3745 Communication Controller Model A
3746 Expansion Unit Model 900
3746 Nways Multiprotocol Controller Model 950

# Service Processor and Network Node Processor Service User's Guide

SY33-2127-03

3745 Communication Controller Model A
3746 Expansion Unit Model 900
3746 Nways Multiprotocol Controller Model 950

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**Note**

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

**Fourth Edition (September 2000)**

This edition applies to the 3745 Communication Controller Models A, and the 3746 Nways® Multiprotocol Controller Models 900 and 950.

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| |
|---|
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| |
|---|
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## New Zealand Radiocommunications (Radio) Regulations

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## Notice to UK Users

The IBM 3746 Model 900 and IBM 3746 Model 950 are manufactured according to the International Safety Standard IEC950 and, as such, are approved in the UK under the General Approval number NS/G/1234/J/100003.

The Active Remote Couplers (ARCs) and the X.21 Interface, housed within the 3746 Model 900 and 3746 Model 950, are approved separately, each having their own independent approval number. These interface adapters, supplied by IBM, do not contain excessive voltages. An excessive voltage is one which exceeds 42.4 V peak ac or 60 V dc. They interface with the 3746 Model 900 or 3746 Model 950, using Safe Extra Low Voltages only.

In order to maintain the independent approval of the IBM adapters, it is essential that other optional cards, not supplied by IBM, do not use mains voltages or any other excessive voltages. Seek advice from a competent engineer before installing other adapters not supplied by IBM.

## Year 2000 Statement

This product is Year 2000 ready. When used in accordance with its associated documentation, it is capable of correctly processing, providing, and/or receiving date data within and between the 20th and 21st centuries, provided all other products (for example, software, hardware, and firmware) used with the product properly exchange accurate date data with it.

For more information, refer to:

`http://www.ibm.com/year2000`

The 3745 and 3746 controllers require a certain level of microcode to be Year 2000 ready. For more detailed information, access the URL listed above and click **Product Readiness**.

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## General Safety

This product meets IBM safety standards.

For more information, refer to the *IBM Telecommunication Products Safety Handbook,* GA33-0126.

## Safety Notices

For *Safety Notices* refer to *IBM 3745 Communication Controller All Models*, *IBM 3746 Expansion Unit Model 900*, *IBM 3746 Nways Multiprotocol Controller Model 950*, *Safety Information*, GA33-0400

## Service Inspection Procedures

The Service Inspection Procedures help service personnel check whether the 3745/3746 conforms to IBM safety criteria. They have to be used each time the 3745/3746 safety is suspected. The *Service Inspection Procedures* section is located at the beginning of the:

- *3745 Communication Controller Models 210 to 61A Maintenance Information Procedures*, SY33-2054
- *3745 Communication Controller Models 130 to 17A Maintenance Information Procedures*, SY33-2070
- *3746-950 Service Guide*, SY33-2108.
- *3746-900 Service Guide*, SY33-2116.

The 3745/3746 areas and functions checked through service inspection procedures are:

1. External covers
2. Safety labels
3. Safety covers and shields
4. Grounding
5. Circuit breaker and protector rating
6. Input power voltage
7. Test of emergency power OFF/control power switch.
8. Power-ON indicator

# About This Guide

## Who Should Use This Guide

The IBM personnel using this guide should be:

- Trained to service the service processor, IBM 3745 Communication Controller, and the IBM 3746 Nways® Multiprotocol Controller Models 900 and 950.
- Familiar with the configuration of the 3745 Communication Controller, 3746-900, and 3746-950.
- Familiar with the SP and NNP service documentation.

## How to Use This Guide

This guide provides procedures for installing and maintaining the microcode installed on a service processor and a network node processor.

To ensure the efficency of the procedures:

- Read the instructions carefully before attempting to do them
- Complete each step before going to the next one
- Go through the chapters sequentially

## How This Guide Is Organized

**Chapter 1** Introduces the service processor configuration and gives general information to access the information.

**Chapter 2** Presents the software maintenance procedures for the service processor.

**Chapter 3** Presents the software maintenance procedures for the network node processor.

**Appendix A** Service and customer documentation bibliography.

A **list of abbreviations** and an **index** are provided at the end of this guide.

## What Is New in This Edition

This book has been revised to include the following changes and enhancements:

- Ability to define the user login names to connect the service processor by means of a Point-to-Point Protocol (PPP) session over the public switching network (PSN).
- Ability to use the Console for Java™ feature to establish up to four simultaneous connections to the service processor and the network node processor.

The technical changes and additions are indicated by a vertical line (|) to the left of the change.

## Where to Find More Information

For a complete list of the service processor, 3745, 3746-900, and 3746-950 customer and service information manuals, see at the end of this manual. In this manual, references are made to the following publications:

*Multiaccess Enclosure Installation and Maintenance Guide*, SY33-2124

*3746-950 Installation Guide*, SY33-2107

*3746-900 Installation Guide*, SY33-2114

*3745 Communication Controller Models 210 to 61A Maintenance Information Procedures*, SY33-2054

*3745 Communication Controller Models 130 to 17A Maintenance Information Procedures*, SY33-2070

*3746-950 Service Guide*, SY33-2108

*3746-900 Service Guide*, SY33-2116

*3745 Communication Controller Models A and 3746 Models 900 and 950: Overview, Installation, and Integration*, GA27-4234

*3745 Communication Controller Models A and 3746 Models 900 and 950: Serial Line Adapters*, GA27-4235

*3745 Communication Controller Models A and 3746 Models 900 and 950: Token Ring and Ethernet*, GA27-4236

*3745 Communication Controller Models A and 3746 Models 900 and 950: ESCON Channels*, GA27-4237

*3745 Communication Controller Models A and 3746 Models 900 and 950: Physical Planning*, GA27-4238

*3745 Communication Controller Models A and 3746 Models 900 and 950: Management Planning*, GA27-4239

*3745 Communication Controller Models A and 3746 Models 900 and 950: Multiaccess Enclosure Planning*, GA27-4240

*3745 Communication Controller Models A and 3746 Models 900 and 950: Protocol Introductions*, GA27-4241

## CD-ROM

The service processor is shipped with a CD containing the LIC and a copy of the 3746 Web site. You will find from this Web page, marketing, PE, and all information about CCP products.

To access this page:

1. Insert the CD into the CD disk drive of the SP.
2. From the MOSS-E primary menu, click **Information**.
3. Double-click **CD-ROM documentation**.
4. Then if you want to display the CCP documentation, click **Documentation**.
5. Click **La Gaude Information Development: Communication Controllers Information**.

## More information on the Web

You can access:

- The latest news and information about IBM network products, customer service and support, and microcode upgrades at:

  `http://www.lagaude.ibm.com/3746pe`

- The last version of the documentation at:

  `http://www.ibm.com/networking`

- The MCFs and technical information at:

  `http://ps928s1.lagaude.ibm.com/ccp/pe/withfram.htm`

## Service Personnel Definitions

Refer to the:

- *3745 Communication  Controller Models 210 to 61A Maintenance Information Procedures*, SY33-2054,
- *3745 Communication  Controller Models 130 to 17A Maintenance Information Procedures*, SY33-2070, or
- *3746-950 Service Guide*, SY33-2108.

# Chapter 1. Introducing the Service Processor and the Network Node Processor

## General Information

## Help for Using Your Service Processor

There are **three** ways to access the **Help information** by clicking on:

1. The **Help** option of the **title bar** of the panel (example: see Figure 1-3 on page 1-2).
2. **Help** (example: see Figure 1-7 on page 1-3).
3. An **input field** then pressing **F1** (example: input field "Search For" in Figure 1-7 on page 1-3).

## MOSS-E View Primary Panel

Figure 1-1 shows the configuration of two communication controllers:

1. A 3745 X1A with a 3746-900 frame and a NNP installed
2. A 3745 X1A.

Figure 1-2 represents the configuration of one 3746-950 with a network node processor installed.

From these panels, clicking on **Program**, **Information**, or **Help**, you will get all the information to manage your controller. The other options will help you find specific information (see Figure 1-4 on page 1-2, Figure 1-5 on page 1-2, and Figure 1-3 on page 1-2).

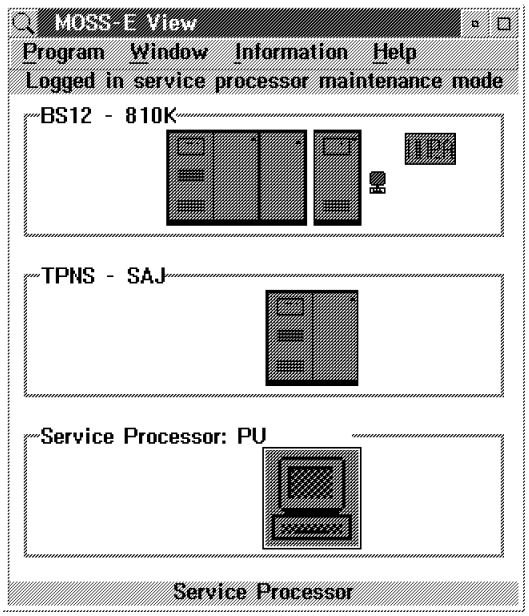



*Figure 1-1. MOSS-E View Primary Panel*

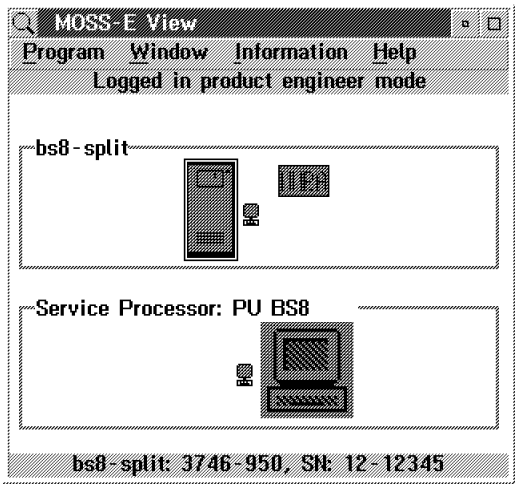



*Figure 1-2. One 3746-950*

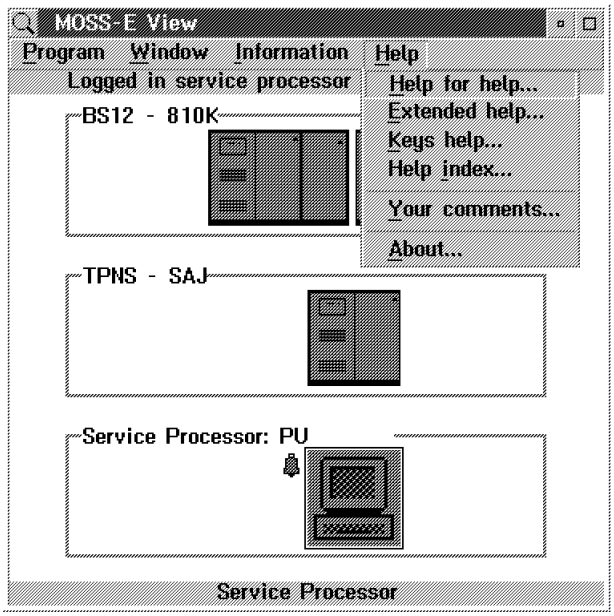



*Figure 1-3. Help Pull-Down Menu*

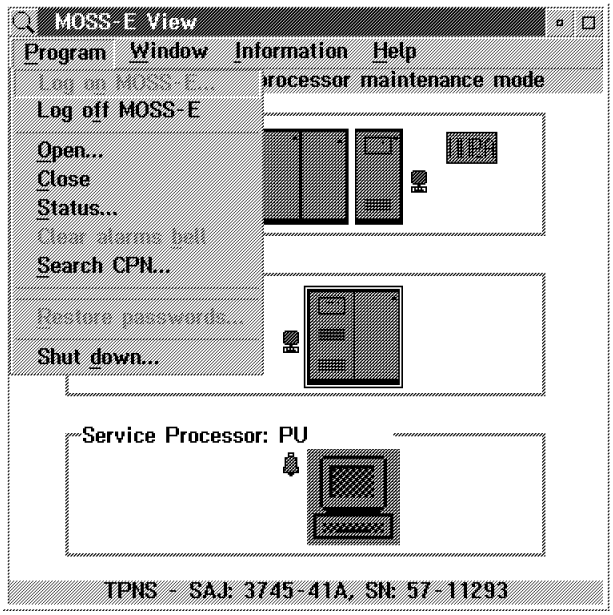



*Figure 1-4. Program Pull-Down Menu*

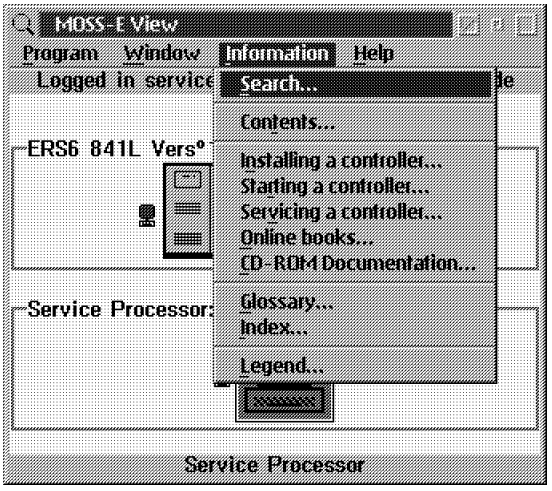



*Figure 1-5. Information Pull-Down Menu*

## Searching for Specific Information

1. From the Help pull-down menu (see Figure 1-3 on page 1-2), select **Help for Help.**
2. Click **Services** on the title bar of the MOSS-E help panel.
3. Click **Search** on the title bar of the search panel.
4. Enter your search argument to get all the occurrences in all the available online information.

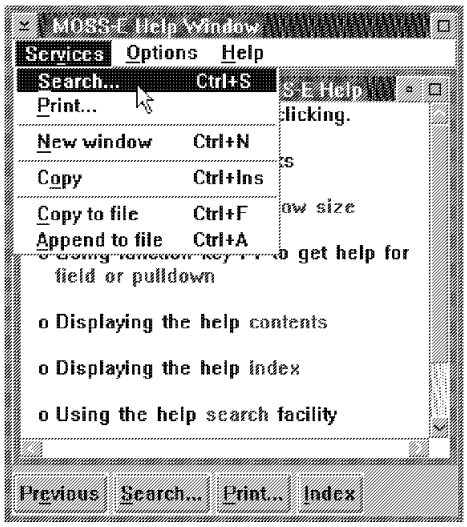



*Figure 1-6. Services Pull-Down Menu*


*Figure 1-7. Search Panel*

## Displaying Your Machine Status

The first indication of the machines status is given by the color of the icons displayed on the service processor. To obtain the meaning of the colors do the following:

1. From the **Information** pull-down menu click **Legend** (see Figure 1-5 on page 1-2).
2. The meaning of the colors is now displayed in the MOSS-E legend panel. Scroll forward to see the complete list of the colors and their meaning, see "Icon Color Meaning" on page 1-6.

At any time during IML, or while the system is operational, you can display your machine status:

1. Right-click the **3746-9x0** or **3745 object** icon.
2. Click **Status**. The following panels are displayed (see Figure 1-8 for the 3746-9x0 and Figure 1-9 on page 1-5 or Figure 1-10 on page 1-5 for the 3745 X1A or 17A).

### 3746-9x0 Status Display

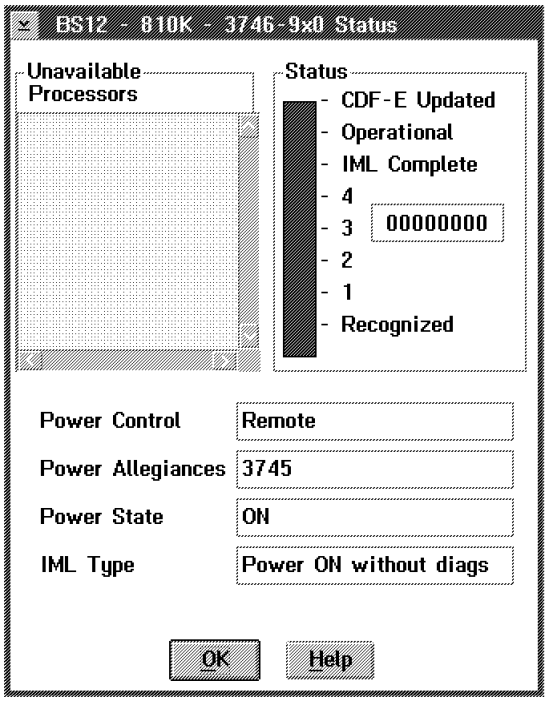



*Figure 1-8. 3746-9x0 Status Display*

## 3745 Status Display

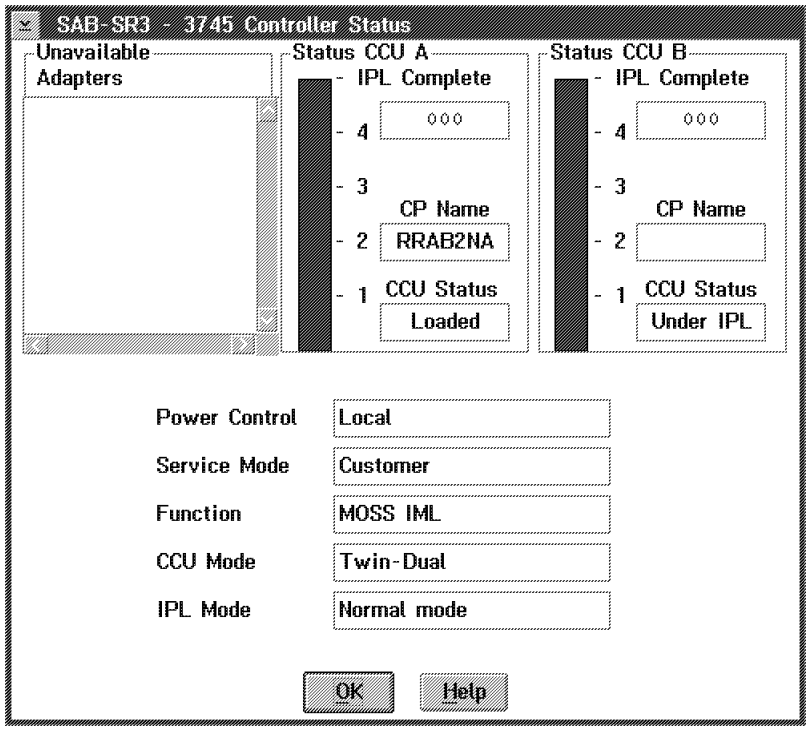



*Figure 1-9. 3745 Model X1A Status Display*

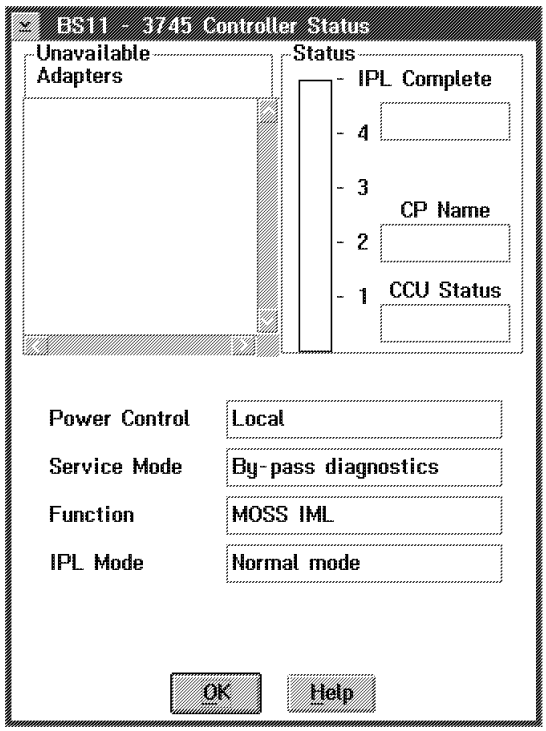



*Figure 1-10. 3745 Model 17A Status Display*

# Icon Color Meaning

The color of the 3745, 3746, service processor, network node processor, or Multiacess Enclosure icon (MAE) gives the status of the machine. This information can be obtained online from the information pull-down menu when you select **Legend** (see “Icon Color Meaning for 3745, 3746-9x0, Service Processor, and MAE” and “Icon Color Meaning for Network Node Processor” on page 1-7).

## Icon Color Meaning for 3745, 3746-9x0, Service Processor, and MAE

Top to bottom, the icon’s color is: green, yellow, white, grey, purple, and red.

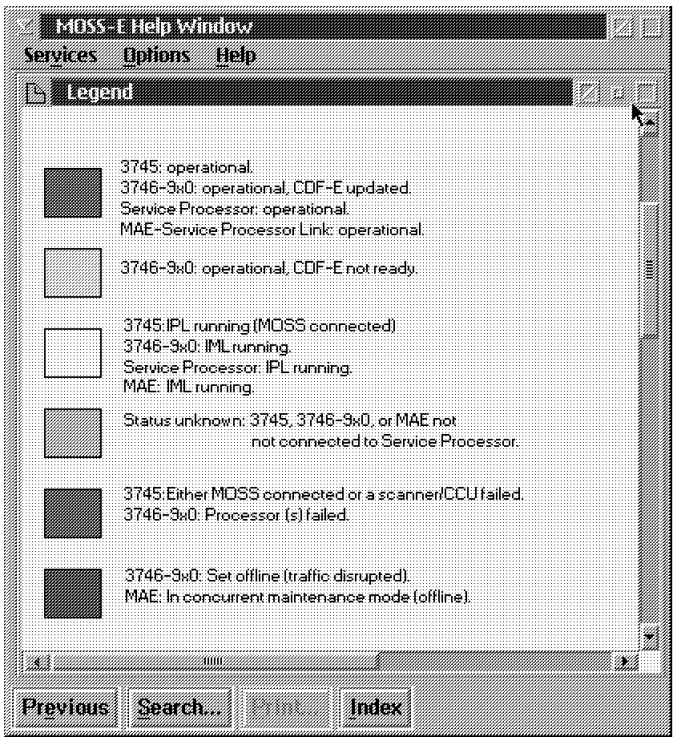



*Figure 1-11. Color Meaning for 3745, 3746, Service Processor, or Multiaccess Enclosure*

## Icon Color Meaning for Network Node Processor

Top to bottom, the icon's color is: transparent, grey, blue, purple, white, and green.

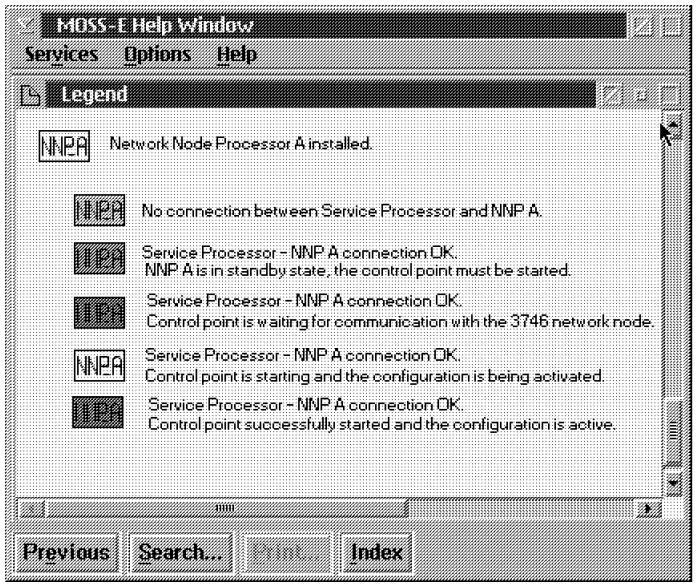



*Figure 1-12. Color Meaning for Network Node Processor*

# Accessing the Functions

**Note:** All maintenance functions are identified by an **(M)** preceding the text (example: see Figure 1-14 function **(M) Manage 3745/3746-900 Installation/Removal**).

## How to Access the Service Processor Maintenance Functions

1. If not already logged, enter the Service Processor maintenance password (default is IBM3745), or ask the customer if a specific password has been defined.
2. Double-click the **Service Processor** icon. The Service Processor panel is displayed (see Figure 1-13).

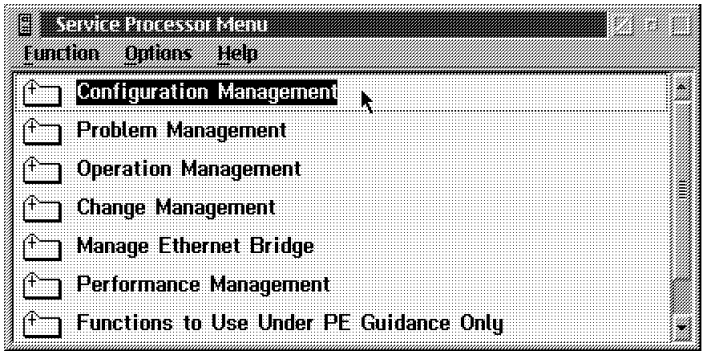



*Figure 1-13. Service Processor Maintenance Functions*

3. Click **Configuration Management**, **Operation Management**, **Problem Management**, or **Change Management** to get the list of all the functions available.

