



Power Systems
Managing the twinaxial console

IBM Confidential





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Note

Before using this information and the product it supports, read the information in “Notices,” on page 9, the *IBM Systems Safety Notices* manual, G229-9054, and the *IBM Environmental Notices and User Guide*, Z125-5823.

This edition applies to IBM Power Systems servers that contain the POWER6 processor and to all associated models.

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Safety notices

Safety notices may be printed throughout this guide:

- **DANGER** notices call attention to a situation that is potentially lethal or extremely hazardous to people.
- **CAUTION** notices call attention to a situation that is potentially hazardous to people because of some existing condition.
- **Attention** notices call attention to the possibility of damage to a program, device, system, or data.

World Trade safety information

Several countries require the safety information contained in product publications to be presented in their national languages. If this requirement applies to your country, a safety information booklet is included in the publications package shipped with the product. The booklet contains the safety information in your national language with references to the U.S. English source. Before using a U.S. English publication to install, operate, or service this product, you must first become familiar with the related safety information in the booklet. You should also refer to the booklet any time you do not clearly understand any safety information in the U.S. English publications.

German safety information

Das Produkt ist nicht für den Einsatz an Bildschirmarbeitsplätzen im Sinne § 2 der Bildschirmarbeitsverordnung geeignet.

Laser safety information

IBM® servers can use I/O cards or features that are fiber-optic based and that utilize lasers or LEDs.

Laser compliance

All lasers are certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for class 1 laser products. Outside the U.S., they are certified to be in compliance with IEC 60825 as a class 1 laser product. Consult the label on each part for laser certification numbers and approval information.

CAUTION:

This product might contain one or more of the following devices: CD-ROM drive, DVD-ROM drive, DVD-RAM drive, or laser module, which are Class 1 laser products. Note the following information:

- Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.
- Use of the controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.

(C026)

CAUTION:

Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than Class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. (C027)

CAUTION:

This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

CAUTION:

Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following information: laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam. (C030)

Power and cabling information for NEBS (Network Equipment-Building System) GR-1089-CORE

The following comments apply to the IBM servers that have been designated as conforming to NEBS (Network Equipment-Building System) GR-1089-CORE:

The equipment is suitable for installation in the following:

- Network telecommunications facilities
- Locations where the NEC (National Electrical Code) applies

The intrabuilding ports of this equipment are suitable for connection to intrabuilding or unexposed wiring or cabling only. The intrabuilding ports of this equipment *must not* be metalically connected to the interfaces that connect to the OSP (outside plant) or its wiring. These interfaces are designed for use as intrabuilding interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metalically to OSP wiring.

Note: All Ethernet cables must be shielded and grounded at both ends.

The ac-powered system does not require the use of an external surge protection device (SPD).

The dc-powered system employs an isolated DC return (DC-I) design. The DC battery return terminal *shall not* be connected to the chassis or frame ground.

Managing the twinaxial console

The twinaxial console uses a command-line interface to access and manage the IBM i operating system without the need for a PC to act as a console.

You can use a twinaxial console to manage IBM i in a partitioned or nonpartitioned environment, which includes a single partition system. In a partitioned environment, you must use the Hardware Management Console (HMC) or the Advanced System Management Interface to configure, manage, and maintain your hardware.

The twinaxial input/output adapter (IOA) requires an input/output processor (IOP) to function. You must have an expansion unit for the IOA and IOP. You also must have an HMC to access and tag the resources in the expansion unit to assign a console. This action is required even if the system has only a single partition.

For information about how to change your twinaxial console to another console, see [Changing consoles, interfaces, and terminals](#).


Related concepts

[Managing the HMC](#)

[Managing your server using the Advanced System Management Interface](#)

[Changing consoles, interfaces, and terminals](#)

Related information

 [IBM System i and i5/OS Information Center](#)

Twinaxial console hardware environment

Learn how the twinaxial console operates in relation to the server, IBM i, the Hardware Management Console (HMC), and the Advanced System Management Interface (ASMI).

The twinaxial console is used to manage only IBM i and its resources. The HMC or the ASMI is used to configure, manage, and repair server hardware.

Twinaxial console with an HMC

If your system is managed by an HMC, you can use the HMC to manage server firmware, logical partitions, and Capacity on Demand. You can also use the 5250 emulation function on the HMC to communicate with the operating systems. In this configuration, you can choose to use a twinaxial console instead of the HMC 5250 emulator to manage an IBM i logical partition.

