Critical Release Notice

Publication number: 297-2281-530
Publication release: Standard 02.03

The content of this customer NTP supports the SN06 (DMS) and ISN06 (TDM) software releases.

Bookmarks used in this NTP highlight the changes between the baseline NTP and the current release. The bookmarks provided are color-coded to identify release-specific content changes. NTP volumes that do not contain bookmarks indicate that the baseline NTP remains unchanged and is valid for the current release.

Bookmark Color Legend

Black: Applies to new or modified content for the baseline NTP that is valid through the current release.

Red: Applies to new or modified content for NA017/ISN04 (TDM) that is valid through the current release.

Blue: Applies to new or modified content for NA018 (SN05 DMS)/ISN05 (TDM) that is valid through the current release.

Green: Applies to new or modified content for SN06 (DMS)/ISN06 (TDM) that is valid through the current release.

Attention!
Adobe® Acrobat® Reader™ 5.0 is required to view bookmarks in color.

Publication History

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Standard release 02.03 for software release SN06 (DMS) and ISN06 (TDM).

Change of phone number from 1-800-684-2273 to 1-877-662-5669, Option 4 + 1.

297–2281–530

DMS-100 Family

TOPS MP

TAMI User Guide

TPC04 Standard 02.02 June 1997

northern telecom

DMS-100 Family

TOPS MP
TAMI User Guide

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Contents

About this document

This user guide describes the TPC Administration and Maintenance Interface (TAMI). It explains the purpose and use of the TAMI for TOPS MP. This guide is intended for use by administrative, maintenance, and engineering personnel.

When to use this document

Depending on the software load of the TPC and other related developments, more than one version of this document may exist. This document is written for a TOPS MP office that has a TPC software load that is designated as release TPC04.

How to check the version and issue of this document

The version and issue of the document are indicated by numbers, for example, 01.01.

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. For example, the first release of a document is 01.01. In the *next* software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases each time the document is revised but rereleased in the *same* software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

More than one version of this document may exist. To determine whether you have the latest version of this document and how documentation for your product is organized, check the release information in *DMS-100 Family Guide to Northern Telecom Publications*, 297-1001-001.

References in this document

The following documents are referred to in this document:

- *TOPS MP Force Management Guide,* 297–2281–310
- *CCITT 1980 X.25 Specification, Yellow Book*

What precautionary messages mean

The types of precautionary messages used in NT documents include warning and caution messages. Warning and caution messages indicate possible risks.

Examples of the precautionary messages follow.

WARNING Possibility of equipment damage

WARNING

Damage to the backplane connector pins

Align the card before seating it, to avoid bending the backplane connector pins. Use light thumb pressure to align the card with the connectors. Next, use the levers on the card to seat the card into the connectors.

CAUTION Possibility of service interruption or degradation

CAUTION

Possible loss of service

Before continuing, confirm that you are removing the card from the inactive unit of the peripheral module. Subscriber service will be lost if you remove a card from the active unit.

TPC software load

The TAMI (TPC administration and maintenance interface) is used to administer and maintain the TPC (TOPS position controller).

The DEC VT220 terminal or a compatible type terminal is used as the user-to-machine interface for TAMI operations. The connection between the TAMI terminal and a TPC is usually dialed through a modem. The DEC LA-75 printer or a compatible type printer can be connected to the terminal to obtain printouts of the screen displays.

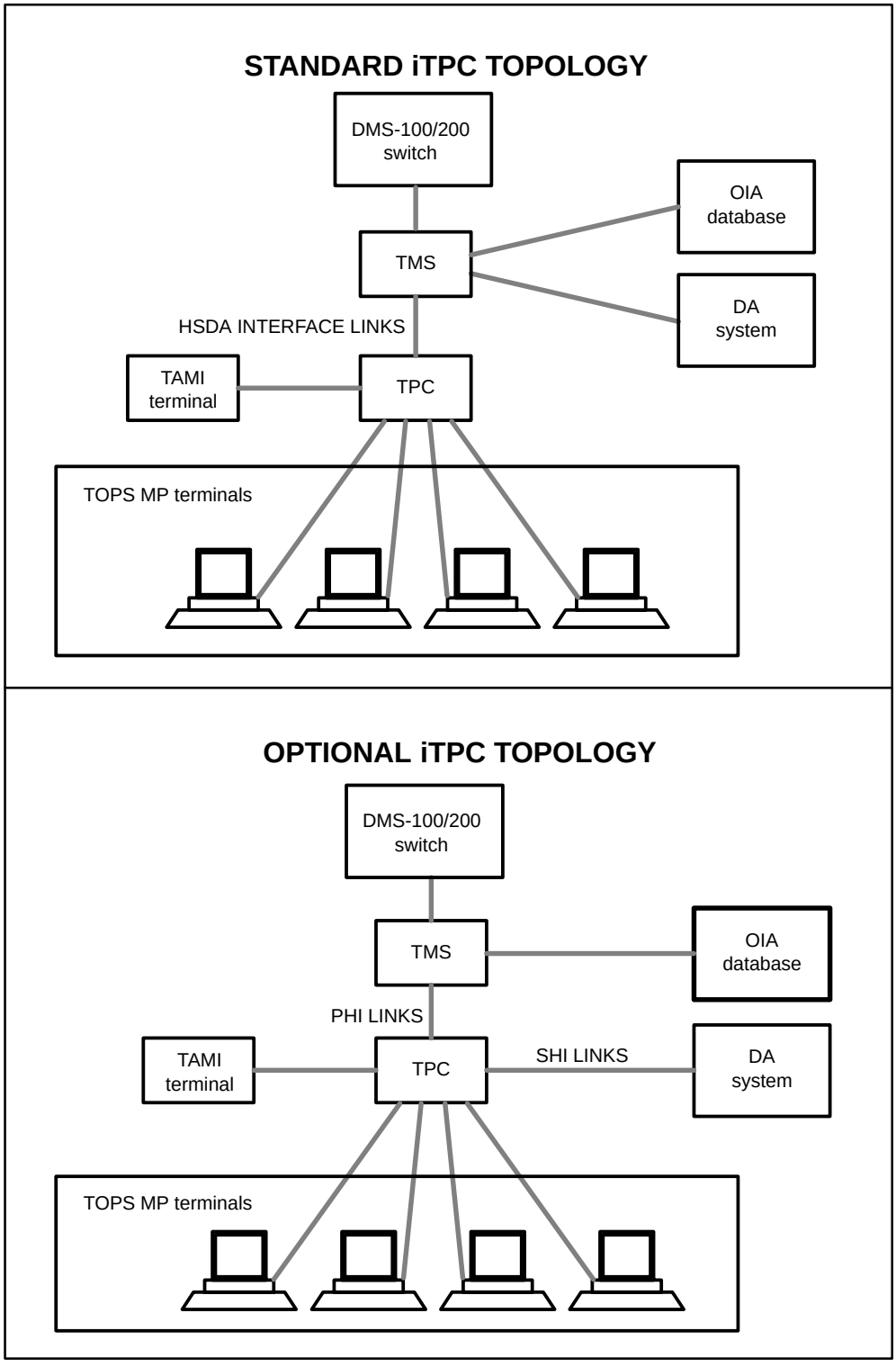
There are two possible TPC topologies: iTPC (integrated TPC) and sTPC (standalone TPC) topologies.

Integrated TPC

In the standard iTPC topology, the TPC is linked to the DMS and service nodes through a TMS (TOPS Message Switch). The TPC accesses both OIA and DAS databases through HSDA interface links to the TMS. At some sites, an optional iTPC topology is used. In this configuration, the TPC is linked directly to the DAS through an additional pair of HSDA links. In this arrangement, links between the TPC and TMS are called PHI (primary HSDA interface) links, and links between the TPC and DAS are called SHI (secondary HSDA interface) links.

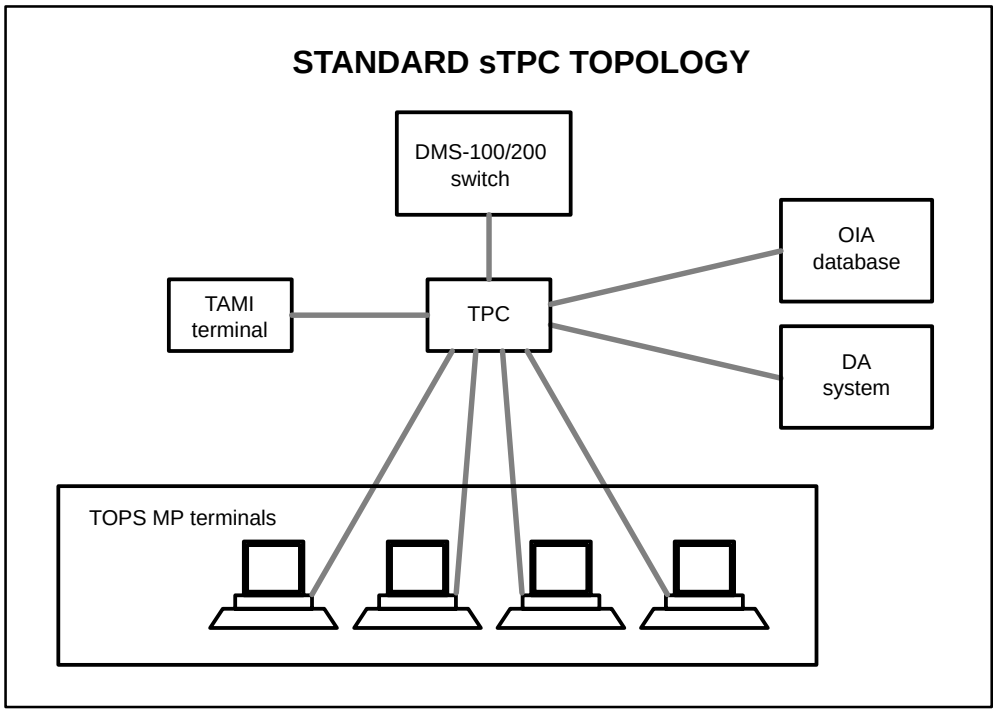
The standard iTPC topology has an HSDA card (card 1) in slot 13 of the TPC that is linked through the TMS for access to both the OIA and DAS databases. The optional iTPC topology, in addition to card 1, also has an HSDA card (card 0) in slot 8 of the TPC. Here, card 0 is used for direct access to the DAS database, and card 1 is used to access the OIA database through the TMS interface.

For the iTPC topologies, the primary TPC-to-TMS-to-CC link is not necessarily link 0 on HSDA card 1. Nor is link 1 necessarily the secondary link. Each of fourteen applications independently chooses which link is primary, and this designation changes frequently.


STANDARD iTPC TOPOLOGY
DMS-100/200 switch
OIA database
TMS
DA system
HSDA INTERFACE LINKS
TAMI terminal
TPC
TOPS MP terminals
OPTIONAL iTPC TOPOLOGY
DMS-100/200 switch
TMS
OIA database
PHI LINKS
TAMI terminal
TPC
SHI LINKS
DA system
TOPS MP terminals

Standalone TPC

The sTPC topology does not have a TMS interface. In the standalone topology, the TPC is linked directly to the DMS and service nodes. The sTPC topology also has an HSDA card (card 0) in slot 8 of the TPC, and an HSDA card (card 1) in slot 13.



Load configuration and version string

All customer sites receive a single release version of a TPC load floppy set (the set of floppies made up of load, application, system, and diagnostic floppies). Load floppies have the following default configuration:

Default load configuration

Feature	Default setting
DA	Disabled
ORDB	Disabled
Topology	Standalone (non–TMS)

Each customer site sets its TPC load configuration for specific requirements. Default configuration settings must be modified to enable DA, ORDB, or integrated (TMS) functionality.

In the main menu of the TAMI screen, the line immediately under “TPC ADMINISTRATION AND MAINTENANCE” identifies the TAMI version string (for example, “Version iTPC32CD2 DA/ORDB”). This string specifies the TPC topology, the software version release, and the accessed databases.

A user must make sure a chosen configuration is valid. For example, although a TPC can be configured as having a standalone topology with an IBM database for DA, this configuration is invalid and is not supported. The IBM database for DA can be used in an integrated topolgy. Note that when the IBM database is used, the “iTPC” designator for the integrated topology appears as “mTPC.” Valid configurations are as follows :

Valid load configurations and version strings

TOPOLOGY	DA	VERSION RELEASE	DATABASE DESIGNATORS
integrated	none	iTPC04___	neither enabled or CGI-ORDB
	CCI (NAS)	iTPC04___	CCI-DA or CCI-DA/CGI-ORDB
	BTDAS	iTPC04___	BTDAS or BTDAS/CGI-ORDB
	IBM	mTPC04___	IBM-DA or IBM-DA/CGI-ORDB
standalone	none	sTPC04___	neither enabled or CGI-ORDB
	CCI (NAS)	sTPC04___	CCI-DA or CCI-DA/CGI-ORDB
	BTDAS	sTPC04___	BTDAS or BTDAS/CGI-ORDB

Notes:

1: Designator “CGI-ORDB” indicates the ORDB is a CGI database. Previously, a CGI ORDB was indicated with just an “ORDB” designator.

2: Designator “CCI-DA” indicates DA via the CCI (Network Applications Systems [NAS]) database. (Previously, “DA” indicated DA via the CCI [NAS] database).

3: Designator “Dual-HSDA” indicates that the integrated TPC will communicate directly to the CCI (NAS) directory assistance database through a second HSDA card (as opposed to a single HSDA card configuration in which the TPC communicates indirectly to the DA database through the TMS).

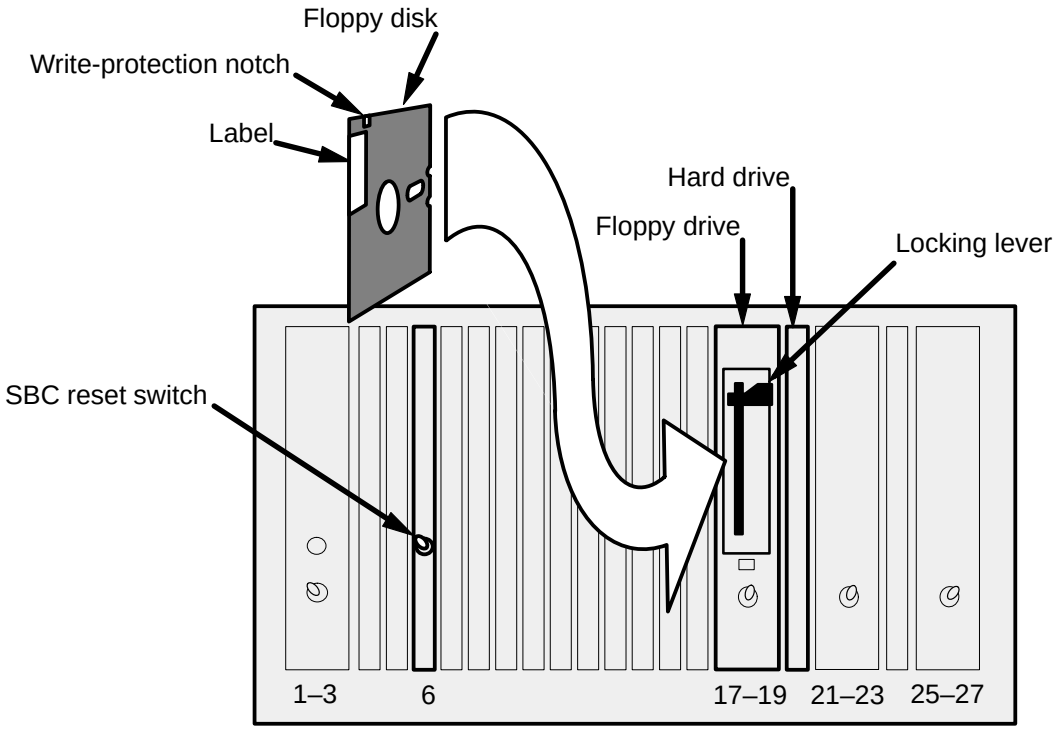
Procedure for configuring the TPC software load

WARNING
Possible damage to floppy disks
Take precautions when removing floppy disks from their jackets. Store floppy disks in a temperate, clean environment, and keep them away from liquids.

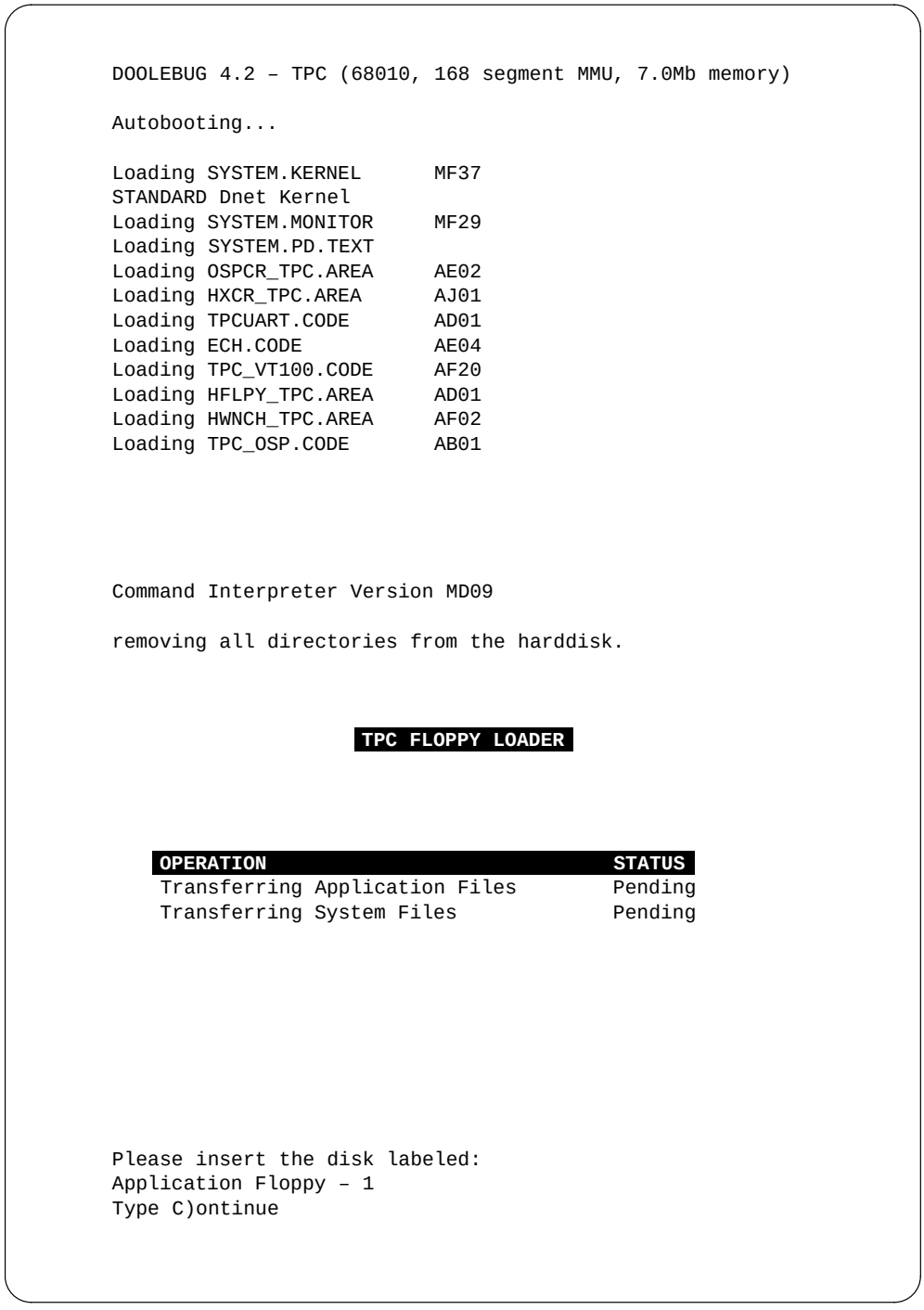
CAUTION
Service interruption
When updating TPC software, ensure all MP positions are busy or offline.

1 Insert the "LOAD" floppy disk into the floppy drive of the TPC to be updated, and push the lever to lock the floppy disk in place. Refer to the figure below.

Note: Make sure the write-protection notch of the floppy disk is at the top and the label faces towards the locking lever of the floppy drive.

