‘A’ column) and is the spare DSP (“S” under the ‘R’ column).

16 Use this table to determine your next step.

If	Do
the spare DSP needs to be changed to a working DSP	step 17
the new DSP will be added as a working DSP	step 27

17 Exit the PROT level:

>QUIT

18 If re-allocating the resources or islands on the remaining DSPs is required, perform the appropriate procedures and return to this step.

19 Verify that the remaining DSPs are functioning properly.

20 Select the spare DSP:

>SELECT DSP <spare_dsp>

where

spare_dsp
is the number of a spare DSP

21 Busy the spare DSP:

>BSY

22 Take the spare DSP offline:

>OFFL

23 Select a working DSP to be deleted:

>SELECT DSP <dsp_no>

where

dsp_no
is the number of an active DSP

24 Busy the DSP:

>BSY FORCE

25 Take the DSP offline:

>OFFL

26 Repeat step 23 through step 25 for each DSP to be removed.

27 Exit to the CI level of the MAP:

>QUIT ALL

At the equipment frame

28 Remove the DSP RM(s) from the appropriate slot(s).

Note: Leave the DSP located after the last in-service DSP assigned in its original slot. It will be used as the spare DSP.

29 Insert an NLTX60AA filler module in each unoccupied slot on the frame.

At the MAP level

30 Access table MNCKTPAK:

>TABLE MNCKTPAK

31 Position on the DSP to be deleted:

>POS SPM <spm_no> <shelf_no> <slot_no>

where

spm_no
is the SPM number (0 to 85)

shelf_no
is the shelf number (0 or 1)

slot_no
is the slot number (1 to 14)

Example

>POS 0 1 12

32 Remove the tuple:

```
>DEL
```

33 Confirm the deletion:

```
>Y
```

> ***Note:*** You will receive a warning about the last inactive unit in the DSP protection group when deleting the spare DSP. This warning can be ignored, as a new spare DSP will be added in step 35.

34 Repeat Steps step 31 through step 33 for each DSP being deleted.

35 Re-add the spare DSP to the slot located after the last in-service DSP:

a Begin the table addition:

```
>ADD
```

b Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table MNCKTPAK.

```
>ADD
CPKKEY:
>SPM 0 1 11
CPKTYPE:
>DSP
UNITNO:
>3
DSPGRPID:
>1
WKRSPR:
>SPARE
RSRTYPE:
>COT 12
RSRTYPE:
>DTMF 12
RSRTYPE:
```

```
>$
```

Note: To configure Downloadable Tones on the SPM, type *INTTONE* at the *RSRTYPE* prompt. Additional *NUM* and *TONETYPE* prompts display.

Example

```
    RSRTYPE:
    >INTTONE
    NUM:
    >12
    TONETYPE:
    >PORTUGAL
    RSRTYPE:
    >$
ALRMCTRL:
>SYSB CR RPT
ALRMCTRL:
>MANB MJ RPT
ALRMCTRL:
>ISTB MN RPT
ALRMCTRL:
>PROTFAIL CR RPT
ALRMCTRL:
>$
PEC:
>NTLX65BA
RELEASE:
>01
LOAD:
>DSP16CK
TUPLE TO BE ADDED:
```

```
SPM  0 1 11 DSP 3 1 SPARE (COT 12) (DTMF
12) $ (SYSB CR RPT) (MANB MJ RPT) (ISTB MN
RPT) (PROTFAIL CR RPT) $ NTLX65BA      01
DSP16CK
```

```
ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.
```

>Y

```
TUPLE ADDED
```

Note: This step should only serve as an example. The actual datafill should be identical to the previous datafill of the DSP.

36 Exit table MNCKTPAK:

>QUIT

37 Post the SPM being modified:

>MAPCI;MTC;PM;POST SPM <spm_no>

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv    Loc: Site  HOST   Floor  1  Row AA   FrPos  0
Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 A InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  DSP 0  9 A InSv
-----  3 - ----  OC3 1 10 I InSv  -----  2 - ----  DSP 1 10 A InSv
-----  4 - ----  VSP 3 11 A InSv  -----  4 - ----  DSP 2 11 I Offl
-----  5 - ----  VSP 2 12 A InSv  VSP 4  5 A InSv  ----- 12 - ----
-----  6 - ----  VSP 1 13 A InSv  VSP 5  6 A InSv  ----- 13 - ----
CEM 0  7 I InSv  VSP 0 14 A InSv  -----  7 - ----  ----- 14 - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

38 Select the new spare DSP:

>SELECT DSP <spare_dsp>

where

spare_dsp
is the number of the DSP added in step 35

39 Busy the DSP:

>BSY

40 Perform a RESETMOD on the DSP:

>RESETMOD FW

41 Load the DSP with the DSP software load:

>LOADMOD

42 Return the DSP to service:

>RTS

43 Verify that the DSPs are functioning properly. Monitor logs and the SPM for five minutes. If any problems arise, contact your next level of support.

44 Access the PROT level of the MAP:

>PROT

Example of MAP display

```
SPM 0 ISTb Prot Grp: DSP_GRP 1 Mode: Non-revertive Schema: m_for_n
Sh0 U R A Stat Sh0 U R A Stat Sh1 U R A Stat Sh1 U R A Stat
 1 -- - - ----  8 -- - - ----  1 -- - - ----  8 -- - - ----
 2 -- - - ----  9 -- - - ----  2 -- - - ----  9  0 W A InSv
 3 -- - - ---- 10 -- - - ----  3 -- - - ---- 10  1 W A InSv
 4 -- - - ---- 11 -- - - ----  4 -- - - ---- 11  2 S I InSv
 5 -- - - ---- 12 -- - - ----  5 -- - - ---- 12 -- - - ----
 6 -- - - ---- 13 -- - - ----  6 -- - - ---- 13 -- - - ----
 7 -- - - ---- 14 -- - - ----  7 -- - - ---- 14 -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

45 Determine if the spare DSP is also inactive.

Note: In the example above, DSP 4 in slot 11 of the upper shelf is inactive (“I” under the ‘A’ column) and is the spare DSP (“S” under the ‘R’ column).

46 Protection switch an active DSP with the inactive spare DSP:

>MANUAL <active_dsp> <spare_dsp>

where

active_dsp
is the number of an active DSP

spare_dsp
is the number of the inactive spare DSP

Example

`>MANUAL 0 2`

47 Confirm the protection switch:

>Y

48 Protection switch from the spare DSP back to the newly inactive DSP:

```
>MANUAL <spare_dsp> <inactive_dsp>
```

where

spare_dsp
is the number of the spare DSP

inactive_dsp
is the number of the newly inactive DSP

Example

```
>MANUAL 2 0
```

49 You have completed this procedure. Return to the CI level of the MAP screen:

```
>QUIT ALL
```

Use this procedure to de-provision a Synchronous Resource Module (SRM).

De-provisioning an SRM

At the MAP level

1 Access table SYNCLK:

```
>TABLE SYNCLK
```

2 List the tuples in the table:

```
>LIST ALL
```

Example of a MAP screen:

```
CLKKEY CLKDATA                          OFFCDATA
-------------------------------------------------
    0  STRAT3  SLAVE SPM 30 SRM SPM 32 SRM
```

3 Proceed based on the following:

If the SRM you are removing	Do
appears in the table	step 4
does not appear in the table	step 19

4 Drop synchronization on the MS clock by performing the following sequence of commands:

```
>MAPCI;MTC;MS;CLOCK;DPSYNC
This action will degrade SPM OC-3 SYNC
performance.
Do you wish to continue?
>Y
Request to Drop Synchronization on Clock 1:
Submitted
Request to Drop Synchronization on Clock 1:
Passed
>QUIT ALL
```

5 Return to table SYNCLK:

```
>TABLE SYNCLK
```

6 Use this table to determine your next step.

If you are changing the timing configuration to	Do
Master-external	step 7
Master-internal	step 8
Slave	step 9

7 Change the timing configuration from ESI timing to Master-external:

a Begin the table change:

```
>CHA
```

b Modify the tuple as needed.

Example

This is an example of changing SYNCLK table datafill from ESI timing to Master-external.

```
>CHA
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLKTYPE: STRAT3
>
OFFCONF: SLAVE
>MASTEXT
EXTFREQ:
>F1000
EXTSEL:
>ANALOG
EXTTERM:
>T50
EXTALARM:
>OFF
Perform a BUSY (BSYMS) and RTS (RTSMS)
without OOBAND option to each MS to setup
the new clock configuration.
```

```
TUPLE TO BE CHANGED:
0 STRAT3 MASTEXT F1000 ANALOG T50 OFF
ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.
>Y
TUPLE CHANGED
```

c Go to step 10.

8 Change the timing configuration from ESI timing to Master-internal:

a Begin the table change:

```
>CHA
```

b Modify the tuple as needed.

Example

This is an example of changing SYNCLK table datafill from ESI timing to Master-internal.

```
>CHA
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLKTYPE: STRAT3
>
OFFCONF: SLAVE
>MASTINT
Perform a BUSY (BSYMS) and RTS (RTSMS)
without OOBAND option to each MS to setup
the new clock configuration.
TUPLE TO BE CHANGED:
0 STRAT3 MASTINT
ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.
>Y
TUPLE CHANGED
```

c Go to step 10.

9 Change the timing configuration from ESI timing to Slave by performing the following steps:

a Begin the table change:

```
>CHA
```

b Modify the tuple as needed.

Example

This is an example of changing SYNCLK table datafil from ESI timing to slave.

