6611 Network Processor

GX27-3909-02

Operations Pocket Guide

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Operations Pocket Guide

Third Edition (May 1993)

Note

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

This edition applies to the IBM 6611 Network Processor Models 120, 140, and 170.

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Notice to Users in the United Kingdom

The IBM 6611 Network Processor is manufactured to the International Safety Standard IEC950 and as such is approved in the United Kingdom under the General Approval number NS/G/1234/J/100003.

The network adapter interfaces, housed within the 6611, are approved separately. Each one has its own independent approval number.

These interface adapters, supplied by IBM, do not contain excessive voltages. An excessive voltage is one which exceeds 70.7v peak a.c or 120v d.c. They interface with the IBM 6611 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

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Radio Protection for Germany

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Proper cables are available from IBM authorized dealers.

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This product has been designed and built to comply with (IEC) Standard 950.

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Three types of safety notices are printed throughout this guide:

DANGER Warns you of conditions or procedures that can result in death or severe personal injury.

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Warning Warns you of conditions or procedures that can cause damage to machines, equipment, or programs.

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Some countries require the safety information contained in publications to be presented in their national languages. The *IBM 6611 Network Processor Translated Safety Information*, GA27-3954, contains translations of the caution and danger notices and other safety information that appear in these English-language publications:

- *IBM 6611 Network Processor Installation and Service Guide*, GA27-3941
- *IBM 6611 Network Processor Operations Pocket Guide*, GX27-3909.

Refer to the booklet any time you do not understand the safety information in those English-language publications.

Traduction des consignes de sécurité

Certains pays exigent que les consignes de sécurité incluses dans les publications soient traduites dans leur langue. Dans le manuel *Traductions de consignes de sécurité pour le processeur de réseau IBM 6611*, référence GA27-3954, vous trouverez les consignes Danger, Attention et autres, contenues dans les publications en anglais ci-après :

- *6611 Network Processor Installation and Service Guide*, GA27-3941
- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

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Traduction des Consignes de sécurité

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- *6611 Network Processor Installation and Service Guide*, GA27-3941
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Vertaalde veiligheidsvoorschriften

In sommige landen bestaat de verplichting de veiligheidsvoorschriften in handleidingen in de eigen nationale taal op te stellen. De *6611 Network Processor Translated Safety Information*, bestelnummer GA27-3954, bevat vertalingen van de

Let op- en Gevaarberichten die in de volgende Engelstalige publicaties voorkomen:

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- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

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Traduzione delle informazioni di sicurezza

In alcuni paesi le informazioni di sicurezza, contenute nelle pubblicazioni in lingua inglese, devono essere tradotte in lingua nazionale. La pubblicazione *6611 Network Processor Translated Safety Information*, GA27-3954, offre la traduzione di avvisi di pericolo e di attenzione ed altre informazioni relative alla sicurezza, contemplate nelle seguenti pubblicazioni in lingua inglese:

- *6611 Network Processor Installation and Service Guide*, GA27-3941
- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

Consultare questo opuscolo qualora le informazioni di sicurezza, contenute nelle suddette pubblicazioni, non vengano comprese.

Übersetzte Sicherheitshinweise

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- *6611 Network Processor Installation and Service Guide*, IBM Form GA27-3941

- *6611 Network Processor Operations Pocket Guide*, IBM Form GX27-3909.

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- *6611 Network Processor Installation and Service Guide*, GA27-3941
- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

Deverá consultar esta publicação sempre que não entender claramente qualquer informação sobre segurança constante das publicações inglesas.

Informações de Segurança Traduzidas

Em alguns países é obrigatório que as informações de segurança contidas nas publicações estejam em seus idiomas nacionais. A cartela *Informações de Segurança do 6611 Network Processor*, código GA17-0275-00, contém traduções dos avisos de cuidado e de perigo e outras informações que aparecem nas seguintes publicações em inglês:

- *6611 Network Processor Installation and Service Guide*, GA27-3941
- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

Utilize a cartela acima quando não entender as informações de segurança existentes nessas publicações em inglês.

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- *6611 Network Processor Installation and Service Guide*, GA27-3941
- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

Consulte el manual siempre que no comprenda la información de seguridad de estas publicaciones en idioma inglés.

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- *6611 Network Processor Installation and Service Guide*, GA27-3941
- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

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- *6611 Network Processor Installation and Service Guide*, GA27-3941
- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

Ennen kuin käsittelet IBM 6611 -verkkosuoritinta, lue toimeen liittyvät turvaohjeet. Jos et ymmärrä englanninkielistä turvaohjetta, lue vastaava suomenkielinen ohje.

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- *6611 Network Processor Installation and Service Guide*, GA27-3941

- *6611 Network Processor Operations Pocket Guide*, GX27-3909.

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- *IBM 6611 Network Processor Installation and Service Guide*, GA27-3941
- *IBM 6611 Network Processor Operations Pocket Guide*, GX27-3909

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About This Book

This book is organized in the following parts:

"Part I: IBM 6611 Network Processor Model 120"

Chapter 1 provides a description of all internal and external parts of the Model 120.

Chapter 2 provides information about operating the Model 120.

Chapter 3 provides information about relocating the Model 120.

"Part II: IBM 6611 Network Processor Model 140"

Chapter 4 provides a description of all internal and external parts of the Model 140.

Chapter 5 provides information about operating the Model 140.

Chapter 6 provides information about relocating the Model 140.

"Part III: IBM 6611 Network Processor Model 170"

Chapter 7 provides a description of all internal and external parts of the Model 170.

Chapter 8 provides information about operating the Model 170.

Chapter 9 provides information about relocating the Model 170.

"Part IV: Common Information for Models 120, 140, and 170"

Chapter 10 describes the attachment of an ASCII terminal to an IBM 6611.

Chapter 11 explains how to use a modem for remote IBM service.

Chapter 12 explains how to run the diagnostic programs.

Chapter 13 explains how to read the cable label.

Appendix A explains the operating and system initialization codes, and the 3-digit codes.

Appendix B explains how to order additional keys for the IBM 6611.

List of Abbreviations: Provides the definitions for abbreviated terms used in this book.

Who Should Use This Book

This book is intended for the customer. It provides basic information about how to operate the IBM 6611 Network Processor Models 120, 140, and 170.

Use the adhesive strip on the plastic pocket to attach it to the IBM 6611. Then, place this book inside the plastic pocket. This book should be kept with the IBM 6611 at all times.

Part I: IBM 6611 Network Processor Model 120

6611 Operations Pocket Guide

Chapter 1. Description of the IBM 6611 Model 120

The IBM 6611 Network Processor Model 120 (*Model 120*) is designed to be placed on a tabletop or on a shelf in a standard Electronics Industries Association (EIA) 310-C rack.

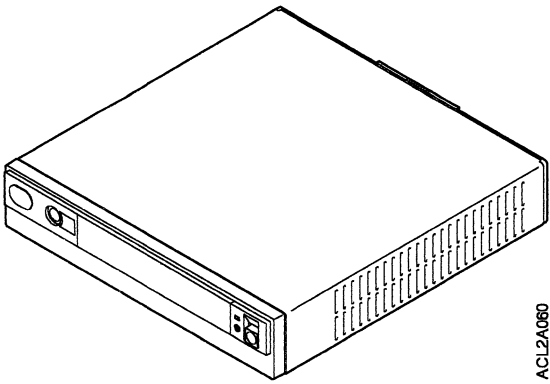


Figure 1-1. Model 120

The Model 120 processes data from the disk drive, diskettes, and communication connections. It contains a 32-bit processor, network adapters, 16 MB of RAM, and media storage devices. The hardware is controlled by the IBM Multiprotocol Network Program, program number 5648-016.

The Model 120 has 2 communication adapters and a disk drive. Internal hardware controls a 3.5-inch diskette drive, 2 serial ports, and the disk drive.

The Model 120 does not have a keyboard or display screen. You can attach an ASCII terminal to the Model 120 to use the Multiprotocol Network Program System Manager functions, or you can use a workstation attached to an Internet Protocol (IP) network. The front operator panel of the Model 120 contains a 3-digit display, a Key Lock/Reset Button Assembly, and a 3.5-inch diskette drive.

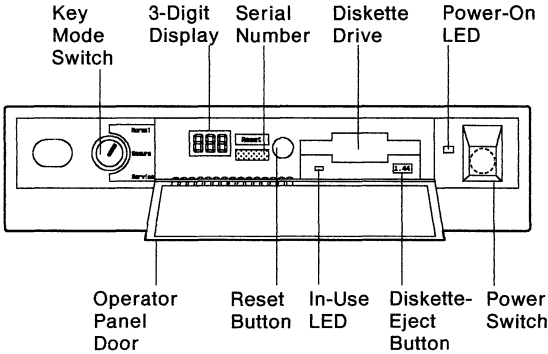
The Multiprotocol Network Program is initially configured by first running the Multiprotocol Network Program Configuration Program on an IBM* Personal System/2* (PS/2*) or RISC System/6000* workstation and then transporting the configuration file to the Model 120 on a 3.5-inch diskette.

Subsequent configuration updates can be applied from a terminal or a RISC System/6000 workstation attached to the IP network.

Remote monitoring and control can be performed by communications with a Simple Network Management Protocol (SNMP) network manager station, such as the IBM NetView*/6000.

Parts of the Model 120

Front View



Rear View

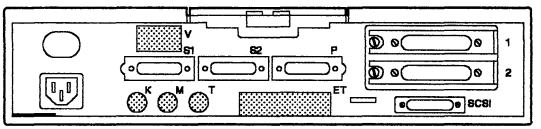


Figure 1-2. Parts of the Model 120

The following list describes the parts of the Model 120, shown in Figure 1-2.

Covers can be removed to allow access to the inside of the Model 120.

Note: Only trained service technicians should work inside the Model 120.

Serial number is located on the front to the right of the 3-digit display.

Key mode switch is a key-controlled switch with three positions, labeled:

Normal
Secure
Service.

Note: The key mode switch also locks the cover of the Model 120.

Power switch has the international symbols **I** for On and **O** for Off. When the power switch is set to On, the power-on light-emitting diode (LED) comes on.

Operator panel door covers the 3-digit display, the in-use LED, and the diskette drive. It may be left open or closed.

Reset button is located next to the 3-digit display and is labeled **Reset**.

Diskette drive is a 1.44-MB, 3.5-inch diskette drive that has an in-use LED and a diskette-eject button.

3-digit display displays up to three 7-segment characters.

External Device Connectors

The connectors and ports located at the rear of the Model 120 are used to attach external devices.

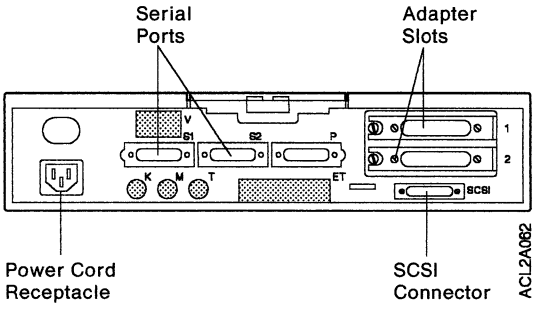


Figure 1-3. Rear View of the Model 120

Chapter 2. Using the Model 120

This chapter describes the tasks associated with using the Model 120.

For information about connecting an ASCII terminal to the Model 120, see Chapter 10, "ASCII Terminal Installation and Service Tasks."

Setting the Key Mode Switch

The key mode switch has three positions:

Normal
Secure
Service.

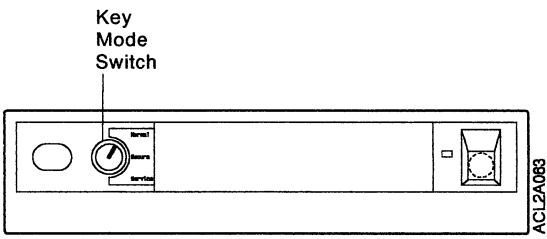


Figure 2-1. Key Mode Switch Positions

Table 2-1. Summary of the Possible Operations for Each Key Mode Switch Position

Operation	*Normal*	*Secure*	*Service*
Reset	Yes	No	Yes
Normal IPL	Yes	No	No
Service IPL	No	No	Yes
Covers Locked	Yes	Yes	No

Warning: The **Secure** position should not be used unless you are disconnecting the Model 120 from the network. The **Secure** position is used to prevent user intervention locally from the operator panel or remotely from the SNMP network manager.

The following section explains how to use the three positions on the key mode switch:

Warning: The Reset button is enabled when the key mode switch is in the **Normal** or **Service** position. If you press **Reset** and the Model 120 is still running, data can be damaged or lost.