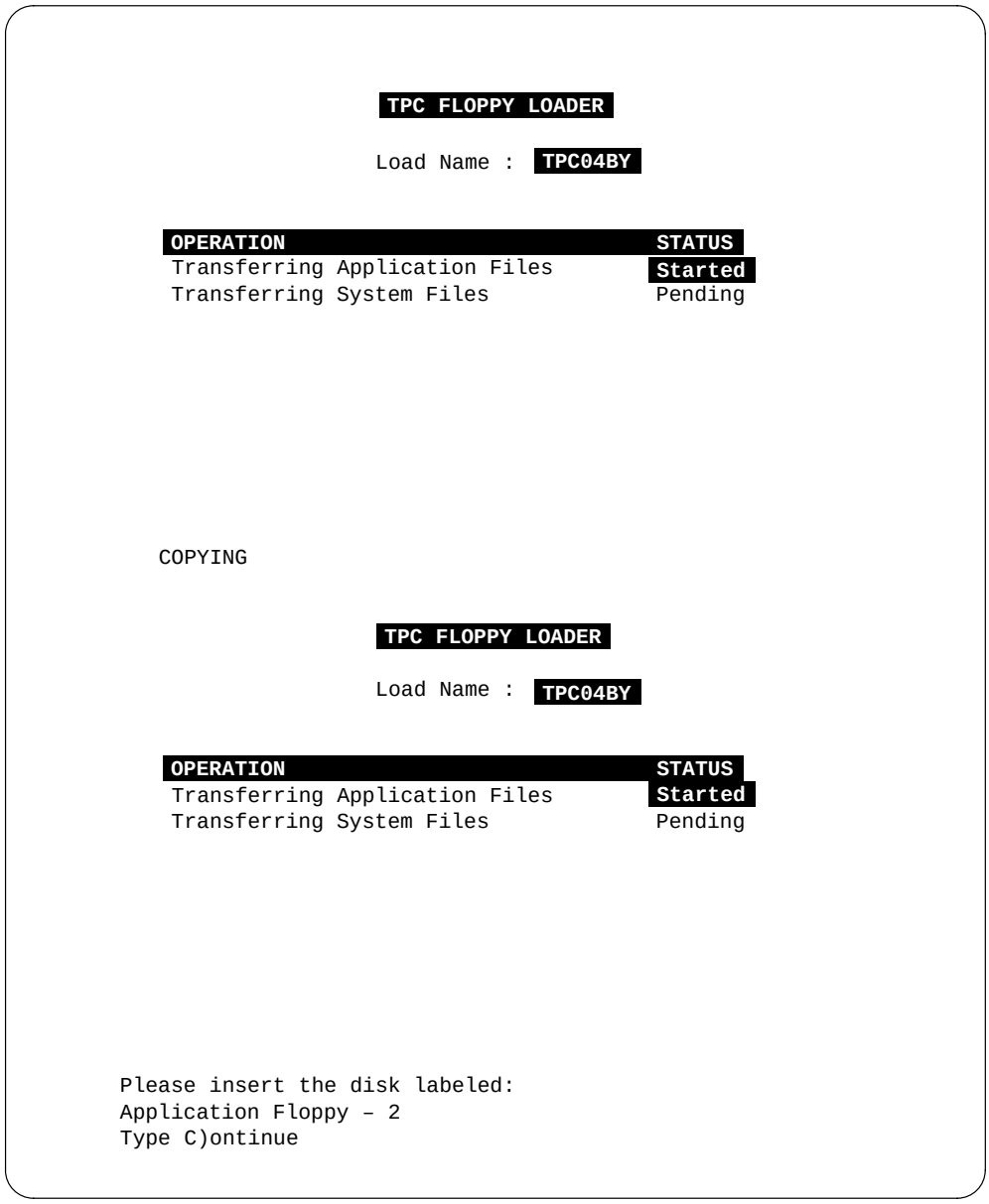


2 Reset the SBC card by lowering, then lifting, the "RESET" switch. Refer to the figure in step 1.



3 Follow the prompts on the TAMI by removing the “LOAD” floppy disk and inserting the “Application Floppy - 1” disk. Continue loading the TPC by typing:

>C



4 Follow the prompts on the TAMI by removing the “Application Floppy - 1” disk and inserting the “Application Floppy - 2” disk. Continue loading the TPC by typing:

>C

```
                    TPC FLOPPY LOADER

                    Load Name :  TPC04BY

  OPERATION                                  STATUS
   Transferring Application Files            Started
   Transferring System Files                 Pending




 COPYING

                    TPC FLOPPY LOADER

                    Load Name :  TPC04BY

  OPERATION                                  STATUS
   Transferring Application Files            Started
   Transferring System Files                 Pending




 Please insert the disk labeled:
 Application Floppy – 3
 Type C)ontinue
```

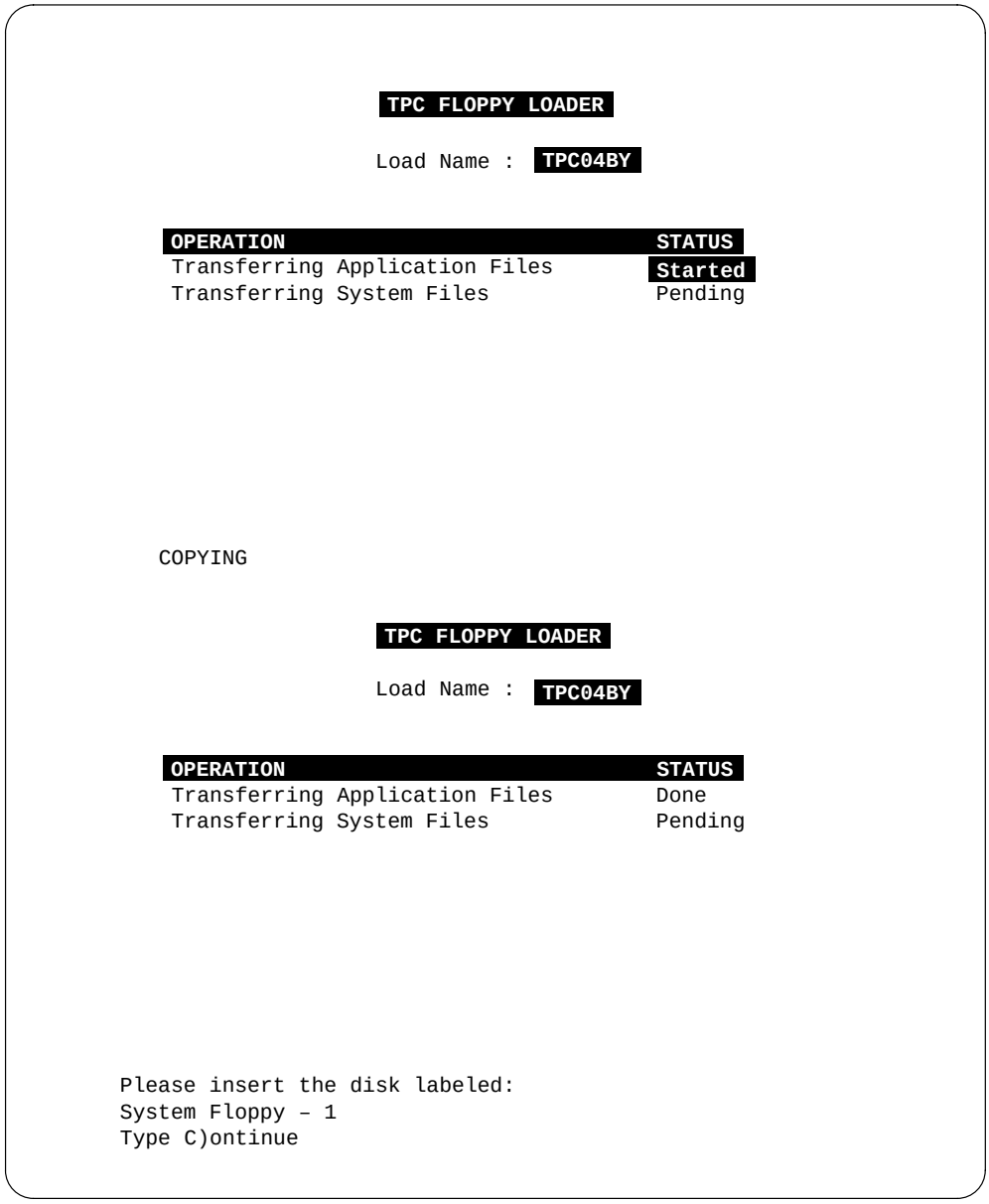
5 Follow the prompts on the TAMI by removing the “Application Floppy - 2” disk and inserting the “Application Floppy - 3” disk. Continue loading the TPC by typing:

>C

```
                    TPC FLOPPY LOADER

                    Load Name :  TPC04BY

 OPERATION                                STATUS
 Transferring Application Files           Started
 Transferring System Files                Pending




COPYING

                    TPC FLOPPY LOADER

                    Load Name :  TPC04BY

 OPERATION                                STATUS
 Transferring Application Files           Started
 Transferring System Files                Pending




Please insert the disk labeled:
Application Floppy – 4
Type C)ontinue
```

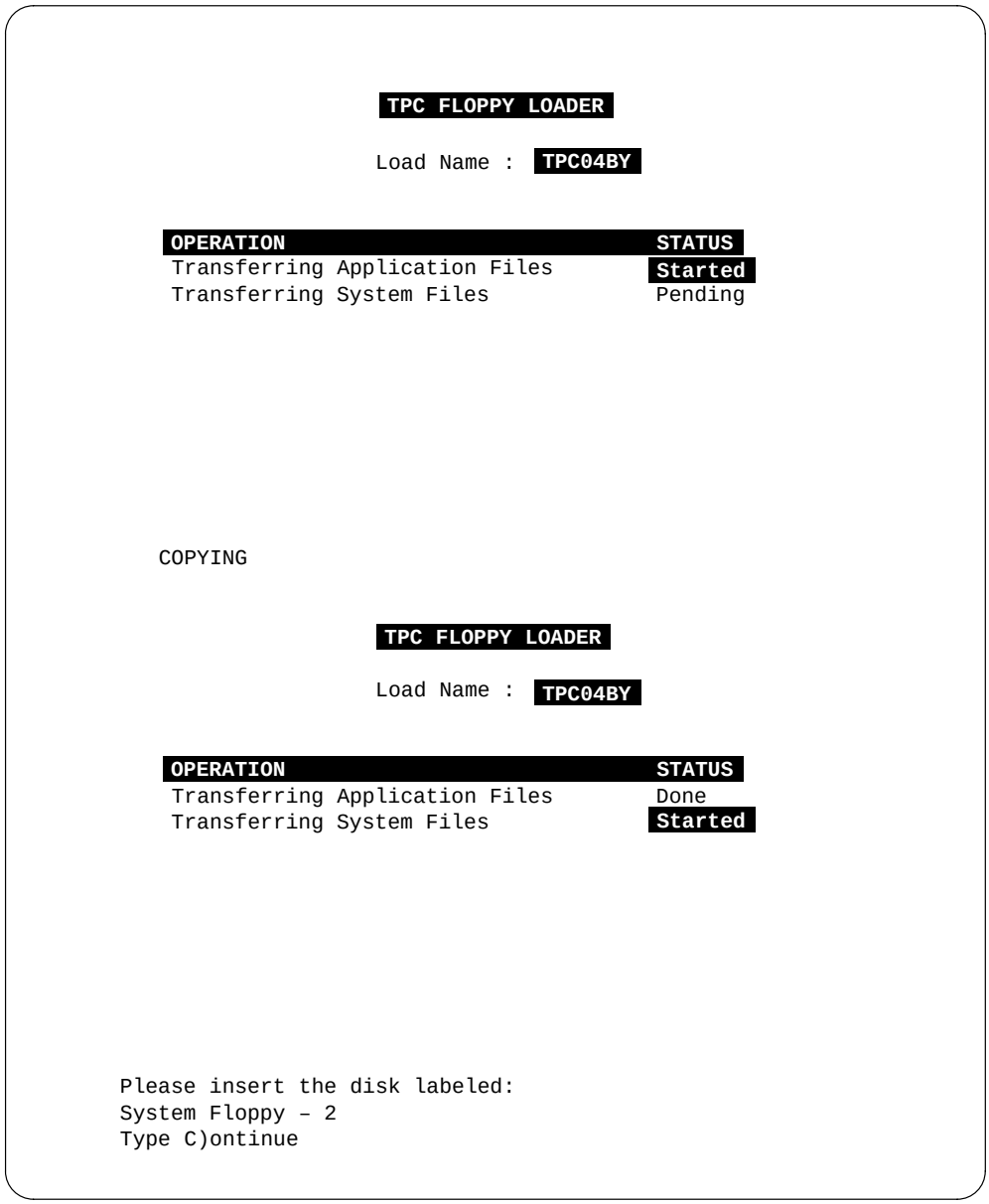
6 Follow the prompts on the TAMI by removing the “Application Floppy - 3” disk and inserting the “Application Floppy - 4” disk. Continue loading the TPC by typing:

>C



7 Follow the prompts on the TAMI by removing the “Application Floppy - 4” disk and inserting the “System Floppy - 1” disk. Continue loading the TPC by typing:

>C



8 Follow the prompts on the TAMI by removing the “System Floppy - 1” disk and inserting the “System Floppy - 2” disk. Continue loading the TPC by typing:

>C

```
                    TPC FLOPPY LOADER

                    Load Name :  TPC04BY

 OPERATION                                STATUS
 Transferring Application Files           Started
 Transferring System Files                Pending




  COPYING

                    TPC FLOPPY LOADER

                    Load Name :  TPC04BY

 OPERATION                                STATUS
 Transferring Application Files           Done
 Transferring System Files                Done




 Floppy loading complete.  Remove floppy.

 Type C)ontinue
```

9

WARNING

The TPC should not be reset immediately after this step as previously done in BCS32 and older TPC loads.

Remove the floppy disk and access the TPC Load Configuration screen by typing:

>C

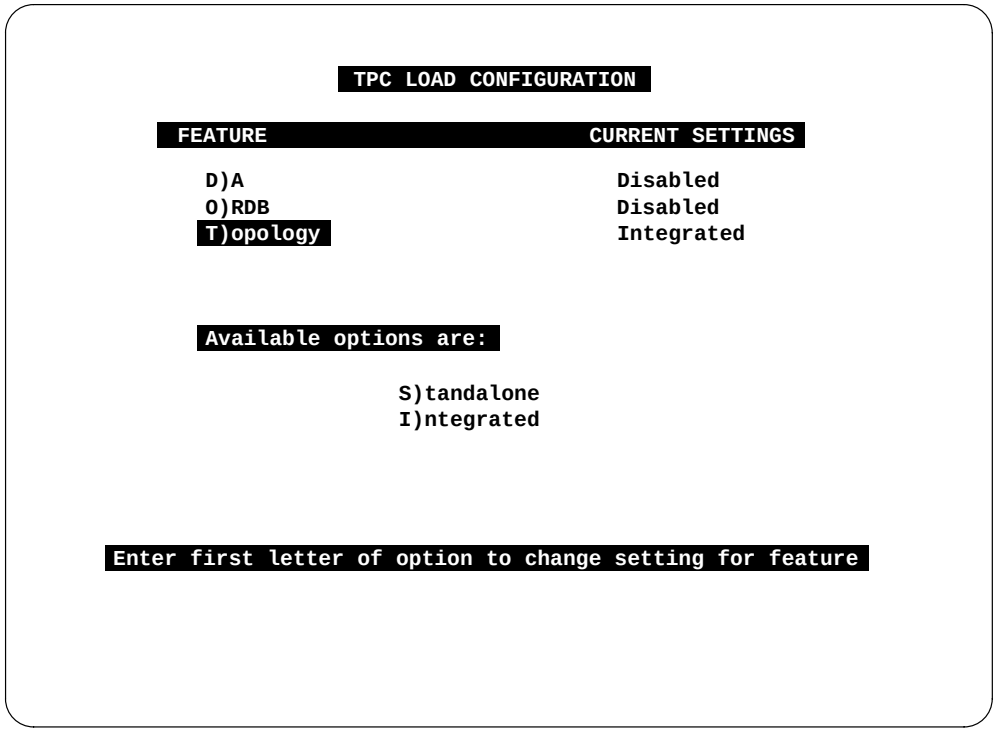
```
                    TPC LOAD CONFIGURATION

 FEATURE                                CURRENT SETTINGS

    D)A                                 Disabled
    O)RDB                               Disabled
    T)opology                           Integrated




Enter first letter of feature to change feature setting
S)ave current settings and quit     Q)uit without saving
```

10 Default settings for the TPC load configuration are shown in step 9. These settings must be changed if an integrated TPC topology is used, or if DA or ORDB functionality is to be enabled. Is the default standalone topology correct or not correct?

If topology feature current setting is	Do
not correct	step 11
correct	step 15

11 Access the topology feature by typing:

>T



12 Determine if the TPC is standalone or integrated.

If TPC load is	Do
standalone	step 13
integrated	step 14

13 Select the TPC load as being standalone by typing:

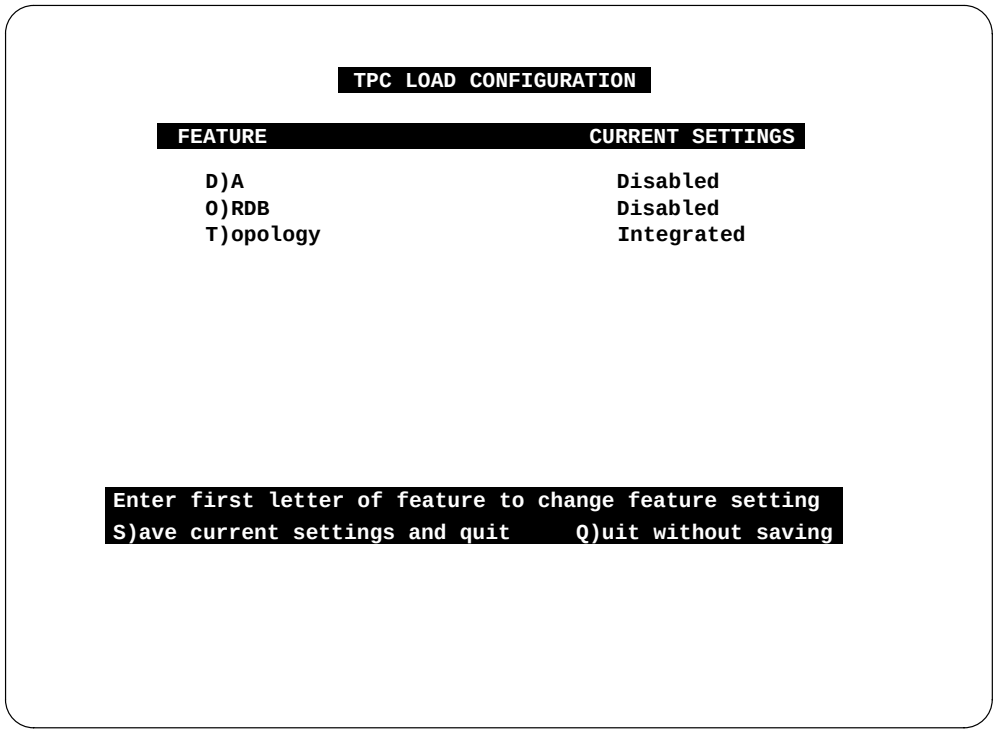
>S

```
                    TPC LOAD CONFIGURATION

 FEATURE                              CURRENT SETTINGS

    D)A                                  Disabled
    O)RDB                                Disabled
    T)opology                            Standalone




Enter first letter of feature to change feature setting
S)ave current settings and quit     Q)uit without saving
```

Go to step 15.

14 Select the TPC load as being integrated by typing:

>I



15 Determine if Operator Reference Database (ORDB) should be enabled.

If ORDB should	Do
be enabled	step 16
should not be enabled	step 18

16 Access ORDB by typing:

>O

```
                    TPC LOAD CONFIGURATION

 FEATURE                                CURRENT SETTINGS

   D)A                                    Disabled
   O)RDB                                  Disabled
   T)opology                              Integrated


   Available options are:

                  D)isabled
                  C)CI


Enter first letter of option to change setting for feature
```

17 Select the vendor (Computer Generations, Incorporated) supporting ORDB by typing:

>C

```
                    TPC LOAD CONFIGURATION

 FEATURE                              CURRENT SETTINGS

    D)A                                  Disabled
    O)RDB                                CGI
    T)opology                            Integrated




Enter first letter of feature to change feature setting
S)ave current settings and quit     Q)uit without saving
```

18 Determine if Directory Assistance (DA) should be enabled.

If DA should	Do
be enabled	step 19
not be enabled	step 24

19 Access DA by typing:

>D

```
                    TPC LOAD CONFIGURATION

 FEATURE                              CURRENT SETTINGS

  D)A                                 Disabled
  O)RDB                               Disabled
  T)opology                           Integrated


  Available options are:

                    D)isabled
                    C)CI
                    B)TDAS
                    I)BM

Enter first letter of option to change setting for feature
```

20 Select the vendor supporting DA.

If vendor is	Do
CCI	step 21
BTDAS	step 22
IBM	step 23

21 Select Computer Consoles, Incorporated (CCI) by typing:

>C

```
                    TPC LOAD CONFIGURATION

  FEATURE                              CURRENT SETTINGS

     D)A                                  CCI
     O)RDB                                CGI
     T)opology                            Integrated




Enter first letter of feature to change feature setting
S)ave current settings and quit     Q)uit without saving
```

Go to step 24.

22 Select British Telecom Directory Assistance (BTDAS) by typing:

>B

```
                    TPC LOAD CONFIGURATION

 FEATURE                              CURRENT SETTINGS

    D)A                                  BTDAS
    O)RDB                                CGI
    T)opology                            Integrated




Enter first letter of feature to change feature setting
S)ave current settings and quit     Q)uit without saving
```

Go to step 24.

23 Select International Business Machines Corporation (IBM) by typing:

>I

```
                    TPC LOAD CONFIGURATION

  FEATURE                          CURRENT SETTINGS

     D)A                              IBM
     O)RDB                            CGI
     T)opology                        Integrated




Enter first letter of feature to change feature setting
S)ave current settings and quit     Q)uit without saving
```

24 Determine if all features and options should be saved.

If all features and options	Do
should not to be saved	step 25
should be saved	step 26

25 Quit without saving features and options by typing:

>Q

```
                    TPC LOAD CONFIGURATION




           TPC configuration file left unchanged.

      Reset TPC to keep current configuration or...

      Type C)ontinue
```

Go to step 27.

26 Save all features and options by typing:

>S

```
                    TPC LOAD CONFIGURATION


        New settings saved in TPC configuration file.

    Reset TPC to keep current configuration or...

    Type C)ontinue
```

27 Ensure the TPC load configuration is correct.

If the TPC load	Do
needs to be reviewed or changed	step 9
is correct	step 28

28 Reset the SBC card by lowering, then lifting, the “RESET” switch.

```
DOOLEBUG 4.2 – TPC (68010, 168 segment MMU, 7.0Mb memory)


Autobooting...


Loading SYSTEM.KERNEL      MF37
STANDARD Dnet Kernel
Loading SYSTEM. MONITOR    MF29
Loading SYSTEM.PD.TEXT
Loading OSPCR_TPC.AREA     AB06
Loading HXCR_TPC.AREA      AG17
Loading TPCUART.CODE       AB01
Loading ECH.CODE           AE04
Loading TPC_VT100.CODE     AD01
Loading HFLPY_TPC.AREA     AC03
Loading HWNCH_TPC.AREA     AE01
Loading ATMSG.AREA         AB01
Loading TPCDRS.AREA        AF12
Loading TPCDEBUG.AREA      AB01
Loading TPCHSDA.AREA       AF05
Loading OSP.CODE           AE01

Command Interpreter Version MD09



------------------------------------------------------------
------------------------------------------------------------
--------------------     TOPS  MP     ----------------------
------------------------------------------------------------
------------------------------------------------------------



Starting Supervisor initialization.
Supervisor initialization complete.

Starting log system initialization.
Log system initialization complete.

Starting TPC Diagnostics initialization.
TPC Diagnostics initialization complete.

Starting Admin initialization.
Admin initialization complete.
```

29 When loading is complete, the TAMI main menu is displayed. If the loaded configuration needs to be modified again, due to either a site upgrade or a user error, the TPC must be completely reloaded to get to the configuration steps again. The user must configure a TPC load before resetting the TPC after the TPC floppy loader process.