```
>CHA
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLKTYPE: STRAT3
>
OFFCONF: SLAVE
>
LK0_PTYP:
>DTC
LK0_PNUM:
>0
LK0_CCT:
>0
LK0_REG:
>0
LK1_PTYP:
>DTC
LK1_PNUM:
>1
LK1_CCT:
>0
LK1_REG:
>0
```

```
Perform a BUSY (BSYMS) and RTS (RTSMS)
without OOBAND option to each MS to setup
the new clock configuration.

TUPLE TO BE CHANGED:

0 STRAT3 SLAVE DTC 0 0 0 DTC 1 0 0

ENTER Y TO CONFIRM, N TO REJECT OR E TO
EDIT.

>Y

TUPLE CHANGED
```

c Go to step 10.

10 Access the MS clock:

>MAPCI;MTC;MS

11 Busy the slave MS:

>BSY <slave_ms>

where

slave_ms
is the number of the slave MS

12 Return the slave MS to service:

>RTS <slave_ms>

where

slave_ms
is the number of the slave MS

13 Switch the master clock to the mate MS:

>SWMAST

14 Busy the new slave MS:

>BSY <slave_ms>

where

slave_ms
is the number of the new slave MS

15 Return the new slave MS to service:

>RTS <slave_ms>

where

slave_ms
is the number of the new slave MS

16 Switch back to the original master MS:

>SWMAST

17 Access the Clock level of the MS:

>MAPCI;MTC;MS;CLOCK

18 Initiate synchronization on the MS clock:

>SYNC

> ***Note:*** The SYNC command may take several minutes to complete.

19 Return to the MAP level:

>QUIT ALL

20 Post the SPM being modified:

>MAPCI;MTC;PM;POST SPM <spm_no>

where

spm_no
is the number of the SPM to modify (0 to 85)

Example of a MAP screen:

```
SPM   31 ISTb  Loc: Site HOST Floor  1 Row P FrPos 2

Shlf1 Sl A Stat Shlf1 Sl A Stat Shlf2 Sl A Stat Shlf2 Sl A Stat
DSP 2 1 A Insv CEM 1 8  I Insv VSP 2 1 A Insv --- - 8 - ----
DSP 4 2 A Insv OC3 0 9  A Insv --- - 2 - ---- VSP 6 9 A Insv
--- - 3 I Insv OC3 1 10 I Insv --- - 3 - ---- --- - 10 - ----
--- - 4 I Insv --- - 11 - ---- --- - 4 - ---- --- - 11 - ----
--- - 5 - ---- --- - 12 - ---- --- - 5 - ---- --- - 12 - ----
SRM 0 6 A ISTb --- - 13 A Insv --- - 6 - ---- --- - 13 - ----
CEM 0 7 A Insv VSP 4 14 A Insv --- - 7 - ---- --- - 14 - ----
```

> ***Note:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

21 Select the SRM:

>SELECT SRM 0

Example of a MAP screen:

```
SPM 31 SRM 0 Act InSv
Interface:
Loc : Row B FrPos 6 ShPos 6 ShId 0 Slot 6 Prot Grp : 1
Default Load: SYN16BF Prot Role: Working
```

22 Access the BITS level:

>BITS

Example of MAP display

```
SPM    2   SRM    0
LinkNo    BitsName     Status     State     SSM     AlmSev
  0       BITSA         Act       InSv      NIL
  1       BITSB         InAct     InSv      NIL
  2       BITSOUT                 Uneq      NIL
```

23 Busy the links:

>BSY <link_no> force

where

link_no
is the link number (0 or 1)

24 Confirm the command:

>Y

25 Take the links offline:

>OFFL <link_no>

where

link_no
is the link number (0 or 1)

26 Repeat step 23 and step 25 for each BITS link.

27 Return to the SRM level:

>QUIT

28 Determine the state of the SRM by looking at the final column of the first row of output in step 21.

If the SRM state is	Do
INSV	step 29
MANB	step 30
OFFL	step 31

29 Busy the SRM:

>BSY

30 Offline the SRM:

>OFFL

31 Exit to the CI level of the MAP:

>QUIT ALL

32 Access table MNCKTPAK:

>TABLE MNCKTPAK

33 Position on the SRM tuple:

>POS SPM <spm_no> 0 6

where

spm_no
is the number of the SPM (0 to 85)

Example of a MAP screen:

```
SPM 32 0 6 SRM 0 1 WORKING (SYSB CR RPT) (MANB MJ RPT)
(ISTB MN RPT) (HLDOVR MJ RPT) (HLDOVR24 CR RPT) (LOR MJ RPT) $
(LOS CR RPT) (AIS MJ RPT) (OOF MJ RPT) (MTIE MN RPT)
(TLD MJ RPT) (BPV MN RPT) (CRC MN RPT) $ DS1 ESF DS1 ESF $ NA N
NTLX44AA 01 SYN16BF
```

34 Remove the tuple from datafill:

>DELETE

35 Confirm the removal:

>Y

36 Exit the table:

>QUIT

37 Access table MNPRTGRP:

>TABLE MNPRTGRP

38 Position on the SRM protection group tuple:

>POS SPM <spm_no> SRM_GRP 1

Example of a MAP screen:

```
SPM 32 SRM_GRP 1 SRM_GRP NRVTV UNSPARED
```

39 Remove the tuple:

>DELETE

40 Confirm the removal:

>Y

41 Exit the table:

>QUIT

42 Access table MNNODE:

>TABLE MNNODE

43 Position on the SPM being modified:

>POS SPM <spm_no>

where

spm_no
is the number of the SPM (0 to 85)

Example of a MAP screen:

```
 SPM 31 0D2 DMSCP 1 SYNC INTERNAL 15 (COT 60) (DTMF 60)
(ECAN 60) (TONESYN 60) (MF 60) $ (SYSB CR RPT) (MANB MJ RPT)
(ISTB MN RPT) (SYSBNA CR RPT) (MANBNA MJ RPT) (COTLOW MN RPT)
(DTMFLOW MN RPT) (ECANLOW MN RPT) (TONESLOW MN RPT) (MFLOW MN
(CMRLOW MN RPT) $ STANDARD
```

44 Depending on the new timing configuration, it may be necessary to modify this tuple.

If the new timing configuration is	Do
loop timing	step 45
line timing	step 47

45 Begin table modification:

>CHA

46 For each unchanged prompt, press the Enter key. The only value entered in this step should be the new value.

Example

This is an example of changing MNNODE table datafill from INTERNAL timing mode to LOOP timing mode.

```
>CHA

ENTER Y TO CONTINUE PROCESSING OR N TO QUIT

>Y

ALIAS: 0D2

>

CLASS: DMSCP

>

FLOOR: 1
```

```
>
CLKMODE: SYNC
>
CLKREF: INTERNAL
>LOOP
```

Note: Refer to the Overview section of the SPM Service Implementation Guide to confirm the correct CLKREF field setting for the SPM.

```
LEDTIMER: 15
>
RSRUTLIM: COT 60
>
RSRUTLIM: DTMF 60
>
RSRUTLIM: ECAN 60
>
RSRUTLIM: TONESYN 60
>
RSRUTLIM: MF 60
>
RSRUTLIM:
>$
ALRMCTRL: SYSB CR RPT
>
ALRMCTRL: MANB MJ RPT
>
ALRMCTRL: ISTB MN RPT
>
ALRMCTRL: SYSBNA CR RPT
>
ALRMCTRL: MANBNA MJ RPT
>
ALRMCTRL: COTLOW MN RPT
```

```
>
ALRMCTRL: DTMFLOW MN RPT
>
ALRMCTRL: ECANLOW MN RPT
>
ALRMCTRL: TONESLOW MN RPT
>
ALRMCTRL: MFLOW MN RPT
>
ALRMCTRL: CMRLOW MN RPT
>
EXECTAB:
>$
CAPINDX:
>ENHANCED
TUPLE TO BE CHANGED:
 SPM 31 0D2  DMSCP 1 SYNC LOOP 15 (COT 60)
(DTMF 60) (ECAN 60) (TONESYN 60) (MF 60) $
(SYSB CR RPT) (MANB MJ RPT) (ISTB MN
RPT)(SYSBNA CR RPT) (MANBNA MJ RPT)(COTLOW MN
RPT) (DTMFLOW MN RPT)
(ECANLOW MN RPT) (TONESLOW MN RPT)
(MFLOW MN RPT) (CMRLOW MN RPT) $ STANDARD $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE CHANGED
```

47 Exit table MNNODE:

```
>QUIT
```

At the equipment frame

48 Ensure that ESD precautions are utilized. Verify that your ESD wrist strap is connected properly to the frame.

49 At the front of the SPM, disconnect the Dsub 9-pin (if attached) and 15-pin connectors from the front of the NTLX44xx in slot 6, lower shelf of the SPM being modified.

50 Remove the NTLX44AA from slot 6 of the lower shelf of the SPM being modified.

51 Insert a NTLX60AA filler pack into slot 6 of the lower shelf of the SPM being modified.

52 If required, unwrap the transmit and receive leads for the BITSA and BITSB timing sources, from the terminal strip of the NTLX5110 cable assembly. Remove any additional leads connected to the terminal strip. Use electrical tape to insulate the leads.

53 If required, remove from the frames and rack, the cables running from the timing sources to the SPM.

54 If required, remove the mounting screws securing the terminal strip to the SPME frame and remove the NTLX5110 cable assembly from the frame.

55 You have completed this procedure.

De-provisioning a VSP

Use this procedure to delete a VSP, including:

- NTLX66AA, Voice Signal Processor
- NTLX66AB, Voice Signal Processor
- NTLX85AA, 64ms Tail Delay Echo Cancellor RM
- NTLX86AA, 128ms Tail Delay Echo Cancellor RM
- NTLX86VA, IECAN RM (Wireless VSP)

De-provisioning a VSP

At the MAP level

1

If you are deleting	Do
all VSPs	Remove all ECAN options in table TRKSGRP from trunk sub-groups assigned to the SPM being modified.
one or more VSPs (but not all)	Modify table TRKSGRP so that the number of trunk sub-groups requiring the ECAN option does not overload the remaining VSPs.

2 Determine the protection status of the VSPs assigned to the SPM being modified. Verify that the RMID and the ProtWhomID fields are the same number for each of the VSPs:

```
>SPMRESMAN SPM <spm_no> VSP <vsp_no>
```

where

spm_no
is the SPM number (0 to 85)

vsp_no
is the VSP number (0 to 27)

Example of response for SPM with no protection switched VSPs

```
SPM 0
ProtGroup: 1
        RMID  Activity  ProtWhomID  ProtGrp  Safe to Change?
------------------------------------------------------------
VSP  0     14    ACTIVE          14       1              NO
VSP  1     13    ACTIVE          13       1              NO
VSP  2     12    ACTIVE          12       1              NO
VSP  3     11    ACTIVE          11       1              NO
VSP  4     19  INACTIVE          19       1              NO
```

Example of response for SPM with protection switched VSPs

```
SPM 0
ProtGroup: 1
        RMID  Activity  ProtWhomID  ProtGrp  Safe to Change?
------------------------------------------------------------
VSP  0     14     ACTIVE         11       1              NO
VSP  1     13     ACTIVE         13       1              NO
VSP  2     12     ACTIVE         11       1              NO
VSP  3     11   INACTIVE         19       1              NO
VSP  4     19     ACTIVE         14       1              NO
```

> ***Note:*** In the second example above, VSP 0 was protection switched with the spare VSP (VSP 4), then VSP 3 (currently inactive) was protection switched with VSP 0. To get the VSPs in the proper state, first protection switch VSP 0 with VSP 3 and then protection switch VSP 4 with VSP 0.

3 Post the SPM:

>MAPCI;MTC;PM;POST SPM <spm_no>

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv  Loc:  Site HOST  Floor  1  Row AA  FrPos  0
Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 A InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  VSP 0  9 A InSv
-----  3 - ----  OC3 1 10 I InSv  -----  3 - ----  VSP 1 10 A InSv
-----  4 - ----  VSP 3 11 A InSv  -----  4 - ----  VSP 2 11 A InSv
-----  5 - ----  VSP 2 12 A InSv  VSP 4  5 A InSv  VSP 3 12 I InSv
-----  6 - ----  VSP 1 13 A InSv  VSP 5  6 I InSv  ----- 13 - ----
CEM 0  7 I InSv  VSP 0 14 A InSv  -----  7 - ----  ----- 14 - ----
```

> ***Note 1:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In this example, VSP 3 in slot 12 of shelf 1 is the spare VSP and Inactive (I).

4 Select a VSP assigned to the SPM being modified:

>SELECT VSP <vsp_no>

where

vsp_no
is the VSP number (0 to 27)

5 Enter the protection level of the MAP:

>PROT

Example of MAP display

```
SPM   0  ISTb
 Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
  1 -- - - ----    8 -- - - ----    1 -- - - ----    8 -- - - ----
  2 -- - - ----    9 -- - - ----    2 -- - - ----    9 -- - - ----
  3 -- - - ----   10 -- - - ----    3 -- - - ----   10 -- - - ----
  4 -- - - ----   11  3 W A InSv    4 -- - - ----   11 -- - - ----
  5 -- - - ----   12  2 W A InSv    5  4 S I InSv   12 -- - - ----
  6 -- - - ----   13  1 W A InSv    6 -- - - ----   13 -- - - ----
  7 -- - - ----   14  0 W A InSv    7 -- - - ----   14 -- - - ----
```

Note 1: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

Note 2: In the example above, VSP 4 in slot 5 of the upper shelf is inactive ("I" under the 'A' column) and is the spare VSP ("S" under the 'R' column).

6 Determine if there are any working VSPs that are protection switched using the results from the SPMRESMAN command in step 2.

If	Do
no working VSP is protection switched	step 11
any working VSP is protection switched	step 7

7 Using the information gathered during step 2, protection switch the VSP, indicated by the ProtWhomID field of the currently Inactive VSP, with the Inactive VSP:

>MANUAL <prot_vsp> <inactive_vsp>

where

prot_vsp
is the number of the VSP in the inactive VSP's ProtWhomID field from step 2

inactive_vsp
is the number of an inactive VSP

Example

```
>MANUAL 4 0
```

8 Confirm the protection switch:

```
>Y
```

9 Determine the protection status of the VSPs assigned to the SPM being modified:

```
>SPMRESMAN SPM <spm_no> VSP <vsp_no>
```

where

spm_no
is the SPM number (0 to 85)

vsp_no
is the VSP number (0 to 27)

10 Using the output of step 9, verify that the RMID and the ProtWhomID fields are the same number for each of the VSPs.

If the SPM has	Do
any protection switched VSPs	step 6
no protection switched VSPs	step 17

11 Ensure that the inactive VSP is the spare. Then protection switch it with an active VSP:

```
>MANUAL <active_vsp> <spare_vsp>
```

where

active_vsp
is the number of an active VSP

spare_vsp
is the number of the spare VSP

Example

```
MANUAL 0 3
```

12 Confirm the protection switch:

```
>Y
```

Example of MAP display

```
SPM   0  ISTb
 Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
  1 -- - - ----    8 -- - - ----    1 -- - - ----    8 -- - - ----
  2 -- - - ----    9 -- - - ----    2 -- - - ----    9 -- - - ----
  3 -- - - ----   10 -- - - ----    3 -- - - ----   10 -- - - ----
  4 -- - - ----   11  3 S A InSv    4 -- - - ----   11 -- - - ----
  5 -- - - ----   12  2 W A InSv    5 -- - - ----   12 -- - - ----
  6 -- - - ----   13  1 W A InSv    6 -- - - ----   13 -- - - ----
  7 -- - - ----   14  0 W I InSv    7 -- - - ----   14 -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

13 Verify that the VSP performed the protection switch by viewing the MAP display from step 12.

Note: In the example above, VSP 3 in slot 11 of the lower shelf is active (“A” under the ‘A’ column) and is the spare VSP (“S” under the ‘R’ column).

14 Protection switch back to the original VSP:

`>MANUAL <spare_vsp> <inactive_vsp>`

where

spare_vsp
is the number of the spare VSP

inactive_vsp
is the number of the previously active VSP

Example

`>MANUAL 3 0`

15 Confirm the protection switch:

`>Y`

Example of MAP display

```
SPM  0  ISTb
 Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
  1 -- - - ----    8 -- - - ----    1 -- - - ----    8 -- - - ----
  2 -- - - ----    9 -- - - ----    2 -- - - ----    9 -- - - ----
  3 -- - - ----   10 -- - - ----    3 -- - - ----   10 -- - - ----
  4 -- - - ----   11  3 S I InSv    4 -- - - ----   11 -- - - ----
  5 -- - - ----   12  2 W A InSv    5 -- - - ----   12 -- - - ----
  6 -- - - ----   13  1 W A InSv    6 -- - - ----   13 -- - - ----
  7 -- - - ----   14  0 W A InSv    7 -- - - ----   14 -- - - ----
```

> ***Note:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

16 Verify that the VSP performed the protection switch by viewing the MAP display from step 15.

> ***Note:*** In the example above, VSP 3 in slot 11 of the lower shelf is inactive (“I” under the ’A’ column) and is the spare VSP (“S” under the ’R’ column).

17 Exit the PROT level of the map:

```
>QUIT
```

18 Select the spare VSP for the SPM being modified:

```
>SELECT VSP <spare_vsp>
```

where

spare_vsp
is the number of the spare VSP

19 Busy the spare VSP for the SPM being modified:

```
>BSY
```

20 Take offline the VSP for the SPM being modified:

```
>OFFL
```

21 Select a VSP to be removed:

```
>SELECT VSP <vsp_no>
```

22 Busy the selected VSP:

```
>BSY
```

23 Take the selected VSP offline:

```
>OFFL
```

24 Repeat step 21 through step 23 for each VSP to be removed.

25 Exit to the CI level of the MAP:

```
>QUIT ALL
```

26 Access table MNCKTPAK:

```
>TABLE MNCKTPAK
```

27 Position on the spare VSP:

```
>POS SPM <spm_no> <shelf_no> <slot_no>
```

where

spm_no
is the SPM number (0 to 85)

shelf_no
is the shelf number (0 or 1)

slot_no
is the slot number (1 to 14)

Example

```
>POS SPM 0 1 5
```

28 Delete the tuple for the spare DSP:

```
>DEL
```

29 Confirm the deletion:

```
>Y
```

30 Position on the VSP to be removed:

```
>POS SPM <spm_no> <shelf_no> <slot_no>
```

where

spm_no
is the SPM number (0 to 85)

shelf_no
is the shelf number (0 or 1)

slot_no
is the slot number (1 to 14)

Example

```
POS SPM 0 0 11
```

31 Delete the tuple for the VSP:

```
>DEL
```

32 Confirm the deletion:

```
>Y
```

33 Repeat step 30 through step 32 for each VSP to be deleted.

34

If you are removing	Do
all VSPs from the SPM being modified	step 39
one or more (but not all) VSPs from the SPM being modified	step 35

35 Re-add the spare VSP to the next available slot position after the last assigned working VSP.

36 Begin the table addition:

```
>ADD
```

37 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table MNCKTPAK.