   Figure 1-14 to Figure 1-20 on page 1-10 show the expanded function options.

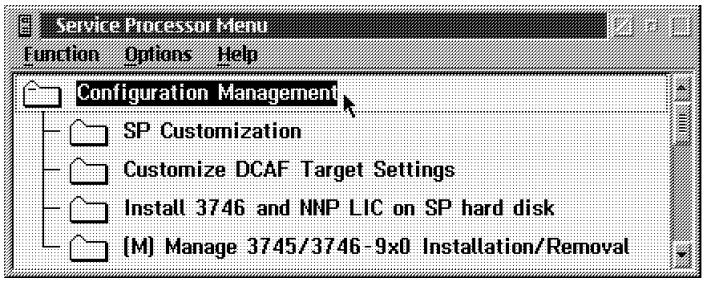



*Figure 1-14. Service Processor Configuration Management Functions*

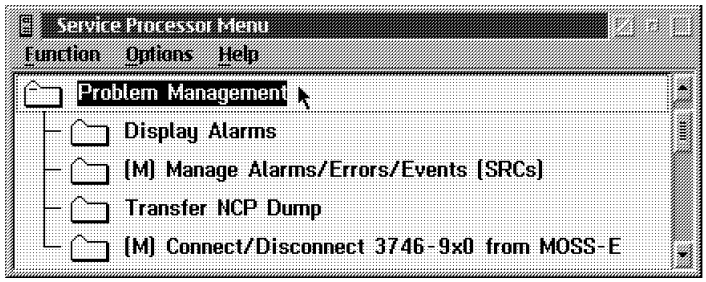



*Figure 1-15. Service Processor Problem Management Functions*

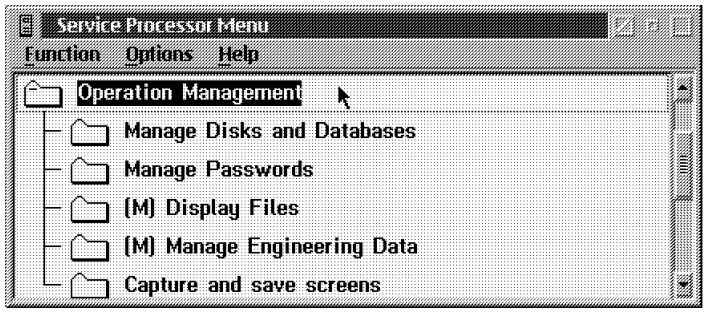



*Figure 1-16. Service Processor Operation Management Functions*

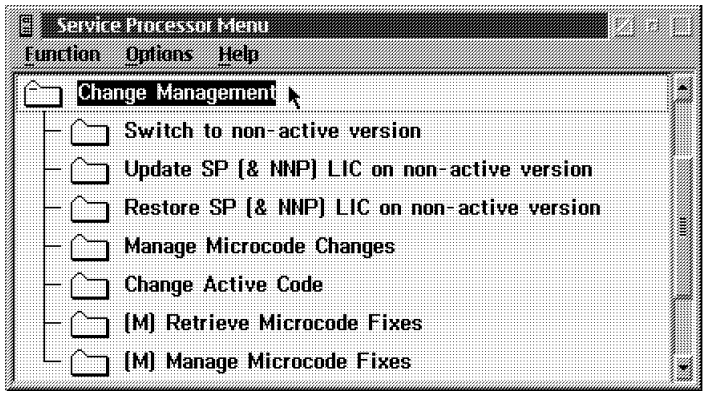



*Figure 1-17. Service Processor Change Management Functions*

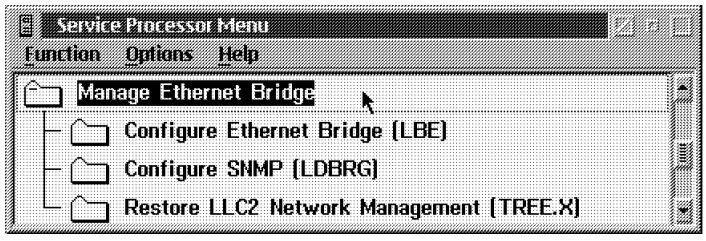



*Figure 1-18. Service Processor Ethernet Bridge Functions*

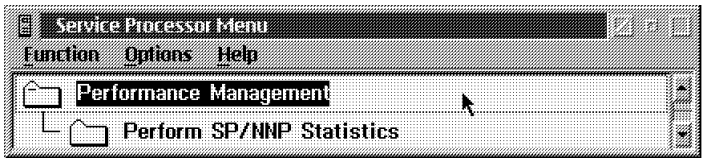



*Figure 1-19. Service Processor Performance Management Function*

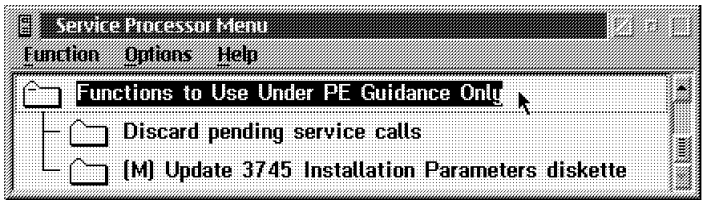



*Figure 1-20. Service Processor PE Functions*

## How to Access the Network Node Processor Functions

1. If you are not already logged on, enter the Service Processor maintenance password (default is IBM3745), or ask the customer if a specific password has been defined.
2. Double-click the **3746-900 or 3746-950** icon. The panel in Figure 1-21 will appear:

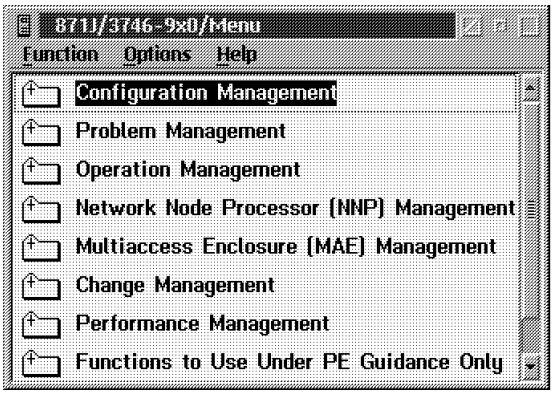



*Figure 1-21. 3746-9x0 Maintenance Functions*

3. Click **Network Node Processor (NNP) Management**.

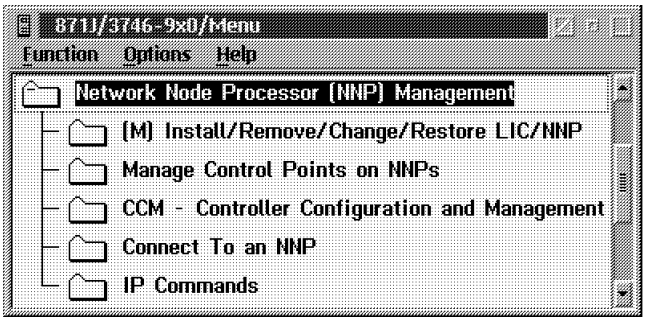



*Figure 1-22. Network Node Processor Management Functions*

## How to Access the 3746-9x0 Controller Maintenance Functions

1. If you are not already logged on, enter the **Service Processor maintenance password** (default is IBM3745), or ask the customer if a specific password has been defined.
2. Double-click the **3746-9x0** icon. The panel in Figure 1-23 appears.

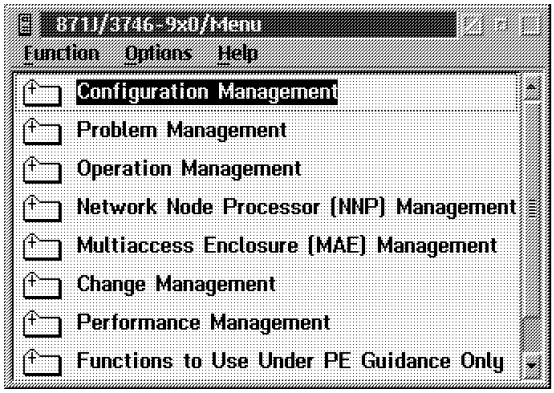



*Figure 1-23. 3746-9x0 Maintenance Controller Functions*

3. Click **Configuration Management**, **Problem Management**, **Operation Management**, **Change Management**, **Performance Management**, or **Functions to Use Under PE Guidance** for details of the functions. See the panels in Figure 1-24 to Figure 1-31 on page 1-13.

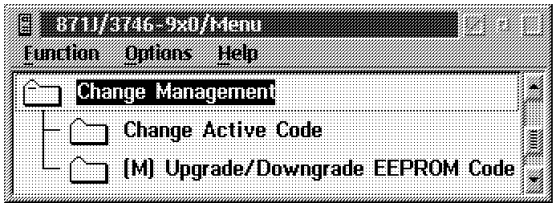



*Figure 1-24. 3746-9x0 Change Management Functions*

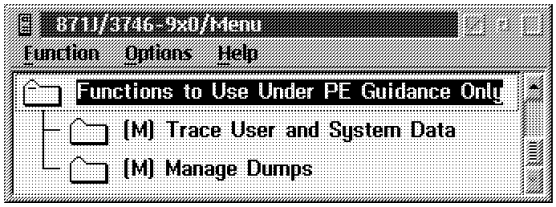



*Figure 1-25. 3746-9x0 Functions to Use Under PE Guidance*

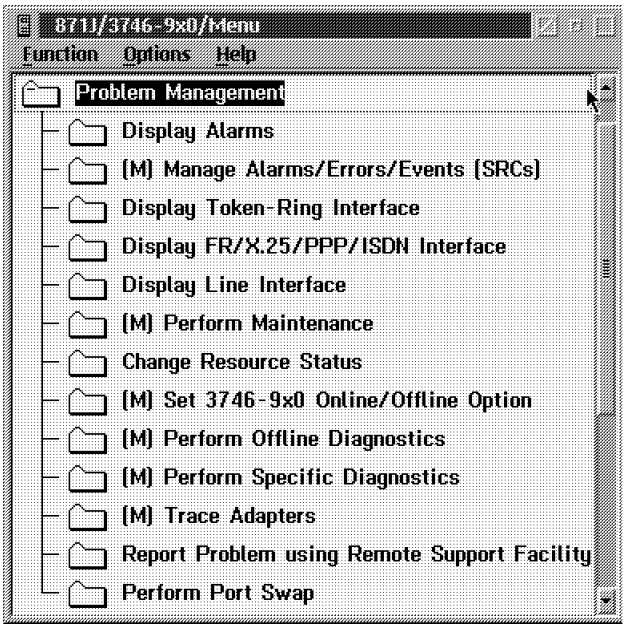



*Figure 1-26. 3746-9x0 Problem Management Functions*

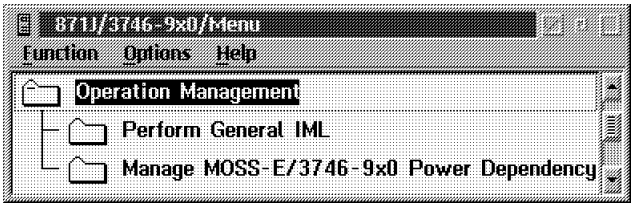



*Figure 1-27. 3746-9x0 Operation Management Functions*

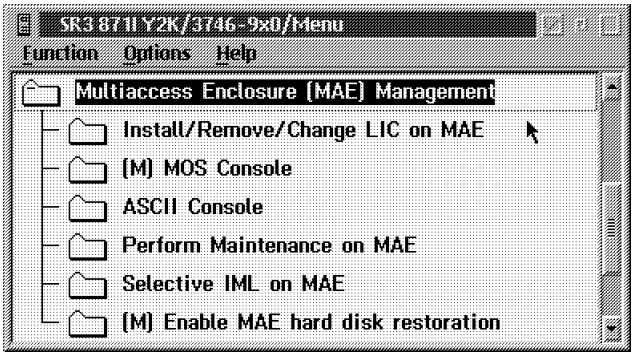



*Figure 1-28. MAE Management Functions*

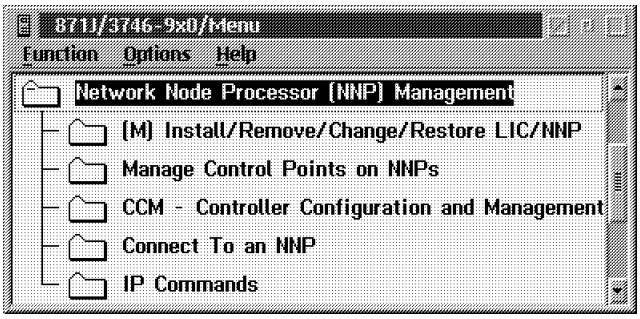



*Figure 1-29. Network Node Processor Management Functions*

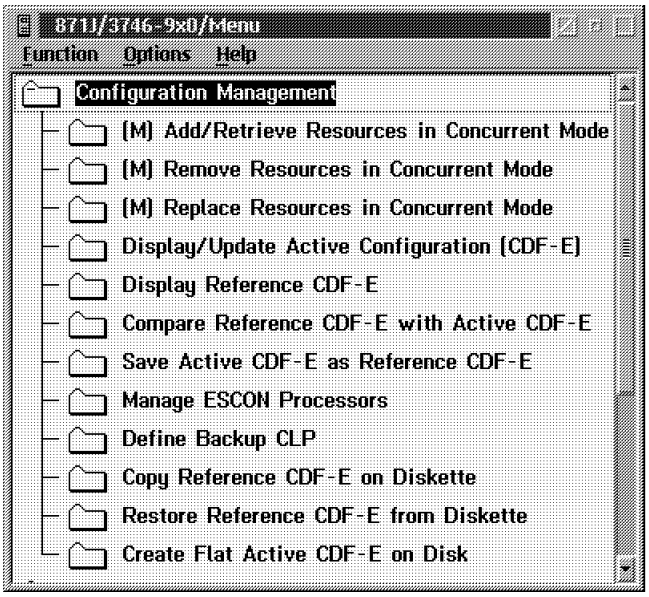



*Figure 1-30. 3746-9x0 Configuration Management Functions*

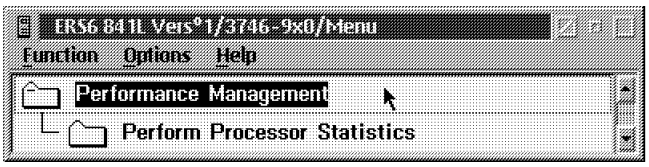



*Figure 1-31. 3746-9x0 Performance Management Functions*

## How to Access the 3745 Maintenance Controller Functions

1. Enter the Controller Maintenance password on the signon menu (default password is IBM3745, or ask the customer if a specific password has been defined).
2. Double-click the **3745 Controller** icon. You will get the panel shown in Figure 1-32.

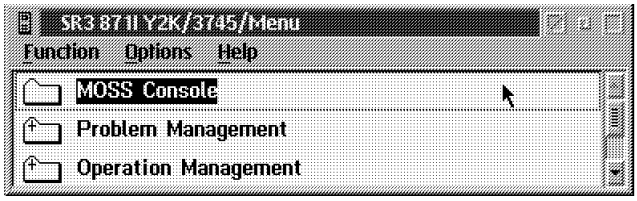



*Figure 1-32. 3745 Menu*

3. Click **Problem Management**, or **Operation Management** to get the details of the functions.

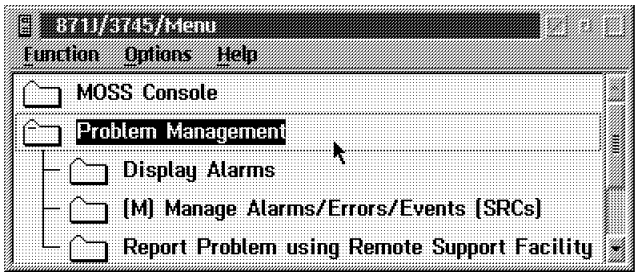



*Figure 1-33. Problem Management*

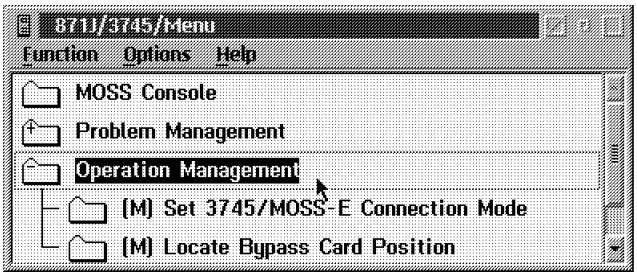



*Figure 1-34. Operation Management*

4. Double-click **MOSS Console**. You have the **Function Selection Rules** displayed. You can now enter the MOSS commands as usual.


*Figure 1-35. MOSS Primary Menu*

# Chapter 2. Maintaining the Code Loaded on the Service Processor

**Note:** In this chapter, there is no information about the Multiaccess Enclosure (MAE). If a MAE is installed, refer to the chapter "Maintaining the Code on the MAE" in *Multiaccess Enclosure Installation and Maintenance Guide*, SY33-2124.

## Overview of Code and Configuration Files Management

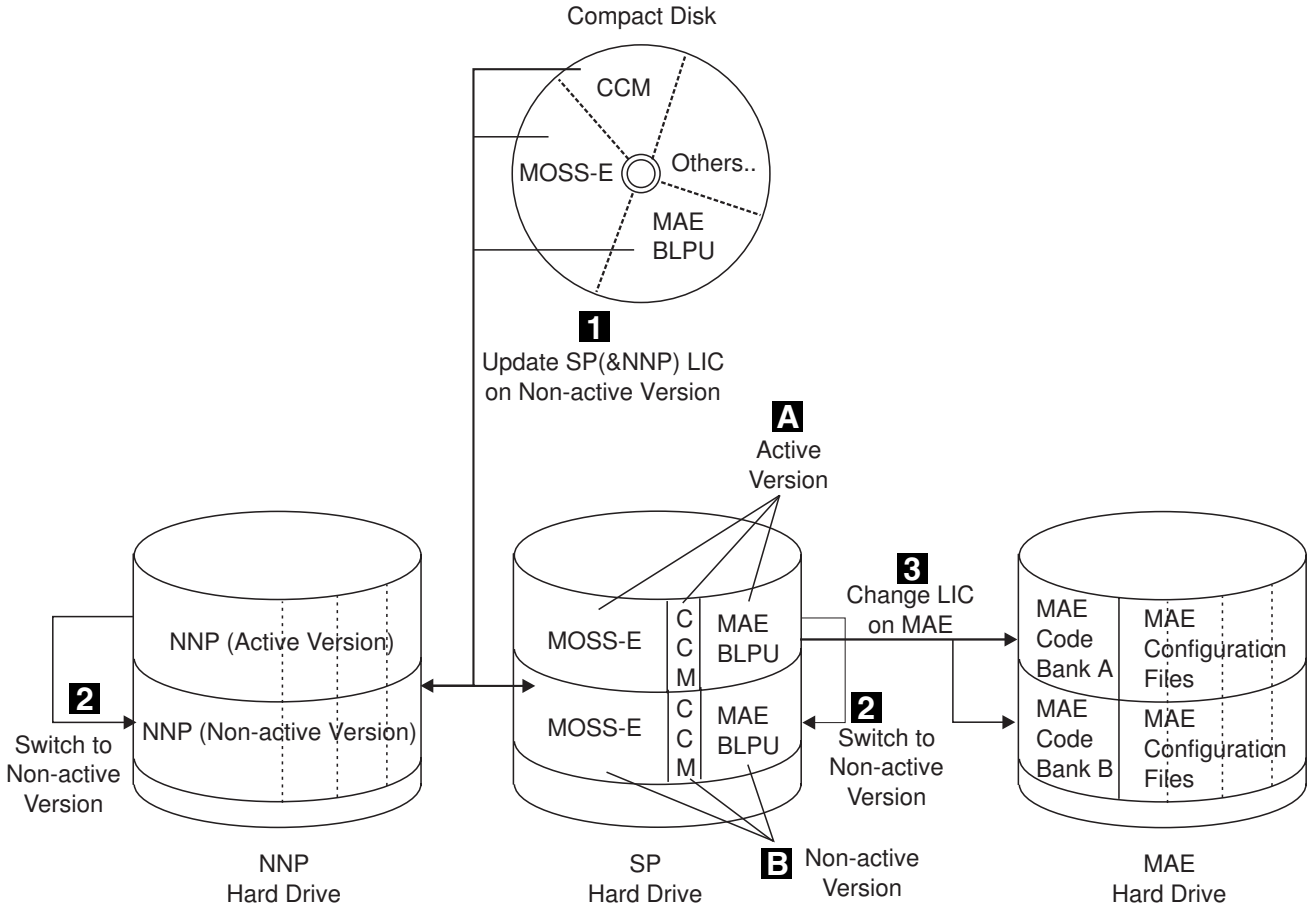



*Figure 2-1. Overview of Code and Configuration Files Management*

Figure 2-1 represents the different functions used to manage the License Internal Code (LIC) on the SP, NNP, and MAE hard drives.

There are two versions of the code loaded on the SP and NNP hard drives, the **active version** A and the **non-active version** B . When updating the LIC from the CD-ROM on the SP and NNP hard drives, you apply changes on the non-active version. But when you change the code on the MAE you load the MAE hard drive with the active version from the SP hard drive to the banks A & B on the MAE hard drive.

To maintain the MAE code the following functions are used:

- **Update SP (&NNP) LIC on non-active version** ( **1** ): Used to update BLPUs of the non-active version of the LIC installed on the SP and NNP hard drives at the CD-ROM level.
- **Switch to non-active version** ( **2** ): This function is used to switch the active and non-active LIC.
- **Change LIC on MAE** ( **3** ): This function is used to copy from the SP hard disk the MAE LIC from the active version to the banks A and B of the MAE hard drive.

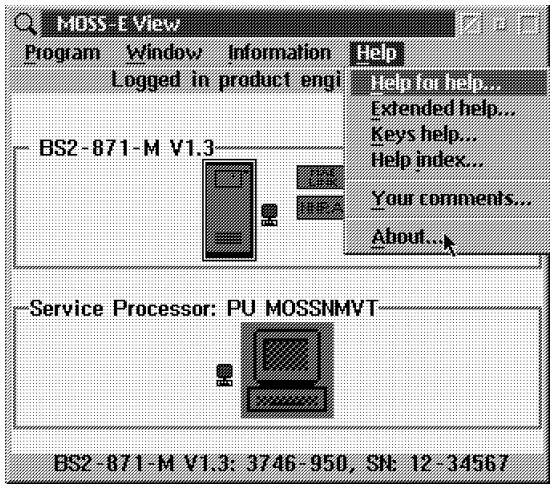
## Maintenance Service Procedures

**Note:** For any error related to the service processor, go to the **START** page of:

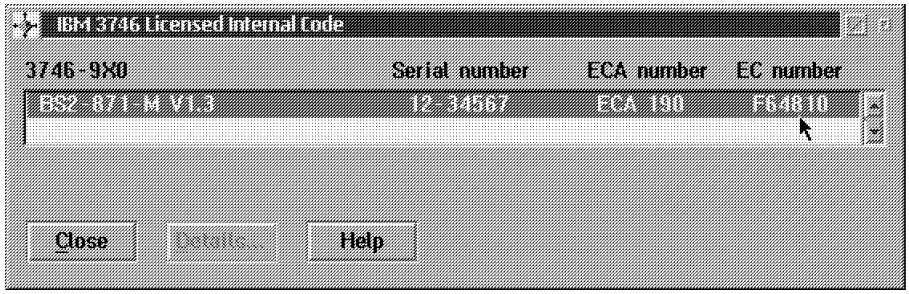
- The *3745 Communication Controller Models 210 to 61A Maintenance Information Procedures*, SY33-2054 (**3745 Model X1A**)
- The *3745 Communication Controller Models 130 to 17A Maintenance Information Procedures*, SY33-2070 (**3745 Model 17A**)
- The *3746-900 Service Guide*, SY33-2116 (**3746-900**)
- The *3746-950 Service Guide*, SY33-2108 (**3746-950**)

## Displaying the Level of the Code Installed

1. On the **MOSS-E View** panel, click **Help**.
2. On the **Help** panel, click **About**




3. On the **MOSS-E View About** panel, click **Licensed Internal Code**. A panel appears with the code EC number displayed.




4. Click **Close**, then **OK** to leave the function.

## Displaying the Level of the BLPUs Installed

1. Double-click the **Service Processor** icon.
2. Click **Change Management**.
3. Double-click **Manage Microcode Change** (see Figure 1-17 on page 1-9).
4. The panel shown in Figure 2-2 appears.

