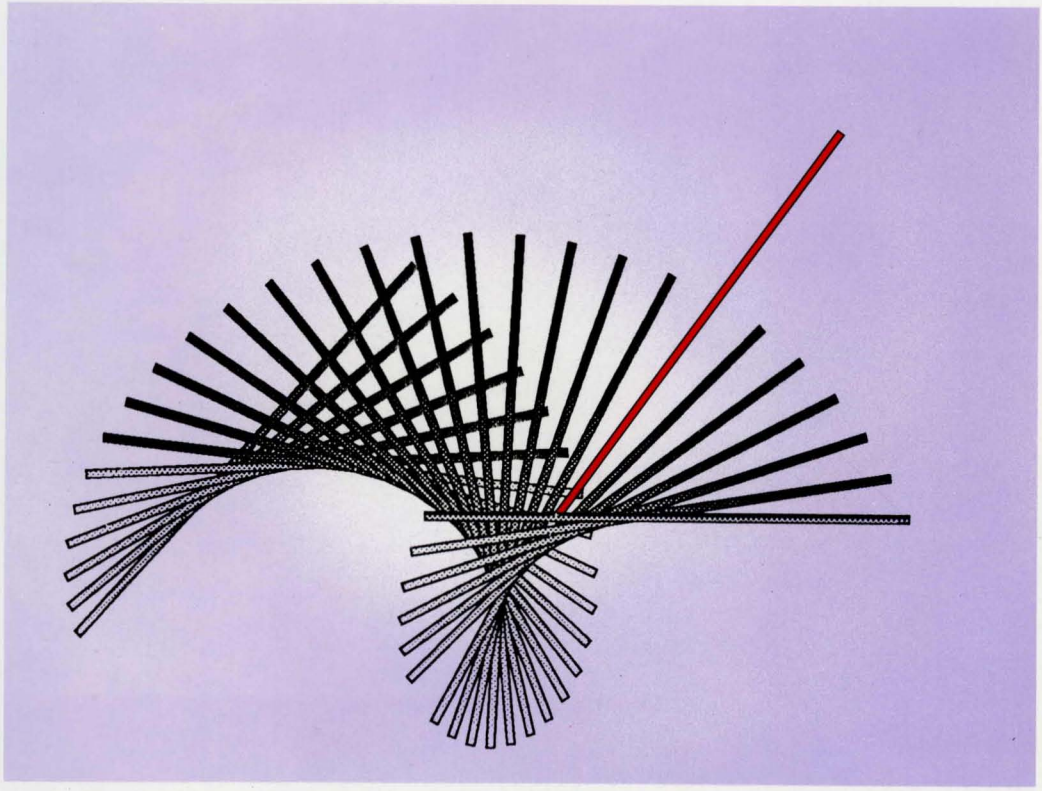
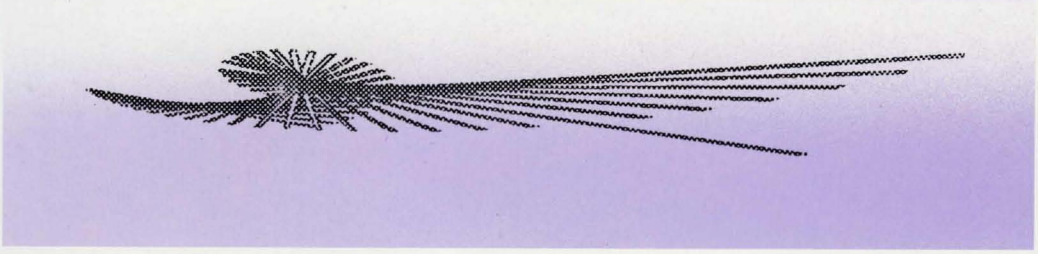
IBM 3745 Communication Controller
All Models

SA33-0098-2

Basic Operations Guide





IBM

IBM 3745 Communication Controller
All Models

SA33-0098-2

Basic Operations Guide

Note!

Before using this information and the product it supports, be sure to read the general information under "Notices" on page ix.

Third Edition (April 1992)

This manual replaces and obsoletes the *IBM 3745 Communication Controller: Basic Operations Guide, Models 130, 150, and 170*, SA33-0146-0, *IBM 3745 Communication Controller: Basic Operations Guide, Models 210, 310, 410 and 610*, SA33-0098-1, and *IBM 3745 MOSS Console Switching*, SA33-0157-0.

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Preface

About This Guide

This guide applies to the IBM* 3745 Communication Controller Models 130, 150, 160, 170, 210, 310, 410, and 610.

It describes only **basic** operator functions for the 3745. These include:

- How to use the operator consoles
- How to power on and IPL the 3745
- How to log on to the 3745 maintenance and operator subsystem (MOSS)
- How to enable and disable channel adapters
- How to perform a fallback (Models 210, 310, 410, and 610 only)
- How to perform a switchback (Models 210, 310, 410, and 610 only)
- How to perform initial microcode load of the MOSS and scanners.

These functions, and more advanced functions, are fully described in the *IBM 3745 Communication Controller: Advanced Operations Guide*, SA33-0097.

Who Should Use This Guide

This is a quick reference guide to enable personnel without specialist knowledge to carry out routine daily operations with an IBM* 3745 Model 130, 150, 160, 170, 210, 310, 410, or 610 Communication Controller, and to know when to seek expert help.

Teleprocessing specialists should also use this guide in conjunction with the:

- *IBM 3745 Communication Controller: Problem Determination Guide*, SA33-0096, which contains problem determination procedures.
- *3745 Advanced Operations Guide*, which describes all the 3745 MOSS functions in detail.

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How this Guide is Organized

The first section of this guide, "Operator Console Procedures," explains how to use the operator console, how to log on to the maintenance and operator subsystem (MOSS), and how to select and execute MOSS functions.

The second section of this guide, "Control Panel Procedures," from page 43 onwards, provides information on procedures executable from the 3745 control panel.

Appendix A, "Control Panel" on page 73, provides details of the control panel.

Appendix B, "Hexadecimal Codes" on page 83, explains the hexadecimal codes displayed on the control panel.

The following information is included at the back of this guide:

- A list of abbreviations used in this guide, on page 87.
- A glossary of terms which may be unfamiliar, on page 89.
- Related documentation is detailed on page 91.
- An index is provided on page 95.

Where to Find More Information

This guide should be used in conjunction with the publications shown in "Bibliography" on page 91.

Operator's Tools

To perform the 3745 daily operations under normal conditions, you will use:

- An **operator console** and its **keyboard** (remote, local, or alternate). The keys that you will use most frequently are:

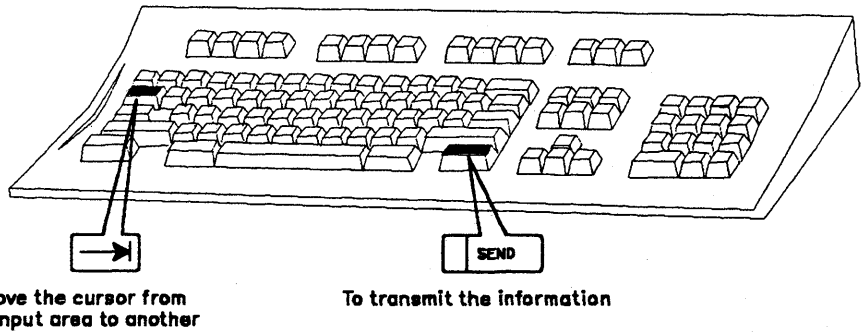


Figure 1. 3745 Console Keyboard

- The 3745 **control panel.**

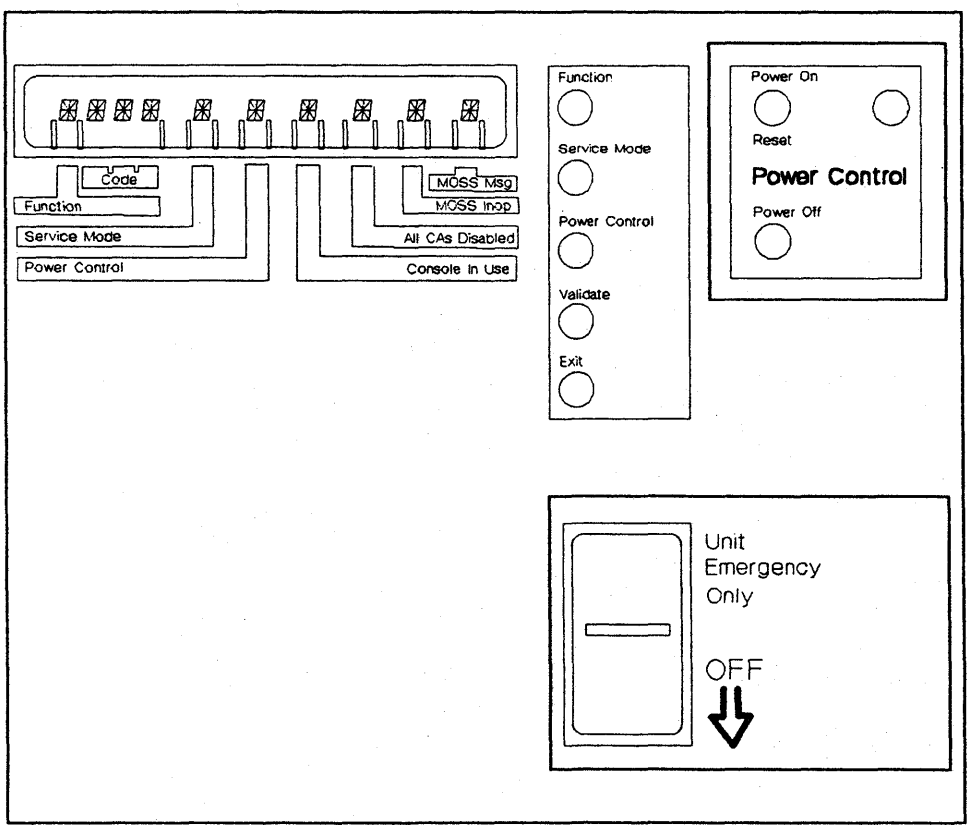
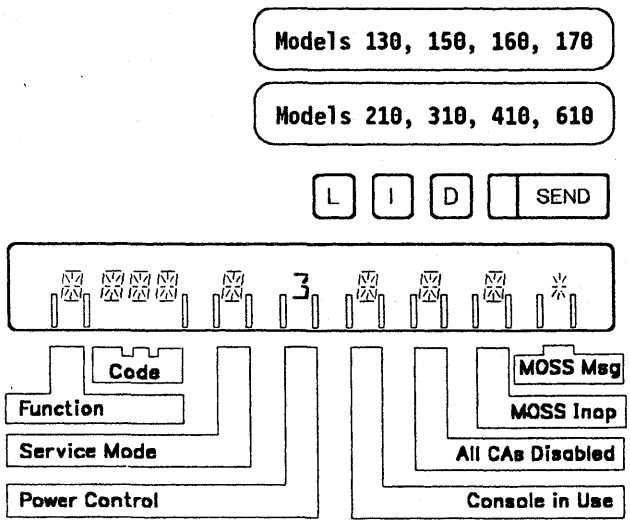


Figure 2. 3745 Control Panel

The description of the control panel displays, indicators and switches is detailed on page 73.

Conventions Used in this Guide



MOSS functions are applicable to all 3745 models, unless otherwise stated. The graphics shown opposite are used to differentiate between required actions for specific models.

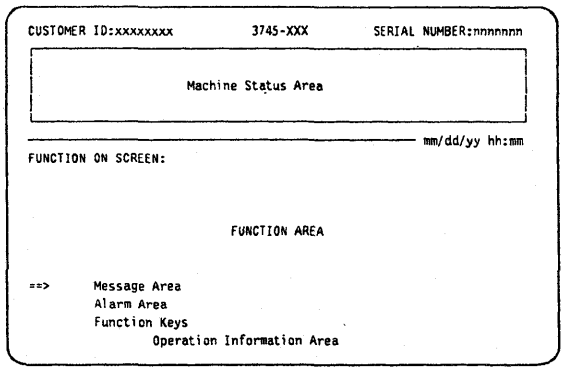
The drawing of a key means that you have to press that key.

This is the control panel display. The control panel is fully illustrated and explained on page 73.

Indicator is off.

Option 3 is selected.

Indicator is on.



This is a screen that you can see when performing a 3745 function on the operator console.

The area referred to as the **machine status area (MSA)** is used to display the status of the 3745 and its different components.

For a thorough description of this area, refer to *3745 Advanced Operations Guide*.
In all the screens, 3745-xxx denotes the machine and model numbers. See also "Console Screen Layout" on page 3 for a more detailed description of the fields displayed.

HELP

Contact the person in charge of 3745 problem determination.

Write the telephone number here

Operator Console Procedures

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Chapter 1. Using the Operator Consoles

The different types of consoles you can use to perform the MOSS functions are documented in the *IBM 3745 Communication Controller: Introduction.*

Console operating characteristics are given in the *IBM 3745 Communication Controller: Console Setup Guide*, SA33-0158.

The console and keyboard of the 3101-like terminal are described fully in the *IBM 3101 Display Terminal Description*, GA18-2033.

Console Screen Layout

The format of the operator console screen is illustrated below:

```
CUSTOMER ID: xxxxxxxxxxxxxxxx      3745-XXX       SERIAL NUMBER: nnnnnnn

                          Machine Status Area

-------------------------------------------------------------mm/dd/yy hh:mm
FUNCTION ON SCREEN:                          FUNCTION PENDING:




                        FUNCTION AREA




===>        Message Area
            Alarm Area
            Function Keys
                    Operation Information Area
```

Figure 3. Console Screen Layout

CUSTOMER ID: Customer identification, permanently displayed (16 characters). To enter or modify the customer identification use the Password function described in the *3745 Advanced Operations Guide.*

MACHINE TYPE: The machine type and model: 3745-XXX.

SERIAL NUMBER: Machine serial number of the 3745 (7 characters).

MACHINE STATUS AREA (MSA): Information on the CCU, scanners, token-ring interface couplers and IPL progression. For further details, see the *3745 Advanced Operations Guide.*

FUNCTION ON SCREEN: The name of the function being displayed.

FUNCTION PENDING: The name of the function waiting to be displayed.

FUNCTION AREA: Function display and operator input.

MESSAGE AREA: Area to display messages. Messages are explained in the *3745 Advanced Operations Guide.*

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ALARM AREA: Area to display alarms. The alarms give the probable cause, the area of the error, and a reference code that may lead to a list of field-replaceable units (FRU list). All alarms are listed in the *3745 Problem Determination Guide*. When there is more than one alarm, the word ALARM blinks. Pressing F3 displays the next alarm and erases the previous one.

FUNCTION KEYS: Available F keys are shown on this line.

OPERATION INFORMATION AREA: This area is reserved for the display of:

- Operator information messages
- Test messages.

These messages are documented in the appropriate operator console documentation.

Moving the Cursor

To move the cursor from one input area to another, use the Tab key

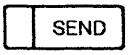
Input areas are represented as follows on the screen:

===> to enter the acronym of a function, an option, or data.

In display mode, ===> is changed into the equal sign (=) or the colon sign (:).

Keyboard Terminology

Since the consoles may be of different types, the keyboards used may vary. For consistency, the following terminology is used when referring to certain keys:



This is the key pressed to confirm the data entered. Also called the ENTER key.

This is the key pressed to stop the refreshing of diagnostics, in order to communicate directly with the system. Also called the ATTN key or the INTERRUPT key.

To move the cursor from one input area to another.

Explanations of Common Commands and Function Keys on Screen

OFF (Log off): If you enter *OFF*, you are disconnected from the MOSS. You cannot use *OFF* while a function is active or pending; press F1 to terminate it.

F1: END: Pressing F1:

- Terminates any function that is running
- Displays the previous screen.

F2: MENUx: Pressing F2 displays menu 1, menu 2, or the pending function.

F3: ALARM: Pressing F3 erases the latest alarm displayed (if any) from the alarm area, and displays any alarms still queued. You should note all information, especially the reference code, before erasing an alarm. This information can

still be found by selecting the ELD function, as described in the *3745 Advanced Operations Guide*.

F6: RULES: Pressing this key displays the Function Selection Rules screen.

Fx: QUIT: Pressing this key returns you to the previous menu.

Logging On and Off

To log on at the operator console:

1. **Ensure the 3745 is powered on.**
2. **Power on the operator console.** When powered on, the CA INTERFACE DISPLAY screen is displayed. Proceed as in "Selecting MOSS Functions."
3. **To terminate a function,** press F1.
4. **To log off at the console**, enter OFF and press SEND.

Selecting MOSS Functions

You can select MOSS functions in two ways:

- in disk mode from the local, alternate or remote consoles
- in diskette mode from the control panel.

Selecting Functions in Disk Mode from the Local or Alternate Console

When you select MOSS functions from the local or alternate console, the first screen after IML displays the channel adapter statuses. This screen is accessible without entering a password, but only the ENABLE/DISABLE request field of a channel adapter can be modified.

```
CUSTOMER ID:xxxxxxxx          3745-XXX        SERIAL NUMBER:nnnnnnn

                3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

                          CA INTERFACE DISPLAY
INTERFACE  CHANGE      E/D    INTERFACE     HOST OR    CHANNEL    NSC
 NUMBER    E/D REQ   REQUEST   STATUS     SWITCH UNIT  ADDRESS  ADDRESS

   1A      ==>           E    ENABLED                            FA
   2A      ==>           E    ENABLED                            FB
   3A      ==>           E    ENABLED                            0C
   4A      ==>       D        DISABLED                           11
   5A      ==>       D        DISABLED                           FC
   6A      ==>           E    ENABLED                            FD
   7A                  -      -
   8A                  -      -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND

                          F4:MOSS FUNCTIONS    F5:UPDATE
```

Figure 4. Channel Adapter Display

From the previous screen:

You can use the following keys:

- F4 to select MOSS functions. The password screen is displayed.
- F5 to update the channel address field and the host or switch unit.

- **Press F4 to select the following password screen:**

```
CUSTOMER ID:                          3745-XXX        SERIAL NUMBER:nnnnnnn



              3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987
                                                                mm/dd/yy hh:mm



                   ENTER PASSWORD ==>





                              F4:Channel Interface Display
```

Figure 5. Entering the Password

- **Enter your password and press SEND** . After you have entered your password, the Function Selection Rules screen is displayed.
- **You can also press F4 to select the channel adapter interface display.**

```
------------------------------------------------------------- mm/dd/yy hh:mm

                              FUNCTION SELECTION RULES
- TO SELECT ONE OF THE MENUS, PRESS THE APPROPRIATE F KEY

- TO SELECT A FUNCTION, ENTER ITS 3-CHARACTER NAME THEN PRESS SEND

- ONCE YOU HAVE SELECTED A FUNCTION FROM ONE MENU, YOU MAY SELECT
  A FUNCTION FROM THE OTHER

- TO END THE FUNCTION ON SCREEN, PRESS F1

- TO RETURN TO THE PENDING FUNCTION, PRESS F2

- TO LOG OFF, ENTER OFF THEN PRESS SEND
===>

F1:END  F2:MENU2  F3:ALARM   F4:MENU1
```

Figure 6. Function Selection Rules Screen

From the previous screen:

You can use the following keys:

- F1 to terminate a function.
- F2 to display Menu 2 functions (see "Menu 2 Functions" on page 9).
- F3 to display the next alarm (if any), or clear the displayed alarm (if no other alarms are waiting).
- F4 to display Menu 1 functions (see "Menu 1 Functions" on page 8).
- You can also enter directly the acronym of a particular MOSS function (refer to the *3745 Advanced Operations Guide* for a full description of these functions.

Selecting Functions in Disk Mode from the Remote Console

When you select MOSS functions from the remote console, the first screen displayed is the Password screen. In all other respects, this procedure is the same as that from the local or alternate console (see "Selecting Functions in Disk Mode from the Local or Alternate Console" on page 5).

Selecting Functions in Diskette Mode

To restart the 3745 after a failure, you may be requested to perform an IPL in diskette mode from the control panel. In this case, refer to Chapter 10, "IPLing In Diskette Mode" on page 67.

After an IPL in diskette mode, the model number may be:

- 010 instead of 210, 310, 410 or 610 for models 210, 310, 410, or 610
- 090 instead of 130, 150, 160 or 170 for models 130, 150, 160, or 170.

To install engineering change microcode you also need to start the EC installation in diskette mode. Refer to the *3745 Advanced Operations Guide* for details of this function.