The following figure shows a twinaxial console, server, and HMC in this environment. In this example, the twinaxial console is directly connected to an IBM i logical partition over a twinaxial cable. The HMC is connected to the server firmware over a private network.

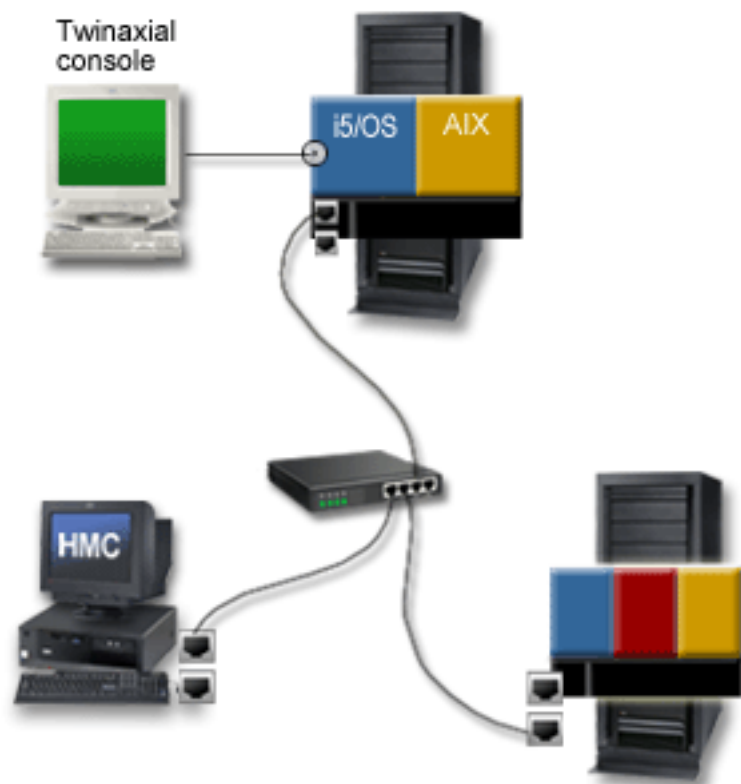


Figure 1. The twinaxial console in a hardware configuration with an HMC

Related concepts

Setting up and accessing the ASMI

Managing your server using the Advanced System Management Interface

Managing the HMC

Setting up the twinaxial console

Complete the required setup tasks to successfully set up the twinaxial console.

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- Connect power to this unit only with the IBM provided power cord. Do not use the IBM provided power cord for any other product.
- Do not open or service any power supply assembly.
- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.
- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.
- Connect any equipment that will be attached to this product to properly wired outlets.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.

To Disconnect:

1. Turn off everything (unless instructed otherwise).
2. Remove the power cords from the outlets.
3. Remove the signal cables from the connectors.
4. Remove all cables from the devices

To Connect:

1. Turn off everything (unless instructed otherwise).
2. Attach all cables to the devices.
3. Attach the signal cables to the connectors.
4. Attach the power cords to the outlets.
5. Turn on the devices.

(D005)

DANGER

Observe the following precautions when working on or around your IT rack system:

- Heavy equipment—personal injury or equipment damage might result if mishandled.
- Always lower the leveling pads on the rack cabinet.
- Always install stabilizer brackets on the rack cabinet.
- To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.
- Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.



- Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.
- Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.
- An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.

CAUTION

- Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.
- Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.
- Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.
- *(For sliding drawers.)* Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.
- *(For fixed drawers.)* This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.

(R001)

Prior to setting up your twinaxial console, complete the following prerequisite tasks:

- Ensure that the Hardware Management Console (HMC) is set up and configured. For HMC setup instructions, see Basic HMC installation and configuration task flow.
- Ensure that you have an expansion unit attached to your server. For instructions, see Expansion units.
- If you plan to manage an IBM i logical partition with this twinaxial console, ensure that an IBM i logical partition is configured, installed, and activated. For information about IBM i logical partitions, see Logical partition overview.
- Ensure the active console is configured for the logical partition.

- You have a current backup of your system or logical partition (including operating systems, licensed programs, and data). For information about backing up your system or logical partition, see Backup and recovery.
- You have the telephone number for your authorized service provider. You might need to contact your authorized service provider for the following:
 - Hardware problems
 - IBM service and support telephone numbers for electronic customer support, if you are outside of the United States. (For U.S. customers, these telephone numbers are automatically provided during setup.)