Main menu selections

An operating company can elect to set a security password to restrict TPC access, otherwise, access to a TPC is controlled by enabling or disabling a dialed connection. If a password is not required, the TAMI main menu appears on the screen. If a password is required, the prompt “Enter password.” appears at the bottom of an otherwise blank terminal screen.

Press the ENTER key prior to logging into TAMI to clear any extraneous characters from the input buffer, especially when the TAMI is connected to the TPC through a modem. Enter a Ctrl–Q if logging in is still not possible.

TAMI login/logout

To log in, type the password followed by the ENTER key. The length of a password is limited to 30 characters, and the typed password does not appear on the screen. If the password is correct, login is complete, and the TAMI main menu appears. If an incorrect password is entered, the prompt “Enter password” is re-displayed.

Use of the PF4 key is required to properly log off from the TPC. The user should first return to the TAMI main menu and then press PF4. If a password has been set and PF4 is pressed, the user is prompted to press the ENTER key to confirm that the user really wants to log out. Logging out can be aborted by pressing the PF3 key. If no password has been set and PF4 is pressed, the terminal bell sounds and logout is not performed.

The TPC does not control the modem that is connected to it. Therefore, the TPC cannot terminate a dialed connection. If a user powers off the modem or hangs up a dialed connection without first pressing the PF4 key to log out, the TPC detects the broken line connection and automatically initiates a log-off operation. The TPC actively pings the terminal it is connected to. If the TPC pings four times without receiving an answer, the TPC injects a series of PF3 keys followed by a PF4 and a carriage return. If a password has been defined, logoff is complete. Otherwise, the TAMI is left at the main menu. This log off process is completed in less than a minute. If a user dials the TPC during an auto-logoff period, the user may see the main menu being repainted several times, and the user is prevented from typing anything until logoff is completed. The user may then have to enter a

password depending on whether or not one exists. Either way, the TAMI main menu is displayed.

Menu format

The TAMI screen uses 24 lines, ranging from 0 to 23, and 80 columns, ranging from 0 to 79. In general, the title of a display appears in inverse video and is centered on line 0.

Menu selections are displayed in one or two columns, and column headers are capitalized. When two columns are used, the first half of the selections appear on the left side of the screen and the second half of the selections appear on the right side of the screen. In both cases, a blank line separates each selection.

Main menus for the integrated and the standalone TPC topologies differ in the format of the screen banner and the number of menu selections. Immediately under the banner "TPC administration and maintenance," a line identifies the TPC topology (iTPC, mTPC, or sTPC), the release version of the software (03BY for example), and the DA/ORDB databases.

At menu selection, all keyboard transactions are ignored until the TAMI prompts for input. When prompted for input, all user input must be followed by a carriage return <CR>. User input can be erased and changed before pressing the carriage return key. To erase a character to the left of the cursor, press the F12 (BS) key located above the + key on the VT220 keyboard. To erase a character at the cursor position, press the delete key.

The PF4 key activates the security feature when menus are displayed. If a password is defined, a logout is initiated. Affected menus include the main menu, TPC datafill, floppy utilities, and menus for defining position, CCI, HSDA, and TPC settings.

Main menu for integrated TPC

The main menu is displayed after the TPC is reset. This display has seven main menu selections for administration and maintenance of the TPC.

Note: When an IBM database is used for DA, the "iTPC" designator for the integrated topology appears as "mTPC."

```
                TPC ADMINISTRATION AND MAINTENANCE
                Version iTPC04BX CCI-DA/CGI-ORDB

1. TPC LOGS                          5. RESET TPC

2. TPC DATAFILL                      6. SONALERT

3. HSDA STATUS/CONTROL               7. TPC PATCHER

4. DATE AND TIME


     MAKE CHOICE:_
```

Choice 2, TPC datafill, contains several sub-menu levels which vary in degree of complexity as shown in the following figure which details the menu structure for the iTPC topology. This figure can be used to trace out sub-menus selections. For example, to obtain a display of the sub-menu used to define the TPC password, select choice 5 of the TPC datafill menu, and then select choice 2 of that sub-menu to define TPC settings.

iTPC Menu Structure

TAMI MAIN MENU (CHAPTER 2)

1. TPC LOGS
2. TPC DATAFILL

SUB-MENUS FOR TPC DATAFILL (CHAPTER 3)

1. DEFINE POSITION SETTINGS
    1. DEFINE HARDKEYS
    2. DEFINE OGT SETTINGS
        1. DEFINE OGT KEYS
        2. DEFINE ASSISTANCE OGT KEY
    3. DEFINE QMS SERVICES
    4. DEFINE KEYBOARD
2. DEFINE POSITION TYPES
3. DEFINE HSDA SETTINGS
    1. DEFINE PROTOCOL PARAMETERS
    2. DEFINE SERVICE TIMERS
    3. DEFINE CCI SETTINGS
        1. DEFINE ARU LANGUAGES
        2. DEFINE RESPONSE OFFSET
4. FLOPPY UTILITIES
    1. COPY DATAFILL
    2. FORMAT FLOPPY
    3. DUPLICATE FLOPPY
5. DEFINE TPC SETTINGS
    1. DEFINE TPC IDENTIFIER
    2. DEFINE TPC PASSWORD

3. HSDA STATUS/CONTROL
4. DATE AND TIME
5. RESET TPC
6. SONALERT
7. TPC PATCHER

Main menu for standalone TPC

The main menu is displayed after the TPC is reset. This display has nine main menu selections for administration and maintenance of the TPC.

```
                TPC ADMINISTRATION AND MAINTENANCE
                Version sTPC04BX CCI-DA/CGI-ORDB

1. TPC LOGS                              6. DATE AND TIME

2. TPC DATAFILL                          7. RESET TPC

3. POSITION STATUS/CONTROL               8. SONALERT

4. HSDA STATUS/CONTROL                   9. TPC PATCHER

5. DIAGNOSTICS



     MAKE CHOICE:_
```

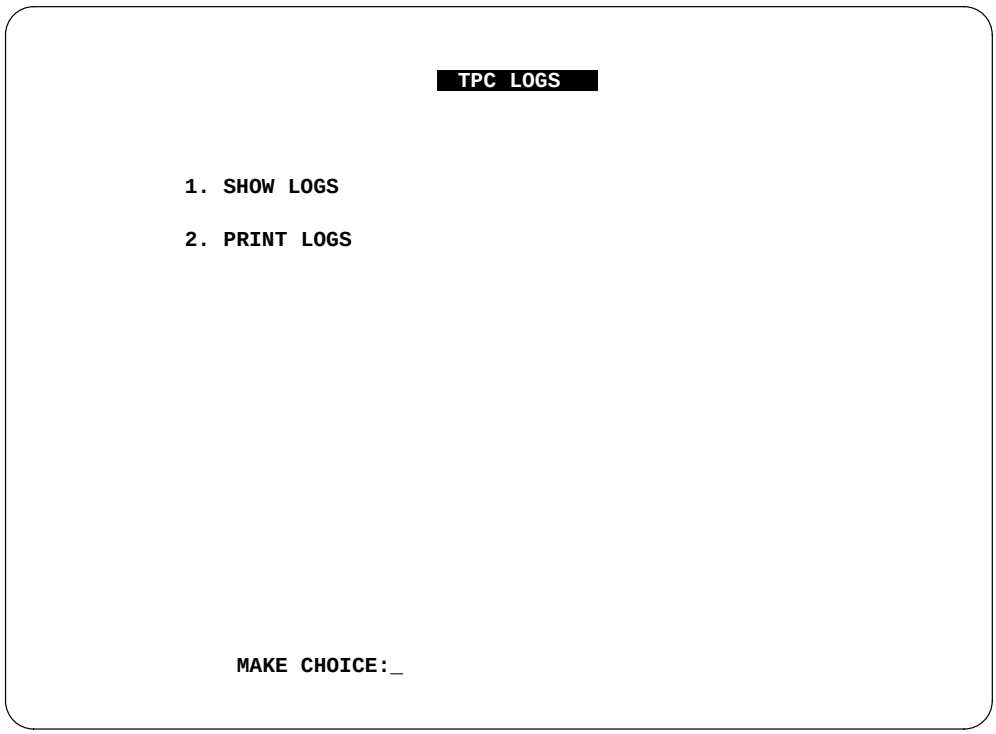
Choice 2, TPC datafill, contains several sub-menu levels which vary in degree of complexity as shown in the following figure which details the menu structure for the sTPC topology. This figure can be used to trace out sub-menus selections. For example, to obtain a display of the sub-menu used to define the TPC password, select choice 5 of the TPC datafill menu, and then select choice 2 of that sub-menu to define TPC settings.

sTPC Menu Structure

```
MAIN MENU
1. TPC LOGS
2. TPC DATAFILL

        SUB-MENUS
         1. DEFINE POSITION SETTINGS
                    1. DEFINE HARDKEYS
                    2. DEFINE OGT SETTINGS
                               1. DEFINE OGT KEYS
                               2. DEFINE ASSISTANCE OGT KEY
                    3. DEFINE QMS SERVICES
                    4. DEFINE KEYBOARD
         2. DEFINE POSITION TYPES
         3. DEFINE HSDA SETTINGS
                    1. DEFINE PROTOCOL PARAMETERS
                    2. DEFINE SERVICE TIMERS
                    3. DEFINE CCI SETTINGS
                               1. DEFINE ARU LANGUAGES
                               2. DEFINE RESPONSE OFFSET
         4. FLOPPY UTILITIES
                    1. COPY DATAFILL
                    2. FORMAT FLOPPY
                    3. DUPLICATE FLOPPY
         5. DEFINE TPC SETTINGS
                    1. DEFINE TPC IDENTIFIER
                    2. DEFINE TPC PASSWORD

3. POSITION STATUS/CONTROL
4. HSDA STATUS/CONTROL
5. DIAGNOSTICS
6. DATE AND TIME
7. RESET TPC
8. SONALERT
9. TPC PATCHER
```

TPC logs

This menu is the 1st choice on the TAMI main menu.



Show logs

The log buffer contains up to fifty logs. After the buffer is full, each new log replaces the oldest log in order to maintain the fifty most recently created logs. The show logs selection displays the first screen of the most recently produced TPC logs. Press PF1 to display the next successive screen of older logs (in order of decreasing time). Repeatedly pressing PF1 will display all the logs until the end of the buffer is reached. Press PF2 to display the previous screen of logs. Continuously pressing PF2 will display all the logs until the beginning of the buffer is reached. At any time, PF3 can be pressed to return the user to the TPC logs menu.

Print logs

This selection prints the entire buffer of logs to a compatible printer connected to the TAMI. The TAMI terminal cannot accept input until printing is completed or aborted. Printing can be aborted by turning off the printer. PF3 has no affect while printing.

Messages

The following messages may appear.

- Terminal “beeps” (no message displayed) – invalid input; only a number

displayed as a menu selection is valid.

- No logs available. No logs have been generated since the TPC was last loaded.
- No more logs. Either PF1 was pressed but there were no more older logs, or PF2 was pressed but there were no more newer logs.
- No printer. The printer may not be connected to the TAMI. Also, check the printer status, the power supply to the printer, and the availability of paper.
- Printer not ready. The printer may not have power. Also, check the printer status, the cable connection, and the availability of paper.
- Printing complete. Printing of all existing TPC logs has completed.
- Trouble with printer communication. The printer is either not compatible with the TAMI or the baud rate is incorrect.
- Error opening virtual terminal. If this message appears, disable the TPC from call processing and reboot. If the problem persists, contact TAS.

TPC datafill

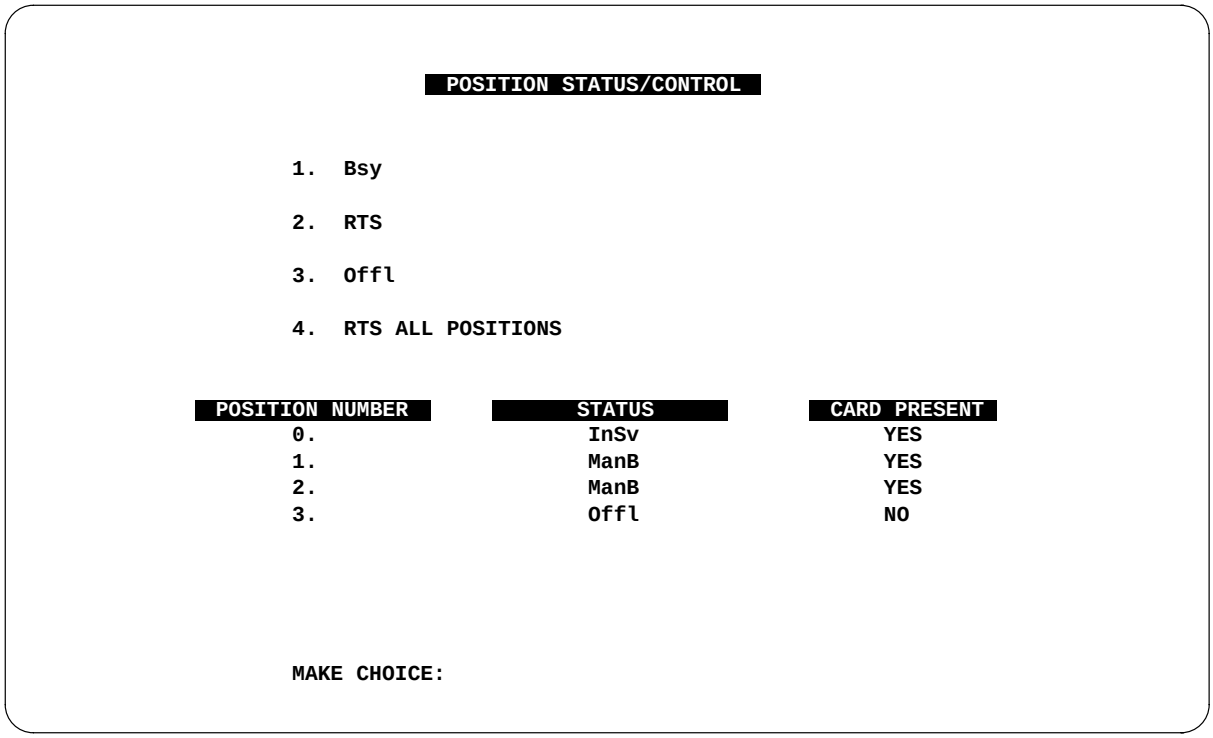
The TPC datafill menu contains several sub-menu levels which vary in degree of complexity. See Chapter 3 for a complete description of the TPC datafill menu selections.

Position status/control (standalone)

This menu is used to set the status of the TOPS MP terminals. Select choice 3 on the TAMI main menu to use this menu.

Any position without a card present is automatically offlined and remains in the OffL state.

Any time input is inhibited and a message displays stating “Please Wait...,” the PF3 key can be used to exit the screen without affecting the RTS operation.



```
                    POSITION STATUS/CONTROL

          1.  Bsy

          2.  RTS

          3.  Offl

          4.  RTS ALL POSITIONS

 POSITION NUMBER          STATUS          CARD PRESENT
        0.                 InSv               YES
        1.                 ManB               YES
        2.                 ManB               YES
        3.                 Offl               NO



          MAKE CHOICE:
```

Menu selections

Menu selections are as follows:

1 Used to manually busy (ManB) any position from any current state, with the exception of a position with no card present.

2 Initiates the return to service (RTS) of a position that is currently ManB.

3 Allows the user to offline (OffL) any position that is currently ManB.

4 Allows the user to RTS all positions that are currently ManB.

Messages

The following messages may appear:

- Terminal beeps (no message displayed). Invalid input; the only valid inputs are any of the numbers displayed as menu selections.
- Bsy:
  - — Enter position number:
    - – Enter the number of the position to ManB.
  - — Already done.
    - – Cannot ManB a position that is already ManB.
  - — Is position ManB or INB at the MAP? Warning: position will be made SysB at the MAP if not already ManB or INB enter Y or N. When manually busying a position, the status must first be changed at the MAP.
  - — Card must be present to ManB position
    - – A position without a card cannot be ManB.
- RTS:
  - — Enter position number:
    - – Enter the number of the position to RTS.
  - — Please wait – Initializing MP
    - – Position is being RTSd.
  - — Already done.
    - – Cannot RTS a position that is already InSv.
  - — Position must be ManB to RTS
    - – Can RTS a position only from the ManB state.
- OffL:
  - — Enter position number:
    - – Enter the number of the position to OffL.
  - — Position must be ManB to OffL
    - – A position can be offlined only if the status is ManB.
  - — Is position INB at the MAP (TTP LEVEL)? Enter Y or N:
    - – Change the status at the MAP first. A reply of “n” leaves the position ManB. A reply of “y” changes the position to OffL.

— Already done.

– Cannot offline a position that is already OffL.

- RTS all positions:

— No position found to be ManB

– No positions are ready to be RTSd.

— Please wait – initializing MP

– Position(s) being RTSd.

HSDA status/control

This menu is used to control the status of HSDA cards and associated links.

Use the following steps to set HSDA cards and links into an in-service status.

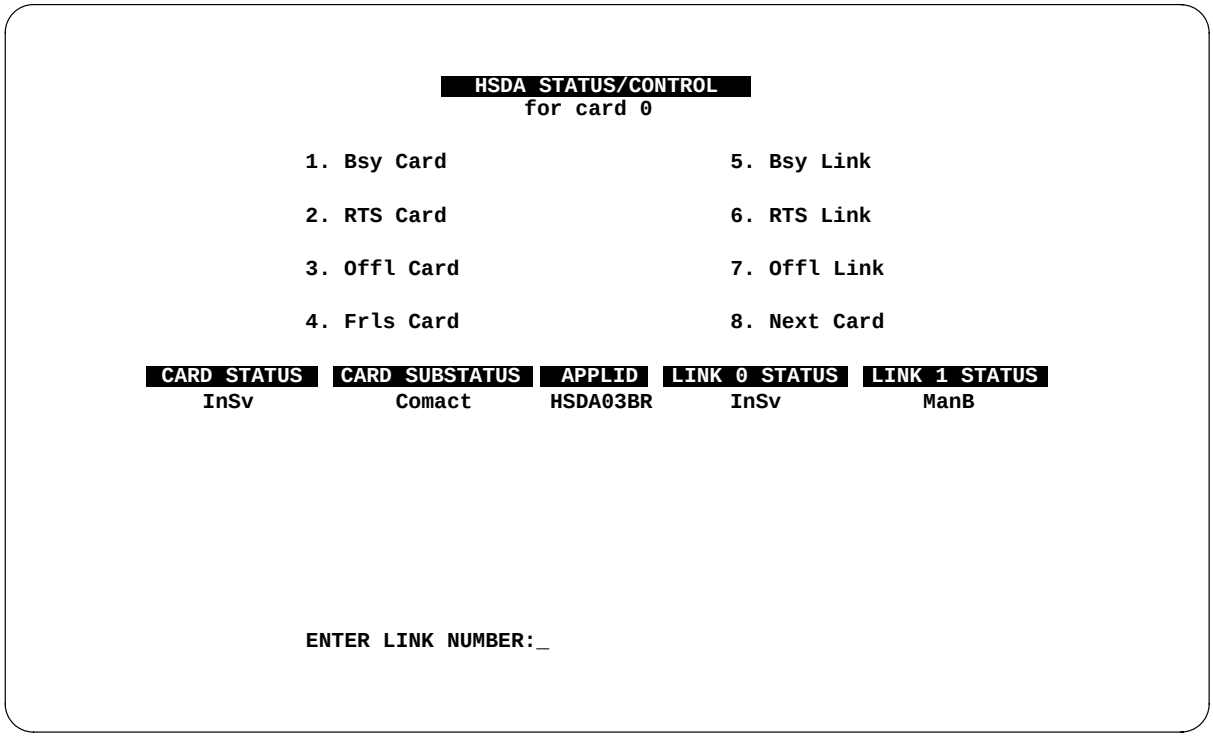
1 From the TAMI main menu, enter selection 3 (integrated TPC menu) or selection 4 (standalone TPC menu) to display the HSDA status/control menu. The card number (card 0 or card 1) is shown under the title of the menu. In the following display example, the menu display is for card 0. If the actual user display is for card 1, enter choice 8 (next card) to change the card number from 1 to 0. For this example, it is also assumed that the current card status is ManB and that the statuses of links 0 and 1 are ManB.

```
                    HSDA STATUS/CONTROL
                        for card 0

          1. Bsy Card                    5. Bsy Link

          2. RTS Card                    6. RTS Link

          3. Offl Card                   7. Offl Link

          4. Frls Card                   8. Next Card

CARD STATUS  CARD SUBSTATUS  APPLID  LINK 0 STATUS  LINK 1 STATUS
   ManB          Comact     HSDA03BR      ManB          ManB


          MAKE CHOICE:_
```

2 Enter selection 2 (RTS card), and wait for the display to indicate an InSv state under the card status heading.

```
                    HSDA STATUS/CONTROL
                         for card 0

          1. Bsy Card                    5. Bsy Link

          2. RTS Card                    6. RTS Link

          3. Offl Card                   7. Offl Link

          4. Frls Card                   8. Next Card

 CARD STATUS  CARD SUBSTATUS  APPLID  LINK 0 STATUS  LINK 1 STATUS
     InSv         Comact     HSDA03BR      ManB          ManB



          MAKE CHOICE:_
```

3 Enter choice 6 (RTS link). A prompt to enter the desired link number appears at the the bottom of the display. Enter a 0 for link number 0, and then wait for an InSv indication to appear under the link 0 status heading.