Menu 1 Functions

Models 130, 150, 160, 170

```
------------------------------------------------------------ mm/dd/yy hh:mm

                                MENU 1

CONFIG DATA FILE.: CDF     IML ONE SCANNER..: IMS     PASSWORDS........: PSW
CONTROL PGM PROC.: CPP     IPL CCU..........: IPL     PORT SWAP FILE...: PSF
DISK FUNCTIONS...: DIF     LD LINK TEST REQ.: LTQ
DISK IPL INFO....: DII     LD LINK TEST RESP: LTS     SCANNER I/F TRACE: SIT
EVENT LOG DISPLAY: ELD     LINE INTERF DSPLY: LID     STAND ALONE TEST.: SAT
                           LINK IPL PORTS...: LKP
                           MACHINE LVL TABLE: MLT     TIME SERVICES....: TIM
IML MOSS.........: IML     MICROCODE FIXES..: MCF     TRSS INTERF DSPLY: TID
                           ESS INTERF DSPLY.: EID     WRAP TEST........: WTT

                     ENTER OFF TO LOG OFF
===>

F1:END  F2:MENU2  F3:ALARM         F5:MENU3  F6:RULES
```

Figure 7. Menu 1 Functions for Models 130, 150, 160, and 170

Models 210, 310, 410, 610

```
------------------------------------------------------------ mm/dd/yy hh:mm

                                MENU 1

CONFIG DATA FILE.: CDF     IML ONE SCANNER..: IMS     PASSWORDS........: PSW
CONTROL PGM PROC.: CPP     IPL CCU(S).......: IPL     PORT SWAP FILE...: PSF
DISK FUNCTIONS...: DIF     LD LINK TEST REQ.: LTQ     POWER SERVICES...: POS
DISK IPL INFO....: DII     LINK TEST RESP...: LTS     SCANNER I/F TRACE: SIT
EVENT LOG DISPLAY: ELD     LINE INTERF DSPLY: LID     STAND ALONE TEST.: SAT
FALLBACK.........: FBK     LINK IPL PORTS...: LKP     SWITCHBACK.......: SBK
                           MACHINE LVL TABLE: MLT     TIME SERVICES....: TIM
IML MOSS.........: IML     MICROCODE FIXES..: MCF     TRSS INTERF DSPLY: TID
                           ESS INTERF DSPLY.: EID     WRAP TEST........: WTT

                     ENTER OFF TO LOG OFF
===>

F1:END  F2:MENU2  F3:ALARM         F5:MENU3  F6:RULES
```

Figure 8. Menu 1 Functions for Models 210, 310, 410, and 610

To select one of the displayed functions:

- Enter the acronym of the function next to the arrow at the bottom left-hand corner of the screen, then press SEND.

To log off at the console, enter "OFF" and press SEND.

If a function cannot be accessed, the following message is displayed in the message area:

PRESS SEND TO DISPLAY FUNCTION MENU

Menu 2 Functions

Models 130, 150, 160, 170

```
------------------------------------------------------------ mm/dd/yy hh:mm

                                MENU 2

AC/BT PARAMETERS.: ABP    CCU LV3 INTERRUPT: IL3    RESET CCU..... RST
BYPASS CCU CHECK.: BCK    MOSS OFFLINE.....: MOF    SET ADDR COMPARE.: SAC
BYPASS IOC CHECK.: BIK    MOSS ONLINE......: MON    SET BRANCH TRACE.: SBT
COND BRANCH TRACE: CBT    RESET ADDR COMP..: RAC    STOP ON CCU CHCK.: SCK
CA INTERF DISPLAY: CID    RESET BRCH TRACE.: RBT    STOP ON IOC CHECK: SIK
CCU NORMAL MODE..: CNM    RESET CCU CHECK..: RCK    SET I-STEP.......: SIP
CCU STATUS.......: CST    RESET CCU/LSSD...: RCL    STOP CCU.........: STP
DISPLAY/ALTER....: DAL                              START CCU........: STR
DATA EXCHANGE....: DEX    RESET IOC........: RIO
DISPLAY LONG.....: DLO    RESET I-STEP.....: RIS
                           ENTER OFF TO LOG OFF
===>

F1:END  F2:MENU2  F3:ALARM          F5:MENU3  F6:RULES
```

Figure 9. Menu 2 Functions for Models 130, 150, 160, and 170

Models 210, 310, 410, 610

```
------------------------------------------------------------ mm/dd/yy hh:mm

                                MENU 2

AC/BT PARAMETERS.: ABP      DISPLAY LONG.....: DLO      RESET IOC(S).....: RIO
BYPASS CCU CHECK.: BCK      MOSS OFFLINE.....: MOF      RESET I-STEP.....: RIS
BYPASS IOC CHECK.: BIK      MOSS ONLINE......: MON      SET ADDR COMPARE.: SAC
CA INTERF DISPLAY: CID                                  SET BRANCH TRACE.: SBT
CCU LVL3 INTERUPT: IL3      RESET ADDR COMP..: RAC      SET I-STEP.......: SIP
CCU NORMAL MODE..: CNM      RESET BRCH TRACE.: RBT      START CCU........: STR
CCU SEL/RELEASE..: CSR      RESET CCU........: RST      STOP CCU.........: STP
CCU STATUS.......: CST      RESET CCU CHECK..: RCK      STOP ON CCU CHECK: SCK
DATA EXCHANGE....: DEX      RESET CCU/LSSD...: RCL      STOP ON IOC CHECK: SIK
DISPLAY/ALTER....: DAL
                             ENTER OFF TO LOG OFF
===>

F1:END  F2:MENU1  F3:ALARM              F5:MENU3  F6:RULES
```

Figure 10. Menu 2 Functions for Models 210, 310, 410, and 610

For models 410, and 610, use the CCU Selection and Release (CSR) function to select a CCU. The CCU selected will appear in the machine status area (MSA).

To select one of the displayed functions:

- Enter the acronym of the function next to the arrow at the bottom left-hand corner of the screen, then press SEND.

To log off at the console, enter "OFF" and press SEND.

If a function cannot be accessed, the following message is displayed in the message area.

PRESS SEND TO DISPLAY FUNCTION MENU

Switching between Menu 1 and Menu 2 Functions

You may enter any function from either menu if you know the acronym of the function. To switch between the display of menu 1 functions and menu 2 functions, use the F2 key.

When switching is not possible, F2 is not displayed on the F key line.

Switching from a Function on Menu 1 to a Function on Menu 2

1. Press F2
2. The menu 1 function is disconnected
3. The name of the menu 1 function is displayed in the function pending area
4. Menu 2 is displayed
5. Select a menu 2 function
6. If you press F2, the menu 1 function that was pending becomes active and the menu 2 function becomes pending
7. When you end the active menu 1 function, the pending menu 2 function appears on the screen and becomes active.

Switching from a Function on Menu 2 to a Function on Menu 1

1. Press F2
2. The menu 2 function is disconnected
3. The name of the menu 2 function is displayed in the function pending area
4. Menu 1 is displayed
5. Select a menu 1 function
6. If you press F2, the menu 2 function that was pending becomes active and the menu 1 function becomes pending
7. When you end the active menu 2 function, the pending menu 1 function appears on the screen and becomes active.

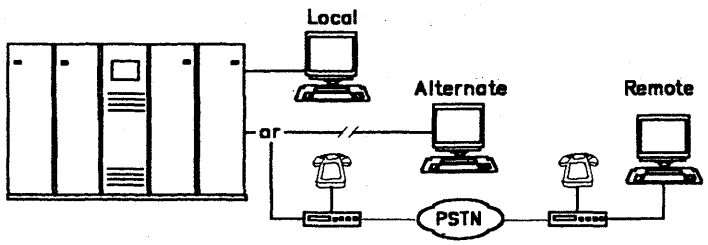
How to Start and Stop Refresh

For certain functions you can press F5:REFRESH to refresh or update the information in the MSA.

To stop the refresh, press the BREAK key.

Console Configurations

The following console configurations are possible on an IBM 3745 Communication Controller:



1. Local console only
2. Local console plus alternate console
3. Local console plus remote console

In addition, a Remote Support Facilities (RSF) console may be temporarily attached for maintenance purposes.

Using the IBM 7427 Console Switching Unit

This unit allows the connection of a single console to a maximum of 6 Communication Controllers as a local or alternate console. Selection is performed by pressing one of six push-buttons.

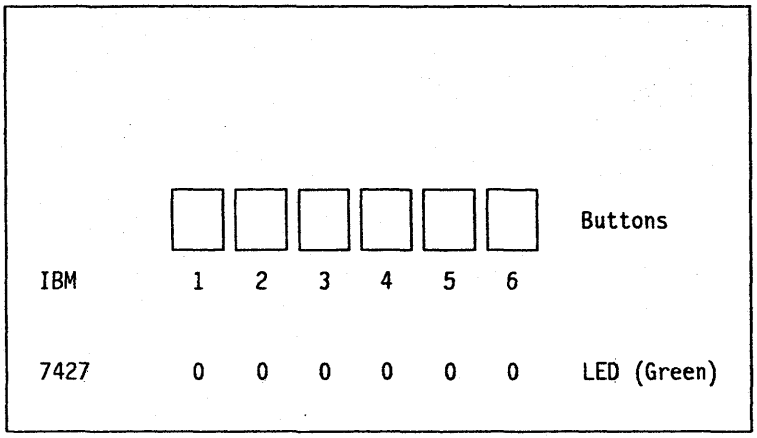


Figure 11. IBM 7427 Console Switching Unit

When an alarm occurs at one of the connected controllers, the corresponding lamp on the 7427 is lit. Proceed as follows:

1. If you are already logged on to another controller, log off in the normal way.
2. Press the button corresponding to the controller with the alarm.
3. Log on to the controller and take any necessary action.

Note: Pressing F3 clears the pending alarm. If there is no other alarm pending, the lamp on the 7427 goes out; if it does not go out, there is another alarm pending at the controller.

Chapter 2. Logging On

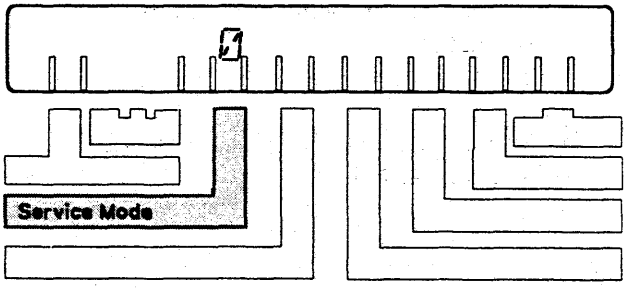
From Local or Alternate Consoles

You can log on at either the local or alternate console.

You can log on at a local or alternate console to one of up to six 3745s when using an IBM 7427 Console Switching Unit. To select a 3745 press the button corresponding to the controller (see page 12.)

1 Make sure that:

- The 3745 is powered on.
- The Console In Use display is off. If not, check the Console in Use display on the 3745 reference card (see page 73). Refer to page 15 or to the *3745 Problem Determination Guide* to get control of the local console if any other console is in use.
- Service mode is 0. If it is not, press the service mode button until it is, then press validate and power on again.



2 Power on the operator console. This screen is displayed. (For the alternate console only, wait 15 seconds.)

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

                3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

                              CA INTERFACE DISPLAY
INTERFACE  CHANGE     E/D     INTERFACE     HOST OR     CHANNEL    NSC
 NUMBER    E/D REQ   REQUEST   STATUS     SWITCH UNIT  ADDRESS  ADDRESS

   1A      ==>         E      ENABLED                             FA
   2A      ==>         E      ENABLED                             F8
   3A      ==>         E      ENABLED                             0C
   4A      ==>   D           DISABLED                            11
   5A      ==>   D           DISABLED                            FC
   6A      ==>         E      ENABLED                             FD
   7A                  -      -
   8A                  -      -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND

                          F4:MOSS FUNCTIONS    F5:UPDATE
```

3 Enable or disable the channel adapter(s) if necessary. Enter 'E' to enable, 'D' to disable.

Use → to move the cursor to the appropriate CHANGE E/D REQ field.

The INTERFACE STATUS field will be updated at the next IPL.

The message REQUEST SUCCESSFULLY TRANSMITTED appears on this screen.

For more information, go to page 19.

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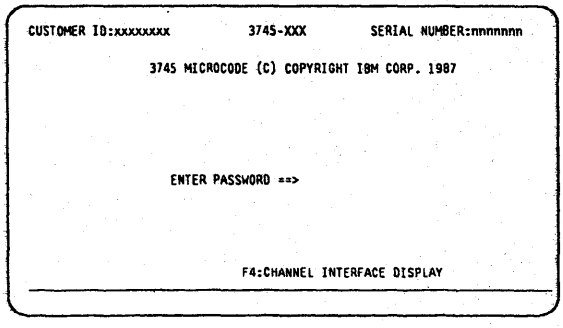
4 F4

This screen is displayed.

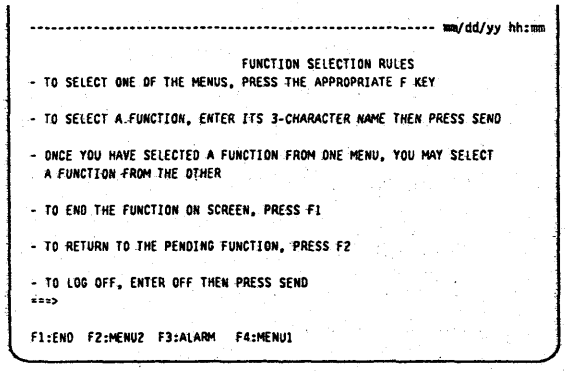
Enter the local/alternate console password, then:

SEND

If the password is rejected, because the **service mode** is not **0** at the control panel, the MOSS IML was probably not correctly executed. Refer to page 39 for details on the IML procedure.



5 The console is logged on when you see this screen.



Using the Local Console

Proceed as follows:

1. Switch on the console.
2. If the Channel Interface Display (CID) menu appears, the local console is connected to the MOSS. Enter your password to sign on to the MOSS.
   If the CID menu does not appear, either the alternate/remote console or the RSF is already connected.
3. If you need to connect the local console, use the 3745 control panel to select function 4. You now have 15 seconds to log on at the local console.
   - If the alternate console is connected, the message:
     RECONNECTION FORCED TO LOCAL CONSOLE
     is displayed at the alternate console.

     Note: If you do not log on at the local console within 15 seconds, the alternate console will again take control.
   - If the remote console is connected, one of the following messages, depending on MOSS level, is displayed at the console:
     RECONNECTION FORCED TO LOCAL CONSOLE
     TERMINAL DISCONNECTED
4. If you need to take over the local console immediately, use the 3745 Control Panel function 3.
   - If the alternate/remote console is connected, the following message is displayed at the console:
     LOCAL CONSOLE CALLING
     The operator at the alternate/remote console should now log off; the local console is active.
   - If the RSF console is connected, the RSF console remains active, and the following message is displayed at the RSF console:
     LOCAL CONSOLE CALLING

Using the Alternate Console

Proceed as follows:

1. Switch on the console.
2. If the CID menu appears within 15 seconds, the alternate console is connected to the MOSS. Enter your password to sign on to the MOSS.
   If the CID menu does not appear, either the local console or the RSF is already connected. The following message is displayed at the console that is active:
   ALTERNATE CONSOLE CALLING
3. If the active console (local or RSF) becomes inactive, the CID menu is displayed at the alternate console.

From Remote Console

1 Make sure that the modem at the remote console side is powered on and in voice mode.

2 Power on the console.

3 Dial the telephone number of the 3745 from your modem associated telephone set.

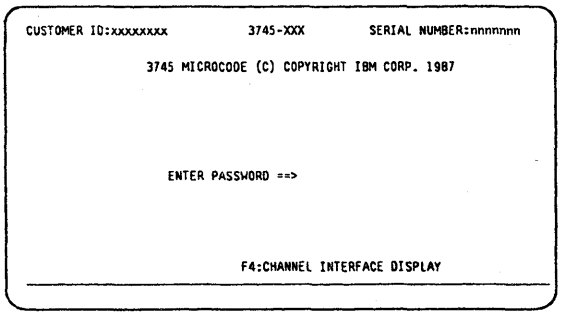
First you hear the **ringback** tone. Wait until you hear the **answer** tone (steady tone), go to the next step.

If you do not hear the answer tone, the local console is logged on. Try later.

4 Set the modem associated with your remote console to data mode.

Hang up the handset.

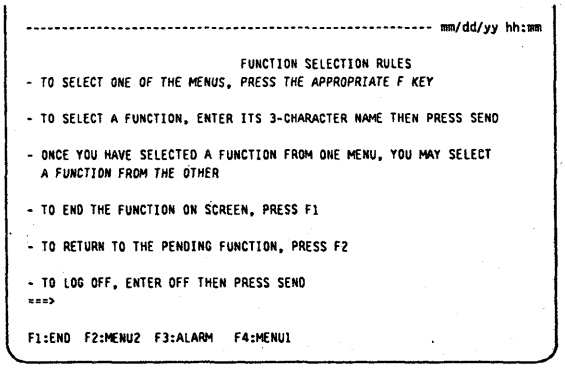
This screen is displayed:



5 Enter the remote console password, then:

SEND

The console is logged on when you see this screen:



If the password is rejected, because the **service mode** is not **0** at the control panel, the MOSS is probably not correctly IMLed; go to page 39.

Using the Remote Console

Proceed as follows:

1. Switch on the console.
2. Dial the number of the MOSS.
3. If the Password Menu appears within 15 seconds, the remote console is connected to the MOSS. Enter your password to sign on to the MOSS.

   Notes:

   a. If the local console is powered on, but inactive, the following message is displayed at the local console:
   TERMINAL DISCONNECTED FOR REMOTE CONSOLE

   b. If the remote console connection fails, control is returned to the local console after 2 minutes.
4. If the terminal is not connected (no dialing tone from the modem), either the local console or the RSF is already connected. The following message is displayed at the active console:
   REMOTE CONSOLE CALLING The message disappears after 15 seconds.
5. Try to dial the number of the MOSS again.

Chapter 3. Enabling/Disabling Channel Adapters (Models 130, 170, 210, 310, 410, and 610)

Required Conditions for Enabling a CA Interface

- The channel adapter must be physically connected to the host.
  Any switching unit between the host and the 3745 must be correctly configured.
- There must be the Controller Load/Dump Program (CLDP) or the Network Control Program/Emulation Program (NCP/EP) running in the CCU.
  - When CLDP is loaded, FF4 is displayed at the control panel.
    CLDP allows the enabling of all channel adapters that are defined in the CDF. Once the loading of NCP starts, CLDP disables all channel adapters, except the one used for loading, until the control is given to NCP.
  - When NCP is loaded, 000 is displayed at the control panel.
    NCP allows only the enabling of channel adapters that are defined in NCP.
- You must type E (enable) and press SEND.

Required Conditions for Disabling a CA Interface

- The channel adapter must be physically connected to the host.
  Any switching unit between the host and the 3745 must be correctly configured.
- You must type D (disable) and press SEND.
  - When only CLDP is loaded, the disabling is immediate.
    CLDP allows the disabling of all channel adapters that are defined in the CDF.
  - When NCP is loaded and running, the disabling is under control of the control program. The disabling is immediate as long as no channel operation is in progress.
  - When EP/PEP is loaded and running, the disabling may last several minutes. All lines must be stopped (under EP/PEP control) before the CA interface becomes disabled.

Three asterisks in the E/D REQUEST column, means that MOSS could not save or retrieve the information, because of a disk error. Issue the request again, by entering either E or D.

All enable or disable requests are saved on disk and automatically retransmitted when you perform an IML after a power off.

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Enabling and Disabling Channel Adapters

1 Ensure that the console is powered on and logged on, then press:

[C] [I] [D] [| SEND] to display this screen:

2 Press:

- [→] until the cursor is at the appropriate CHANGE E/D REQ field **A**
- [E] to enable, or

  [D] to disable
- Repeat the procedure if there are several channel adapters to update, then
- press [| SEND]

3 The E/D REQUEST field **B** is updated immediately.

The INTERFACE STATUS field **C** is updated immediately if the channel adapter is initialized. Otherwise it is updated at the next IPL.

4 press [F1] to end the procedure.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

                3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

                                                              mm/dd/yy hh:mm
FUNCTION ON SCREEN: CA INTERF  DISPLAY
INTERFACE  CHANGE      E/D     INTERFACE     HOST OR     CHANNEL     NSC
 NUMBER    E/D REQ    REQUEST  STATUS        SWITCH UNIT ADDRESS     ADDRESS

            A          B       C
   1A       ==>        D       DISABLED                              FA
   2A       ==>          E     ENABLED                               FB
   3A       ==>          E     ENABLED                               0C
   4A       ==>        D       DISABLED                              11
   5A       ==>        D       DISABLED                              FC
   6A       ==>          E     ENABLED                               FD
   7A                    -     -
   8A                    -     -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND
===>

F1:END      F3:ALARM              F5:UPDATE
```

Chapter 4. IPLing from an Operator Console

Single-CCU Configuration (Models 130, 150, 160, 170, 210, and 310)

1 Power on and log on at the operator console. Refer to page 13 (for a local or alternate console) or page 16 (for a remote console).

2 Press:

[I] [P] [L] [ ] [SEND]

This screen is displayed:

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn
CCU-A
RUN

                                                              mm/dd/yy hh:mm
FUNCTION ON SCREEN: IPL CCU(S)


- SELECT AN IPL OPTION (1, 2)  ==>

   1 = NORMAL
   2 = STEP-BY-STEP

===>

F1:END   F2:MENU2   F3:ALARM
```

3 Press:

[1] [ ] [SEND]

The IPL starts.

This screen is displayed:

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn
CCU-A
RUN
IPL CCU-A PHASE       IPL IN PROGRESS

                                                              mm/dd/yy hh:mm
FUNCTION ON SCREEN: IPL CCU(S)
                        CCU AND SCANNER IPL

       WHEN THIS FUNCTION IS COMPLETE (SEE ABOVE). PRESS F1

===>

F1:END   F2:MENU2   F3:ALARM    F4:STOP    F5:RESUME
```

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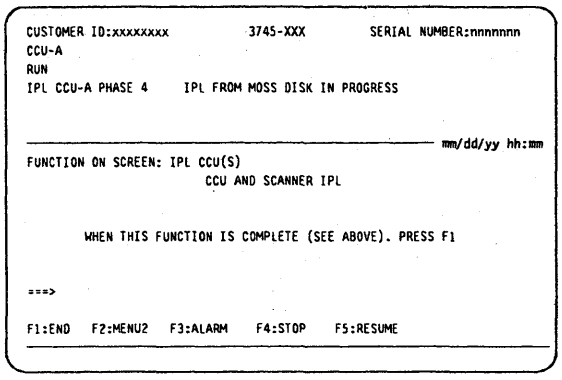
4 Wait approximately 5 minutes until one of the following is displayed:

- IPL FROM MOSS DISK IN PROGRESS. The control program is being loaded from the disk. Go to next step.
- ENABLED CA xxxxxxxxxxxxxxxx
  L xxxxxxxx

  This message is explained on page 26.