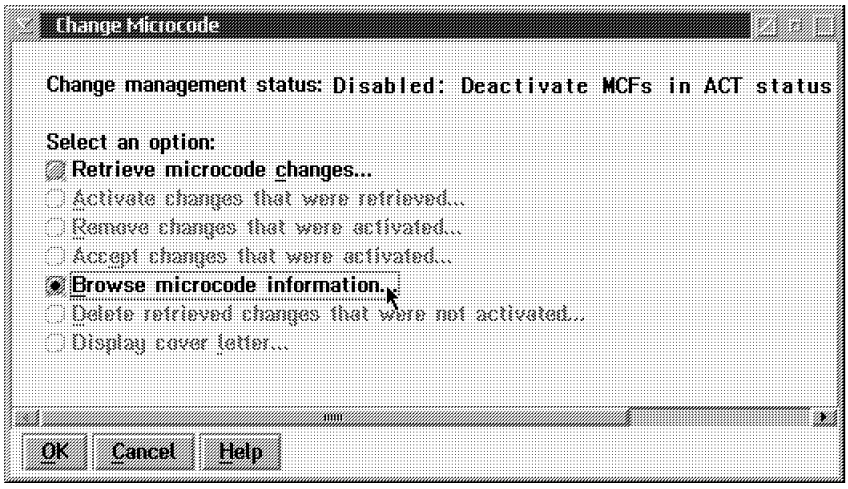
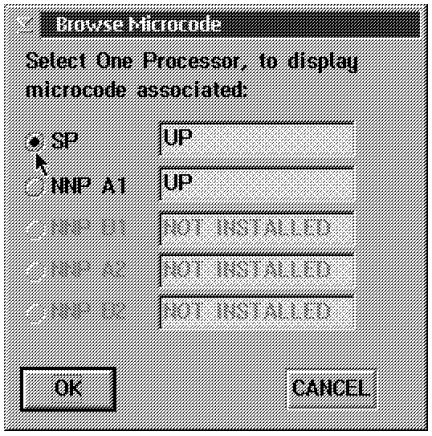
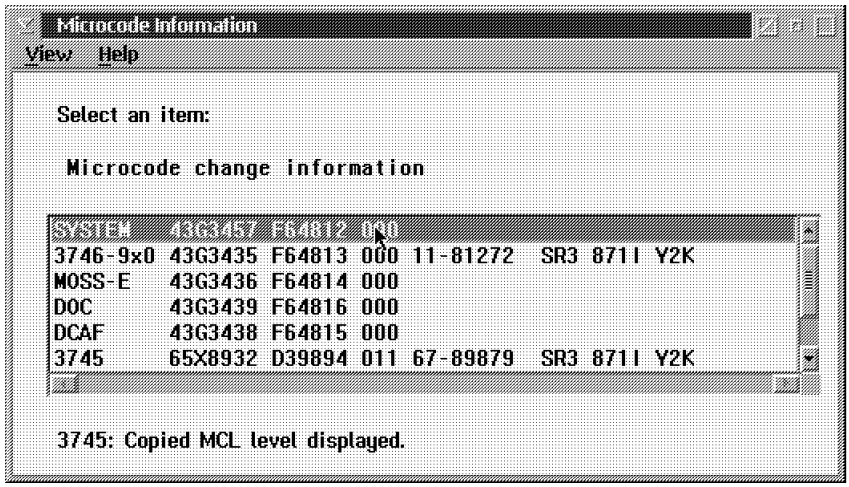



*Figure 2-2. Change Microcode*

5. Select the **Browse Microcode Information** option.
6. Click **OK** to validate your choice.
7. On the **Browse Microcode** panel, select the processor.




8. Click **OK** to validate your choice.
9. On the following **Browse Microcode** panel, select the code that you want to be displayed.




10. From the view pull-down menu, select the **Retrieved, Activated, or Accepted changes** option.
11. Click **Exit** to leave the function.

## Shutting Down the Service Processor

**Note:** Before powering OFF or to reinitialize the Service Processor from a diskette or from the hard disk, use this procedure to properly close all the active functions.

1. On the **MOSS-E view** panel, click **Program** (see Figure 1-4 on page 1-2).
2. Click **Shut down**, then enter the Service Processor maintenance password (default is IBM3745) and click **OK**.

   You are now able to power OFF or reboot the Service Processor.

## Restoring Code and Configuration on the SP Hard Disk from a CD-ROM

**Notes:**

1. This function is ***not disruptive*** as it applies to the non-active version of the code loaded on the SP hard drive.
2. This function can be used to ***restore a back level*** of the code.
3. It restores ***only the LIC and configuration***.
4. If an ***NNP*** is installed, its code is also ***restored automatically***.

1. From the **Service Processor Menu**, click **Change Management**.

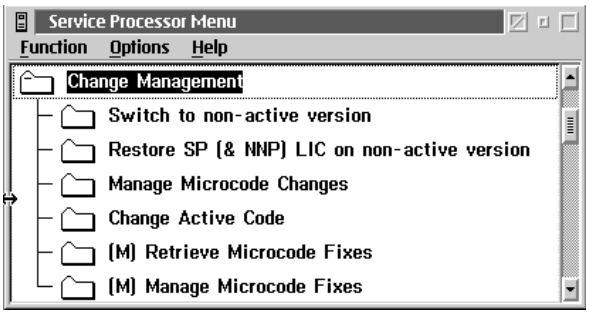



*Figure 2-3. SP Change Management Menu*

2. Insert the CD-ROM in the appropriate SP disk drive, double-click **Restore SP (&NNP) LIC on non-active version**, then follow the prompts.

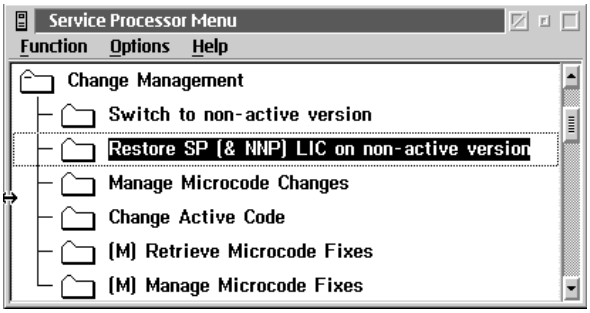



*Figure 2-4. Service Processor Menu*

3. To activate the changes, use the function 'Switch to non-active version' to load and execute the new code in the processors (refer to “Switch to Non-Active Version of Code” on page 2-13).

## Saving/Restoring Configuration on Diskette

**Note:**

This MOSS-E function is used to:

1. Define the frequency and the time to reorganize the hard disk database.
2. Save the configuration parameters on diskette when the machine configuration has been upgraded.
3. Restore the configuration parameters from the diskette.

1. If you are not already logged on, enter the Service Processor maintenance password (default is IBM3745), or ask the customer if a specific password has been defined.
2. Double-click the **Service Processor** icon.
3. Click **Operation Management**.
4. Double-click **Manage Disks and Databases**.

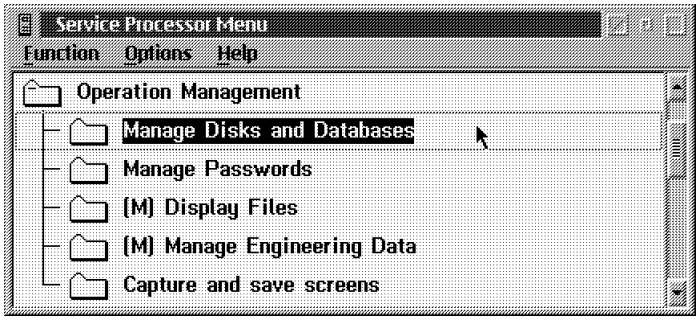



*Figure 2-5. Operation Management Service Processor Menu*

5. Depending on the function you want to perform, use the radio buttons available on the Disks and Databases Management panel (see Figure 2-6) to select one of the options:

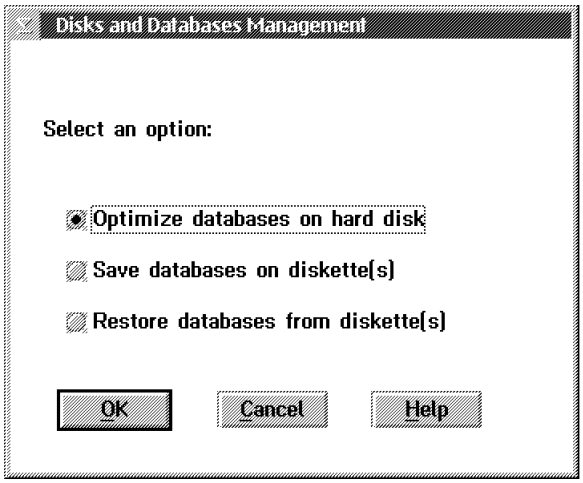



*Figure 2-6. Disk and Databases Management*

6. Click **OK** and follow the prompts.
7. Click **Cancel** to exit from the function.

**Note:** After restoring the configuration parameters, the Service Processor must be reinitialized to take these parameters into account. Press **Ctrl-Alt-Del** to restart.

## Saving Configuration Parameters on the 374X Installation Parameters Diskette

**Note:**

This MOSS-E function is used to:

1. **Build** a 3745 or 3746-9x0 installation parameters diskette when one of this diskette is damaged or lost. It is the operator responsibility to provide a new formatted diskette free of errors.
2. **Update** a 3745 or 3746-9x0 installation parameters diskette with the information recorded on the hard disk.

This function is available when the machine is already configured and recorded on the Service Processor hard disk.

1. Reboot the service processor by pressing simultaneously **Ctrl-Alt-Del**.
2. For logging on, enter the Service Processor maintenance password (default is IBM3745).
3. Double-click the **Service Processor** icon.
4. Click **Configuration Management**.
5. Double-click **Manage 3745/3746-9x0 installation /removal**.
6. Click the line of the 3745 or 3746-9x0 that you want to save the configuration parameters for and click **Save**.

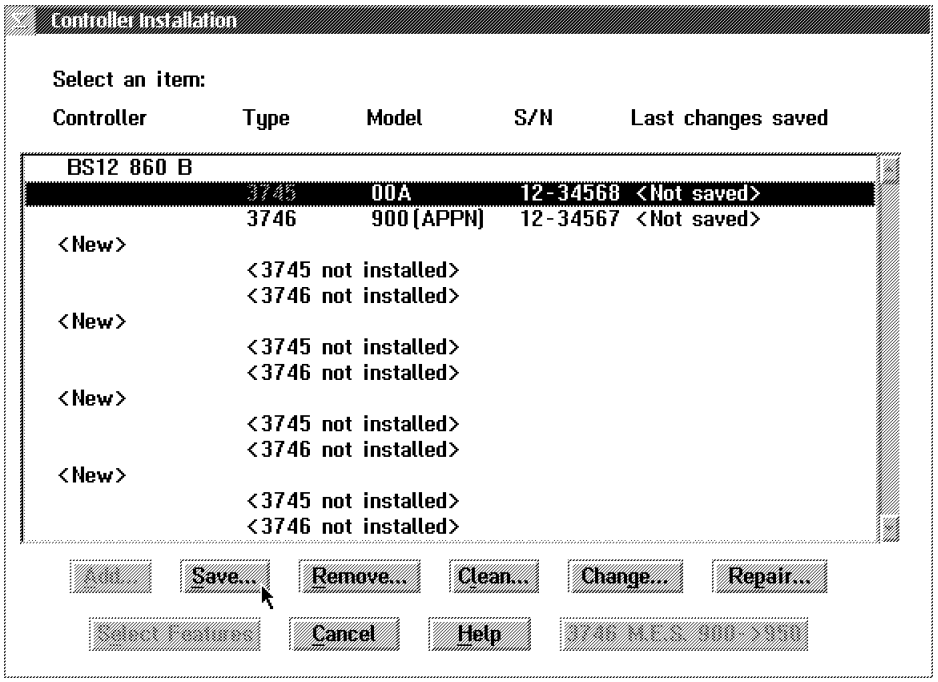



*Figure 2-7. Controller Installation*

7. When prompted, insert the new diskette.

## Saving/Deleting Engineering Data

**Note:**

This MOSS-E function is used to:

1. **Save** the engineering data when the DL2 link is not available or in error, or to get additional debug data.
2. **Delete** the engineering data when they have been successfully recorded on diskette, or transferred to a support center via DCAF.

1. If you are not already logged on, enter the Service Processor maintenance password (default is IBM3745), or ask the customer if a specific password has been defined.
2. Double-click the **Service Processor** icon.
3. Click **Operation Management**.
4. Double-click **Manage Engineering Data**.
5. Enter the PMH number, the branch office and the country codes.
6. Select the processor with the radio button.
7. The files selected for Zip are in the **Files selected for Zip** panel. If you do not want zip some of these files, select them and click **Remove**.
8. Repeat the two preceding steps for each processor.
9. When you have terminated your selection, click **Create Zip Files...**, then wait until the message `zip files successfully created` appears.
10. Click **OK**.

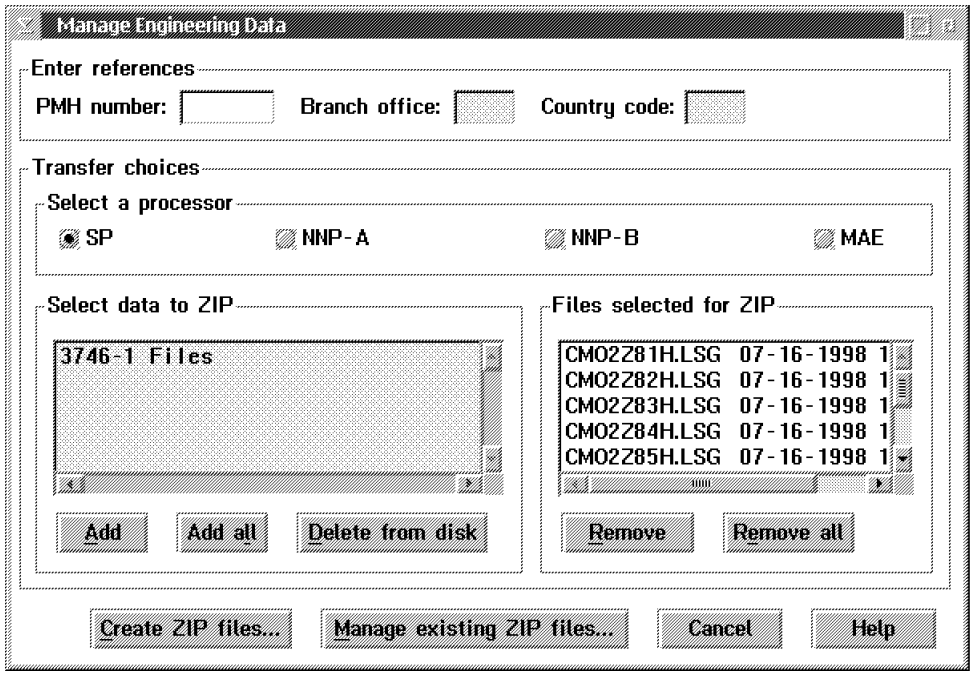



*Figure 2-8. Manage Engineering Data Menu*

When this data is transferred or recorded properly on the disk, you can erase the file that contained it, by clicking **Delete from disk**, then follow the prompts.

## Installing a New Version of the LIC on a Service Processor

**Note:** The installation procedures depend on the level of the code and the hardware currently installed, and the level of the code to be installed.

Use the installation instructions shipped with the microcode to upgrade the LIC of the service processor.

A copy of the installation instructions can be obtained from:

| http://www.networking.ibm.com/did/3746bks.html

## Switch to Non-Active Version of Code

**Notes:**

1. This function is ***disruptive*** and it is used to switch the non-active partition and the active partition. It reboots the SP and the NNPs (if any). Use this function after a LIC restore on a non-active version to load the processors with the new LIC.
2. It applies only on SP/NNP running LIC EC ***F12380 and above*** (using CD drive).

1. If you are not already logged on, enter the Service Processor maintenance password (default is IBM3745), or ask the customer if a specific password has been defined.
2. Double-click the **Service Processor** icon.
3. Click **Change Management**.

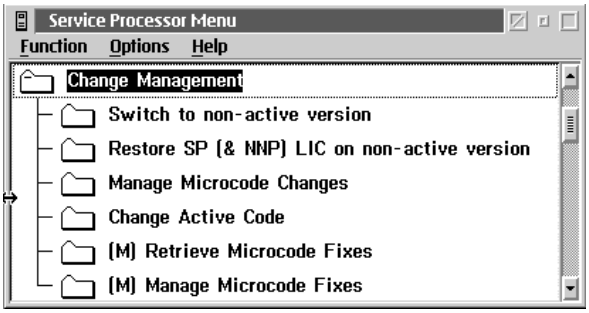



*Figure 2-9. Service Processor Change Management Menu*

4. Double-click **Switch to non-active version**.

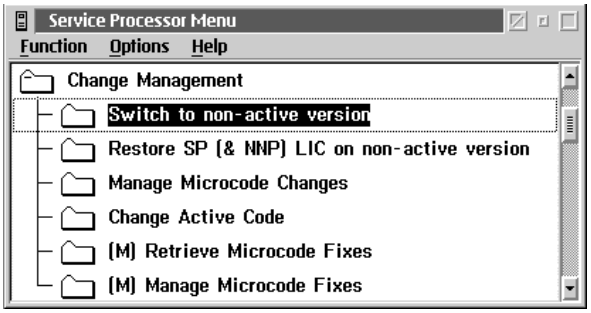



*Figure 2-10. Service Processor Change Management Menu*

5. The Switch to Non-Active Version (see Figure 2-11 on page 2-14) panel appears. Follow the prompts.

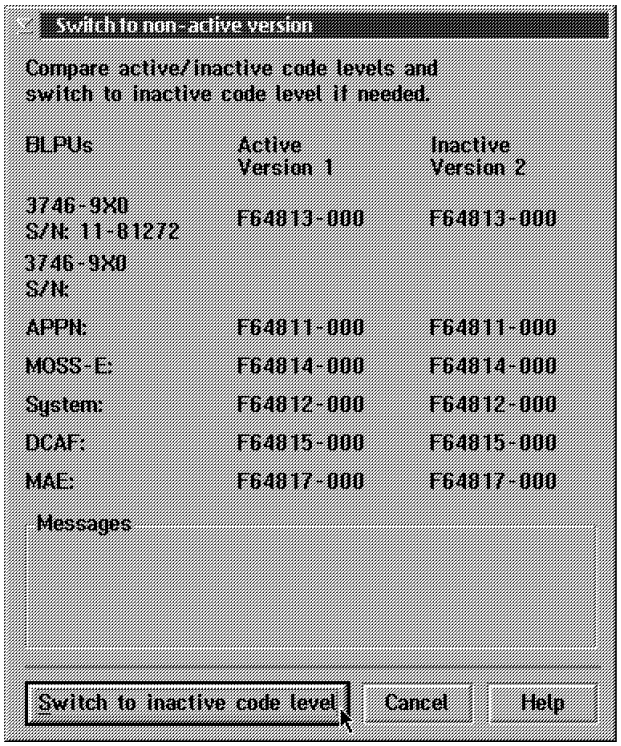



*Figure 2-11. Switch to Non-Active Version*

**Notes:**

1. You must IML the 3746-9x0 to load the new code in the 3746-9x0 processors.
2. If you have an MAE installed after you have completed the switch to the non-active version of code, you must perform a **Change LIC on MAE** in order to update the MAE code (see Figure 2-1 on page 2-1).
3. If an NNP backup is installed, its active code is also switched to the non-active version.

# Reporting a Problem to RETAIN

**Note:** This function is used to initiate the first link to RETAIN after a 3745 XXA or a 3746-9x0 installation.

## Manually Reporting a Problem to RETAIN from a 3745 - XXA

1. Double-click the **3745** icon.
2. Click **Problem Management**, then scroll forward.
3. Double-click **Report Problem using Remote Support Facility**.
4. Enter a **short description** of the problem then click **OK**.
5. Wait for the message "Call to RETAIN successful" indicating the normal end of the transmission.

   If you get the message "Call to RETAIN unsuccessful", record the Customer Problem Number (CPN) and go to:

   - The **START** page of the *3745 Communication Controller Models 210 to 61A Maintenance Information Procedures*, SY33-2054, if you are working on a **3745 Model X1A**.
   - Or go to the **START** page of the *3745 Communication Controller Models 130 to 17A Maintenance Information Procedures*, SY33-2070, if you are working on a **3745 Model 17A**.

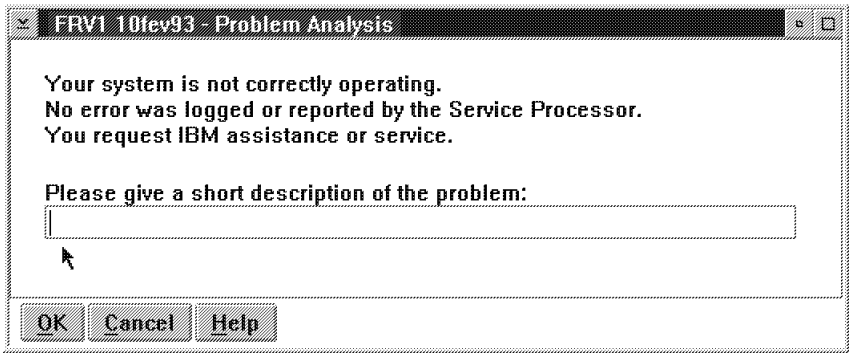



*Figure 2-12. Link to RETAIN*

## Manually Reporting a Problem to RETAIN from a 3746-9x0

1. Double-click the **3746-9x0** icon.
2. Click **Problem management**.
3. Double-click **Report Problem using Remote Support Facility**.
4. See Figure 2-12 on page 2-15, enter a **short description** of the problem then click **OK**.
5. Wait for the message "Call to RETAIN successful" indicating the normal end of the transmission.

   If you get the message "Call to RETAIN unsuccessful", record the Customer Problem Number (CPN) and go to:

   - The **START** page of the *3746-950 Service Guide*, SY33-2108, if you are working on a **3746 Model 950**.
   - Or go to the **START** page of the *3746-900 Service Guide*, SY33-2116, if you are working on a **3746 Model 900**.

## Handling Microcode Fixes on the Licensed Internal Code

**Note:** This function is used to fix emergency problems on code and must be executed on Product Engineering recommendations.

There are two ways to apply the microcode fixes on the LIC:

1. If you have a CE laptop with the Windows® 95 operating system and the FTP server installed, either with Microsoft™ Personal Web Server (PWS) or the OS/2® operating system with standard FTPD) and the MCFs downloaded(see "More information on the Web" on page xvii for download information), continue with "Applying Microcode Fixes on the Licensed Internal Code Using a Laptop Computer."
2. If you do not have a CE laptop with the Windows 95 operating system with the FTP server installed, go to "Applying Microcode Fixes on the Licensed Internal Code" on page 2-20.

### Applying Microcode Fixes on the Licensed Internal Code Using a Laptop Computer

1. On your Service Processor, double-click on the **Service Processor** icon.
2. Click on **Change Management**.
3. Double-click on **Retrieve Microcode Fixes** (see Figure 1-17 on page 1-9).
4. On the **Retrieve Microcodes Fixes** window, record the addresses given in:
   - The **FTP server IP address** (your laptop address)
   - The **IP subnetmask**
5. Power on the laptop computer.
6. Right-click on **Network Neighborhood**.
7. On the following window, click on **properties**.
8. On the window displayed search and select for **TCP/IP-->IBM auto 16/4 Credit Card Adapter**, then click on **properties**.
9. On **TCP/IP Properties** window, select the **IP address** folder.
10. Enter the IP address and subnetmask address previously recorded.
11. Click on **OK** (twice).
12. Plug the laptop onto the service ring (use a free connector of the Service Processor access unit).
13. Follow the prompts to restart the laptop.

    Return to your Service Processor.
14. On the **Retrieve Microcodes Fixes** window, enter:
    a. The User login: anonymous (by default)
    b. The User password: (if necessary)
    c. The laptop path where the MCFs are loaded.
15. Click on **Get MCFs**.

