



Field Feature Bill of Material

PN 86H0249

**Install Multiaccess Enclosure (FC 3000)
on IBM 3746 Model 9X0.**

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Checked by: C. Vallee
Approved by: A. Badino
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PN 08J5427 2 of 24	EC E46522B 07 MAY 97	EC F12391 05 DEC 97			
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Before Installation (Steps 1-8)

1.0 Machines Affected

3746 Models 9X0 with a Network Node Processor FC 5022 and without a Multiaccess Enclosure (FC 3000) installed.

This feature should only be applied on the machine serial for which it is specified.

2.0 Related BMs and ECs

2.1 Prerequisites

(Must be installed prior to this installation)

B/M	Title
29H4169	Network Node Processor-A - FC 5022

EC	Title
D46130	Microcode (Minimum Level)

Checkpoint: Check that the CSS 1 EC Level is D46130.000 or higher.

Note: Refer to *SPIM*, Chapter 3. *Displaying the EC Level of the Code*.

2.2 Concurrent ECs

(Must be installed together)

None.

2.3 Companion ECs

(May be installed together)

None.

3.0 BMs to be Installed

FFB/M	Title
89H0249	Install Multiaccess Enclosure (FC 3000).

4.0 Preparation

- Familiarize yourself with the purpose and details of the installation instruction and the Chapter 1 of the *Multiaccess Enclosure Installation and Maintenance* manual (MAEIM SY33-2118), before negotiating machine time with the customer.
- Check all items listed on the BM(s) to determine that all parts have been received.
- The installation of the Multiaccess Enclosure has no impact on customer operations.

5.0 Programming

None.

6.0 Purpose and Description

6.1 Purpose

To increase the connectivity of the 3746-9x0

6.2 Description

Install a Multiaccess Enclosure.

7.0 Installation Time

FFBM	Machine Hrs.	System Hrs.	Nbr of CE
86H0249	2.75	00.0	1

No impact on 3746-9x0 customer operations.

8.0 Tools/Material Required

ESD kit (PN 6428316).

Installation (Steps 9-11)

9.0 Safety

Review the **Safety Notices** and the **Safety Inspection Procedures** located at the beginning of the *Multiaccess Enclosure Installation and Maintenance Guide*, SY33-2118.

10.0 Details of Installation

Service Processor type?

Check the type of Service Processor installed?

- 7585-P02, go to 10.5, "Multiaccess Enclosure Installation" on page 23.
- 9577, Do not perform the installation of the MES until replacement of the 9577 by a new Service Processor. Contact your IBM representative.
- 9585 or 3172, Continue with next step.

1. On the **MOSS-E View** window, click on **Program**.
2. Double click on **shut-down**, then enter the maintenance password, and click on **OK**.
3. When the pop-up appears saying shut down has completed, power OFF the Service Processor.

Did you receive a new modem?

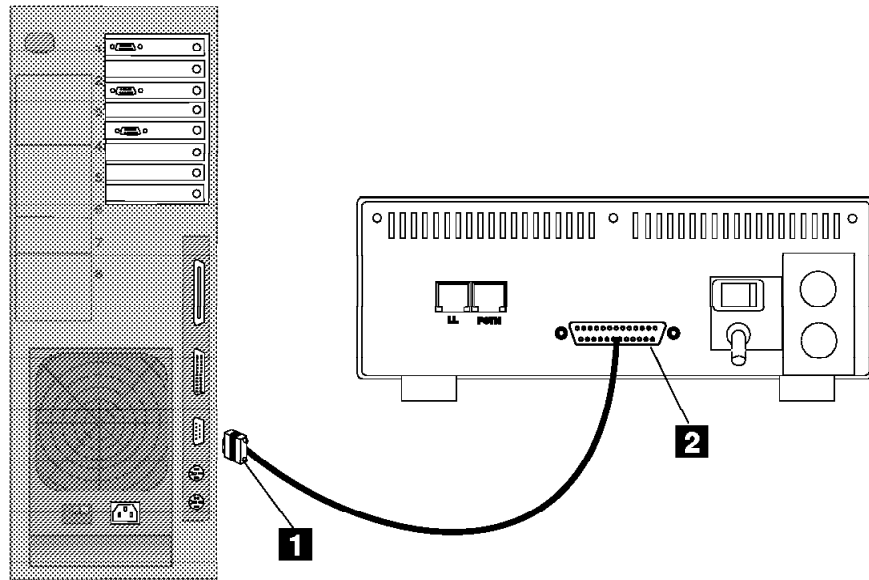
- **Yes.**
Is an Stand-alone modem already installed?
 - Yes, go to 10.3, "Replacing the Stand-alone Modem." on page 11.
 - No, go to 10.2, "Replacing the Integrated Modem with an MPA card." on page 6.
- **No**, continue with next step..

10.1 Connecting the Modem to the Serial Port.

1. Set the modem power switch to **OFF**

From the rear of the Service Processor:

2. Unplug the DCE/DTE cable from the adapter (slot 3), and



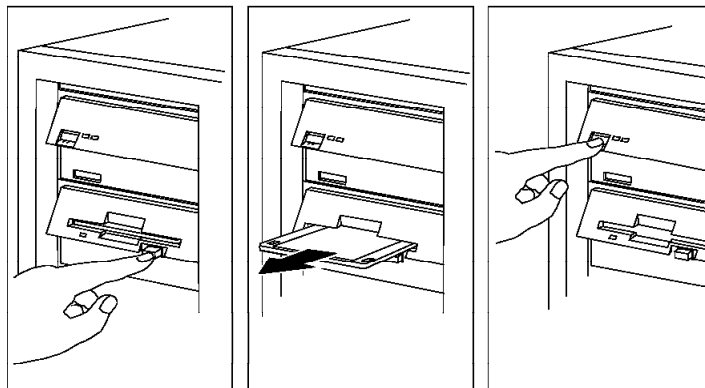
- ___ 3. Using the connector adapter (PN 782984), plug it on the serial port (COM1) of the Service Processor.