- The *Normal* position is used for unattended operation. When the Model 120 IPLs, it proceeds according to the list of adapters established during the configuration of the Model 120.
- The *Service* position is used for attended operation when hardware or software service is performed. The *Service* position allows you to perform debug and dump procedures. In the *Service* position, the Model 120 attempts to IPL from the diskette drive, if it contains a diskette, or from the disk.
- The *Secure* position is used to prevent user intervention locally from the operator panel and remotely from the SNMP network manager. The *Secure* position should *not* be used unless the Model 120 is being disconnected from the network.

Before starting the Model 120 for operation, set the key mode switch to *Normal*. This permits the Model 120 software to load after the power-on self-test (POST) has completed.

If the Model 120 is not operating correctly, contact your IBM service representative. In the United States, call 1-800-IBM-SERV. In other countries, contact your IBM marketing representative for the service phone number.

Starting Model 120 Operation

To start the Model 120, perform the following procedure:

1. Set the key mode switch to *Normal*.
2. Start the Model 120 by setting the power switch to On. The power-on LED will come on and the POST begins. During the POST, numbers are displayed on the 3-digit display.
3. If the power-on LED does not come on, check the power cord, which is located at the rear of the Model 120, to ensure that it is plugged into a grounded electrical wall outlet. If the power cord is plugged in, contact your IBM service representative. In the United States, call 1-800-IBM-SERV. In other countries, contact your IBM marketing representative for the service phone number.

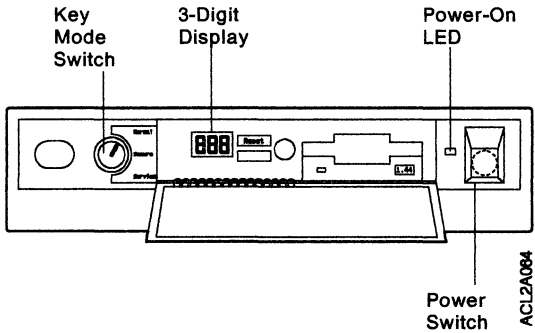


Figure 2-2. Front View of the Model 120

Stopping Model 120 Operation

To stop the Model 120, perform the following procedure:

Warning: Do not shut down the IBM 6611 without the knowledge and permission of the System Manager.

1. Stop the Model 120 software to prevent the loss of data. For information about how to stop the Model 120 software, refer to the *Multiprotocol Network Program User's Guide*.
2. Set the Model 120 power switch to Off.

Reading the 3-Digit Display

See "Reading the 3-Digit Display" on page A-1 for instructions about reading the error codes.

Using the Reset Button

Warning: When the key mode switch is in the **Normal** or **Service** position, pressing **Reset** causes the Model 120 to reset and start the system. If you press **Reset** and the Model 120 is still running, data can be damaged or lost.

The **Reset** button has two purposes:

- To cause an IPL of the Model 120 when the key mode switch is in the *Normal* or *Service* position.
- To display codes or diagnostic messages after a flashing **888** is displayed on the 3-digit display.

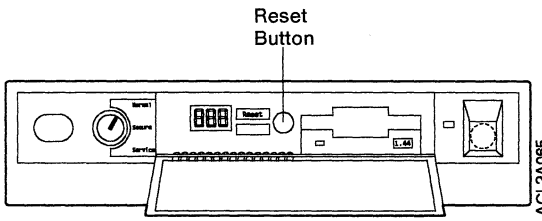


Figure 2-3. Location of the Reset Button

Loading a 3.5-Inch Diskette

To load a diskette into the drive, insert the diskette in the diskette drive with the labeled metal shutter first. Push the diskette into the drive until you hear a click. The click indicates that the diskette is securely positioned in the drive. The in-use LED is lit when the drive is being accessed.

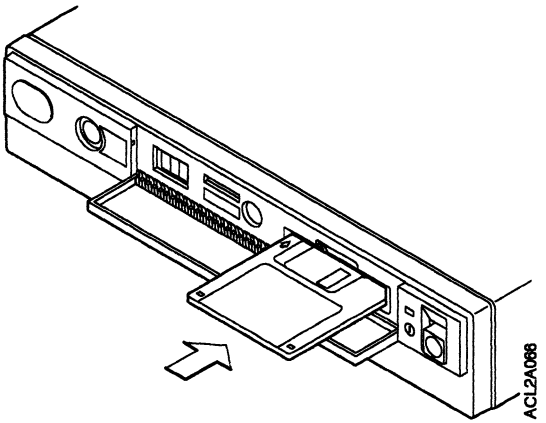


Figure 2-4. Loading a Diskette

Unloading a 3.5-Inch Diskette

Warning: Do not stop the Model 120 or remove a diskette when the in-use LED is lit, or you may lose some of the data or damage the diskette.

"1.44" is printed on the diskette-eject button. To unload the diskette, push the diskette-eject button. The diskette ejects partially from the drive. Pull the diskette out.

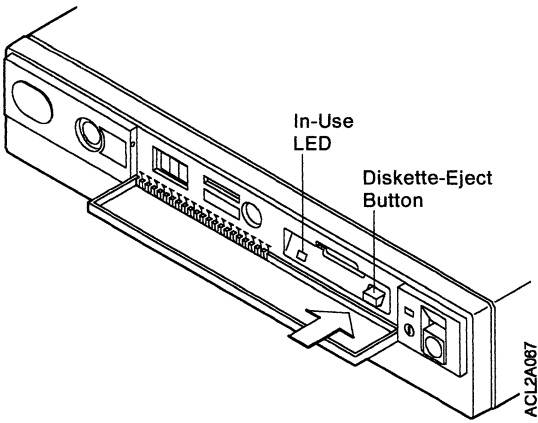


Figure 2-5. Unloading a Diskette

Chapter 3. Relocating the Model 120

DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the IBM 6611 or the devices that attach to the IBM 6611. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

Before installing or removing signal cables, ensure that the power cord for the IBM 6611 is unplugged.

When possible, use one hand to connect or disconnect signal cables to prevent a possible shock from touching two surfaces with different electrical potentials.

During an electrical storm, do not connect or disconnect any cables.

Perform the following tasks to prepare the Model 120 for relocation:

Warning: Do not shut down the IBM 6611 without the knowledge and permission of the System Manager.

1. Stop the Model 120 software to prevent the loss of data. For information about how to stop the Model 120 software, see the *Multiprotocol Network Program User's Guide*.
2. Set the power switch on the Model 120 to Off.
3. Label each cable connected to the rear of the Model 120. Then, disconnect each cable.
4. Set the key mode switch to *Secure* and remove the key. Tape the key to the Model 120.

5. Carefully package and relocate the Model 120 and associated material.

Warning: Check all of the power outlets in the location to which you are relocating the IBM 6611 for correct wiring, voltage, and grounding before connecting the IBM 6611 to the power outlets.

Part II: IBM 6611 Network Processor Model 140

6611 Operations Pocket Guide

Chapter 4. Description of the IBM 6611 Model 140

The IBM 6611 Network Processor Model 140 (*Model 140*) is designed to be placed on a tabletop, in a vertical position on the floor, or on a shelf in a standard Electronics Industries Association (EIA) 310-C rack. The Model 140 has a removable pedestal that provides stability when the Model 140 is in the vertical position. The pedestal is attached to the bottom of the Model 140 when it is in the horizontal position.

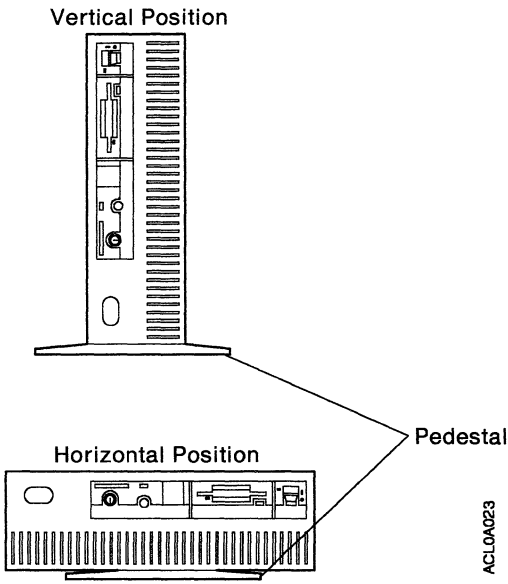


Figure 4-1. Example of Vertical and Horizontal Positions for the Model 140

The Model 140 processes data from the disk drives, diskettes, and communication connections. It contains a 32-bit processor, network adapters, 16 MB of RAM, and media storage devices. The hardware is controlled by the IBM Multiprotocol Network Program, program number 5648-016.

The Model 140 allows up to 4 communication adapters to be installed and has two 160-MB disk drives. Internal hardware controls a 3.5-inch diskette drive, 2 serial ports, and the disk drives.

The Model 140 does not have a keyboard or display screen. You can attach an ASCII terminal to the Model 140 to use the Multiprotocol Network Program System Manager functions, or you can use a workstation attached to an Internet Protocol (IP) network. The front operator panel of the Model 140 contains a 3-digit display, a Key Lock/Reset Button Assembly, and a 3.5-inch diskette drive.

The Multiprotocol Network Program is initially configured by first running the Multiprotocol Network Program Configuration Program on an IBM Personal System/2 (PS/2) or RISC System/6000 workstation and then transporting the configuration file to the Model 140 on a 3.5-inch diskette.

Subsequent configuration updates can be applied from a terminal or a RISC System/6000 workstation attached to the IP network.

Remote monitoring and control can be performed by communications with a Simple Network Management Protocol (SNMP) network manager station, such as the IBM NetView/6000.

Parts of the Model 140

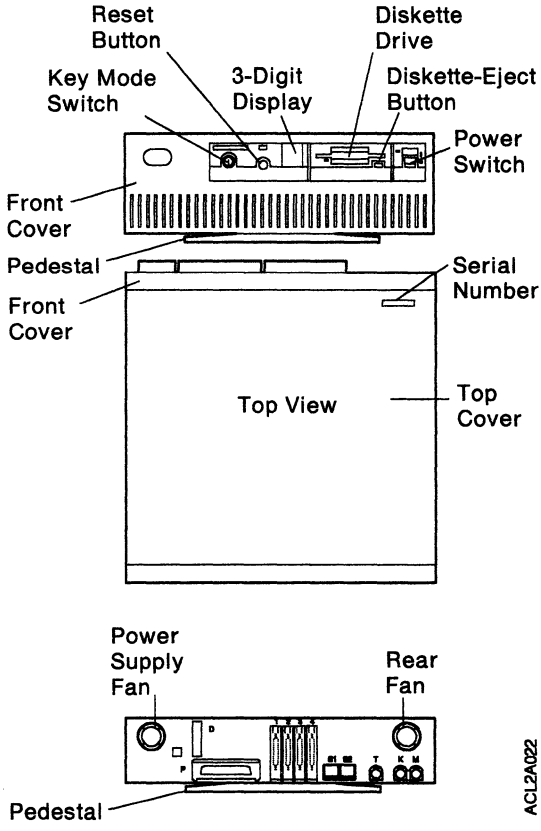


Figure 4-2. Model 140 with Rear Cover Removed

The following list describes the parts of the Model 140, shown in Figure 4-2 on page 4-3.

Covers can be removed to allow access to the rear of the Model 140. If the Model 140 is to be operated in a wiring closet, it is desirable to operate it without the rear cover for purposes of cooling.

Note: Only trained service technicians should work inside the Model 140.

Serial number is located in the left front corner of the top cover.

Key mode switch is a key-controlled switch with three positions, labeled:

Normal
Secure
Service.

Note: The key mode switch also locks the cover of the Model 140.

Power switch has the international symbols **I** for On and **O** for Off. When the power switch is set to On, the power-on light-emitting diode (LED) comes on.

Reset button is located next to the 3-digit display and is labeled **Reset**.

Diskette drive is a 1.44-MB, 3.5-inch diskette drive that has an in-use LED and a diskette-eject button.

Power supply fan is located in the rear left corner of the Model 140.

Rear fan is located in the right rear corner of the Model 140.

3-digit display displays up to three 7-segment characters. The display has a hinged lens that allows access to the character holder, which can be rotated 90 degrees for correct viewing when the Model 140 is in the horizontal or vertical position.

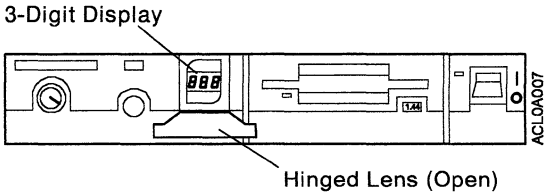


Figure 4-3. Front View of the Model 140 with the 3-Digit Display Hinged Lens Open

Pedestal is removable and can be attached to the left side or the bottom to place the Model 140 in the vertical or horizontal position, respectively.