Each MCF is crosschecked with the BLPU levels installed on the service processor. If the MCF is selected and not already stored in the service processor, then it is stored in the right directory:

- J:\MCF\ for MCF concerning the MOSS-E, system BLPU, DCAF
- J:\CM1\ for MCF concerning the 3746-9X0 number 1
- J:\CM2\ for MCF concerning the 3746-9X0 number 2
- J:\MAE\ for MCF concerning the MAE

16. Click on **Cancel** to leave the function.
17. Double-click on **Manage Microcode Fixes**.
18. Click on the lines of the MCFs to be applied (see example in the Figure 2-13).
19. Click on **Options** and from the **Options** pull-down menu click on **Activate microcode fix**

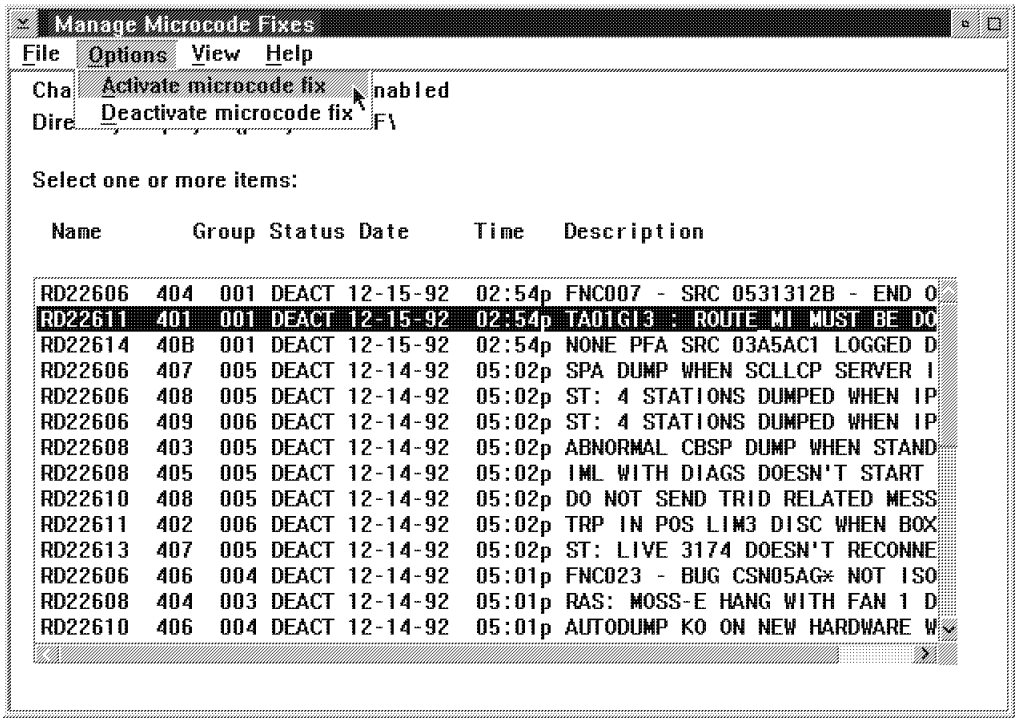



*Figure 2-13. Manage Microcode Fixes*

20. The service processor or the 3746-9x0 are now reinitialized depending on the MCFs type:
    - If the **MCFs** concern the **3746-900 code**, click on **OK** twice to re-IML the 3746-900, verify the MCFs status–it must be **ACT**–and then go to Step 22 on page 2-19.
    - If the **MCFs** concern the **service processor code**, click on **OK** to shutdown the service processor, an automatic IPL of the service processor is performed and then go to Step 21.
21. Verify the MCFs status:
    a. Enter the Service Processor maintenance password.
    b. Double-click on the **Service Processor** icon.
    c. Click on **Change Management**.

d. Double-click on **Manage Microcode Fixes**.

e. Click on **View**, click on **Change directory path**.

f. Enter the **directory path**: **J:\MCF**.

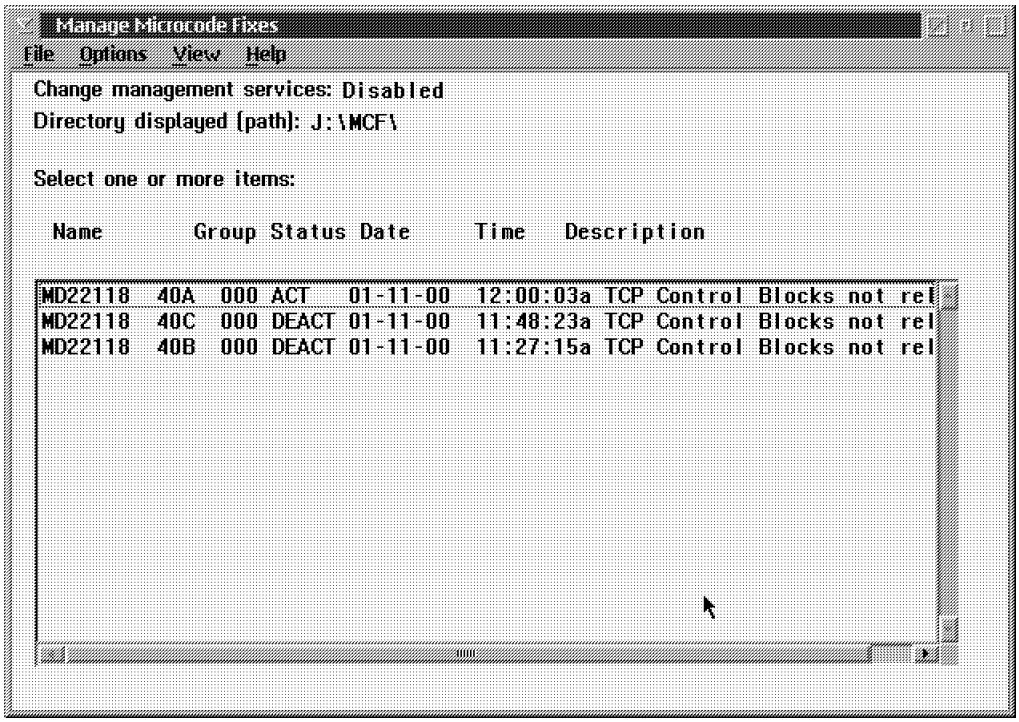
g. Click on **OK** and verify the MCFs status–it must be **ACT**.

22. Click on the **System Menu** icon, click on **Close** to exit from the function.

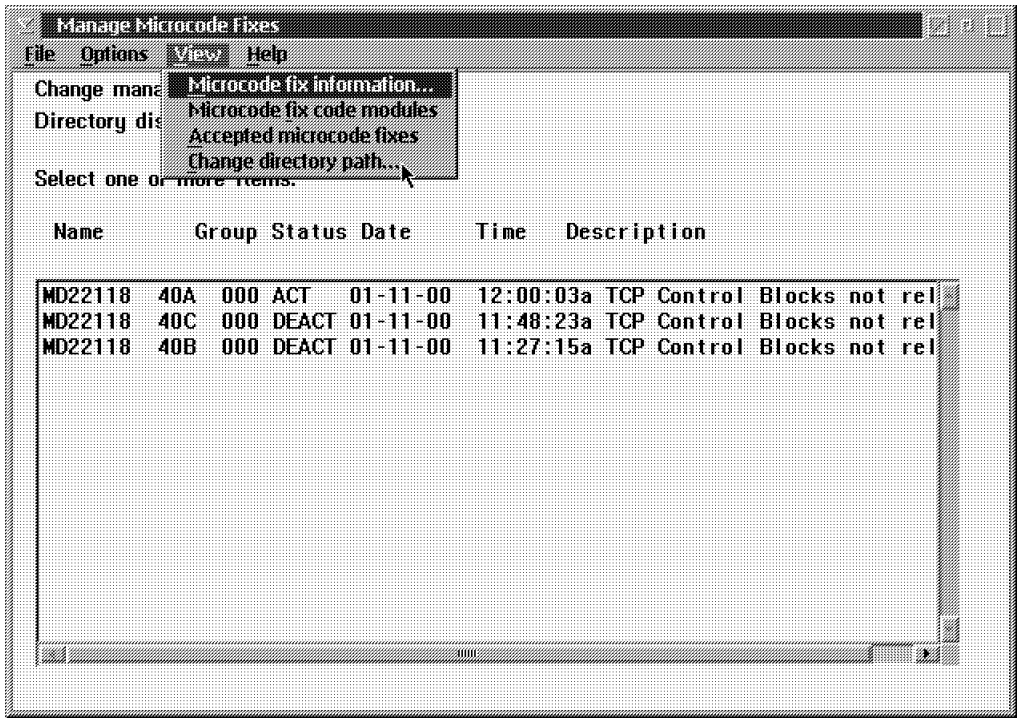
## Applying Microcode Fixes on the Licensed Internal Code

**Note:** This function is used to fix emergency problems on code and must be executed on Product Engineering recommendations.

1. If you have received MCFs through VM, copy these MCFs on a diskette or optical disk (we recommend to use ALMCOPY to download these files in binary format).
2. Install the diskette or the optical disk in the Service Processor diskette or disk drive.
3. Enter the Service Processor maintenance password (default is IBM3745).
4. Double click on the **Service Processor** icon.
5. Click on **Change Management**.
6. Double click on **Manage Microcode Fixes** (see Figure 1-17 on page 1-9).
7. The **Manage Microcodes Fixes** window is displayed.




8. Click on **View**, click on **Change directory path**.




9. Enter **A:*.*** to select the MCFs recorded on the diskette.
10. On the list displayed, click on the **fixes** to be applied.
11. Click on **File**, click on **Move**

12. When the change path is displayed, enter the directory path according to the information displayed on the following screen (in this example 'SR3_863D' MCFs are in J:\CM1), then click on **OK**.
    - **J:\CM1\ALL** for MCF concerning the 3746-9x0 number 1
    - **J:\CM2\ALL** for MCF concerning the 3746-9x0 number 2
    - **J:\MAE\ALL** for MCF concerning the MAE
    - **J:\MCF\ALL** for all other MCFs.

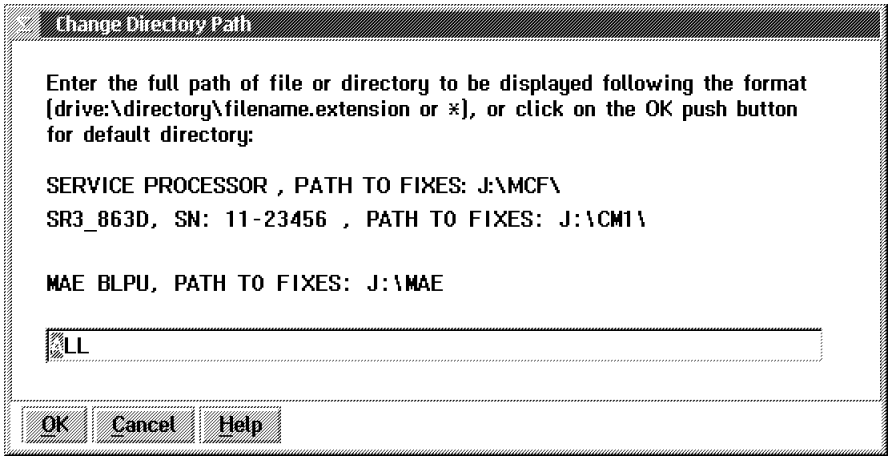



*Figure 2-14. Manage Microcode Fixes*

13. Enter **the directory path** (see step 12) then click on **OK**.

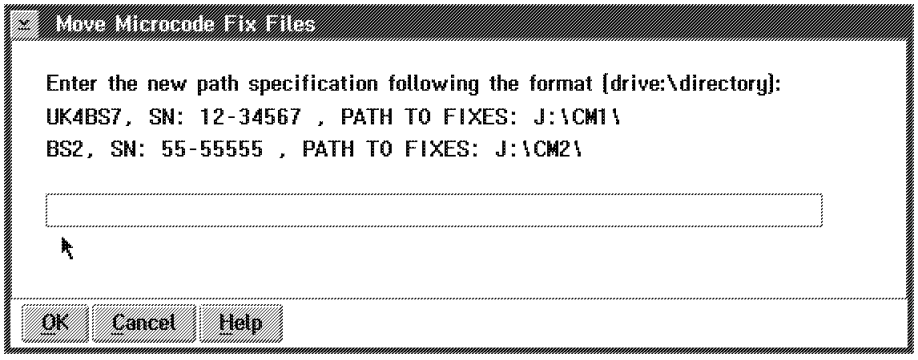



*Figure 2-15. Manage Microcode Fixes*

14. Click on the lines of the MCFs to be applied (see example in the Figure 2-16 on page 2-23).

15. Click on **Options** and from the **Options** pull down menu click on **Activate microcode fix**.

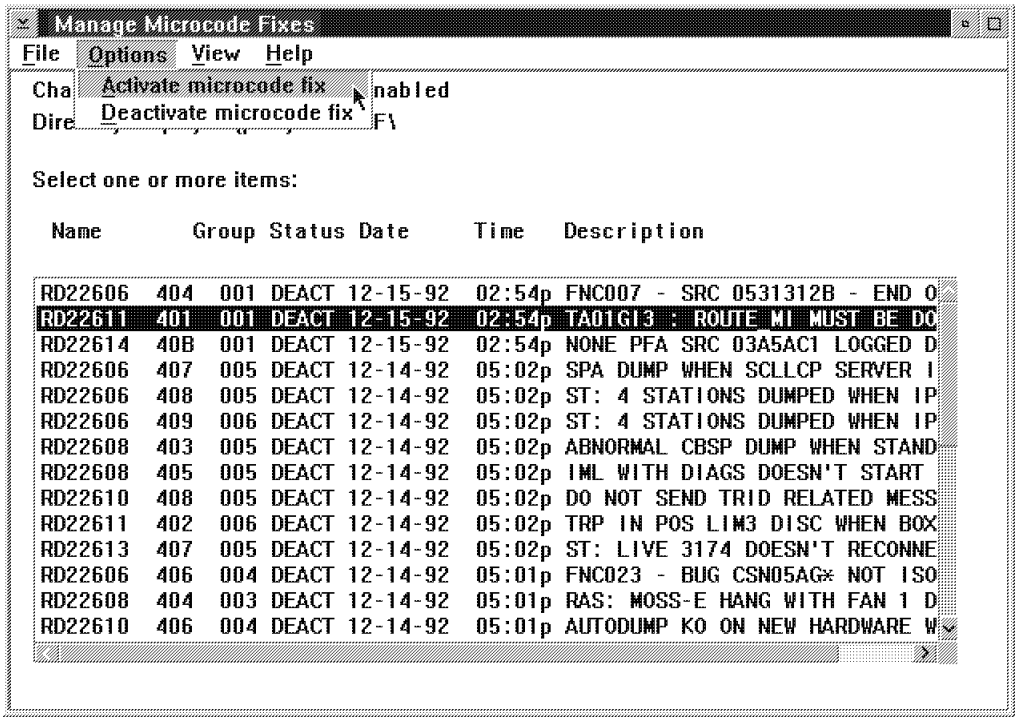



*Figure 2-16. Manage Microcode Fixes*

16. Remove the diskette or the optical disk from the drive.
17. The service processor or the 3746-9x0 are now reinitialized depending on the MCFs type:
    - If the **MCFs** concern the **3746-900 code**, click on **OK** twice to re-IML the 3746-900. Verify the MCFs status, it must be **ACT**, then go to **Step 19** .
    - If the **MCFs** concern the **service processor code**, click on **OK** to shutdown the service processor, an automatic IPL of the service processor is performed then go to **Step 18** .
18. Verify the MCFs status:
    a. Enter the Service Processor maintenance password.
    b. Double click on the **Service Processor** icon.
    c. Click on **Change Management**.
    d. Double click on **Manage Microcode Fixes**.
    e. Click on **View**, click on **Change directory path**.
    f. Enter the **directory path**: **J:\MCF**.
    g. Click on **OK** and verify the MCFs status, it must be **ACT**.
19. Click on the **System Menu** icon, click on **Close** to exit from the function.

## Removing Microcode Fixes on the Licensed Internal Code

**Note:** If you have a **backup** service processor, perform the same procedures on this SP to remove the MCFs.

1. Enter the Service Processor maintenance password (default is IBM3745).
2. Double click on the **Service Processor** icon.
3. Click on **Change Management**.
4. Double click on **Manage Microcode Fixes** (see Figure 1-17 on page 1-9).
5. Click on **View**, click on **Change directory path**.
6. Enter the **directory path**:
   - **J:\CM1** for MCF concerning the 3746-900 number 1
   - **J:\CM2** for MCF concerning the 3746-900 number 2
   - **J:\MAE\ALL** for MCF concerning the MAE
   - **J:\MCF** for all other MCFs.

   Then click on **OK**.
7. Click on the lines of the MCFs to be removed (see Figure 2-16 on page 2-23).
8. Click on **Options** and from the **Options** pull-down menu click on **Deactivate microcode fix**.
   - If the **MCFs** concern the **3746-900 code**, click on **OK** twice to re-IML the 3746-900, verify the MCFs status, it must be **DEACT** then go to Step 10.
   - If the **MCFs** concern the **service processor code**, click on **OK** to shutdown the service processor, an automatic IPL of the service processor is performed, then go to Step 9.
9. Verify the MCFs status:
   a. Enter the Service Processor maintenance password.
   b. Double click on the **Service Processor** icon.
   c. Click on **Change Management**.
   d. Double click on **Manage Microcode Fixes**.
   e. Click on **View**, click on **Change directory path**.
   f. Enter the **directory path**: **J:\MCF**.
   g. Click on **OK** and verify the MCFs status, it must be **DEACT**.
10. Click on the **System Menu** icon, click on **Close** to exit from the function.

# 3746-9x0 EEPROM Upgrade or Downgrade

**Notes:**

1. This function will be used after a:
   - Microcode change fix (MCF)
   - EC installation
   - Processor replacement
2. While an EEPROM Upgrade/Downgrade is running, **Do not** power OFF or IML the 3746-9x0
3. Following an EEPROM upgrade/downgrade and if you have a SP backup it is recommended to apply the same procedure on the SP backup.
4. For any error code displayed on the 3746-9x0 panel go to the **START** page of the:
   - *3745 Communication Controller Models 210 to 61A Maintenance Information Procedures*, SY33-2054 (3746-900 attached to 3745-X1A)
   - *3745 Communication Controller Models 130 to 17A Maintenance Information Procedures*, SY33-2070 (3746-900 attached to 3745-17A)
   - *3746-950 Service Guide*, SY33-2108 (3746-950)

1. On the **MOSS-E VIEW** panel, double-click on the **3746-9x0** icon (see Note 1).
2. On the **3746-9x0 Menu** panel, click **Change Management**.
3. Double-click the **Upgrade/Downgrade EEPROM Code Level**.

   A panel appears with a message box saying that the service processor is searching the 3746-9x0 configuration.

   On the **EEPROM Upgrade** panel, the upgradable or downgradable processors are **highlighted** according to the preselected status of the options **Upgrade** or **Downgrade** on the top of the panel (see Figure 2-17 on page 2-26).

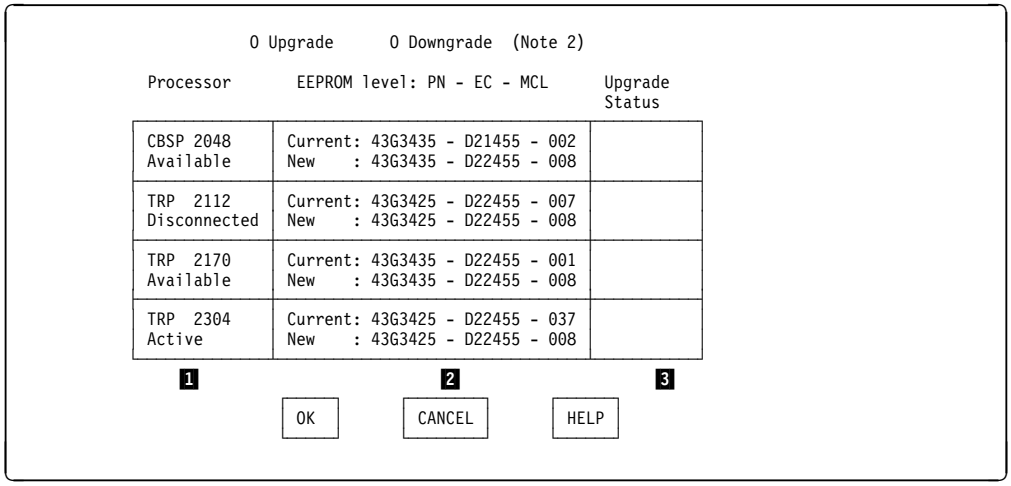



*Figure 2-17. Example of An EEPROM Upgrade Panel*

- **1** Gives the list of the 3746-9x0 processors in CDF-E with their status (available/disconnected/active).
- **2** Gives the current and new EEPROM level: PN/EC/Level of each processor.
- **3** Gives the status after the activation of the function.

4. Select the **Upgrade** or **Downgrade** option on the top of the panel then click **OK** according to the action that you want to do.

   An **EEPROM Upgrade** panel informs you that the EEPROM upgrade or downgrade is in progress with its time duration.

   At the end, a status appears for each processor.

5. Check the result of your EEPROM upgrade/downgrade operation with the following table and take the appropriate action:

| EEPROM Status | Action |
|---|---|
| Completed | Upgrade done without error continue with the next step. |
| Start failed | Call your support |
| Failed | Call your support |
| Completion failed | Call your support |

   **Note:** If you have done the EEPROM Upgrade after exchanging a processor leave this procedure and return to the point, in the MAP where you come from. Otherwise continue with the next step.

6. Return to the **3746-9x0 Menu** click **Operation Management**.
7. Double-click the **Perform General IML** with **Diagnostics**.

   A Normal IML must be terminated by 00000000 displayed on the 3746-9x0 control panel.

# Managing the Passwords

## Changing the Service Processor and Controller Passwords

Different passwords are defined; the default password is **IBM3745**:

- The Service Processor maintenance password
- The Service Processor customer password
- The Controller maintenance password
- The Controller customer password
- The password to access password management
- The CCM/TELNET user profiles management
- The CCM Batch password.

Refer to the appendix of the *3745/17A-61A and 3746-900 Basic Operations Guide*, SA33-0177 or *3746 Nways Multiprotocol Controller Model 950: User's Guide*, SA33-0356 to obtain the list of the functions accessible to the user depending on the password.

**Notes:**

1. If the password contains numeric digits, do not forget to enable the numeric keys by clicking on the numeric lock key (NumLk).
2. If you have a backup Service Processor, do not forget to update your passwords on this Service Processor using the same procedure.

1. Double-click the **Service Processor** icon.
2. Click **Operation Management**.
3. Double-click **Manage Passwords** function (see Figure 1-16 on page 1-9).
4. Ask the customer to obtain the management password reserved for this function (the default password is IBM3745).
5. Enter the password and click **OK**.
6. Click **MOSS-E view passwords** to select the option.


*Figure 2-18. Management Password*

7. Click **OK**.
8. On the following panel, enter or ask the customer to enter the four different passwords.

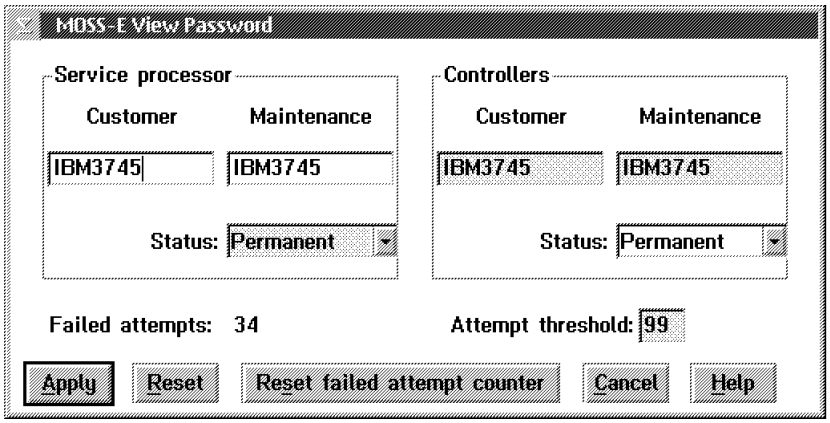



*Figure 2-19. MOSS-E View Password*

9. Click **Apply**.
10. Select **Management password**.
11. Click **OK**.
12. In the following panel, enter or ask the customer to enter the Management password and modify the Attempt threshold value if necessary.

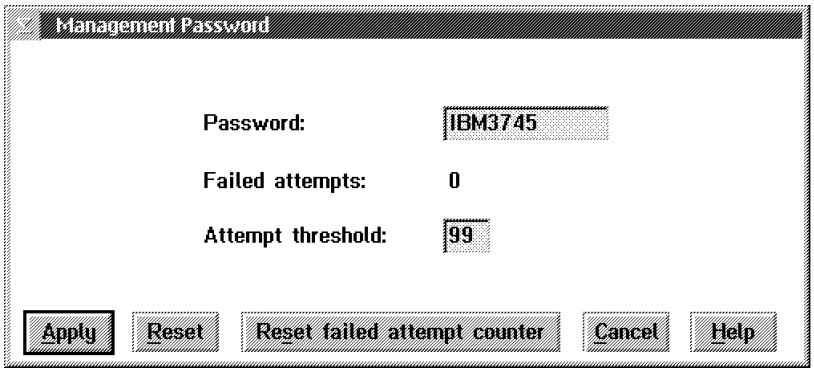



*Figure 2-20. Management Password*

13. Click **Apply**.

14. Select **CCM/Telnet User Profiles Management**, then click **OK** and enter the required parameters on the following panel.

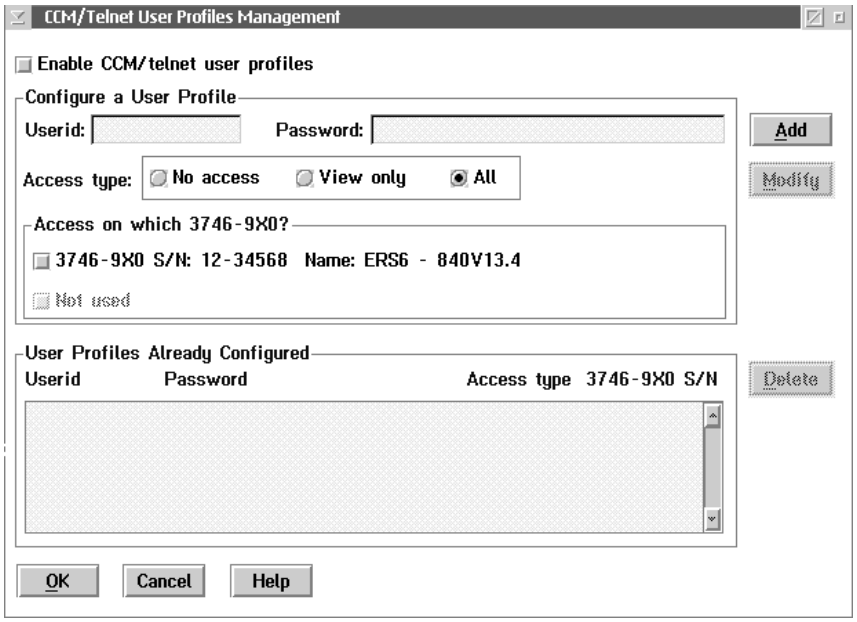



*Figure 2-21. CCM/Telnet Management Password*

15. Click **OK**.
16. Click **Cancel** to leave the function.

## Changing the Password for DCAF

**Note:** If you have a backup Service Processor, do not forget to update the DCAF password on this Service Processor using the same procedure.