Go to 10.3.3, “Service Processor Customization.” on page 20 .

10.2 Replacing the Integrated Modem with an MPA card.

On the front side of the Service Processor:

- ___ 1. Remove any media (diskettes or tapes) from the drives.
- ___ 2. Shutdown the Service Processor. Then,
- ___ 3. Turn off the Service Processor and all attached options.

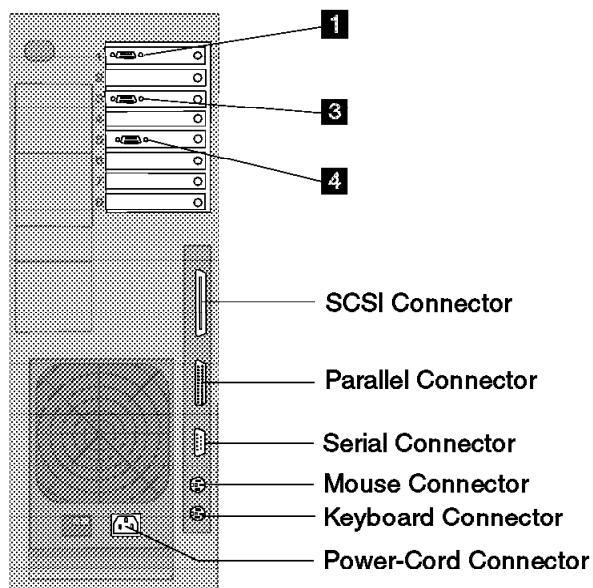


On the rear side of the Service Processor:

- ___ 4. Disconnect the Keyboard and mouse cables,



- ___ 5. the Power cord,
- ___ 6. the LAN cable **1**,
- ___ 7. the Display cable **4** and
- ___ 8. the Modem cable **3**.

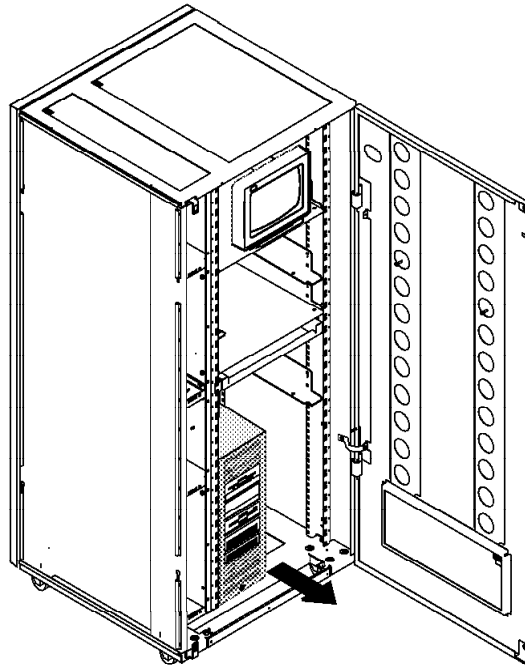


___ **Is the Service Processor installed in a Controller Expansion?** ___

- **NO**, go to 11 on page 8
- **YES**, continue with next step.

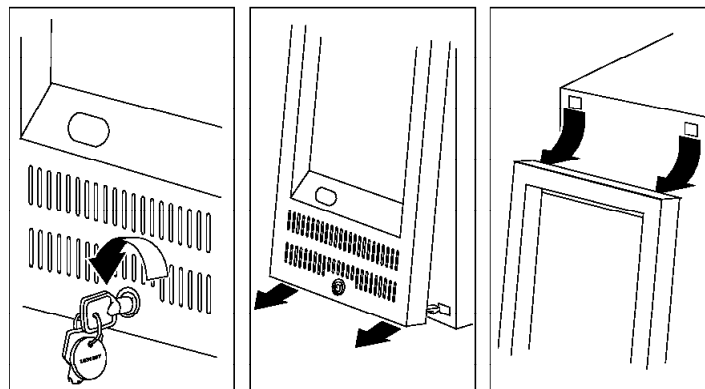
On the front side of the 3746-9x0:

- ___ 9. Slide the base unit from the rack.
- ___ 10. Take this unit and put it down on a table.



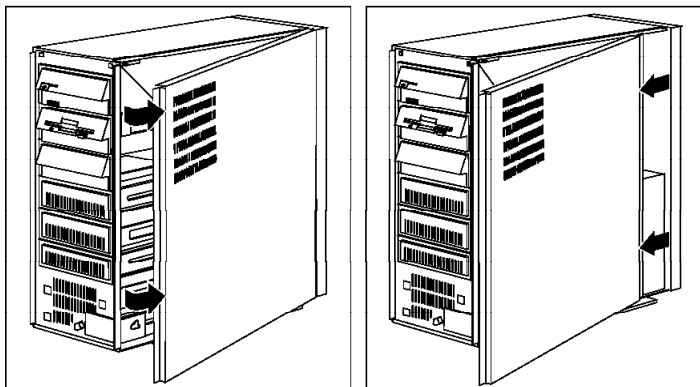
Remove the front cover of the Service Processor.

- ___ 11. Unlock the cover.
- ___ 12. Grasp the front cover at the bottom and firmly pull it away from the server.
- ___ 13. Unhook the top corners of the cover from the SP.



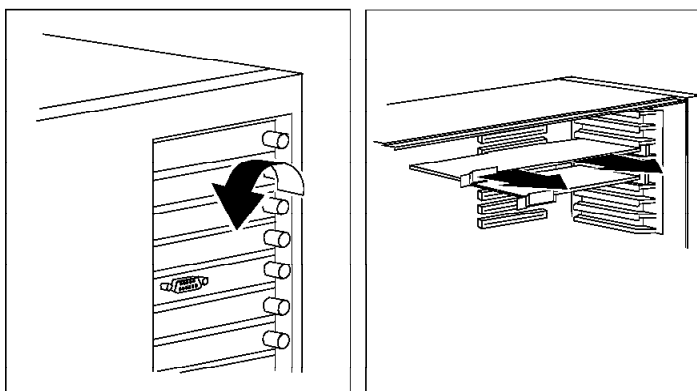
Remove the side cover:

- ___ 14. Pivot the side cover away from the front of the SP.
- ___ 15. Pull the cover forward.
- ___ 16. Place the cover in a safe place so that the fan is protected from possible damage.