External Device Connectors

When the rear cover is removed, the Model 140 connectors and ports are accessible. These connectors and ports are used to attach external devices.

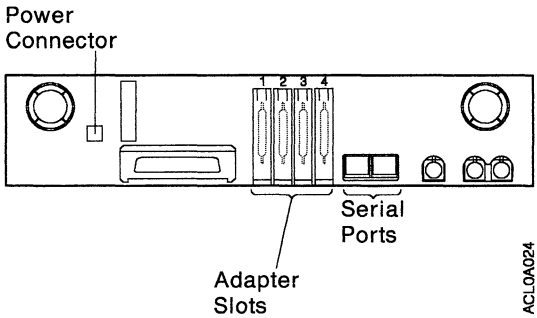


Figure 4-4. Rear of the Model 140 Serial Ports and Adapter Slots

Chapter 5. Using the Model 140

This chapter describes the tasks associated with using the Model 140.

For information about connecting an ASCII terminal to the Model 140, see Chapter 10, "ASCII Terminal Installation and Service Tasks."

Key Mode Switch Positions

The key mode switch has three positions:

Normal
Secure
Service.

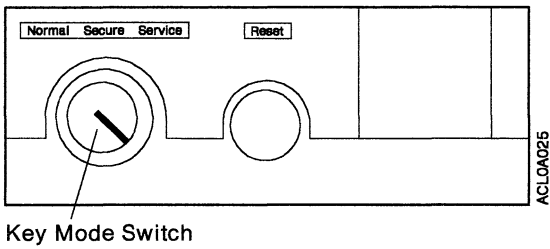


Figure 5-1. Key Mode Switch Positions

Table 5-1. Summary of the Possible Operations for Each Key Mode Switch Position

Operation	*Normal*	*Secure*	*Service*
Reset	Yes	No	Yes
Normal IPL	Yes	No	No
Service IPL	No	No	Yes
Covers Locked	Yes	Yes	No

Warning: The **Secure** position should not be used unless you are disconnecting the Model 140 from the network. The **Secure** position is used to prevent user intervention locally from the operator panel or remotely from the SNMP network manager.

The following section explains how to use the three positions on the key mode switch:

Warning: The Reset button is enabled when the key mode switch is in the **Normal** or **Service** position. If you press **Reset**, data can be damaged or lost if the Model 140 is still running.

- The *Normal* position is used for unattended operation. When the Model 140 IPLs, it proceeds according to the list of adapters established during the configuration of the Model 140.
- The *Service* position is used for attended operation when hardware or software service is performed. The *Service* position allows debug and dump procedures. In the *Service* position, the Model 140 attempts to IPL from the diskette drive, if it contains a diskette, or from the disk.
- The *Secure* position is used to prevent user intervention locally from the operator panel and remotely from the SNMP network manager. The *Secure* position should *not* be used unless you are disconnecting the Model 140 from the network.

Before starting the Model 140 for operation, set the key mode switch to *Normal*. This permits the Model 140 software to load after the power-on self-test (POST) has completed.

If the Model 140 is not operating correctly, contact your IBM service representative. In the United States, call 1-800-IBM-SERV. In other countries, contact your IBM marketing representative for the service phone number.

Starting Model 140 Operation

To start the Model 140, perform the following procedure:

1. Set the key mode switch to *Normal*.
2. Start the Model 140 by setting the power switch to On. The power-on LED will come on and the POST begins. During the POST, numbers are displayed on the 3-digit display.
3. If the power-on LED does not come on, check the power cord, which is located at the rear of the Model 140, to ensure that it is plugged into a grounded electrical wall outlet. If the power cord is plugged in, contact your IBM service representative. In the United States, call 1-800-IBM-SERV. In other countries, contact your IBM marketing representative for the service phone number.

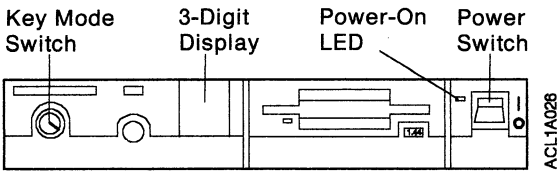


Figure 5-2. Front View of the Model 140

Stopping Model 140 Operation

To stop the Model 140, perform the following procedure:

Warning: Do not shut down the IBM 6611 without the knowledge and permission of the System Manager.

1. Stop the Model 140 software to prevent the loss of data. For information about how to stop the Model 140 software, refer to the *Multiprotocol Network Program User's Guide*.
2. Set the Model 140 power switch to Off.

Reading the 3-Digit Display

See "Reading the 3-Digit Display" on page A-1 for instructions about reading the error codes.

Using the Reset Button

Warning: When the key mode switch is in the **Normal** or **Service** position, pressing **Reset** causes the Model 140 to reset and start the system. If you press **Reset**, data can be damaged or lost if the Model 140 is still running.

The **Reset** button has two purposes:

- To cause an IPL of the Model 140 when the key mode switch is in the *Normal* or *Service* position.
- To display codes or diagnostic messages after a flashing **888** is displayed on the 3-digit display.

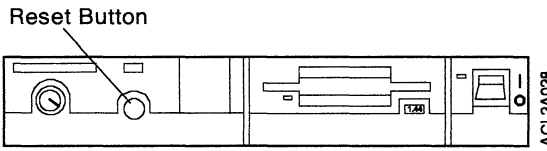


Figure 5-3. Location of the Reset Button

Loading a 3.5-Inch Diskette

To load a diskette into the drive, insert the diskette in the diskette drive with the labeled metal shutter first. Push the diskette into the drive until you hear a click. The click indicates that the diskette is securely positioned in the drive. The in-use LED is on when the drive is being accessed.

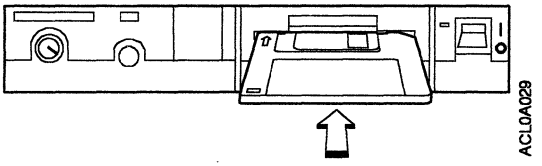


Figure 5-4. Loading a Diskette

Unloading a 3.5-Inch Diskette

Warning: Do not stop the Model 140 or remove a diskette when the in-use LED is on, or you may lose some of the data or damage the diskette.

"1.44" is printed on the diskette-eject button. To unload the diskette, push the diskette-eject button. The diskette ejects partially from the drive. Pull the diskette out.

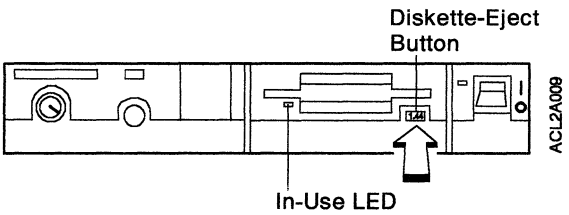


Figure 5-5. Unloading a Diskette

Changing the Pedestal on a Model 140

The Model 140 operates in either the horizontal or vertical position. The vertical position is recommended when the Model 140 is placed on the floor.

When the Model 140 is used in the horizontal position, the pedestal is attached to the bottom of the unit with 2 large screws. When the Model 140 is used in the vertical position, the pedestal can be removed from the bottom and attached to the side that has 2 screw-mounting holes. The screws have knobs for ease in attaching or removing the pedestal. No screwdriver is required.

From Horizontal to Vertical Position

To change the unit from the horizontal to the vertical position:

1. See "Stopping Model 140 Operation" on page 5-4 before changing the Model 140 pedestal.
2. Set the Model 140 power switch to Off and unplug the power cord from the outlet.
3. Label each cable connected to the rear of the Model 140. Then, disconnect each cable.
4. Stand the Model 140 on its side with the 2 screw-mounting holes on the left side facing upward.
5. Remove the 2 screws that secure the pedestal to the Model 140.
6. Remove the pedestal.

   Warning: In Figure 5-6 on page 5-8, the Model 140 is shown placed on the side that does not have screw-mounting holes. *Do not* operate the Model 140 when it is in this position. This may result in damage to the disk drive.

7. Place the pedestal on the side of the Model 140 and align it with the screw-mounting holes. Place the pedestal so that the part number imprinted on the bottom of the pedestal is toward the front of the Model 140.

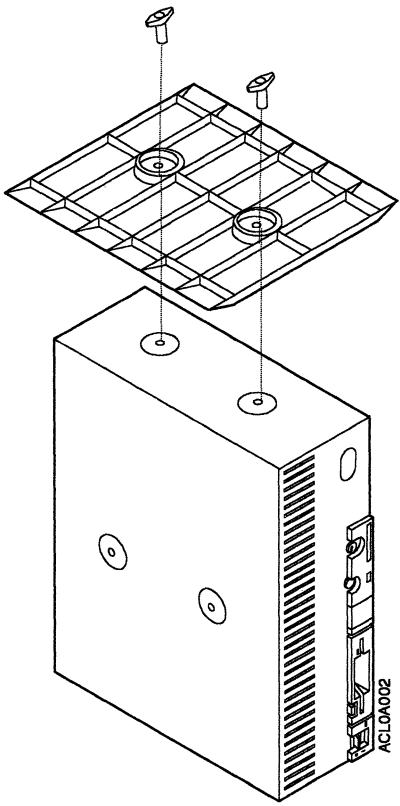
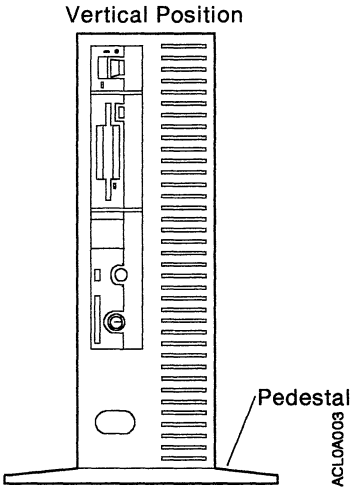


Figure 5-6. Attaching the Pedestal for the Vertical Position

8. Finger-tighten the 2 screws on the Model 140.

9. Stand the Model 140 in the vertical position.



10. See "Changing the Position of the 3-Digit Display" on page 5-13 for instructions to adjust the 3-digit display.
11. Reconnect any cables that were connected to the rear of the Model 140.
12. Plug the power cord into the outlet.

From Vertical to Horizontal Position

To change the Model 140 from the vertical to the horizontal position:

1. See "Stopping Model 140 Operation" on page 5-4 before changing the Model 140 pedestal.
2. Set the Model 140 power switch to Off and unplug the power cord from the outlet.
3. Ensure that all cables connected to the rear of the Model 140 are labeled as you disconnect them.

4. Tilt the Model 140 downward and rest it with the top facing upward and the bottom facing downward.

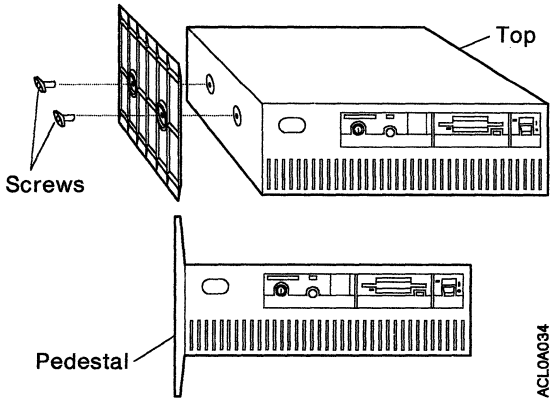
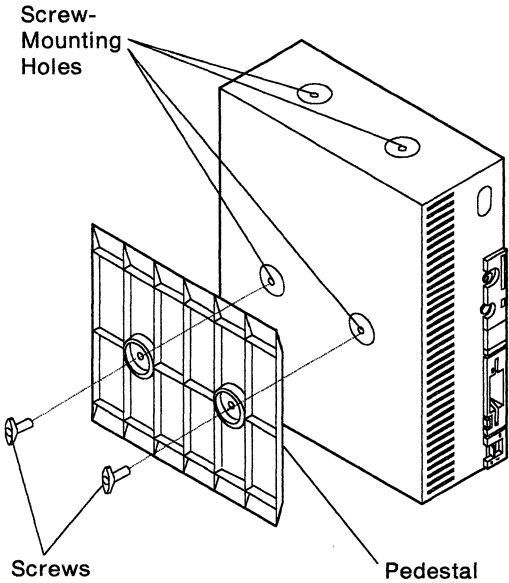


Figure 5-7. Removing the Pedestal in the Vertical Position

5. Remove the 2 screws that secure the pedestal to the Model 140.

6. Remove the pedestal.



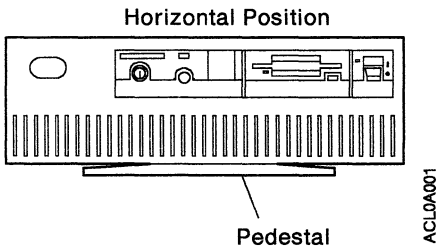


Figure 5-8. Attaching the Pedestal for the Horizontal Position

7. Stand the Model 140 on its right side with the 2 screw-mounting holes located on the left side facing upward.
8. Place the pedestal on the bottom of the Model 140 and align it with the screw-mounting holes.