Once a DCAF parameter has been entered, the password stays mandatory. It can be changed but not removed.

1. Double-click the **Service Processor** icon.
2. Click **Configuration Management**.
3. Double-click the **Customize DCAF Target Settings** function (see Figure 1-14 on page 1-8).
4. Click **Options**, then click **Password**.

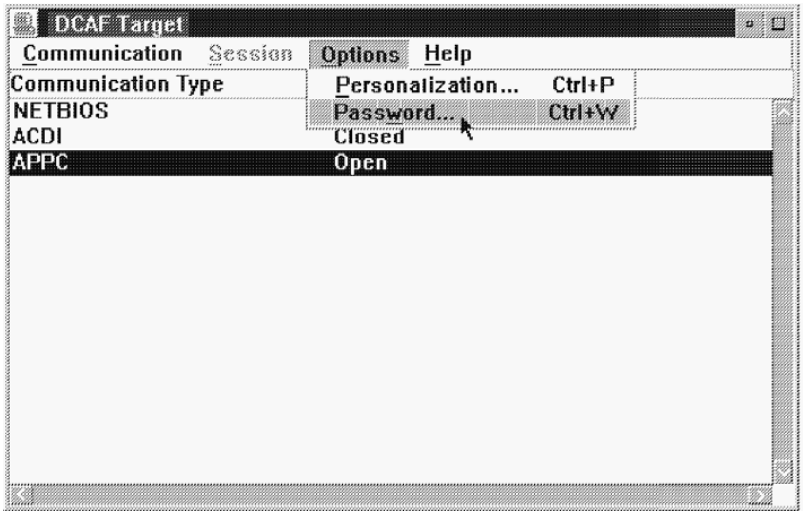



*Figure 2-22. DCAF Target*

5. Click **Enable password**, then enter the password in the **New password** and **Verify new password** input fields according to the value recorded by the customer on the parameter sheet.

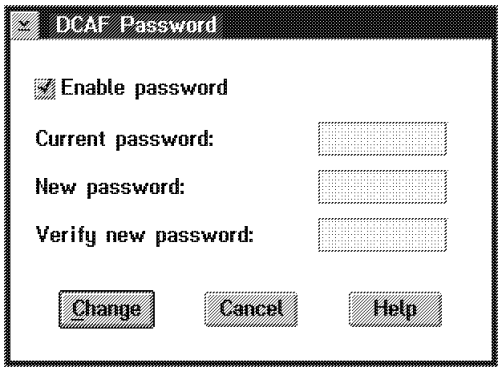


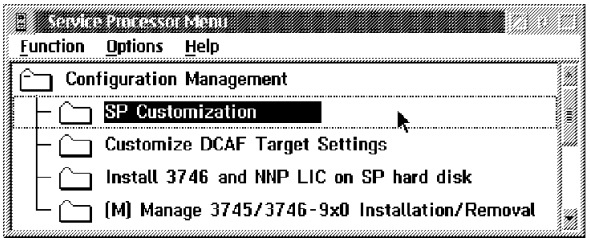

*Figure 2-23. DCAF Password*

6. Click **Change**.
7. On the next panel, click **Cancel**, then press **F3** to close DCAF.

## Changing the Password for Java Operations

**Note:** If there is a connection with the Java™ Console, you can modify the different parameters of the **Point-to-Point Protocol Configuration** panel and the user names and login passwords of the **Console Configurations for Java** panel.

1. If you are not already logged on, enter the Service Processor maintenance password (default is IBM3745), or ask the customer if a specific password has been defined.
2. Double-click the **Service Processor** icon.
3. Click **Configuration Management**. The **Service Processor Menu** panel appears.




4. Double-click **SP Customization**. The **Service Processor (SP) Customization** panel appears.

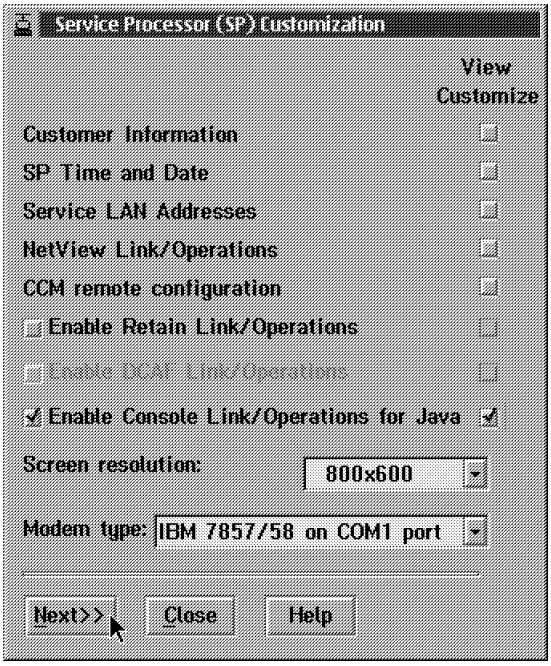



*Figure 2-24. Service Processor (SP) Customization Panel*

5. Deselect **Enable DCAF Link/Operations** if it is enabled, and select **Enable Console Link/Operations for Java** and **View Customize** in the parallel column. Select a modem from the **Modem type** field and click **Next**. The **Point-to-Point Protocol Configuration** panel appears.

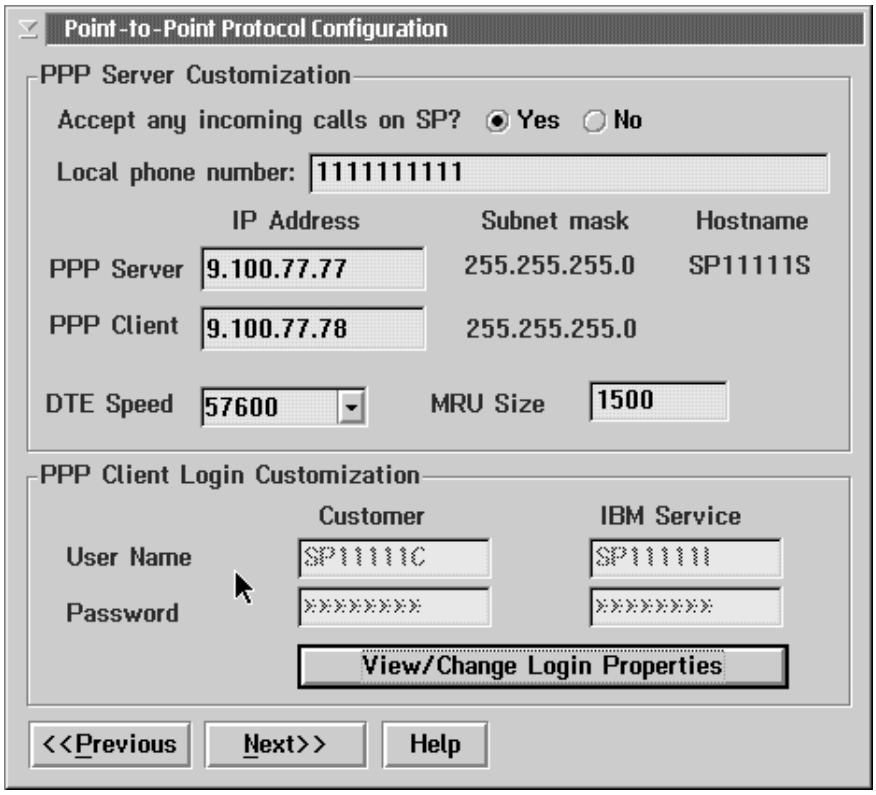



*Figure 2-25. Point-to-Point Protocol Configuration Panel*

6. On the **Point-to-Point Protocol Configuration** panel, if you want to:
   - Customize the PPP user names or passwords, click **View/Change Login Properties**, and then go to step 9 on page 2-34.
   - Access the user Java console connections to the service processor, click **Next**, and then continue with step 7 on page 2-33.

7. The **Console Configurations for Java** panel appears.

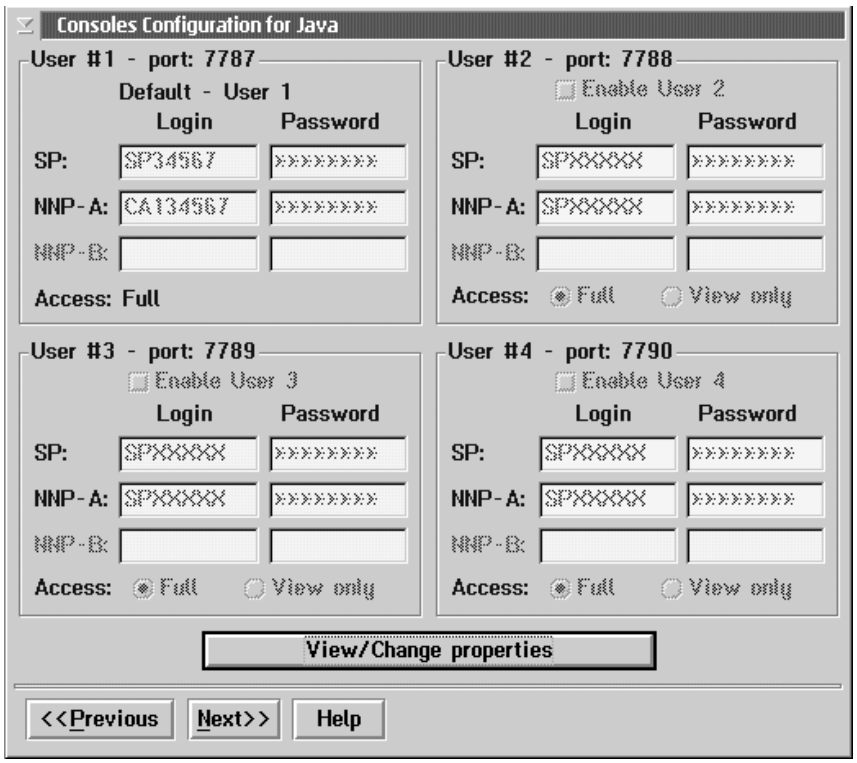



*Figure 2-26. Console Configurations for Java Panel*

To change the logins and passwords, click **View/Change Login Properties**, and then continue with step 8. Otherwise, go to step 13 on page 2-35.

8. The **Manage Passwords** panel appears. Enter the password, then click **OK**.


*Figure 2-27. Manage Passwords Panel*

The **Console Configurations for Java** panel reappears (see Figure 2-30 on page 2-35). Go to step 12 on page 2-35.

9. The **Manage Passwords** panel appears.

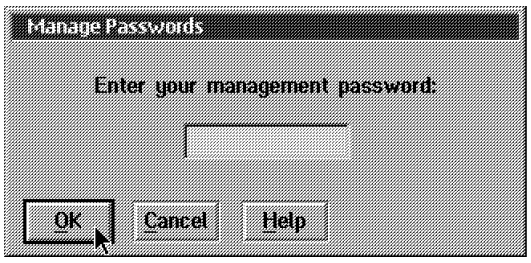



*Figure 2-28. Manage Passwords Panel*

Enter the password, then click **OK**. The **Point-to-Point Protocol Configuration** panel appears again with the PPP client login user name and password fields accessible in the **Customer** and **IBM Service** fields.

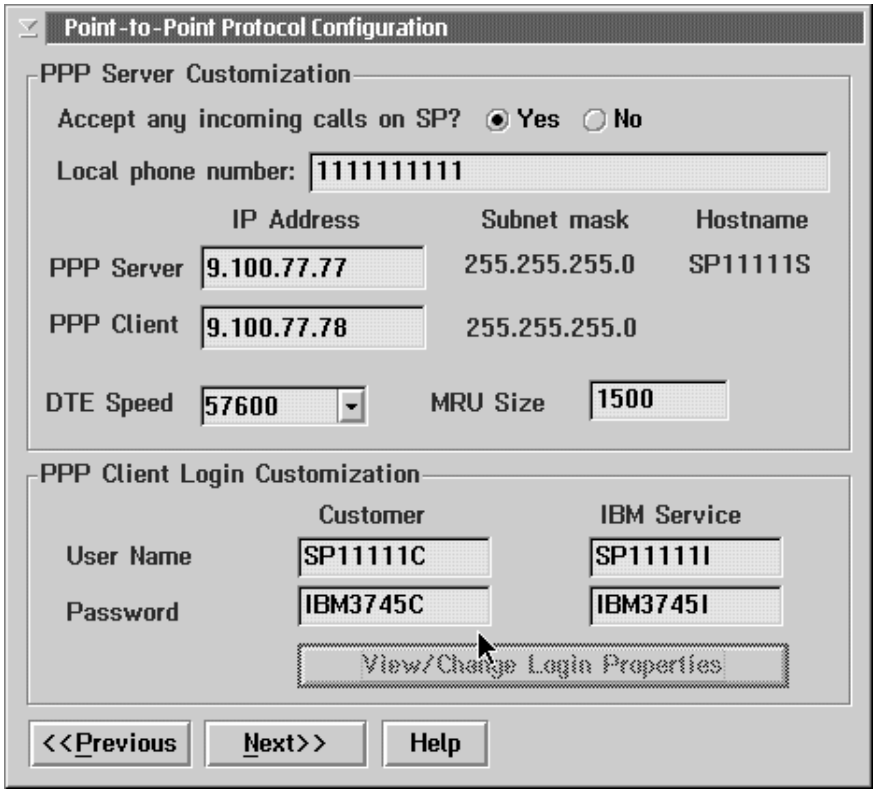



*Figure 2-29. Point-to-Point Protocol Configuration (PPP Client Logins Accessible)*

10. Modify or enter new user names and passwords for you and the IBM service representative. New passwords appear as asterisks in the field.

    **Note:** User names and passwords must be uppercase and up to eight alphanumeric characters in length.

11. Click **Next>>**. The **Console Configurations for Java** panel appears, displaying the connections of users at remote workstations.

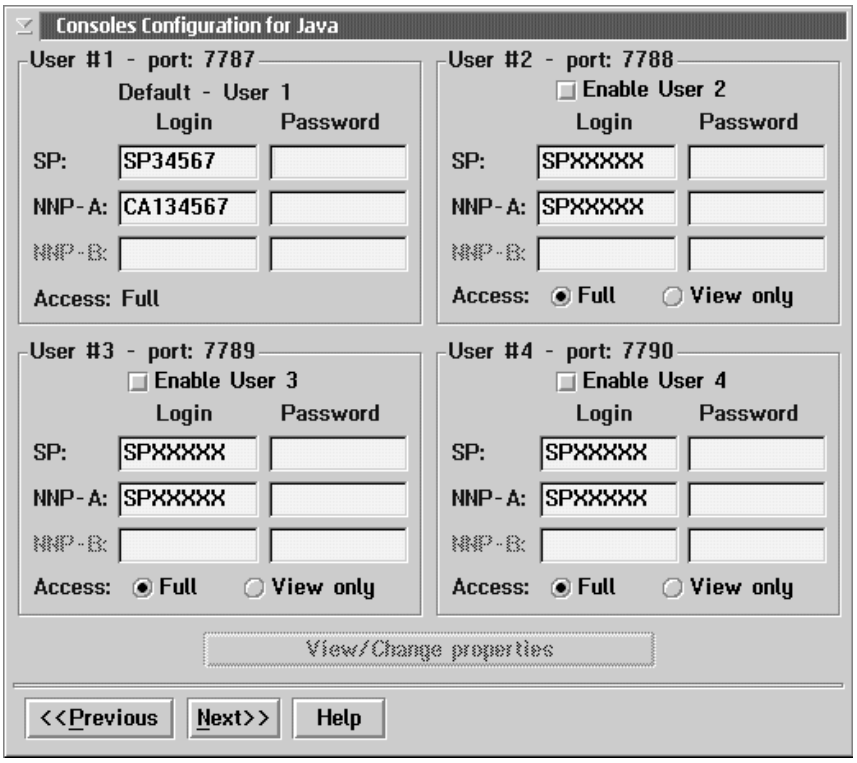



*Figure 2-30. Console Configurations for Java Panel*

12. You can change the logins (user names), assign or modify passwords to the service processor and any installed NNPs A and B (the default is no password), and change the access privileges for users 2, 3, and 4.
13. Click **Next >>**. The **Service Processor (SP) Customization** panel reappears.

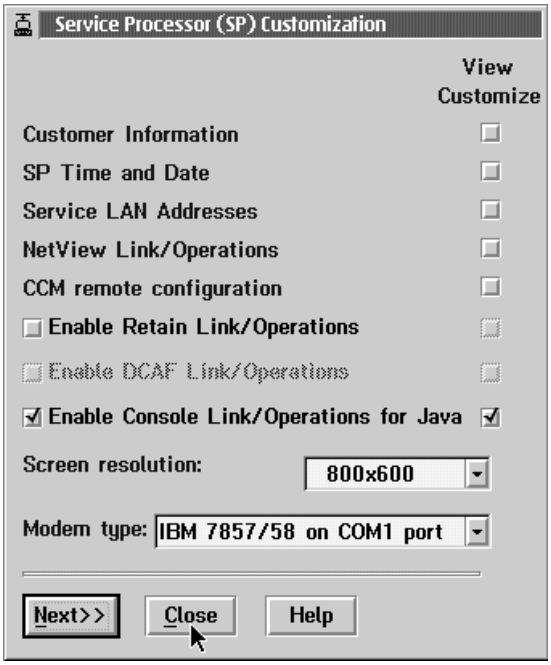



*Figure 2-31. Service Processor (SP) Customization Panel*

14. Click **Close**. The **SP Customization Message** panel appears.

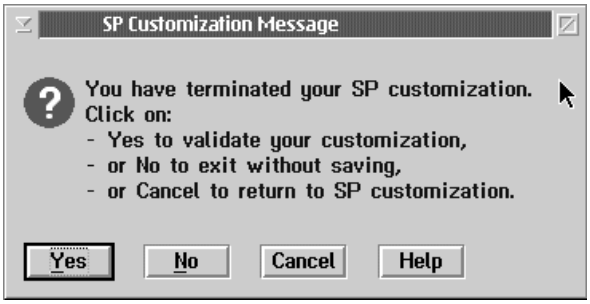



*Figure 2-32. SP Customization Message Panel*

15. Click **Yes** to save the configuration. The **Service Processor Customization - Progress** panel appears.

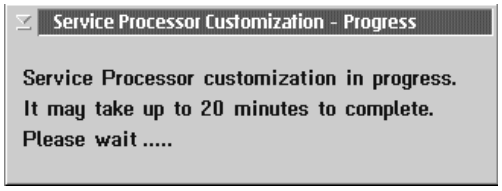



*Figure 2-33. SP Customization - Progress Panel*

16. Wait until the message *Service Processor customization successfully completed* appears, then click **OK** to exit.

## Changing the Password for CCM Remote

**Note:** If there is a connection with the Java Console, you cannot modify the login and password of the **CCM remote configuration** panel.

1. If you are not already logged on, enter the Service Processor maintenance password (default is IBM3745), or ask the customer if a specific password has been defined.
2. Double-click the **Service Processor** icon.
3. Click **Configuration Management**.
4. Double-click **SP Customization**.
5. Select **CCM Remote Configuration** and click **Next>>**.

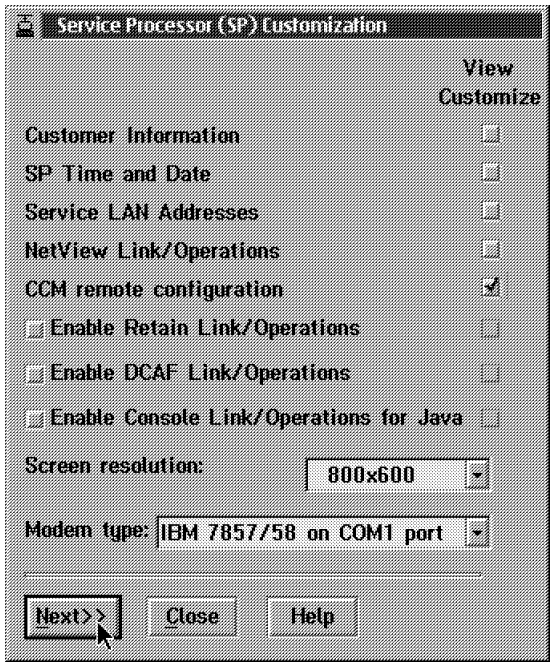



*Figure 2-34. Service Processor (SP) Customization*

6. On the **CCM remote operation** click **Customize**.

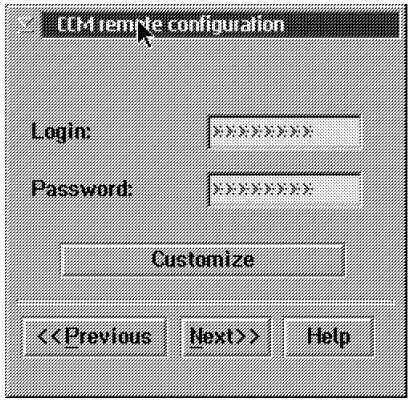



*Figure 2-35. CCM Remote Configuration*

7. The Manage Passwords panel in Figure 2-36 on page 2-38 appears. Enter the password then click **OK**.


*Figure 2-36. Manage Passwords*

8. On the panels displayed, click **Next>>**, then **Close**.

## Restoring the Passwords to the Default Values

**Notes:**

1. This function is used when the customer has lost his passwords or when the number of unsuccessful logon attempts has reached the maximum number defined.
2. If you have a backup Service Processor do not forget to restore the passwords on this Service Processor using the same procedure.

1. If you are on the MOSS-E logon panel, click **Cancel**.
2. On the MOSS-E view panel, click **Program** (see Figure 1-4 on page 1-2).
3. From the pull down menu, click **Restore password**.
4. When requested install the **Service Processor installation diskette 1** in the diskette drive, then follow the prompts.

The passwords are now restored to their default value (IBM3745), and the number of logon attempts is reset.

# Chapter 3. Managing the Network Node Processor and the Control Point

**Note:** In this chapter there is no information about the Multiaccess Enclosure. If a MAE is installed, refer to the chapter "Maintaining the Code on the MAE" in the *Multiaccess Enclosure Installation and Maintenance Guide*, SY33-2124.

## Installing or Removing a Network Node Processor

1. Double-click the **3746-9x0** icon.
2. Click the **Network Node Processor (NNP) Management** option.
3. Double-click **Install/Remove/Change/Restore LIC/NNP**.

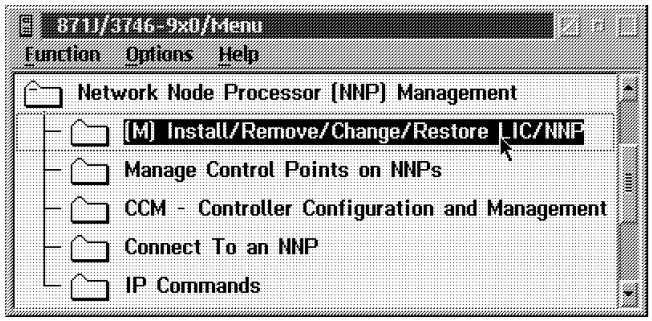



*Figure 3-1. NNP-A Licensed Internal Code Management*

4. Select the NNP (A or B) then click **Install NNP** or **Remove NNP**.

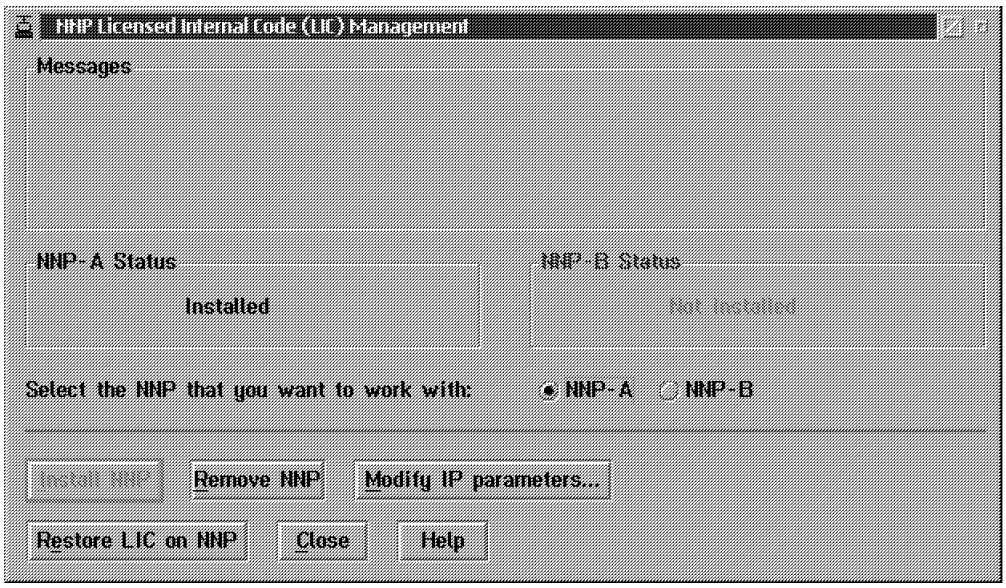



*Figure 3-2. Installing or Removing a NNP-A*

## Installing a New Version of the LIC on a Network Node Processor

**Note:** The installation procedures depends on the level of the code and the hardware currently installed and the level of the code to be installed.