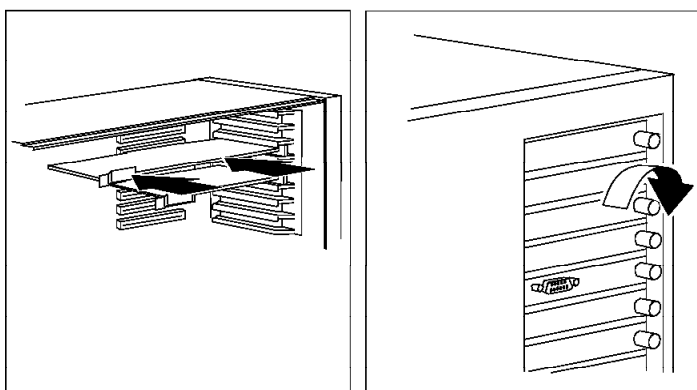
Remove the Integrated Modem:

- ___ 17. Locate in slot 3 the Integrated Modem Card you are removing.
- ___ 18. Loosen the thumbscrew on the back of the server.
- ___ 19. Put one hand on top of the server for support and with the other hand, carefully pull the integrated modem card out of the server.



Install the Multi Protocol Adapter (MPA):

- ___ 20. Carefully grasp the MPA card and align it with the expansion slot 3.
- ___ 21. Support the server with one hand, and press the card *firmly* into the expansion slot with the other hand.
- ___ 22. Tighten the expansion-slot screw on the back of the server.

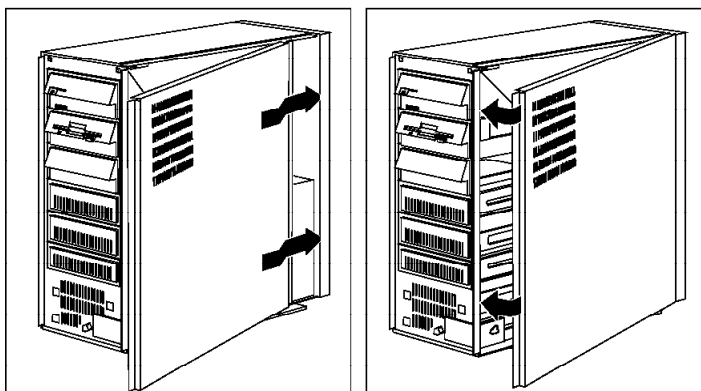




Note: Be careful not to damage the hardware around the fan on the side cover when installing the covers.

Replace the side cover:

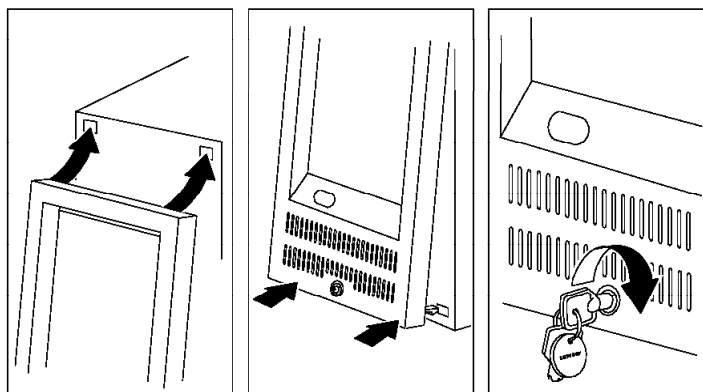
- ___ 23. Align the rear of the side cover with the groove on the rear of the frame.
- ___ 24. Align the groove at the top of the side cover with the top of the frame.
- ___ 25. Push the side cover to close it.



Replace the front cover:

- ___ 26. Slide the top posts into the holes at the top of the server.
- ___ 27. Firmly press the bottom of the front cover, one corner at a time until it snaps into place.
- ___ 28. Lock the front cover.

Note: If you ever move your system, be sure not to jar or pull on the front cover. Security features on the cover will respond as if someone is trying to break into your server, giving you an error message.



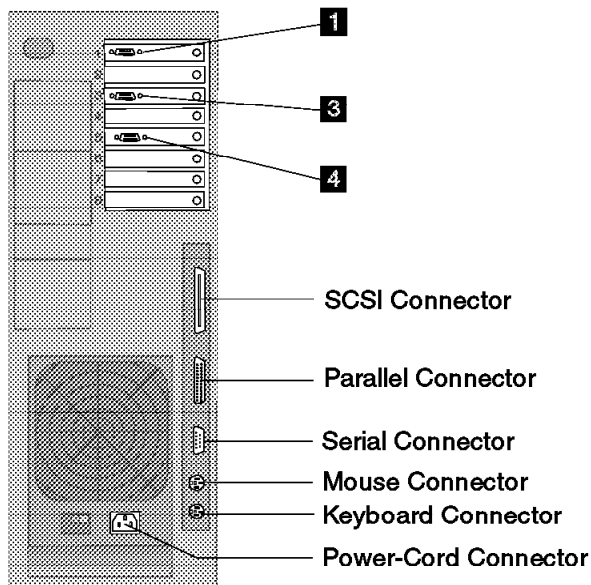
- ___ 29. Reinstall the Service Processor at its original place.

**Important**

Blocking the air vents can cause overheating, which will result in a malfunction or permanent damage. Therefore, be sure to maintain a clearance of at least 51 mm (2 in.) on all sides of the server to allow for air circulation.