9. Finger-tighten the 2 screws on the Model 140.
10. Stand the Model 140 in the horizontal position on the pedestal.
11. See "Changing the Position of the 3-Digit Display" on page 5-13 for instructions to adjust the 3-digit display.
12. Reconnect any cables that were connected to the rear of the Model 140.
13. Plug the power cord into the outlet.

Changing the Position of the 3-Digit Display

You can change the position of the 3-digit display so that it can be read easily when the Model 140 is in either the vertical or horizontal position.

Changing the 3-Digit Display from Vertical to Horizontal Position: To change the 3-digit display from the vertical position to the horizontal position (with the Model 140 in the horizontal position), perform the following procedure:

Note: In the following figures, the three 7-segment characters are lit to show the position of the display.

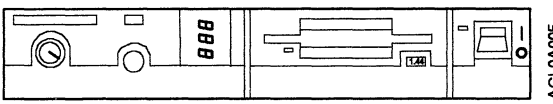


Figure 5-9. 3-Digit Display in the Vertical Position with the Hinged Lens Closed

1. Open the hinged lens.

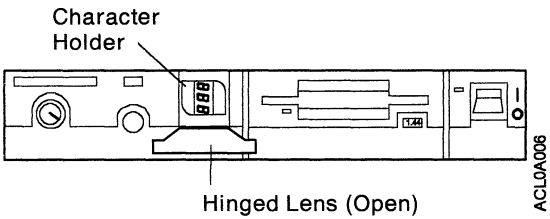


Figure 5-10. 3-Digit Display in the Vertical Position with the Hinged Lens Open

2. Hold the character holder with your fingertips.

3. Turn the character holder 90 degrees clockwise.

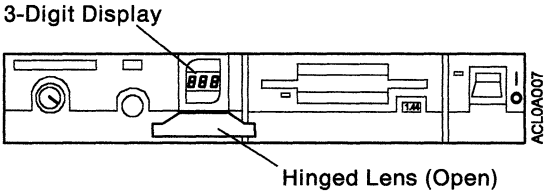


Figure 5-11. 3-Digit Display in the Horizontal Position with the Hinged Lens Open

4. Close the hinged lens.

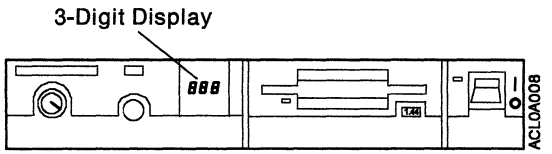


Figure 5-12. 3-Digit Display in the Horizontal Position with the Hinged Lens Closed

Changing the 3-Digit Display from Vertical to Horizontal Position: To change the 3-digit display from the vertical position to the horizontal position (with the Model 140 in the vertical position), perform the following procedure:

Note: In the following figures, the three 7-segment characters are lit to show the position of the display.

1. Open the hinged lens.

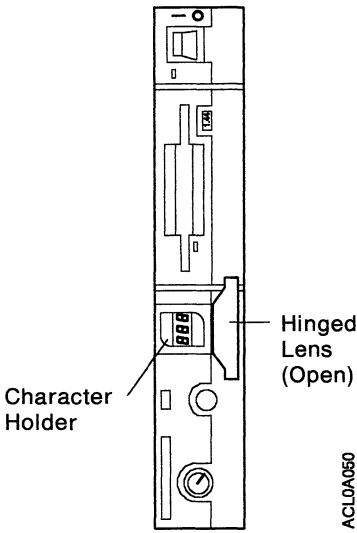


Figure 5-13. 3-Digit Display in the Vertical Position with the Hinged Lens Open

2. Hold the character holder with your fingertips.

3. Turn the character holder 90 degrees counterclockwise.

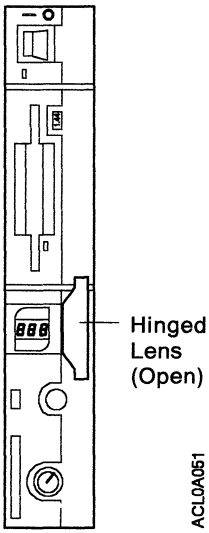


Figure 5-14. 3-Digit Display in the Horizontal Position with the Hinged Lens Open

4. Close the hinged lens.

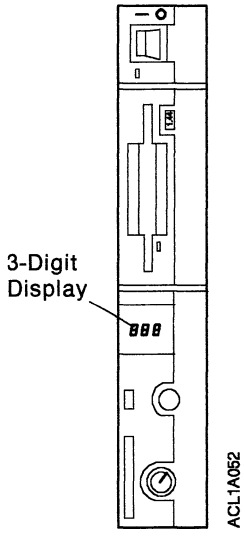


Figure 5-15. 3-Digit Display in the Horizontal Position with the Hinged Lens Closed

Chapter 6. Relocating the Model 140

An IBM service representative should be contacted to disconnect and relocate your Model 140. In the United States, call 1-800-IBM-SERV. In other countries, contact your IBM marketing representative for the service phone number.

Warning: Damage as a result of incorrect handling may void your equipment warranty. Contact your local IBM service representative to obtain assistance when you prepare your Model 140 for moving.

Do not shut down the IBM 6611 without the knowledge and permission of the System Manager.

CAUTION:
Check all of the power outlets in the location to which you are relocating the IBM 6611 for correct wiring, voltage, and grounding before allowing the IBM Service Representative to connect the IBM 6611 to the power outlets.

Part III: IBM 6611 Network Processor Model 170

6611 Operations Pocket Guide

Chapter 7. Description of the IBM 6611 Model 170

The IBM 6611 Network Processor Model 170 (*Model 170*) is designed to be placed on the floor. The Model 170 contains a 32-bit processor, a small computer systems interface (SCSI) adapter, 16 MB of RAM, a 3.5-inch diskette drive, a 355-MB disk drive, and network adapters.

The Model 170 does not have a keyboard or display screen. You can attach an ASCII terminal to the Model 170 to use the Multiprotocol Network Program System Manager functions, or you can use a workstation attached to an Internet Protocol (IP) network. The front operator panel of the Model 170 contains a 3-digit display, a Key Lock/Reset Button Assembly, and a 3.5-inch diskette drive.

The Multiprotocol Network Program is initially configured by first running the Multiprotocol Network Program Configuration Program on an IBM Personal System/2 (PS/2) or RISC System/6000 workstation and then transporting the configuration file to the Model 170 on a 3.5-inch diskette.

Subsequent configuration updates can be applied from a terminal or a RISC System/6000 workstation attached to the IP network.

Remote monitoring and control can be performed via communications with a SNMP network manager station, such as the IBM NetView/6000 workstation.

The Model 170 has 8 adapter slots. Seven are for communication adapters, and the eighth slot contains the standard SCSI adapter.

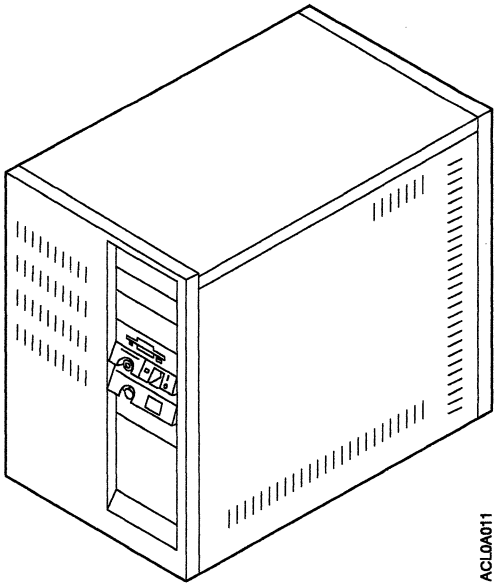


Figure 7-1. Model 170

Parts of the Model 170

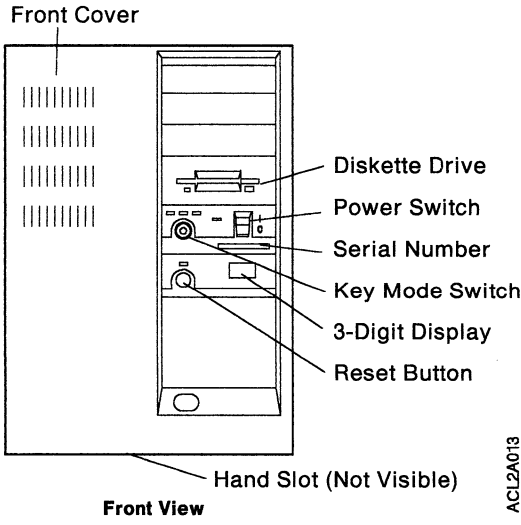


Figure 7-2. Front View of the Model 170

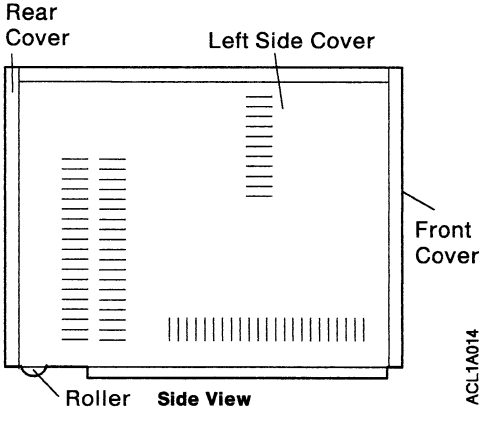


Figure 7-3. Side View of the Model 170

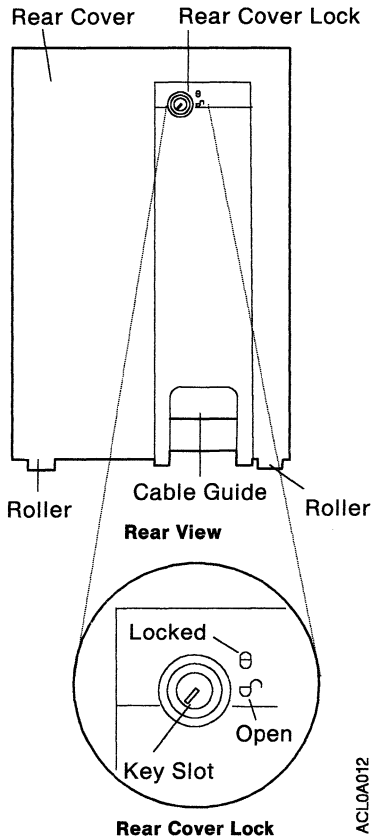


Figure 7-4. Rear View of the Model 170

The following list describes the parts of the Model 170, shown in Figure 7-2 on page 7-3 through Figure 7-4 on page 7-4.

Note: Only trained service technicians should work inside the Model 170.

Serial number is located below the power switch.

Key mode switch is a key-controlled switch with three positions, labeled:

Normal
Secure
Service.

Power switch has the international symbols **I** for On and **O** for Off. When the power switch is set to On, the power-on LED comes on.

Reset button is located next to the 3-digit display and is labeled **Reset**.

Diskette drive is a 1.44-MB, 3.5-inch diskette drive that has an in-use LED and a diskette-eject button.

3-digit display displays up to three 7-segment characters.

Front and side covers are removable and allow access to the inside of the Model 170. **Rear cover** is removable and provides access to the Model 170 connectors.

Note: Only trained service technicians should work inside the Model 170.

Rear cover lock provides physical security by preventing the removal of any covers when locked. The key mode switch and rear cover lock use the same key. The rear cover lock is locked when the key slot points to the locked symbol and is unlocked when the key slot is turned clockwise to the open symbol.

Hand slot is located on the bottom center of the front cover and can be used to raise the front of the Model 170 when positioning it.

Cable guide allows orderly arrangement of the cables.

Rollers are designed for easy placement of the Model 170.

External Device Connectors

When the rear cover is removed, the Model 170 connectors and ports are accessible. These connectors and ports are used to attach external devices. Only trained service technicians should remove the rear cover.

Chapter 8. Using the Model 170

This chapter describes the tasks associated with using the Model 170.

For information about connecting an ASCII terminal to the Model 170, see Chapter 10, "ASCII Terminal Installation and Service Tasks."

Setting the Key Mode Switch

The key mode switch has three positions:

Normal
Secure
Service.