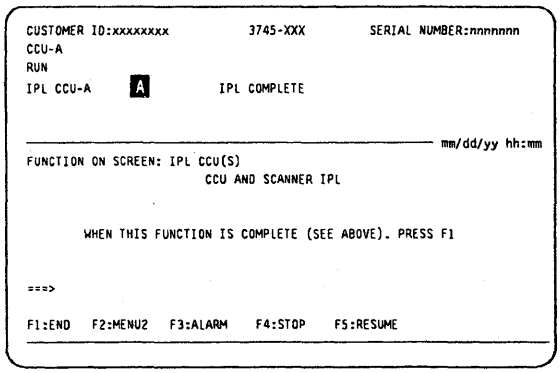
  Ask the host operator to load the control program, then go to next step.



5 Wait until you see IPL COMPLETE, then:

F1 to end the procedure.

Other messages may be displayed in **A** field. For the meanings of these messages, go to page 25.



Twin-CCU Configuration (Models 410 and 610)

Twin-Standby, Twin-Dual, and Twin-Backup Modes

1 The operator console in use must be powered on and logged on.

2 Press:

I P L SEND

This screen is displayed:

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn
CCU-A
RUN

CCU-B
RUN
                                                          mm/dd/yy hh:mm
FUNCTION ON SCREEN: IPL CCU(S)

- SELECT THE CCU YOU WANT TO IPL (1, 2, OR 3) ==>

    1 = AVAILABLE CCU(S) ACCORDING TO OPERATING MODE
    2 = CCU-A
    3 = CCU-B

- SELECT AN IPL OPTION (1, 2)  ==>

   1 = NORMAL
   2 = STEP-BY-STEP

===>

F1:END   F2:MENU2   F3:ALARM
```

3 Select one CCU option (1, 2, or 3),

- In twin-dual or twin-backup mode, if you selected 1, the CCUs that are not **down** are IPLed.
- In twin-standby mode, if you select 1, the active CCU is IPLed. If the load module has been saved on the disk and made active, the standby CCU will be automatically pre-loaded with the active load module.
- If either 2 or 3 is selected, only the specified CCU will be IPLed.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn
CCU-A
RUN

CCU-B
RUN
                                                          mm/dd/yy hh:mm
FUNCTION ON SCREEN: IPL CCU(S)

- SELECT THE CCU YOU WANT TO IPL (1, 2, OR 3) ==>

    1 = AVAILABLE CCU(S) ACCORDING TO OPERATING MODE
    2 = CCU-A
    3 = CCU-B

- SELECT AN IPL OPTION (1, 2)  ==>

   1 = NORMAL
   2 = STEP-BY-STEP

===>

F1:END   F2:MENU2   F3:ALARM
```

3 Press SEND

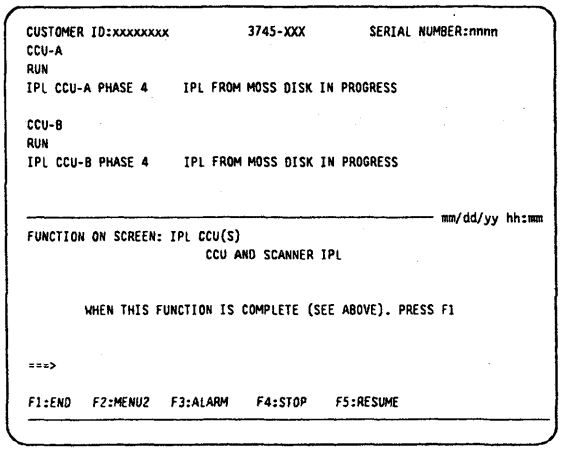
The IPL starts.

4 Wait approximately 5 minutes until one of the following is displayed:

- IPL FROM MOSS DISK IN PROGRESS. The control program is being loaded from the disk. Go to next step.
- ENABLED CA xxxxxxxxxxxxxxxx
  L xxxxxxxx

  This message is explained on page 26.

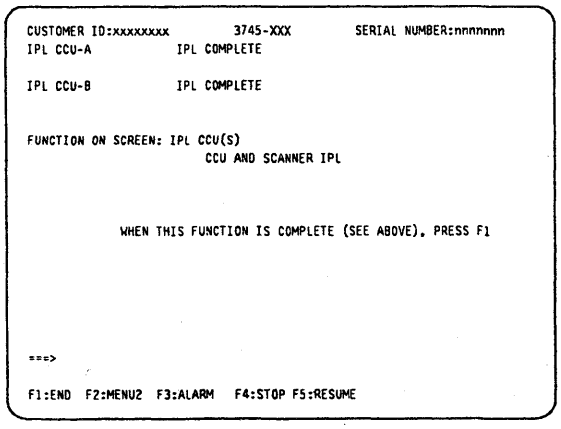
  Ask the host operator to load the control program, then go to next step.



5 Wait until you see IPL COMPLETE, then:

F1 to end the procedure.

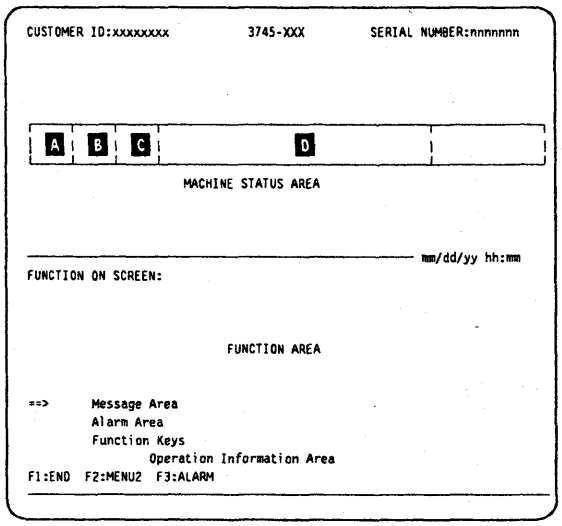
Other messages may be displayed at **A**: For the meanings of these messages, refer to page 25.



Information Displayed on the Console Screen during IPL

IPL information appears in the machine status area (MSA) of the console screen, shown opposite. This area is fully described in the *3745 Advanced Operations Guide*.

The following list shows messages that may appear in the MSA during IPL operations.



Messages appearing at A:

IPL 3745 IPL is started.

Messages appearing at B:

PHASE 1 CCU initialization.

PHASE 2 Load and start of the control program loader in the CCU.

PHASE 3 Scanner (line adapter) IML in progress.

PHASE 4 Scanners (line adapters) are IMLed.

Messages appearing at C:

STOP 3745 IPL stopped at the beginning of a phase during fallback or on operator's request.

SUSPEND The IPL on the current CCU is suspended, and the IPL of the other CCU is started. When it reaches the same phase as the suspended IPL then the suspended IPL resumes. Both IPLs continue until completion.

When SUSPEND is displayed the suspended CCU is not updated, and remains at phase 4.

Messages appearing at D:

CA IPL DETECTED ON CA x The control program load/dump is started on a channel-attached 3745. x is the channel adapter number. If this message appears permanently: **HELP**

CONTROL PROGRAM LOADED The control program is loaded.

CP SAVE ON DISK IN PROGRESS The control program is being saved on the disk. If this message appears permanently: **HELP**

DUMP IN PROGRESS ON CA x For a channel-attached 3745: The control program is being dumped. x is the channel adapter number.

DUMP IN PROGRESS ON L xxxx

For a link-attached 3745: The control program is being dumped. xxxx is the decimal communication line address. If this message appears permanently: **HELP**

DUMP ON MOSS DISK IN PROGRESS

The control program is being dumped on the disk. If this message appears permanently: **HELP**

ENABLED CA xxxxxxxxxxxxxxx L xxxxxxxx

Indicates which channel adapters (CA) or link IPL ports (L) are ena bled or disabled.
Y means enabled.
N means disabled.
U means unusable.
- means not installed (for channel adaptors) or not defined (for link IPL ports).

If U is displayed, do the following:

- F1 to end the IPL.
- P O S SEND to select the Power Services function.
  - Check the status of the power supply for that channel adapter.
  - If down: Power up that power supply as indicated on the screen.
  - Retry.
  - If the problem persists: **HELP**

The positions of Ys, Ns, and Us gives the channel adapter and link IPL port number. For example:
ENABLED CA YYNNNNNNNNNNNNN L NNNNNNNN means that only channel adapters 1 and 2 are enabled.

FALLBACK CANCELED

The 3745 fallback has been canceled. If you did not request the fallback to be canceled: **HELP**

FALLBACK CHECK Fxx

HELP

FALLBACK COMPLETE

The 3745 fallback has successfully completed.

FALLBACK COMPLETE + ERRORS

The 3745 fallback has completed, although errors have been encountered: **HELP**

FALLBACK IN PROGRESS

The 3745 fallback is in progress.

IPL CANCELED

The 3745 IPL has been canceled. If you did not request the IPL to be canceled: **HELP**

IPL CHECK Fxx

The 3745 IPL ends abnormally: **HELP**

IPL CHECK F1B CLDP ABEND xxxx

The 3745 IPL ends abnormally: **HELP**

IPL COMPLETE

The 3745 IPL has successfully completed.

IPL COMPLETE + ERRORS

The IPL has completed although non-disruptive errors have been encountered: **HELP**

IPL FROM MOSS DISK IN PROGRESS

The 3745 IPL from the disk is in progress.

IPL IN PROGRESS

The 3745 IPL is in progress.

LINK IPL DETECTED ON L xxxx
The control program load/dump is started on a link-attached 3745. xxxx is the decimal communication line address. If this message appears permanently: **HELP**

LINK TEST PROGRAM ABEND
HELP

LINK TEST PROGRAM LOADED
The link test program is loaded.

LOAD IN PROGRESS ON CA x
The control program is being loaded on a channel-attached 3745. x is the channel adapter number. If this message appears permanently: **HELP**

LOAD IN PROGRESS ON L xxxx
The control program is being loaded on a link-attached 3745. xxxx is the decimal communication line address. If this message appears permanently: **HELP**

RPO DETECTED ON L xxxx
The remote power-off (RPO) command is detected on communication line xxxx. xxxx is the decimal communication line address.

SCANNER(S) NOT IMLED: xxxxxxxx
HELP

SWITCHBACK CANCELED
The 3745 switchback is canceled. If you did not request the switchback to be canceled: **HELP**

SWITCHBACK CHECK Fxx
HELP

SWITCHBACK COMPLETE
The 3745 switchback is successfully completed.

SWITCHBACK COMPLETE + ERRORS
The 3745 switchback is completed although errors have been encountered: **HELP**

SWITCHBACK IN PROGRESS
The 3745 switchback is in progress.

TEST CHECK Fxx
The standby CCU test ends abnormally: **HELP**

TEST IN PROGRESS
The standby CCU test is in progress.

TEST COMPLETE
The standby CCU test is successfully completed.

TEST CANCELED
The standby CCU test is canceled on operator's request.

Chapter 5. Fallback (Models 410 and 610)

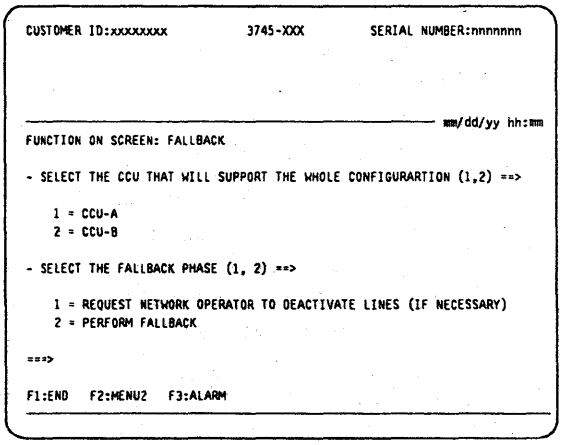
Twin-Backup Mode

1 Power on and log on at the operator console. Refer to page 13 (for a local or alternate console) or page 16 (for a remote console).

2 Press:

F B K SEND

This screen is displayed:

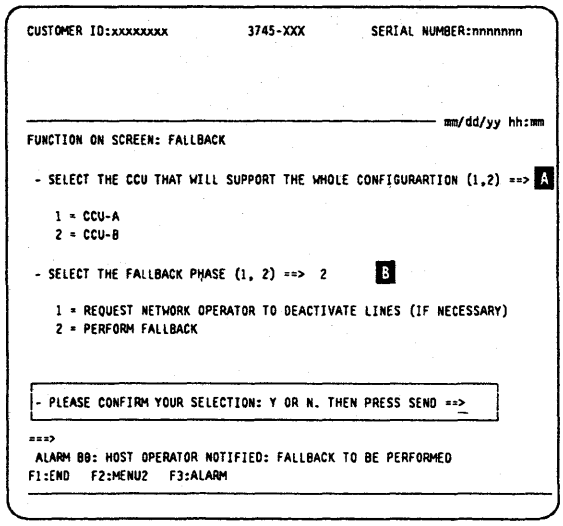


3 Do the following:

- Enter 1 or 2 at A to select the CCU.
- Enter 1 at B then press SEND

  This requests the network operator to deactivate the lines (not necessary if the lines are already deactivated). Alarm B0 is displayed to indicate the request has been sent.
- Wait for the network operator's confirmation, then:
- Enter 2 then press SEND

  The message PLEASE CONFIRM YOUR SELECTION appears on the screen.



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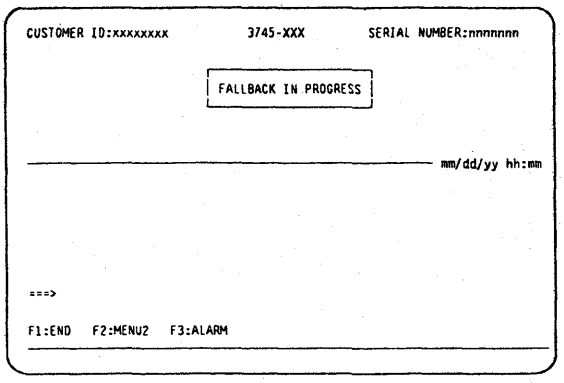
4 Y SEND to confirm.

You can no longer cancel the fallback process.
This screen is displayed:

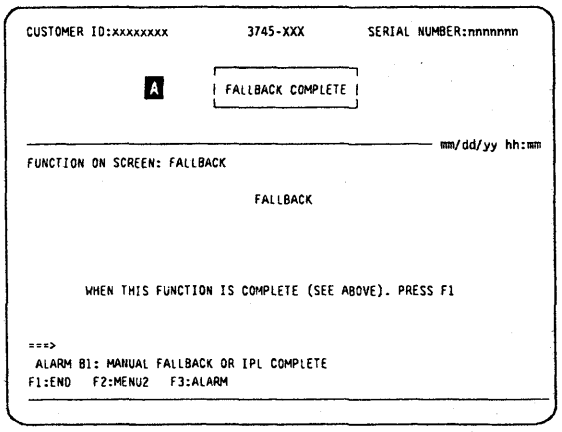


5 Wait until you see FALLBACK COMPLETE, then:

F1 to end the procedure.

Other messages may be displayed in **A** field. For the meanings of these messages, refer to page 25. Alarm B1 is displayed to indicate that the fallback has completed.

Once the fallback is complete, an automatic IPL is started on the other CCU.



Twin-Standby Mode (Control Program Preloaded in Standby CCU)

If the load module has been saved on disk and is active, the standby CCU is already preloaded with the active load module.

1 Power on and log on at the operator console. Refer to page 13 (for a local or alternate console) or page 16 (for a remote console).

2 Press:

[F] [B] [K] [ ] [SEND]

This screen is displayed:

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn


                                                          mm/dd/yy hh:mm
FUNCTION ON SCREEN: FALLBACK



- SELECT THE FALLBACK PHASE (1, 2) ==>

    1 = REQUEST NETWORK OPERATOR TO DEACTIVATE LINES (IF NECESSARY)
    2 = PERFORM FALLBACK


===>

F1:END   F2:MENU2   F3:ALARM
```

3 Do the following:

[1] [ ] [SEND]

This requests the network operator to deactivate the lines (not necessary if the lines are already deactivated). Alarm B0 is displayed to indicate the request has been sent.

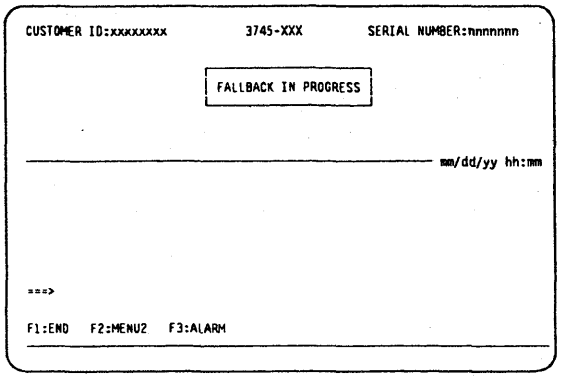
- Wait for the network operator's confirmation, then:
- [2] [ ] [SEND] to start the fallback.

  The message PLEASE CONFIRM YOUR SELECTION appears on the screen.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn


                                                          mm/dd/yy hh:mm
FUNCTION ON SCREEN: FALLBACK



 - SELECT THE FALLBACK PHASE (1, 2) ==>  2

    1 = REQUEST NETWORK OPERATOR TO DEACTIVATE LINES (IF NECESSARY)
    2 = PERFORM FALLBACK


 - PLEASE CONFIRM YOUR SELECTION: Y OR N. THEN PRESS SEND ==>

===>
 ALARM B0: HOST OPERATOR NOTIFIED: FALLBACK TO BE PERFORMED
F1:END   F2:MENU2   F3:ALARM
```

4 Y SEND to confirm.

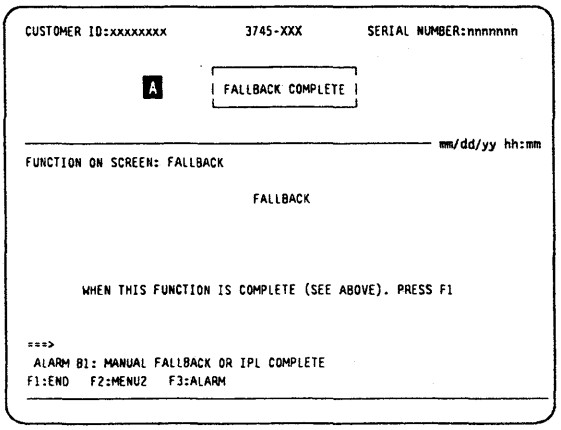
You can no longer cancel the fallback process.
This screen is displayed:



5 Wait until you see FALLBACK COMPLETE, then:

F1 to end the procedure.

Other messages may be displayed in **A** field. For the meanings of these messages, refer to page 25. An alarm is also displayed.



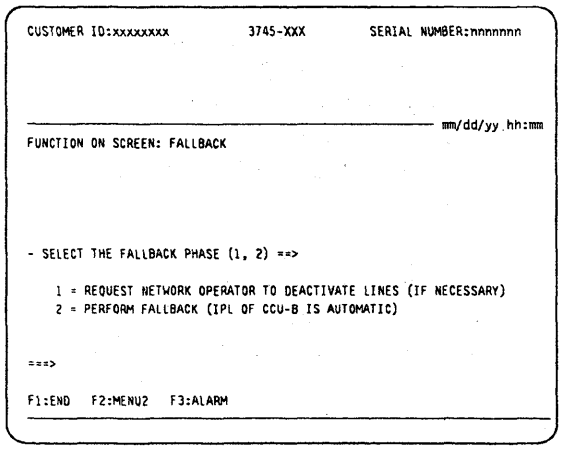
Twin-Standby Mode (Control Program Not Preloaded in Standby CCU)

1 Power on and log on at the operator console. Refer to page 13 (for a local or alternate console) or page 16 (for a remote console).

2 Press:

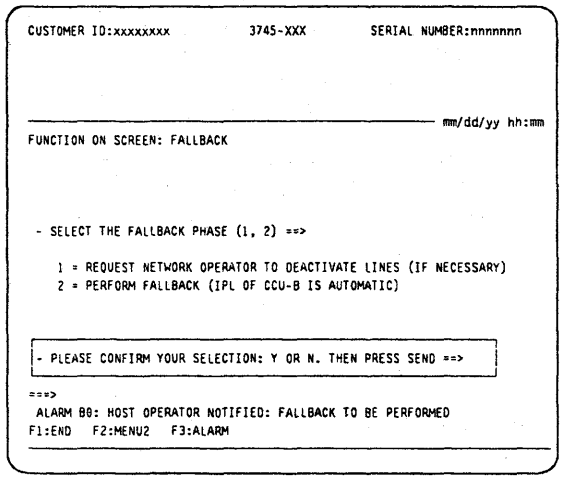
F B K SEND

This screen is displayed:



3 1 SEND

This requests the network operator to deactivate the lines (not necessary if the lines are already deactivated). Alarm B0 is displayed to indicate that the request has been sent.



4 Wait for the network operator's confirmation, then:

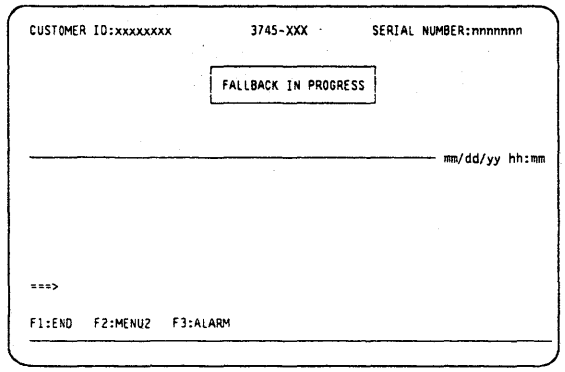
2 SEND to start the fallback.

The message PLEASE CONFIRM YOUR SELECTION then appears on the screen.