On the rear side of the Processor:

- ___ 30. Reconnect the keyboard and the mouse cables,
- ___ 31. The display cable **4**,
- ___ 32. the Modem cable **3**,
- ___ 33. the LAN cable **1**, and
- ___ 34. The Power cord.



Go to 10.3.2, "Installing the New Modem" on page 12 .

10.3 Replacing the Stand-alone Modem.

10.3.1 Removing the 785X RSF Modem

- ___ 1. Set the modem power switch to **OFF**
- ___ 2. Disconnect the telephone line cord from the telecommunication line and the other end from the rear side of the modem and roll it.
- ___ 3. Disconnect the modem's power plug from the wall ac outlet and roll it.
- ___ 4. Unplug the DCE/DTE cable from the adapter (slot 3) of the Service Processor.



- ___ 5. Remove the 785X modem from the Controller Expansion.

10.3.2 Installing the New Modem

Modem Received type?

Which modem did you received with the MES?

- 7857, go to 10.3.2.1, "Installing and Connecting the 7857 Modem.."
- 7858, go to 10.3.2.2, "Installing and Connecting the 7858 to the Service Processor" on page 16.

10.3.2.1 Installing and Connecting the 7857 Modem.

Notes

1. If you are not familiar with the 7857, refer to the *IBM 7857 Guide to Operation*, GA13-1839.
2. Power and frequency requirements: 90 to 259 V ac, and 49.5 to 60.5 Hz (no adjustment).
3. The document *Power Supply and Telecommunication Connections for IBM Modems* GA33-0054, contains useful information about the different telecommunication connectors and power supply plugs.
4. Read the *IBM Telecommunication Products Safety Handbook* GA33-0126.

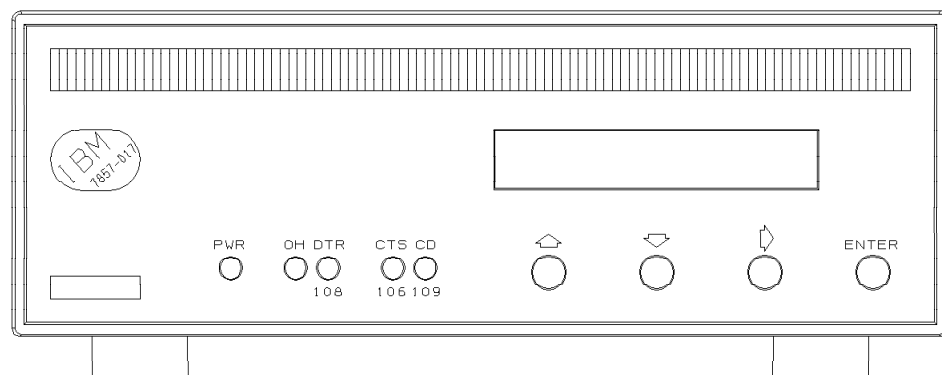


Figure 1. 7857 Front Panel

Besides the modem and this manual, the carton should contain:

- Telecommunication cables as needed for your country (see Table 1 on page 13).
- DTE interface / 4-wire leased line wrap plugs.
- Telecommunication Products Safety Handbook.

If any of these items is missing or damaged, contact the place of purchase for instructions on how to exchange your modem or obtain the missing items. The user is recommended to use the telecommunication cables supplied with the modem (see Table 1).

Table 1. Tel. cables	
PN	Country
89G2544	Austria
89G2545	Belgium
89G2546	Denmark
89G2547	Finland
89G2548	France
89G2549	Germany
89G2551	Italy
89G2552	Netherlands
89G2553	Norway
89G2554	Pakistan

Table 1. Tel. cables	
PN	Country
89G2554	Albania, Argentina, Bolivia, Brazil, Bulgaria, China, Colombia, Costarica, Croatia, China, Czechland, Egypt, El Salvador, Equador, Greece, Guatemala, Honduras, Hungary, Ireland, Korea, Kuwait, Macedonia, Mexico, Panama, Paraguay, Peru, Poland, Portugal, Rumania, Russia, Saudi Arabia, Slovakia, Slovenia, Spain, Taiwan, Thailand, Turkey, Ukraine, Uruguay, Venezuela

Table 1. Tel. cables	
PN	Country
89G2555	Sweden
89G2556	Switzerland
89G2562	Canada, Japan, US.
89G2564	Australia
89G2565	Hong Kong
89G2577	Cyprus, UK, New Zealand
89G3131	Israel
89G3134	Luxemburg
89G3135	South Africa
89G3145	Iceland

Installation procedure: Figure 2 shows the modem rear panel with the connectors where the DTE and line cables must be connected:

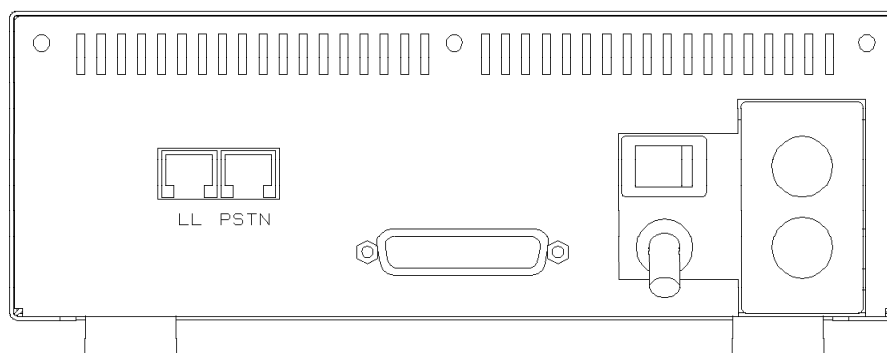


Figure 2. 7857 Rear Panel

- ___ 1. Be sure that the power switch located on the modem rear panel is **off**.
 - ___ 2. Install the modem close to the Service Processor
 - ___ 3. Plug the switched line telecommunication cable, into the **PSTN** socket located on the modem rear panel, with the ferrite cylinder at the modem side.
- Note:** If this modem is **not** being installed in the United Kingdom, connect the other end of the cable to the telecommunication line.
- ___ 4. Connect the modem power plug to a standard 3 pin *grounded* ac outlet.



