

# Bull ESCALA T Series

## Setting Up the System

*All you need  
to setup your system  
is HERE!!*



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## Setting Up the System

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### Hardware

December 1997

BULL ELECTRONICS EUROPE S.A.  
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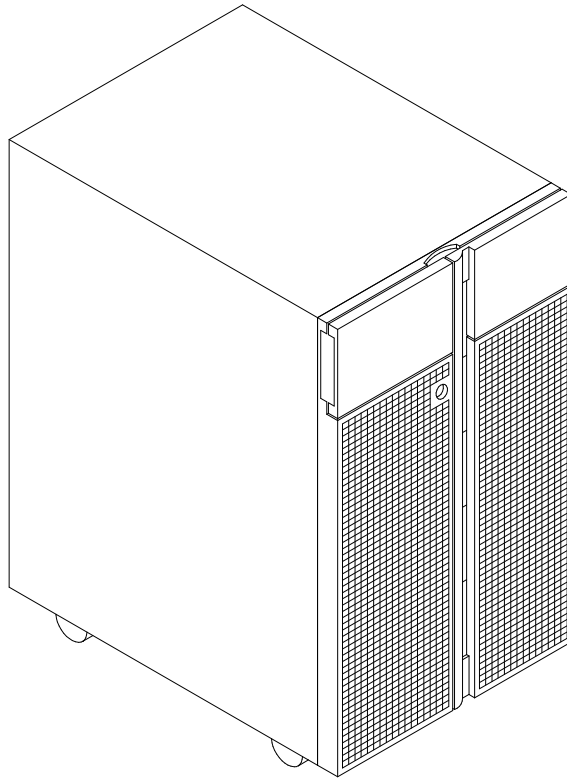
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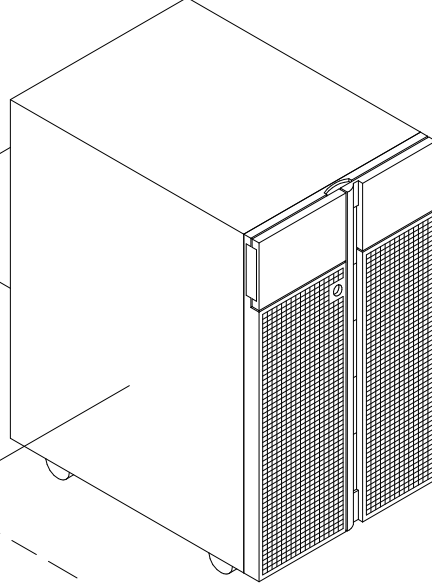
# *System Setup Roadmap*