4 Enter choice 6 again, and then enter a 1 to RTS link number 1. Wait for an InSv indication to appear under the link 1 status heading. Now HSDA card 0 and its links (0 and 1) now all have a RTS (InSv) status.

```
                    HSDA STATUS/CONTROL
                         for card 0

              1. Bsy Card                    5. Bsy Link

              2. RTS Card                    6. RTS Link

              3. Offl Card                   7. Offl Link

              4. Frls Card                   8. Next Card

 CARD STATUS  CARD SUBSTATUS  APPLID  LINK 0 STATUS  LINK 1 STATUS
     InSv         Comact     HSDA03BR     InSv           InSv




              ENTER LINK NUMBER:1
```

5 To set HSDA card 1 and its links to the InSv status, Enter choice 8 and then repeat steps 2 thru 4.

```
                    HSDA STATUS/CONTROL
                          for card 1

          1. Bsy Card                    5. Bsy Link

          2. RTS Card                    6. RTS Link

          3. Offl Card                   7. Offl Link

          4. Frls Card                   8. Next Card

 CARD STATUS  CARD SUBSTATUS  APPLID  LINK 0 STATUS  LINK 1 STATUS
     InSv         Comact     HSDA03BR      InSv          InSv



          MAKE CHOICE:_
```

6 You have completed this procedure.

Diagnostics (standalone)

The following shows the prompt screen displayed when selection 5, diagnostics, is made from the TAMI main menu.

```
Enter TPC Diagnostics command:
```

Commands available in diagnostics

The available diagnostics commands are listed below. The brackets (<>) enclose a description of a value. The braces ([]) enclose optional parameters. This is a comprehensive list of all commands available in both TAMI and floppy diagnostics.

HELP [<command_name>]

The HELP command displays user help information. If a command name is specified, information specific to that command displays. Otherwise, general information displays.

QUIT

The QUIT command exits diagnostics.

```
HDISK [STATUS
       PARK
       FORMAT
       INITIALIZE
       DIAG [CONTROLLER
             BRIEF        [WRITEOK]
             EXTENSIVE    [WRITEOK]  [START <blkno>] [STOP <blkno>]]]
```

The HDISK command performs functions on the hard-disk of the TPC.

The STATUS subcommand displays information concerning the hard-disk including disk parameter information and whether or not the hard-disk is formatted and initialized.

The PARK subcommand parks the heads of the hard-disk for transport.

The FORMAT subcommand physically formats the hard-disk. After the format is performed, no data is present and the disk can only be used for diagnostics.

The INITIALIZE subcommand logically formats the hard-disk for normal TPC use. After the hard-disk is initialized, the TPC can be loaded with the BCS load.

The DIAG subcommand performs a diagnostic of the hard-disk. The CONTROLLER diagnostic verifies communication with the controller of the hard-disk and performs internal diagnostics of the controller. The BRIEF and EXTENSIVE diagnostics perform the CONTROLLER diagnostic plus drive tests. These drive tests are the "seek test" and the "block read test." If the WRITEOK option is specified, the "block write-read-verify test" is also performed. This test attempts to maintain the original contents of the disk, but an error can prevent this in which case the user is notified. The BRIEF diagnostic performs the drive tests on portions of the hard-disk at various places on the disk and takes approximately 6 seconds (20 seconds if the WRITEOK option was specified). The EXTENSIVE diagnostic performs the block tests on the entire hard-disk and takes approximately 50 milliseconds (ms) for each block tested or 30 minutes for the entire disk (approximately 140 ms for each block tested or 1 hour 30 minutes for the entire disk if the WRITEOK option was specified). The START and STOP options can be used to specify the starting and stopping block number (<blkno>). If the START and STOP options are not specified, the default is to start at the beginning and ending of the disk, respectively. The block numbers range from zero to the number of blocks on the disk (displayed by the STATUS subcommand) minus one.

```
FDISK [STATUS
       FORMAT
       INITIALIZE
       DIAG [CONTROLLER
             BRIEF      [WRITEOK]
             EXTENSIVE  [WRITEOK] [START <blkno>] [STOP <blkno>]]]
```

Note: Ensure the desired floppy diskette is placed in the floppy drive before entering the FDISK command.

The FDISK command performs functions on the floppy disk of the TPC.

The STATUS subcommand displays information concerning the floppy disk including disk parameter information.

The FORMAT subcommand physically formats the floppy disk. After the format is performed, no data is present and the disk can only be used for diagnostics.

The INITIALIZE subcommand logically formats the floppy disk for normal TPC use.

The DIAG subcommand performs a diagnostic of the floppy disk. The CONTROLLER diagnostic verifies communication with the controller of the floppy disk and performs internal diagnostics of the controller. The BRIEF and EXTENSIVE diagnostics perform the CONTROLLER diagnostic plus drive tests. These drive tests are the "seek test" and the "block read test." If the WRITEOK option is specified, the "block write-read-verify test" is also performed. This test attempts to maintain the original contents of the disk, but an error can prevent this in which case the user is notified. The BRIEF diagnostic performs the drive tests on portions of the floppy disk at various places on the disk and takes approximately 10 seconds (36 seconds if the WRITEOK option was specified). The EXTENSIVE diagnostic performs the block tests on the entire floppy disk and takes approximately 80 milliseconds (ms) for each block tested or 5 minutes for the entire disk (approximately 200 ms for each block tested or 11 minutes for the entire disk if the WRITEOK option was specified). The START and STOP options can be used to specify the starting and stopping block number (<blkno>). If the START and STOP options are not specified, the default is to start at the beginning and ending of the disk, respectively. The block numbers range from zero to the number of blocks on the disk (displayed by the STATUS subcommand) minus one.

POSDIAG <pos_no> [**CARD [# <diag_no>]** | **HSLI** | **VOICE [LOOPBACK]** | **PATTERN** | **SCREEN** | **MANKEY [CODES]** | **TCD [# <diag_no>]**]

The POSDIAG command performs diagnostics on an MP position. The position number range is 0 to 3.

The CARD subcommand performs the TOPS/HSLI card diagnostics. Card diagnostic tests 1 – 6 are performed unless the individual option (#) is specified. If the individual option (#) is specified, only that test is performed. A message for each diagnostic displays indicating which diagnostic is being performed. The card diagnostics are as follows:

1 Training port register test

2 CC port register test

3 Training port internal loopback test

4 CC port internal loopback test

5 HSLI port register test

6 HSLI port RAM test

7 Training port external loopback test

8 CC port short internal loopback test (through USART)

9 CC port external loopback test

The HSLI subcommand performs a loopback diagnostic that tests the communication with the MP terminal. This diagnostic requires the MP to be connected in order to pass.

The VOICE subcommand is used to enable and disable the voice circuitry of the MP. The MP is downloaded with its application software and the voice circuitry is enabled. A prompt to exit displays. If the user enters EXIT, the DIAG command is exited. When the voice circuitry is enabled, the voice line to the TPC is connected to the headset output of the MP. The LOOPBACK option sets loopbacks in the voice path of the TOPS/HSLI card such that the input from the DMS is looped-back as output to the DMS and the input from the MP is looped-back to the MP. The LOOPBACK option is used to test the TPC and MP voice circuitry.

The PATTERN subcommand performs the MP pattern diagnostic. The MP is downloaded with its application software. A prompt to continue to the next pattern (NEXT) or exit the diagnostic (EXIT) displays on the TAMI before each pattern displays on the MP. The patterns are grid, character set, grey scale, and spiraling maze.

The SCREEN subcommand performs the MP screen diagnostic. The MP is downloaded with its application software and lines of h's are continuously displayed on the MP screen. The user is prompted at the TAMI to exit the diagnostic (EXIT).

The MANKEY subcommand performs the MP manual keyboard diagnostic. The MP is downloaded with its application software and a picture of the MP keyboard displays on the MP screen. When the user presses a key on the MP keyboard, the corresponding key in the picture is highlighted. The user is prompted at the TAMI to exit this diagnostic (EXIT). The CODES option displays the keycodes of each key pressed at the TAMI.

The TCD subcommand performs the terminal component diagnostics (TCD) of an MP. All the TCD diagnostics are performed unless the individual option (#) is specified. If the individual option (#) is specified, only that test is performed. A message for each diagnostic displays indicating which diagnostic is being performed. The TCD diagnostics are as follows:

1 ROM test

2 CPU test

3 Exceptions test

4 RAM test

5 HSLI port test

6 UART test

7 Display controller test

8 Keyboard test

9 Telephony test

Note: The RAM test takes approximately three minutes. The keyboard test will fail if no keyboard is connected.

HSDADIAG <card_no> [**BASIC** | **EXTENSIVE [#<diag_no>] [<dcomm>]**]

where <dcomm> is:

LINK [**0** | **1** | **B**] **PATH** [**I** | **E**] **CLOCK** [**I [<baudrate>]** | **E**]

The HSDADIAG command performs a diagnostic on an HSDA card.

The BASIC subcommand performs the basic HSDA diagnostic which resets the HSDA card. This initializes the HSDA card, including power-up and reset diagnostics. Also, diagnostics are run to test the communication path between the SBC and HSDA card. Before each step of the basic HSDA diagnostic is performed, a message displays indicating which step is being performed.

The EXTENSIVE subcommand performs the extensive HSDA diagnostic. This includes the basic HSDA diagnostic plus some extensive diagnostics. Before each step of the basic and extensive HSDA diagnostic is performed, a message displays indicating which step is being performed. If the individual option (#) is specified, only that diagnostic is performed. The extensive diagnostics are as follows:

1 System RAM test

2 Timers and interrupt test

3 Data communications test

The data communications parameters (<dcomm>) specify the link or links (0, 1, or both), the loop back path (internal or external), and the clock source (internal or external). A baud rate can be specified for the internal clock source. The values for the baud rate are 1200, 2400, 4800, 9600, 19.2K, 38.4K, 56K, and 64K bits for each second (bps). The default data communication parameters are both for the link or links, internal for the loopback path, and internal (64K bps) for the clock source.

Diagnostic error codes

If an error is detected while performing diagnostics on the TAMI, an error message displays on the screen. The following table lists the various diagnostic error codes and their meanings.

General diagnostic error codes

Error code	Meaning
0	no error
101	software error
102	fatal error (diagnostics cannot run)

TOPS/HSLI card diagnostic error codes

Error code	Meaning
201, 202, 205, 213, 214	software error
203	TOPS/HSLI card not present
204	MP position unavailable (not ManB)
206	CBT port register error
207	CC port register error
208	mode register access error
209	baudrate register access error
210	initialize UARTs error
211	HSLI port register error
212	HSLI port RAM error
215	CBT UART loopback time out error
216	CC UART loopback time out error
217	CBT UART loopback unexpected interrupt
218	CC UART loopback unexpected interrupt
219	CBT UART loopback parity error
220	CC UART loopback parity error
221	CBT UART loopback overrun error
222	CC UART loopback overrun error
223	CBT UART loopback framing error
224	CC UART loopback framing error
225	CBT UART loopback extra data received error
226	CC UART loopback extra data received error
227	Lost data during CBT port loopback diagnostic
228	Lost data during CC port loopback diagnostic
229	Data corrupted during CBT port loopback diagnostic
230	Data corrupted during CC port loopback diagnostic
—end—	

MP functional diagnostic error codes

Error code	Meaning
401, 501, 505	software error
301	error registering with the HSLI server
302	error setting the acknowledge type
303	error downloading MP
304	HSLI I/O error
205	load or disk problem
306	communication with MP terminal error
402	time out waiting for TCD results
403	CPU TCD failed
404	ROM TCD failed
405	RAM TCD failed
406	exceptions TCD failed
407	display controller TCD failed
408	MFP (UART, GPIO, and timer) TCD failed
409	HSLI TCD failed
410	telephony circuitry TCD failed
411	keyboard TCD failed
502	time out (waiting for ACK) of a packet sent
503	error sending a packet
504	HSLI loopback (error in response)
506	HSLI loopback (response time out)
507	HSLI loopback (correct response not received)
508	load or disk problem
509 – 513	communication with MP terminal error
514	bad keycode in packet received from MP

—end—

HSDA diagnostic error codes

Error code	Meaning
1	general error – If the specific code is 1 – 4, it is a software error. If the specific code is 5, it is a “card not installed” error.
2 – 7	messaging error
8	time out waiting for a reply
9	driver detected error on a command to the driver
10	driver detected error on a message to the card
11	SBC-HSDA communication error
12	HSDA detected communication error
13	driver detected recoverable error
14	HSDA status register error
15	HSDA power-up/reset diagnostics error
16	SBC access to shared RAM diagnostic error
17	SBC-HSDA message loopback error
18	HSDA system memory diagnostic error
19	HSDA timers and interrupts diagnostic error
20	HSDA data communications diagnostic error
601	software error
602	HSDA card unavailable (not ManB)
603	basic diagnostic error
604	extensive diagnostic error (general)
605	extensive diagnostic error (system RAM)
606	extensive diagnostic error (system RAM)
607	extensive diagnostic error (data communication)
—end—	

MMI diagnostic error codes

Error code	Meaning
701	bad value entered
702	command/subcommand/option required
703	command/subcommand/option mutually exclusive
704	general syntax error
705	unknown command/subcommand/option entered
706	duplicate command/subcommand/option entered
707	bad checksum of input line
708	could not quit diagnostics and return to the main TAMI menu

—end—

Disk diagnostic and maintenance error codes

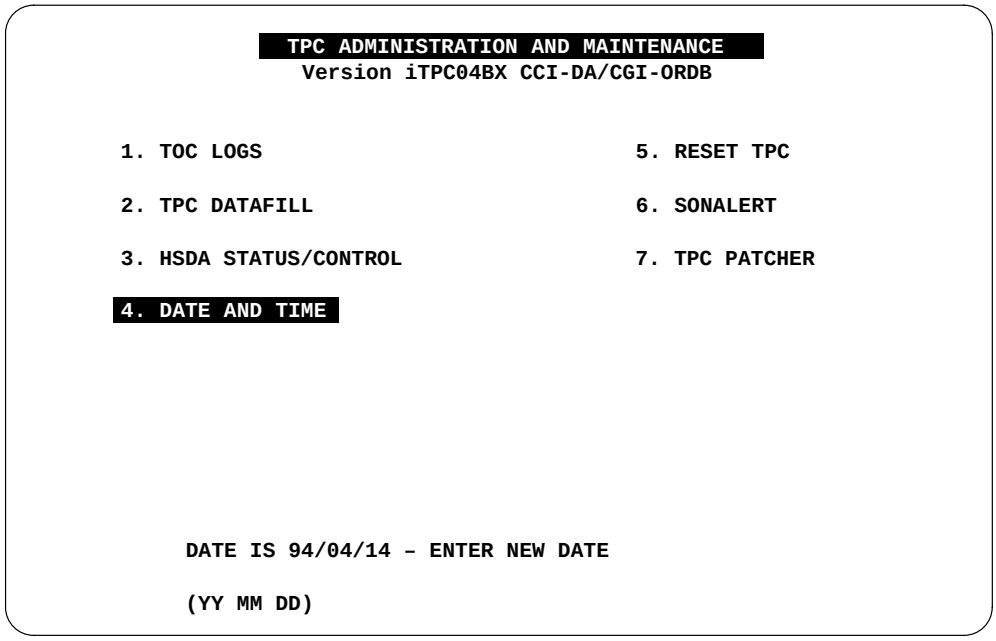
Error code	Meaning
1105	memory error accessing diagnostics disk buffers
1111	unsupported device type or operation on a device was requested (software error)
1112	controller error or controller detected error
1116	disk is uninitialized (but is partitioned)
1134	bus out of phase sending command or getting status
1153	disk is uninitialized
1162	disk name error (software error)
1173	unsupported volume number error (software error)
1401	error processing the hard-disk boot code
1402	error processing the floppy disk boot code
1403	error allocating disk buffers
1404	device is unavailable

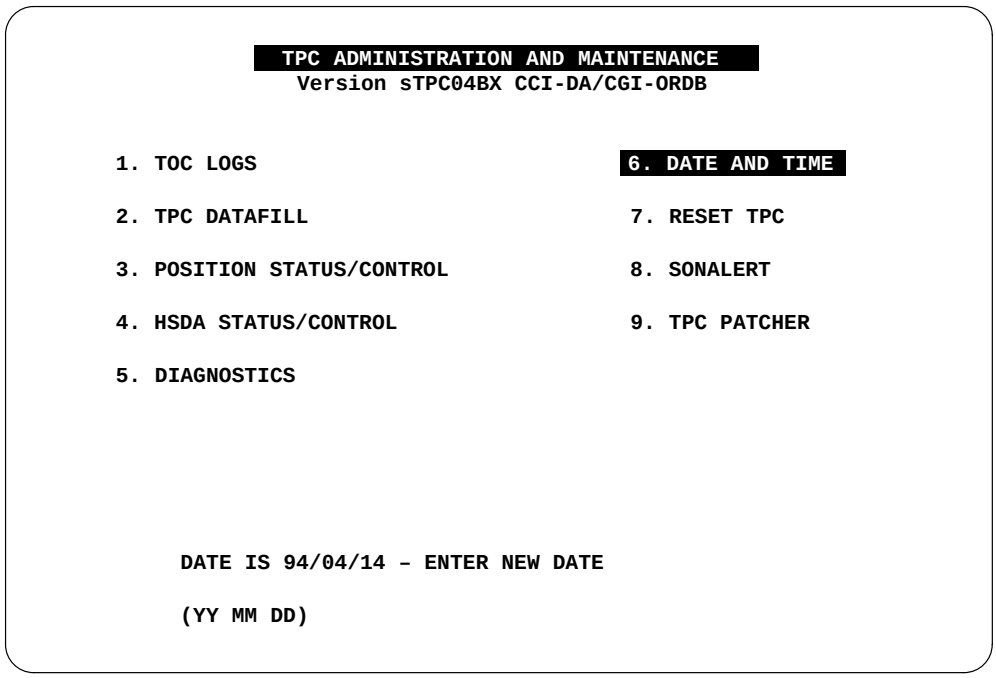
—end—

Date and time

This menu allows the user to set the date and time for each TPC. This will ensure that the DMS logs and the TPC logs will show the same time stamps for related events. After selecting selection 4 (integrated) or 6 (standalone) from the main menu, follow the prompts to set the current date and time as shown in the following figures.

The date is of the form “yy mm dd.” To set a new date, enter it at the prompt in the same form, or to keep the current date, simply hit enter. For example, if it is July 12, 1990 you should enter “90 07 12.” The time is then displayed and is of the form “hh:mm.” To set a new time, enter it at the prompt in the same form, or to keep the current time, simply hit enter. For example, if it is 2:32 a.m., you should enter “02:32,” or if it is 10:14 p.m., you should enter “22:14.”




TPC ADMINISTRATION AND MAINTENANCE
Version sTPC04BX CCI-DA/CGI-ORDB
1. TOC LOGS
2. TPC DATAFILL
3. POSITION STATUS/CONTROL
4. HSDA STATUS/CONTROL
5. DIAGNOSTICS
6. DATE AND TIME
7. RESET TPC
8. SONALERT
9. TPC PATCHER
DATE IS 94/04/14 – ENTER NEW DATE
(YY MM DD)

Reset TPC

With this menu the TPC can be reset without having to toggle the reset switch on the SBC card. After selecting 5 (integrated) or selection 7 (standalone) from the main menu, type the word “Reset” and press return.

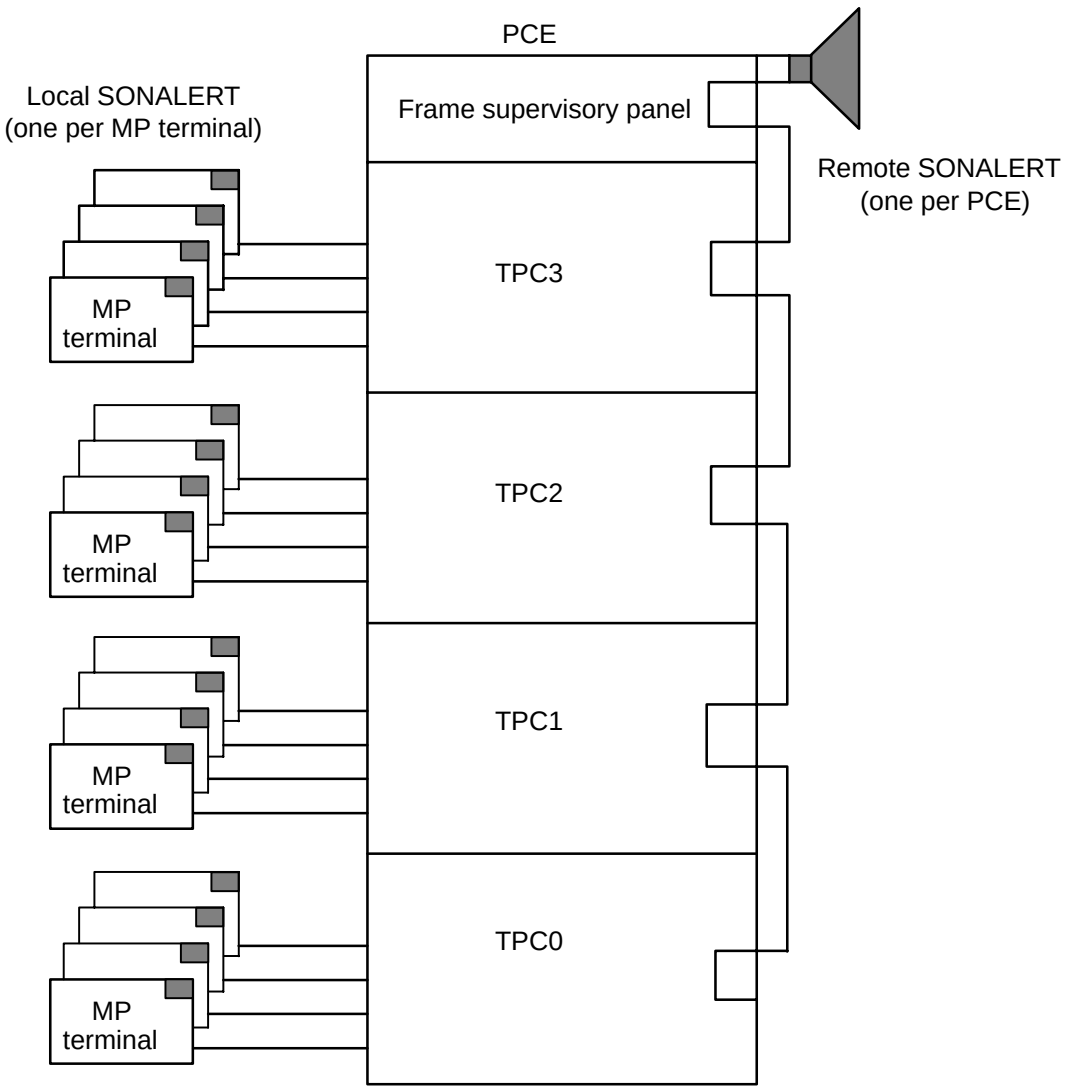
```
                TPC ADMINISTRATION AND MAINTENANCE
                Version iTPC04BX CCI-DA/CGI-ORDB

1. TOC LOGS                              5. RESET TPC

2. TPC DATAFILL                          6. SONALERT

3. HSDA STATUS/CONTROL                   7. TPC PATCHER

4. DATE AND TIME



     ENTER 'RESET' <RETURN> TO RESET THE TPC
     Or PRESS THE PF3(QUIT) KEY TO ABORT

     >
```

```
                TPC ADMINISTRATION AND MAINTENANCE
                Version sTPC04BX CCI-DA/CGI-ORDB

1. TOC LOGS                              6. DATE AND TIME

2. TPC DATAFILL                          7. RESET TPC

3. POSITION STATUS/CONTROL               8. SONALERT

4. HSDA STATUS/CONTROL                   9. TPC PATCHER

5. DIAGNOSTICS



     ENTER 'RESET' <RETURN> TO RESET THE TPC
     Or PRESS THE PF3(QUIT) KEY TO ABORT

     >
```

SONALERT

Each MP terminal has a local SONALERT, and each PCE has a remote SONALERT. The local and remote SONALERT configuration is shown below.