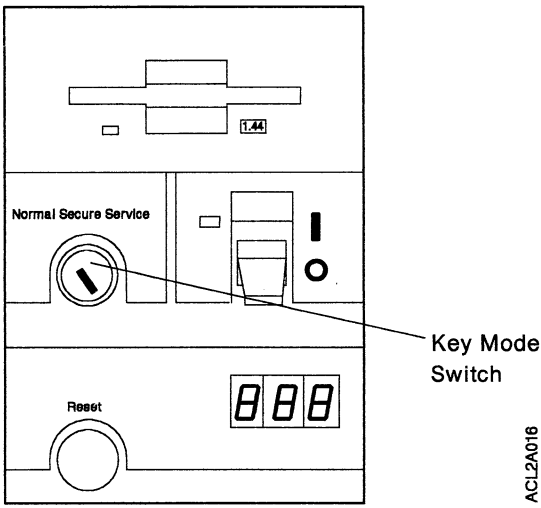


Figure 8-1. Key Mode Switch Positions

Table 8-1. Summary of Possible Operations for Each Key Mode Switch Position

Operation	*Normal*	*Secure*	*Service*
Reset	Yes	No	Yes
Normal IPL	Yes	No	No
Service IPL	No	No	Yes
Covers Locked	Yes	Yes	No

Warning: The **Secure** position should not be used unless you are disconnecting the Model 170 from the network. The **Secure** position is used to prevent user intervention locally from the operator panel or remotely from the SNMP network manager.

The following section explains how to use the three positions on the key mode switch:

Warning: The Reset button is enabled when the key mode switch is in the **Normal** or **Service** position. If you press **Reset**, data can be damaged or lost if the Model 170 is still running.

- The *Normal* position is used for unattended operation. The IPL proceeds according to the list of adapters established during the configuration of the Model 170.
- The *Service* position is used for attended operation when hardware or software service is performed. The *Service* position allows debug and dump procedures. In the *Service* position, the Model 170 attempts to IPL from the diskette drive, if it contains a diskette, or from the disk.
- The *Secure* position is used to prevent user intervention locally from the operator panel and remotely from the SNMP network manager. The *Secure* position should *not* be used unless you are disconnecting the Model 170 from the network.

Before starting the Model 170 for operation, set the key mode switch to *Normal*. This permits the Model 170 software to load after the POST has completed.

If the Model 170 is not operating correctly, contact your IBM service representative. In the United States, call 1-800-IBM-SERV. In other countries, contact your IBM marketing representative for the service phone number.

Starting Model 170 Operation

To start the Model 170, perform the following procedure:

1. Set the key mode switch to *Normal*.
2. Start the Model 170 by setting the power switch to On. The power-on LED will come on and the POST begins. During the POST, numbers are displayed on the 3-digit display.
3. If the power-on LED does not come on, check the power cord, which is located at the rear of the Model 170, to ensure that it is plugged into a grounded electrical wall outlet. If the power cord is plugged in, contact your IBM service representative. In the United States, call 1-800-IBM-SERV. In other countries, contact your IBM marketing representative for the service phone number.

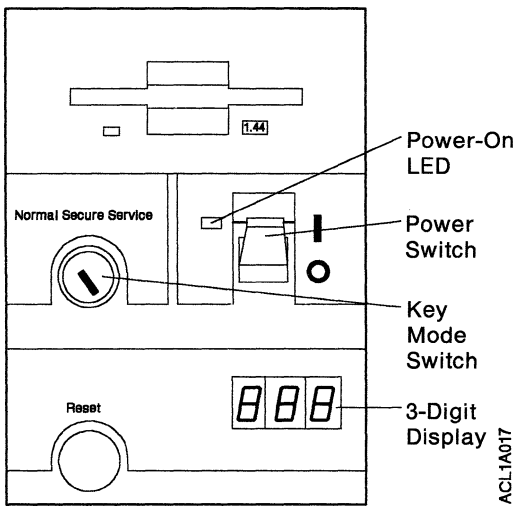


Figure 8-2. Front View of the Model 170

Stopping Model 170 Operation

To stop the Model 170, perform the following procedure:

Warning: Do not shut down the IBM 6611 without the knowledge and permission of the System Manager.

1. Stop the Model 170 software to prevent the loss of data. For information about how to stop the Model 170 software, refer to the *Multiprotocol Network Program User's Guide*.
2. Set the Model 170 power switch to Off.

Reading the 3-Digit Display

See "Reading the 3-Digit Display" on page A-1 for instructions to read the error codes.

Using the Reset Button

Warning: The Reset button is enabled when the key mode switch is in the Normal or Service position. If you press **Reset**, data can be damaged or lost if the Model 170 is still running.

The **Reset** button has two purposes:

- To cause a system start of the Model 170 when the key mode switch is in the *Normal* or *Service* position.
- To display codes or diagnostic messages after a flashing **888** is displayed on the 3-digit display.

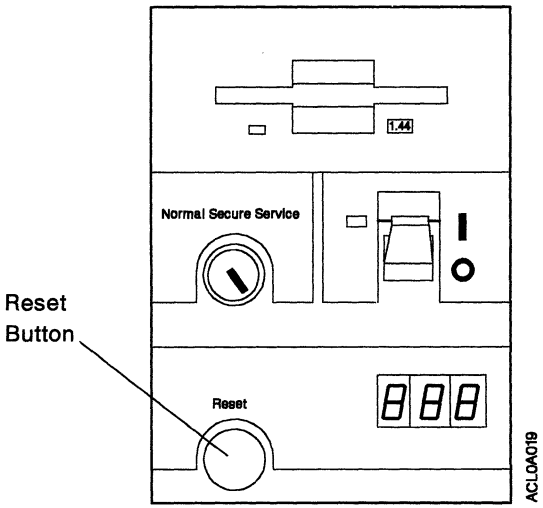


Figure 8-3. Location of the Reset Button

Loading a 3.5-Inch Diskette

To load a diskette into the drive, insert the diskette in the diskette drive, with the labeled metal shutter first. Push the diskette into the drive until you hear a click. The click indicates that the diskette is securely positioned in the drive. The in-use LED is on when the drive is being accessed.

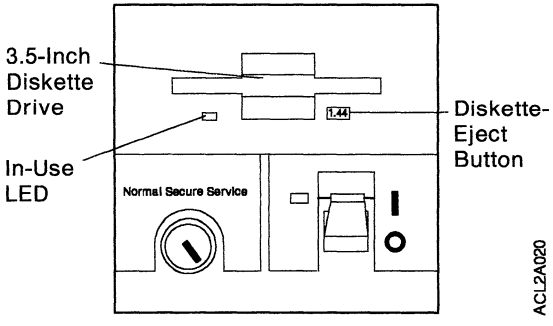


Figure 8-4. Loading a Diskette

Unloading a 3.5-Inch Diskette

Warning: Do not stop the Model 170 or remove a diskette when the in-use LED is on, or you may lose some of the data or damage the diskette.

"1.44" is printed on the diskette-eject button. To unload the diskette, push the diskette-eject button. The diskette ejects partially from the drive. Pull the diskette out.

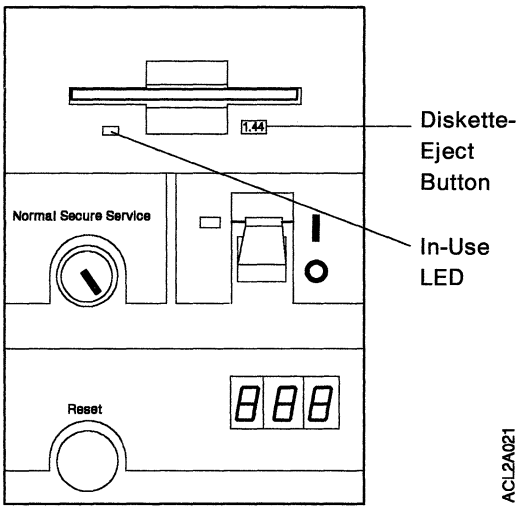


Figure 8-5. Unloading a Diskette

Chapter 9. Relocating the Model 170

An IBM service representative should be contacted to disconnect and relocate your Model 170. In the United States, call 1-800-IBM-SERV. In other countries, contact your IBM marketing representative for the service phone number.

Warning: Damage as a result of incorrect handling may void your equipment warranty. Contact your local IBM service representative for assistance to prepare your Model 170 for moving.

Do not shut down the IBM 6611 without the knowledge and permission of the System Manager.

CAUTION:
Check all of the power outlets in the location to which you are relocating the IBM 6611 for correct wiring, voltage, and grounding before allowing the IBM Service Representative to connect the IBM 6611 to the power outlets.

Part IV: Common Information for Models 120, 140, and 170

Chapter 10. ASCII Terminal Installation and Service Tasks

An ASCII terminal can be connected to one of the serial ports built into the rear of the IBM 6611. The serial ports are labeled *Serial 1* and *Serial 2* on the Model 140, and *S1* and *S2* on the Models 120 and 170.

If Serial 2 or S2 has been configured to support network management of a Cylink 4201 Advanced Channel Service Unit (ACSU), it cannot be used for connection of an ASCII terminal.

All models of the IBM 6611 support the following ASCII terminals as well as devices, such as personal computers, that are configured to emulate one of these terminals:

- IBM terminals
  - IBM 3101
  - IBM 3151
  - IBM 3161
  - IBM 3162
  - IBM 3163
  - IBM 3164
  - IBM AIX* TERMinal (a terminal emulation program for the RISC System/6000 computer)
- DEC terminals
  - VT100
  - VT320
  - VT330
  - VT340.

  Note: If you use a personal computer that is configured to emulate one of the supported ASCII terminals, the display must support a 24 x 80 panel format (24 rows of 80 characters).

General Setup Attributes: Use Table 10-1 on page 10-2 to determine the settings for the general setup attributes for ASCII terminals or emulators.

Note: If you want to use an ASCII terminal or emulator that does not emulate one of the IBM ASCII terminals, refer to the operator's manual for that device, compare its attributes with those in the table, and set them accordingly.

Table 10-1 (Page 1 of 2). Communication Setup Attributes for the ASCII Terminal or Emulator

General Setup Attributes	Settings	Explanations of the Settings
Row and Column	24 x 80	The screen format is 24 rows of 80 characters.
Scroll	Jump	When the last character on the last line of the screen is received or entered, all of the lines on the screen move up one line.
Auto LF	Off	For the Off setting, pressing Return moves the cursor to the first character position of the current line. The carriage return (CR) and the line feed (LF) characters are generated by the setting for the New Line attribute.
CRT saver	Off	The Off setting disables screen blanking.
Line wrap	On	The cursor moves to the first character position of the next line on the screen after it reaches the last character position of the current line on the screen.
Forcing insert	Off	If there is no space to insert a character or a null line, an insert operation cannot be performed.

Table 10-1 (Page 2 of 2). Communication Setup Attributes for the ASCII Terminal or Emulator

General Setup Attributes	Settings	Explanations of the Settings
Tab	Field	The column tab stops are ignored, and tab operation depends on the field attribute character positions.
Trace	All	Both inbound data (data to the IBM 6611) and outbound data (data from the IBM 6611) to and from the main port can be transferred to the terminal's auxiliary port without disturbing communications with the IBM 6611 when Trace is pressed.

Communication Setup Attributes: The settings for the attributes in Table 10-2 on page 10-4 are based on the assumption that the ASCII terminal or emulator is directly connected to the serial port of the IBM 6611. If the ASCII terminal communicates with the IBM 6611 via a modem connected to the serial port, a different setting for some attributes may be required. A dagger (†) indicates those attributes that may require different settings. The appropriate setting depends on the type of modem and the communication line. Not all functions exist in all terminal models.

Table 10-2 (Page 1 of 2). Communication Setup Attributes for the ASCII Terminal or Emulator

Communication Setup Attributes	Settings	Explanations of the Settings
Operating mode	Echo	Data entered from the keyboard on the terminal is sent to the system unit for translation and then back to the display panel. Echo mode is also called *conversation mode*.
Line speed†	2400, 9600, 19200, 38400	Uses 9600-bps, 19200-bps, or 38400-bps line speeds to communicate with the IBM 6611 for a direct-attached terminal. Uses 2400-bps line speed to communicate with the IBM 6611 for a modem-attached terminal.
Word length	8	The data word length is 8 bits.
Parity	No	Does not add a parity bit, and is used together with the word length attribute to form the 8-bit data word (byte).
Stop bit	1	Places 1 bit after a data word.
Turnaround character	CR	The carriage return (CR) character is used as the line turnaround character.
Interface	RS232C	Uses the EIA 232-C electrical interface protocol.
Line control†	IPRTS	Uses the permanent request to send (IPRTS) signal to communicate with the IBM 6611.