```
>ADD
CPKKEY:
>SPM 0 0 11
CPKTYPE:
>VSP
UNITNO:
>3
VSPGRPID:
>1
WKRSPR:
>SPARE
RSRTYPE:
>ECAN 260
RSRTYPE:
>$
```

Note: To configure Downloadable Tones on the SPM, type *INTTONE* at the *RSRTYPE* prompt. Additional *NUM* and *TONETYPE* prompts display.

Example

```
RSRTYPE:
>INTTONE
NUM:
>12
TONETYPE:
>PORTUGAL
```

```
    RSRTYPE:
    >$
ALRMCTRL:
>SYSB CR RPT
ALRMCTRL:
>MANB MJ RPT
ALRMCTRL:
>ISTB MN RPT
ALRMCTRL:
>PROTFAIL CR RPT
ALRMCTRL:
>$
PEC:
>NTLX66BA
RELEASE:
>01
LOAD:
>DSP16CK
TUPLE TO BE ADDED:
SPM  0 0 11 VSP 3 1 WORKING (ECAN 260) $ (SYSB
CR RPT) (MANB MJ RPT) (ISTB MN RPT) (PROTFAIL
CR RPT) $ NTLX66BA        01 DSP16CK
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

Note 1: The NTLX66AA and NTLX66BA VSPs can have 1 to 260 ECAN resources assigned. The NTLX85AA and NTLX86AAcan have 1 to 336 ECAN resources assigned.

Note 2: The DSP load contains the NTLX66AA and NTLX66BA VSP, as well as the DSP software.

Note 3: The NLTX85AA and NTLX86AA use the COH load.

38 Exit table MNCKTPAK:

```
>QUIT
```

At the equipment frame

39 At the front of the SPM being modified, remove the VSP RM(s) from the appropriate slot(s).

> ***Note:*** Do not remove the VSP RM to be used as the spare VSP from its slot.

40 Insert NTLX60AA filler packs into the appropriate slots.

At the MAP level

41 Post the SPM being modified:

```
>MAPCI;MTC;PM;POST SPM <spm_no>
```

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    #  InSv  Loc: Site HOST Floor  1 Row AA FrPos  0
Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 A InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  DSP 0  9 I InSv
-----  3 - ----  OC3 1 10 I InSv  -----  3 - ----  DSP 1 10 A InSv
-----  4 - ----  VSP 3 11 I Offl  -----  4 - ----  DSP 2 11 A InSv
-----  5 - ----  VSP 2 12 A InSv  -----  5 - ----  DSP 3 12 A InSv
-----  6 - ----  VSP 1 13 A InSv  -----  6 - ----  DSP 4 13 A InSv
CEM 0  7 I InSv  VSP 0 14 A InSv  -----  7 - ----  ----- 14 - ----
```

> ***Note 1:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.
>
> ***Note 2:*** In the above example, VSP 3 was re-added as the spare VSP.

42 Select the spare VSP:

```
>SELECT VSP <spare_vsp>
```

where

spare_vsp
is the number of the spare VSP

43 Busy the spare VSP:

```
>BSY
```

44 Perform a RESETMOD on the spare VSP:

```
>RESETMOD FW
```

45 Load the spare VSP with its software:

```
>LOADMOD
```

46 Return the spare VSP to service:

>RTS

47 Verify that the VSPs are all functioning properly. Allow five minutes before proceeding to the next step.

48 Return to the SPM level:

>QUIT

Example of MAP display

```
SPM    #  InSv  Loc: Site HOST Floor  1 Row AA FrPos  0
Shlf0 SL A Stat  Shlf0 SL A Stat  Shlf1 SL A Stat  Shlf1 SL A Stat
-----  1 - ----  CEM 1  8 A InSv  -----  1 - ----  -----  8 - ----
-----  2 - ----  OC3 0  9 A InSv  -----  2 - ----  DSP 0  9 I InSv
VSP 8  3 I InSv  OC3 1 10 I InSv  -----  3 - ----  DSP 1 10 A InSv
VSP 6  4 A InSv  VSP 3 11 I InSv  -----  4 - ----  DSP 2 11 A InSv
-----  5 - ----  VSP 2 12 A InSv  -----  5 - ----  DSP 3 12 A InSv
-----  6 - ----  VSP 1 13 A InSv  -----  6 - ----  DSP 4 13 A InSv
CEM 0  7 I InSv  VSP 0 14 A InSv  -----  7 - ----  VSP 7 14 A InSv
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

49 Select the VSPs assigned to the SPM being modified:

>SELECT VSP ALL

50 Enter the PROT level of the MAP:

>PROT

Example of MAP display

```
SPM    #  ISTb
 Prot Grp: VSP_GRP 1    Mode: Non-revertive    Schema: m_for_n
 Sh0 U R A Stat   Sh0 U R A Stat   Sh1 U R A Stat   Sh1 U R A Stat
  1 -- - - ----    8 -- - - ----    1 -- - - ----    8 -- - - ----
  2 -- - - ----    9 -- - - ----    2 -- - - ----    9 -- - - ----
  3 -- - - ----   10 -- - - ----    3 -- - - ----   10 -- - - ----
  4 -- - - ----   11  3 S I InSv    4 -- - - ----   11 -- - - ----
  5 -- - - ----   12  2 W A InSv    5 -- - - ----   12 -- - - ----
  6 -- - - ----   13  1 W A InSv    6 -- - - ----   13 -- - - ----
  7 -- - - ----   14  0 W A InSv    7 -- - - ----   14 -- - - ----
```

Note: The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

51 Determine if the spare VSP is also inactive using the MAP display from step 50.

Note: In the example above, VSP 3 in slot 11 of the lower shelf is inactive (“I” under the ‘A’ column) and is the spare VSP (“S” under the ‘R’ column).

52 Protection switch an active VSP with the spare VSP:

```
>MANUAL <active_vsp> <spare_vsp>
```

where

active_vsp
is the number of an active VSP

spare_vsp
is the number of the spare VSP

Example

```
>MANUAL 0 3
```

53 Confirm the protection switch:

```
>Y
```

54 Protection switch back from the spare VSP to the currently inactive VSP:

```
>MANUAL <spare_vsp> <inactive_vsp>
```

where

spare_vsp
is the number of the spare VSP

inactive_vsp
is the number of the newly inactive VSP

Example

```
>MANUAL 3 0
```

55 Confirm the protection switch:

```
>Y
```

56 You have completed this procedure. Return to the CI level of the MAP screen:

```
>QUIT ALL
```

Deleting a DSP or VSP RM with resource datafill

Use this procedure to delete a resource module (RM) with resource datafill for digital signal processing (DSP) or voice signal processing (VSP).

Deleting an RM with resource datafill

At the MAP level

1 Post the SPM:

```
>MAPCI;MTC;PM;POST SPM <spm_no>
```

where

spm_no
is the SPM number (0 to 85)

Example of MAP display

```
SPM    0 InSv  Loc:  Site HOST  Floor  1  Row AA  FrPos  0
Shlf0  SL  A Stat   Shlf0    SL  A  Stat  Shlf1  SL  A Stat  Shlf1   SL A Stat
-----    1  - ----    CEM 1  8  A  InSv  -----    1   -  ----   -----    8 - ----
-----    2  - ----    OC3 0   9  A  InSv   -----    2   -  ----  DSP 0  9 A InSv
-----    3  - ----    OC3 1 10   I   InSv   -----   3   -  ----  DSP 1 10 A InSv
-----    4  - ----    VSP 3 11  A   InSv   -----   4   -  ----  DSP 2 11 A InSv
-----    5  - ----    VSP 2 12  A   InSv   VSP 4 5 A  InSv DSP 3 12 I InSv
-----    6  - ----   VSP 1  13  A   InSv   VSP 5 6  I  InSv  -----    13 -  ----
CEM 0 7 I InSv   VSP 0  14  A   InSv   -----  7   -  ----   -----    14 -  ----
```

> ***Note 1:*** In this example DSP 3 in slot 12 of shelf 1 is the spare DSP and Inactive (I).
>
> ***Note 2:*** The double density SPM MAP consists of one shelf and, therefore, displays data for Shelf0 only.

2 Select an RM to be changed:

```
>SELECT <RMtype> <RMId>
```

where

RM type
is the type of resource module (DSP or VSP)

and

RMId
is the resource module number on the SPM (0 -27)

Example:

```
>SELECT DSP 3
```

3 Enter the PREPDATACHNG command:

```
>PREPDATACHNG
```

> ***Note:*** If the above command is not successful, the display provides further directions. Follow the display instructions and repeat step 2 above.