LOCAL/REMOTE SONALERT CONFIGURATION



Note: The local SONALERT will sound only on positions defined as assistance, in-charge, and force management (FM).

The capability to perform maintenance on the local and the remote SONALERT is provided through the SONALERT menu screen. Select choice 5 (integrated) or 8 (standalone) from the TAMI main menu to display the SONALART menu.

```
                              SONALERT

NOTE: All positions must be Offl or ManB.

    1.  ENABLE LOCAL SONALERT          5.  ENABLE REMOTE SONALERT

    2.  DISABLE LOCAL SONALERT         6.  DISABLE REMOTE SONALERT

    3.  TEST LOCAL SONALERT (ON)       7.  TEST REMOTE SONALERT (ON)

    4.  TEST LOCAL SONALERT (OFF)      8.  TEST REMOTE SONALERT (OFF)









            MAKE CHOICE:
```

Menu selections

All MP terminals must be ManB or OffL before a selection from the SONALERT menu can be executed. Whenever selections 1 to 4 are chosen, the user is prompted for the MP number: "Enter position number." Press the PF3 key to exit the SONALERT menu.

The following table explains the choices on the SONALERT menu.

Selections on the SONALERT menu

Choices	Command	Description
1	Enable local SONALERT	Enables the local SONALERT for the specified MP terminal. Must be enabled if it is to sound under the conditions.
2	Disable local SONALERT	Causes the local SONALERT for the specified MP terminal to be silent under conditions that would normally cause it to sound.
3	Test local SONALERT (on)	Causes the local SONALERT for the specified MP terminal to be enabled or to sound.
4	Test local SONALERT (off)	Disables or silences the local SONALERT for the specified MP terminal.
5	Enable remote SONALERT	Causes the remote SONALERT for the specified TPC to be enabled. Must be enabled if it is to sound under the conditions.
6	Disable remote SONALERT	Causes the remote SONALERT for the specified TPC to be silent under conditions that would normally cause it to sound.
7	Test remote SONALERT (on)	Causes the remote SONALERT for the specified TPC to be enabled or to sound.
8	Test remote SONALERT (off)	Disables or silences the remote SONALERT for the specified TPC.

—end—

Messages

The following table lists possible responses associated with selections from the SONALERT menu.

Responses associated with the SONALERT menu

Response	Selection made
(beep)	invalid selection
All positions must be ManB or OffL	1 – 8
Cannot communicate with MP <n>	3 and 4
Already enabled	1 and 5
Already disabled	2 and 6
Disabled – cannot turn on	3 and 7
Already on	3 and 7
Already off	4 and 8
Local SONALERT is enabled for MP <n>	1
Local SONALERT is disabled for MP <n>	2
Local SONALERT has been turned on for MP <n>	3
Local SONALERT has been turned off for MP <n>	4
Remote SONALERT is enabled	5
Remote SONALERT is disabled	6
Remote SONALERT has been turned on	7
Remote SONALERT has been turned off	8
—end—	

Enabling and disabling SONALERT

When a local SONALERT is enabled for a given MP terminal, the remote SONALERT of the TPC to which that MP terminal is connected is also enabled. The remote SONALERT is disabled only when the last local SONALERT has been disabled.

The following table lists conditions under which the SONALERT sounds.

Conditions under which alarm sounds

Conditions	Where alarm sounds (*)
All time and charges positions are out-of-order	In–charge
Request for assistance arrives at TOPS MP assistance position	Assistance and in–charge
There are calls in queue but no positions are occupied	In–charge and FM
Request for assistance is queued	In–charge
Calls are being deflected	In–charge and FM
Centralized automatic message accounting (CAMA) is suspended	In–charge and FM
There are transfer calls in the queue, but no transfer positions are occupied	In–charge and FM
25 percent controlled traffic limit is reached	In–charge

Note: See *TOPS MP Force Management Guide* for details on the CRT displays that accompany the alarms and where these displays will appear; that is, TOPS MP assistance, in-charge, or FM positions.

Note the following points governing the manipulation of the SONALERT through the TAMI:

- The interactions between the local SONALERT and the remote SONALERT during call processing do not apply when manipulating the SONALERT from the TAMI.
- By default, all SONALERT are enabled.
- Any SONALERT enabled as a result of TAMI activity is automatically disabled when the SONALERT menu is exited.
- If an active SONALERT is disabled, disabling it also causes it to be silenced.

- SONALERT enabled from the TAMI will not sound for more that one minute to safeguard against the possibility of a communication failure when the TAMI is connected to the TPC via a dial-up modem.
- The effects of disabling and enabling the SONALERT remain intact after TPC and MP terminal restarts.

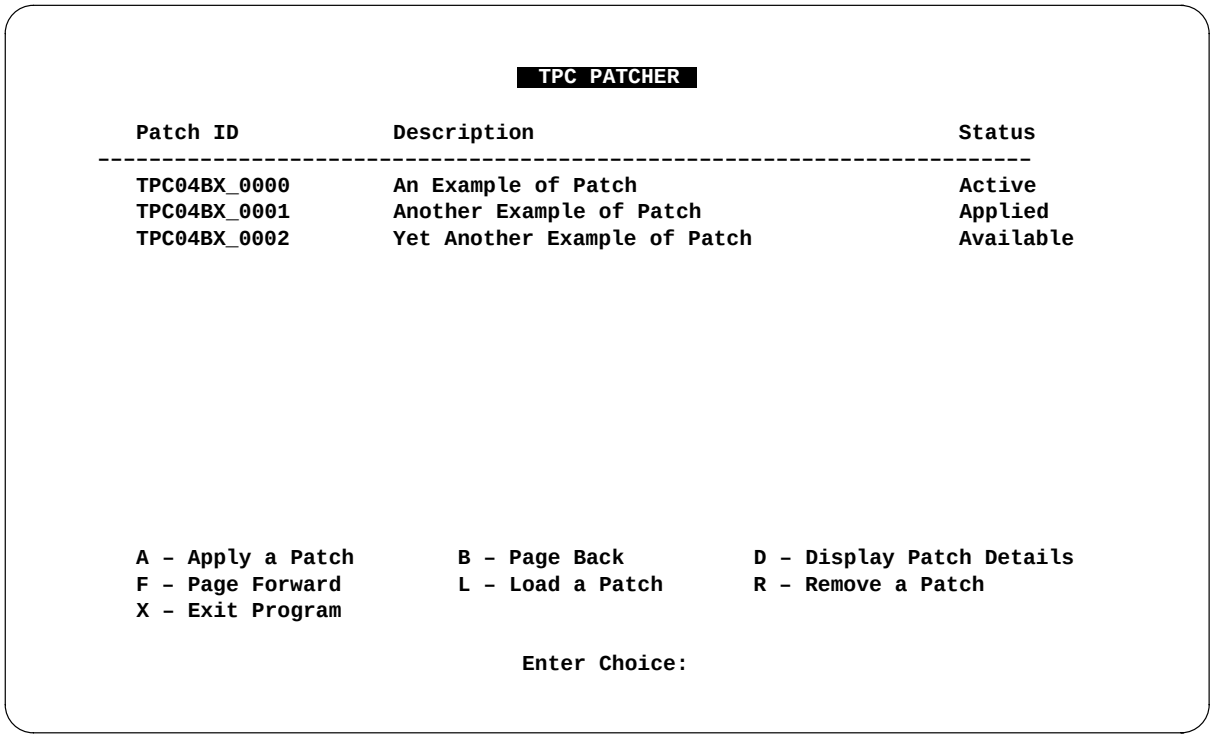
The local SONALERT is disabled (or can be disabled) as follows:

- The local SONALERT is automatically disabled. The local SONALERT is enabled when the queue threshold is exceeded and calls are deflected. The local SONALERT is automatically disabled when the calls deflect condition clears.
- The local SONALERT can be manually disabled by pressing the STOP BELL softkey. This disables the local SONALERT regardless of how it was originally activated.
- The local SONALERT can be disabled by changing the positions status of the MP terminal to manual busy (ManB). The local SONALERT is also disabled when the MP terminal goes system busy (SysB) as long as the TPC can still communicate with the MP terminal after it has changed status.

TPC patcher

The TPC patcher menu provides access to the TPC patcher screen displays, as well as general information about the patches loaded in the system displays. Up to ten patches can be shown on the screen at a time.

The patcher screen is displayed by selecting choice 9 (standalone) or selection 7 (integrated) from the TAMI main menu.



Menu selections

Selections are made by pressing the letter corresponding to the action that is desired, followed by the return key. For example, the “A” key should be pressed to apply a patch.

- A – applying a patch (see procedure below)
- B – the main TPC patcher menu is redisplayed. The patch list is updated to reflect the paging that was done.

- D – patch details screen (see example below)

```
                        Detailed Patch Information

Title         : NEA not displayed on 0– calls
Patch ID      : TPC34CB_0000           Status           : Active
Creation Date : 92 03 20               Application Date : 92 03 26
Creation Time : 11.47                  Application Time : 10:16
CSR           : UL200123
Release       : TPC33CB

Problem Description :
  The NEA label in the calling number field is not displayed for
  a call coming from a Non-Equal Access office.
                * CATEGORY: General    * MODULE (S): OI

Test Instructions :
  Apply this patch.  Reset the TPC.  Initiate a non-equal access call.
  Ensure the NEA label dsplays in the calling number field.
  Check the Call Details function to ensure proper functionality.


Press any key to continue.
```

- F – the main TPC patcher menu is redisplayed. The patch list is updated to reflect the paging that was done.
- L – loading a patch (see procedure below)
- R – removing a patch (see procedure below)
- X – exits the TPC patcher screen and returns the TAMI main menu

Loading a patch

All patches are delivered on a floppy disk. Typically, each disk will contain a single patch. To make the patch available in the system, it must be copied from the floppy disk to the TPC hard disk. This is done by performing the following steps:

1 Insert the floppy disk containing the patch into the disk drive and close the drive door.

2 From the TPC patch facility main screen, select option “L – load a patch.”

3 Observe the response on the screen telling whether or not loading was successful. If it was, proceed to the next step. Otherwise, return to step 1 and try again. If loading is still not successful, return to step 1 and use the backup disk instead. If the problem persists, contact your NT representative for assistance.

4 Remove the floppy disk from the disk drive and store it in a safe place.

5 Press any key to return to the main screen.

The newly loaded patch should now show up in the list with a status of "Available." It may be necessary to page forward or backward in the patch list to see the new patch.

Applying a patch

When a patch has a status of "Available," it has been loaded into the system but is not yet active. It will not be active until it is applied. This is done by performing the following steps. Only patches that are "Available" may be applied.

1 From the TPC patch facility main screen, choose menu selection "A – apply a patch."

2 At the prompt "Enter patch ID," enter the name of the patch to be applied.

3 Observe the responses on the screen. If the patch applies successfully, proceed to the following step. Otherwise, return to step 1 and try again. If application is still unsuccessful, contact your NT representative for assistance.

4 Press any key to return to the main screen.

5 The patch may not be activated until the TPC is reset. Refer to the instructions for the individual patch being applied to determine if more actions are required to activate the patch.

The newly installed patch will now appear with the status field set to "Applied." It will remain in this state until the TPC is reset, at which time the status will change to "Active."

Unless otherwise instructed in the individual patch instructions, all patches should be applied in increasing numerical order.

Removing a patch

Any patch that has a status of "Applied" or "Active" may be removed. Removing a patch causes restoration of the code that was active before the patch was applied. Patches should be removed in the opposite order in which they were applied.

1 From the TPC patch facility main screen, choose menu selection "R – remove a patch".

2 At the prompt "Enter patch ID," enter the name of the patch to be removed.

3 Observe the responses on the screen. If the patch removes successfully, proceed to the following step. Otherwise, return to step 1 and try again. If removal is still unsuccessful, contact your NT representative for assistance.

4 Press any key to return to the main screen.

5 The patch may not be deactivated until the TPC is reset. Refer to the instructions for the individual patch being removed to determine if more actions are required to completely remove the patch. If resetting the TPC or any of its positions was necessary to activate the patch, the same resetting is necessary to deactivate the patch.

After a patch has been successfully removed, it will appear on the screen with a status of "Available."

Paging forward in the patch list

If more than ten (10) patches are loaded in the system, it is necessary to page forward and backward through the list to see all the patches. The following steps are used to see the next page of patches.

1 From the main TPC patcher screen, select option "F – page forward."

2 If another page of patches are available, they will be displayed. Otherwise, the screen will not change.

Paging backward in the patch list

If more than ten (10) patches are loaded in the system, it is necessary to page forward and backward through the list to see all the patches. The following steps are used to see the previous page of patches.

1 From the main TPC patcher screen, select option "B – page backward."

2 If the first page of patches is not already being displayed, the previous page will be displayed. Otherwise, the screen will not change.

Displaying patch details

Detailed information is available for every patch loaded in the system. This includes the creation date and time, application date and time, problem description, test description, and release information in addition to the patch title and status. Patch details may be viewed as follows:

1 At the main TPC patcher screen, select option "D – display patch details."

2 When prompted for the patch ID, enter the name of the patch to display.

3 Observe the screen. If the patch details are not displayed, return to step 1 and reenter the patch ID.

4 To return to the main screen, type any key.

TPC datafill menu selections

Select choice 2 on the TAMI main menu to display the TPC datafill menu.

```
                    TPC DATAFILL


1. DEFINE POSITION SETTINGS          4. FLOPPY UTILITIES

2. DEFINE POSITION TYPES             5. DEFINE TPC SETTINGS

3. DEFINE HSDA SETTINGS




     MAKE CHOICE:
```

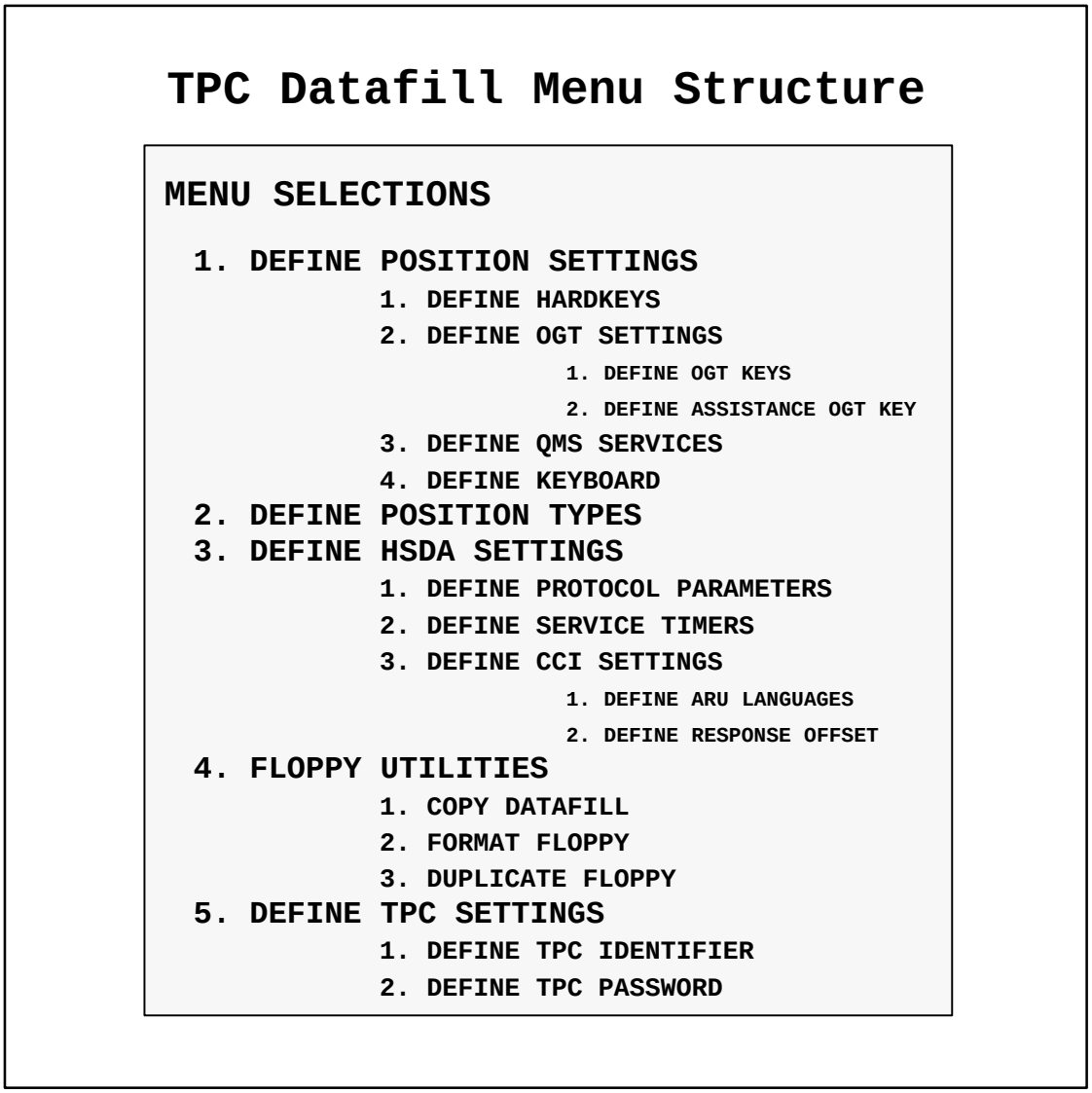
The TPC datafill menu has several sub-menus which are used to define the TPC datafill. All TPC datafill can be viewed at any time. Changes to some datafill are allowed only under certain conditions, while changes to other datafill do not take effect until certain conditions are met. Refer to the general information section under each particular datafill menu description for details.

If the terminal “beeps” (no message displayed), the problem is invalid input. Only a number displayed as a menu selection is valid.

After datafilling, the user has to press the carriage return <CR> or arrow key to validate the data that has been entered before leaving the datafill menu.

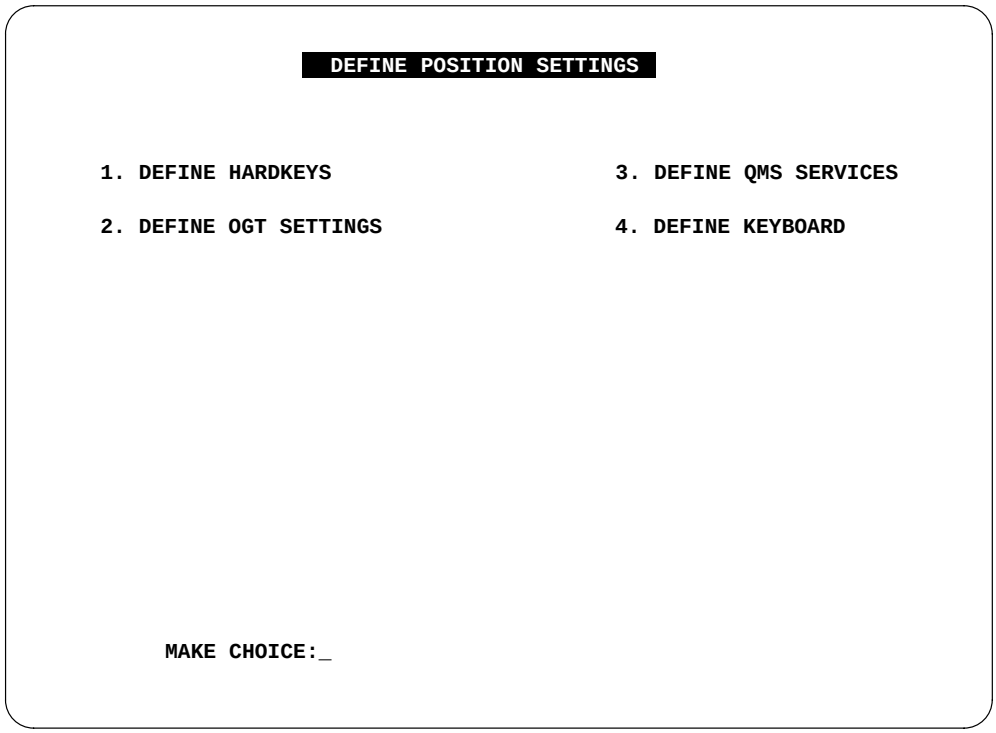
If a printer is connected directly to TAMI, printing of datafill is done by displaying the datafill on the screen and pressing the print screen key located in the upper left–hand corner of the keyboard.

The menu structure of the TPC datafill menu is shown below. Each of the menu and sub-menu are explained in this chapter. All TPC datafill can be viewed at any time. Changes to some datafill are allowed only under certain conditions, while changes to other datafill do not take effect until certain conditions are met. Refer to the particular datafill menu descriptions for details.