5 Y SEND to confirm.

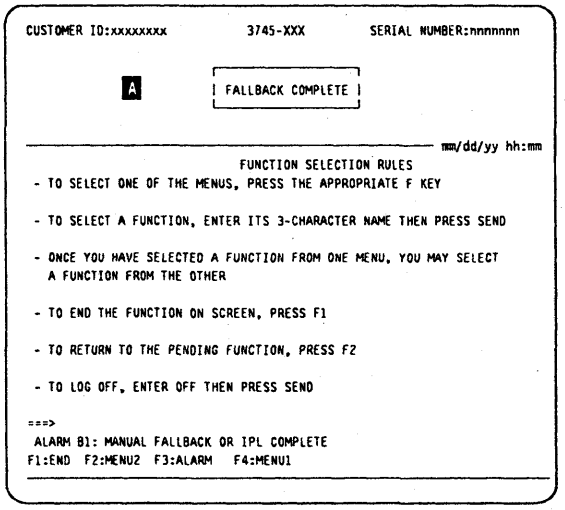
You can no longer cancel the fallback process.

This screen is displayed:



6 When fallback in twin-standby mode is complete:

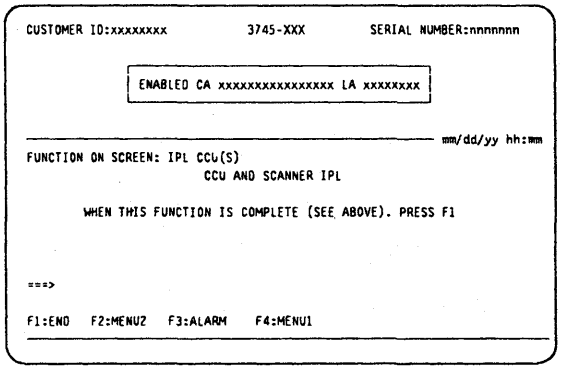
- FALLBACK COMPLETE is displayed. Other messages may be displayed in **A** field. For the meanings of these messages, go to page 25. Alarm B1 is displayed to indicate that the fallback has completed.
- The Function Selection Rules screen is displayed, and an automatic re-IPL of the destination CCU is started. Go to next step.



7 Wait approximately 5 minutes until the following message is displayed:

- ENABLED CA xxxxxxxxxxxxxxxx L xxxxxxxx

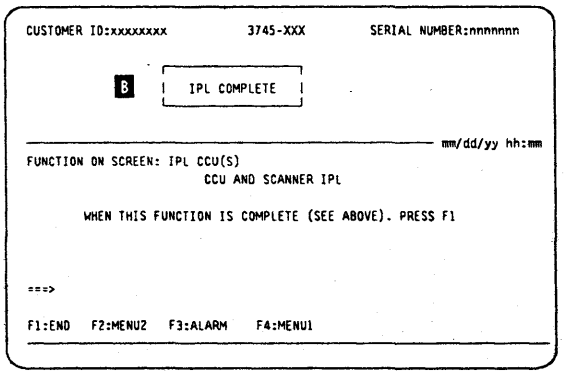
  This message is explained on page 26. Ask the host operator to load the control program, then go to next step.



8 Wait until you see IPL COMPLETE, then:

F1 to end the procedure.

Other messages may be displayed in **B** field. For the meanings of these messages, refer to page 25.



Chapter 6. Switchback (Models 410 and 610)

This function can only be performed in **twin-backup** mode.

1 Power on and log on at the operator console. Refer to page 13 (for a local or alternate console) or page 16 (for a remote console).

2 Press the following keys:

[S] [B] [K] [| SEND]

This screen is displayed:

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

                                                                    mm/dd/yy hh:mm
FUNCTION ON SCREEN: SWITCHBACK

 - SELECT THE SWITCHBACK PHASE (1, 2) ==>

    1 = REQUEST NETWORK OPERATOR TO DEACTIVATE LINES (IF NECESSARY)
    2 = PERFORM SWITCHBACK



===>
 ALARM B4: HOST OPERATOR NOTIFIED: SWITCHBACK TO BE PERFORMED
F1:END   F2:MENU2   F3:ALARM
```

3 [1] [| SEND]

This requests the network operator to deactivate the lines (not necessary if the lines are already deactivated). Alarm B4 is displayed to indicate that the request has been sent.

4 Do the following:

- Wait for the network operator's confirmation.
- [2] [| SEND]
- Go to either:
  - Step 5 if the switchback has not yet started.
  - Step 6 if the switchback has started.
    The message:
    SWITCHBACK IN PROGRESS
    is displayed.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

                    SWITCHBACK IN PROGRESS

                                                                    mm/dd/yy hh:mm
FUNCTION ON SCREEN: SWITCHBACK

 - SELECT THE SWITCHBACK PHASE (1, 2) ==>

    1 = REQUEST NETWORK OPERATOR TO DEACTIVATE LINES (IF NECESSARY)
    2 = PERFORM SWITCHBACK



===>

F1:END   F2:MENU2   F3:ALARM
```

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5 This screen is displayed if some CCU resources are not deactivated.

Perform actions as requested on the screen:

- C or F on line A to cancel or force the switchback.
- SEND
- Line B is added. Confirm your selection, then:
- SEND
- Go to next step.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

                        SWITCHBACK IN PROGRESS

                                                          mm/dd/yy hh:mm
FUNCTION ON SCREEN: SWITCHBACK


WARNING:
SOME RESSOURCES ON THE CCU TO BE SWITCHED ARE NOT DEACTIVATED

NETWORK ADDRESS OF A LINE THAT IS NOT DEACTIVATED: XXXX
NOTIFY THE FOLLOWING HOST OPERATORS THAT THEY MUST FREE UP RESOURCES
XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX
XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX
XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX
XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX  XXXXXXXXXXXXXXX

CANCEL OR FORCE THE SWITCHBACK: C=CANCEL. F=FORCE ==>  A

- PLEASE CONFIRM YOUR SELECTION: Y OR N. THEN PRESS SEND ==>  B

===>

F1:END   F2:MENU2   F3:ALARM
```

6 When the switchback is complete:

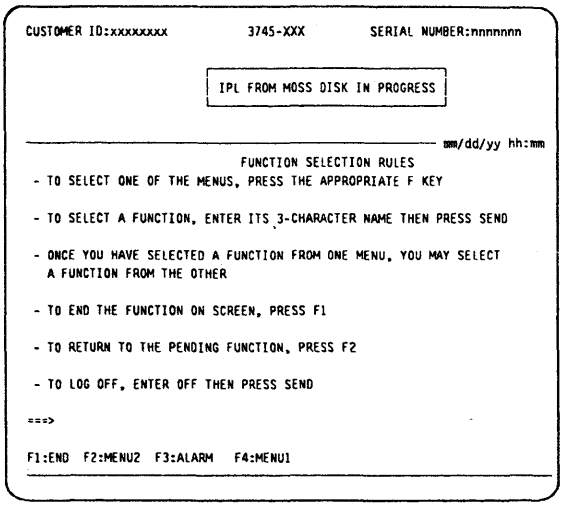
- SWITCHBACK COMPLETE is displayed. Other messages may be displayed in this field. For the meanings of these messages, go to page 25. Alarm B5 is displayed to indicate that the switchback has completed.
- The Function Selection Rules screen is displayed.
- An automatic re-IPL of the original CCU is started. Go to next step.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

                        SWITCHBACK COMPLETE

                                                          mm/dd/yy hh:mm
                          FUNCTION SELECTION RULES
 - TO SELECT ONE OF THE MENUS, PRESS THE APPROPRIATE F KEY

 - TO SELECT A FUNCTION, ENTER ITS 3-CHARACTER NAME THEN PRESS SEND

 - ONCE YOU HAVE SELECTED A FUNCTION FROM ONE MENU, YOU MAY SELECT
   A FUNCTION FROM THE OTHER

 - TO END THE FUNCTION ON SCREEN, PRESS F1

 - TO RETURN TO THE PENDING FUNCTION, PRESS F2

 - TO LOG OFF, ENTER OFF THEN PRESS SEND

===>
 ALARM B5: SWITCHBACK AND IPL COMPLETE
F1:END  F2:MENU2  F3:ALARM   F4:MENU1
```

7 Wait approximately 5 minutes until one of the following is displayed:

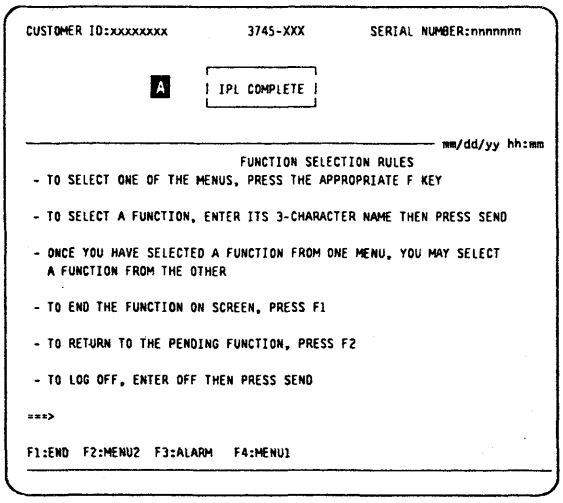
- IPL FROM MOSS DISK IN PROGRESS. The control program is being loaded from the disk. Go to next step.
- ENABLED CA xxxxxxxxxxxxxxxx
  L xxxxxxxx

  This message is explained on page 26. Ask the host operator to load the control program, then go to next step.



8 Wait until you see IPL COMPLETE.

Other messages may be displayed in **A** field. For the meanings of these messages, refer to page 25.



Chapter 7. IML

MOSS IML

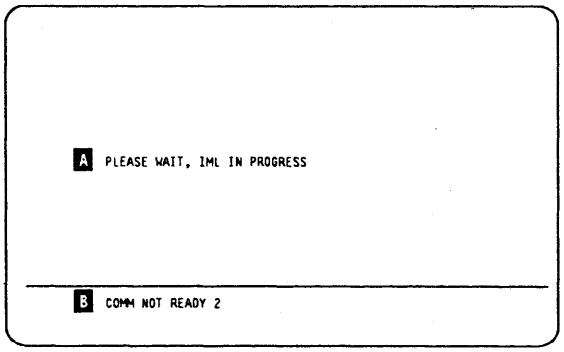
1 Power on and log on at the operator console. Refer to page 13 (for local or alternate console) or page 16 (for remote console).

2 Press:

[I] [M] [L] [ ] [SEND]

and go to the next step.

This screen is displayed (for about 3 minutes) with the following messages:

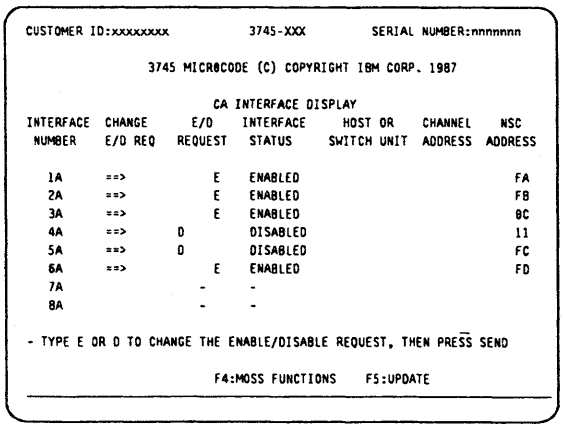


On line **A**
PLEASE WAIT, IML IN PROGRESS (local or alternate console)
or
IML REQUESTED-TERMINAL DISCONNECTED (remote console)

On line **B**
COMM NOT READY 2 (on an IBM 3151 or 3161 operator console)
or
LINE CHECK 2 (on an IBM 3727 operator console)

3 **For the local console:**

- Wait approximately 3 minutes.
- When this screen is displayed, MOSS is IMLed.
- If you wish to log on: [F4]



For the remote console:

- The console will be disconnected by the IML.
- Wait approximately 3 minutes.
- The console is disconnected. If you wish to log on the remote console, refer to page 16.

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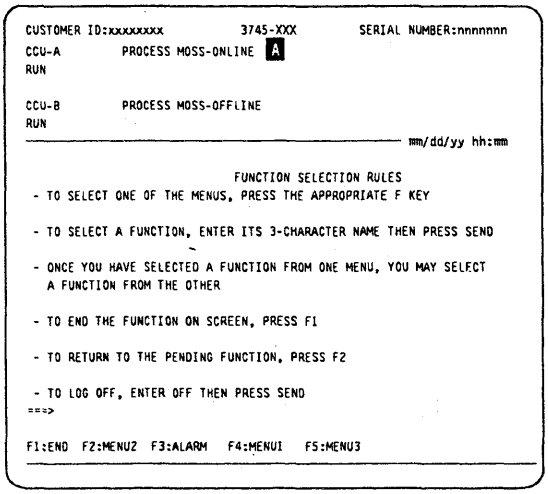
IMLing a Scanner (Line Adapter)

1 Ask the host operator to make sure that all lines of the scanner (line adapter) are deactivated.

2 Log on at the console. Refer to page 13 (for local or alternate console) or page 16 (for remote console).

When the console is logged on, this screen is displayed:



3 Check the status of the MOSS in **A**

- If **online**, go to step 4.
- If **offline**, set it online:

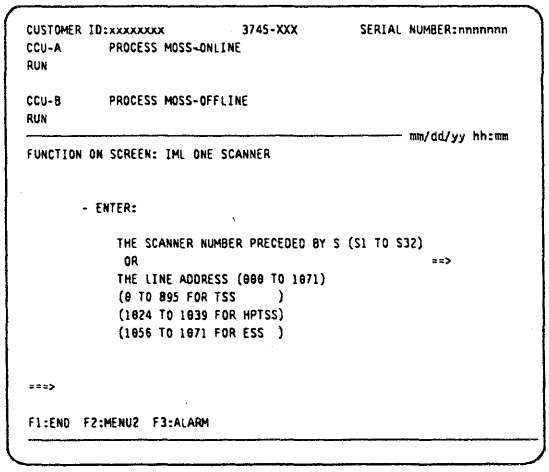
  M O N SEND

  then go to step 4.
- **If the MOSS is alone,** control program should be loaded (IPL) first.

4 Select the IML One Scanner function:

I M S SEND

This screen is displayed:



5 Enter either the scanner (line adapter) number or the address of a line attached to the scanner:

[S] [X] [ ] [SEND]

x = scanner number

or [Y] [ ] [SEND]

y = Line address

IML FOR SCANNER xx IN PROGRESS is displayed indicating that IML has started.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn
CCU-A       PROCESS MOSS-ONLINE
RUN

CCU-B       PROCESS MOSS-OFFLINE
RUN
                                                          mm/dd/yy hh:mm
FUNCTION ON SCREEN: IML ONE SCANNER


       - ENTER:

            THE SCANNER NUMBER PRECEDED BY S (S1 TO S32)
             OR                                          ==> Sx
            THE LINE ADDRESS (000 TO 1071)
            (0 TO 895 FOR TSS      )
            (1024 TO 1039 FOR HPTSS)
            (1056 TO 1071 FOR ESS  )


===>    IML FOR SCANNER xx IN PROGRESS

F1:END  F2:MENU2  F3:ALARM
```

6 When IML is completed (approximately 1 minute) the display shows:

IML FOR SCANNER xx COMPLETED: SCANNER IS CONNECTED

Other messages may be displayed:

INVALID INPUT
Restart the step.

SCANNER CANNOT BE IMLED: MOSS IS NOT ONLINE
Set MOSS online. See step 3, page 40

If any other message is displayed:
HELP

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn
CCU-A       PROCESS MOSS-ONLINE
RUN

CCU-B       PROCESS MOSS-OFFLINE
RUN
                                                          mm/dd/yy hh:mm
FUNCTION ON SCREEN: IML ONE SCANNER


       - ENTER:

            THE SCANNER NUMBER PRECEDED BY S (S1 TO S32)
             OR                                          ==>
            THE LINE ADDRESS (000 TO 1071)
            (0 TO 895 FOR TSS      )
            (1024 TO 1039 FOR HPTSS)
            (1056 TO 1071 FOR ESS  )


===>    IML FOR SCANNER xx COMPLETED: SCANNER IS CONNECTED

F1:END  F2:MENU2  F3:ALARM
```

7 [F1] to end the procedure.

Control Panel Procedures

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Chapter 8. Manual Power On and IPL

Channel-Attached 3745 in Local or Network Mode

The console must be powered on and logged on. Refer to page 13 (for a local or alternate console) or page 16 (for a remote console).

Single Mode (Models 130, 150, 160, 170, 210 and 310)

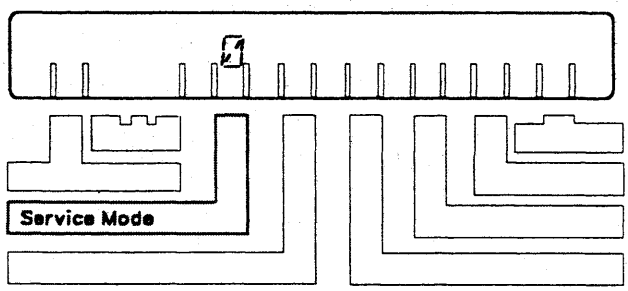
The control program is to be loaded into the CCU from:

- The host via the channel, or
- The disk if it has been saved on it and made active by the host operator.

1 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate.**

If 0 is already displayed, go to next step.

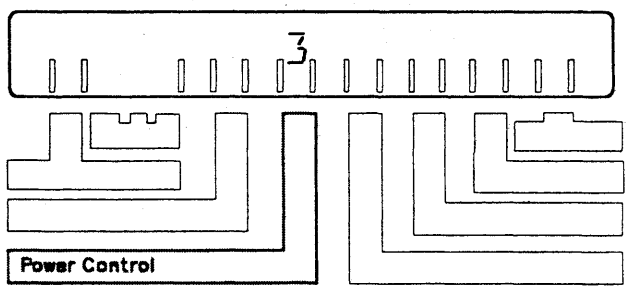
If the 3745 is already powered on, go to step 5



2 Press **Power Control** repeatedly until **3** (local mode) or **2** (network mode) is displayed, then:
Press **Validate**.

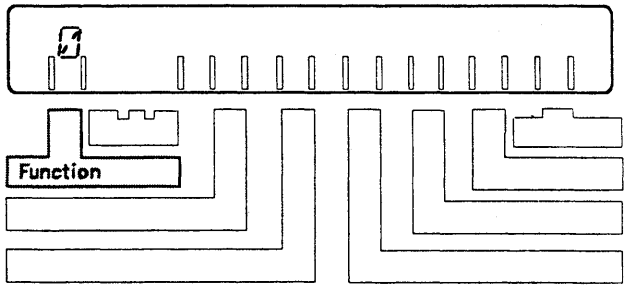
If 3 or 2 is already displayed, go to next step.

Power Control in **3** (local mode) *is intended for service operations and is not recommended for normal operations. You will have to* **manually** *POWER ON after any external power failure when POWER CONTROL is left in LOCAL MODE.*



3 Press **Function** repeatedly until **0** is displayed, then:
Press **Validate**.

If 0 is already displayed, go to next step.



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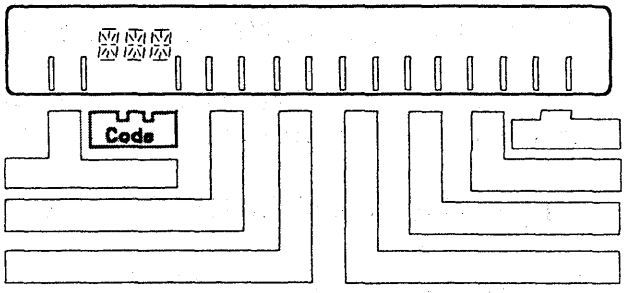
4 Press **Power On Reset**.

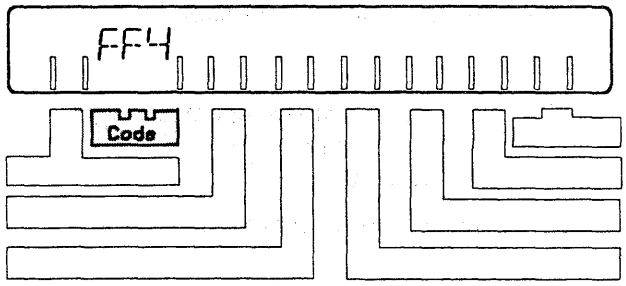
5 IPL starts. Codes are displayed on the hex display showing the progression of the IPL. (Codes for normal operation are listed on page 83.)



If any code remains more than 5 minutes (except FF4 when the control program is loaded from the host):

- Restart from step 4.
- If the problem persists: **HELP**

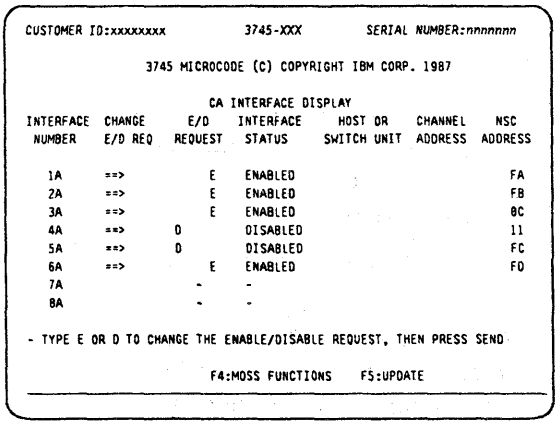
Wait approximately 5 minutes until FF4 is displayed.



- Then go to step 6.

If the control program is **loaded from the disk:**

- Wait approximately 5 minutes until you see this screen on the console.



  If you need to enable or disable a channel adapter, go to page 19.