# 1

508 mm  
20 inches

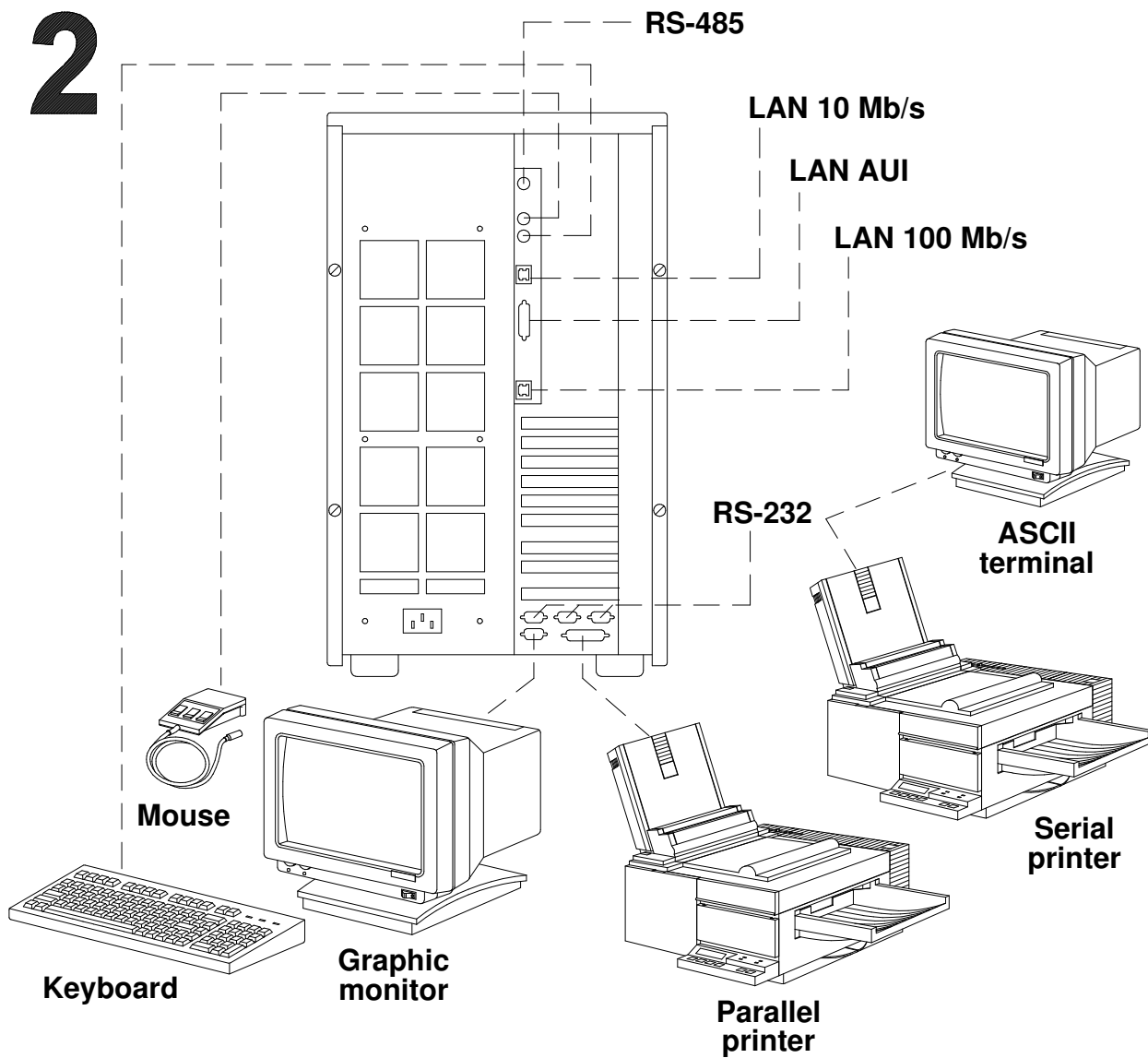
508 mm  
20 inches

508 mm  
20 inches



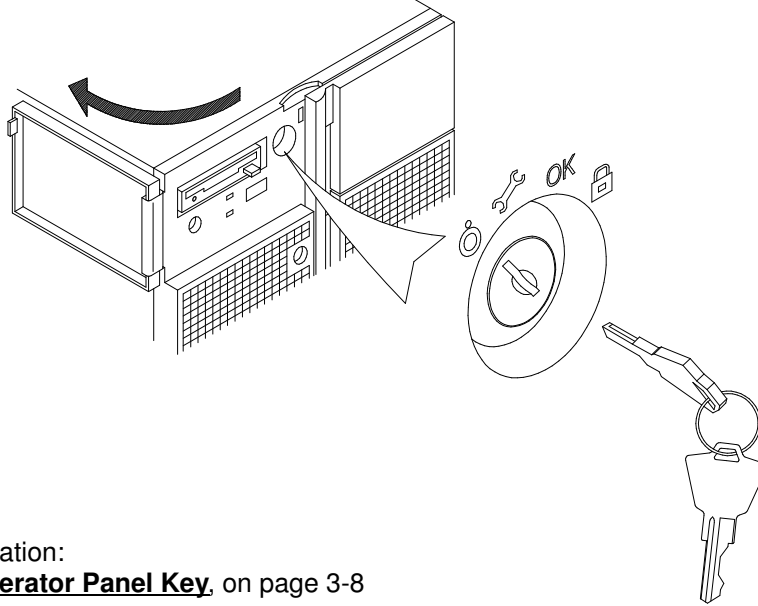
Reference information:  
**Site Preparation**, on page 2-1