Note: If this modem is being installed in the United Kingdom, connect the telecommunication cables you have attached to the modem, to the telecommunication lines.

- 5. You are now requested to observe the modem power on sequence. This is the normal power on sequence:

- PWR light is turned on.
- HW SELFTEST RUNNING message is displayed for about 15 seconds.
- DSP SELFTEST RUNNING message is displayed for about 15 seconds.

Set the modem power switch to **ON**.

If the PWR light is not **ON**, or the message HW SELFTEST RUNNING is not appearing on the operator panel within 10 seconds, the modem is defective and should be replaced. This message remains on the display for about 15 seconds, then it is changed by the power on sequence.

If the modem is set to the factory defaults, after about 30 seconds, the operator panel shows:

IBM 7857 AT CMD aa
td_ rd_ dsr ec_ ll_

This operational message shows that the modem is set in AT command mode for switched line operation and will auto-answer an incoming call.

Set the modem power switch to **OFF**.

Which type of service processor is installed ?

- **3172**, go to “Connecting to the Service Processor Type 3172”
- **9585**, go to “Connecting to the Service Processor Type 9585.” on page 15

Connecting to the Service Processor Type 3172

- 1. Remove the plate **1**
- 2. **Plug** the cable (PN 57G7528) on the Serial Port (COM 1) **2** Service Processor.
- 3. On the modem’s rear panel, **plug** the other cable lead into the 25-pin connector **3**.

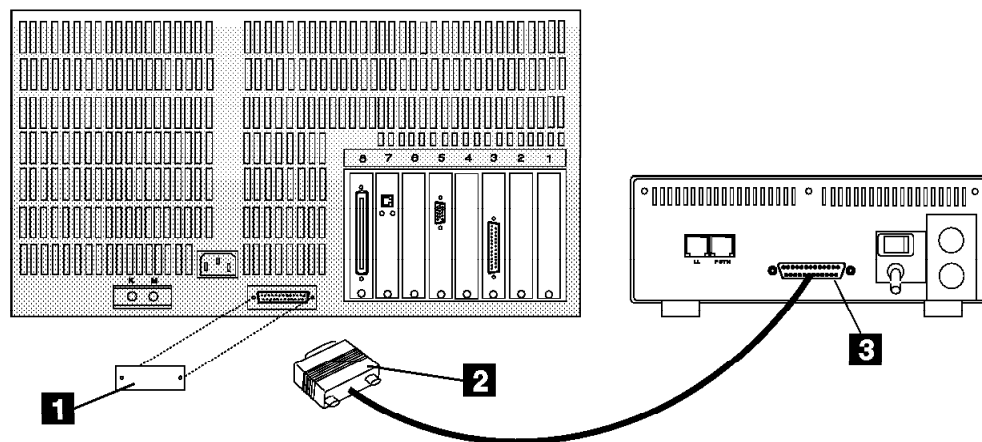


Figure 3. Connecting the Service Processor (3172) to the 7857

- 4. Set the modem power switch to **ON**. Wait until the modem operational message is displayed on the operator panel (about 30 seconds).

Go to 10.3.3, “Service Processor Customization.” on page 20 .

Connecting to the Service Processor Type 9585.

- 1. **Plug** the cable (PN 782984) on the Serial Port (COM 1) **1** Service Processor.

Note: Cable (PN 57G7528) can be used to extend the cable (PN 782984).

- 2. On the modem’s rear panel, **plug** the other cable lead into the 25-pin connector **2**.

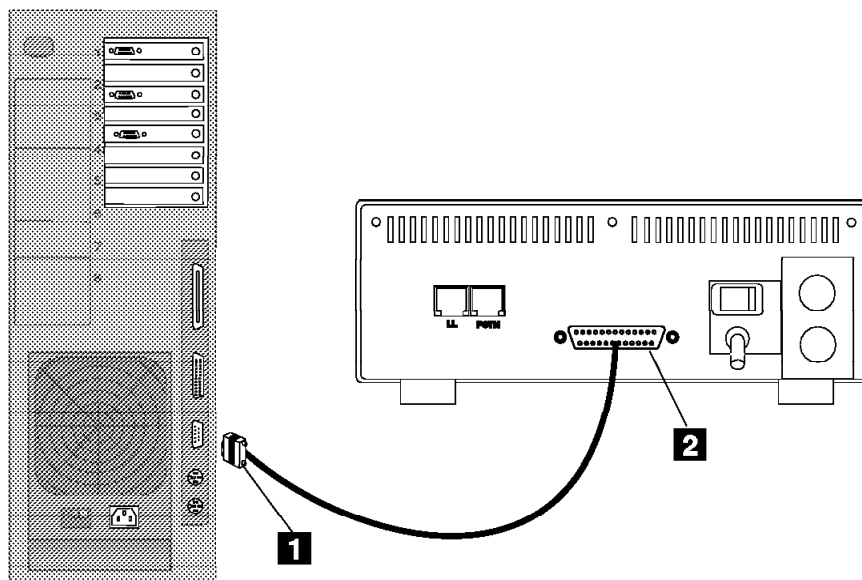


Figure 4. Connecting the Service Processor (9585) to the 7857



- ___ 3. Set the modem power switch to **ON**. Wait until the modem operational message is displayed on the operator panel (about 30 seconds).

Go to 10.3.3, "Service Processor Customization." on page 20 .

10.3.2.2 Installing and Connecting the 7858 to the Service Processor

Notes

- If you are not familiar with the 7858, refer to the *IBM 7858 Professional Modem Guide to Operation*, GA13-1981.
- Power requirements:
 - Low voltage range: 90 to 137 V ac.
 - High voltage range: 180 to 265 V ac.
- The document *Power Supply and Telecommunication Connections for IBM Modems* GA33-0054, contains useful information about the different telecommunication connectors and power supply plugs.
- Read the *IBM Telecommunication Products Safety Handbook*, SD21-0030.