Define position settings

Select choice 1 on the TPC datafill menu to display the Define position settings. This menu has sub-menu selections which are used to define hardkeys, OGT keys, QMS services, and to configure operator keyboards.



Define hardkeys

This menu is used to assign system functions to hardkeys on the keyboards of TOPS MP operators. An operator can then press an assigned hardkey to quickly perform a system function. The following table lists 60 function selections that can be assigned to up to 32 hardkeys.

Hardkey function names

access loop1	fixed duration	requested number
access loop2	gen ama	retr by cig no.
adust pos	general assistance	retr by serial no.
alternate route	handoff to aabs	ring called
auto collect	hold	ring calling
block/unblock cig	hotel	sn routing
busy verify	make busy	split/join called
cancel timing	memo	split/join calling
call details	name	start/stop called tbi
called name	next db call	start/stop calling tbi
calling name	no ama	start stopwatch
charge adjust	notify	start timing
clear db call	over collect	store db call
clear stopwatch	overseas	time
coin	overseas da	time and charges
coin collect	overseas inward	tone repeat
coin return	paged assistance	transfer/recall
db class	person call back	transfer ic
delete db call	rate step	verify special
dial rate	release calling	withhold calls
directed assistance	request cama	

The following steps are used to assign system functions to the hardkeys.

1 Select choice 1 on the TPC datafill menu and then choice 1 on the Define position settings menu to display the Define hardkeys menu. If a set of hardkey definitions from a datafill diskette have been loaded onto the TPC, then these user supplied settings will be displayed instead of the default settings shown below. Move the cursor to the numbered hardkey to be defined.

```
                          DEFINE HARDKEYS

NOTE 1: Changes will not take effect for a position until it is Bsy'd and RTS'd.

      FUNCTION                                FUNCTION

  1. access loop 1                        17. unassigned
  2. cancel timing                        18. unassigned
  3. busy verify                          19. unassigned
  4. coin return                          20. unassigned
  5. rate step                            21. unassigned
  6. transfer ic                          22. unassigned
  7. unassigned                           23. unassigned
  8. unassigned                           24. unassigned
  9. unassigned                           25. unassigned
 10. unassigned                           26. unassigned
 11. unassigned                           27. unassigned
 12. unassigned                           28. unassigned
 13. unassigned                           29. unassigned
 14. unassigned                           30. unassigned
 15. unassigned                           31. unassigned
 16. unassigned                           32. unassigned
```

2 Enter the name of the function as it appears in the previous table listing the hardkey function names. The terminal will beep for an incorrect entry, and the cursor will move back the beginning of the entry field. Type over the incorrect entry or press a cursor key to restore the original functional assignment.

As an example, hardkeys 7 and 8 will be used to define coin and hotel functions. (They could, however, appear anywhere in an actual list of user-defined keys.)

```
                          DEFINE HARDKEYS

NOTE 1: Changes will not take effect for a position until it is Bsy'd and RTS'd.

     FUNCTION                              FUNCTION

  1. access loop 1                     17. unassigned
  2. cancel timing                     18. unassigned
  3. busy verify                       19. unassigned
  4. coin return                       20. unassigned
  5. rate step                         21. unassigned
  6. transfer ic                       22. unassigned
  7. coin                              23. unassigned
  8. hotel                             24. unassigned
  9. unassigned                        25. unassigned
 10. unassigned                        26. unassigned
 11. unassigned                        27. unassigned
 12. unassigned                        28. unassigned
 13. unassigned                        29. unassigned
 14. unassigned                        30. unassigned
 15. unassigned                        31. unassigned
 16. unassigned                        32. unassigned
```

3 Press PF3 to save the new hardkey definitions on the hard disk drive, and to return to the Define position settings menu.

4 Now that hardkeys 7 and 8 have been defined, these hardkeys must be assigned to actual physical keys since the default keyboard does not use them. Use the Define keyboard menu to do this.

As an example, the two new hardkeys, coin and hotel, were physically assigned to the bottom row of the 2x7 array of keys, which are numbered 123 and 124. For this example, the hardkey functionality was made valid for both the unshifted and shifted states of the keys, but invalid for the alted state. Assign hardkey 7 and 8 as shown below.

```
                    DEFINE KEYBOARD

NOTE 1:  Changes will not take effect for a position until it is Bsy'd and RTS'd.

          UNSHIFTED              SHIFTED              ALTED

 113.     invalid                invalid              invalid
 114.     misc                   misc                 invalid
 115.     page forward           page forward         invalid
 116.     page backward          page backward        invalid
 117.     9                      9                    invalid
 118.     ogt                    ogt                  invalid
 119.     resot                  reset                dev cnci
 120.     space                  space                invalid
 121.     alt                    invalid              invalid
 122.     misc                   misc                 invalid
 123.     hardkey 7              hardkey 8            invalid
 124.     hardkey 8              hardkey 8            invalid
 125.     start                  start                invalid
 126.     0                      0                    invalid
 127.     pos ris                pos ris              invalid
 128.     invalid                invalid              invalid
```

5 Press PF3 to save the new hardkey definitions on the hard disk drive, and to return to the Define position settings menu.

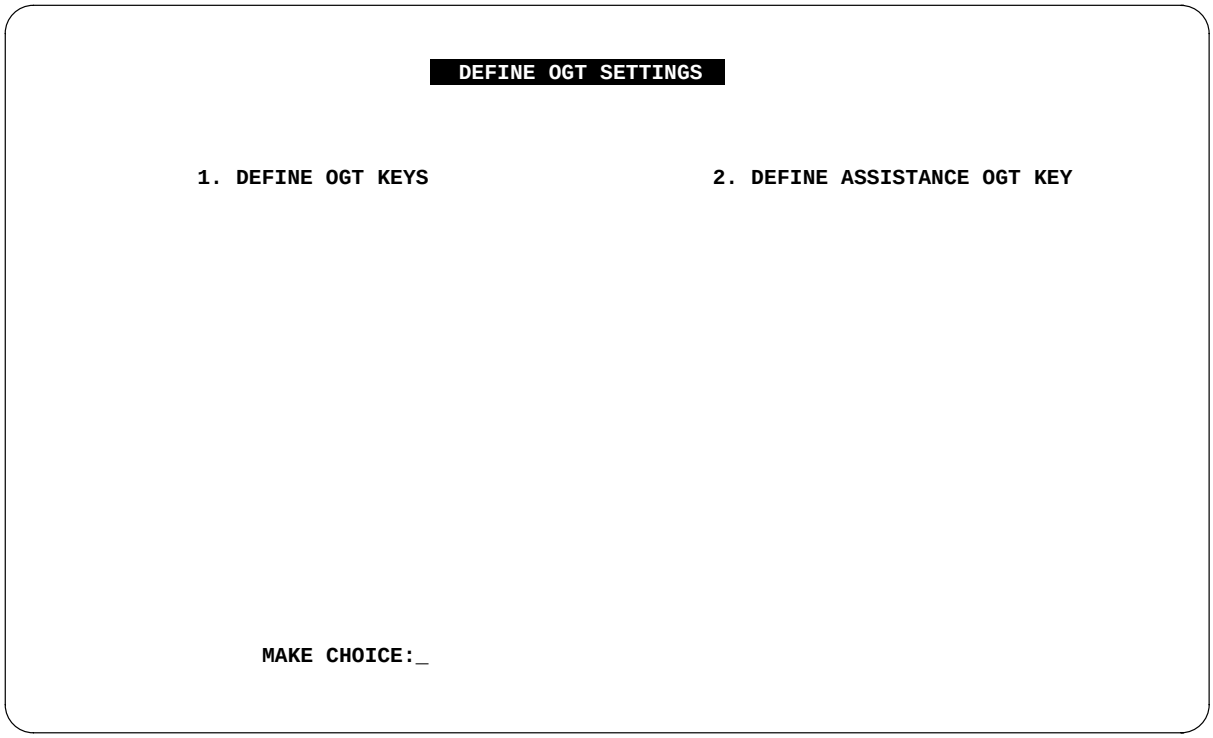
6 After all desired hardkey assignments have been made using steps 1 thru 5 above, the MP operator positions need to be BSY'd and RTS'd in order for the above functional assignments to be put into effect.

Note that any hardkey number that was not assigned a function appears as "unassigned" on the Define hardkeys menu display. Also, in order to remove a function assigned to a hardkey number, the key must either be assigned another function or be designated as "unassigned." The method used to assign a function to a key is used to designate it as "unassigned."

7 This is the end of the procedure for defining hardkeys.

Define OGT settings

The Define OGT (out-going trunks) menu is displayed by selecting choice 2 on the Define position settings menu. This menu has two sub-menu options, one for defining OGT keys in general and another for defining the assistance OGT key in particular.



Define OGT keys

The Define OGT keys menu is displayed by selecting choice 1 on the Define OGT settings menu. To quit from this menu and return to the Define OGT settings menu, press PF3.

The OGT description selections are numbered 0 to 99 and appear in a series of screen displays. Press PF1 to display the next screen of selections, and press PF2 to display the previous screen.

An OGT description can have a maximum length of 12 characters. Any OGT key can be undefined by blanking out the description (pressing the space bar). Once changes to OGT key definitions are completed and the define OGT keys screen is exited, each position must be Bsy'd and RTS'd in order for the changes to take effect.

At any given time, only one key can be assigned as the assistance OGT key, and by default, key 0 is the assigned key. A message appears at the bottom of the Define OGT keys menu to indicate which key has been assigned the assistance OGT key function. The assistance OGT key is assigned by use of choice 2 on the Define OGT settings menu. If the default key 0 is assigned, the message will read "Assistance is defined at OGT key 0" as shown below in the display example. If there is no assistance OGT key assigned, than the message reads "Assistance is not defined at any OGT key."

```
                          DEFINE OGT KEYS

NOTE 1: This datafill must match with table OGTMPKEY or TQOGTKEY at the MAP.
NOTE 2: Changes will not take effect for a position until it is Bsy'd and RTS'd.

     To define an OGT key, type the OGT service description beside the
     appropriate key number. Use the arrow keys to move to the desired
     description. Press PF1 to view the next set of descriptions; PF2
     to view the previous set of descriptions.

 OGT DESCRIPTION          OGT DESCRIPTION          OGT DESCRIPTION
   0. assistance            10.                      20.
   1. XFR1                  11.                      21.
   2. XFR2                  12.                      22.
   3. XFR3                  13.                      23.
   4.                       14.                      24.
   5.                       15.                      25.
   6.                       16.                      26.
   7.                       17.                      27.
   8.                       18.                      28.
   9.                       19.                      29.


      Assistance is defined at OGT key 0
```

Define assistance OGT key

This screen displays by selecting choice 2 on the Define OGT settings menu.

There is only one input field where the cursor appears. Any OGT key number (0 to 99) can be entered as the assigned assistance key, or a blank space can be used to assign no key to the assistance function.

The assistance OGT key description given at the bottom of the screen is for display only. It shows what OGT key description (see Define OGT keys menu) was given to the key assigned to the assistance function.

```
                    DEFINE ASSISTANCE OGT KEY

NOTE 1: This datafill must match with table OGTMPKEY or TQOGTKEY at the MAP.
NOTE 2: Changes will not take effect for a position until it is Bsy'd and RTS'd.


     To define the assistance OGT key, enter the desired OGT number.
     To change the corresponding OGT service description, access the
     "DEFINE OGT KEYS" screen.  If no assistance OGT key is to be
     defined, enter a space to blank out the OGT number.




                          Assistance OGT key:   0

                 Assistance OGT service description:   assistance
```

Define QMS services

Select choice 3 on the Define position settings menu to display the Define QMS (queue management system) services menu.

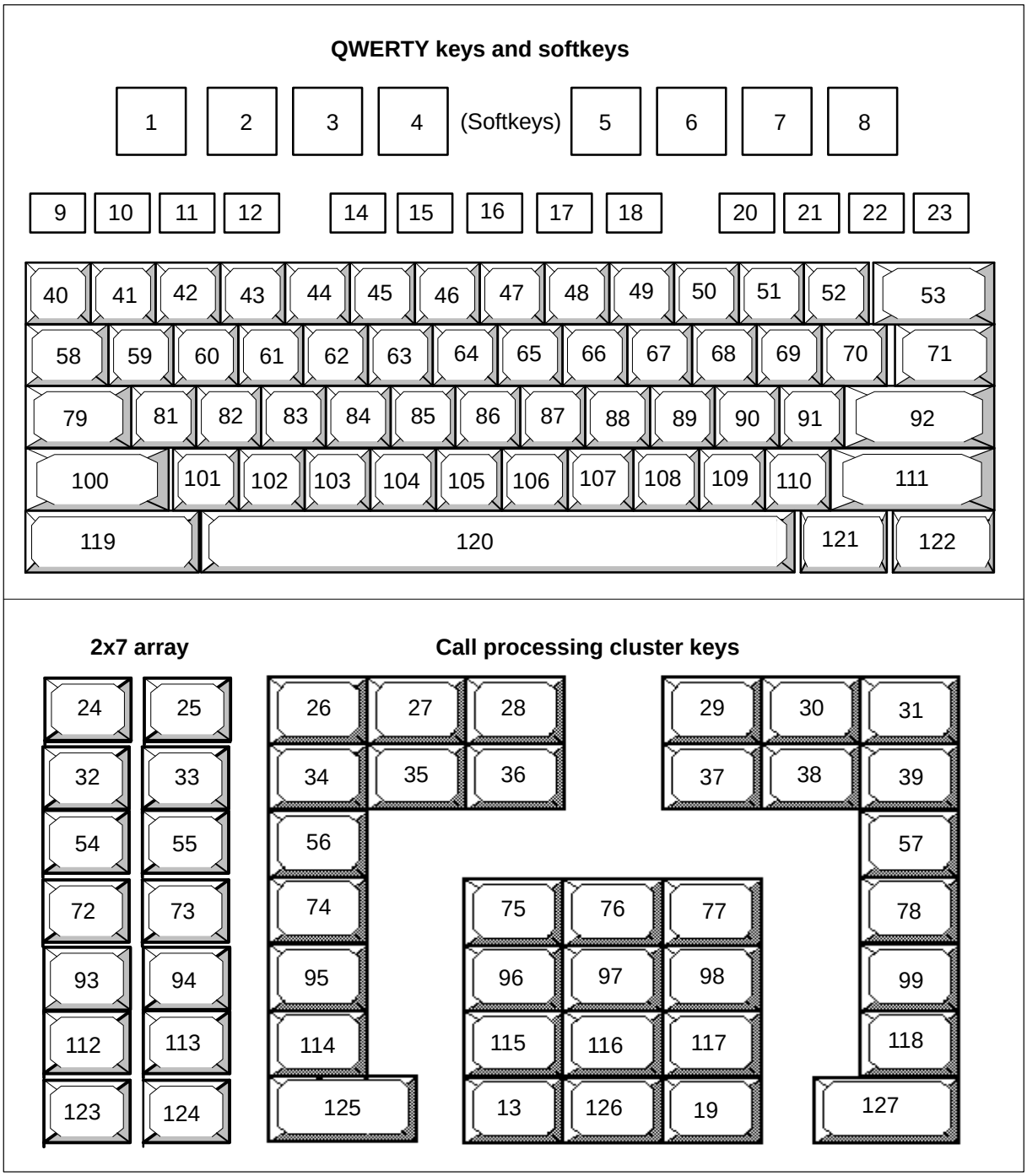
If the terminal “beeps” (no message displayed), the problem is invalid input or the operator function number is out of range.

Once changes to QMS service definitions are completed and the define QMS services screen is exited, each position must be Bsy’d and RTS’d in order for the changes to take effect. Use PF3 to quit from the current screen and return to the previous menu screen.

```
                          DEFINE QMS SERVICES

NOTE 1: This datafill must match with Table TQMSSERV at the MAP.
NOTE 2: Changes will not take effect for a position until it is Bsy'd and RTS'd.

     SERVICE DESCRIPTION              SERV ID

  0.  Service 0                       SVC0
  1.  Service 1                       SVC1
  2.  Service 2                       SVC2
  3.  Service 3                       SVC3
  4.  Service 4                       SVC4
  5.  Service 5                       SVC5
  6.  Service 6                       SVC6
  7.  Service 7                       SVC7
  8.  Service 8                       SVC8
  9.  Service 9                       SVC9
 10.  Service 10                      SVC10
 11.  Service 11                      SVC11
 12.  Service 12                      SVC12
 13.  Service 13                      SVC13
 14.  Service 14                      SVC14
 15.  Service 15                      SVC15
```

Define keyboard

The TOPS MP keyboard has 126 keys. Each key is assigned a unique key number from 1 to 127. To view or modify the key actions associated with a given key, the user must know the key number. The number of each key is shown in the following figure.



The first of eight menus for defining the keyboard (eight screens of default settings for CCI DA and IBM DA) is displayed by selecting choice 4 on the Define position settings menu. The three columns associated with each key in the Define keyboard menus identify the function of the key alone as well as in combination with the SHIFT key or ALT key.

```
                          DEFINE KEYBOARD

NOTE 1:  Changes will not take effect for a position until it is Bsy'd and RTS'd.

          UNSHIFTED              SHIFTED               ALTED

   1.     softkey 1              softkey 9             invalid
   2.     softkey 2              softkey 10            invalid
   3.     softkey 3              softkey 11            invalid
   4.     softkey 4              softkey 12            invalid
   5.     softkey 5              softkey 13            invalid
   6.     softkey 6              softkey 14            invalid
   7.     softkey 7              softkey 15            invalid
   8.     softkey 8              softkey 16            invalid
   9.     applkey 1              applkey 1             invalid
  10.     applkey 2              applkey 2             invalid
  11.     applkey 3              applkey 3             invalid
  12.     applkey 4              applkey 4             invalid
  13.     backspace              backspa e             invalid
  14.     applkey 5              applkey 5             invalid
  15.     applkey 6              applkey 6             invalid
  16.     applkey 7              applkey 7             invalid
```

Screen selections are made as follows:

1 PF1 scrolls forward through the eight keyboard screens.

2 PF2 scrolls backward through the eight keyboard screens.

3 PF3 quits the menu.

Use the cursor control keys to select a numbered table item that is to be changed. After a line entry is made, the Enter key or cursor control key validate the change. Keyboard datafill is done once for each TPC. All MP positions that connect to a single TPC must use the same keyboard layout. Changes to the keyboard datafill do not take effect for an MP position until that position has been busied and returned to service.

There are 94 printable ASCII characters, all of which can be assigned as an MP key action. There are 69 printable ISO Latin-1 characters, consisting of the 26 ASCII characters, the ASCII characters combined with the diacritical marks identified in the following item, and 13 additional symbols. These are the *inverted !, cent sign, pound sign, broken bar, section sign, masculine,*

logical not, degree sign, feminine, one–fourth, one–half, inverted ?, and *sharp s*. Twenty–six ISO characters are not supported in the DEFINE KEYBOARD table.

The assignment of ISO Latin–1 letter class key actions is accomplished by entering the base ASCII character followed by a space and the name of the diacritical mark the modifies the base character. Valid combinations are:

- A or a combined with grave, acute, circumflex, tilde, dieresis, or ring.
- C or c combined with cedilla.
- E or e combined with grave acute, circumflex, or dieresis.
- I or i combined with grave, acute, circumflex, or dieresis.
- N or n combined with tilde.
- O or o combined with grave, acute, circumflex, or dieresis.
- U or u combined with grave, acute, circumflex, or dieresis.
- Y or y combined with acute
- AE or ae combined with ligature.

Data entry/editing keying actions that can be programmed in the DEFINE KEYBOARD table include *space, backspace, escape, reset, dev cncl*, *tab forward, tab backward, home, return, enter, command, page forward,* and *page backward.*

Call processing/billing key actions entered in the DEFINE KEYBOARD table are *calling, called, special, carrier, misc, person, station, rls cld, ca call, ordb, services, functions, trouble, ogt, start,* and *pos rls.*

All hardkeys funstions are assigned by entering *hardkey*, a space and a number (*1* to *32*).

DA audio release key actions are assigned by entering *audio rls*, a space and a letter (*a* to *z*).

Soft key actions are assigned by entering *softkey* followed by a space and a number *(1* to *16*).

Invalid key actions are identified by entering *invalid* in the appropriate DEFINE KEYBOARD table field.

All DA application key actions are assigned by entering *applkey* followed by a space and the applkey number (*1* to *32*). For CCI DA, BTDAS, and IBM DA, applications are assigned to keys as follows:

DA application applkey assignments

Applkey	CCI DA	BTDAS	IBM DA
applkey 1	location	name	location
applkey 2	name	street	location step
applkey 3	street	location	frame
applkey 4	area	area	sname
applkey 5	residence	residence	business
applkey 6	business	business	residence
applkey 7	special	government	government
applkey 8	government	special	emr
applkey 9	intercept	intercept	cna
applkey 10	audio	audio	audio
applkey 11	alt lang	alt lang	intercept
applkey 12	phonetic	phonetic	alt lang
applkey 13	keyword	keyword	alt spell
applkey 14	full set	full set	alt book
applkey 15	location menu	location menu	npa plus
applkey 16	expanded loc	expanded loc	seq display
applkey 17	addr telno	addr telno	ivr
applkey 18	block audio	block audio	invalid
applkey 19	invalid	invalid	invalid
applkey 20	invalid	invalid	invalid
applkey 21	invalid	invalid	npa/cfn 0
applkey 22	invalid	invalid	npa/cfn 1
applkey 23	invalid	invalid	npa/cfn 2
applkey 24	invalid	invalid	npa/cfn 3
applkey 25	invalid	invalid	npa/cfn 4
applkey 26	invalid	invalid	npa/cfn 5
applkey 27	invalid	invalid	npa/cfn 6
applkey 28	invalid	invalid	npa/cfn 7
applkey 29	invalid	invalid	npa/cfn 8
applkey 30	invalid	invalid	npa/cfn 9
applkey 31	invalid	invalid	npa/cfn 10
applkey 32	invalid	invalid	npa/cfn 11

—end—

Define position types

TOPS MP operator positions are defined in new loads as having the position type Toll and Assist and the language English as the default values. The position type or language for any position can be changed, but not deleted. Once changes to position definitions are completed and the define positions screen is exited, a position must be Bsy'd and RTS'd in order for any changes to take effect. To change position definitions, select choice 2 on the TPC datafill menu.