# 2



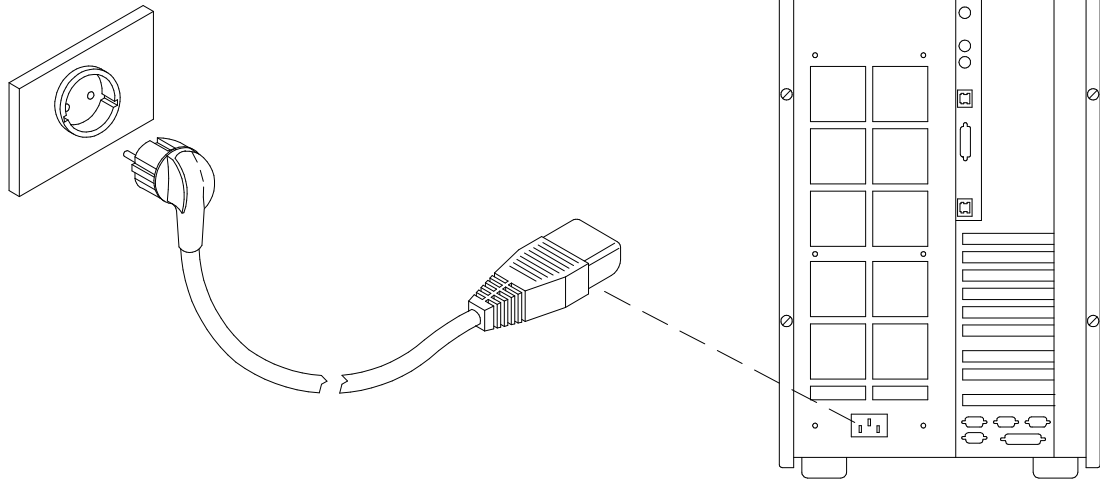
Reference information:  
**Connecting Devices**, on page 3-2

# 3



Reference information:  
**Inserting the Operator Panel Key**, on page 3-8

# 4



Reference information:  
**Connecting the Power Cord**, on page 3-10

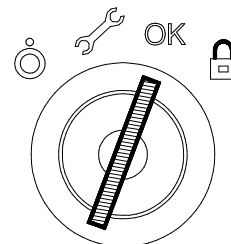
# 5

Check the software status for your system (pre-installed, not-installed).

- If the *Preload Report* sheet has been supplied with the system, the software is pre-installed. Skip to step 6.
- ● If the *Preload Report* sheet is not supplied with the system, the software is not-installed. Refer to the *AIX 4.2 Installation Guide*.

Reference information:  
**Checking the Software Status**, on page 3-11

# 6



Reference information:  
**First Startup of a Pre-Installed System**, on page 3-12





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# Communication Statements

The following statements apply to this product. The statements for other products intended for use with this product appears in their accompanying manuals.

## 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. Neither the provider or the manufacturer are 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.

## EC Council Directive

This product is in conformity with the protection requirements of the following EC Council Directives:

- 89/336/EEC and 92/31/EEC (for the electromagnetic compatibility)
- 73/23/EEC (for the low voltage)
- 93/68/EEC (for CE marking).

Neither the provider nor the manufacturer can accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of option cards not supplied by the manufacturer.

## International Electrotechnical Commission (IEC) Statement

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

## Avis de conformité aux normes du ministère des Communications du Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

## Canadian Department of Communications Compliance Statement

This Class A digital apparatus meets all requirements of the Canadian Interference Causing Equipment Regulations.

## VCCI Statement

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

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

This is a Class A product based on the standard of the Voluntary Control Council for Interferences by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

---

# Safety Notices

## Definitions of Safety Notices

A *danger* notice indicates the presence of a hazard that has the potential of causing death or serious personal injury.

A *caution* notice indicates the presence of a hazard that has the potential of causing moderate or minor personal injury.

A *warning* notice indicates an action that could cause damage to a program, device, system, or data.

## Placement of Safety Notices Inside This Manual

System safety notices which do not refer to a specific situation are included in these pages. Any specific safety notices are mentioned inside this manual whenever these must be observed during system operating or handling.

## IT Power Systems

This equipment has been designed also for connection to IT Power Systems.

## Device Disconnection

To remove the primary power from the unit, unplug the “Appliance Coupler” on the rear side.

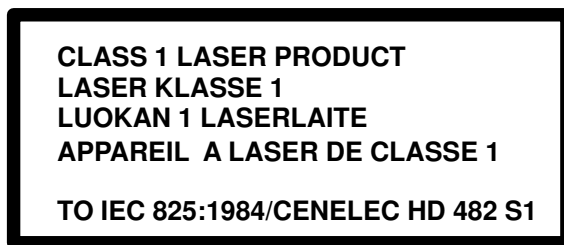
## Laser Safety Information

**Note:** The Optical Link Card (OLC) referred to in this information is part of the Serial Optic Channel Converter assembly.