- ___ 1. Unpack the IBM 7858 Modem. Besides the modem and this manual, the carton should contain:
- The Power Attachment Cord.
 - Two Telecommunication cables:
 - Black cable for the switched line, with label SW, which fits into the PSTN socket in the modem rear panel.
 - Gray cable for the leased line, with label LL, which fits into the LL socket in the modem rear panel.
 - The IBM Telecommunication Products Safety Handbook.

If any of these items is missing or damaged, contact the place of purchase for instructions on how to exchange your modem or obtain the missing items.

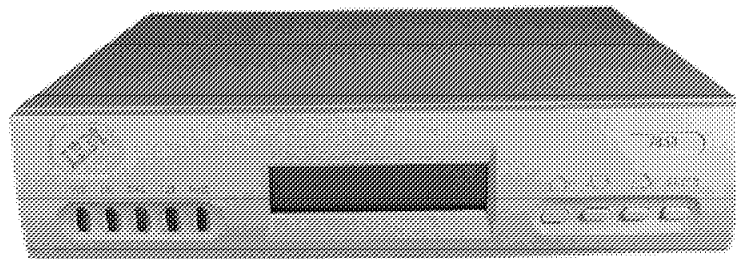


Figure 5. 7858 Front Side

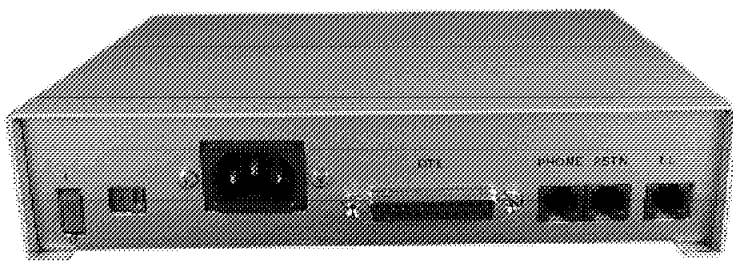


Figure 6. 7858 Rear Panel

- 2. **Verify** that the modem input AC Voltage is set for high voltage range: 180 - 265 VAC (Switch set to 230).
If needed, the selector switch can easily be moved to the correct position, using a screwdriver or a pen.
- 3. **Ensure** that the **power switch** located on the modem rear panel is **off** (switch in position "O")
- 4. Slide the 7858 in the controller expansion as shown in Figure 7.

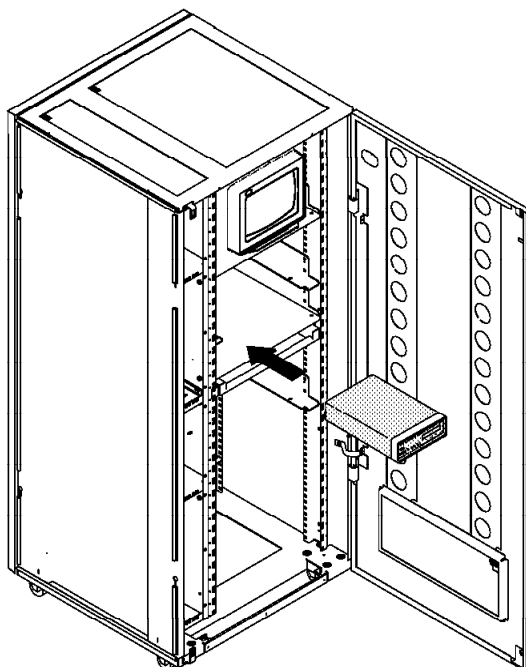


Figure 7. Installing the 7858 in the Controller Expansion

- 5. Plug the telecommunication (black) cable into the **PSTN** socket located on the modem rear panel and
- 6. If **not** being installed in the United Kingdom, connect the other end of the cable to the telecommunication line.
- 7. Connect the power cord (PN 58G5783) to the AC power socket located on the modem rear panel and



- ___ 8. Route and connect the other end to the ac Outlet Distribution Box.
- ___ 9. Then, if being installed in the United Kingdom, connect the telecommu-
nication cables you have attached to the modem, to the telecommuni-
cation lines.

Setting the 7858 Connected to the COM1 Connector (ASYN)

- ___ 1. Press and hold the ↑ key while power ON the modem.
- ___ 2. The modem is set to Factory 0 in AT command mode.
- ___ 3. Press the ↓ key until the "CONFIGURATIONS" message
displayed the top row.
- ___ 4. Press the → key until the "Store User Conf."
message displayed the bottom row.
- ___ 5. Press the ENTER key select the option.
- ___ 6. Pressing the ↑ key, select the User Configuration Location where the
current modem configuration must be saved (0 to 9).
- ___ 7. Press the ENTER key save the current modem configuration.
The defined configuration now active and saved.

Connecting the 7858

- ___ 1. **Plug** the cable (PN 782985) into slot 3 **1** of the Service Processor, and
- ___ 2. On the modem's rear panel, **plug** the other cable lead into the 25-pin
connector **2**.

Which type of service processor is installed ?