4 Take the RM offline:

```
>OFFL
```

5 Remove the RM in table MNCKTPAK.

> ***Note:*** If any messages indicate that the RM is not ManB or RMId and ProtWhomId are not the same, repeat this procedure beginning with step 2 above.

6 You have completed this procedure.

Provisioning an ISUP trunk

Use this procedure to provision an ISUP trunk.

Provisioning an ISUP trunk

At the MAP level

1 Access table CLLI:

```
>TABLE CLLI
```

2 Begin the table addition:

```
>ADD
```

3 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLLI:
>SPMISUP
ADNUM:
>444
TRKGRSIZ:
>24
ADMININF:
>SPM_ISUP_TRUNK
TUPLE TO BE ADDED:
SPMISUP 444 24 SPM_ISUP_TRUNK
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

4 Exit table CLLI:

```
>QUIT
```

5 Access table TRKGRP:

```
>TABLE TRKGRP
```

6 Begin the table addition:

```
>ADD
```

7 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
GRPKEY:
>SPMISUP
GRPTYP:
>T2
TRAFSNO: 0
>
PADGRP: NPDGP
>
NCCLS: NCIT
>
TRAFCLS: NIL
>
SELSEQ: MIDL
>
DIGSOUT: 3
>0
TOLL:N
>
PRTNM: NPRT
>
SCRNCL: NSCR
```

```
>
SNPA:
>919
STS:
>919
ORIGSRCE: LCL
>
VDESEL: N
>
DIGREGEN:
>N
OPTION:
>$
TUPLE TO BE ADDED:
SPMISUP T2 0 ELO NCRT NIL MIDL 0 N NPRT NSCR
919 LCL N N $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

8 Exit table TRKGRP:

```
>QUIT
```

9 Access table TRKSGRP:

```
>TABLE TRKSGRP
```

10 Begin the table addition:

```
>ADD
```

11 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
```

```
SGRPKEY:
>SPMISUP 0
```

Note: The SPM handles ABBIT freezes to 1AESS switches differently than DTCs. The ABBITs are permanently frozen 'high'. If a site has trunks going to a 1AESS from both DTCs and SPMs, then the SPM trunks in that trunk group must be in a different trunk sub-group. Another TRKSGRP must be built with a different SGRPKEY (ex: 1) for the SPM to 1AESS. See the note below for the ABCNTL field and the note below on the ADJNODE field.

```
CARDCODE:
>DS1SIG
SGRPVAR:
>C7UP
DIR: 2W
>
ESUPR: N
>F
SAT:
>N
ECSTAT: UNEQ
>
ABCNTL: NONE
>ACTIVEA
```

Note: The SPM handles ABBIT freezes to 1AESS switches differently than DTCs. The ABBITs are frozen permanently high at “1” and the ABCNTL field in table TRKSGRP must be set to NONE, instead of ACTIVEA, as it is in DTCs.

If the trunk group terminates to a 1AESS switch from an SPM, the ABCNTL field must be set to NONE. Also see the note above for the SGRPKEY field and the note below on the ADJNODE field.

The ABCNTL field needs to be set to NONE before adding trunk members to table TRKMEM and C7TRKMEM. If the field is changed after the trunk members have been added to these tables, the tuples for the trunk members will need to be deleted and added back into these two tables.

```
PROTOCOL:
>Q764
CONTCHK:
>THRL
COTREQ: 0
>
ADJNODE:
>ISUP
```

Note: The ADJNODE field will be datafilled as ESS1A if ISUP ABBIT freeze is required. See the notes on the SGRPKEY field and the ABCTL field above.

```
OPTION:
>$
TMRNAME:
>NIL
GLARETYP:
>CIC
TUPLE TO BE ADDED:
SPMISUP 0 DS1SIG C7UP 2W F N UNEQ ACTIVEA Q764
THRL 10 ISUP $ NIL CIC
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

12 Exit table TRKSGRP:

>QUIT

13 Access table TRKMEM:

>TABLE TRKMEM

14 Begin the table addition:

>ADD

15 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table TRKGRP.

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLLI:
>SPMISUP
EXTRKNM:
>1
SGRP:
>0
PMTYPE:
>SPM
SPMNO:
>16
SPMCKTNO:
>9
SPMCKTTS:
>1
TUPLE TO BE ADDED:
SPMISUP 1 0 SPM 16 9 1
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

16 Exit table TRKMEM:

```
>QUIT
```

17 Access table ISUPDEST:

```
>TABLE ISUPDEST
```

18 Begin the table addition:

```
>ADD
```

19 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
DESTKEY:
>SPMISUP 0
ISUPROUT:
>C7RTESET1
TUPLE TO BE ADDED:
SPMISUP 0 C7RTESET1
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

20 Exit table ISUPDEST:

>QUIT

21 Access table C7TRKMEM:

>TABLE C7TRKMEM

22 Begin the table addition:

>ADD

23 Answer each of the prompts with the required datafill provided by the table range.

Example

This is an example of datafilling table TRKGRP.

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
MEMKEY:
>SPMISUP 1
CIC:
```

```
>444
TUPLE TO BE ADDED:
SPMISUP 1 444
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

24 You have completed this procedure. Exit table C7TRKMEM:

```
>QUIT
```

Provisioning a PRI-250 trunk

Use this procedure to provision a PRI-250 trunk.

Provisioning a PRI-250 trunk

At the MAP level

1 Access table CLLI:

```
>TABLE CLLI
```

2 Begin the table addition:

```
>ADD
```

3 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLLI:
>WITS1NISPM0
ADNUM:
>126
TRKGRSIZ:
>24
ADMININF:
>WITS_NI2_SPM0
TUPLE TO BE ADDED:
WITS1NISPM0 126 24 WITS_NI2_SPM0
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

4 Exit table CLLI:

```
>QUIT
```

5. Access table CLLICDR:

```
>TABLE CLLICDR
```

   Note: Table CLLICDR is required for PRI-250 trunks.

6. Begin the table addition:

```
>ADD
```

7. Answer each of the prompts with the required datafill provided by the table range.

   Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLLINAME:
>WITS1NISPM0
EXTNUM:
>126
TUPLE TO BE ADDED:
WITS1NISPM0 126
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

8. Exit table CLLICDR:

```
>QUIT
```

9. Access table TRKGRP:

```
>TABLE TRKGRP
```

10. Begin the table addition:

```
>ADD
```

11. Answer each of the prompts with the required datafill provided by the table range.

   Example

```
>ADD
```

```
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
GRPKEY:
>WITS1NISPM0
GRPTYP:
>PRA250
TRAFSNO: 0
>
PADGRP: NPDGP
>
NCCLS: NCIT
>
CUSTOMER: UCS
>
SELSEQ: MIDL
>
TRAFCLS: NIL
>
TIMEBIAS: 0
>
SNPA: 001
>
LTID
>PRI 10
ZONE: 0
>
FASTIDGT: 15
>
BCNAME:
>SPEECH
TSUSR: 160
>
```

```
0PTION:
>$
TUPLE TO BE ADDED:
 WITS1NISPM0 PRA250 0 NPDGP NCIT UCS MIDL NIL
0 001 (PRI 10) $ 0 15 SPEECH 160 $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

12 Exit table TRKGRP:

```
>QUIT
```

13 Access table TRKSGRP:

```
>TABLE TRKSGRP
```

14 Begin the table addition:

```
>ADD
```

15 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
SGRPKEY:
>WITS1NISPM0 0
CARDCODE:
>DS1SIG
SGRPVAR:
>ISDN
PSPDSEIZ: 15
>20
PARTDIAL: 15
>20
VERSION:
```

```
>87Q931
CRLENGTH:
>2
BCHNEG: N
>
BCHGLARE:
>STAND
IFCLASS:
>NETWORK
CONFIG:
>PT_PT
LOCATION:
>USER
SAT: N
>
ECSTAT: UNEQ
>
TRKGRDTM:
>25
L1FLAGS: N
>
PARMNAME:
>DEFAULT
PMTYPE:
>SPM
SPMNO:
>0
SPMCKTNO:
>21
SPMCKTTS:
>24
DCHRATE:
```

```
>64k
HDLCTYPE:
>HLDC
PMTYPE:
>$
OPTION:
>$
TUPLE TO BE ADDED:
WITS1NISPM0 0 DS1SIG ISDN 20 20 87Q931 2 N
STAND NETWORK PT_PT USER N UNEQ 25 N DEFAULT
SPM 0 21 24 64K HDLC $ $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

16 Exit table TRKSGRP:

```
>QUIT
```

17 Access table TRKMEM:

```
>TABLE TRKMEM
```

18 Begin the table addition:

```
>ADD
```

19 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLLI:
>WITS1NISPM0
EXTRKNM:
>1
SGRP:
>0
```

```
PMTYPE:
>SPM
SPMNO:
>0
SPMCKTNO:
>21
SPMCKTTS:
>1
TUPLE TO BE ADDED:
WITS1NISPM0 1 0 SPM 0 21 1
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

20 Exit table TRKMEM:

```
>QUIT
```

21 Access table LTDEF:

```
>TABLE LTDEF
```

22 Begin the table addition:

```
>ADD
```

23 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
LTKEY:
>PRI 10
LTAP:
>B
LTCLASS:
>PRA
```

```
NUMBCHNL:
>23
NUMCALLS:
>23
INCCALLS:
>12
OUTCALLS:
>11
:
>NTNAPRI
ISSUE:
>V1
PROFNAME:
>NIL
OPTION:
>NOPMD
OPTION:
>$
TUPLE TO BE ADDED:
PRI 10 B PRA 23 23 12 11 NTNAPRI V1 NIL
(NOPMD) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

24 Exit table LTDEF:

```
>QUIT
```

25 Access table LTMAP:

```
>TABLE LTMAP
```

26 Begin the table addition:

```
>ADD
```

27 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
LTKEY:
>PRI 10
MAPTYPE:
>CLLI
CLLI:
>WITS1NISPM0
OPTION:
>TEI
TEI:
>0
OPTION
>$
TUPLE TO BE ADDED:
PRI 10 CLLI WITS1NISPM0 (TEI 0) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

28 Exit table LTMAP:

```
>QUIT
```

29 Access table TRKGRP1:

```
>TABLE TRKGRP1
```

30 Begin the table addition:

```
>ADD
```

31 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLLI:
>WITS1NISPM0
GRPTYP:
>PRA250
LCDDUR:
>0
SPARE1: N
>Y
SPARE2: N
>Y
SPARE3:
>0
SPARE4
>0
TUPLE TO BE ADDED:
WITS1NISPM0 PRA250 0 Y Y 0 0
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

32 You have completed this procedure. Exit table TRKGRP1:

```
>QUIT
```

Provisioning a PTS MF trunk

Use this procedure to provision a PTS MF trunk.

Provisioning a PTS MF trunk

At the MAP level

1 Access table CLLI:

```
>TABLE CLLI
```

2 Begin the table addition:

```
>ADD
```

3 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLLI:
>G0S3TIMF
ADNUM:
>109
TRKGRSIZ:
>24
ADMININF:
>SPM_MF_TO_SAGE
TUPLE TO BE ADDED:
G0S3TIMF 109 24 SPM_MF_TO_SAGE
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

4 Exit table CLLI:

```
>QUIT
```

5 Access table TRKGRP:

```
>TABLE TRKGRP
```

6 Begin the table addition:

```
>ADD
```

7 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
GRPKEY:
>G0S3TIMF
GRPTYP:
>TI
TRAFSNO: 0
>
PADGRP: NPDGP
>ELO
NCCLS: NCIT
>NCRT
TRAFCLS: NIL
>
PRTNM: NPRT
>
SCRNCL: NSCR
>
SNPA:
>613
STS:
>613
ORIGSRCE: LCL
```

```
>
VDESEL: N
>
DIGREGEN:
>N
OPTION:
>$
TUPLE TO BE ADDED:
G0S3TIMF TI 0 ELO NCRT NIL NPRT NSCR 613 613
LCL N N $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

8 Exit table TRKGRP:

>QUIT

9 Access table TRKSGRP:

>TABLE TRKSGRP

10 Begin the table addition:

>ADD

11 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
SGRPKEY:
>G0S3TIMF 0
CARDCODE:
>DS1SIG
SGRPVAR:
>STD
```

```
DIR: 2W
>IC
IPULSTYP:
>MF
ISTARTSG:
>WK
OVLP: N
>
PSPDSEIZ: 15
>7
PARTDIAL:
>7
CCONT:
>NO
RNGBCK:
>NO
ESUPR: N
>
SAT:
>N
REMBSY:
>N
DIALMODE:
>C
ECSTAT: UNEQ
>
TUPLE TO BE ADDED:
G0S3TIMF DS1SIG STD IC MF WK N 7 7 NO NO N N
N C UNEQ $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

12 Exit table TRKSGRP:

```
>QUIT
```

13 Access table TRKMEM:

```
>TABLE TRKMEM
```

14 Begin the table addition:

```
>ADD
```

15 Answer each of the prompts with the required datafill provided by the table range.

Example

```
>ADD
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
CLLI:
>G0S3TIMF
EXTRKNUM:
>1
SGRP:
>0
PMTYPE:
>SPM
SPMNO:
>3
SPMCKTNO:
>97
SPMCKTTS:
>1
TUPLE TO BE ADDED:
G0S3TIMF 1 0 SPM 3 97 1
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

16 Exit table TRKMEM:

```
>QUIT
```

17 You have completed this procedure.

Modifying a trunk

Provisioning data for the SPM is modified in the same way for all trunk types. This procedure gives an example for modifying a PTS MF trunk.

Modifying a trunk

At the MAP level

1 Access the table to modify:

```
>TABLE <table_name>
```

where

table_name
is the name of the table containing the tuple to be modified

Example

```
>TABLE TRKGRP
```

2 Position on the tuple to modify:

```
>POS <tuple_key>
```

where

tuple_key
is the name of the tuple (typically the first entry)

Example

This example positions on the tuple created for a PTS trunk in the “Provisioning a PTS MF trunk” section of this document.

```
>POS G0S3TIMF
```

```
G0S3TIMF TI 0 ELO NCRT NIL NPRT NSCR 613 613
LCL N N $
```

3 Begin the table modification:

```
>CHA
```

4 For each unchanged prompt, press the Enter key. The only value entered in this step should be the new value.

Example

This example changes the SNPA code in table TRKGRP from 613 to 614.

```
>CHA
```

```
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
GRPTYP: TI
>
TRAFSNO: 0
>
PADGRP: ELO
>
NCCLS: NCRT
>
TRAFCLS: NIL
>
PRTNM: NPRT
>
SCRNCL: NSCR
>
SNPA: 613
>614
STS: 613
>
ORIGSRCE: LCL
>
VDESEL: N
>
DIGREGEN: N
>
OPTION: $
>
TUPLE TO BE CHANGED:
G0S3TIMF TI 50 ELO NCRT NIL NPRT NSCR 614 613
LCL N N $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
```

```
TUPLE CHANGED
```

5 You have completed this procedure. Exit the table:

>QUIT

De-provisioning an ISUP trunk

Use this procedure to de-provision an ISUP trunk.

De-provisioning an ISUP trunk

At the MAP level

1 Access table C7TRKMEM:

```
>TABLE C7TRKMEM
```

2 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS SPMISUP
```

3 Delete the tuple:

```
>DEL
```

Example

The example that follows deletes a tuple from the table.

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

4 Exit table C7TRKMEM:

```
>QUIT
```

5 Access table ISUPDEST:

```
>TABLE ISUPDEST
```

6 Position on the tuple to be removed:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS SPMISUP
```

7 Delete the tuple:

```
>DEL
```

Example

The example that follows deletes a tuple from the table.

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

8 Exit table ISUPDEST:

```
>QUIT
```

9 Access table TRKMEM:

```
>TABLE TRKMEM
```

10 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS SPMISUP
```

11 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

12 Exit table TRKMEM:

```
>QUIT
```

13 Access table TRKSGRP:

```
>TABLE TRKSGRP
```

14 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS GOS3TIMF
```

15 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

16 Exit table TRKSGRP:

```
>QUIT
```

17 Access table TRKGRP:

```
>TABLE TRKGRP
```

18 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS SPMISUP
```

19 Delete the tuple:

```
>DEL
```

Example

The example that follows deletes a tuple from the table.

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

20 Exit table TRKGRP:

```
>QUIT
```

21 Access table CLLI:

```
>TABLE CLLI
```

22 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS SPMISUP
```

23 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

24 You have completed this procedure. Exit table CLLI:

```
>QUIT
```

Use this procedure to de-provision a PRI trunk.

De-provisioning a PRI trunk

At the MAP level

1 Access table TRKGRP1:

```
>TABLE TRKGRP1
```

2 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS WITS1NISPM0
```

3 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

4 Exit table TRKGRP1:

```
>QUIT
```

5 Access table LTMAP:

```
>TABLE LTMAP
```

6 Position on the tuple to remove:

```
>POS ltgrp ltnum
```

where

ltgrp
is the logical terminal group.

ltnum
is the logical terminal number (1-1022)

Example

```
>POS PRI 10
```

7 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

8 Exit table LTMAP:

```
>QUIT
```

9 Access table LTDEF:

```
>TABLE LTDEF
```

10 Position on the tuple to remove:

```
>POS ltgrp ltnum
```

where

ltgrp
is the logical terminal group.

ltnum
is the logical terminal number (1-1022)

Example

```
>POS PRI 10
```

11 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

12 Exit table LTDEF:

```
>QUIT
```

13 Access table TRKMEM:

```
>TABLE TRKMEM
```

14 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS WITS1NISPM0
```

15 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

16 Exit table TRKMEM:

```
>QUIT
```

17 Access table TRKSGRP:

```
>TABLE TRKSGRP
```

18 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS WITS1NISPM0
```

19 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

20 Exit table TRKSGRP:

```
>QUIT
```

21 Access table TRKGRP:

```
>TABLE TRKGRP
```

22 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS WITS1NISPM0
```

23 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

24 Exit table TRKGRP:

>QUIT

25 Access table CLLICDR:

>TABLE CLLICDR

Note: Table CLLICDR is required for PRI-250 trunks.