This system may contain a laser product called the Optical Link Card (OLC). In the U.S., the OLC is certified as a Class 1 laser product that conforms to the requirements contained in the Department of Health and Human Services (DHHS) regulation 21 CFR Subchapter J. Internationally, the OLC is certified as a Class 1 laser product that conforms to the requirements contained in the International Electrotechnical Commission (IEC) standard 825 (1984), the Verband Deutscher Elektrotechniker (VDE) standard 0837 (1986), and the CENELEC (European Committee for Electrotechnical Standardization) Harmonization Document HD 482 S1 (1988). The German testing institute VDE assigned a certificate of conformity to DIN IEC 825/VDE 0837/02.86 and CENELEC HD 482 S1/03.88; the certificate registration number is 3642.

In addition, Statens Provningsanstalt (Swedish National Testing Institute) tested and approved the OLC for use in Sweden as a Class 1 laser product and assigned the approval number SP LA 89:184. The CDRH certification label and the VDE certificate of conformity mark are located on the plastic retainer of the OLC product. The figure shows the system Class 1 information label required by IEC 825.

Class 1 laser products are not considered to be hazardous. The OLC internally contains a gallium aluminum arsenide (GaAlAs) semiconductor laser diode emitting in the wavelength range of 770 to 800 nanometers. This laser diode is a Class 3B laser that is rated at 5.0 milliwatts. The design of the OLC is such that access to laser radiation above a Class 1 level during operation, user maintenance, or service conditions is prevented.



The Optical Link Card (OLC) must only be connected to another OLC or a compatible laser product. Any compatible laser product must contain the open fiber link detection and laser control safety system used in OLC. This is a requirement for correct operation of the optical link. In addition, the OLC product is designed and certified for use in applications with point-to-point optical links only. Using this product in any other type of optical link configuration (for example, links containing optical splitters or star couplers) is considered as not using the product correctly and may require that the user certify the laser product again for conformance to the laser safety regulations.

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# What We Do to Protect the Environment

Your new computer system is implemented following some principles aimed to reduce risks and harm to the environment, considering the impact that products can have during their life cycle: production, transport, installation, use at customer site and disposal at end of life.

- Only materials free from dangerous or polluting additives are used (e.g. polybrominated free material)
- All plastic parts are marked in order to correctly address the recycling operations
- The unit is designed taking into account the requirements for disassembly, largest parts are made of homogeneous material to facilitate recycling and, where possible, sub-assemblies are designed to be reused
- Packing is designed with the intent to reduce environmental impacts
- The unit itself does not produce polluting or dangerous emissions (lubricant, solvent, or other dangerous/polluting substances are not present in the unit)
- Production processes use water-based materials (e.g. paint). For electronic sub-assemblies, either hydro-soluble fluxes (Freon free) or no clean processes are used.



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# About This Guide

## Audience

This guide is for users who want to setup and startup the system on their own.

The procedures described in this guide are only for the system base unit setup; if you need to setup and startup the disk expansion unit, please refer to the *Disk Expansion Unit Quick Set Up* leaflet.

## How to Use This Guide

The primary goal of this guide is to explain what you should do when the system arrives.

- Chapter 1, *Knowing Your New System*, provides a brief overview of the system features and a description of the system documentation set.
- Chapter 2, *Site Preparation*, guides you in identifying and preparing the most suitable area to setup your system.
- Chapter 3, *Base Unit Setup Procedure*, includes any procedures needed to setup your system, connect peripherals and start the system for the first time.
- Chapter 4, *Starting and Stopping the System*, explains how to power on and power off the system for daily operations.
- Chapter 5, *What to Do When a Problem Occurs*, describes some minor problems that can arise when working with the system, and the related solutions.

This guide is also available in an online version.

## Related Publications

- *Hardware Tasks: Where Do I Find the Information I Need?*, is a hardware task roadmap which helps you find the task related information inside the documentation kit. This booklet is available on paper only.
- *Operator's Guide*, contains information about system operability, features and use of installed devices. This guide is available both on paper and in an online version.
- *Upgrading the System*, contains information about system upgrading in terms of memory, CPU's, controllers and devices. It is addressed to trained customers and service personnel. This guide is available both on paper and in an online version.
- *Maintenance and Service Guide*, provides the description of the base unit hardware components and the instructions for their installation and/or replacement. SCSI cables description and connection is also included. A section is dedicated to the maintenance tools provided with the system, such as offline tests, how to update system configuration parameters, for both the base unit and the disk expansion unit. This guide is addressed to people trained to perform service tasks on the system and is available on paper only.
- *Disks and Tapes Configuration Information*, describes the setting of addresses and switches for both disk and tape drives. It also includes information on CD-ROM drive setting. This guide is available on paper only.
- *AIX Installation Guide*, provides instructions for the installation of the operating system. This guide is available both on paper and in an online version.
- *Terminals and Printers Configuration Guide*, describes how to configure terminals, printers and LAN terminal concentrators. This guide is available both on paper and in an online version.