- **7585**, refer to Figure 8
- **3172**, refer to Figure 9 on page 19
- **9585**, refer to Figure 10 on page 19

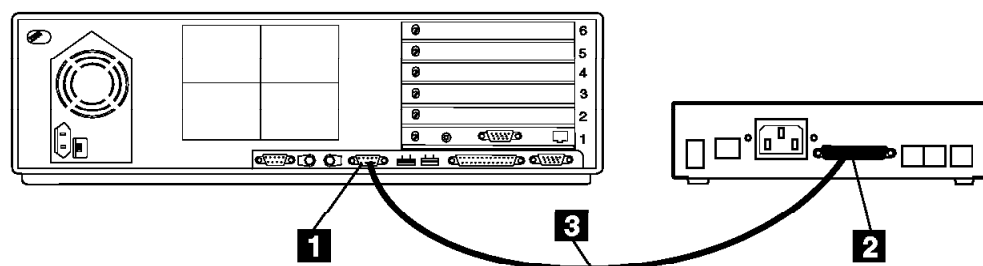


Figure 8. Connecting the Service Processor (7585) from COM1 to the 7858

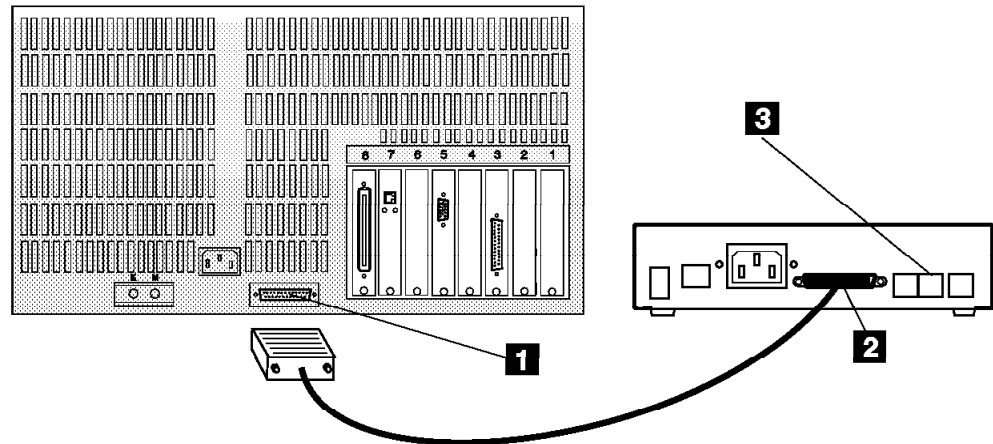


Figure 9. Connecting the Service Processor (3172) from COM1 to the 7858

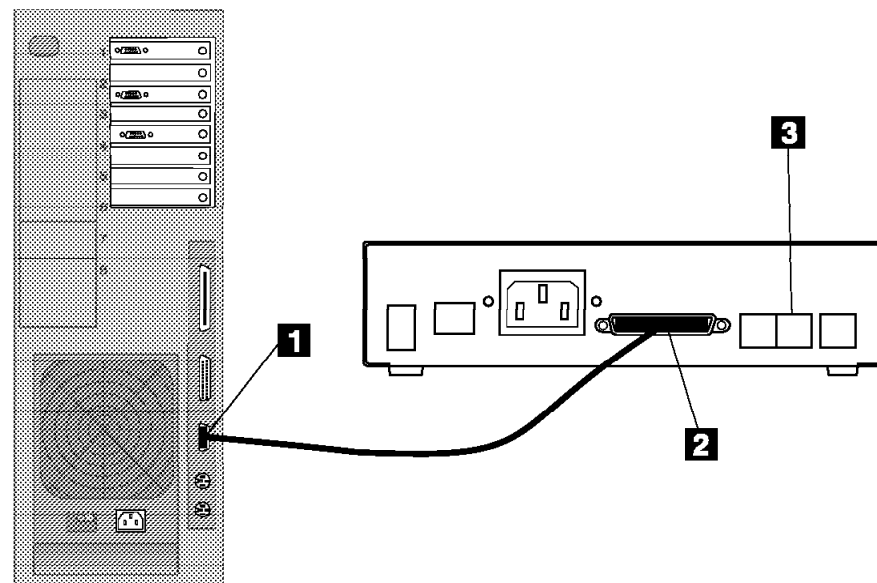
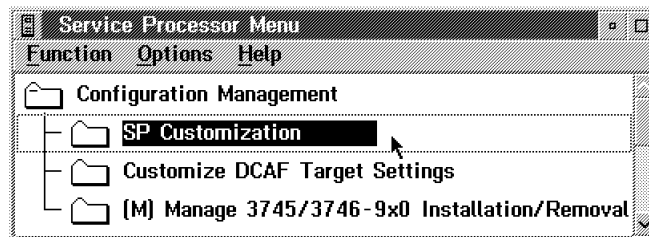


Figure 10. Connecting the Service Processor (9585) from COM1 to the 7858

Go to 10.3.3, "Service Processor Customization." on page 20 .

10.3.3 Service Processor Customization.

- ___ 1. On the **MOSS-E View** screen, double click on the **Service Processor** object icon.
- ___ 2. Click on "**Configuration Management**".
- ___ 3. Click on "**Service Processor (SP) Customization**".

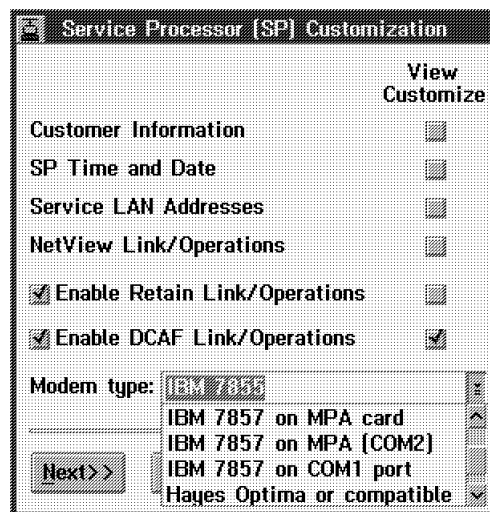


On the **Service Processor (SP) Customization** screen:

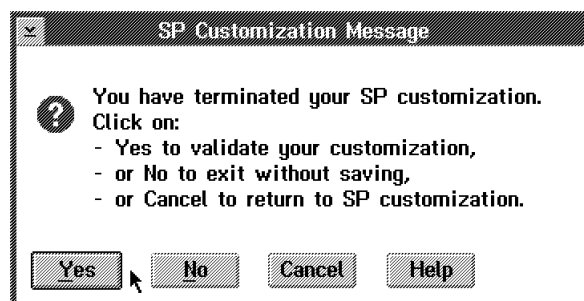
- ___ 4. Click on **Modem type** drop down list, select (click on) the modem type corresponding to the modem installed.