26 Position on the tuple to remove:

>POS clli

where

clli
is the CLLI identifier for the tuple

Example

```
>POS WITS1NISPM0
```

27 Delete the tuple:

>DEL

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

28 Exit table CLLICDR:

>QUIT

29 Access table CLLI:

>TABLE CLLI

30 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS WITS1NISPM0
```

31 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

32 You have completed this procedure. Exit table CLLI:

```
>QUIT
```

De-provisioning a PTS trunk

Use this procedure to de-provision a PTS trunk.

De-provisioning a PTS trunk

At the MAP level

1 Access table TRKMEM:

```
>TABLE TRKMEM
```

2 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS GOS3TIMF
```

3 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

4 Exit table TRKMEM:

```
>QUIT
```

5 Access table TRKSGRP:

```
>TABLE TRKSGRP
```

6 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS GOS3TIMF
```

7 Delete the tuple:

```
>DEL
```

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

8 Exit table TRKSGRP:

```
>QUIT
```

9 Access table TRKGRP:

```
>TABLE TRKGRP
```

10 Position on the tuple to remove:

```
>POS clli
```

where

clli
is the CLLI identifier for the tuple

Example

```
>POS GOS3TIMF
```

11 Delete the tuple:

>DEL

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

12 Exit table TRKGRP:

>QUIT

13 Access table CLLI:

>TABLE CLLI

14 Position on the tuple to remove:

>POS clli

where

clli
is the CLLI identifier for the tuple

Example

```
>POS GOS3TIMF
```

15 Delete the tuple:

>DEL

Example

```
>DEL
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y
TUPLE DELETED
WARNING: CURRENTLY NOT POSITIONED
```

16 You have completed this procedure. Exit table CLLI:

>QUIT

Provisioning a span of ISUP trunks

Use this procedure to provision a span of ISUP trunks.

Provisioning a span of ISUP trunks

At the MAP level

1 Follow the instructions in the procedure in this NTP Provisioning an ISUP trunk to provision a single ISUP trunk.

2 To add an additional ISUP trunk, first access table TRKMEM:

```
>TABLE TRKMEM
```

3 Add an additional tuple to table TRKMEM exactly as the original tuple provisioned in the “Provisioning an ISUP trunk” procedure, with the following exceptions:

- extrknum - Make this value different from the original tuple’s value. It is recommended that external trunk numbers be assigned sequentially.
- spmcktts - Make this value different from the original tuple’s value. It is recommended that circuit time slot numbers be assigned sequentially.

Example of datafill for table TRKMEM

```
SPMISUP 2 0 SPM 16 9 2
SPMISUP 3 0 SPM 16 9 3
SPMISUP 4 0 SPM 16 9 4
```

4 Exit table TRKMEM:

```
>QUIT
```

5 Access table C7TRKMEM:

```
>TABLE C7TRKMEM
```

6 Add an additional tuple to table C7TRKMEM exactly as the original tuple provisioned in the “Provisioning an ISUP trunk” procedure, with the following exceptions:

- extrknum - Enter the value from Step 3 of this procedure.
- cic - Make this value different from the original tuple’s value. It is recommended that CIC numbers be assigned sequentially.

Example

Example of datafill for table IC7TRKMEM

```
SPMISUP 2 445
SPMISUP 3 446
SPMISUP 4 447
```

7 Exit table C7TRKMEM:

>QUIT

8 Use this table to determine your next step.

If	Do
you need to add additional tuples	step 2
you do not need to add additional tuples	step 9

9 You have completed this procedure.

Provisioning a span of PRI-250 trunks

Use this procedure to provision a span of PRI-250 trunks.

Provisioning a span of PRI-250 trunks

At the MAP level

1 Follow the instructions in the procedure in this NTP, Provisioning a PRI-250 trunk, to provision a single PRI trunk.

2 To add an additional PRI-250 trunk, access table TRKMEM:

```
>TABLE TRKMEM
```

3 Add an additional tuple to table TRKMEM exactly as the original tuple provisioned in the “Provisioning a PRI-250 trunk” procedure, with the following exceptions:

- extrknum - Make this value different from the original tuple’s value. It is recommended that external trunk numbers be assigned sequentially.
- spmcktts - Make this value different from the original tuple’s value. It is recommended that circuit time slot numbers be assigned sequentially.

Example of datafill for table TRKMEM

```
SPMISUP 2 0 SPM 16 9 2
SPMISUP 3 0 SPM 16 9 3
SPMISUP 4 0 SPM 16 9 4
```

4 Use this table to determine your next step.

If	Do
you need to add additional tuples	step 3
you do not need to add additional tuples	step 5

5 Exit table TRKMEM:

```
>QUIT
```

6 You have completed this procedure.

Use this procedure to relocate SPM host linksets.

Relocating SPM host linksets

At the MAP level

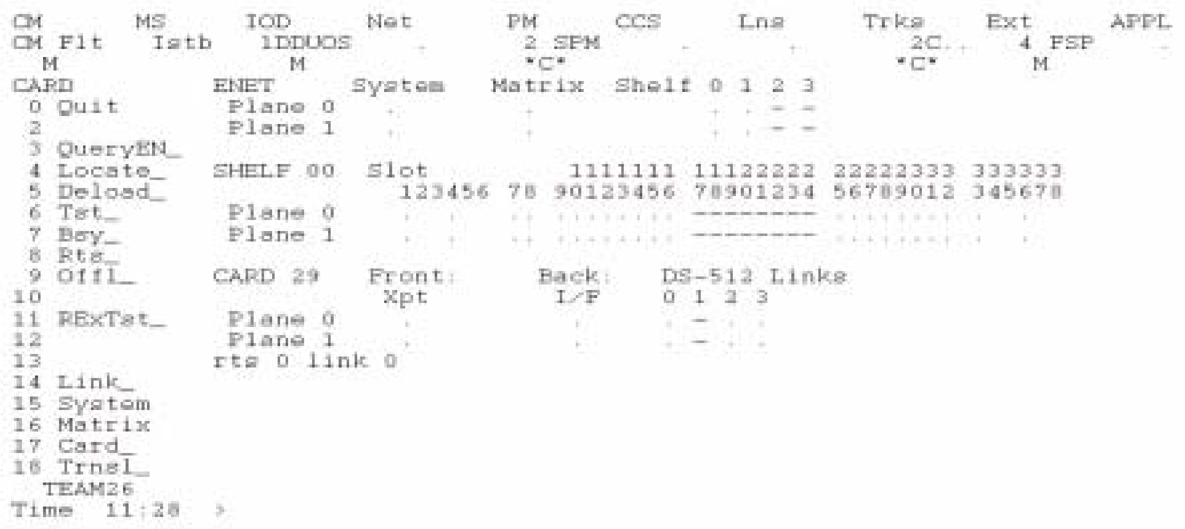
1 Identify a provisioned ENET shelf or card to which the re-location is to be done.

> ***Note 1:*** The ENET shelf or card must be datafilled in table ENCDINV.
>
> ***Note 2:*** The card must be a DS_512_ INTERFACE card.

2 Post the ENET card and identify an unequipped port:

```
>MAPCI;MTC;ENET;SHELF 0/1; CARD #
```

> ***Note:*** An unequipped port is indicated by a "-" at the MAP (refer to the figure below).



```
CM        MS       IOD       Net       PM       CCS       Lns       Trks      Ext       APPL
CM Flt    Istb     1DDUOS     .        2 SPM     .         .         2C . .    4 FSP       .
 M                  M                  *C*                          *C*       M
CARD            ENET      System    Matrix  Shelf 0 1 2 3
 0 Quit          Plane 0    .         .            . . - -
 2               Plane 1    .         .            . . - -
 3 QueryEN_
 4 Locate_      SHELF 00  Slot          1111111 11122222 22222333 333333
 5 Deload_                   123456 78 90123456 78901234 56789012 345678
 6 Tst_          Plane 0     . .    .. ........ -------- ........ .  .
 7 Bsy_          Plane 1     . .    .. ........ -------- ........ .  .
 8 Rts_
 9 Offl_        CARD 29   Front:      Back:   DS-512 Links
10                         Xpt         I/F     0 1 2 3
11 RExTst_       Plane 0    .           .      . - . .
12               Plane 1    .           .      . - . .
13              rts 0 link 0
14 Link_
15 System
16 Matrix
17 Card_
18 Trnsl_
  TEAM26
Time  11:28  >
```

3 Use the change command on the tuple in table MNLINK to determine the MS ports corresponding to the linkset being relocated.

Position (POS) on the tuple corresponding to the linkset to be relocated in table MNLINK. Issue a 'change command.

> ***Note:*** Do *not* enter 'Yes' when asked for confirmation.

4 Ensure the MS ports corresponding to the linkset to be relocated are in Insv state:

```
>MAPCI;MTC;MS:SHELF;CARD #
```

Note: The INSV MS port is indicated as a ‘.’ on the MAP terminal.

5 Post the linkset to be relocated:

```
>MAPCI;MTC;NET;SHELF#;CARD#
```

Note: This posts the ENET card to which the linkset is connected.

6 Busy the linkset to be re-located:

```
>BSY 0 link #
>BSY 1 link #
```

Ensure that the link from CEM0 and its corresponding mate-link from CEM1 are set to MANB state.

The links can be made busy at MAPCI level:

```
MAPCI;MTC;ENET;SHELF 0/1; CARD #
```

7 Take offline the linkset to be re-located.