Table 10-2 (Page 2 of 2). Communication Setup Attributes for the ASCII Terminal or Emulator

Communication Setup Attributes	Settings	Explanations of the Settings
Break signal†	500	The terminal sends a 500-ms break signal to the IBM 6611 after the Break key is pressed.
Send null suppress (if supported)	On	The terminal does not send trailing null characters to the IBM 6611.
Send null (if supported)	On	The terminal sends trailing null characters to the IBM 6611.
Response delay†	100	The terminal waits 100 ms for the IBM 6611 to respond.
Enter	Return	The Enter key functions as the Return key.
Return	New line	The cursor moves to the next unprotected field when the Return key is pressed.
New line	CR	The Return key generates the carriage return (CR) and the line feed (LF) characters. The line turnaround occurs after the CR and LF characters have been generated.
Send	Page	The contents of the current page are sent to the IBM 6611 when the Send key is pressed.
Insert character	Space	A blank character is inserted when the Insert key is pressed.

Terminal Cable

Model 120: You must provide a cable to connect the ASCII terminal or emulator to the EIA 232 serial port. A terminal interposer is shipped with the Model 120. You need the terminal interposer to connect the terminal cable to the IBM 6611 as illustrated in Table 10-3 and Figure 10-1.

Table 10-3. ASCII Terminal Connection to an EIA 232 Serial Port for Model 120

Index	Name	Description
A	EIA 232 serial port	25-pin D, male
B	Terminal cable connector, IBM 6611 end	25-pin D, female
C	Terminal cable	Customer supplied
D	Terminal interposer	Shipped with the IBM 6611

Note: A gender matcher may be required to connect your terminal to the terminal interposer.

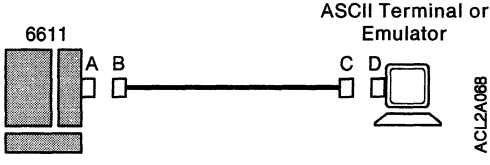


Figure 10-1. Connecting a Terminal to an EIA 232 Serial Port for Model 120

Models 140 and 170: You must provide a cable to connect the ASCII terminal or emulator to the EIA 232 serial port. Two 10-to-25-pin converter cables and a terminal interposer are shipped with the IBM 6611. You need one of these converter cables and the terminal interposer to connect the terminal cable to the IBM 6611, as illustrated in Table 10-4 on page 10-7 and Figure 10-2 on page 10-7.

Table 10-4. ASCII Terminal Connection to an EIA 232 Serial Port for Models 140 and 170

Index	Name	Description
A	EIA 232 serial port	EIA 232-D, 10-pin square, male
B	Converter cable connector, IBM 6611 end	10-pin square, female
C	Converter cable connector, ASCII terminal end	25-pin D, male
D	10-to-25-pin converter cable	Shipped with the IBM 6611
E	Terminal cable connector, IBM 6611 end	25-pin D, female
F	Terminal cable connector, terminal end	25-pin D, male
G	Terminal cable	Customer supplied
H	Terminal interposer	Shipped with the IBM 6611

Note: A gender matcher may be required to connect your terminal to the terminal interposer.

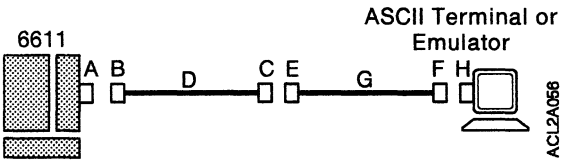


Figure 10-2. Connecting a Terminal to an EIA 232 Serial Port for Models 140 and 170

The ASCII terminal cable you provide must be compatible with the 25-pin D connector on the terminal interposer. Table 10-5 on page 10-8 describes how the pins on both ends of the terminal interposer are wired, and Figure 10-3 on page 10-8 illustrates both ends.

Table 10-5. Terminal Interposer Pin Wiring

IBM 6611 End Pin Number	Terminal End Pin Number
3	2
2	3
6	20
8	20
20	8
20	6
5	4
4	5
7	7
1	Shield

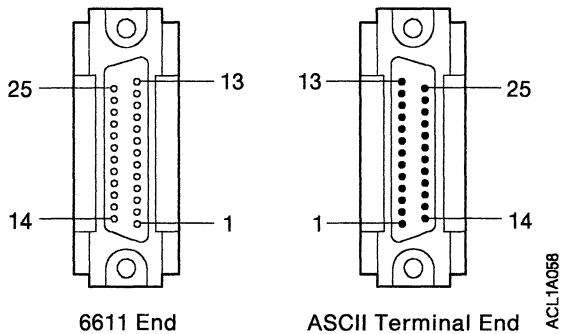


Figure 10-3. Terminal Interposer Connectors

ASCII Terminal Cable: The Model 140 and Model 170 are shipped with a 10-to-25-pin converter cable that is used to connect the ASCII terminal cable to the serial port.

Table 10-6 on page 10-9 and Figure 10-4 on page 10-9 describe the connectors on both ends of the 10-to-25-pin converter cable. Use the description of the ASCII terminal end of the cable to help identify the type of ASCII terminal cable you

will need to connect the ASCII terminal to the converter cable.

Table 10-6. 10-to-25 Pin Converter Cable Pin Assignments

Port End Pin Number	Terminal End Pin Number	Signal
1	2	Transmit Data
2	20	Data Terminal Ready
3	4	Request to Send
4	22	Ring Indicate
5	—	Reserved
6	3	Receive Data
7	6	Data Set Ready
8	5	Clear to Send
9	8	Data Carrier Detect
10	7	Signal Ground

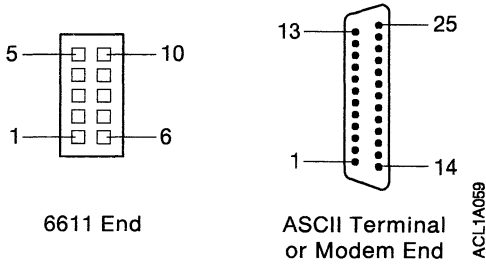


Figure 10-4. 10-to-25-Pin Converter Cable Connectors

Chapter 11. Using a Modem for Remote IBM Service

In certain situations when you call for IBM service, the IBM service representative will request permission to establish a temporary, remote connection to the IBM 6611. A modem must be connected to the serial port. It must be a 2400-bps modem that is compatible with the Hayes Smartmodem** Attention (AT) command set.

Whenever you authorize IBM service to establish such a remote connection, you must:

- Connect and configure the modem before the remote service session begins. (The System Manager provides a function that enables you to configure the modem remotely.)

  For an illustration of the connection of a remote modem, see the information about remote access using a modem in the *IBM 6611 Network Processor Introduction and Planning Guide*.

- Provide the IBM service representative with the following information:
  - The telephone number of a modem that is (or will be) connected to the S2 or Serial 2 port of the IBM 6611.
  - A password that is valid only during the time that the problem exists. The IBM service representative must use the password to log in to the IBM 6611. You are responsible for deleting the password authorization after the problem has been solved.

Chapter 12. Problem Determination

The Functions of the Diagnostic Program

Diagnostic Routines: Diagnostic Routines serve to test the system hardware and detect hardware problems. Problems are indicated by Service Request Numbers (SRNs). An SRN allows the service representative to determine quickly what parts are required to repair the system.

Diagnostics can be run in concurrent mode, while the system is operating, or in stand-alone mode, when the system operation has been shut down.

Service Aids: The diagnostic package contains service aids. These service aids are used to display data and perform additional testing.

Diagnostic Routines

Warning: Do not shut down the IBM 6611 without the knowledge and permission of the System Manager.

Running Concurrent Mode Diagnostics

Concurrent mode diagnostics are diagnostics that can be run while the system is operating. They are designed to test as much of the system, or specified component, as possible without interfering with system operations. To accomplish this, it is necessary to limit diagnostic testing. If the resource cannot be tested totally in this mode because the resource is in use by the system, a message will be displayed informing the operator. The operator then has the option of stopping some of the system in order to free the resource for more complete testing. The operator can use the facilities of the System Manager to perform an orderly shutdown of the system and test it in stand-alone mode.

Running concurrent diagnostics requires either an ASCII terminal attached directly or via a modem to the serial port, or a remote workstation attached to the Internet Protocol (IP) network.

Running Concurrent Mode Diagnostics on a Direct-Attached ASCII terminal

An ASCII terminal attached to the serial port of an IBM 6611 network controller will be active as a workstation. Follow the instructions specified in the *Multiprotocol Network Program User's Guide*, for logging in. At the initial panel, System Management Operating Instructions, select **Concurrent Hardware Diagnostics**. When the next menu, Diagnostic Operating Instructions, appears, press **Enter**.

At the next menu, Function Selection, select **Diagnostic Routines** by moving the cursor to that line and pressing **Enter**.

The next menu, Diagnostic Mode Selection, will give the operator the option of selecting System Verification or Problem Determination. The latter will, in addition to running the hardware diagnostics, analyze the error log to determine whether system errors have been detected during the past 24 hours. Select the mode of operation by moving the cursor using the up-arrow or down-arrow key to the desired selection and then pressing **Enter**. Select **System Verification** to verify correct operation of the system after repairs have been completed. Select **Problem Determination** to test the system when you suspect a problem.

Whichever mode you select, the next menu will provide a list of the resources that can be tested. Select the resource to be tested by moving the cursor up or down using the up-arrow or the down-arrow key, and press **Enter** when the cursor is at the correct position.

To exit from any menu to the previous menu, press **F3**. This key may not be the same on all terminals, or it may not have the same key code. If there is no **F3** key or if it does not work, press **Escape** followed immediately by **3**.

Running Concurrent Mode Diagnostics on a Modem-Attached ASCII terminal

If the system to be tested has a modem connected to its serial port, tests can be run remotely. The telephone number, baud rate, password, and settings must be known. For more information, see Table 10-2 on page 10-4. With a terminal or emulator and a modem set to the same baud rate and settings as the modem attached to the IBM 6611, use the instructions for your modem and terminal to dial the IBM 6611 as you would a remote host. When the connection is completed, operation will be the same as for a direct-attached ASCII terminal.

Running Concurrent Mode Diagnostics via the IP Network

At a workstation that has access to the same IP network as the IBM 6611, enter the command **tn xxx.xxx.xxx.xxx** where **xxx.xxx.xxx.xxx** is the IP address of the IBM 6611 to be accessed. If the user has allowed remote access to this IBM 6611, the login panel for the IBM 6611 should be displayed. From then on, operation is the same as for a direct-attached ASCII terminal.

Service Aids

Service aids are utility programs provided for the convenience of the customer. The following service aids are provided:

- Service Hints
- Display Previous Diagnostic Results
- Display or Change Configuration or Vital Product Data (VPD)
- Display or Alter VPD
- Display or Change Diagnostic Test List
- Diskette Media
- Reset Bootlist.

Service Hints

This selection displays service hints and errata information about the maintenance package. It also contains information about using this particular version of the diagnostic package. Use the **PgDn** key to page forward through the information, or the **PgUp** key to page backward through the information. Press **Cancel** to exit from this service aid and return to the Service Aids menu.

Note: The appropriate key sequence for each function will appear at the bottom of the panel.

Display Previous Diagnostic Results

Note: This service aid is not available when you load stand-alone diagnostics from diskette.

This selection displays the results of previous diagnostic runs. Each time the diagnostics produce an SRN to report a problem, information about that problem is logged. The service representative can look at this log to see what SRNs are recorded. This log also records the results of diagnostic tests that run in loop mode. When you load this service aid, information on the last problem logged is displayed. By pressing **Enter** repeatedly, you can view up to 25 previous panels.

Display or Change Configuration or Vital Product Data (VPD)

This selection displays the Machine Configuration or VPD, and allows changes to the VPD.

Display Machine Configuration: This service aid displays a list of the resources installed on the system.

Display VPD: This service aid displays the VPD for all of the resources installed on the system.

Display or Alter VPD

Warning: If this service aid was loaded from a diskette, any changes or additions to the VPD will be lost when the system is shut down.

This service aid allows you to display and alter the VPD for any component. When you select this service aid, a menu allows you to select the desired component. When making a change to the VPD, the change must be saved by pressing the **Commit** key as defined at the bottom of the Display or Alter VPD panel.

Display or Change Diagnostic Test List

This selection displays or changes the resources tested by diagnostics during a POST. The diagnostic controller uses the diagnostic test list to determine which resources to test. This service aid provides a way to delete a resource from the diagnostics test list, a way to add a deleted resource back into the diagnostics test list, and a way to display the diagnostic test list.

Diskette Media

This selection provides a tool for verifying a diskette. When this service aid is selected, a menu asks you to select the type of diskette being verified. The program then reads all of the ID and data fields one time and displays the total number of bad sectors found.

Reset Bootlist

This selection provides a tool for clearing an incorrect bootlist. Incorrect bootlist is indicated by the IBM 6611 being unable to boot and, instead, halting with two numbers between **221** and **296** alternating on the 3-digit display or halting with a **260**, **261**, or **262** on the display.