6 Ask the host operator to load the control program.

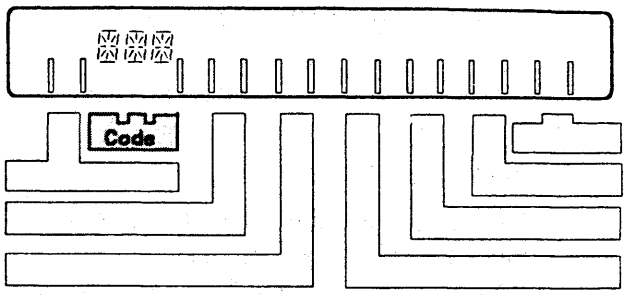
When the control program is loaded, the progression continues on the hex display.

Wait until you see **000**, which indicates that the IPL is complete and successful.

If other codes are displayed, go to page 83.

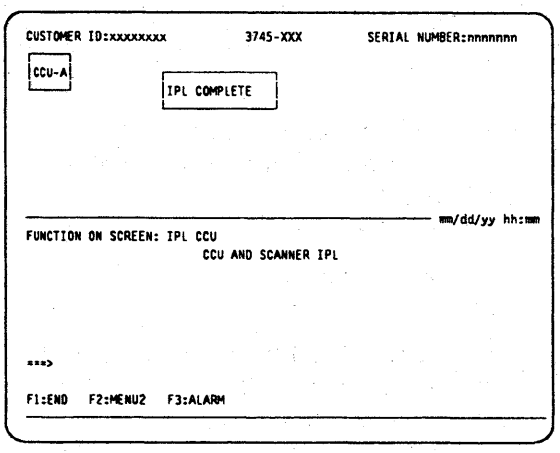
If FF4 remains more than 2 minutes after the control program is loaded:

- Restart from step 4.
- If the problem persists: **HELP**



7 To make sure that the IPL is complete and successful, log on the operator console. Refer to 13 (for a local or alternate console) or 16 (for a remote console).

When the console is logged on, IPL COMPLETE should be displayed.



Twin-Standby Mode (Models 410 and 610)

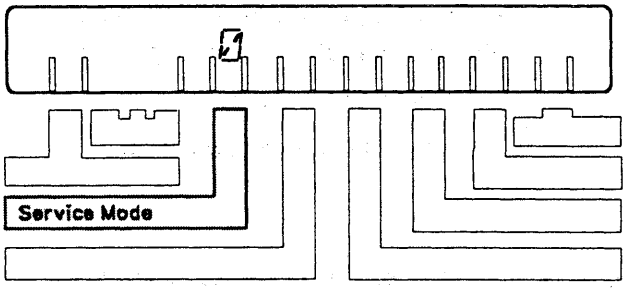
The control program is to be loaded into the CCU from:

- The host via the channel, or
- The disk if it has been saved on it and made active by the host operator (in that case, the standby CCU is already preloaded with the active load module).

1 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate.**

If 0 is already displayed, go to next step.

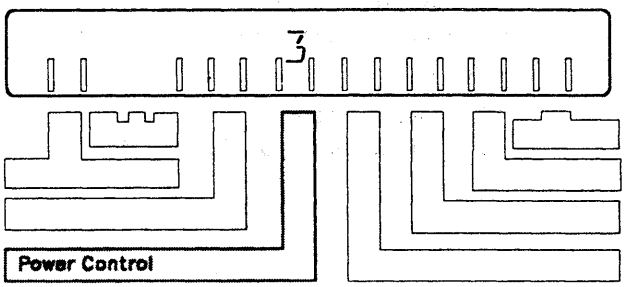
If the 3745 is already powered on, go to step 5.



2 Press **Power Control** repeatedly until **3** (local mode) or **2** (network mode) is displayed, then:
Press **Validate**.

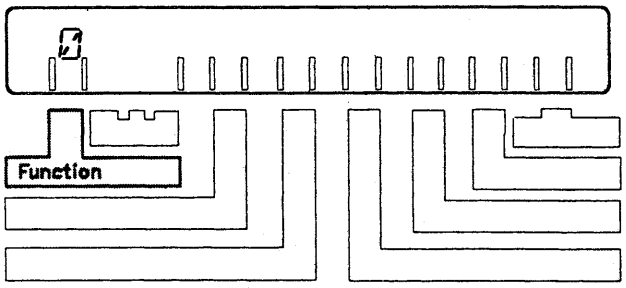
If 3 or 2 is already displayed, go to next step.

Power Control in **3** (local mode) *is intended for service operations and is not recommended for normal operations. You will have to* **manually** *POWER ON after any external power failure when POWER CONTROL is left in LOCAL MODE.*



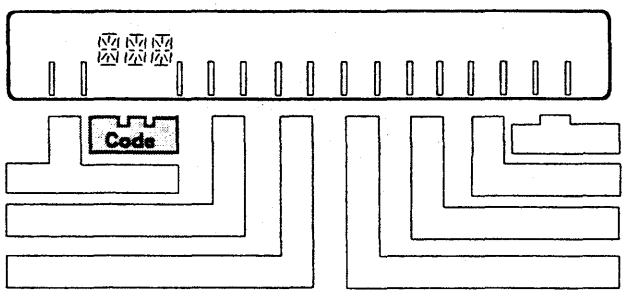
3 Press **Function** repeatedly until **0** is displayed, then:
Press **Validate**.

If 0 is already displayed, go to next step.



4 Press **Power On Reset**.

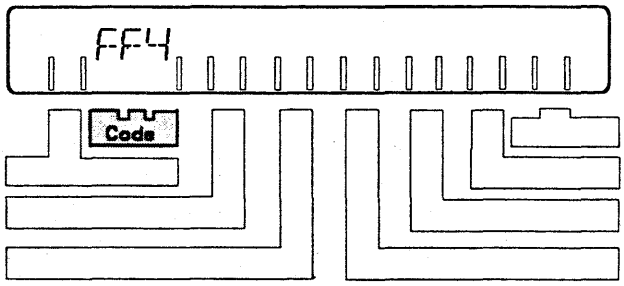
5 IPL starts. Codes are displayed on the hex display showing the (Codes for normal operation are listed on page 83.)



If any code remains more than 5 minutes: (except FF4 when the control program is loaded from the host):

- Restart from step 4.
- If the problem persists: **HELP**

Wait approximately 5 minutes until FF4 is displayed.



- Then go to step 6.

If the control program is **loaded from the disk:**

- Wait approximately 5 minutes until you see this screen on the console.

  If you need to enable or disable a channel adapter, go to page 19.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

              3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

                        CA INTERFACE DISPLAY
INTERFACE  CHANGE     E/D     INTERFACE     HOST OR     CHANNEL     NSC
 NUMBER    E/D REQ  REQUEST   STATUS      SWITCH UNIT  ADDRESS   ADDRESS

   1A       ==>        E     ENABLED                              FA
   2A       ==>        E     ENABLED                              FB
   3A       ==>        E     ENABLED                              8C
   4A       ==>   D          DISABLED                             11
   5A       ==>   D          DISABLED                             FC
   6A       ==>        E     ENABLED                              FD
   7A                  -     -
   8A                  -     -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND

                        F4:MOSS FUNCTIONS    F5:UPDATE
```

6 Ask the host operator to load the control program.

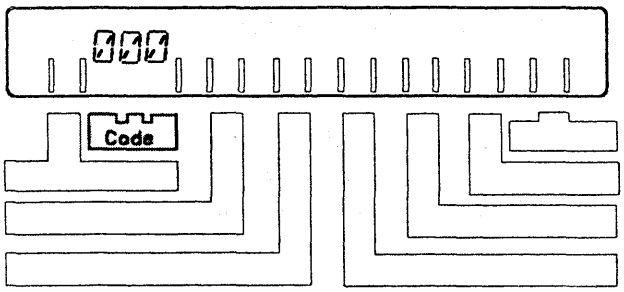
When the control program is loaded, the progression continues on the hex display.

Wait until you see **000**, which indicates that the IPL is complete and successful.

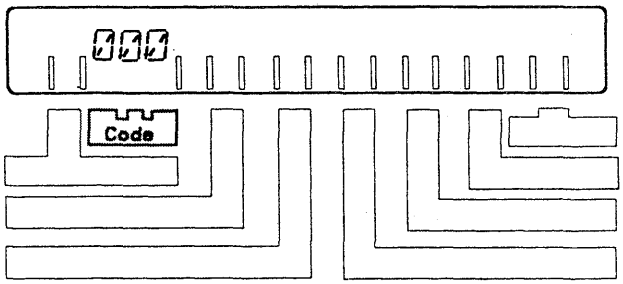
If other codes are displayed, go to page 83.

If FF4 remains more than 2 minutes after the control program is loaded:

- Restart from step 4.
- If the problem persists: **HELP**

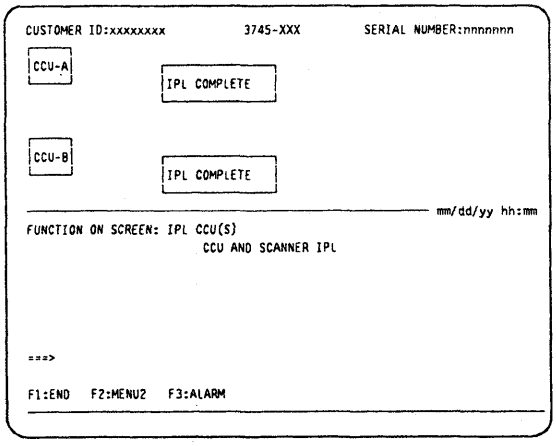


7 IPL from disk starts on the standby CCU. Codes are displayed on the hex display showing the progression of the IPL. (For an explanation of these codes, go to page 83.)
Wait until you see **000**, which indicates that the IPL of the standby CCU is complete and successful.



8 To make sure that the IPL is complete and successful **on both CCUs,** log on the operator console. Refer to 13 (for a local or alternate console) or 16 (for a remote console).

When the console is logged on, IPL COMPLETE should be displayed for each CCU.



Twin-Dual or Twin-Backup Mode (Models 410 and 610)

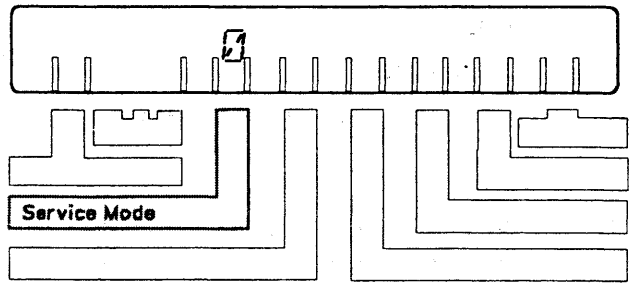
The control program is to be loaded into the CCU from:

- The host via the channel, or
- The disk if it has been saved on it and made active by the host operator (in that case, the standby CCU is already preloaded with the active load module).

1 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate.**

If 0 is already displayed, go to next step.

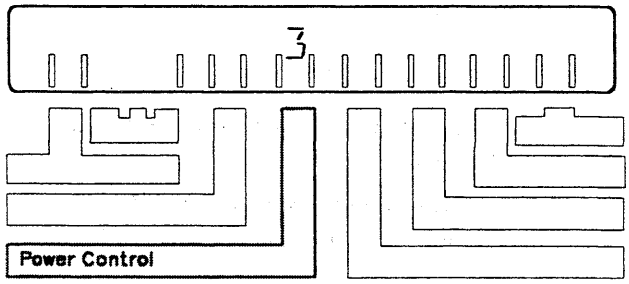
If the 3745 is already powered on, go to step 5.



2 Press **Power Control** repeatedly until **3** (local mode) or **2** (network mode) is displayed, then:
Press **Validate**.

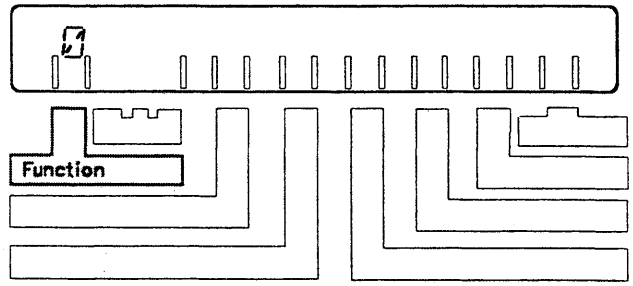
If 3 or 2 is already displayed, go to next step.

Power Control in **3** (local mode) *is intended for service operations and is not recommended for normal operations. You will have to* **manually** *POWER ON after any external power failure when POWER CONTROL is left in LOCAL MODE.*



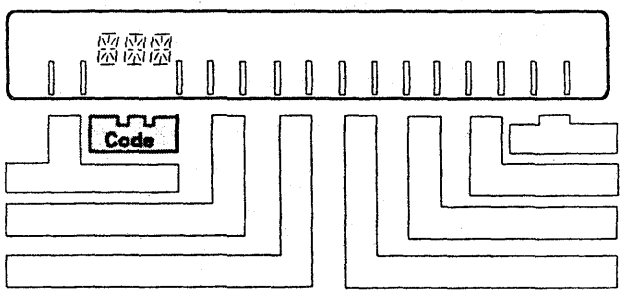
3 Press **Function** repeatedly until **0** is displayed, then:
Press **Validate**.

If 0 is already displayed, go to next step.



4 Press **Power On Reset**.

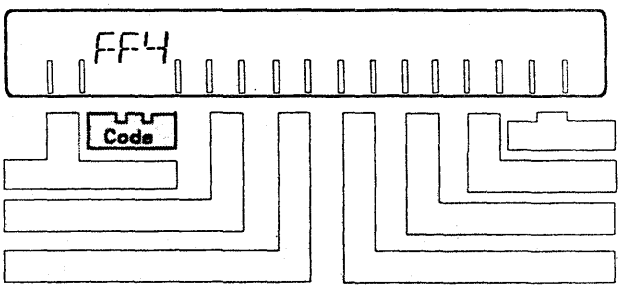
5 IPL starts. Codes are displayed on the hex display showing the progression of the IPL. (Codes for normal operation are listed on page 83.)



If any code remains more than 5 minutes: (except FF4 when the control program is loaded from the host):

- Restart from step 4.
- If the problem persists: **HELP**

Wait approximately 5 minutes until FF4 is displayed.



- Then go to step 6.

If the control program is **loaded from the disk:**

- Wait approximately 5 minutes until you see this screen on the console.

  If you need to enable or disable a channel adapter, go to page 19.

- Then go to step 7.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

              3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

                          CA INTERFACE DISPLAY
INTERFACE  CHANGE      E/D     INTERFACE      HOST OR     CHANNEL    NSC
 NUMBER    E/D REQ   REQUEST.  STATUS       SWITCH UNIT  ADDRESS  ADDRESS

   1A      ==>          E     ENABLED                              FA
   2A      ==>          E     ENABLED                              FB
   3A      ==>          E     ENABLED                              8C
   4A      ==>     D          DISABLED                             11
   5A      ==>     D          DISABLED                             FC
   6A      ==>          E     ENABLED                              FD
   7A                   -     -
   8A                   -     -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND

                          F4:MOSS FUNCTIONS    F5:UPDATE
```

6 Ask the host operator to load the control programs in CCU-A and CCU-B.

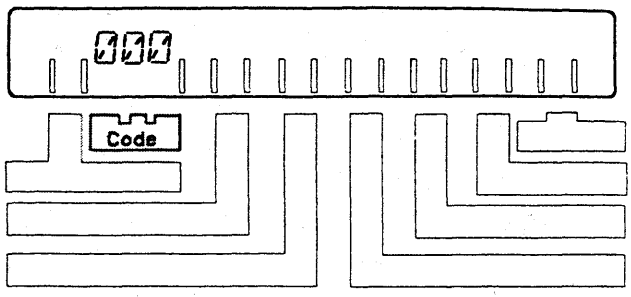
When at least one control program has been loaded, the progression continues on the hex display.

Wait until you see **000**, which indicates that the IPL is complete and successful on **at least one CCU**.

If other codes are displayed, go to page 83.

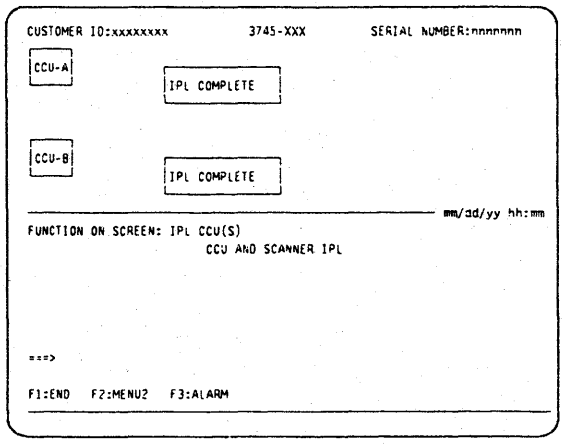
If FF4 remains more than 2 minutes after the control program is loaded:

- Restart from step 4.
- If the problem persists: **HELP**



7 To make sure that the IPL is complete and successful **on both CCUs,** log on the operator console. Refer to 13 (for a local or alternate console) or 16 (for a remote console).

When the console is logged on, IPL COMPLETE should be displayed for each CCU.



Link-Attached 3745 in Local or Network Mode

The console must be powered on and logged on. Refer to page 13 (for a local or alternate console) or page 16 (for a remote console).

Single Mode (Models 130, 150, 160, 170, 210, and 310)

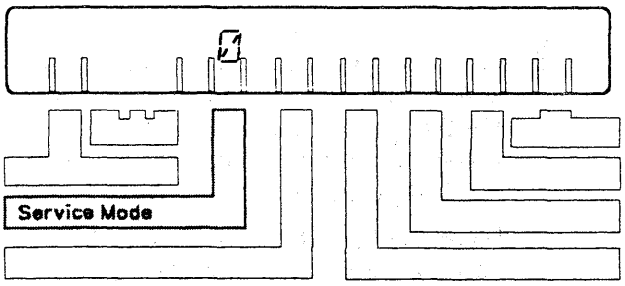
The control program is to be loaded into the CCU from:

- The host via a link-attached 3745 (see the LKP function in the *3745 Advanced Operations Guide* for details on defining the Link IPL Port), or
- The disk if it has been saved on it and made active by the host operator.

1 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate.**

If 0 is already displayed, go to next step.

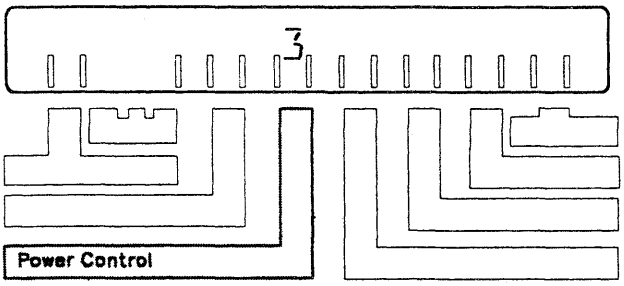
If the 3745 is already powered on, go to step 5.



2 Press **Power Control** repeatedly until **3** (local mode) or **2** (network mode) is displayed, then:
Press **Validate**.

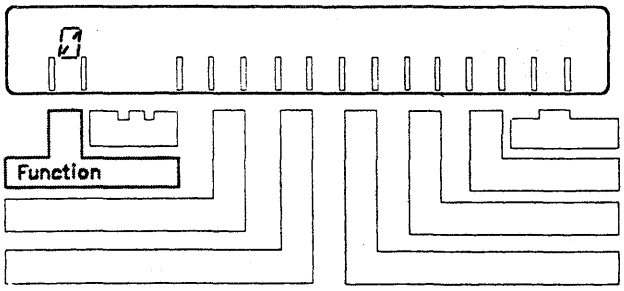
If 3 or 2 is already displayed, go to next step.

Power Control in **3** (local mode) *is intended for service operations and is not recommended for normal operations. You will have to* **manually** *POWER ON after any external power failure when POWER CONTROL is left in LOCAL MODE.*



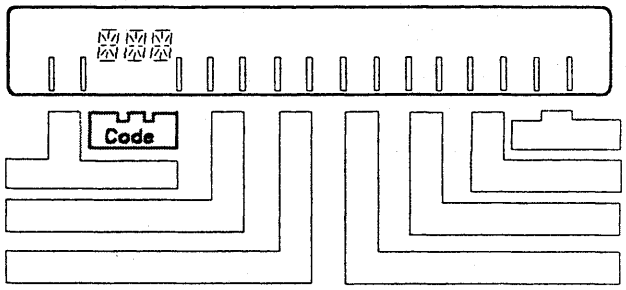
3 Press **Function** repeatedly until **0** is displayed, then:
Press **Validate**.

If 0 is already displayed, go to next step.



4 Press **Power On Reset**.

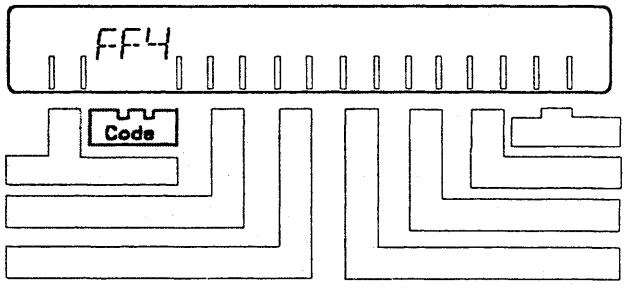
5 IPL starts. Codes are displayed on the hex display showing the progression of the IPL. (Codes for normal operation are listed on page 83.)



If any code remains more than 5 minutes (except FF4 when the control program is loaded from the host):

- Restart from step 4.
- If the problem persists: **HELP**

Wait approximately 5 minutes until FF4 is displayed, then go to the next step.



If the control program is **loaded from the disk:**

- Wait approximately 5 minutes until you see this screen on the console.