If the terminal "beeps" (no message displayed), the problem is invalid input. Only A, F, I, or T is valid input under the position type column; E, F, or S is valid input under the language column.

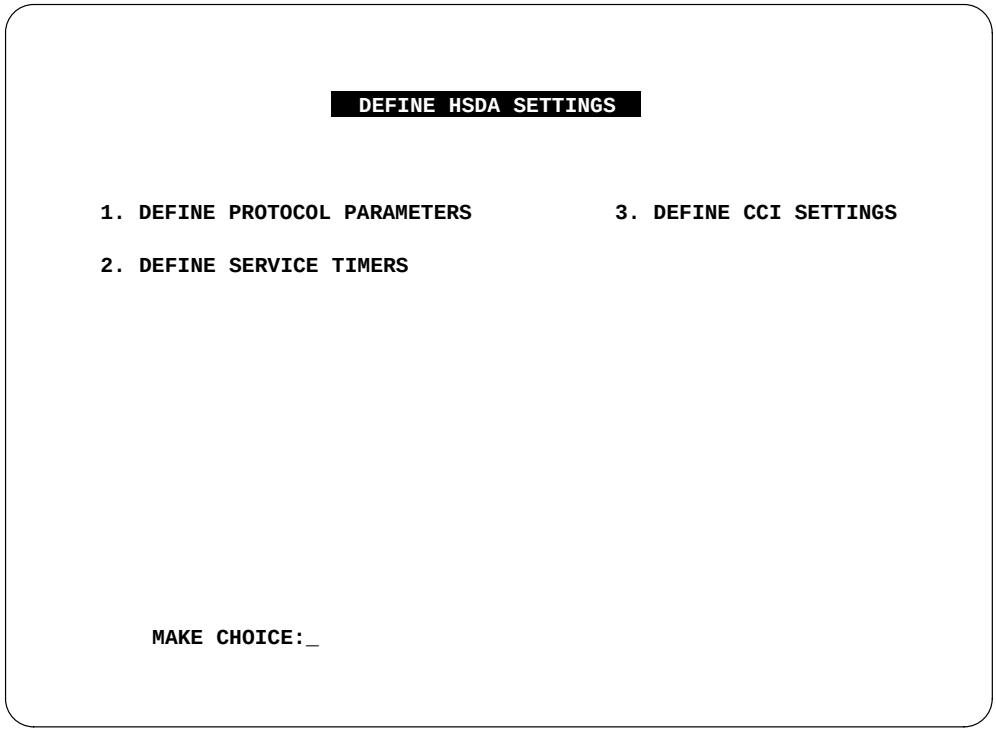
```
                          DEFINE POSITIONS

NOTE 1: The position types must match with tables TOPSPOS TOPSSDEV at the MAP.
NOTE 2: Changes will not take effect for a position until it is Bsy'd and RTS'd.

                  POSITION TYPES          LANGUAGES
                   A : ASSISTANCE          E : ENGLISH
                   F : FORCE MANAGEMENT    F : FRENCH
                   I : IN CHARGE           S : SPANISH
                   T : TOLL AND ASSIST

   To define a position,  type 'A', 'F', 'I',or 'T' under the position
   type column; 'E', 'F', or 'S' under the language column.  Use the
   arrow keys to move to the desired position and to move between the
   position type and the language columns.

        POSITION NUMBER     POSITION TYPE          LANGUAGE

              0.              T   TOLL AND ASSIST    E   ENGLISH
              1.              T   TOLL AND ASSIST    E   ENGLISH
              2.              T   TOLL AND ASSIST    E   ENGLISH
              3.              T   TOLL AND ASSIST    E   ENGLISH
```

Define HSDA settings for TPC configurations

Both standalone and integrated TPC configurations are covered in this subsection. When information differs between the two configuration types, the integrated TPC datafill is shown in brackets [ ].

This screen displays by selecting choice 3 on the TPC datafill menu. This menu is used to define the datafill of protocol parameters, service timers, and CCI settings.

If the terminal “beeps” (no message displayed), the problem is invalid input. The only valid inputs are the numbers displayed as menu selections.



Define protocol parameters

Select choice 1 on the Define HSDA settings menu to define protocol parameters. The first, level 1, of three menus is displayed. Two other menus, level 2 and level 3, are displayed after card, link and level numbers are entered.

```
                          DEFINE PROTOCOL PARAMETERS

NOTE: To datafill, the link must be ManB or OffL.

                              Card:   Link:   Level:









                    ENTER CARD NUMBER(0 OR 1):
```

```
                    DEFINE PROTOCOL PARAMETERS

NOTE: To datafill, the link must be ManB or OffL.

                          Card:1  Link:0  Level:2

 1. L2Window  : 7

 2. L2Modulo  : 0

 3. Nodulo    : 0

 4. N2        : 2

 5. T1 (cs)   : 200

 6. T2 (cs)   : 13 [200]

 7. T3 (cs)   : 1200 [25500]

 8. T4 (cs)   : 1000
```

Note: Defaults for integrated TPCs are shown in brackets [ ].

```
                    DEFINE PROTOCOL PARAMETERS

NOTE: To datafill, the link must be ManB or OffL.

                          Card:1  Link:0  Level:3

 1. L3Window  : 7          9. T20 (s)   : 15        17. R25       : 0

 2. L3Modulo  : 0         10. R20       : 1         18. T26 (s)   : 40

 3. L3Data    : 8         11. T21 (s)   : 60        19. L3Ack (cs): 12 [26]

 4. Thruput   : 8         12. T22 (s)   : 15        20. PVCDbit   : 0

 5. NumPVCs   : 5 [14]    13. R22       : 1

 6. Svcs2Way  : 0         14. T23 (s)   : 60

 7. SvcsIn    : 0         15. R23       : 1

 8. SvcsOut   : 0         16. T25 (s)   : 6 [60]
```

Since only card 1 is used in the iTPC load, the card number is fixed at 1.

When the level 2 or level 3 screen is entered, the current values for the parameters are displayed. The cursor is placed at the entry field of the first parameter.

To change a parameter value, position the cursor at the corresponding entry field and enter the value. If the entry field is blanked out (using the space bar), the default value for the parameter is filled in by the system.

To change parameters, the corresponding link must be ManB or OffL. The new values do not take effect until the link is RTS'd.

The following tables contain brief descriptions, the range of acceptable values, and the default value for each level 2 and level 3 parameter.

T1, T2, T3, T4, and L3ACK are specified in centiseconds (1 csec. = 1/100th of a second). The actual times that are downloaded to the HSDA card are rounded off as follows:

T1, T2, T3, T4, and L3ACK values

Value entered	Actual time (centiseconds)
0 – 255	same as entered value
256 – 275	255
276 – 350	300
351 – 450	400
451 – 550	500
551 – 650	600
651 – 700	700
—end—	

Level 2 timers should conform to the relationship T2<T1<<T4<T3. "<" means less than and "<<" means much less than. If T2 is 0, L3ACK must also equal 0.

If T2 is greater than 0, L3ACK must be less than T2. L3DATA (packet size) is expressed as a power of 2 (if L3DATA is 8, the packet size is 256).

Since SVCs are not supported on the TPC, the values of SVCS2WAY, SVCSIN, and SVCSOUT are fixed at 0.

For the background information on what these protocol parameters mean, refer to *CCITT 1980 X.25 Specification, Yellow Book.*

The following two tables provide the meaning, range, and default settings for the level 2 and level 3 parameters.

Level 2 parameters

Parameter	Meaning	Range	Default
L2WINDOW	frame window size	1 – 7 (mod 8) 1 – 127 (mod 128)	7
L2MODULO	frame ctr. modulo	0 = mod 8 1 = mod 128	0
NODETYPE	node type	0 = DTE 1 = DCE	0
N2	retransmit count	1 – 255	2
T1	retransmit timer	1 – 25500 csec.	200
T2	check point timer	0 – 25500 csec.	13 [100]
T3	idle link timer	1 – 25500 csec.	1200 [25500]
T4	inactive link timer	1–25500 csec.	1000
—end—			

Note: Defaults for integrated TPCs are shown in brackets [ ].

Level 3 parameters

Parameter	Meaning	Range	Default
L3WINDOW	packet window	1 – 7 (mod 8) 1 – 127 (mod 128)	7
L3MODULO	packet ctr. modulo	0 = mod 8 1 = mod 128	0
L3DATA	packet data size	4 – 10	8
THRUPUT	throughput class	3 – 12	8
NUMPVCS	number of PVCs	5 [14] (fixed)	5 [14]
SVCS2WAY	number two-way SVCs	0 (fixed)	0
SVCSIN	number incoming SVCs	0 (fixed)	0
SVCSOUT	number outgoing SVCs	0 (fixed)	0
T20	restart req. timer	1 – 255 sec.	15
R20	restart req. timer	1 – 255	1
T21	call req. rsp. timer	1 – 255 sec.	60
T22	reset req. timer	1 – 255 sec.	15
R22	reset req. count	1 – 255	1
T23	clear req. rsp. timer	1 – 255 sec.	60
R23	clear rexmit count	1 – 255	1
T25	packet ack. timer	0– 255 sec.	60
R25	data rexmit count	0 (fixed)	0
T26	interrupt rsp. timer	1 – 255 sec.	40
L3ACK	level 3 receiver timer	0 – 255 csec.	12 [26]
PVCDBIT	PVC D-bit usage flag	0 = not used 1= used	0
—end—			

Note: Defaults for integrated TPCs are shown in brackets [ ].

The following messages may appear:

- To datafill, the link must be OffL or ManB.

  To change parameters in screens 2 or 3, the corresponding link must be either OffL or ManB.

- T1, T2, T3 and T4 are not in proper relation.

  Proper relation: T2 < T1 << T4 < T3

- L3ACK and T2 are not in proper relation.

  Proper relation: 0 = L3ACK = T2 or 0 <= L3ACK < T2. “<=” means less than or equal to.

- Beeping

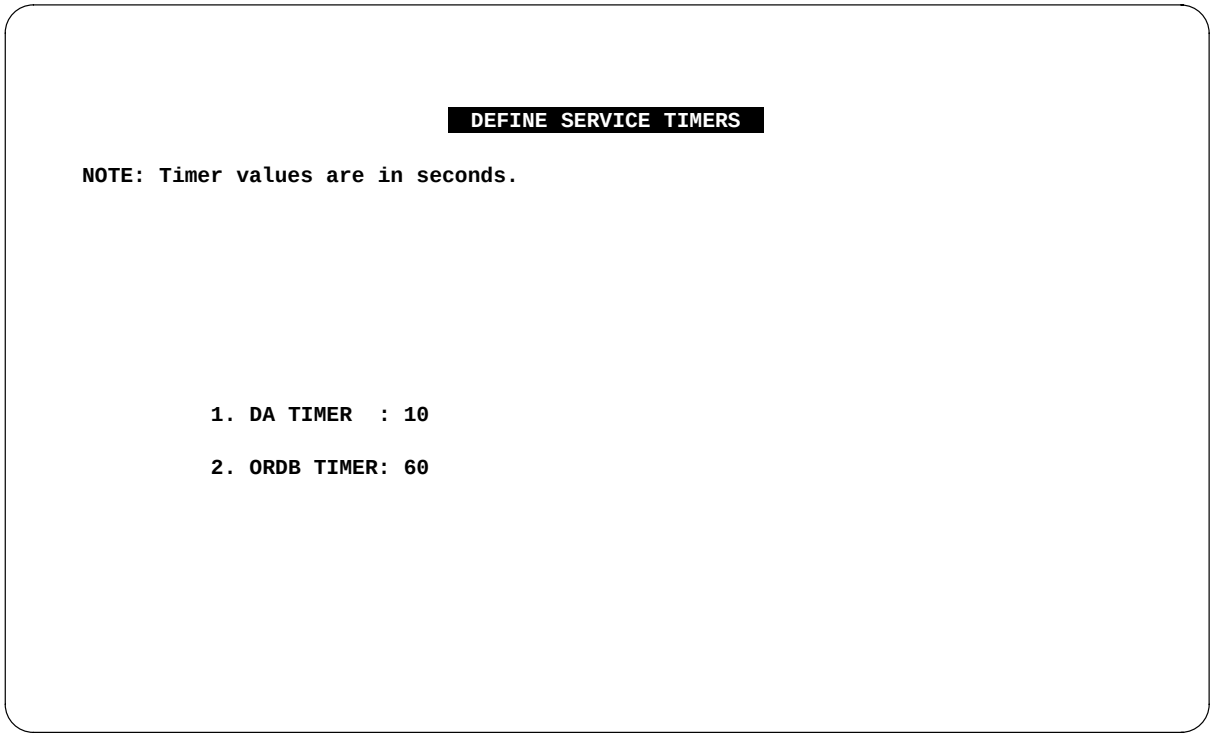
  Invalid card, link, level number, or parameter value has been entered.

Define service timers

This screen displays by selecting choice 2 from the Define HSDA settings menu. Presently defined values are displayed with the cursor positioned at the entry field of the first item.

The DA timer is used by the DA application audit task. The range of these timer values are as follows: DA timer has a range of 10 – 300 with a default of 10 seconds; ORDB timer has a range of 1 – 600 with a default of 60 seconds.

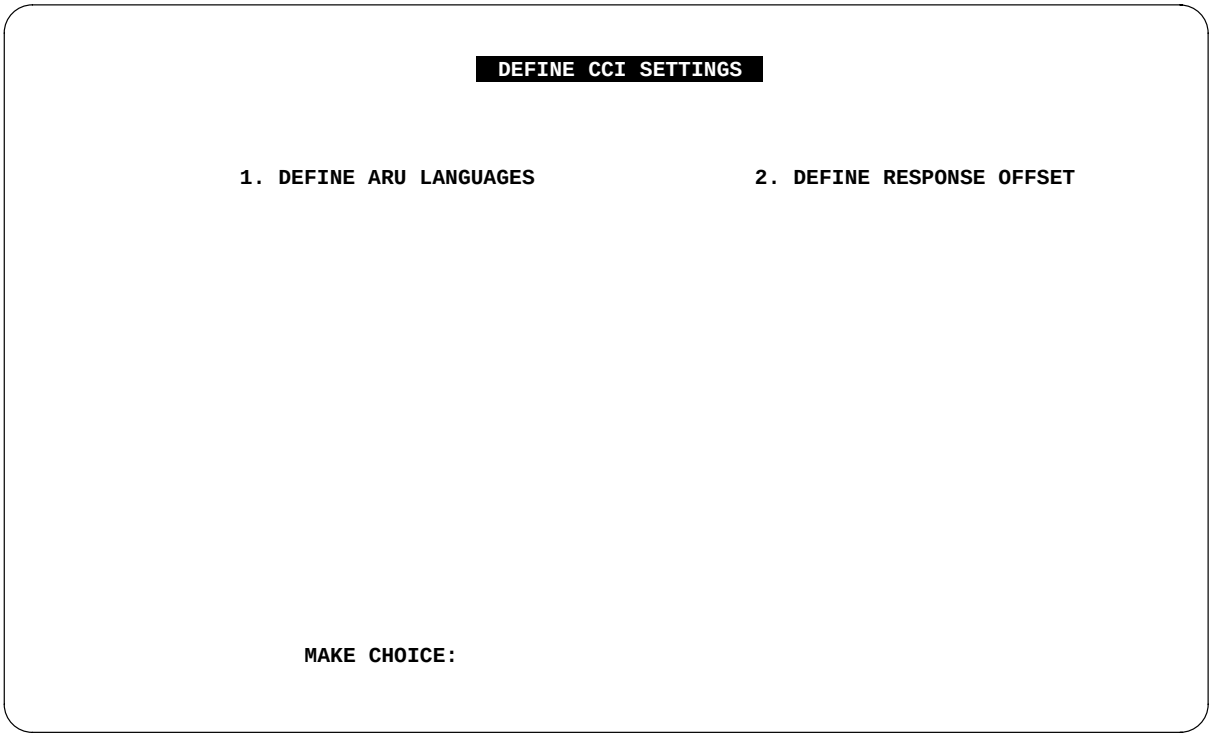
If the terminal “beeps” (no message displayed), the problem is invalid input or the operator function number is out of range.



Define CCI settings

The Define CCI settings menu is selected from choice 3 of the Define HSDA settings menu. This menu is used to set the ARU language. It is also used to define the response offset for messages incoming from the NT DA (CCI) system.

If the terminal “beeps” (no message displayed), the problem is an invalid input or the operator function number is out of range.



Define ARU languages

This screen displays by selecting choice 1 from the Define CCI settings menu.

Only English, French, and Spanish are allowed for current datafill. The entry at the first position (first row) is the primary ARU language, the entry at the second position (second row) is the secondary ARU language. English displays as a system default if there is no entry made. Place the cursor as needed under column ARU language, and enter “E,” “F,” or “S.”

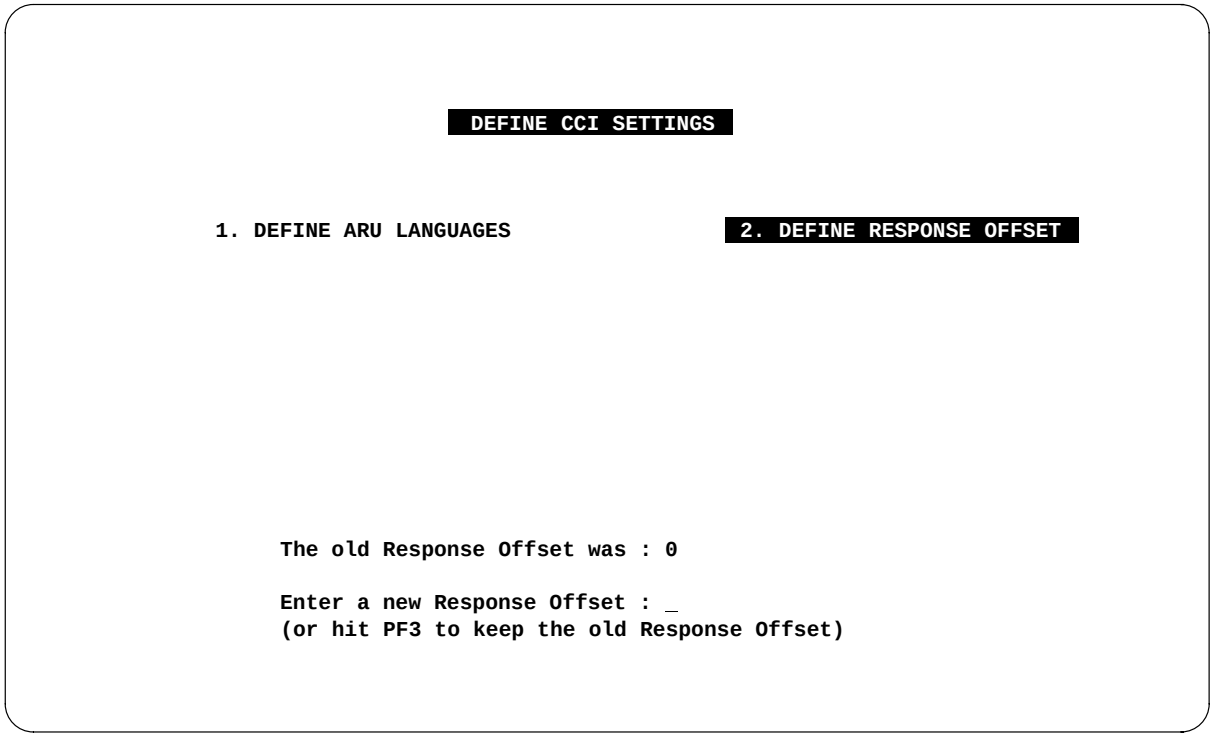
If the terminal “beeps” (no message displayed), the problem is invalid input or the operator function number is out of range.

```
                          DEFINE ARU LANGUAGES

NOTE: To define an ARU language, enter its first letter.


                    E. English
                    F: French
                    S: Spanish


          ARU LANGUAGE
          ------------
           ENGLISH
           FRENCH
```

Define Response offset

Additional text displays on the Define CCI settings screen by selecting choice 2 from the Define CCI settings menu.

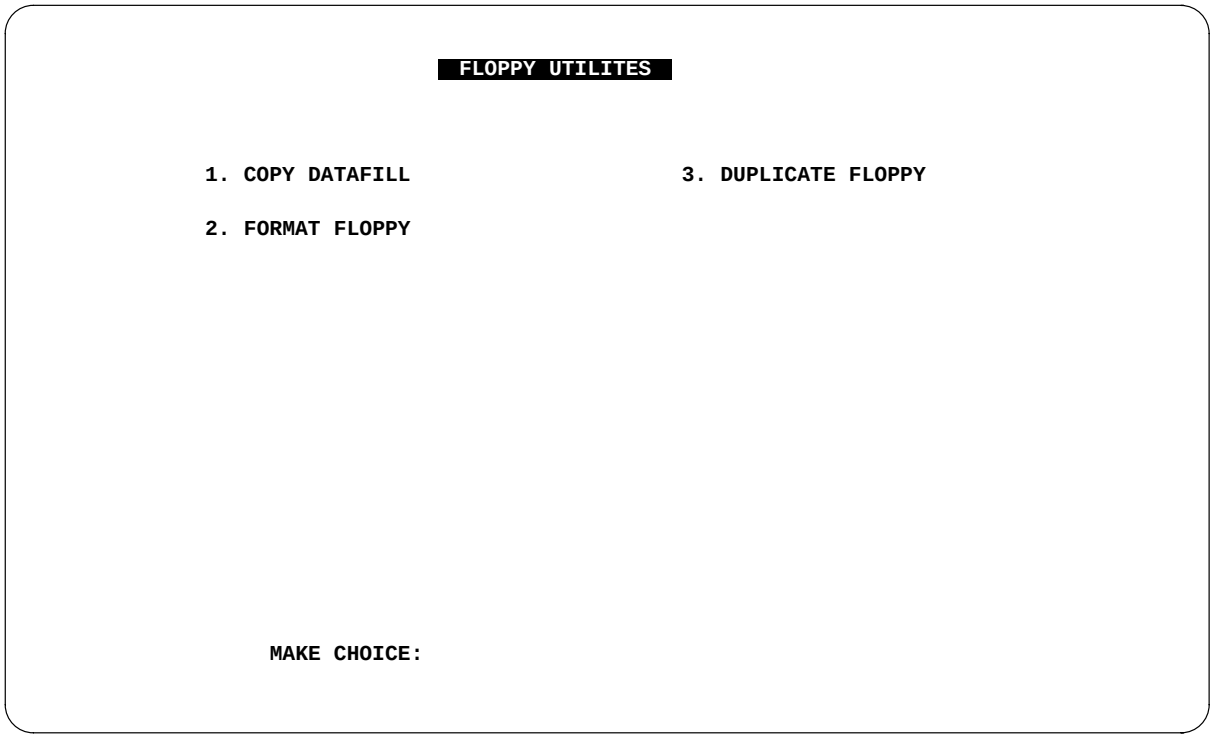
The TOPS MP position has a 36-character display field on the third line of the message status area of the DA screen. The response offset defines which 36 contiguous characters in the 80–character NT DA message are displayed. The number of the first character from the left of an 80–character NT DA (CCI) system message to be displayed on the MP terminal. Use the PF3 key to keep the default or existing offset. Response offsets other than zero may cause unpredictable results when dot suppression is turned on.