Chapter 13. Cable Label

Understanding the Cable Label

Each adapter cable has an IBM 6611 Cable Label at each end. The cable label provides information about the adapter and the network device to which the adapter cable is connected. See the following figure for a sample cable label.

Adapter Cable Connections	Network Management Information
IBM 6611 Unit Number or Name: *1002* IBM 6611 Slot Number: *1*	Network Number or Name: *CHQNET*
Adapter Type: *Token-Ring* Adapter Cable Type: *Token-Ring* FOLD	IBM 6611 ID at Network Manager: *6611ACHQ* IBM 6611 Address at Network: *10005A100001 9.0.0.0*
This Cable Connects To Device Type: *8228* Device Location: *CHQ/205, Rack 3, Raleigh* Device Number or Name: *MAU4*	Network Manager Location: *CHQ15, Main Site* Network Manager Operator's Phone Number: *(555) 555-5555*

ACL2A046

Explanation of Label Fields

The IBM 6611 Cable Label has two major sections. The left half of the label, **Adapter Cable Connections**, provides information about the IBM 6611 adapter and the network device to which the adapter cable will be connected. This half of the label also assists with installation and problem determination.

The right half of the cable label, **Network Management Information**, provides information about the network to which the adapter will be attached and about the network management support, if any, for that network. This half of the label assists with problem determination.

IBM 6611 Unit Number or Name: This field contains the unique unit number or name that your enterprise assigned to the IBM 6611 to distinguish it from other IBM 6611s. The *IBM 6611 Network Processor Introduction and Planning Guide* instructs the customer to place a unit identification label on each IBM 6611 and record that information on the IBM 6611 Cabling Chart.

IBM 6611 Slot Number: This field contains the unique number of the IBM 6611 adapter slot in which the network adapter is installed.

Adapter Type: This field contains the type of network adapter that is installed in your machine. The *IBM 6611 Network Processor Introduction and Planning Guide* instructs the customer to use these types to represent the following adapters:

Adapter Type	Adapter Name
Token Ring	6611 Token-Ring Network 16/4 Adapter
	6611 Model 120 Token-Ring Network 16/4 Adapter
Ethernet	6611 Ethernet Adapter
	6611 Model 120 Ethernet Adapter
EIA 422/449 Serial	6611 2-Port EIA 422/449 Serial Adapter
	6611 Model 120 2-Port EIA 422/449 Serial Adapter
V.35/V.36 Serial	6611 2-Port V.35/V.36 Compatible Serial Adapter
	6611 Model 120 2-Port V.35/V.36 Compatible Serial Adapter
SDLC	6611 4-Port SDLC Adapter
X.25	6611 X.25 Adapter

Adapter Cable Type: This field contains the type of cable that must be connected to the network adapter.

Cable Type	Cable Name
Token Ring	6611 Token-Ring Network Adapter Cable
Ethernet	Ethernet Cable
EIA 422/449 Serial	6611 EIA 422/449 Serial Adapter Cable
V.35 Serial	6611 V.35 Compatible Serial Adapter Cable
V.35F Serial	Attachment Cable for V.35 DCE in France
V.36 Serial	6611 V.36 Compatible Serial Adapter Cable
SDLC IC	6611 SDLC Adapter Interface Cable
SDLC 232/V.24	6611 SDLC Adapter EIA 232/CCITT V.24 Cable
SDLC V.35	6611 SDLC Adapter CCITT V.35 Cable
SDLC X.21	6611 SDLC Adapter CCITT X.21 Cable Serial Adapter CCITT X.21 Cable
X.25 232/V.24	6611 X.25 Adapter EIA 232/CCITT V.24 Cable
X.25 X.21	6611 X.25 Adapter CCITT X.21 Cable
X.25 V.35	6611 X.25 Adapter CCITT V.35 Cable

This Cable Connects to Device Type: This field contains the type of device (such as a modem or an IBM 8228 Multistation Access Unit) to which the adapter cable must be connected.

This Cable Connects to Device Location: This field contains the physical location (such as the building, floor, wiring closet number, or rack number) of the device to which the adapter cable must be connected.

This Cable Connects to Device Number or Name: This field contains the unique number or name that your enterprise assigned to the device to which the adapter cable must be connected. The unique number or name is used to identify the device.

Network Number or Name: This field contains the unique number or name assigned to the network segment to which the adapter will be attached. For example, in IBM Token-Ring Networks, each network segment (ring) has a unique number.

IBM 6611 ID at Network Manager: This field contains the name or address by which the IBM 6611 is known at the network manager. The network manager is a network management program that is running on a workstation attached to the network, and provides monitoring and control functions for the IBM 6611, or for individual adapters in the IBM 6611.

IBM 6611 Address at Network: This field contains the name or address that identifies this adapter to the network manager.

Network Manager Location: This field contains the physical location of the network manager. The customer may record the city, building number, or other details as desired.

Network Manager Operator's Phone Number: This field contains the phone number of the operator at the network manager location.

Appendix A. 3-Digit Display Codes

Reading the 3-Digit Display

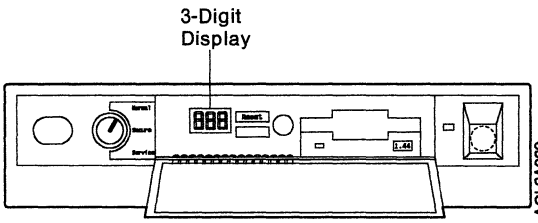


Figure A-1. An Error Code Displayed on the Model 120

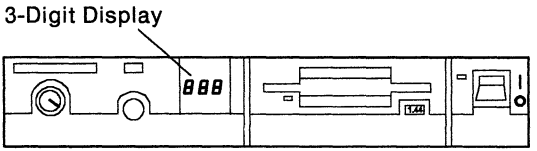


Figure A-2. An Error Code Displayed on the Model 140

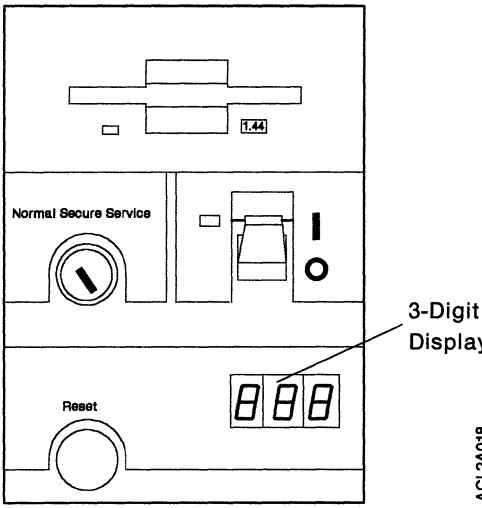


Figure A-3. An Error Code Displayed on the Model 170

The 3-digit display on the operator panel is used to:

- Track the progress of the IBM 6611 power-on self-test (POST) and other tests that run when the IBM 6611 is started
- Display the codes when the IBM 6611 software comes to an abnormal end
- Display the IBM 6611 messages
- Display diagnostic program codes.

During the POST, the numbers that are displayed indicate the progress of the testing. If an error is detected that requires attention, the IBM 6611 stops and a number is displayed on the 3-digit display to identify the error. When the POST runs without error, the 3-digit display is blank.

If you have a continuous flashing **888** on the 3-digit display, the IBM 6611 Network Processor Diagnostic Program has detected an error. See "Reading Flashing 888 Numbers" on page A-3 for instructions about reading the error codes.

Reading Flashing 888 Numbers

A flashing **888** on the 3-digit display of the IBM 6611 indicates that the IBM 6611 Network Processor Diagnostic Program has detected an error. Follow this procedure whenever a flashing **888** appears on the display.

1. Ensure that the key mode switch is set to *Normal* or *Service*.
2. Press **Reset** and hold for about 1 second to allow the program to sense the change.
3. Record the number on the 3-digit display. This number indicates the message type.
4. Proceed according to the message type:

   Type 102: See "Reading Type 102 Messages."

   Type 103: See "Reading Type 103 Messages" on page A-4.

   Other types: See "Reading Other Message Types" on page A-6.

Reading Type 102 Messages

Follow this procedure to determine the crash code and the dump status code associated with type **102** messages.

1. Press **Reset** once. Record the crash code. See "Crash Codes for Type 102 Messages" on page A-7 to interpret the code.
2. Press **Reset** again. Record the dump status code. See "Dump Status Codes for Type 102 Messages" on page A-8 to interpret the code.
3. Press **Reset** again and note whether a flashing **888**, or a steady **103**, or a steady **ccc** is on the 3-digit display.
   - If a type **103** message is displayed, go to "Reading Type 103 Messages" on page A-4.

- If a type **ccc** message is displayed, another message will follow. Go to Step 2 under "Reading Flashing 888 Numbers."
- If a flashing **888** is displayed, all of the information about the type 102 message has been displayed. If you want to repeat the message sequence, return to Step 1 on page A-3 of this procedure.

You must restart the IBM 6611 to recover from this step.

Reading Type 103 Messages

Follow this procedure to determine the service request number (SRN) and the field replaceable unit (FRU) location codes associated with type 103 messages.

1. Press **Reset** once and record the number on the 3-digit display. This number is the first 3 digits of the 6-digit SRN.
2. Press **Reset** again and record the second 3 digits of the 6-digit SRN.
3. You must read the FRU location code associated with this type 103 message.
   - There may be multiple FRU location codes associated with each type 103 message. However, no more than 4 FRU location codes will be displayed.
   - Each FRU location code is preceded by an identifier (c0x) that indicates whether it is the first, second, third, or fourth FRU location code.
   - Each FRU location code can be up to 24 digits long and is displayed as containing up to eight 3-digit numbers.

- This is an example of a sequence of 4 FRU location codes:

```
c01 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx=First FRU
c02 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx=Second FRU
c03 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx=Third FRU
c04 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx=Fourth FRU
```

To read the FRU location codes:

a. Press **Reset** once and **c0x** will be displayed.

b. Press **Reset** again and record the first 3 digits of the 24-digit FRU location code. Repeat this step until you have recorded all 24 digits.

c. Press **Reset** again:

   - If **c0x** is displayed, return to Step 3b to record the next FRU location code.
   - If **ccc** is displayed, return to Step 1 on page A-4 to read the next type 103 message.
   - If a flashing **888** is displayed, there are no more FRU location codes or type 103 messages. Continue with Step 4 on page A-6.

d. You must determine the 8-digit location code (AB-CD-EF-GH) associated with the FRU location code. Each digit of the 8-digit location code is presented as a 3-digit number on the 3-digit display. The following example shows the relationship between the 8-digit location code and the FRU location code:

```
    A   B   C   D   E   F   G   H =8-digit
c01 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx=First FRU
c02 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx=Second FRU
c03 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx=Third FRU
c04 1xx 2xx 3xx 4xx 5xx 6xx 7xx 8xx=Fourth FRU
```

If a **ccx** (x can be any digit from 2 through 9) is displayed as part of the location code, only the part of the code that is different from the location code of the previous FRU is shown. To form the complete location code of the next FRU, substitute the information following the **ccx** into the location code of the previous FRU.

For example, if the previous FRU location is:

```
c01  100  200  300  401  500  601  700  800
```

and the next FRU location is listed as:

```
cc2  602
```

the complete location code of the next FRU is:

```
cc2  100  200  300  401  500  602  700  800.
```

To identify each digit of the location code (AB-CD-EF-GH), translate the rightmost 2 digits using the following table.

xx Value	xx Value	xx Value	xx Value
00 = 0	11 = A	21 = K	31 = U
01 = 1	12 = B	22 = L	32 = V
02 = 2	13 = C	23 = M	33 = W
03 = 3	14 = D	24 = N	34 = X
04 = 4	15 = E	25 = O	35 = Y
05 = 5	16 = F	26 = P	36 = Z
06 = 6	17 = G	27 = Q	
07 = 7	18 = H	28 = R	
08 = 8	19 = I	29 = S	
09 = 9	20 = J	30 = T	

4. To recover from the IBM 6611 stop indicated by the flashing **888**, you must have the customer restart the IBM 6611.

Reading Other Message Types

The only valid message types are Type 102, 103, and 104. Type 104 messages may be ignored. If another 3-digit number is displayed:

1. Press **Reset** until a flashing **888** appears on the 3-digit display.
2. When a flashing **888** appears, go to "Reading Flashing 888 Numbers" on page A-3.
3. If a flashing **888** does not appear, you should consider the numbers as steady numbers. Record **101-xxx** where **xxx** is the steady number displayed on the 3-digit display.

Crash Codes for Type 102 Messages

This section contains a list of the crash codes that are part of a type 102 message. See "Reading Type 102 Messages" on page A-3 for instructions about how to read a crash code from the 3-digit display.