  If you need to enable or disable a channel adapter, go to page 19.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

              3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

                          CA INTERFACE DISPLAY
INTERFACE  CHANGE      E/D    INTERFACE      HOST OR     CHANNEL    NSC
 NUMBER   .E/D REQ   REQUEST   STATUS      SWITCH UNIT  ADDRESS  ADDRESS

   1A      ==>           E    ENABLED                             FA
   2A      ==>           E    ENABLED                             F8
   3A      ==>           E    ENABLED                             0C
   4A      ==>      D         DISABLED                            11
   5A      ==>      D         DISABLED                            FC
   6A      ==>           E    ENABLED                             FD
   7A                -        -
   8A                -        -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND

                          F4:MOSS FUNCTIONS    F5:UPDATE
```

6 Ask the host operator to load the control program.

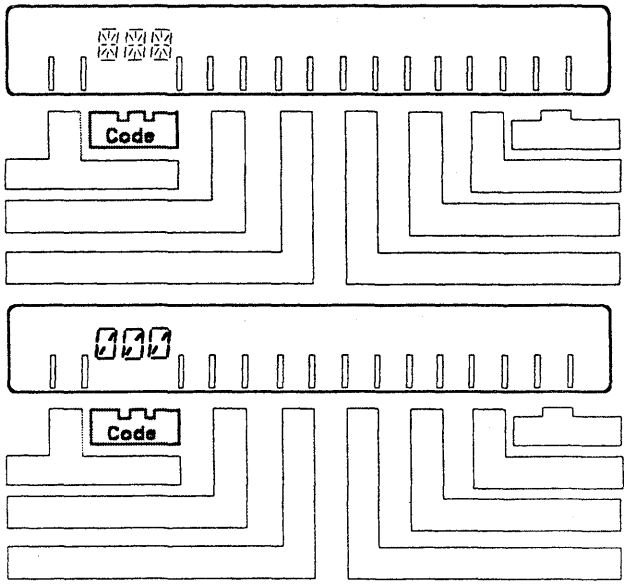
When the control program is loaded, the progression continues on the hex display.

Wait until you see **000**, which indicates that the IPL is complete and successful.

If **FF4** remains more than 2 minutes after the control program is loaded:

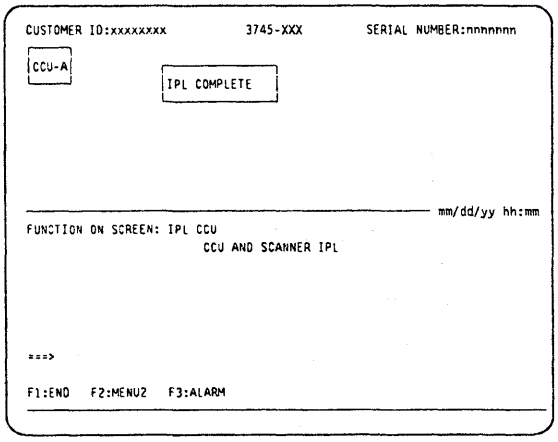
- Restart from step 4.
- If the problem persists: **HELP**

If other codes are displayed, go to page 83.



7 To make sure that the IPL is complete and successful, log on the operator console. Refer to 13 (for a local or alternate console) or 16 (for a remote console).

When the console is logged on, IPL COMPLETE should be displayed.



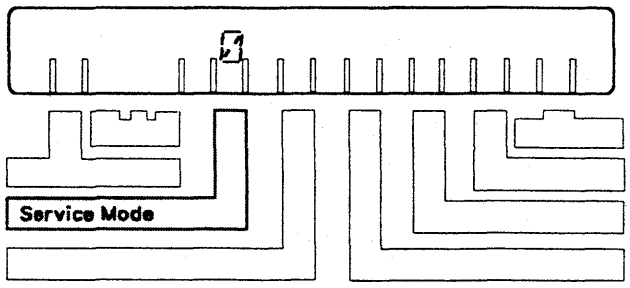
Twin-Standby Mode (Models 410 and 610)

The control program is to be loaded into the CCU from:

- The host via a link-attached 3745 (see the LKP function in the *3745 Advanced Operations Guide* for details on defining the Link IPL Port), or
- The disk if it has been saved on it and made active by the host operator (in that case, the standby CCU is already preloaded with the active load module).

1 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate.**

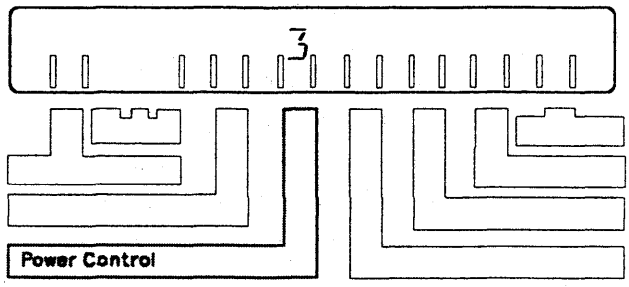
If 0 is already displayed, go to next step.



2 Press **Power Control** repeatedly until **3** (local mode) or **2** (network mode) is displayed, then:
Press **Validate**.

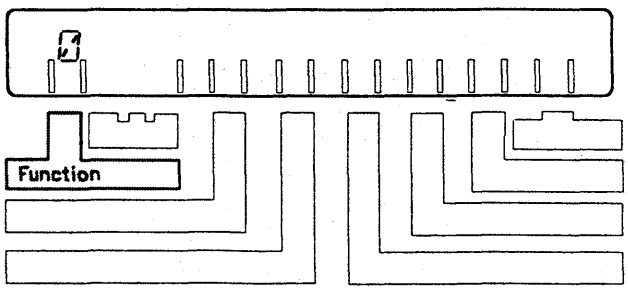
If 3 or 2 is already displayed, go to next step.

Power Control in **3** (local mode) *is intended for service operations and is not recommended for normal operations. You will have to* **manually** *POWER ON after any external power failure when POWER CONTROL is left in LOCAL MODE.*



3 Press **Function** repeatedly until **0** is displayed, then:
Press **Validate**.

If 0 is already displayed, go to next step.



4 Press **Power On Reset**.

5 IPL starts. Codes are displayed on the hex display showing the progression of the IPL. (Codes for normal operation are listed on page 83.)

If any code remains more than 2 minutes (except FF4 when the control program is loaded from the host):

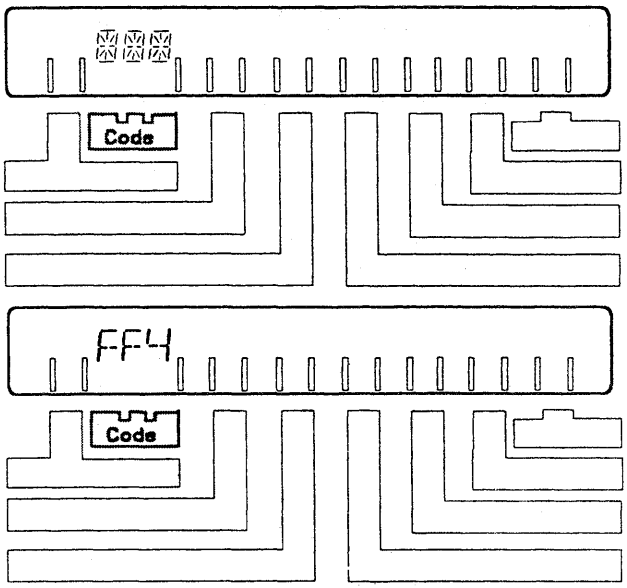
- Restart from step 4.
- If the problem persists: **HELP**

Wait approximately 5 minutes until FF4 is displayed.

- Then go to step 6.

If the control program is **loaded from the disk:**

- Go to step 7.



6 Ask the host operator to load the control program.

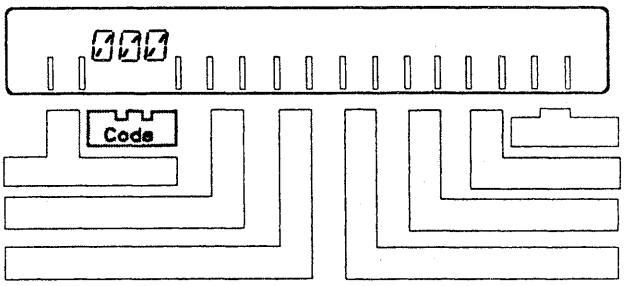
When the control program is loaded, the progression continues on the hex display.

Wait until you see **000**.
IPL is complete and successful.

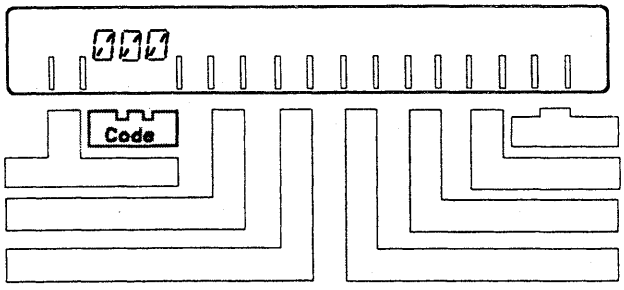
If FF4 remains more than 2 minutes after the control program is loaded:

- Restart from step 4.
- If the problem persists: **HELP**

If other codes are displayed, go to page 83.

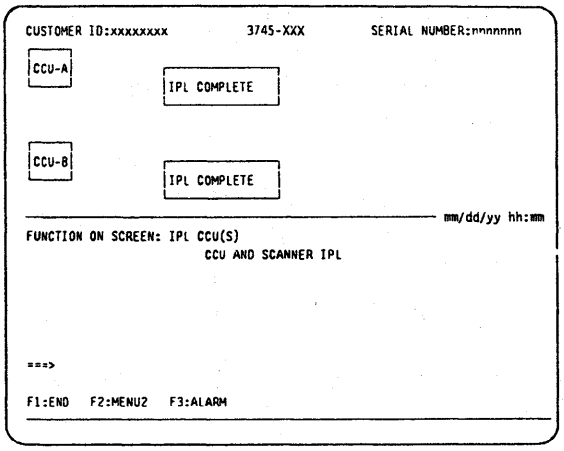


7 IPL from disk starts on the standby CCU. Codes are displayed on the hex display showing the progression of the IPL. (Codes for manual operation are listed on page 83.)
Wait until you see **000**.
IPL of the standby CCU is complete and successful.



8 To make sure that the IPL is complete and successful **on both CCUs,** log on the operator console. Refer to 13 (for a local or alternate console) or 16 (for a remote console).

When the console is logged on, IPL COMPLETE should be displayed for each CCU.



Twin-Dual or Twin-Backup Mode (Models 410 and 610)

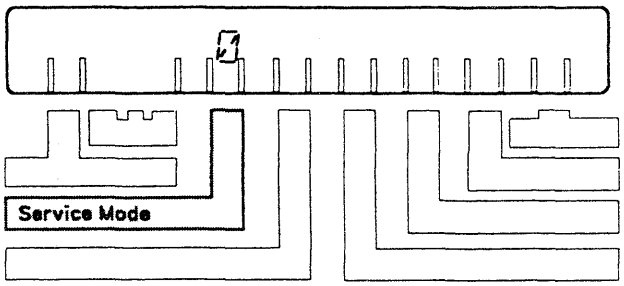
The control program is to be loaded into the CCU from:

- The host via a link-attached 3745 (see the LKP function in the *3745 Advanced Operations Guide* for details on defining the Link IPL Port), or
- The disk if it has been saved on it and made active by the host operator (in that case, the standby CCU is already preloaded with the active load module).

1 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate.**

If 0 is already displayed, go to next step.

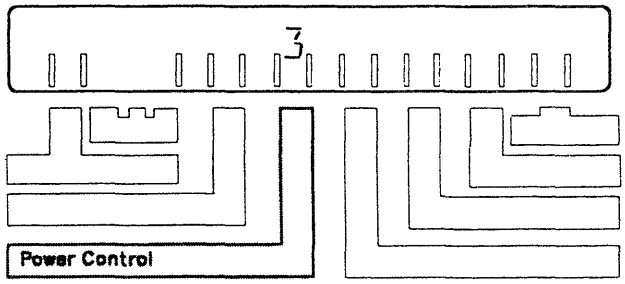
If the 3745 is already powered on, go to step 5



2 Press **Power Control** repeatedly until **3** (local mode) or **2** (network mode) is displayed, then:
Press **Validate**.

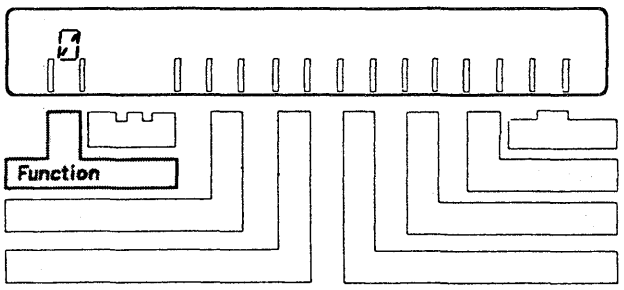
If 3 or 2 is already displayed, go to next step.

Power Control in **3** (local mode) *is intended for service operations and is not recommended for normal operations. You will have to* **manually** *POWER ON after any external power failure when POWER CONTROL is left in LOCAL MODE.*



3 Press **Function** repeatedly until **0** is displayed, then:
Press **Validate**.

If 0 is already displayed, go to next step.

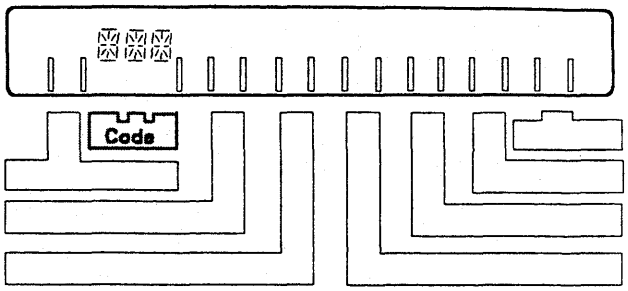


4 Press **Power On Reset**.

5 IPL starts. Codes are displayed on the hex display showing the progression of the IPL. (Codes for normal operation are listed on page 83.)

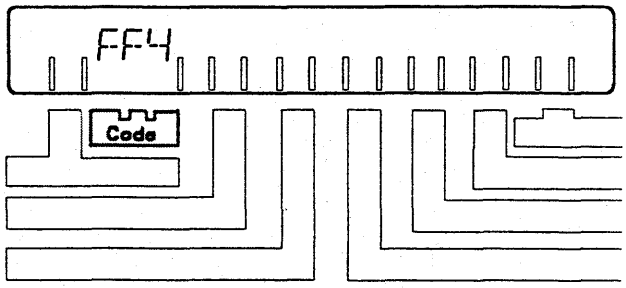
If any code remains more than 5 minutes (except FF4 when the control program is loaded from the host):

- Restart from step 4.
- If the problem persists: **HELP**



Wait approximately 5 minutes until FF4 is displayed.

- Then go to step 6.



If the control program is **loaded from the disk:**

- Wait approximately 5 minutes until you see this screen on the console.

  If you need to enable or disable a channel adapter, go to page 19.

- Then go to step 7.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

              3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

                        CA INTERFACE DISPLAY
INTERFACE  CHANGE     E/D     INTERFACE     HOST OR     CHANNEL     NSC
 NUMBER    E/D REQ  REQUEST   STATUS      SWITCH UNIT  ADDRESS  ADDRESS

   1A      ==>          E    ENABLED                             FA
   2A      ==>          E    ENABLED                             F8
   3A      ==>          E    ENABLED                             0C
   4A      ==>     D         DISABLED                            11
   5A      ==>     D         DISABLED                            FC
   6A      ==>          E    ENABLED                             FD
   7A                   -    -
   8A                   -    -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND

                        F4:MOSS FUNCTIONS    F5:UPDATE
```

6 Ask the host operator to load the control programs in CCU-A and CCU-B.

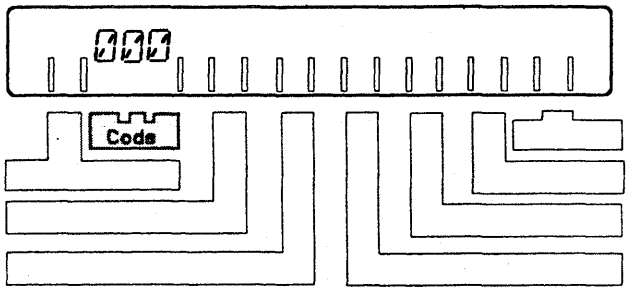
When at least one control program has been loaded, the progression continues on the hex display.

Wait until you see **000**, which indicates that the IPL is complete and successful on **at least one CCU**.

If other codes are displayed, go to page 83.

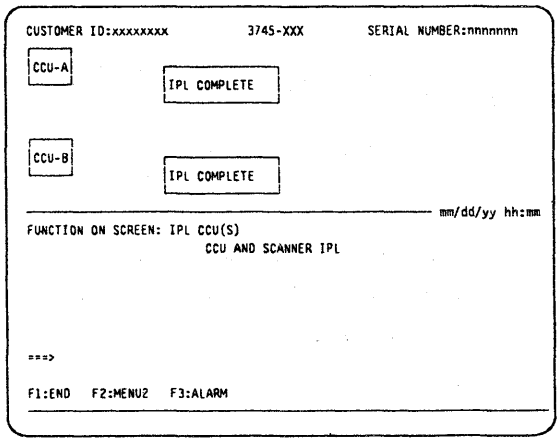
If FF4 remains more than 2 minutes after the control program is loaded:

- Restart from step 4.
- If the problem persists: **HELP**



7 To make sure that the IPL is complete and successful **on both CCUs,** log on the operator console. Refer to 13 (for a local or alternate console) or 16 (for a remote console).

When the console is logged on, IPL COMPLETE should be displayed for each CCU.



Chapter 9. Automatic Power On and IPL

An automatic power on and IPL can be performed in two ways:

- By the Host
- By the 3745, at a pre-determined time.

Whichever method is chosen, the following preparation must be done.

Preparation

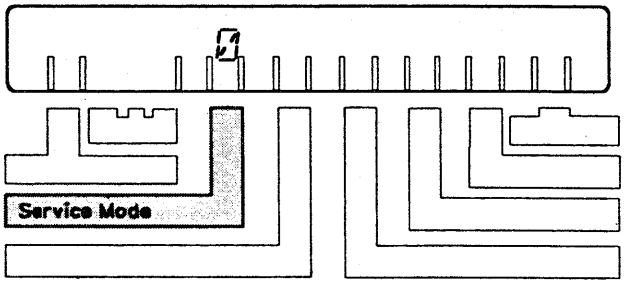
1 Power on the operator console

- If this screen is displayed, go to step 7.
- If this screen is not displayed, continue with next step.

```
CUSTOMER ID:xxxxxxxx          3745-XXX          SERIAL NUMBER:nnnnnnn

                3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

                          CA INTERFACE DISPLAY
INTERFACE  CHANGE      E/D    INTERFACE      HOST OR     CHANNEL     NSC
 NUMBER    E/D REQ   REQUEST   STATUS      SWITCH UNIT  ADDRESS   ADDRESS

   1A       ==>         E     ENABLED                              FA
   2A       ==>         E     ENABLED                              FB
   3A       ==>         E     ENABLED                              0C
   4A       ==>    D          DISABLED                             11
   5A       ==>    D          DISABLED                             FC
   6A       ==>         E     ENABLED                              FD
   7A                   -     -
   8A                   -     -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND

                          F4:MOSS FUNCTIONS    F5:UPDATE
```

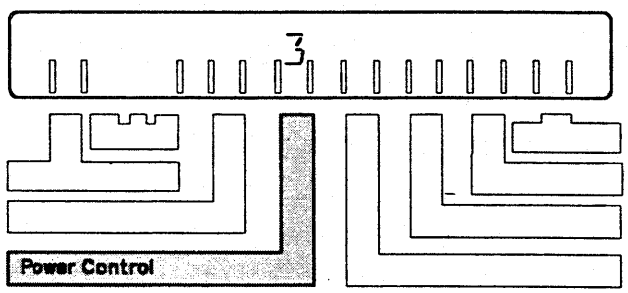
2 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate.**

If 0 is already displayed, go to next step.



3 Press **Power Control** repeatedly until **3** is displayed, then:
Press **Validate.**

If 3 is already displayed, go to next step.



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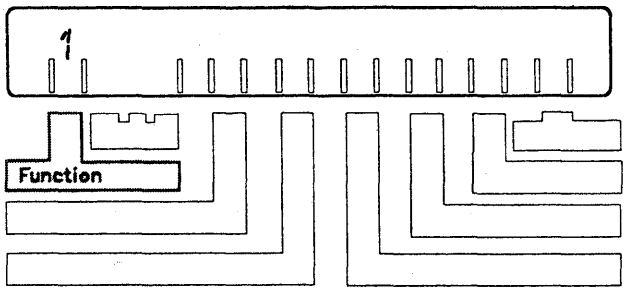
4 Press **Function** repeatedly until **1** is displayed, then:
Press **Validate**.

If 1 is already displayed, go to next step.



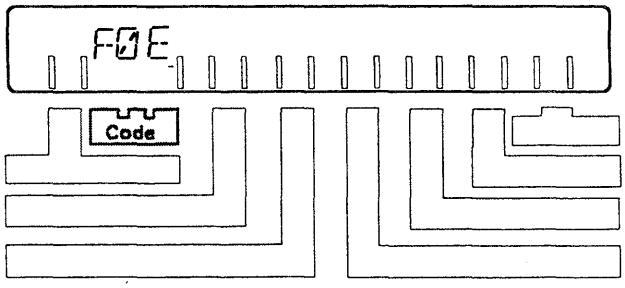
5 Do one of the following:

- If the 3745 is powered off, press **Power On Reset** then go to the next step.
- If the 3745 is powered on, go to the next step.

6 MOSS IML starts. The progression of the IML is indicated on the hex display.

Wait about 3 minutes until you see **F0E or F0F**.

If other codes are displayed, go to page 83.