Floppy utilities

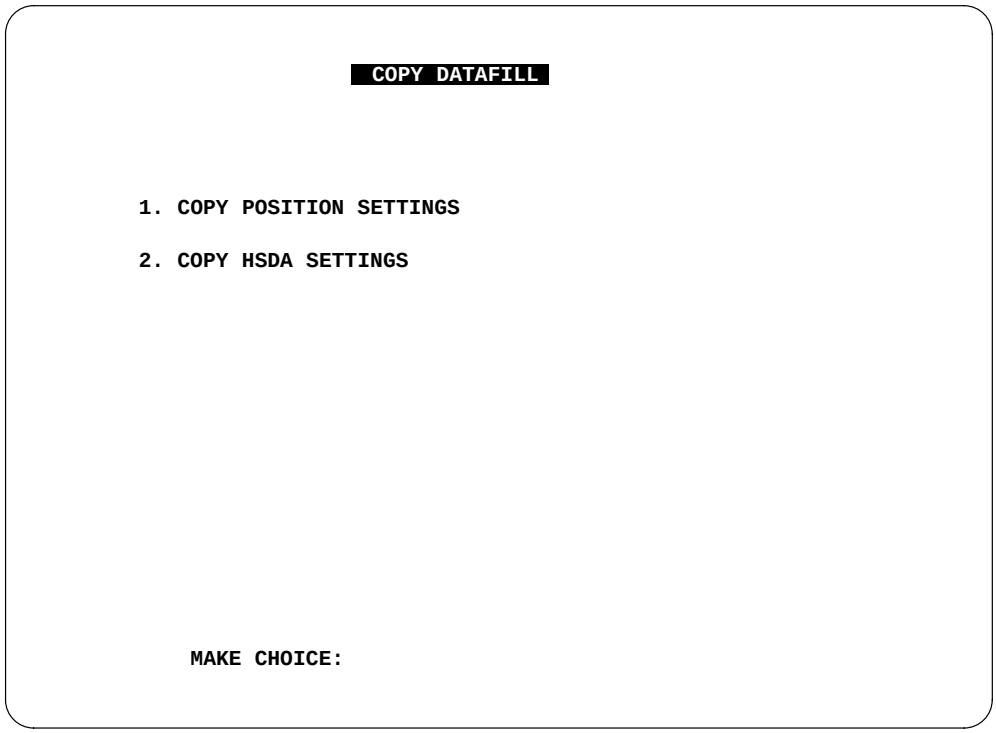
Select choice 4 on the TPC datafill menu to obtain the floppy utilities menu. This menu is used to copy TPC datafill to and from floppy, to format floppies, and to duplicate floppies.

If the terminal “beeps” (no message displayed), the problem is invalid input or the operator function number is out of range.

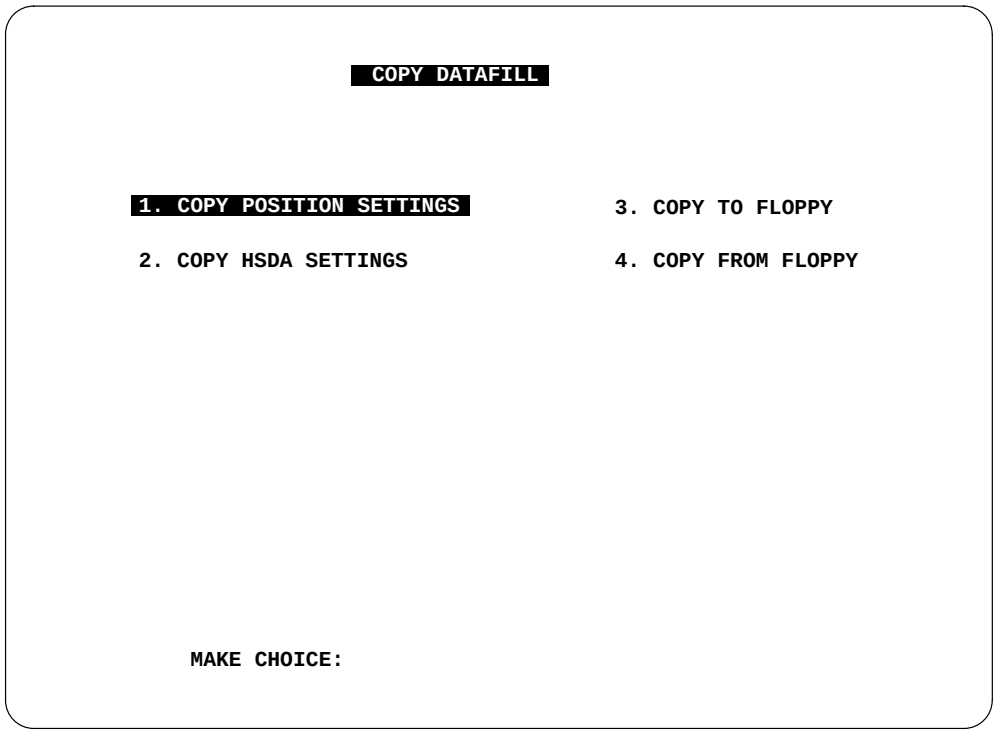


Copy datafill

Select choice 1 on the floppy utilities menu to display the copy datafill menu. This menu is used to copy position and HSDA settings. Press PF3 to return to the floppy utilities menu.



When choice 1 or 2 is selected from the copy datafill menu, selections 3 and 4 are also displayed. Press PF3 to return to the initial datafill screen



Copy position settings

Use this selection to request copying position setting (hardkey settings, OGT key settings, and keyboard settings) to or from floppy. Then select choice 3 to copy the settings from the hard disk to floppy, or select choice 4 to copy the settings from the floppy to the hard disk. When copying position datafill from floppy, each position must be Bsy'd and RTS'd in order for any changes to take effect on that position.

Copy HSDA settings

Use this selection to request copying the datafill for the link parameters of the HSDA links, ARU languages and service timers.. Then select choice 3 to copy the settings from the hard disk to floppy, or select choice 4 to copy the settings from the floppy to the hard disk. When copying HSDA datafill from floppy, the HSDA cards must be OffL or Bsy.

Messages

The following messages may appear:

- Terminal beeps (no message displayed)
  - — screen 1 – only a number 1–2 is valid
  - — screen 2 – only a number 3–4 is valid

- HSDA cards must OffL or ManB. Copying HSDA information to the hard disk from floppy requires that the HSDA cards be OffL or ManB.
- File not found. Requested information cannot be found.
- Floppy not found. Check the disk drive to see if the floppy was inserted properly.
- Unformatted floppy. The floppy must be formatted first. (See TPC datafill menu)
- Floppy write protected. Remove the write protect tab from the floppy or use another floppy.
- Unable to use floppy. Trouble has been detected with the floppy. Use another floppy.
- Too many files. Trouble has been detected with the floppy. Reformat the floppy or use another floppy.
- No room on floppy. Trouble has been detected with the floppy. Reformat the floppy or use another floppy.

Format floppy

Floppy formatting is accessed by selecting choice 2 on the Floppy utilities menu. Prompts and messages for formatting floppies are displayed on the Floppy utilities screen. Possible prompts and messages are listed below.

- Insert diskette. Warning: All disk info will be erased.
  - — Enter “C” to continue or “Return” to abort. Enter “C” or “c” to continue the operation of formatting a floppy. Any other input or a carriage return by itself will abort the operation.
- Problem found with floppy...please check
  - — Check the disk and the position of the disk in the drive. The disk itself could be bad; try another disk. Also make sure that you are using high-density (quad-density) disks.
- Format floppy done
  - — The floppy has been successfully formatted.
- Formatting In progress
  - — The floppy is currently being formatted. Do not attempt to remove the floppy at this point.
- Contact TAS if the following errors occur during formatting:
  - — Could not find bootstrap source file
  - — Bootstrap source file too big
  - — Inconsistency found in bootstrap source file

— Cannot locate FDM...format floppy aborted

Duplicate floppy

The duplicate floppy function is accessed by selecting choice 3 on the Floppy utilities menu. The following is a basic description of the functionality including the prompts and messages generated at each step of the process. The prompts and messages for duplicating floppies are displayed on the Floppy utilities screen.

Insert source floppy

First, the user is prompted to insert the high-density TPC formatted floppy disk to be copied. The user is continually prompted until a formatted disk with files is provided or the user aborts the process.

The following messages may appear:

- Insert formatted source diskette.
  - — Enter “C’” to continue or “Return” to abort.
  - — Insert a high–density TPC formatted diskette. Enter “C” or “c” to continue the operation. Any other input or a carriage return by itself will abort the process.
- Floppy not properly seated or not formatted. Please check.
  - — Check the disk and the position of the disk in the drive. The disk may not be formatted or the disk itself could be faulty.
- Source disk is empty!
  - — The source disk inserted contains no files. Insert a disk with data to be copied.

Read source floppy

The contents of the source disk are read and saved by the TPC.

The following messages may appear:

- Reading in source disk.
  - — The contents of the source disk are being read into memory. Do not remove the disk.
- Floppy not properly seated or not formatted. Please check. Would you like to insert another disk and try again? Enter “Y” for yes or “N” for no.
  - — Check the disk and the position of the disk in the drive. The disk may not be formatted or the disk itself could be faulty. Enter “Y” or “y” to reseat the disk or insert another disk to continue the process. Any other input will abort the process.

- Not enough memory available to perform floppy copy. Too many positions are in the inservice state. Floppy copying procedure aborted.

  — There is not enough memory available in the TPC to perform the duplicate floppy function. If possible, take some positions out of service to free up some memory. If this situation is encountered the process is aborted.

- Error reading source disk. Would you like to insert another disk and try again? Enter "Y" for yes or "N" for no.

  — An error was encountered when reading in the source disk. The cause of the error could be that the disk is double-density instead of high-density, the disk is faulty, or the door of the floppy drive was opened during the reading process. Enter "Y" or y to reinsert the same disk or to insert another source disk. Any other input will abort the floppy duplicating procedure.

Insert destination floppy

The user is prompted to insert a high-density TPC formatted diskette to write the source data to. The user is continually prompted until a formatted disk is provided or the user aborts the process.

The following messages may appear:

- Insert formatted destination diskette. Enter "C" to continue or "Return" to abort.

  — Insert a high-density TPC formatted diskette. Enter "C" or "c" to continue the operation. Any other input or a carriage return by itself will abort the operation.

- Floppy not properly seated or not formatted. Please check.

  — Check the disk and the position of the disk in the drive. The disk may not be formatted or the disk itself could be faulty.

- Destination disk is not empty. Would you like to overwrite the disk contents? Enter "Y" for yes or "N" for no.

  — The destination disk contains files. This message is provided as a warning. Enter "Y" or "y" to continue and overwrite the disk contents. Any other input will result in being prompted again for a destination floppy.

Write destination floppy

The data is then transferred to the destination disk. If no error is encountered while writing the data to the disk, the user may optionally request that a write verification be performed on the disk. The user is continually prompted for other disks to which this data should be transferred until the user exits the duplicate floppy function.

The following messages may appear:

- Writing to destination disk.
  - — The source data is being transferred to the destination disk. Do not remove the disk.
- Writing Successful! Would you like to write verify the disk? Enter “Y” for yes or “N” for no.
  - — No error was encountered while writing the saved data to the destination disk. The user now has the option of having a write verification performed on the destination disk. Enter “Y” or “y” to perform the write verification. Any other input will bypass the write verification and continue with the process.
- Performing write verification...
  - — The data on the destination disk is being verified that it matches the data read from the source disk.
- Write verification successful.
  - — No error was encountered during the write verification. The destination disk data matches the data read from the source disk.
- Remove floppy and label exactly as source floppy. Would you like to copy source floppy contents to another floppy? Enter “Y” for yes or “N” for no.
  - — Remove the destination floppy and label the floppy the same as the source floppy. If you wish to copy the source data to another destination floppy then enter “Y” or “y” to continue the process. Any other input will terminate the process.
- Floppy not properly seated or not formatted. Please check. Would you like to insert another disk and try again? Enter “Y” for yes or “N” for no.
  - — Check the destination disk and the position of the disk in the drive. The disk may not be formatted or the disk itself could be faulty. Enter “Y” or “y” to reseat the disk or insert another disk to continue the process. Any other input will abort the process.
- Error writing to Destination disk. Would you like to insert another disk and try again? Enter “Y” for yes or “N” for no.
  - — An error was encountered when writing to the destination disk. This could be caused by many things. The disk could be double-density instead of high-density, the disk could be faulty, or the door of the floppy drive was opened during the writing process. Enter “Y” or “y” to re-insert the same disk or to insert another destination disk. Any other input will abort the floppy duplicating procedure.
- Not enough memory is available to perform the write verification.

— The write verification of the destination disk cannot be performed because there is not enough memory available.

- Floppy not properly seated or not formatted. Please check. Write verification cannot be performed. Would you like to copy source floppy contents to another floppy? Enter "Y'" for yes or "N" for no.

  — A problem was found with the floppy; the write verification cannot be performed on this disk. If you wish to copy the source data to another destination floppy then enter "Y" or "y" to continue the process. Any other input will terminate the process.

- Error reading disk to memory for write verification. Write verification cannot be performed. Would you like to copy source floppy contents to another floppy? Enter "Y" for yes or "N" for no.

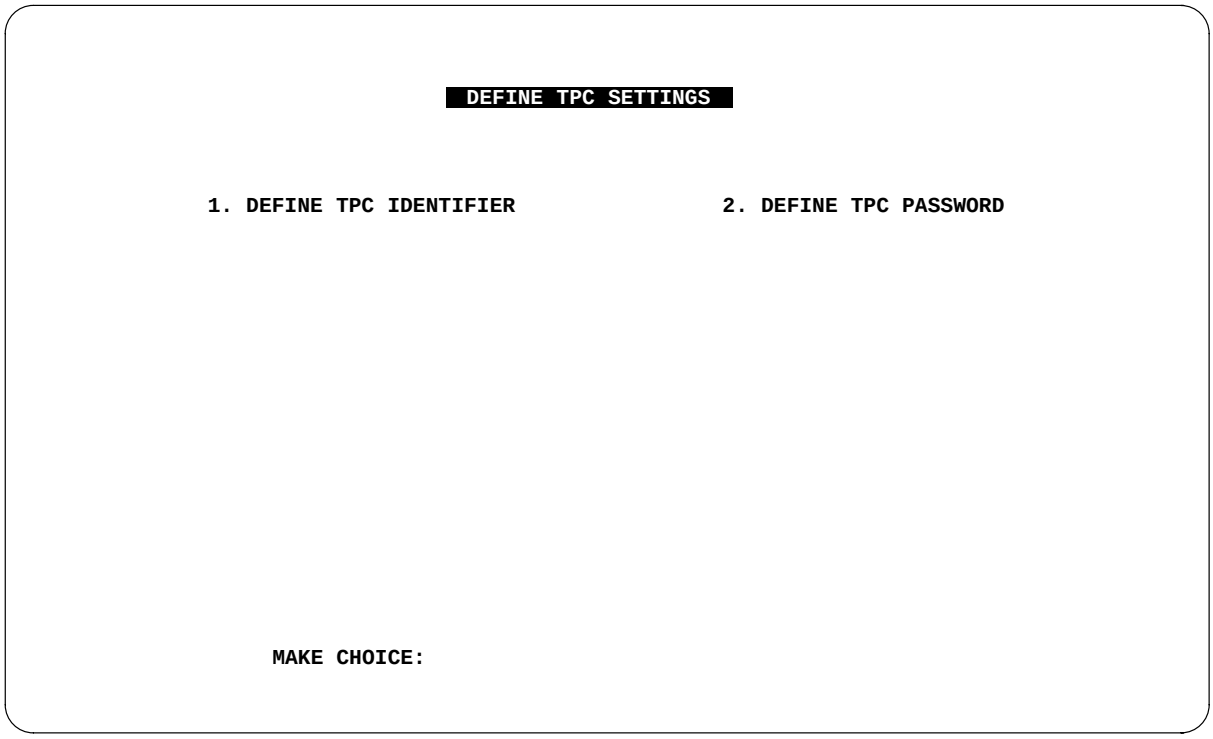
  — An error was encountered when reading the data from the destination disk. The disk could be faulty or the door of the floppy drive was opened during the reading process. The write verification cannot be performed on this disk. If you wish to copy the source data to another destination floppy then enter "Y" or "y" to continue the process. Any other input will terminate the process.

- An error was encountered during write verification. The contents of this destination disk are invalid. Would you like to copy source floppy contents to another floppy? Enter "Y" for yes or "N" for no.

  — The verification of the destination disk data was performed and an error was found in the data. The contents of the disk are invalid. If you wish to copy the source data to another destination floppy then enter "Y" or "y" to continue the process. Any other input will terminate the process.

Define TPC settings

The TPC settings menu is used to assign TPC identifiers and TPC passwords. It is accessed by selecting choice 5 on the TPC datafill menu. If the terminal “beeps” (no message displayed), the problem is invalid input or the operator function number is out of range.



Define TPC identifier

The TPC identifier menu is used to give each TPC a unique name. A user can then verify which TPC has been dialed into before taking any corrective action. The TPC identifier menu is accessed by selecting choice 1 on the Define TPC settings menu.

The prompts and messages for defining the TPC identifier are displayed at the bottom of the Define TPC settings menu. The old TPC identifier is shown first: initially, a TPC has a blank identifier. To keep the old TPC identifier without change, hit PF3 or press Enter. To null the TPC identifier, enter a blank string (at least one space) and press Enter. Or, enter a new TPC identifier (up to 30 characters) at the prompt.

Once an identifier is datafilled, it remains in effect until a new identifier is assigned. Resetting or reloading the TPC does not affect the TPC identifier. The current TPC identifier always appears in the center of line 3 of the TAMI main menu.

```
                    DEFINE TPC SETTINGS

1. DEFINE TPC IDENTIFIER              2. DEFINE TPC PASSWORD









     The old TPC identifier was :

     Enter a new TPC identifier :
     (or hit PF3 to keep the old TPC identifier)
```

Define TPC password

Select choice 2 on the Define TPC settings menu to access the Define TPC password menu. The current password, if any, must be entered correctly before a new password can be set. If it is not entered correctly, the password setting menu is aborted. If it is entered correctly, the user is prompted to enter a new password. A password is not case sensitive and can have up to 30 characters. The cursor advances forward for each character typed in, but an entered password does not appear on the screen. Also, the cursor backs up for each backspace key entry until the beginning of the entry field is reached. Prompts and messages for defining the password are shown at the bottom of the menu.

```
                    DEFINE TPC SETTINGS

1. DEFINE TPC IDENTIFIER          2. DEFINE TPC PASSWORD




    Enter a new password :
    (or hit PF3 to keep the old password)
```

There are then three possible responses to the password prompt:

1 A new password is entered, and the user is prompted to reenter the new password. If the entered passwords match, the old password is replaced by the new one and the user is returned to the Define TPC settings screen. The security feature is active.

2 "None" is entered twice to disable the password feature. After this, no password is set and logging out of a TAMI session is not allowed.

3 The PF3 key is pressed to abort the password setting menu. The current password is not changed.

List of terms

DAS

Directory assistance system

DAS/C

Directory assistance system computerized

Directory assistance (DA)

A service for providing directory information.

Directory assistance system (DAS)

A vendor supplied database which contains directory information.

High speed line interface (HSLI)

A circuit card and cable link that the MP terminal, TPC, and DMS use to exchange voice and data information.

HSLI

High speed line interface

MP

Multipurpose position

Multipurpose position (MP) terminal

An operator position that can be configured as toll and assist, in-charge, assistant, or force manager. The MP terminal consists of the base unit, headset, keyboard, and CRT

NAS

Network Applications Systems

Operator reference database (ORDB)

Provides an alternative to manual lookup of reference information for responding to customer queries. ORDB system maintains this reference information in files on a disk at central (host) computers. This allows immediate access of customer query information by the operator.

ORDB

Operator reference database

Single board computer (SBC)

A circuit card that processes all data for the TPC and diagnostics for the TPC, HSLI links, and MP terminal.

TAMI

TPC administration and maintenance interface

TMS

TOPS message switch

TOPS message switch

A DMS-family XMS-based peripheral module used as a concentration and switching device for data links.

TOPS MP

Traffic operator position system (TOPS) MP

TOPS position controller (TPC)

A control unit that functions as a workstation-based microcomputer with networking capabilities.

TPC

TOPS position controller

TPC administration and maintenance interface (TAMI)

A VT220 terminal for administrative and maintenance tasks on the TPC, HSLI links, and MP terminal.

Index

Northern Telecom Publications Questionnaire

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Please identify this NTP's medium: *Paper*___ *CD*___

Number: 297–2281–530 *Issue:* 02.02 *Date:* June 1997

BCS/Release: TPC04

Use this space for your comments, concerns, or problems encountered:

Please rate this NTP in the following categories:

	Excellent 5	4	3	2	Poor 1
Technical Accuracy: The information is correct.	☐	☐	☐	☐	☐
Usability: The information is useful and clearly presented.	☐	☐	☐	☐	☐
Organization: The information was found in a logical place.	☐	☐	☐	☐	☐
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