The crash codes are:

000 Unexpected system interrupt.

200 System check because of a memory bus error.

201 System check because of a memory timeout.

202 System check because of a memory card failure.

203 System check because of an address that is out of range.

204 System check because of an attempt to write to ROS.

205 System check because of an unrecoverable address parity.

206 System check because of an unrecoverable ECC error.

207 System check because of an unidentified error.

300 Data storage interrupt from the processor.

32x Data storage interrupt because of an I/O exception from IOCC.

38x Data storage interrupt because of an I/O exception from SLA.

400 Instruction storage interrupt.

500 External interrupt because of a scrub memory bus error.

501 External interrupt because of a DMA memory bus error.

52x External interrupt because of an IOCC channel check.

53x External interrupt because of an IOCC bus timeout.

54x External interrupt because of an IOCC connector check.

558 Not enough memory space to continue.

700 Program interrupt.

800 Floating point is not available.

Dump Status Codes for Type 102 Messages

This section contains a list of the dump status codes that are part of a type 102 message. Dump status codes are displayed on the 3-digit display as explained in "Reading Type 102 Messages" on page A-3.

The leftmost position of each of the dump status codes is blank and a *0* is used in the list to represent the blank. A lowercase *c* is displayed in the lower half of the character position on the display.

The dump status codes are:

0c0 The dump completed successfully.

0c2 A user-requested dump has started.

0c3 The dump is inhibited.

0c4 The dump has not been completed. A partial dump may be present.

0c5 The dump program could not access the dump device.

0c7 Reserved.

0c8 The dump function is disabled.

0c9 A dump is in progress.

c20 System debug program is activated.

See "Error and Status Codes" for additional information.

Error and Status Codes

This section lists the error and status codes that can appear on the 3-digit display of the IBM 6611. The list is arranged in sequential order, not in hexadecimal order. For a detailed list of the Error and Status Codes, refer to the *Multiprotocol Network Program User's Guide*.

Code 0c0

Explanation: A user-requested dump has been completed successfully.

User Response: Progression indicator; no action.

Code 0c2

Explanation: A user-requested dump has started.

User Response: Progression indicator; no action.

Code 0c3

Explanation: The dump is inhibited.

User Response: The dump procedure cannot be performed at this time. Regenerate the failing operational scenario and perform the dump procedure correctly once the operational problem has been re-created.

Code 0c4

Explanation: The dump has not been completed. A partial dump may be present.

User Response: Check the dump device for partial dump output. Retrieve the partial dump output. Regenerate the failing operational scenario and perform the dump procedure correctly once the operational problem has been re-created.

Code 0c5

Explanation: The dump has failed to start. The dump program did not write to the dump device.

User Response: Check the diskette drive for correct diskette format. Regenerate the failing operational scenario and perform the dump procedure correctly once the operational problem has been re-created.

Code 0c8

Explanation: The dump is disabled. The system configuration does not include a dump device for the requested dump.

User Response: Configure and specify the dump device. Regenerate the failing operational scenario and perform the dump procedure correctly once the operational problem has been re-created.

Code 0c9

Explanation: A system-initiated dump is in progress. An unexpected system halt occurred and a system dump has started automatically.

User Response: Progression indicator; no action.

Code 10c-15c, 20c-25c, 30c-35c, 40c-45c, 50c-55c, 60c-65c, 70c-75c

Explanation: The system monitor process cannot access either the adapters installed in slots 1-7 (respective to the leftmost digit) or the protocol function code (respective to the middle digit) due to a problem with:

- System code that communicates with the adapters
- Adapter microcode
- Adapter hardware.

User Response: For suspected software problem (CE):

- Check error log to determine software problem.

For suspected hardware problem (CE):

- Execute the adapter diagnostics
- Check the adapters for correct installation
- Check the adapters for defects.

Code 1c1, 1c3, 1c5, 1c7, 1c9

Explanation: Starting protocol and configuration.

User Response: Progression indicator; No action.

Code 1c2, 1c4, 1c6, 1c8, 4c1, 4c6

Explanation: System monitor cannot start the IP configuration error log or the routing process due to the following representative errors:

- Process crash
- Process halted waiting for event trigger
- Process start threshold exceeded
- Process using too much memory
- Process using too much CPU time.

User Response: Progression Indicator; protocol disabled upon IPL completion.

Code 2c0

Explanation: Software is locked.

User Response: Progression indicator. IPL is halted. Software must be unlocked before successful IPL completion. Verify configuration and check with your system administrator.

Code 2c1-2c9, 3c0-3c9, 4c0, 4c2, 4c3, 4c4, 4c5, 4c7-4cc

Explanation: Software lock check and IPL process initiation. The following processes are initiated:

- IP protocol
- XNS protocol
- DECnet protocol
- SNMP protocol
- DLS protocol
- System monitor
- Process monitor
- Disk monitor
- Protocol monitor
- Interface monitor
- IPX protocol
- X.25
- Smart Card Routing Adapter Management
- Point-to-Point Protocol
- Token-Ring Bridging
- Transparent Bridging
- Appletalk protocol
- APPN program
- Asynchronous Routing Communications.

User Response: Progression indicator; no action.

Code 5c5

Explanation: The system monitor process cannot start the IBM Token-Ring Network Tranparent Bridge Program process due to the following representative errors:

- Process crash
- Process hung waiting for event trigger
- Process start threshold exceeded
- Process using too much memory
- Process using too much CPU time.

User Response: Progression Indicator, The transparent bridge spanning tree function is disabled upon IPL completion.

Code 5c6

Explanation: The system monitor process cannot start the Appletalk protocol process due to the following representative errors:

- Process crash
- Process hung waiting for event trigger
- Process start threshold exceeded
- Process using too much memory
- Process using too much CPU time.

User Response: Progression Indicator. The Appletalk protocol is disabled upon IPL completion.

Code 5c7

Explanation: The system monitor process cannot start the asynchronous routing communication process due to the following representative errors:

- Process crash
- Process hung waiting for event trigger
- Process start threshold exceeded
- Process using too much memory
- Process using too much CPU time.

User Response: Progression Indicator. The asynchronous routing communication process is disabled upon IPL completion.

Code 80c-99c, c40-c43

Explanation: The system monitor process cannot start functional monitoring and SNMP subagent processes due to the following representative errors:

- Process crash
- Process halted waiting for event trigger
- Process start threshold exceeded
- Process using too much memory
- Process using too much CPU time.

User Response: Progression indicator. The processes are disabled upon IPL completion.

Code c20

Explanation: The system debug program is activated due to an unexpected system halt that has occurred.

User Response: Progression indicator; flashing **888** is displayed and a system dump is performed after **c20** is displayed.

Code c50-c61

Explanation: Shutdown progression indicators.

User Response: Progression indicator; no action.

Code c67-c71

Explanation: Configuration diskette errors during IPL or code updates.

User Response: Progression indicator; the configuration process temporarily waits for problem resolution. Insert a valid configuration diskette into the diskette drive. For initial configuration, IPL operation continues if the diskette is inserted within 1 minute; after 1 minute, reinitiate the IPL operation with the configuration diskette in the diskette drive. For subsequent configurations, normal operation continues with the previous configuration active until the new configuration diskette is installed and the update sequence invoked from the System Manager.

Code c72

Explanation: Configuration errors detected after the configuration file is received. Representative errors include:

- Incorrect configuration data in file
- Configuration data and hardware mismatch
- Function validity
- Function interdependency error.

User Response: Check the error log for error details. Resolve the configuration error. For initial configuration, reinitiate the IPL procedure with the corrected configuration. For subsequent configurations, normal operation continues with the previous configuration active until the new configuration is available (configuration errors are resolved).

Code c73

Explanation: Wrong Configuration Program version number. The version of the configuration program must match the version of the Multiprotocol Network Program.

User Response: Acquire the correct Configuration Program version and ensure that it matches the Multiprotocol Network Program version. Reconfigure if necessary. Apply matching Configuration Program version to IBM 6611 with matching Multiprotocol Network Program version. Normal operation continues with the previous configuration active until the configuration and code versions match.

Code c74

Explanation: Wrong IBM 6611 model number. The model number in the configuration file does not match the model number of the IBM 6611.

User Response: Reconfigure the model number in the configuration. For initial configuration, reinitiate the IPL operation after the model number configured matches the machine model to which it is being applied. For subsequent configurations, normal operation continues with the previous configuration active until the configuration model and machine models match (new configuration file is available).

Code c80

Explanation: 6611 is activating all configured network adapters.

User Response: Progression indicator; no action.

Code c81

Explanation: The configuration data that requires the machine to be reinitialized (IPL) has changed. The IPL is in progress.

User Response: Progression indicator; no action.

Code c89

Explanation: The configuration process is complete. The adapters are initialized.

User Response: Progression indicator; no action.

Code c99

Explanation: Diagnostics are complete.

User Response: Progression indicator; no action.

This code is used only when there is no terminal attached to serial port 1.

Appendix B. Ordering Keys

For protection against unauthorized key duplication, the key mode switch is equipped with a Medeco high-security lock. Keys for this lock are a factory-restricted series, and duplicate keys *are not* available through normal commercial channels. The metal code tag supplied with your original keys authorizes you to purchase additional keys directly from the Medeco factory. The additional key supplied and the metal code tag should be stored in a secured area.

To obtain information or replacement keys, use the list below to contact the nearest Medeco distributor. Complete a copy of the order form and mail it to the distributor. As a security precaution, Medeco will not accept orders that do not include both the code tag and the official order form.

USA

Medeco
Department KLC
P.O. Box 3075
Salem, VA 24153

Europe

Claus Clausen
89a Authur Road
Wimbledon Park, London
SW 19 7DP England
Phone: 011-44-81-946-2823
Fax: 011-44-81-946-2286

Far East

Sung Kim
Geoho Corporation
P.O. Box 519
Kwang Chan Bldg. 4th Floor
983-42 Bangbia-dong
Seocha-Ku, Seoul
Korea
Phone: 011-82-02-521-2100
Fax: 011-82-02-521-2106

Australia

Neville Burr
ATM Lock A Safe Co. Pty. Ltd.
2/48 Ourimbah Road, P.O. Box 300
Tweed Head, N.S.W. 2485
Australia
Phone: 011-61-075-36-1611
Fax: 011-61-075-36-1611

Latin America

Ricardo DeCastro
Calle 22 No 3-30, Ofc. 201
P.O. Box A.A. No. 39955
Bogota, Columbia Sur America
Phone: 011-57-1-268-5827 or 6180
Fax: 011-57-1-268-2628

Middle East

Moshe Rotner
R.M. Rotan Marketing
34 Nordau Street, Herzlia B
P.O. Box 5138, Herzlia
Israel
Phone: 011-972-52-504622
Fax: 011-972-52-582357

Key Reorder Form

A copy of this form, when accompanied by the metal code tag supplied with the original keys, represents an IBM authorized order for additional factory keys.

Please indicate the quantity required and enclose a check or money order for the appropriate amount.

Number of keys required _____

Please Type or Print Your Return Address

Name _____

Address _____

City _____

State _____ Zip _____

Country _____

Select an address from the list provided on the previous page, and mail a copy of this form to that location.

Your key code tag will be returned with your new keys.

Note: No orders will be processed without both the key tag and this form.

ACL0A010

List of Abbreviations

ACSU	Advanced Channel Service Unit
AIX	Advanced Interactive Executive
ASCII	American National Standard Code for Information Interchange
AT	Attention command set
bps	bits per second
CCITT	Consultative Committee on International Telegraph and Telephone
CE	Customer Engineer
CPU	central processing unit
CR	carriage return
CRT	cathode ray tube
CSR	configuration report server
DLS	data link switching
DMA	direct memory access
ECC	error correction circuitry
EIA	Electronics Industries Association
ETX	end of text
FDX	full duplex
FRU	field replaceable unit
ID	identification
I/O	input/output
IOCC	input/output channel controller
IP	Internet Protocol
IPL	initial program load
IPRTS	permanent request to send
IPX	Internet Packet Exchange
LED	light-emitting diode
LF	line feed

MB	megabyte (1 048 576 bytes)
ms	millisecond
PC	personal computer
POST	power-on self-test
PRTS	permanent request to send
RAM	random access memory
RISC	reduced instruction-set computer
ROS	read-only storage
SCSI	small computer systems interface
SDLC	synchronous data link control
SLA	serial link adapter
SNMP	Simple Network Management Protocol
SRN	service request number
TCP	Transmission Control Protocol
VPD	vital product data

Reader's Comment

IBM 6611 Network Processor
Operations Pocket Guide

Publication No. GX27-3909-02

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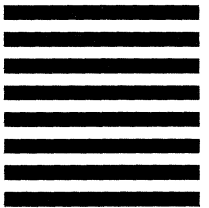

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