Find the number for your authorized service provider by contacting the dealer from whom you purchased your system.

After you have completed the prerequisite tasks, complete the following sections:

Cabling the twinaxial console to your server

Learn how to cable the twinaxial console to your server.

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- Connect power to this unit only with the IBM provided power cord. Do not use the IBM provided power cord for any other product.
- Do not open or service any power supply assembly.
- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.
- The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.
- Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.
- Connect any equipment that will be attached to this product to properly wired outlets.
- When possible, use one hand only to connect or disconnect signal cables.
- Never turn on any equipment when there is evidence of fire, water, or structural damage.
- Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.
- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.

To Disconnect:

1. Turn off everything (unless instructed otherwise).
2. Remove the power cords from the outlets.
3. Remove the signal cables from the connectors.
4. Remove all cables from the devices

To Connect:

1. Turn off everything (unless instructed otherwise).
2. Attach all cables to the devices.
3. Attach the signal cables to the connectors.
4. Attach the power cords to the outlets.
5. Turn on the devices.

(D005)

To cable the twinaxial console, complete the following steps:

1. Locate the 2746 adapter that is used for the console:

Note:

- The 2746 adapter requires an input/output processor (IOP) which might restrict where it can be placed in the system. For POWER6™ processor-based systems, the adapter must be placed in an expansion unit, which might require an Hardware Management Console (HMC).
 - If your system is managed by an HMC, you will select the intended adapter in the Console tag using the HMC.
2. Locate the 8-port twinaxial attachment cable (part number 21F5093), and attach it to the connector on the 2746 twinaxial adapter.
 3. Connect a twinaxial cable from the workstation that you will use as the system console to port 0 on the 8-port twinaxial attachment cable.

Note: The workstation address of your console must be set to 0. To set the address, see the reference material that was included with your workstation.

4. Plug in and turn on your console.
5. Plug in your server or uninterruptible power supply and attached expansion units.
6. Power on the managed system.

Signing on to IBM i using a twinaxial console

Learn how to use a twinaxial console to sign on to IBM i, to change the QSECOFR password, and to accept software license agreements.

To access IBM i, complete the following steps:

1. Type QSECOFR in the **User** field.
2. Type QSECOFR in the **Password** field, and then press Enter.

Notes:

- The password is not displayed as you type.
 - The QSECOFR password is set to expire when you receive your system.
 - The Sign-on Information window is displayed.
3. Press Enter. The Change Password window is displayed.
 4. Type QSECOFR in the **Current password** field.
 5. Type a new password in the **New password** field and in the **New password (to verify)** field. The new password must follow these rules:
 - Start with an alphabetic character
 - Be 10 characters or fewer
 - Contain any combination of alphabetic and numeric characters. Some of the special characters can be used as well.

Tip: Be sure to write down the new password and keep it in a safe place.

6. In the **Work with Software Agreements** field, type 5 to display and accept the software agreements for the licensed programs that you want to accept.

You must accept the software agreements for the Licensed Internal Code and the IBM i before the server can be used. If you do not accept these agreements, you must power off the server. If you decline acceptance of the software agreements for the other licensed programs, follow the instructions on how to remove these from the server.

The IBM i Main Menu is displayed.

Tip: Informational messages might be displayed on the Display Messages window. Press Enter.