Use the installation instructions shipped with the microcode to upgrade the LIC of the network node processor.

A copy of the installation instructions can be obtained at:

`http://www.ibm.com/networking/`

## Restoring the LIC on Service Processor and Network Node Processor

**Note:** This function is ***not disruptive*** as it applies on the LIC loaded on the non-active partition. This function can be used to reload a back level of code.

1. Double-click the **Service Processor** icon.
2. Click **Change Management** option.

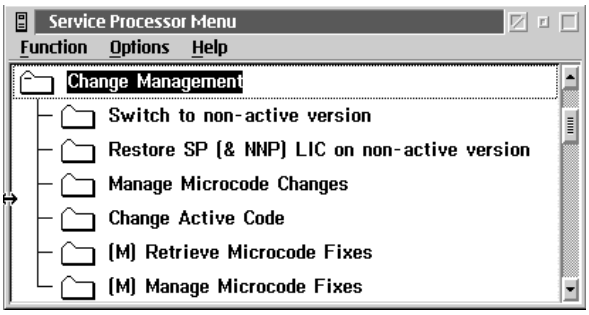



*Figure 3-3. SP Change Management Menu*

3. Insert the CD-ROM into the CD drive and the configuration diskette into the diskette drive. Double-click **Restore SP (&NNP) LIC on non-active version**, then follow the prompts.

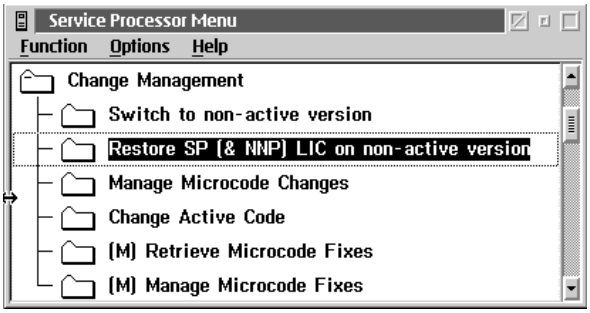



*Figure 3-4. Service Processor Menu*

4. To activate the changes, use the function Switch to non-active version to load and execute the new code in the processors (see "Switch to Non-Active Version of Code" on page 3-4).

   **Note:** If an NNP backup is installed, its code is also restored automatically.

## Switch to Non-Active Version of Code

**Notes:**

1. This function is ***disruptive*** and it is used to switch the non-active partition and the active partition. It reboots the SP and the NNPs (if any). Use this function after a LIC restore on a non-active version to load the processors with the new LIC.
2. It applies only on SP/NNP running LIC EC ***F12380 and above*** (using CD drive).

1. Double-click the **Service Processor** icon.
2. Click **Change Management**.

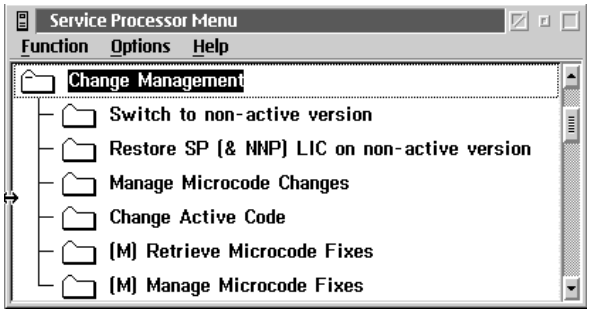



*Figure 3-5. SP Change Management Menu*

3. Double-click **Switch to non-active version**.

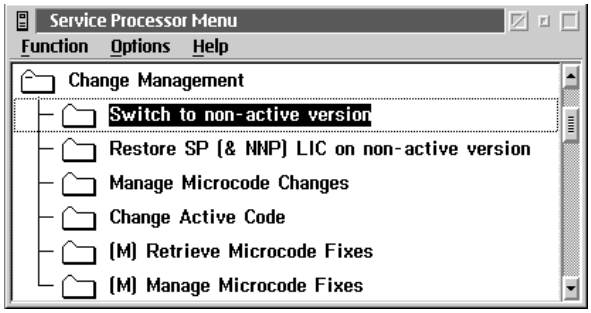



*Figure 3-6. Service Processor Menu*

4. The Switch to Non-Active Version panel in Figure 3-7 on page 3-5 is displayed. Follow the prompts.

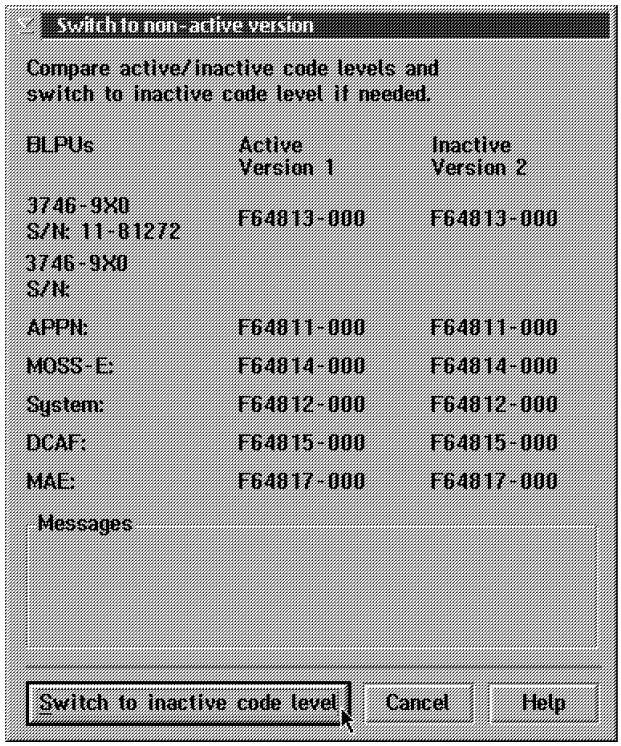



*Figure 3-7. Switch to Non-Active Version*

**Notes:**

1. You must IML the 3746-9x0 to load the new code in the 3746-9x0 processors.
2. If you have an MAE installed after you have completed the switch to the non-active version of code, you must perform a **Change LIC on MAE** in order to update the MAE code (see Figure 2-1 on page 2-1).
3. If an NNP backup is installed, its active code is also switched to the non-active version.

## Modifying IP Parameters

**Note:** Modification of IP parameters can be done in the using the **Service Processor Customization** panel; refer to the appropriate *Service Processor Installation and Maintenance* manual.

1. On the MOSS-E view primary panel, double-click the **Service Processor object icon**.
2. Click **Configuration Management**.
3. Double-click **SP customization**.
4. Select **Service LAN Addresses**.

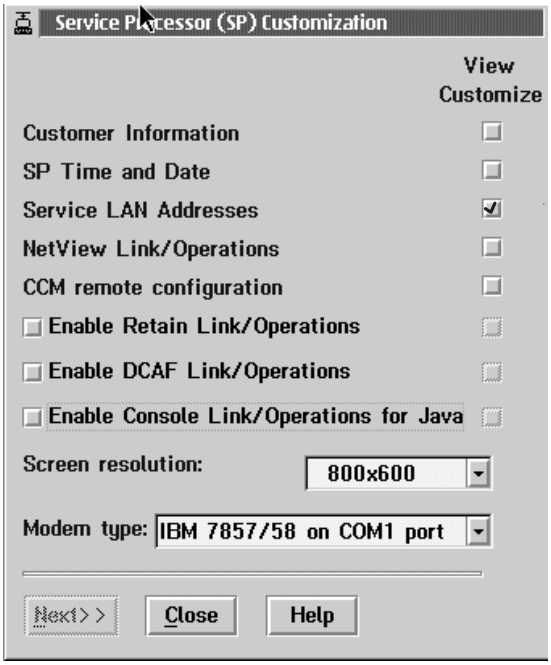



*Figure 3-8. Service Processor (SP) Customization Panel*

5. Click **Next>>**. The **Service LAN Addresses** panel appears.

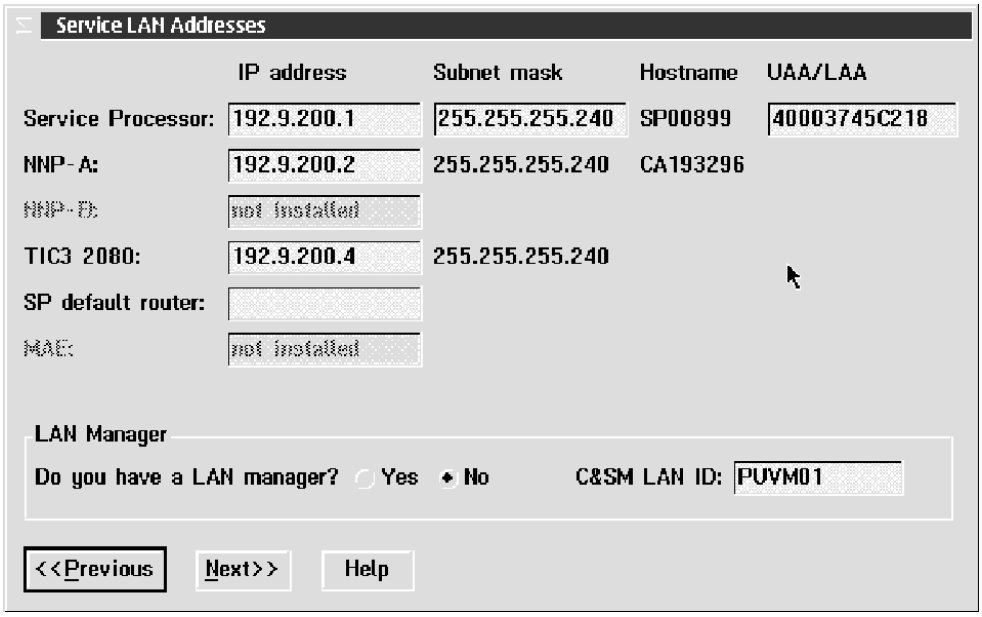



*Figure 3-9. Service LAN Addresses*

6. Modify the IP address and Subnet mask parameters (click **Help** for details.)
7. Click **Next>>** The **SP Customization Message** panel appears.

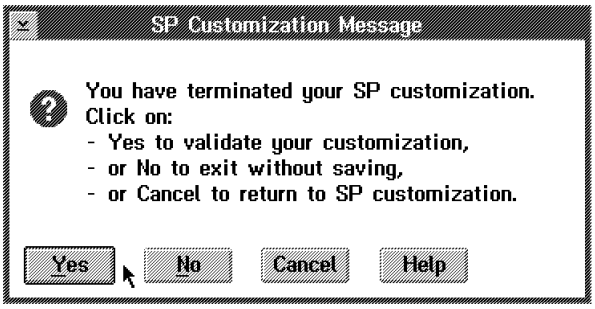



*Figure 3-10. SP Customization Message Panel*

8. Click **Yes** to record your parameters. The Service Processor Customization - Progress panel appears, indicating that the customization is in progress.

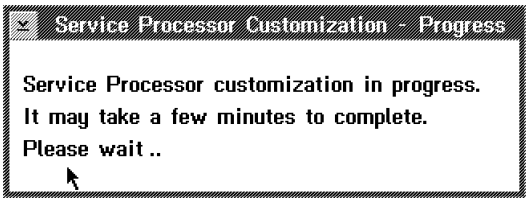



*Figure 3-11. Service Processor Customization - Progress Panel*

9. When the customization is completed, the Service Processor Customization Completion panel appears.

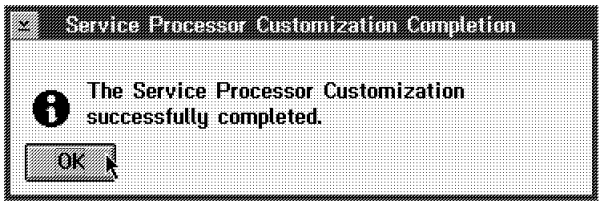



*Figure 3-12. Service Processor Customization Completion Panel*

Click **OK**. The Service Processor Customization Completion panel reappears, indicating that the service processor is going to reboot.

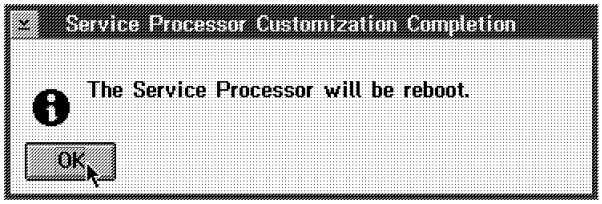



*Figure 3-13. SP Reboot Panel*

10. Click **OK**.

## Managing the Control Point on NNP

1. Double-click the **3746-9x0** icon.
2. Click the **Network Node Processor (NNP) Management** option.
3. Double-click **Manage Control Point on NNPs**.

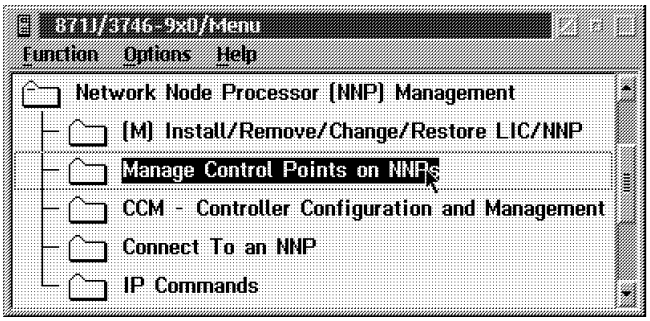



*Figure 3-14. Manage Control Point on NNPs*

4. From this panel, select the NNP (A or B) then you are able to:
   a. Start, stop, or stop and restart a control point
   b. Activate a specific configuration
   c. Take a dump of a control point
   d. Shutdown and restart a NNP
   e. Manage NPM configuration.

   **Note:** Press **Help** to get details.

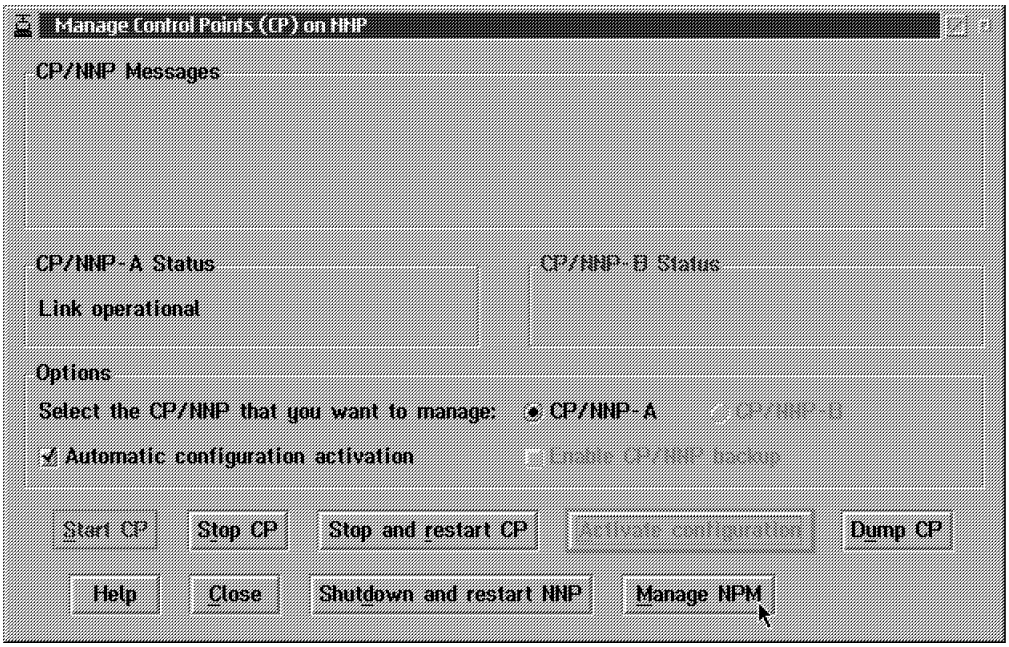



*Figure 3-15. Managing the Control Point and NNPs*

## Importing a Configuration

CCM will be used mainly by the CE to import or export a configuration, for more details refer to *3746 Nways Multiprotocol Controller Model 900 and 950: Controller Configuration and Management: User's Guide*, SH11-3081.

1. Double-click the **3746-9x0** icon.
2. Click the **Network Node Processor (NNP) Management** option.
3. Double-click **Controller Configuration and Management (CCM)**.

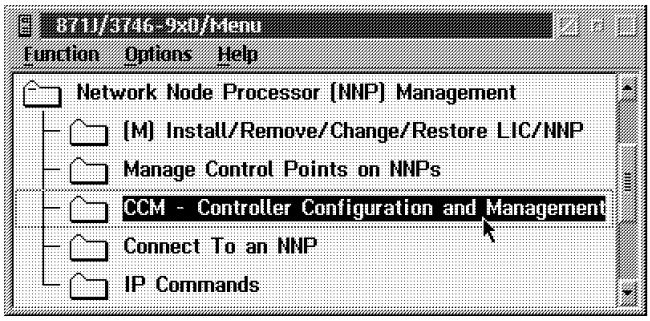



*Figure 3-16. CCM*

4. Click **File**, in the title bar, then double-click **Import a configuration** .

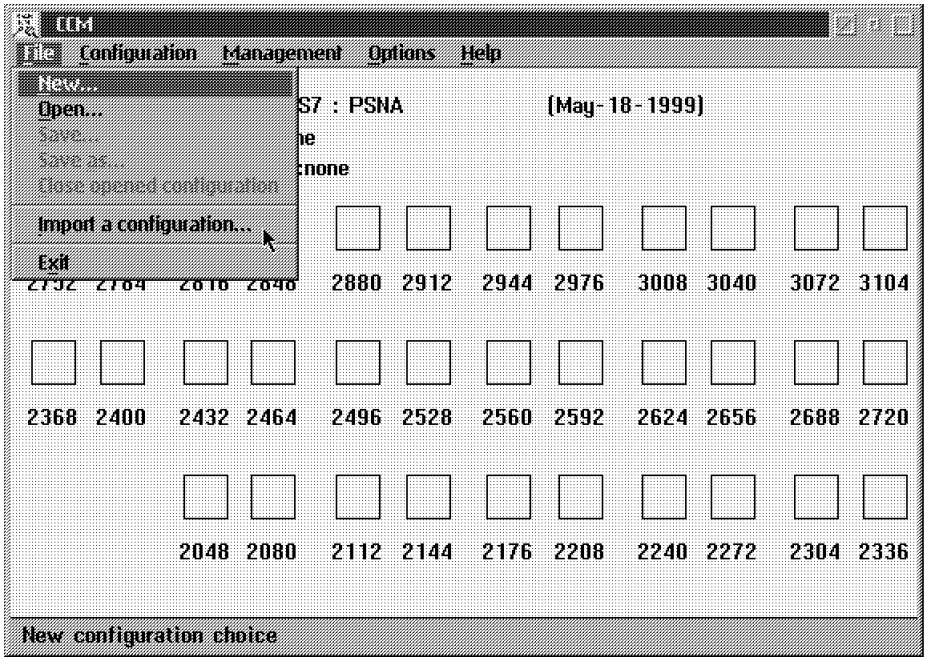



*Figure 3-17. Importing a Configuration*

5. Insert a diskette in drive A, then click **OK**.

## Exporting a Configuration

1. Double-click the **3746-9x0** icon.
2. Click the **Network Node Processor (NNP) Management** option.
3. Double-click **CCM - Controller Configuration and Management**.

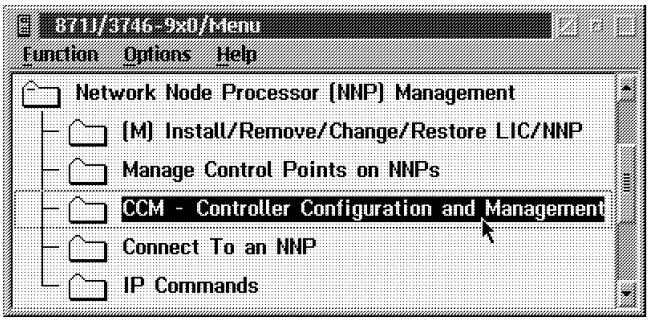



*Figure 3-18. CCM*

4. Click **file**, in the title bar, then click **Open**.

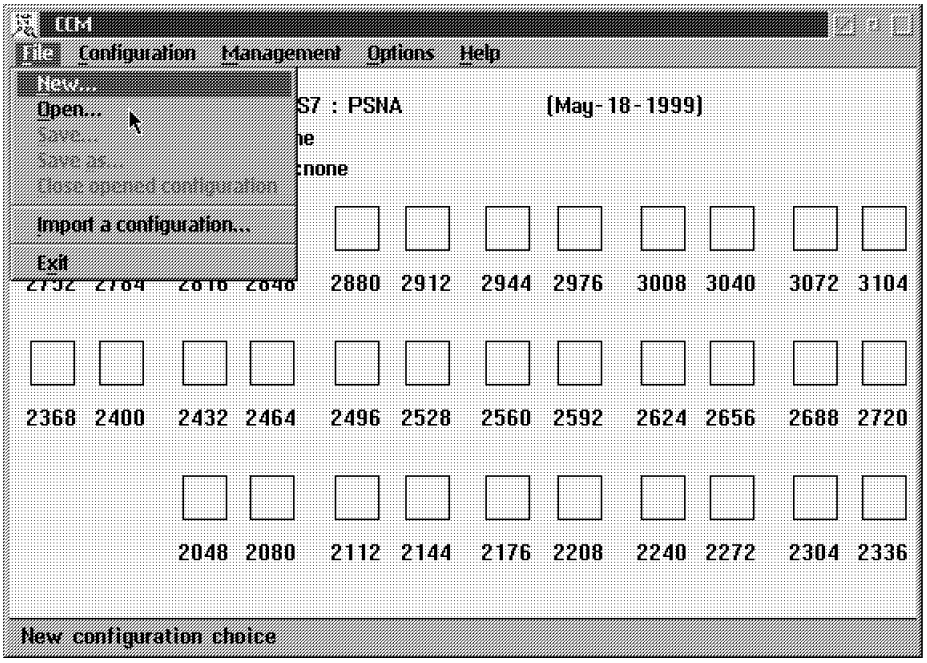



*Figure 3-19. Selecting a Configuration*

5. Select the configuration to be exported, then click **Export**.

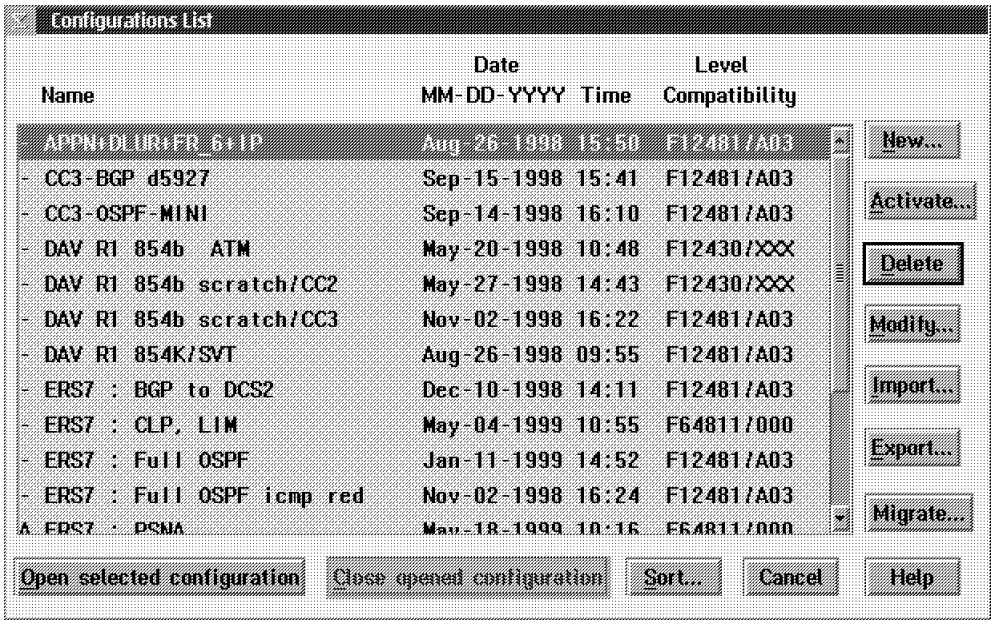



*Figure 3-20. Exporting a Configuration*

6. Insert a diskette in drive A, then click **OK**.

## Accessing a Network Node Processor

1. Double-click the **3746-9x0** icon.
2. Click the **Network Node Processor (NNP) Management** option.
3. Double-click **Connect to an NNP**.