```
>OFFL 0 link #
>OFFL 1 link #
```

Ensure that the link from CEM0 and its corresponding mate-link from CEM1 are set to Offline state.

The links can be taken offline at MAPCI level:

```
MAPCI;MTC;ENET;SHELF 0/1; CARD #
```

8 Post the SPM and ensure that the SPM is in INSV/ISTB state:

```
>MAPCI;MTC;PM;POST SPM #
```

9 BSY INB all the trunks connected to the linkset (note below) that is offline:

```
>MAPCI;MTC;TRKS;TTP; POST D SPM #
>POST S CFL
>BSY ALL
>POST D SPM #
>POST S MB
>BSY INB ALL
```

Observe that the trunks connected to the linkset which is offline changed to CFL state. Set the trunks to MB state before setting them to INB state.

Ensure that there are no trunks connected to the SPM which are in CFL state. All the trunks which were in CFL state earlier due to the relocation are to be in INB state.

Note: ALL the trunks on this SPM that were previously (prior to SPM host link relocation) in CFL state will also be affected due to this step. They will all be taken MB and INB. This will not affect any CallP, as the trunks would already be in CFL state prior to this step.

10 Execute the change command on the corresponding tuple in table MNLINK:

```
>TABLE MNLINK
```

```
>pos SPM #
```

```
>cha < corresponding link characteristics >
```

Note that the MS port data corresponding to the relocated linkset is displayed.

You cannot change the shelf, card, or slot properties of more than one linkset at a time during a change operation.

Note: Contact the next level of support if

- the tuple change operation was not successful

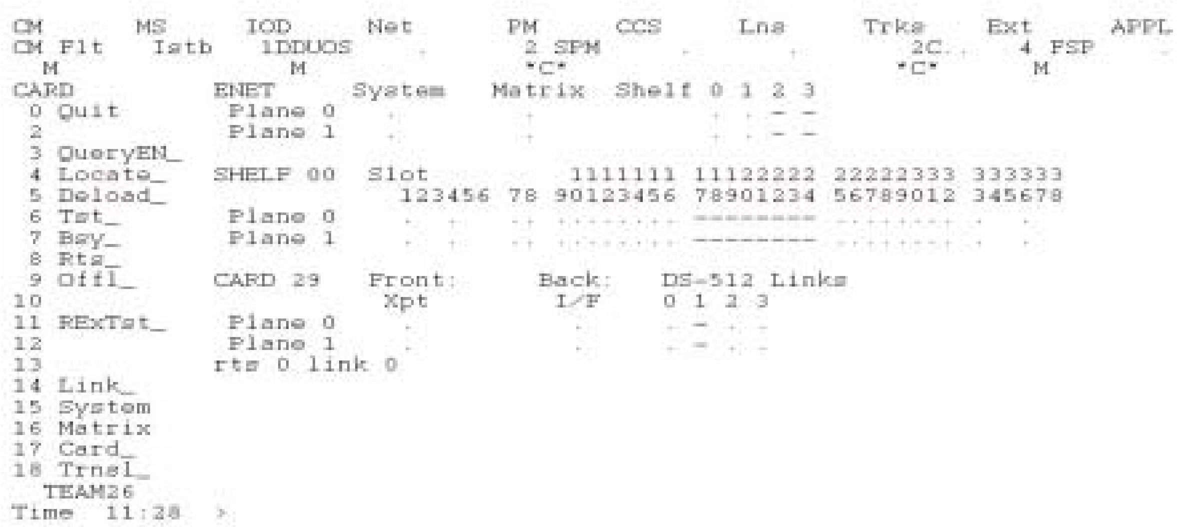
  or

- SPM311 logs with the error string “Error in SPM Hostlink Relocation.” are generated after the change command is executed

11 Post the card on which the links were previously located:

```
>MAPCI;MTC;ENET;SHELF 0/1; CARD #;
```

Observe that the port corresponding to the link is now unequipped. An unequipped port is indicated by a “-” at the MAP (refer to the following figure).



```
 CM         MS      IOD       Net       PM       CCS       Lns       Trks      Ext       APPL
 CM Flt     Istb    1DDUOS    .         2 SPM    .         .         2C .      4 FSP     .
   M                  M                 *C*                          *C*         M
 CARD              ENET      System    Matrix  Shelf 0 1 2 3
  0 Quit            Plane 0   .         .             . . - -
  2                 Plane 1   .         .             . . - -
  3 QueryEN_
  4 Locate_        SHELF 00  Slot           1111111 11122222 22222333 333333
  5 Deload_                    123456 78 90123456 78901234 56789012 345678
  6 Tst_            Plane 0    .  .   .. ........ -------- ........ .  .
  7 Bsy_            Plane 1    .  .   .. ........ -------- ........ .  .
  8 Rts_
  9 Offl_          CARD 29   Front:      Back:    DS-512 Links
 10                           Xpt         I/F      0 1 2 3
 11 RExTst_         Plane 0   .           .        . - . .
 12                 Plane 1   .           .        . - . .
 13                rts 0 link 0
 14 Link_
 15 System
 16 Matrix
 17 Card_
 18 Trnsl_
   TEAM26
 Time   11:28   >
```

12 Post the card to which the links have been relocated:

>MAPCI;MTC;ENET;SHELF 0/1; CARD #;

Observe that the link is now in offline state. An offline link is indicated by a “O” at the MAP (refer to the figure above).

13 Physically re-locate the link from CEM0. This link corresponds to the link on CEM0 of the linkset to be re-located.

14 Physically re-locate the link from CEM1. This link corresponds to the link on CEM1 of the linkset to be re-located.

15 BSY the MS ports corresponding to the relocated linkset (refer to step 9 and use the displayed information to determine the MS ports corresponding to the relocated links).

>MAPCI;MTC;MS;SHELF;CARD #

>BSY <0/1> port#

Ensure that both MS ports are set to MANB state (indicated by an ‘M’ on the MAP display).

16 Busy the re-located linkset (ENET card):

>BSY 0 link #

>BSY 1 link #

Observe that both links from CEM0 and its corresponding mate-link from CEM1 are set to MANB state.

The links can be made busy at MAPCI level:

MAPCI;MTC;ENET;SHELF 0/1; CARD #

17 Return the re-located linkset to service:

```
>RTS 0 link #
```

```
>RTS 1 link #
```

Observe that both links from CEM0 and its corresponding mate-link from CEM1 are set to INSV state.

18 Return to service (RTS) the MS ports corresponding to the relocated linkset:

```
>MAPCI;MTC;MS;SHELF;CARD#
```

```
>RTS <0/1> port #
```

Observe that both ports are set to INSV state (represented as a '.' on the MAP display.

Observe that the SPM is back to INSV state after the relocation.

19 RTS the trunks that are affected by the relocation: (note below).

```
>MAPCI;MTC;TRKS;TTP;POST D SPM #
```

```
>POST S INB
```

```
>BSY ALL
```

```
>POST D SPM #
```

```
>POST S MB
```

```
>RTS ALL
```

The trunks affected by the move are already set to INB state. The trunks are first set to MB state before they are returned to service.

> ***Note:*** ALL trunks on this SPM that were previously (prior to SPM host link relocation) in INB or MB state are also affected due to this step. Therefore, any trunks that had been intentionally placed into INB or MB state are now brought back into service. Those chosen trunks need to be returned to their desired state (INB or MB).

20 You have completed this procedure.

Provisioning a span of PTS MF trunks

Use this procedure to provision a span of PTS MF trunks.

Provisioning a span of PTS MF trunks

At the MAP level

1 Follow the instructions in the procedure Provisioning a PTS MF trunk to provision a single PRI trunk.

2 To add an additional PTS trunk, access table TRKMEM:

```
>TABLE TRKMEM
```

3 Add an additional tuple to table TRKMEM exactly as the original tuple provisioned in the “Provisioning a PTS MF trunk” procedure, with the following exceptions:

- extrknum - Make this value different from the original tuple’s value. It is recommended that external trunk numbers be assigned sequentially.
- spmcktts - Make this value different from the original tuple’s value. It is recommended that circuit time slot numbers be assigned sequentially.

Example of datafill for table TRKMEM

```
SPMISUP 2 0 SPM 16 9 2
SPMISUP 3 0 SPM 16 9 3
SPMISUP 4 0 SPM 16 9 4
```

4 Use this table to determine your next step.

If	Do
you need to add additional tuples	step 3
you do not need to add additional tuples	step 5

5 Exit table TRKMEM:

```
>QUIT
```

6 You have completed this procedure.

Converting RES lines to IBN lines

This procedure converts all of the Residential Enhanced Services (RES) lines to Integrated Business Network (IBN) lines during a One Night Process (ONP). The conversion of RES lines to IBN lines is required for all NNI markets, as RES lines are not supported in the ISN04 TDM stream and later.

> ***Note:*** This procedure can be used for all markets that use RES lines and want to convert to IBN lines as well.

Converting RES lines to IBN lines

At the MAP level

1 Load the INACTIVE side of the CPU with the ISN04 TDM stream master tape.

2 Verify that the synchronization is dropped.

3 On the INACTIVE side of the CPU, enable the RES to IBN conversion:

```
>RES2IBN Y
```

> ***Note:*** RES2IBN with the Y option sets a flag that STARTXFR uses to make the conversion.

4 On the INACTIVE side of the CPU, type

```
>STARTXFR
```

in the TABXFR directory/layer for each of the following tables:

- XLAPLAN
- LINEATTR
- IBNLINES
- IBNFEAT

> ***Note:*** A failure to reformat all of these tables for RES to IBN conversion stops the TABXFR process.

5 Perform a dump to store the datafill changes.

6 On the INACTIVE side of the CPU, disable the RES to IBN conversion:

```
>RES2IBN N
```

> ***Note:*** The flag must be set to NO to disable the RES to IBN conversion on the next ONP.

7 You have completed this procedure.