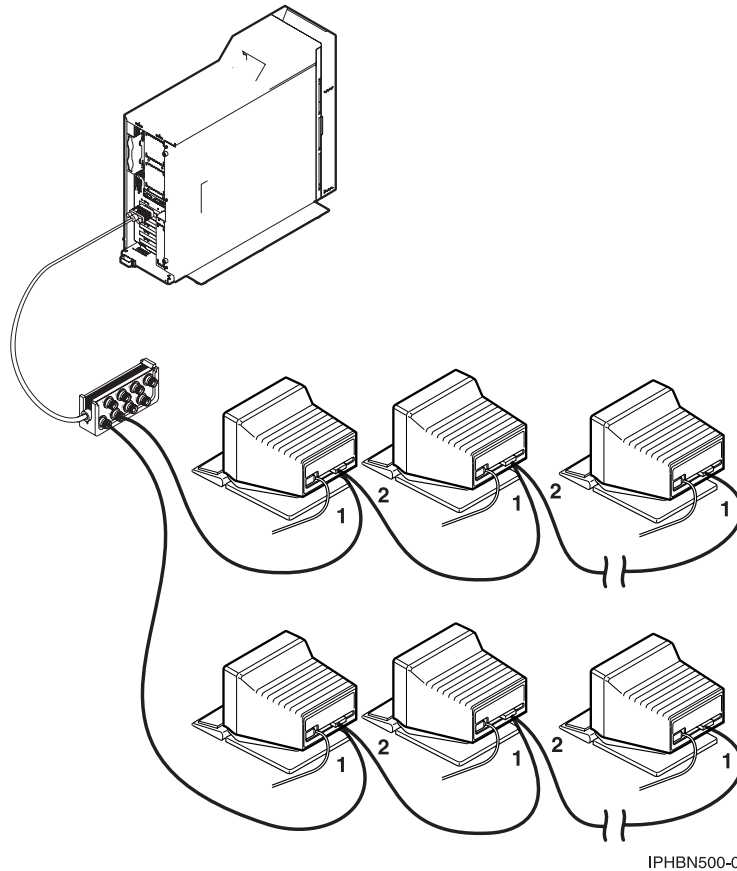
Connecting the twinaxial cables and feature cables to a network or device

Learn how to connect the twinaxial and feature cables. This task is optional.

DANGER

To prevent a possible shock from touching two surfaces with different protective ground (earth), use one hand, when possible, to connect or disconnect signal cables. (D001)

1. Using the HMC, power off the managed system.
2. Type PWRDWN SYS *IMMED on the command line of the twinaxial console, and then press Enter.
3. Connect the twinaxial cable to the twinaxial connector on the cable as shown in the following figure:



The workstations (monitors or printers) each have two sockets for cable connections. The workstations connect in a series to the twinaxial ports attachment connected to the back of the system unit.

- You can have as many as seven addresses for a series of twinaxial monitors on one port.
- The last workstation in each series must have a terminating plug. Most workstations have this already built in; however, some older models require an external terminating plug. To determine if the external terminating plug is required, refer to the documentation for the workstation.

An address is given to each workstation connected to the system. Each workstation that is attached to a port must have a unique address (0-6). It is not necessary to assign the addresses in sequential order. Follow the addressing instructions in the setup guide for each workstation.

4. Connect the feature cable to a network or device. To help you connect your cable, use the information that is provided with that network or device.

Appendix. Notices

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Electronic emission notices

Class A Notices

The following Class A statements apply to the IBM servers that contain the POWER6 processor.

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this

equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A respecte est conforme à la norme NMB-003 du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

European Community contact:
IBM Technical Regulations
Pascalstr. 100, Stuttgart, Germany 70569
Tele: 0049 (0)711 785 1176
Fax: 0049 (0)711 785 1283
E-mail: tjahn@de.ibm.com

Warning: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

VCCI Statement - Japan

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The following is a summary of the VCCI Japanese statement in the box above.

This product is a Class A Information Technology Equipment and conforms to the standards set by the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Electromagnetic Interference (EMI) Statement - People's Republic of China

声 明

此为 A 级产品,在生活环境中,
该产品可能会造成无线电干扰。
在这种情况下,可能需要用户对其
干扰采取切实可行的措施。

Declaration: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may need to perform practical action.

Electromagnetic Interference (EMI) Statement - Taiwan

警告使用者：

這是甲類的資訊產品，在
居住的環境中使用時，可
能會造成射頻干擾，在這
種情況下，使用者會被要
求採取某些適當的對策。

The following is a summary of the EMI Taiwan statement above.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user will be required to take adequate measures.

IBM Taiwan Contact Information:

台灣IBM 產品服務聯絡方式：
台灣國際商業機器股份有限公司
台北市松仁路7號3樓
電話：0800-016-888

Electromagnetic Interference (EMI) Statement - Korea

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Please note that this equipment has obtained EMC registration for commercial use. In the event that it has been mistakenly sold or purchased, please exchange it for equipment certified for home use.

Germany Compliance Statement

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Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse A ein.

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Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)". Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse A.

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Konformitätserklärung nach des EMVG ist die IBM Deutschland GmbH, 70548 Stuttgart.

Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Electromagnetic Interference (EMI) Statement - Russia

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