7 From the operator console, enable or disable the channel adapter(s) if necessary.

Press:

- [→|] until the cursor is at the appropriate CHANGE E/D REQ field **A**
- [E] to enable, or
  [D] to disable
- Repeat the procedure if there are several channel adapters to update, then
- press [| SEND]

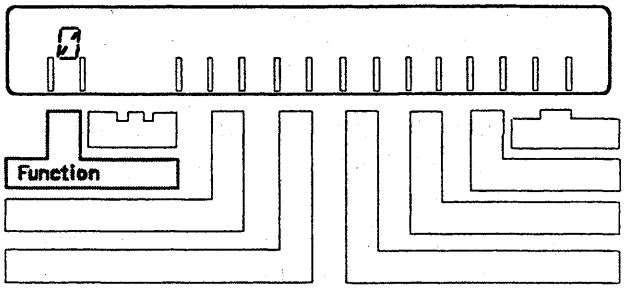
The E/D REQUEST field **B** is updated immediately.

The INTERFACE STATUS field **C** is updated at the next IPL.

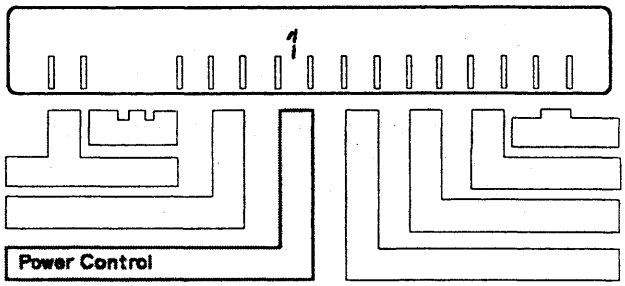
```
CUSTOMER ID:xxxxxxxx          3745-XXX        SERIAL NUMBER:nnnnnnn

                3745 MICROCODE (C) COPYRIGHT IBM CORP. 1987

------------------------------------------------------------ mm/dd/yy hh:mm
FUNCTION ON SCREEN: CA INTERF  DISPLAY
INTERFACE  CHANGE      E/D    INTERFACE     HOST OR     CHANNEL    NSC
 NUMBER    E/D REQ   REQUEST   STATUS     SWITCH UNIT  ADDRESS  ADDRESS

            A         B       C
   1A      ==>        D       DISABLED                            FA
   2A      ==>            E   ENABLED                             FB
   3A      ==>            E   ENABLED                             0C
   4A      ==>        D       DISABLED                            11
   5A      ==>        D       DISABLED                            FC
   6A      ==>            E   ENABLED                             FD
   7A                   -     -
   8A                   -     -

- TYPE E OR D TO CHANGE THE ENABLE/DISABLE REQUEST, THEN PRESS SEND
===>

F1:END      F3:ALARM            F5:UPDATE
```

Power On and IPL from the Host

1 Press **Function** repeatedly until **0** is displayed, then:
Press **Validate**.



2 Press **Power Control** repeatedly until **1** is displayed, then:
Press **Validate.**



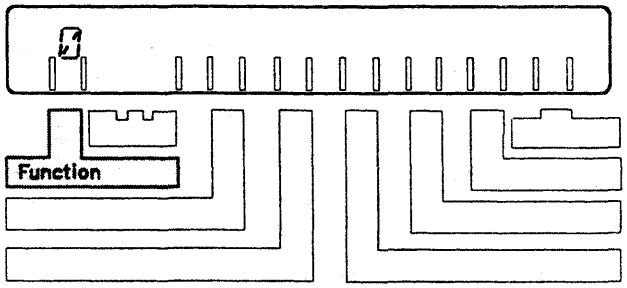
The 3745 is now ready to be powered on and IPLed from the host.

Power On and IPL Scheduled in 3745

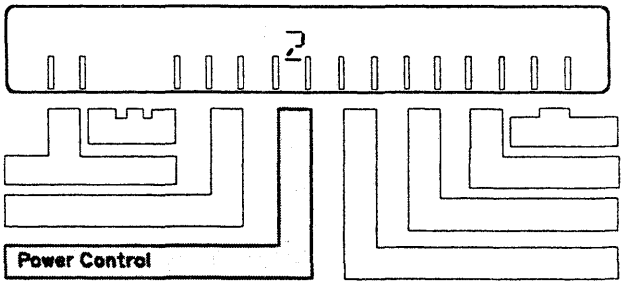
The time and date must have been set from the console, via the Time Services Functions (TIM) as described in the *3745 Advanced Operations Guide*.

1 Press **Function** repeatedly until **0** is displayed, then:
Press **Validate**.

The 3745 is now ready to be powered on and IPLed by the host.



2 Press **Power Control** repeatedly until **2** is displayed, then:
Press **Validate.**



The 3745 is now ready to be powered on and IPLed at the day and time specified in the Time Services (TIM) function.

Chapter 10. IPLing In Diskette Mode

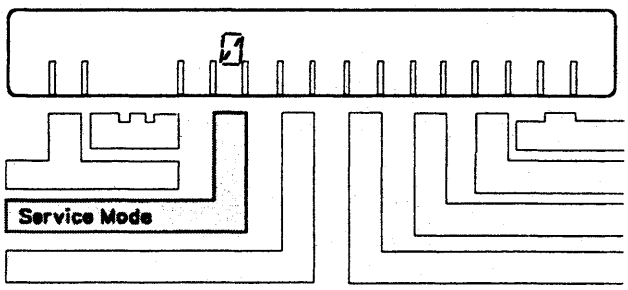
If you encounter a problem, refer to the *3745 Problem Determination Guide*.

When the disk is not available, this procedure allows the control program to be loaded from the host and data traffic to continue while the MOSS is not connected (offline). This procedure should only be performed after the service personnel have been called to resume manual operation. In this particular mode, errors cannot be reported to the host.

1 The **Local** console must be powered on.

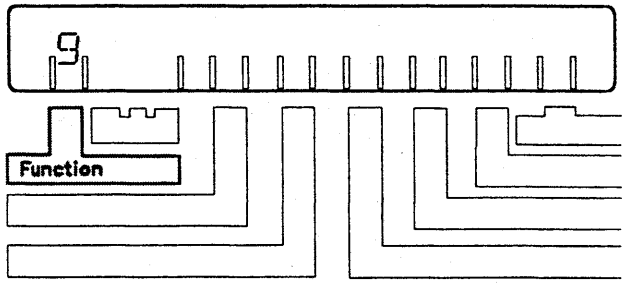
2 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate**

If 0 already displayed, go to next step.



3 Insert the primary backup diskette on which you saved the disk.

4 Press **Function** repeatedly until **9** is displayed, then:
Press **Validate**.



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5 Press **Power On Reset.**

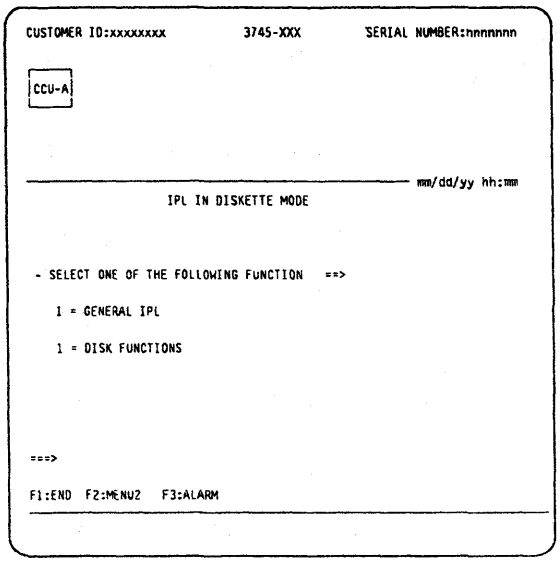
MOSS IML starts.
Wait until **F0E** is displayed on the control panel, then this screen is displayed.

Select: **1 = GENERAL IPL** then press

SEND

Codes are displayed on the hex display showing the IPL progression.

Wait approximately 5 minutes until you see FF4 on the control panel, then go to the next step.

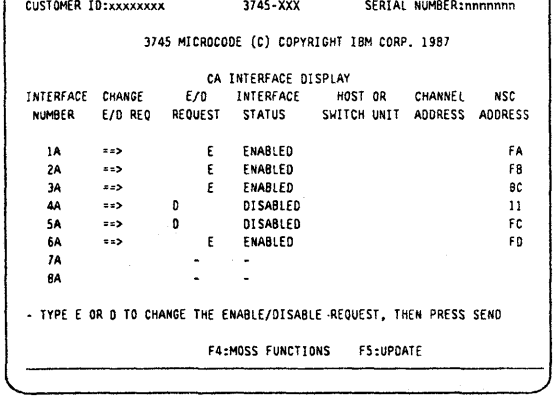


6 From the operator console, enable or disable the channel adapter(s) if necessary.

Press:

- → until the cursor is at the appropriate CHANGE E/Q REQ field
- E to enable, or
  D to disable
- Repeat the procedure if there are several channel adapters to update, then
- press SEND

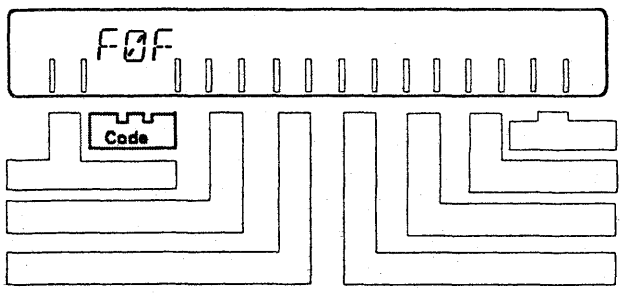
For more information, refer to page 19.



7 Ask the host operator to load the control program.

Wait until you see **F0F**.
IPL is complete and successful.

If other codes are displayed, go to page 83.

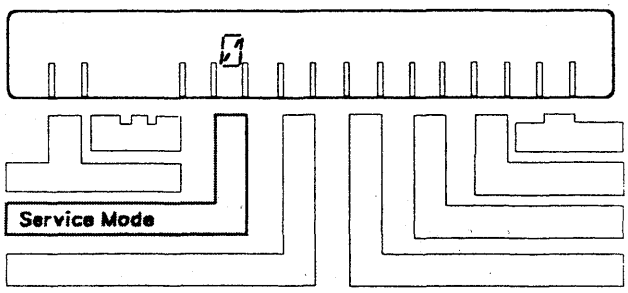


Chapter 11. IML of the MOSS

If you encounter a problem, refer to the *3745 Problem Determination Guide*.

1 Press **Service Mode** repeatedly until **0** is displayed, then:
Press **Validate.**

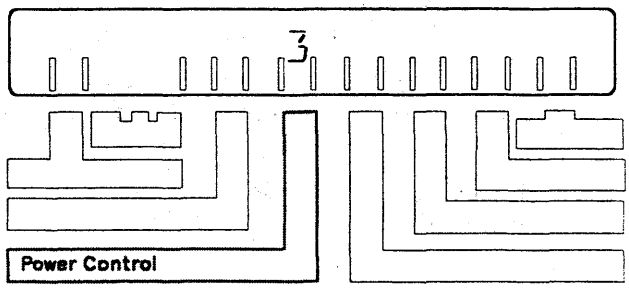
If 0 is already displayed, go to next step.



2 Press **Power Control** repeatedly until **3** (local mode) or **2** (network mode) is displayed, then:
Press **Validate**.

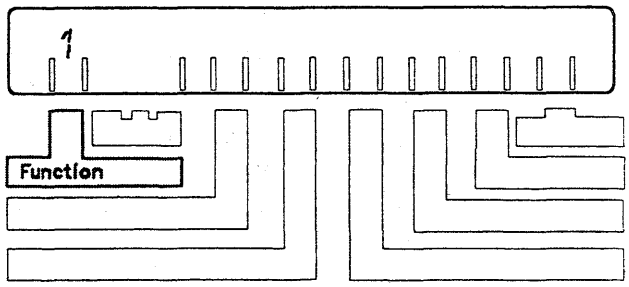
If 3 or 2 is already displayed, go to next step.

Power Control in **3** (local mode) *is intended for service operations and is not recommended for normal operations. You will have to* **manually** *POWER ON after any external power failure when POWER CONTROL is left in LOCAL MODE.*



3 Press **Function** repeatedly until **1** is displayed, then:
Press **Validate**.

If 1 is already displayed, go to next step.



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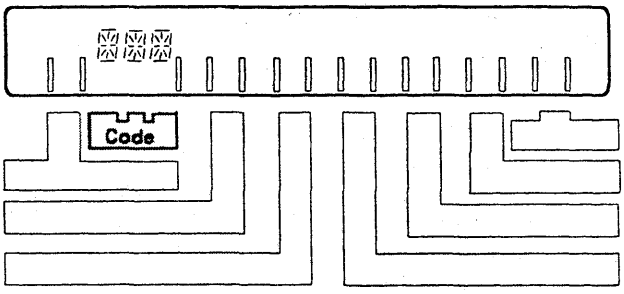
4 MOSS IML starts. The progression of the IML is indicated on the hex display.

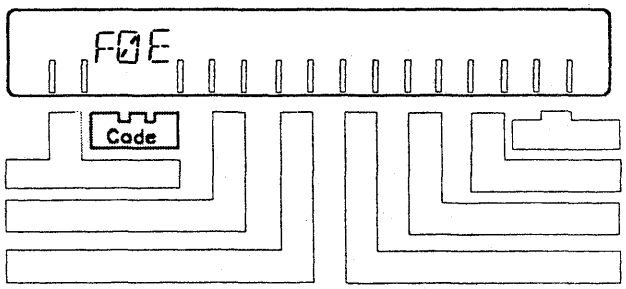


5 Wait about 3 minutes until you see **F0E or F0F**.

F0E = MOSS is alone (NCP not loaded).
F0F = MOSS is offline, or IPL is complete in diskette mode.

To change the status of the MOSS, refer to the *3745 Advanced Operations Guide*.

If other codes are displayed, go to page 83.



Appendixes

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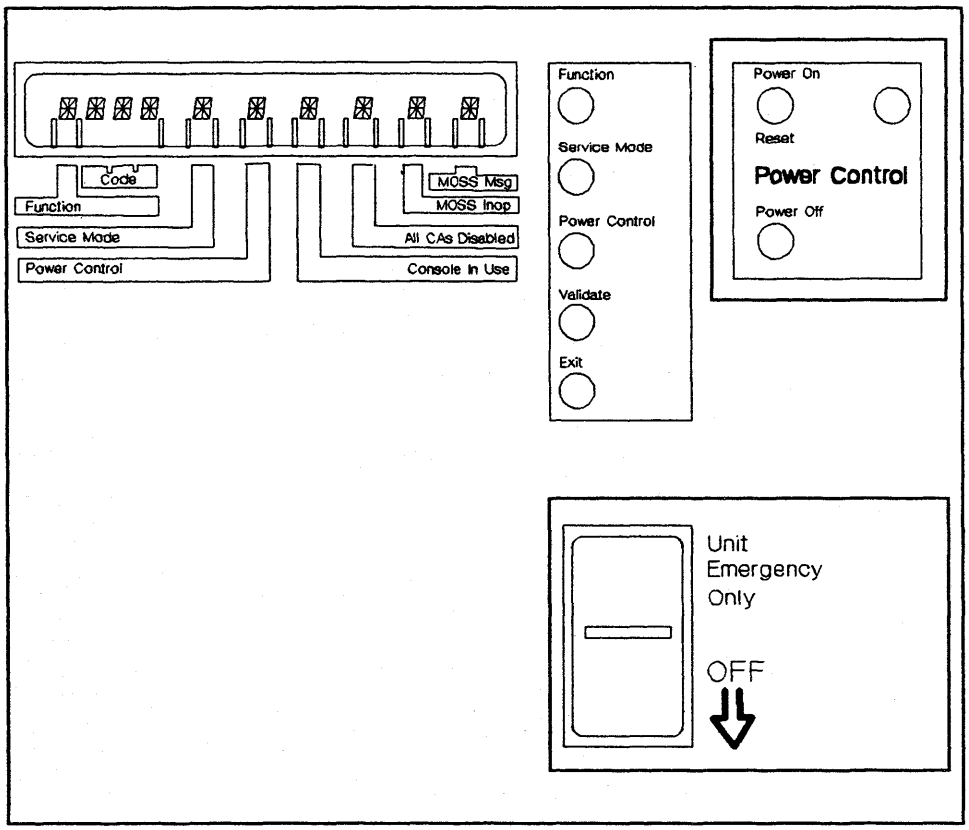
Appendix A. Control Panel



Notes:

1. A reference card is located in the diskette storage compartment to the left of the control panel. The following diagram illustrates this reference card, and a detailed explanation is given in the following pages.
2. The control panel display should never be totally blank.
   If it is, or if you suspect a problem on the control panel: **HELP**

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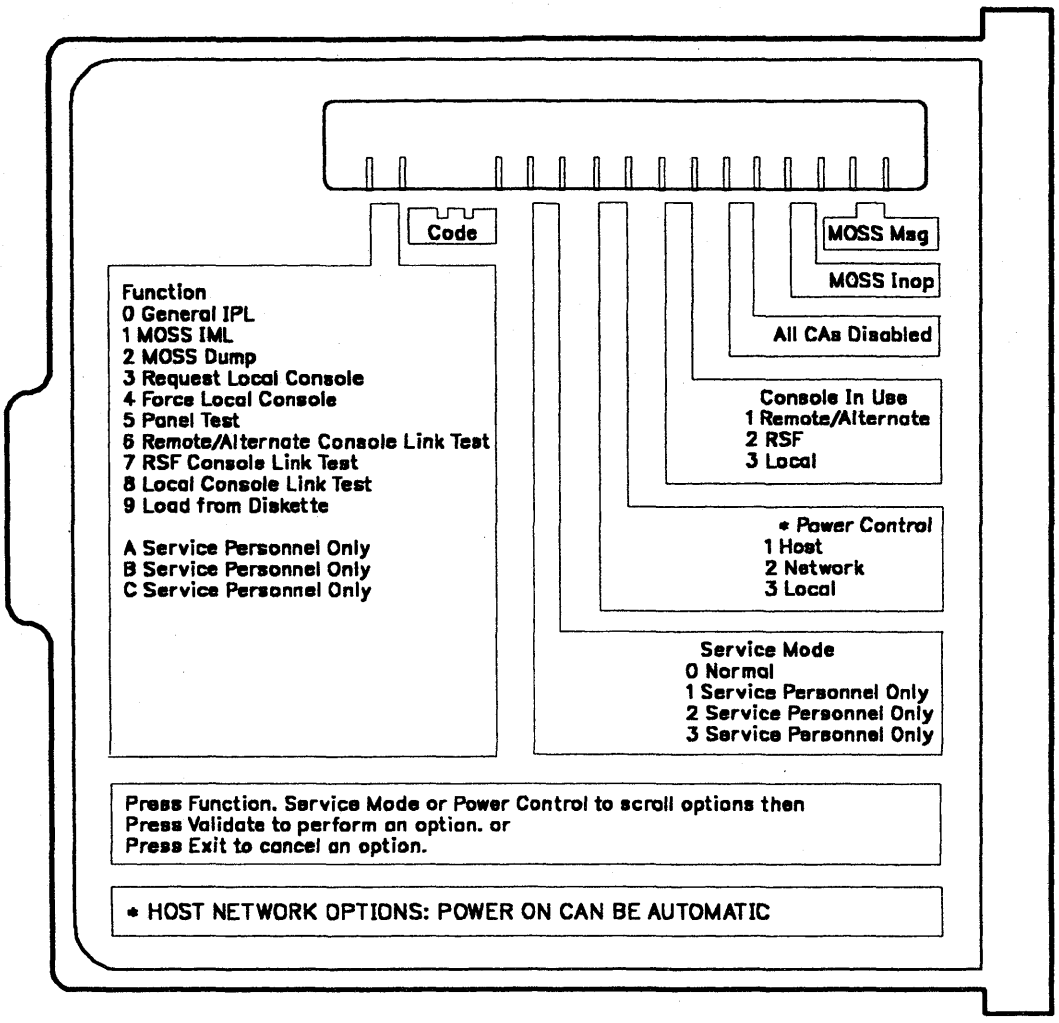
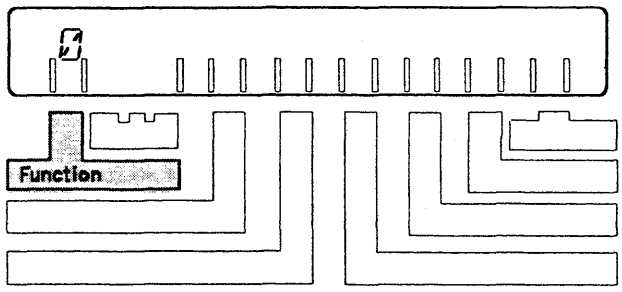

Code
MOSS Msg
MOSS Inop
All CAs Disabled
Function
0 General IPL
1 MOSS IML
2 MOSS Dump
3 Request Local Console
4 Force Local Console
5 Panel Test
6 Remote/Alternate Console Link Test
7 RSF Console Link Test
8 Local Console Link Test
9 Load from Diskette
A Service Personnel Only
B Service Personnel Only
C Service Personnel Only
Console In Use
1 Remote/Alternate
2 RSF
3 Local
* Power Control
1 Host
2 Network
3 Local
Service Mode
0 Normal
1 Service Personnel Only
2 Service Personnel Only
3 Service Personnel Only
Press Function, Service Mode or Power Control to scroll options then
Press Validate to perform an option, or
Press Exit to cancel an option.
* HOST NETWORK OPTIONS: POWER ON CAN BE AUTOMATIC

Function Display

This display indicates which function has been selected.



To select a function:

1. Press **Function** repeatedly until the digit corresponding to the desired function is displayed.
2. Press **Validate**.