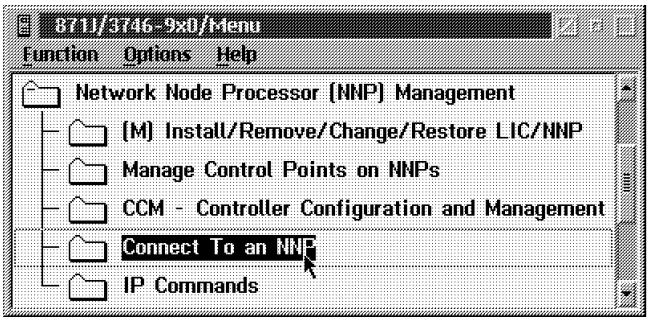



*Figure 3-21. Accessing a NNP*

4. On the Connect to an NNP panel in Figure 3-23 on page 3-14, select the NNP (A or B) then click **Connect**.

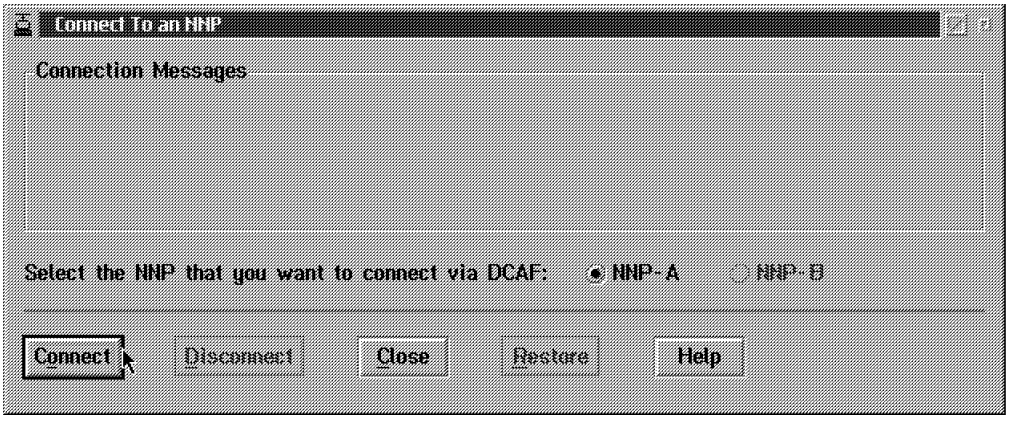



*Figure 3-22. Connecting to a NNP*

5. Click **NNP Management - Functions to use**.

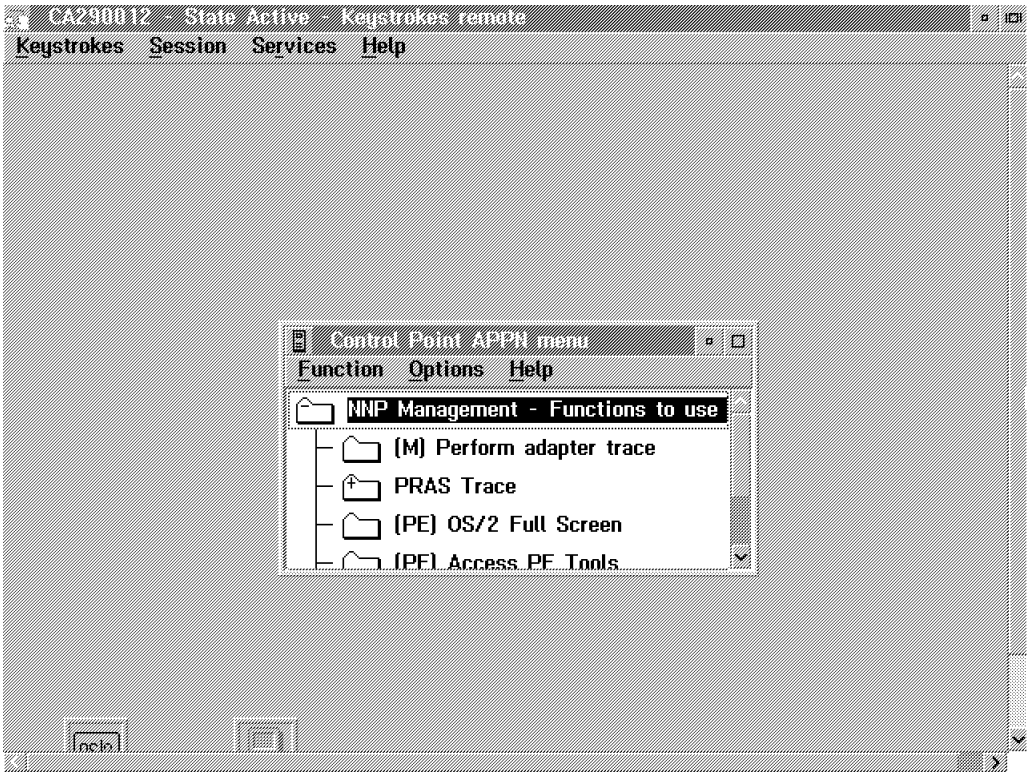



*Figure 3-23. NNP Functions*

6. Click **Session**, and click **Terminate** to close a session.

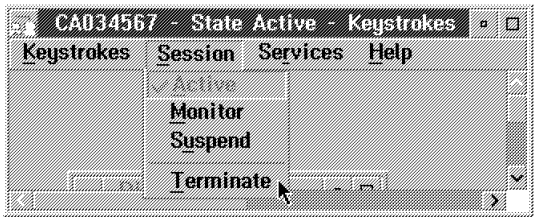



*Figure 3-24. Terminating a Session*

## Accessing IP Commands from the MOSS-E

1. Double-click the **3746-9x0** icon.
2. Click the **Network Node Processor (NNP) Management** option.
3. Double-click **IP Commands**.

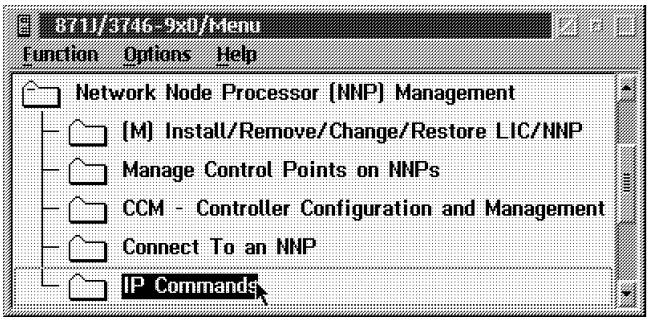



*Figure 3-25. Accessing IP Commands*

4. On the following panel, enter the user ID and password (defaults are NNPIP and 37469X0A), then click **Enter**.

   You are now able to navigate within the Internet Protocol environment (for details refer to the *3745/17A-61A and 3746-900 Basic Operations Guide*, SA33-0177 or *3746 Nways Multiprotocol Controller Model 950: User's Guide*, SA33-0356).

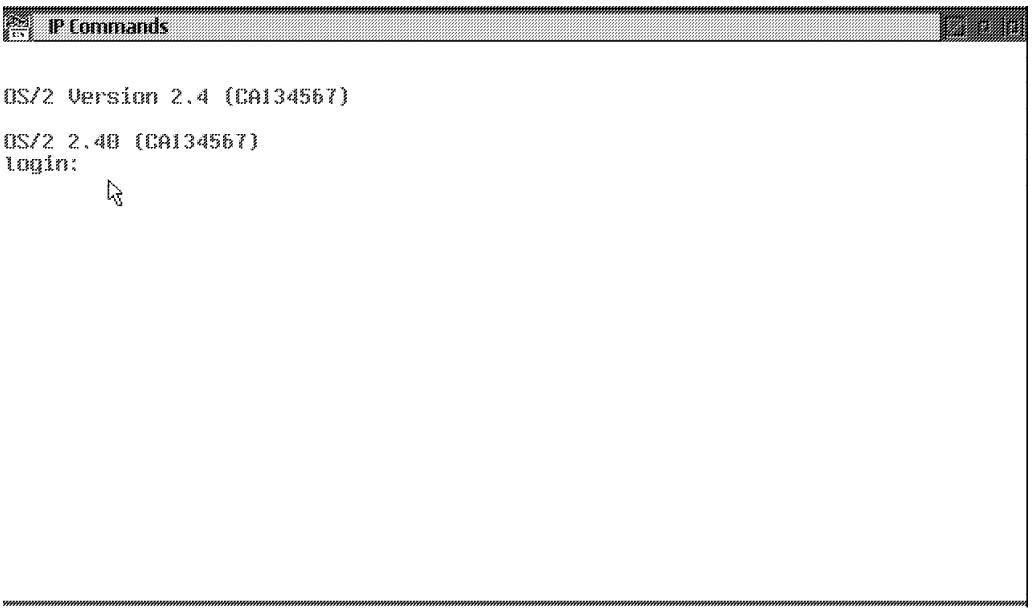



*Figure 3-26. IP Commands Panel*

# Appendix A. Bibliography

## Customer Documentation for the 3746 Model 950

*Table A-1 (Page 1 of 5). Customer Documentation for the 3746 Model 950*

This customer documentation has the following formats:



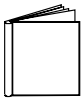
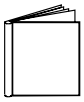
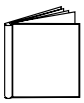
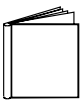

| | | |
|---|---|---|
| **Finding Information** | | |
| | | ***3745 Models A and 3746 Books***<br><br>All of the books in the 3745 Models A and 3746 library are available on the CD-ROM that contains the Licensed Internal Code (LIC) for the machine. |
| **Preparing for Operation** | | |
|  | GA33-0400 | ***IBM 3745 Communication Controller All Models***[1]<br>***IBM 3746 Expansion Unit Model 900***<br>***IBM 3746 Nways Multiprotocol Controller Model 950***<br><br>***Safety Information***[2]<br><br>Provides general safety guidelines. |
| **Evaluating and Configuring** | | |
|  | GA33-0180 | ***IBM 3745 Communication Controller Models A and 170***[3]<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Overview***<br><br>Gives an overview of connectivity capabilities within SNA, APPN, and IP networking. |
|  | GA27-4234 | ***IBM 3745 Communication Controller Models A***[2]<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Overview, Installation, and Integration***<br><br>Provides information for:<br>• Overall 3746 planning<br>• Installation and upgrade scenarios<br>• Controller and service processor network integration<br>• Related MOSS-E and CCM worksheets for these tasks. |

*Table A-1 (Page 2 of 5). Customer Documentation for the 3746 Model 950*



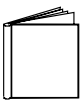
GA27-4235

***IBM 3745 Communication Controller Models A2***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***Serial Line Adapters***

Provides information for:

- Serial line adapter descriptions
- Serial line adapter line weights and connectivity
- Types of SDLC support
- Configuring X.25 lines
- Performance tuning for frame-relay, PPP, X.25, and NCP lines.
- ISDN adapter description and configuration.



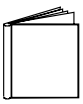
GA27-4236

***IBM 3745 Communication Controller Models A2***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***Token Ring and Ethernet***

Provides information for:

- Token-ring adapter description and configuration
- Ethernet adapter description and configuration.



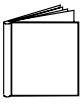
GA27-4237

***IBM 3745 Communication Controller Models A2***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***ESCON Channels***

Provides information for:

- ESCON adapter descriptions
- ESCON configuration and tuning information
- ESCON configuration examples.



GA27-4238

***IBM 3745 Communication Controller Models A2***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***Physical Planning***

Provides information for:

- 3746 and MAE physical planning details
- 3746 and MAE cable information
- Explanation of installation sheets
- 3746 plugging sheets.

*Table A-1 (Page 3 of 5). Customer Documentation for the 3746 Model 950*

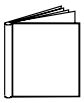
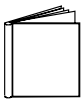
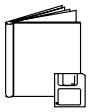
| | | |
|---|---|---|
|  | GA27-4239 | ***IBM 3745 Communication Controller Models A[2]***<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Management Planning***<br><br>Provides information for:<br>• Overview for 3746<br>• 3746 APPN/HPR, IP router, and X.25<br>• NetView Performance Monitor (NPM), remote consoles, and RSF<br>• MAE APPN/HPR management. |
|  | GA27-4240 | ***IBM 3745 Communication Controller Models A[2]***<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Multiaccess Enclosure Planning***<br><br>Provides information for:<br>• MAE adapters details<br>• MAE ESCON planning and configuration<br>• ATM and ISDN support. |
|  | GA27-4241 | ***IBM 3745 Communication Controller Models A[2]***<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Protocols Description***<br><br>Provides information for:<br>• Overview and details about APPN/HPR and IP. |
|  | On-line information | ***IBM 3745 Communication Controller Models A[2]***<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Controller Configuration and Management Worksheets***<br><br>Provides planning worksheets for ESCON, Multiaccess Enclosure, serial line, and token-ring definitions. |

*Table A-1 (Page 4 of 5). Customer Documentation for the 3746 Model 950*

**Operating and Testing**



SA33-0356

***IBM 3746 Nways Multiprotocol Controller Model 950***

***User's Guide***[2]

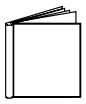
Explains how to:

- Carry out daily routine operations on Nways controller
- Install, test, and customize the Nways controller after installation
- Configure user's workstations to remotely control the service processor using:
  - DCAF program
  - Telnet client program
  - Java Console support.

On-line information

***Controller Configuration and Management Application***

Provides a graphical user interface for configuring and managing a 3746 APPN/HPR network node and IP Router, and its resources.
It is also available as a stand-alone application, using an OS/2 workstation.
Defines and explains all the 3746 Network Node and IP Router configuration parameters through its on-line help.

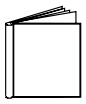


SH11-3081

***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***

***Controller Configuration and Management: User's Guide***[2]

Explains how to use CCM and gives examples of the configuration process.



GA33-0479

***IBM 3745 Communication Controller Models A***
***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***

***NetView Console***
***APPN Command Reference Guide***

Explains how to use the RUN COMMAND from the NetView S/390 Program and gives examples.

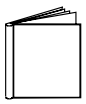
**Managing Problems**

On-line information

***Problem Analysis Guide***

An on-line guide to analyze alarms, events, and control panel codes on:

- IBM 3745 Communication Controller Models A[3]
- IBM 3746 Nways Multiprotocol Controller Models 900 and 950.



SA33-0175

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Alert Reference Guide***

Provides information about events or errors reported by alerts for:

- IBM 3745 Communication Controller Models A[3]
- IBM 3746 Nways Multiprotocol Controller Models 900 and 950.

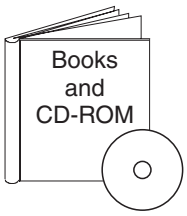
*Table A-1 (Page 5 of 5). Customer Documentation for the 3746 Model 950*

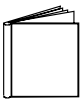
[1] Models 130 to 61A.
[2] Documentation shipped with the 3746-950
[3] 3745 Models 17A to 61A.

# Service Documentation for the IBM 3746 Model 950

*Table A-2 (Page 1 of 3). Service Documentation for the 3746 Model 950*

This service documentation has the following formats:

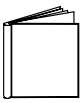



SY33-2107

***IBM 3746 Nways Multiprotocol Controller Model 950***

***Installation Guide***[1]

Provides instructions for installing or relocating the Nways Controller.

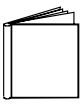


SY33-2108

***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Guide***[1]

Provides procedures for isolating and fixing the IBM 3746-950 problems.

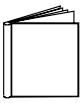


SY33-2115

***IBM 3745 Communication Controller Models A***[2]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor Installation and Maintenance***[3]
***(Based on the 7585, 3172, 9585, or 9577)***

Provides information on installing and maintaining the service processor based on PS/2 Types 7585, 3172, 9585, or 9577. Can be for systems with microcode that has up to and including EC D46130 (any level) installed.

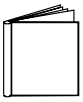


SY33-2120

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor Installation and Maintenance***[4]
***(Based on the 7585, 3172, or 9585)***

Provides information on installing and maintaining the service processor based on PS/2 Types 7585, 3172, or 9585. Can be for systems with microcode EC F12380 or higher installed.



SY33-2125

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor Installation and Maintenance***[4]
***(Based on 6275)***

Provides information on installing and maintaining the service processor based on PC Type 6275. Can be for systems with microcode EC F12380 or higher installed.

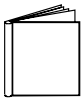
*Table A-2 (Page 2 of 3). Service Documentation for the 3746 Model 950*

SY27-0393

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor Installation and Maintenance***[4]
***(Based on 6563)***

Provides information on installing and maintaining the service processor based on PC Type 6563. Can be for systems with microcode EC F12380 or higher installed.

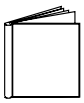


SY33-2118

***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***

***Multiaccess Enclosure Installation and Maintenance***[4]

Provides information on installing and maintaining the Multiaccess Enclosure (MAE).

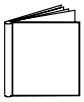


SY33-2124

***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***

***Multiaccess Enclosure Installation and Maintenance***[4]
(Starting from EC F12430 and Above)

Provides information on installing and maintaining the Multiaccess Enclosure (MAE). For systems with microcode EC F12430 or higher installed.

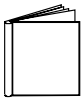


SY33-2112

***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Network Node Processor Installation and Maintenance***[3]
***(Based on the 7585 or 3172)***

Provides information on installing and maintaining the network node processor based on the PS/2 Type 7585 or 3172.

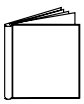


SY33-2126

***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Network Node Processor Installation and Maintenance***[3]
***(Based on 6275)***

Provides information on installing and maintaining the network node processor based on the PC Type 6275.



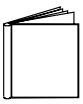
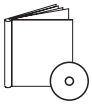
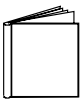
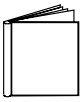
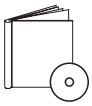
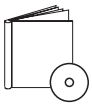
SY27-0394

***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Network Node Processor Installation and Maintenance***[3]
***(Based on 6563)***

Provides information on installing and maintaining the network node processor based on the PC Type 6563.

*Table A-2 (Page 3 of 3). Service Documentation for the 3746 Model 950*

| | | |
|---|---|---|
|  | SY33-2127 | ***IBM 3745 Communication Controller Models A***[3]<br>***IBM 3746 Expansion Unit Model 900***<br>***IBM 3746 Nways Multiprotocol Controller Model 950***<br><br>***Service Processor and Network Node Processor***[4]<br>***Service User's Guide***<br><br>Provides information on installing and maintaining the operational code on service processor, or network node processor.<br>Can be for systems with microcode EC F12380 or higher installed. |
|  | SY33-2117 | ***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***External Cable Reference***[4]<br><br>Provides references to console and line cables used for connecting the IBM 3746 Models 900 and 950. |
|  | S135-2015 | ***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Parts Catalog***[4]<br><br>Provides reference information for ordering parts for the IBM 3746 Models 900 and 950. |
|  | S135-2014 | ***IBM Controller Expansion***<br><br>***Parts Catalog***<br><br>Provides reference information for ordering parts for the controller expansion attached to the IBM 3745 Models A[2], and 3746 Models 900 and 950. |
| **CD-ROM Bibliography** | | |
|  | ZK2T-8214 | ***IBM Networking***<br>***Softcopy Collection Kit***<br><br>Allows service manuals consulting via CD-ROM viewer. EMEA version. |
|  | ZK2T-8187 | ***IBM Networking***<br>***Softcopy Collection Kit***<br><br>Allows service manuals consulting via CD-ROM viewer. US version. |

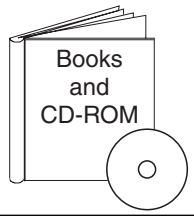
[1] Documentation shipped with the 3746 Model 950
[2] 3745 Models 17A to 61A
[3] Documentation shipped with the processor
[4] Documentation shipped with the 3746 Models 900 and 950

# Customer Documentation for the 3745 (All Models), and 3746 (Model 900)

*Table A-3 (Page 1 of 6). Customer Documentation for the 3745 Models X10 and X1A, and 3746 Model 900*

This customer documentation has the following formats:



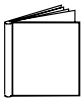




**Finding Information**

***3745 Models A and 3746 Books***

All of the books in the 3745 Models A and 3746 library are available on the CD-ROM that contains the Licensed Internal Code (LIC) for the machine.

**Evaluating and Configuring**



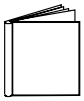
GA33-0092

***IBM 3745 Communication Controller***
***Models 210, 310, 410, and 610***

***Introduction***

Gives an introduction of the IBM Models 210 to 610 capabilities.

For Models A, refer to the *Overview*, GA33-0180.



GA33-0180

***IBM 3745 Communication Controller Models A and 170[2]***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Overview***

Gives an overview of connectivity capabilities within SNA, APPN, and IP networking.

GA27-4234

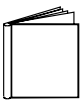
***IBM 3745 Communication Controller Models A[2]***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***Overview, Installation, and Integration***

Provides information for:

- Overall 3746 planning
- Installation and upgrade scenarios
- Controller and service processor network integration
- Related MOSS-E and CCM worksheets for these tasks.

*Table A-3 (Page 2 of 6). Customer Documentation for the 3745 Models X10 and X1A, and 3746 Model 900*



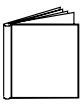
GA27-4235

***IBM 3745 Communication Controller Models A2***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***Serial Line Adapters***

Provides information for:

- Serial line adapter descriptions
- Serial line adapter line weights and connectivity
- Types of SDLC support
- Configuring X.25 lines
- Performance tuning for frame-relay, PPP, X.25, and NCP lines.
- ISDN adapter description and configuration.



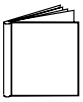
GA27-4236

***IBM 3745 Communication Controller Models A2***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***Token Ring and Ethernet***

Provides information for:

- Token-ring adapter description and configuration
- Ethernet adapter desription and configuration.



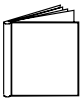
GA27-4237

***IBM 3745 Communication Controller Models A2***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***ESCON Channels***

Provides information for:

- ESCON adapter descriptions
- ESCON configuration and tuning information
- ESCON configuration examples.



GA27-4238

***IBM 3745 Communication Controller Models A2***
***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Planning Series:***
***Physical Planning***

Provides information for:

- 3746 and MAE physical planning details
- 3746 and MAE cable information
- Explanation of installation sheets
- 3746 plugging sheets.