Note: The modem type list depends on the type of Service Processor.

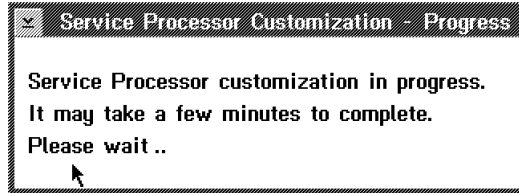
- ___ 5. Then, click on **Close** button.



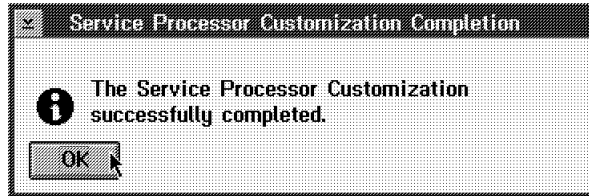
- ___ 6. On **SP Customization Message** screen:
 - Click on **Yes** button.



- ___ 7. The Service Processor customization start, follow the progress on the following screen.



- ___ 8. Wait until completion. Then, click on **OK** button.

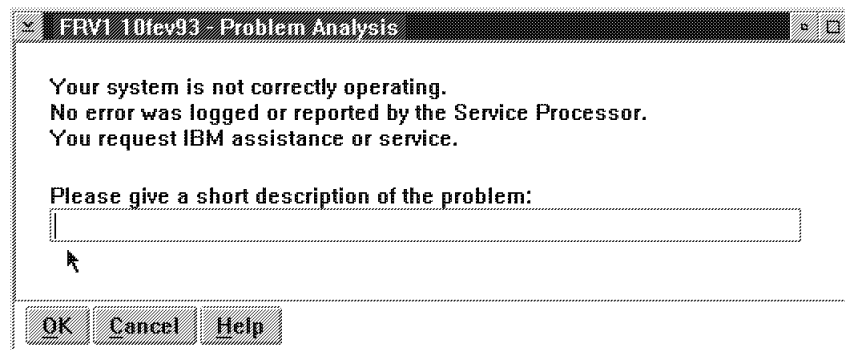


Shutdown and reinitialize your Service Processor:

- ___ 9. On the 'MOSS-E view' click on "**Program**", then click on "**Shut Down**".
- ___ 10. Enter the maintenance password, then click on "**OK**".
- ___ 11. Press "**Ctrl + Alt + Del**" to reinitialize your service processor.

10.3.4 Testing RSF Link.

- ___ 1. Double click on the "**3746-900 object icon**".
- ___ 2. Click on "**Problem management**".
- ___ 3. Double click on "**Report Problem using Remote Support Facility**".
- ___ 4. Enter a **short description** "Installing the 3746-900 and testing the RSF link", then click on "**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, or
 - 3746-900 Service Guide, SY33-2116.



10.4 Updating System Programs

- ___ 1. Remove all media from the drives; then, turn **ON** all external devices and the Service Processor.
- ___ 2. When the F1-prompt appears on the screen, press the **F1** key.
- ___ 3. From the **Main Menu** window select the **Set Configuration** option, then
- ___ 4. the select **Change Configuration** option.

Main Menu

Select one:

- 1. Start operating system
- 2. Backup/Restore system programs
- 3. Update system programs
- 4. **Set configuration**
- 5. Set features
- 6. Copy an option diskette
- 7. Test the computer
- 8. More utilities

Enter F1=Help F3=Exit

- ___ 5. On the **Change configuration**, press **F8** until slot 3 appears on the screen.
- ___ 6. Using the down arrow key, select **Communication Port**. Then, press **F6** until **SERIAL 2** is shown.

Change Configuration

Slot 3 - IBM Multi-Protocol Communication Adapter (Note 1)

Communication Port..... **SERIAL 2**

F1=Help F3=Exit F5=Previous F6=Next F7=Bkwd F8=Fwd
F10=Save

- ___ 7. Press **F10** to save the configuration.
- ___ 8. Press **F3** to return to the Configuration Menu.
- ___ 9. Press **F3** to return to the Main Menu.

10.4.1.1 Backing up the configuration information:

- ___ 1. From the Main Menu, select **Set configuration**.
- ___ 2. From the Set Configuration menu, select **Backup configuration**.
- ___ 3. When the backup is complete (after approximately three seconds), press **Enter**. Then, press **F3** to return to the Main Menu.

The updated configuration information was copied from memory to your System Partition.



Main Menu

Select one:

1. Start operating system

2. Backup/Restore system programs

3. Update system programs

4. Set configuration

5. Set features

6. Copy an option diskette

7. Test the computer

8. More utilities

Enter F1=Help F3=Exit

Go to 10.5, “Multiaccess Enclosure Installation”

10.5 Multiaccess Enclosure Installation

Install the Multiaccess Enclosure as instructed in the Chapter 1 of the *Multiaccess Enclosure Installation and Maintenance Guide*, SY33-2118.

Instructions to install the Second AC Power Supply and Adapters features are provided in the Chapter 5 of the *Multiaccess Enclosure Installation and Maintenance Guide*, SY33-2118.

11.0 Test Procedures

No test required.

12.0 Field Updating

None.



After Installation (steps 13-15)

13.0 Publications Update

None.

14.0 Parts Disposition

14.1 Purchased Machines

Refer to the parts ownership matrix to determine the correct owner of removed/unused parts.

- For EMEA/APG/AG Areas, refer to *Hardware and General Service Code Description*.
- For Domestic Areas, return parts to the customer.

15.0 Machine Records

- Install the new **MACHINE HISTORY** supplied.
- Report installation and quality to existing procedures.

End of instructions.