Displayed digits and corresponding functions are:

0 To IPL the 3745.

1 To IML the MOSS only.

2 To dump the MOSS to disk.

3 To inform the remote, alternate, or RSF console operator that the local console operator wants to log on.

4 To disconnect the remote, alternate, or RSF console so that the local console operator can log on.

5 To test the panel. (Refer to the *3745 Problem Determination Guide*.)

6 To perform a remote console link test. (Refer to the *3745 Problem Determination Guide*.)

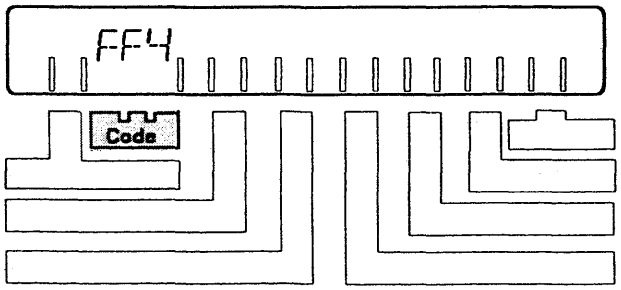
7 To perform an RSF console link test (only when requested by service representative. (Refer to the *3745 Problem Determination Guide.)*

8 To perform a local console link test. (Refer to the *3745 Problem Determination Guide*.)

9 To IPL the 3745 from the diskette.

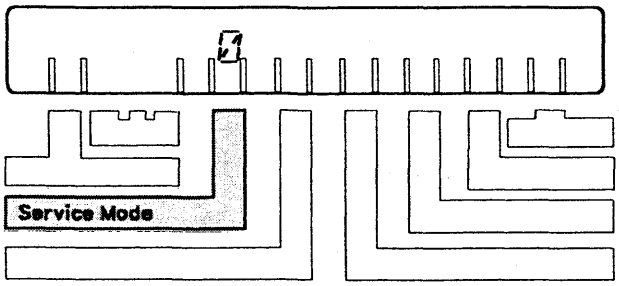
A, B , or C Service representative use only.

Code Display



Hexadecimal codes are displayed here. See page 83 for an explanation of these codes.

Service Mode Display



Indicates which service mode is selected.

Displayed digits and corresponding modes are:

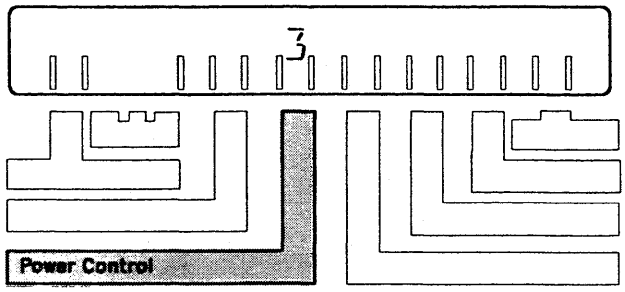
0 Customer mode (it must **always** be **0**).

1, 2, or 3 Service representative only.

If 0 is not displayed here:

- Press **Service Mode** repeatedly until **0** is displayed, then:
- Press **Validate**.
- IML the MOSS from the control panel as described on page 69.

Power Control Display



This display indicates which power control option is selected. To select an option:

- Press **Power Control** until the required option is displayed, then:
- Press **Validate**.

Displayed digits and corresponding options are:

1 **(HOST)** The 3745 is powered on and off from the host. If ac power is lost then restored, an automatic restart is performed.

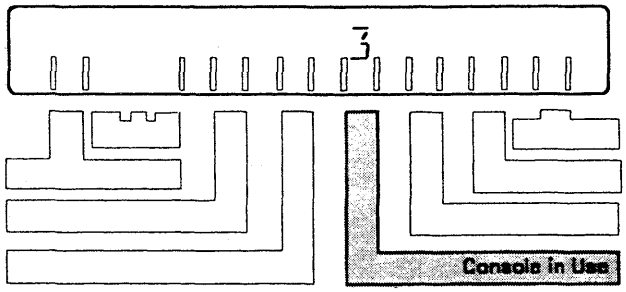
2 **(NETWORK)** The 3745 is powered on:

- From the control panel (Power On Reset pushbutton), or
- By a scheduled power on.

The 3745 is powered off by a remote power-off (RPO) command. If power is lost then restored, an automatic restart is performed.

3 **(LOCAL)** The 3745 is powered on and off from the control panel.

Console In Use Display



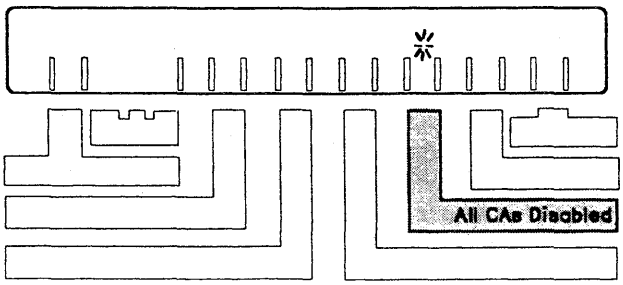
This display indicates which operator console is logged on. Displayed digits have the following meanings:

1 The remote or alternate console is logged on.

2 The RSF console is logged on.

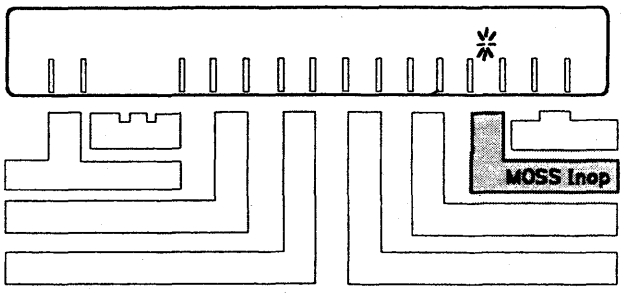
3 The local console is logged on.

All CAs Disabled Indicator



When the indicator is lit, all channel adapters are disabled. When not lit, at least one channel adapter is enabled.

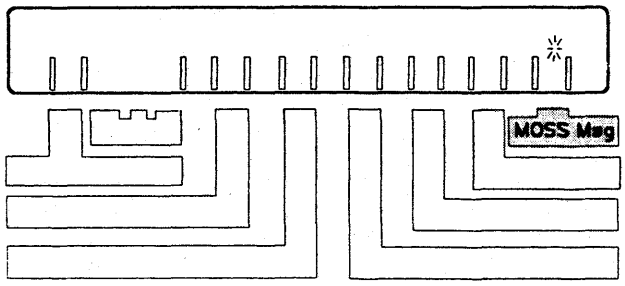
MOSS Inop Indicator



When the indicator is lit, the MOSS is inoperative. Refer to the *3745 Problem Determination Guide*.

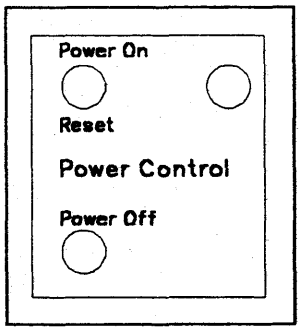
If is displayed: **HELP**

MOSS Message Indicator



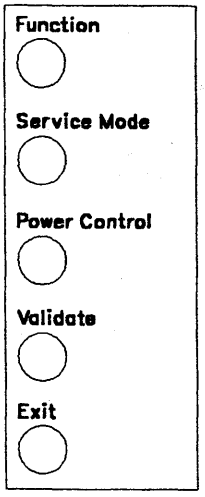
When lit, an alarm is generated. Refer to the *3745 Problem Determination Guide*.

Power On Indicator

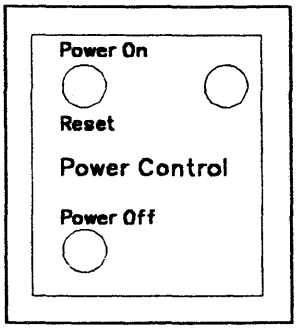


When lit, the **Power On** indicator means that the 3745 is completely powered on. It is lit when the power on procedure is started.

Pushbuttons

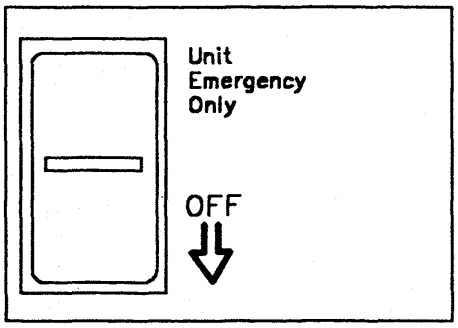


- **Function** to select a control panel function (see page 75).
- **Service Mode** to select a service mode (see page 76).
- **Power Control** to select a power control option (see page 77).
- **Validate** to perform or validate the function, service mode, or power control option.
- **Exit** to cancel a function, service mode, or power control option that is not yet validated.



- **Power On Reset** to start the 3745 power-on procedure.
- **Power Off** to power off the 3745. If you have to power on again, wait 10 seconds before pressing **Power On Reset.**

Unit Emergency Switch



- Use this switch to stop the 3745 in case of an emergency.

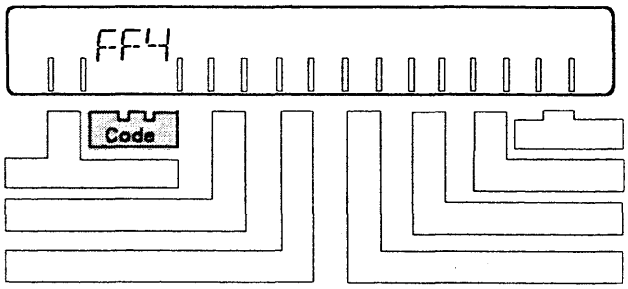
  When the switch is in the **lower** position the power supply is disabled. It can be reset only by an IBM representative.
  When the switch is in the **upper** position the power supply is enabled.

  This is a standard safety feature.

Appendix B. Hexadecimal Codes

Hexadecimal codes are displayed on the control panel to indicate:

- The progression of a function (for example, IPL)
- The status of the 3745 components
- An error. In this case, the code blinks. The list below shows the normal condition codes. Other progression codes will be displayed for short times. Generally, if any code remains more than 2 minutes: **HELP**



Code	Explanation and Action
000	3745 is successfully IPLed. The control program is loaded and MOSS is online.
DFC	Wrong diskette in drive. Insert the correct primary diskette. Restart IPL in diskette mode.
F0E	Successful completion of the MOSS IML. MOSS is alone.
F0F	Successful completion of the MOSS IML. CCU is running and MOSS is offline or IPL complete in diskette mode.
F28	Failed diskette. Retry with another set of saved diskettes. If you do not have another set of diskettes (on which disk data is saved): **HELP**
FD6	Control program load from disk in progress. If this code remains more than 2 minutes: **HELP**
FD7	Control program dump to disk in progress. If this code remains more than 4 minutes: **HELP**
FD8	Control program save on disk in progress. If this code remains more than 2 minutes: **HELP**
FF0	Start of 3745 IPL. If this code remains more than 2 minutes: **HELP**
FF1	3745 IPL phase one. If this code remains more than 2 minutes: **HELP**
FF2	3745 IPL phase two. If this code remains more than 2 minutes: **HELP**
FF3	3745 IPL phase three. If this code remains more than 5 minutes: **HELP**
FF4	3745 IPL phase four. The control program is to be loaded from the host. For a link-attached 3745, the period of time this code is displayed depends on the size of the load module and the speed of the link.
FF5	Channel-attached 3745 only: Control program(s) being loaded. If this code remains more than 2 minutes: **HELP**
FF6	Link-attached 3745 only: Control program(s) being loaded.
FF7	The control program is loaded.
FFB	3745 IPL canceled on operator's request.
FFE	3745 IPL complete with non-disruptive errors. If it recurs: **HELP**

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Abbreviations, Glossary, Bibliography and Index

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List of Abbreviations

abend	abnormal end of task
AC	alternating current
ACF	Advanced Communications Function
bps	bits per second
CA	channel adapter
CCU	central control unit
CDF	configuration data file
CI	calling indicator
CID	channel adapter interface display
CLDP	controller load/dump program
CNM	communication network management
CP	control program
CR	call request (signal)
CS	communication scanner
CSS	control subsystem
DC	direct current
DCE	data circuit-terminating equipment
EC	engineering change
EP	Emulation Program
FE	field engineering
I	indication (signal)
ID	identifier
IML	initial microcode load
INOP	inoperative (line, modem, or terminal)
IO	input/output
IPL	initial program load function
K	1024 (bytes or words)
kbps	kilobits per second
LA	line adapter
LIC	line interface coupler card
MB	megabyte; 1 048 576 bytes
MOSS	maintenance and operator subsystem
MSA	machine status area
NCP	Network Control Program
OS	Operating System
RPO	remote power-off
RSF	remote support facility

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Glossary

This glossary defines all new terms used in this manual. It also includes terms and definitions from the *IBM Dictionary of Computing*, SC20-1699.

addressing. A technique where the control station selects, among the DTEs that share a transmission line, the DTE to which it is going to send a message.

alarm. A message sent to the MOSS operator console. In case of an error, a reference code identifies the nature of the error.

alert. A message sent to the host console. In case of an error, a reference code identifies the nature of the error.

box event record (BER). Information about an event detected by the controller. It is recorded on the disk/diskette and can be displayed on the operator console for event analysis.

Note: The word *box* is used instead of *controller* to contrast with the *network* in which the controller is only a component.

central control unit (CCU). In the 3745, the controller hardware unit that contains the circuits and data flow paths needed to execute instructions and to control its storage and the attached adapters.

channel adapter (CA). A communication controller hardware unit used to attach the controller to a host processor.

channel interface. The interface between the controller and the host processors.

communication controller. A communication control unit that is controlled by a program stored and executed in the unit. Examples are the IBM 3705, IBM 3725/3726, IBM 3720, and IBM 3745 models 130, 150, 170, 210, 310, 410, and 610.

communication network management (CNM) application program. An ACF/VTAM application program authorized to issue formatted management services request units containing physical-unit-related requests and to receive formatted management services requests containing information about physical units.

communication scanner. See *line adapter*.

communication scanner processor (CSP). The processor of a scanner.

communication subsystem. The part of the controller that controls the data transfers over the transmission interface.

configuration data file (CDF). A MOSS file that contains a description of all the hardware features (presence, type, address, and characteristics).

control panel. A panel that contains switches and indicators for the customer's operator and service personnel.

control program. A computer program designed to schedule and to supervise the execution of programs of the controller.

control subsystem (CSS). The part of the controller that stores and executes the control program, and monitors the data transfers over the channel and transmission interfaces.

diskette. A thin, flexible magnetic disk, and its protective jacket, that records diagnostics, microcode, and 3745 files.

diskette drive. A mechanism that reads and writes diskettes.

Emulation Program (EP). An IBM licensed program that allows a channel-attached communication controller to emulate the functions of an IBM 2701 Data Adapter Unit, an IBM 2702 Transmission Control, or an IBM 2703 Transmission Control, or an IBM 3705 Communication Controller.

fallback. In twin backup mode, a state where the traffic of the failing CCU has been redirected to the second one.

In standby mode, a state where the traffic of the failing CCU has been redirected to the standby CCU after it is IPLed.

host processor. (1) A processor that controls all or part of a user application network. (2) In a network, the processing unit in which the access method for the network resides. (3) In an SNA network, the processing unit that contains a system services control point (SSCP). (4) A processing unit that executes the access method for attached communication controllers. Also called *host*.

IBM service representative. An individual in IBM who performs maintenance services for IBM products or systems.

initial microcode load (IML). The process of loading the microcode into a scanner or into MOSS.

initial program load (IPL). The initialization procedure that causes the 3745 control program to commence operation.

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LIC unit. A line interface coupler unit (LIU) consisting of:

- One power supply (PS) associated with
- Two line interface boards (LIBs), housing
- Multiplex cards (DMUX, SMUXA, or SMUXB), and
- Line interface coupler cards (LICs).

line. See *transmission line.*

line adapter (LA). The part of the TSS, HPTSS, ESS, or TRSS that scans and controls the transmission lines. Also called *scanner* or *communication scanner.*

For the TSS the line adapters are low-speed scanners (LSSs).

For the HPTSS the line adapters are high-speed scanners (HSSs).

For the ESS the line adapters are Ethernet LAN adapters (ELA).

For the TRSS the line adapters are token-ring adapters (TRAs).

line interface coupler (LIC). A circuit that attaches up to four transmission cables to the controller (from DTEs, DCEs, or telecommunication lines).

low-speed scanner. Line adapter for lines up to 256 kbps. It is composed of as communication scanner processor (CSP) and a front-end low-speed scanner (FESL).

maintenance and operator subsystem (MOSS). The part of the controller that provides operating and servicing facilities to the user's operator and the IBM service representative.

microcode. A program that is loaded in a processor (for example, the MOSS processor) to replace a hardware function. The microcode is not accessible to the customer.

network. See *user application network.*

Network Control Program (NCP). An IBM licensed program that provides communication controllers supports for single-domain, multiple domain, and interconnected network capability.

offline. Status of MOSS when the later is not connected to the CCU control program.

operator console. The IBM Operator Console that is used to operate and service the 3745 through the MOSS. A local console must be located within 7 m of the 3745. Optionally an alternate console may be installed up to 120 m from the 3745, or a remote console may be connected to the 3745 through the switched network.

partitioned emulation programming (PEP) extension. A function of a network control program that enables a communication controller to operate some telecommunication lines in network control mode while simultaneously operating others in emulation mode.

scanner. See *line adapter.*

single. Configuration with one CCU.

switchback. Operation to reset a twin backup configuration from fallback to initial state.

time out. The time interval allotted for certain operations to occur.

token-ring adapter (TRA). Line adapter for IBM Token-Ring Network, composed of one token-ring multiplexor card (TRM), and two token-ring interface couplers (TICs).

token-ring subsystem (TRSS). The part of the controller that controls the data transfers over an IBM Token-Ring Network.

transmission interface. The interface between the controller and the user application network.

transmission line. The physical means for connecting two or more DTEs (via DCEs). It can be nonswitched or switched. Also called a *line.*

transmission subsystem (TSS). The part of the controller that controls the data transfers over low- and medium-speed, switched and non switched transmission interfaces.

The TSS consists of:

- Low-speed scanners (LSSs) associated with
- LIBs
- Serial links (SLs).

twin. Configuration with two CCUs.

twin-dual. Mode of operation with two CCUs operating simultaneously in two distinct subareas.

twin-backup. Mode of operation identical to twin-dual with fallback capability.

twin-standby. Mode of operation with one CCU active and the other in standby, ready to take over.

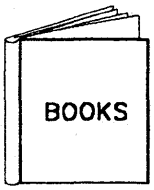
two-processor switch (TPS). A feature of the channel adapter that connects a second channel to the same adapter.

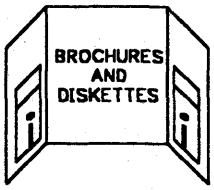
user application network. A configuration of data processing products, such as processors, controllers, and terminals, for the purpose of data processing and information exchange. This configuration may use circuit-switched, packet-switched, and leased-circuit services provided by carriers or the PTT. Also called *user network.*

Bibliography

Customer Publications for 3745 (Models 130, 150, 160, and 170)

The product library is presented in two formats:





Evaluating and Configuring

GA33-0138	*Introduction* To evaluate and learn about the 3745 capabilities
GA33-0093	*Configuration Program* To configure a 3745

Preparing Your Site

GC22-7064	*S/370 I/O Installation Manual Physical Planning* To plan the physical site
GA33-0140	*Preparing for Connection* To prepare cable installation and LIC5 or LIC6 configuration

Preparing for Operation

GA33-0126 [1]	*Telecommunication Products Safety Handbook* To recall safety principles
SA33-0141 [1]	*Connection and Integration Guide* To install and test LICs and customize your 3745 after installation
SA33-0158 [1]	*Console Setup Guide* To install local, alternate, or remote consoles

Customizing Your Control Program

SA33-0102	*Principles of Operation* To understand the 3745 instruction set in order to write or modify a control program

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Customer Documentation - Continued

Operating and Testing

SA33-0098 [1]	*Basic Operations Guide* To carry out routine daily operations
SA33-0097 [1]	*Advanced Operations Guide* To carry out advanced operations and testing from the 3745 operator console
SA33-0161	*Remote Loading/Activation Guide* To customize VTAM, NCP, and NPSI generations to support a remote controller
SA33-0178	*Guide to Timed IPL and Rename Load Module* VTAM procedures: • To schedule an automatic reload of 3745 communication controllers • To keep 3745 load module changes transparent to the operations staff.

Managing Problems

SA33-0096 [1]	*Problem Determination Guide* To perform problem determination

Finding Information

SA33-0142 [1]	*Master Index* To find information in the customer library

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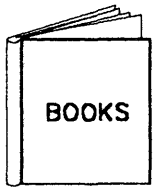

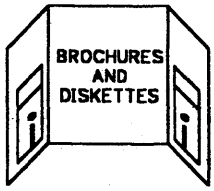

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All Models
Basic Operations Guide

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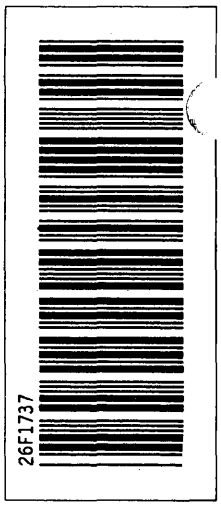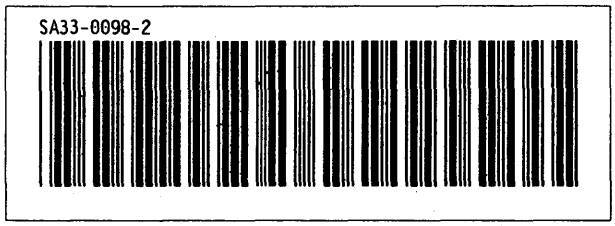
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