*Table A-3 (Page 3 of 6). Customer Documentation for the 3745 Models X10 and X1A, and 3746 Model 900*

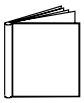
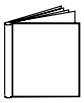
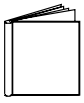
| | | |
|---|---|---|
|  | GA27-4239 | ***IBM 3745 Communication Controller Models A²***<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Management Planning***<br><br>Provides information for:<br>• Overview for 3746<br>• 3746 APPN/HPR, IP router, and X.25<br>• NetView Performance Monitor (NPM), remote consoles, and RSF<br>• MAE APPN/HPR management. |
|  | GA27-4240 | ***IBM 3745 Communication Controller Models A²***<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Multiaccess Enclosure Planning***<br><br>Provides information for:<br>• MAE adapters details<br>• MAE ESCON planning and configuration<br>• ATM and ISDN support. |
|  | GA27-4241 | ***IBM 3745 Communication Controller Models A²***<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Protocols Description***<br><br>Provides information for:<br>• Overview and details about APPN/HPR and IP. |
|  | On-line information | ***IBM 3745 Communication Controller Models A²***<br>***IBM 3746 Nways Multiprotocol Controller***<br>***Models 900 and 950***<br><br>***Planning Series:***<br>***Controller Configuration and Management Worksheets***<br><br>Provides planning worksheets for ESCON, Multiaccess Enclosure, serial line, and token-ring definitions. |
| **Preparing Your Site** | | |
|  | GC22-7064 | ***IBM System/360™, System/370™, 4300 Processor***<br><br>***Input/Output Equipment Installation Manual-Physical Planning***<br>(Including Technical News Letter GN22-5490)<br><br>Provides information for physical installation for the 3745 Models 130 to 610.<br><br>For 3745 Models A and 3746 Model 900, refer to the *Planning Guide*, GA33-0457. |

*Table A-3 (Page 4 of 6). Customer Documentation for the 3745 Models X10 and X1A, and 3746 Model 900*

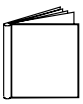
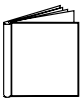
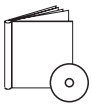
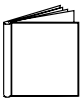
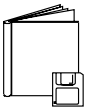
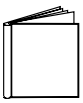
| | | |
|---|---|---|
|  | GA33-0127 | ***IBM 3745 Communication Controller Models 210, 310, 410, and 610***<br>***Preparing for Connection***<br>Helps for preparing the 3745 Models 210 to 610 cable installation.<br>For 3745 Models A refer to the *Connection and Integration Guide*, SA33-0129. |
| **Preparing for Operation** | | |
|  | GA33-0400 | ***IBM 3745 Communication Controller All Models***[3] ***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***<br>***Safety Information***[1]<br>Provides general safety guidelines. |
|  | SA33-0129 | ***IBM 3745 Communication Controller All Models***[3] ***IBM 3746 Nways Multiprotocol Controller Model 900***<br>***Connection and Integration Guide***[1]<br>Contains information for connecting hardware and integrating network of the 3745 and 3746-900 after installation. |
|  | SA33-0416 | ***Line Interface Coupler Type 5 and Type 6 Portable Keypad Display***<br>***Migration and Integration Guide***<br>Contains information for moving and testing LIC types 5 and 6. |
|  | SA33-0158 | ***IBM 3745 Communication Controller All Models***[3] ***IBM 3746 Nways Multiprotocol Controller Model 900***<br>***Console Setup Guide***[1]<br>Provides information for:<br>• Installing local, alternate, or remote consoles for 3745 Models 130 to 610<br>• Configuring user workstations to remotely control the service processor for 3745 Models A and 3746 Model 900 using:<br>– DCAF program<br>– Telnet Client program<br>– Java Console support. |
| **Customizing Your Control Program** | | |
|  | SA33-0178 | ***Guide to Timed IPL and Rename Load Module***<br>Provides VTAM procedures for:<br>• Scheduling an automatic reload of the 3745<br>• Getting 3745 load module changes transparent to the operations staff. |
| **Operating and Testing** | | |

*Table A-3 (Page 5 of 6). Customer Documentation for the 3745 Models X10 and X1A, and 3746 Model 900*

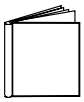
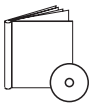
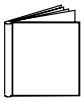
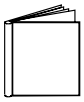
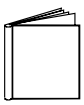
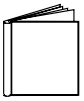
| | | |
|---|---|---|
|  | SA33-0098 | ***IBM 3745 Communication Controller All Models***[4]<br><br>***Basic Operations Guide***[1]<br><br>Provides instructions for daily routine operations on the 3745 Models 130 to 610. |
|  | SA33-0177 | ***IBM 3745 Communication Controller Models A***[2]<br>***IBM 3746 Nways Multiprotocol Controller Model 900***<br><br>***Basic Operations Guide***[1]<br><br>Provides instructions for daily routine operations on the 3745 Models 17A to 61A, and 3746 Model 900 operating as an SNA node (using NCP), APPN/HPR Network Node, and IP Router. |
|  | SA33-0097 | ***IBM 3745 Communication Controller All Models***[3]<br><br>***Advanced Operations Guide***[1]<br><br>Provides instructions for advanced operations and testing, using the 3745 MOSS console. |
|  | On-line Information | ***Controller Configuration and Management Application***<br><br>Provides a graphical user interface for configuring and managing a 3746 APPN/HPR Network Node and IP Router, and its resources.<br>It is also available as a stand-alone application, using an OS/2 workstation.<br>Defines and explains all the 3746 Network Node and IP Router configuration parameters through its online help. |
|  | SH11-3081 | ***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***<br><br>***Controller Configuration and Management: User's Guide***[5]<br><br>Explains how to use CCM and gives examples of the configuration process. |
|  | GA33-0479 | ***IBM 3745 Communication Controller Models A***<br>***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***<br><br>***NetView Console***<br>***APPN Command Reference Guide***<br><br>Explains how to use the RUN COMMAND from the NetView S/390 Program and gives examples. |
| **Managing Problems** | | |
|  | SA33-0096 | ***IBM 3745 Communication Controller All Models***[3]<br><br>***Problem Determination Guide***[1]<br><br>A guide to perform problem determination on the 3745 Models 130 to 61A. |

*Table A-3 (Page 6 of 6). Customer Documentation for the 3745 Models X10 and X1A, and 3746 Model 900*

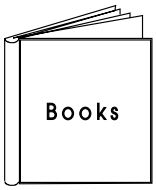
| | | |
|---|---|---|
|  | On-line Information | ***Problem Analysis Guide***<br><br>An online guide to analyze alarms, events, and control panel codes on:<br>• IBM 3745 Communication Controller Models A[2]<br>• IBM 3746 Nways Multiprotocol Controller Models 900 and 950. |
|  | SA33-0175 | ***IBM 3745 Communication Controller Models A[2]***<br>***IBM 3746 Expansion Unit Model 900***<br>***IBM 3746 Nways Multiprotocol Controller Model 950***<br><br>***Alert Reference Guide***<br><br>Provides information about events or errors reported by alerts for:<br>• IBM 3745 Communication Controller Models A[2]<br>• IBM 3746 Nways Multiprotocol Controller Models 900 and 950. |

[1] Documentation shipped with the 3745.
[2] 3745 Models 17A to 61A.
[3] 3745 Models 130 to 61A.
[4] Except 3745 Models A.
[5] Documentation shipped with the 3746-900.

# Additional Customer Documentation for the 3745 Models 130, 150, 160, 170, and 17A

*Table A-4. Additional Customer Documentation for the 3745 Models 130 to 17A*

This customer documentation has the following format:

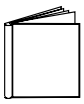



**Finding Information**

***3745 Models A and 3746 Books***

All of the books in the 3745 Models A and 3746 library are available on the CD-ROM that contains the Licensed Internal Code (LIC) for the machine.

**Evaluating and Configuring**



GA33-0138

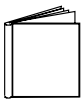
***IBM 3745 Communication Controller Models 130, 150, 160, and 170***

***Introduction***

Gives an introduction about the IBM Models 130 to 170 capabilities, including Model 160.

For Model 17A refer to the *Overview*, GA33-0180.

**Preparing Your Site**



GA33-0140

***IBM 3745 Communication Controller Models 130, 150, 160, and 170***

***Preparing for Connection***

Helps for preparing the 3745 Models 130 to 170 cable installation.

For 3745 Model 17A refer to the *Connection and Integration Guide*, SA33-0129.

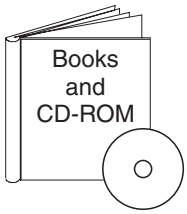
[1] Documentation shipped with the 3745.

# Service Documentation for the IBM 3745 (Models 210, 21A, 310, 31A, 410, 41A, 610, and 61A) and 3746 (Model 900)

*Table A-5 (Page 1 of 4). Service Documentation for the 3745 Models x10 and x1A, and 3746 Model 900*

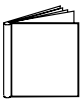
This service documentation has the following formats:






***3745 Models A and 3746 Books***

All of the books in the 3745 Models A and 3746 library are available on the CD-ROM that contains the Licensed Internal Code (LIC) for the Machine.

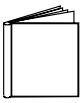


SY33-2057

***IBM 3745 Communication Controller***
***Models 210 to 61A***

***Installation Guide***[1]

Provides instructions for installing or relocating the IBM 3745 Models X10 and X1A.

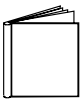


SY33-2114

***IBM 3746 Nways Multiprotocol Controller***
***Model 900***

***Installation Guide***[2]

Provides instructions for installing or relocating a 3746-900.

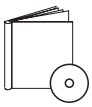


SY33-2116

***IBM 3746 Nways Multiprotocol Controller***
***Model 900***

***Service Guide***[2]

Provides procedures for isolating and fixing the IBM 3746-900 problems.



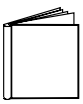
SY33-2055

***IBM 3745 Communication Controller***
***Models 210, 310, 410, and 610***

***IBM 3746 Expansion Units***
***Models A11, A12, L13, L14, and L15***

***Service Functions***[1]

Describes MOSS functions using the IBM 3745 Models X10 and X1A consoles.



SY33-2054

***IBM 3745 Communication Controller***
***Models 210 to 61A***

***Maintenance Information Procedures***[1]

Provides procedures for isolating and fixing the IBM 3745 Models X10 and X1A problems.

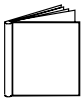
*Table A-5 (Page 2 of 4). Service Documentation for the 3745 Models x10 and x1A, and 3746 Model 900*

SY33-2115

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor Installation and Maintenance***[4]
***(Based on the 7585, 3172, 9585, or 9577)***

Provides information on installing and maintaining the service processor based on PS/2 Types 7585, 3172, 9585, or 9577.
Can be for systems with microcode that has up to and including EC D46130 (any level) installed.

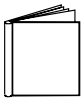


SY33-2120

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor Installation and Maintenance***[4]
***(Based on the 7585, 3172, or 9585)***

Provides information on installing and maintaining the service processor based on PS/2 Types 7585, 3172, or 9585.
Can be for systems with microcode EC F12380 or higher installed.

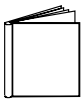


SY33-2125

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor Installation and Maintenance***[4]
***(Based on the 6275)***

Provides information on installing and maintaining the service processor based on PC Type 6275.
Can be for systems with microcode EC F12380 or higher installed.

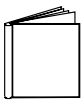


SY27-0393

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor Installation and Maintenance***[4]
***(Based on the 6563)***

Provides information on installing and maintaining the service processor based on PC Type 6563.
Can be for systems with microcode EC F12380 or higher installed.



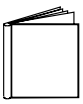
SY33-2127

***IBM 3745 Communication Controller Models A***[3]
***IBM 3746 Expansion Unit Model 900***
***IBM 3746 Nways Multiprotocol Controller Model 950***

***Service Processor and Network Node Processor***[4]
***Service User's Guide***

Provides information on installing and maintaining the operational code on service processor, or network node processor.
Can be for systems with microcode EC F12380 or higher installed.

*Table A-5 (Page 3 of 4). Service Documentation for the 3745 Models x10 and x1A, and 3746 Model 900*

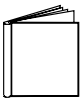


SY33-2118

***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***

***Multiaccess Enclosure Installation and Maintenance***[4]

Provides information on installing and maintaining the Multiaccess Enclosure (MAE).

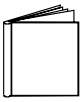


SY33-2124

***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***

***Multiaccess Enclosure Installation and Maintenance***[4]
(Starting from EC F12430 and Above)

Provides information on installing and maintaining the Multiaccess Enclosure (MAE). For systems with microcode EC F12430 or higher installed.

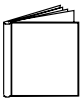


SY33-2112

***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Network Node Processor Installation and Maintenance***[4]
***(Based on the 7585 or 3172)***

Provides information on installing and maintaining the network node processor based on the PS/2 Type 7585 or 3172.

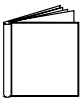


SY33-2126

***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Network Node Processor Installation and Maintenance***[4]
***(Based on 6275)***

Provides information on installing and maintaining the network node processor based on the PC Type 6275.

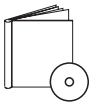


SY27-0394

***IBM 3746 Nways Multiprotocol Controller***
***Models 900 and 950***

***Network Node Processor Installation and Maintenance***[4]
***(Based on 6563)***

Provides information on installing and maintaining the network node processor based on the PC Type 6563.

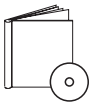


SY33-2056

***IBM 3745 Communication Controller***
***Models 210 to 61A***

***Maintenance Information Reference***[1]

Provides in-depth hardware reference information on the IBM 3745 Models X10 and X1A.



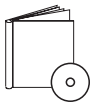
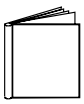
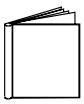
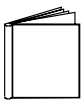
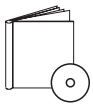
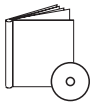
SY33-2075

***IBM 3745 Communication Controller***
***All Models***[5]

***External Cable References***[1]

Provides references to console and line cables used for connecting the IBM 3745 Models 130 to 61A.

*Table A-5 (Page 4 of 4). Service Documentation for the 3745 Models x10 and x1A, and 3746 Model 900*

| | | |
|---|---|---|
|  | SY33-2117 | ***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***<br>***External Cable Reference***[6]<br>Provides references to console and line cables used for connecting the IBM 3746 Models 900 and 950. |
|  | S135-2015 | ***IBM 3746 Nways Multiprotocol Controller Models 900 and 950***<br>***Parts Catalog***[6]<br>Provides reference information for ordering parts for the IBM 3746 Models 900 and 950. |
|  | S135-2010 | ***IBM 3745 Communication Controller Models 210 to 61A***<br>***Parts Catalog***[1]<br>Provides reference information for ordering IBM 3745 Models X10 and X1A parts. |
|  | S135-2014 | ***IBM Controller Expansion***<br>***Parts Catalog***<br>Provides reference information for ordering parts for the controller expansion attached to the IBM 3745 Models A[3], and 3746 Models 900 and 950. |
| **CD-ROM Bibliography** | | |
|  | ZK2T-8214 | ***IBM Networking Softcopy Collection Kit***<br>Allows service manuals consulting via CD-ROM viewer. EMEA version. |
|  | ZK2T-8187 | ***IBM Networking Softcopy Collection Kit***<br>Allows service manuals consulting via CD-ROM viewer. US version. |

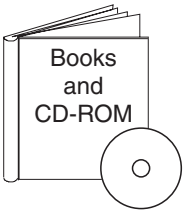
[1] Documentation shipped with the 3745.
[2] Documentation shipped with the 3746-900.
[3] 3745 Models 17A to 61A.
[4] Documentation shipped with the processor.
[5] 3745 Models 130 to 61A.
[6] Documentation shipped with the 3746 Models 900 and 950.

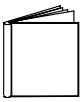
# Additional Service Documentation for the IBM 3745 Models 130, 150, 160, 170, and 17A

*Table A-6. Additional Service Documentation for the 3745 Models 1x0 and 17A*

This service documentation has the following formats:





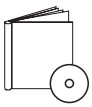



SY33-2067

***IBM 3745 Communication Controller***
***Models 130, 150, 160, 170, and 17A***

***Installation Guide***[1]

Provides instructions for installing or relocating the IBM 3745 Models 1X0 and 17A.

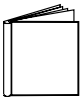


SY33-2069

***IBM 3745 Communication Controller***
***Models 130, 150, 160, and 170***

***Service Functions***[1]

Describes MOSS functions using the IBM 3745 Models 1x0 and 17A consoles.

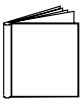


SY33-2070

***IBM 3745 Communication Controller***
***Models 130 to 17A***

***Maintenance Information Procedures***[1]

Provides procedures for isolating and fixing the IBM 3745 Models 1X0 and 17A problems.

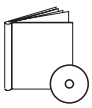


S135-2012

***IBM 3745 Communication Controller***
***Models 130 to 17A***

***Parts Catalog***[1]

Provides reference information for ordering IBM 3745 Models 1X0 and 17A parts.



SY33-2066

***IBM 3745 Communication Controller***
***Models 130, 150, 160, and 170***

***Hardware Maintenance Reference***[1]

Provides in-depth hardware reference information on the IBM 3745 Models 1X0 and 17A.

[1] Documentation shipped with the 3745.

# Glossary

**ac**. alternating current

**ACPW**. AC power (box)

**AFD**. airflow detector

**alarm**. A message sent to the MOSS 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.

**AMD**. air moving device

**APPN**. advanced peer-to-peer networking

**ARC**. active remote connector

**ARC1A1**. ARC V.24 DCE attachment with 5 meter tethered cable

**ARC1A2**. ARC V.24 DCE attachment with 15 meter tethered cable

**ARC1B**. ARC V.24 DTE attachment with 15 meter tethered cable

**ARC1C**. ARC V.24 DCE 3745 interface with 5 meter tethered cable

**ARC1D**. ARC V.24 DTE 3745 interface with 5 meter tethered cable

**ARC1E**. ARC V.24 3174 AEA interface (1)

**ARC1F**. ARC V.24 3174 PCA EIA interface (1)

**ARC2A**. ARC V.25 autocall interface with 5 meter tethered cable

**ARC2C**. ARC V.25 autocall interface 3745 with 5 meter tethered cable

**ARC3A1**. ARC V.35 DCE attachment with 5 meter tethered cable

**ARC3A2**. ARC V.35 DCE attachment with 15 meter tethered cable

**ARC3B**. ARC V.35 DTE attachment with 15 meter tethered cable

**ARC3C**. ARC V.35 DCE 3745 interface with 5 meter tethered cable

**ARC3D**. ARC V.35 DTE 3745 interface with 5 meter tethered cable

**ARC4A1**. ARC X.21 DCE attachment with 5 meter tethered cable

**ARC4A2**. ARC X.21 DCE attachment with 15 meter tethered cable

**ARC4B**. ARC X.21 DTE attachment with 15 meter tethered cable

**ARC4C**. ARC V.21 DCE 3745 interface with 5 meter tethered cable

**ARC4D**. ARC V.21 DTE 3745 interface with 5 meter tethered cable

**ARC5A**. Reserved

**ARC5B**. Reserved

**ARC5C**. ARC RS-422 3708 interface (or RJ-11 connection) (1)

**ARC5D**. ARC RS-422 IBM Cabling System interface (1)

**ARC6A**. ARC V.25 autocall interface with 15 meter tethered cable

**ARC6C**. ARC V.25 autocall 3745 interface with 15 meter tethered cable

**BA**. basic access

**BAS**. basic board

**BATS**. basic assurance tests

**BER**. box event record

**BLPU**. basic level packaging unit

**BMI**. bit multiplex interface

**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.

**bps**. bits per second

**BSC**. binary synchronous communication

**BSI**. bus synchronism interface

**C**. Celsius

**C&SM**. customer and service information

**CA**. channel adapter

**cache**. A high-speed buffer storage that contains frequently accessed instructions and data; it is used to reduce access time.

**CB**. circuit breaker

**CBA**. controller bus adapter

**CBC**. controller bus coupler

**CBR**. circuit burst request

**CBSA**. controller bus and service adapter (CBSP+CBC+TIC3)

**CBSP**. controller bus and service processor

**CBTRA**. controller bus and token-ring adapter (TRP+CBC+TIC3)

**CBTRM**. cable terminator (IOC and DMA buses)

**CCITT**. Comite Consultatif International Telephonique et telegraphique

**CCU**. central control unit

**CDF**. configuration data file (3745)

**CDF-E**. configuration data file extended (37CS)

**CE**. customer engineer

**CEPT**. Comite Europeen des Postes et Telecommunications

**CLA**. communication line adapter (CLP+LICnn)

**CLDP**. controller load/dump program

**clear channel**. Mode of data transmission where the data passes through the DCE and network, and arrives at the receiving communication controller (for example, the IBM 3745) unchanged from the data transmitted. The DCE or network can modify the data during transmission because of certain network restrictions, but must ensure the received data stream is the same as the transmitted data stream.

**CLP**. communication line processor

**CMIP**. common management interface protocol

**CNM**. communication network management

**CP**. 1.communication processor 2.control program 3.circuit protector 4.control point

**CPLR**. coupler

**CPN**. customer problem number

**CPx**. FRU name of circuit protector

**CRC**. cyclic redundancy check character

**CS**. connectivity switch

**CSA**. common subassembly

**CSB**. connectivity switch bus

**CSC**. connectivity switch cable

**CSCE**. connectivity switch cable extension

**CSM**. centralized support module

**CSP**. central service point

**CSS**. control subsystem (3745)

**CTDA**. configuration target device (processor) address

**dc**. direct current

**DCAF**. Distributed Console Access Facility (licensed program)

**DCCS**. DC to connectivity subsystem

**DCE**. data circuit-terminating equipment

**DCDP**. DC distribution and protection (box)

**DCM**. diagnostic control monitor

**DCPW**. DC power box

**DICO**. DMA IOC connection card

**DM**. distribution manager

**DMA**. direct memory access

**DS**. data storage

**DSB**. data storage bus

**DSI**. data storage interface

**DSM**. data storage manager

**DSS**. data storage interface for SBA

**DSU**. data service unit (DCE-like for high-speed communication lines)

**DTE**. data terminal equipment

**EC**. engineering change

**EE**. extended edition

**EIA**. Electronic Industries Association

**EPO**. emergency power-off

**EPROM**. eraseable PROM

**ESCA**. ESCON adapter

**ESCC**. ESCON coupler

**ESCON***. Enterprise Systems Connection

**ESCP**. ESCON processor

**ESD**. electrostatic discharge

**EXP**. expansion enclosure

**EXP1**. first expansion enclosure

**EXP2**. second expansion enclosure

**FCS**. frame check sequence

**FRU**. field-replaceable unit

**HCS**. Hardware Central Service

**HDLC**. high-level data link control

**hex**. hexadecimal

**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.*

**HPPB**. high-performance parallel bus

**HSC**. hardware support center

**HSF**. hardware service facility

**Hz**. Hertz

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

**IEEE**. Institute of Electrical and Electronics Engineers

**IML**. initial microcode load

**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.

**IO**. input/output

**IOC**. input/output control

**IOCB**. input/output control bus

**IPL**. initial program load

**IRAM**. instruction random access memory

**ISO**. International Organization for Standardization

**kbps**. kilobits per second

**LA**. line adapter

**LAN**. local area network

**LCB**. line connection box

**LED**. light-emitting diode

**LIC**. line interface coupler

**LICx**. FRU name of line interface coupler type x (3745)

**LLC**. logical link control

**LS**. local storage

**LSA**. link service architecture

**LSCT**. LIM software configuration table

**LSM**. local storage manager

**LSSD**. level-sensitive scan design (total hardware latches chain collection)

**LU**. logical unit

**MAC**. medium access control

**MAE**. Multiaccess enclosure

**MAP**. maintenance analysis-procedure

**MAU**. multistation access unit

**MB**. megabyte; 1 048 576 bytes

**MCF**. microcode fix

**MCL**. microcode change level

**MES**. miscellaneous equipment specification

**MG**. motor generator

**MI**. maskable interrupt

**microcode**. A program, that is loaded in a processor (for example, the MOSS processor)

**MLA**. MOSS LAN adapter

**MMIO**. memory mapped input/output

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

**MOSS**. maintenance and operator subsystem (3745)

**MOSS-E**. maintenance and operator subsystem extended (37CS)

**NA**. network addressable

**NCP**. Network Control Program

**NDM**. netview distribution manager

**NetView**. An IBM licensed program used to monitor a network, manage it, and diagnose its problems.

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

**NMI**. non-maskable interrupt

**NMVT**. network management vector transport

**NNP**. network node processor

**NODA**. next origin device (processor) address

**NPM**. NetView performance monitor

**NTDA**. next target device (processor) address

**OEMI**. original equipment manufacturer's interface

**OLT**. online test

**online tests**. Testing of a remote data station concurrently with the execution of the user's programs (that is, with only minimal effect on the user's normal operation).

**OSI**. open system interconnect

**PA**. primary access

**PBC**. packet burst control

**PBG**. packet burst grant

**PCR**. 1.pico-processor command register 2.power check reset

**PICA**. process and intertask communication architecture

**PMH**. problem management hardware

**PN**. part number

**PNL**. control panel

**POR**. power-ON reset

**PP**. pico-processor

**PPB**. primary power box

**PPC**. PowerPC (system card of MAE)

**PRC**. processor

**PRDA**. packet request device (processor) address

**PROM**. programable read-only memory

**PS**. power supply

**PSI**. packet switch interface

**PSN**. public switched network

**PTCE**. product-trained CE

**PTF**. program temporary fix

**PTT**. Post, Telephone and Telegraph (agency)

**PU**. physical unit

**RETAIN**. Remote Technical Assistance Information Network

**RNR**. receiver not ready

**RPL**. remote program load

**RPO**. remote power-off

**RSC**. remote service center

**RSF**. remote support facility

**RVX**. stands for RS232, RS422, V.24-35, X.21-2x connections

**SAC**. switch adapter card

**SATS**. specific assurance tests

**SBA**. switch bus adapter

**SBI**. switch bus interface

**SC**. switch control

**SDLC**. synchronous data link control

**SIE**. switch interface extender

**SL**. service logic

**SNA**. Systems Network Architecture

**SNMP**. Simple network management protocol

**SPD1**. signal and power distribution type 1

**SPD2**. signal and power distribution type 2

**SPDL**. signal and power distribution card in LCB

**SPS**. service and power support

**SQL**. structured query language

**SRC**. system reference code

**SSA**. system service architecture

**SSCP**. system services control point

**STCn**. signal transfer card n

**SSS**. subsystem support service

**Systems Network Architecture (SNA)**. The description of the logical structure, formats, protocols, and operational sequences for transmitting information through a user application network. The structure of SNA allows the users to be independent of specific telecommunication facilities.

**TB**. terminator block

**TDM**. time division multiplexing

**TDR**. technical data record

**TERC**. terminator card

**TIC1**. token-ring interface coupler type 1 (3745) running at speed of 4 Mbits

**TIC2**. token-ring interface coupler type 2 (3745) running at speed of 4 or 16 Mbits

**TIC3**. token-ring interface coupler type 3 (37CS) running at speed of 4 or 16 Mbits

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

**TPS**. two-processor switch

**TR**. token-ring

**TRA**. token-ring adapter (TRP+TIC3)

**TRFM**. transformer

**TRP**. token-ring processor

**TRS**. transmitter/receiver subassembly

**UEPO**. unit emergency power-off

**URSF**. universal remote support facility

**UTP**. Unshielded twisted pair cable

**V**. volt

**V.24**. CCITT V.24 recommendation

**V.25**. CCITT V.25 recommendation

**V.28**. CCITT V.28 recommendation

**V.35**. CCITT V.35 recommendation

**VPD**. vital product data

**VTAM***. Virtual Telecommunications Access Method

**VTL**. vendor technology logic

**W**. watt

**X.21**. CCITT X.21 recommendation

**X.25**. CCITT X.25 recommendation

**YZxxx**. wiring diagram

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**3746 Expansion Unit Model 900**
**3746 Nways Multiprotocol Controller Model 950**
**Service Processor and**
**Network Node Processor**
**Service User's Guide**

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