- *Terminal and Printer Connections*, describes how to connect a terminal or a printer that is not supplied with the system.  
This guide is available on paper only.

In addition, if at least one disk expansion unit is connected to the base unit, you can find the relevant information in the disk expansion unit specific documentation.

- *Disk Expansion Unit Quick Set Up*, contains the connection procedure to the base unit and the hardware procedure for a quick set up of the disk expansion unit.  
This guide is available on paper only.
- *Using the Disk Expansion Unit*, contains information about the disk expansion unit operability, features and configuration rules.  
This guide is available on paper only.
- *Disk Expansion Unit Service Guide*, provides the description of the disk expansion unit hardware components, instructions for their installation and/or replacement and the SCSI cable description and connections. This guide is addressed to people trained to perform service tasks on the system.  
This guide is available on paper only.



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# Chapter 1. Knowing Your New System

This chapter contains information about system unpacking and a description of the available system documentation. In addition, it provides a simple overview of the system.

- Unpacking and Inspecting Your System Unit**
- System Documentation**
- System Features Overview**

---

# Unpacking and Inspecting Your System Unit

## CAUTION:

**To avoid possible injury while moving the system, ask another person to help you.**

Move the system to the area that you have chosen according to the environmental and technical characteristics indicated in the **Site Preparation** chapter, on page 2-1.

If not yet done, carefully unpack the system unit and components, following the information on the shipping box. Save all packing materials so that you can repack the system in case you ever need to move or ship it.

Your system was checked and carefully packed before it left the manufacturer.

Contact your authorized supplier or marketing representative if any items seem to be damaged or if you think that something is missing.

---

## System Documentation

The system is shipped with a set of hardware and software manuals, which lead users in setting up, operating, upgrading the system and installing software. These manuals constitute the basic documentation kit.

Additional documentation is delivered according to the specific products your system is equipped with.

Some manuals are on paper only, some ones are both on paper and on CD-ROM, while other ones are on CD-ROM only. For information on online documentation, which is delivered on CD-ROM, see **Online Documentation** below.

For detailed information about the system specific documentation, please refer to the *Hardware Tasks: Where Do I Find the Information I Need?* booklet, delivered with your system.

## Maintenance Kit

A maintenance kit including a specific set of paper documentation is available at any authorized supplier. It is addressed to both service people and trained customers who are in charge of the system maintenance.

For a detailed list of the manuals included in the maintenance kit, please refer to the *Hardware Tasks: Where Do I Find the Information I Need?* booklet.

## Online Documentation

Most of the system documentation is provided in online format. This includes both hardware and software documentation.

Online documentation offers you several advantages:

- You can find the information you need quickly, automatically jumping from one documentation topic to the others, simply clicking with your mouse on the desired topic
- You can access the information you need from any workstation or terminal connected to your system, with no need to have paper documentation at hand
- In case you need it, you can print the selected topic.

Refer to the CD-ROM booklet for information on online documentation use.

---

## **System Features Overview**

The following paragraphs give a brief description of the system features and help you become familiar with the system components.

- System Features**
- Front View of the Base Unit**
- Rear View of the Base Unit**

# System Features

## Base Unit

The following list summarizes the features provided by the system base unit:

### Integrated Controllers

- One ULTRA SCSI and one FAST WIDE SCSI single ended (SE) embedded controller
- A LAN (AUI and RJ-45) at 10M bits and 100M bits (RJ-45)
- One video graphics adapter (SVGA) with internal power save control
- Three RS-232 standard communication lines
- One parallel printer port
- One EIA-485 inter-cabinet communication line
- Support for an integrated modem using one ISA port.

### Disk Devices

- Up to 12 x 1-Inch high or 8 x 1.6-Inch high hard disks.

### Media Devices

- One floppy diskette drive
- Up to 4 media devices, such as CD-ROM, 4 mm/8 mm tape, QIC tape.

### PCI/ISA Controllers

- Up to 9 PCI/ISA cards (6 PCI cards + 2 PCI/ISA cards + 1 ISA card).

### Memory

- From 64M bytes to 512M bytes on the system planar
- From 64M bytes to 3G bytes on memory risers.

### CPU's

- Up to 4 CPU cards.

### Operating System

- AIX 4.2 or higher.

### Disk Expansion Unit

- Up to 2 disk expansion units can be connected to the base unit.

## Disk Expansion Unit

### Disk Devices

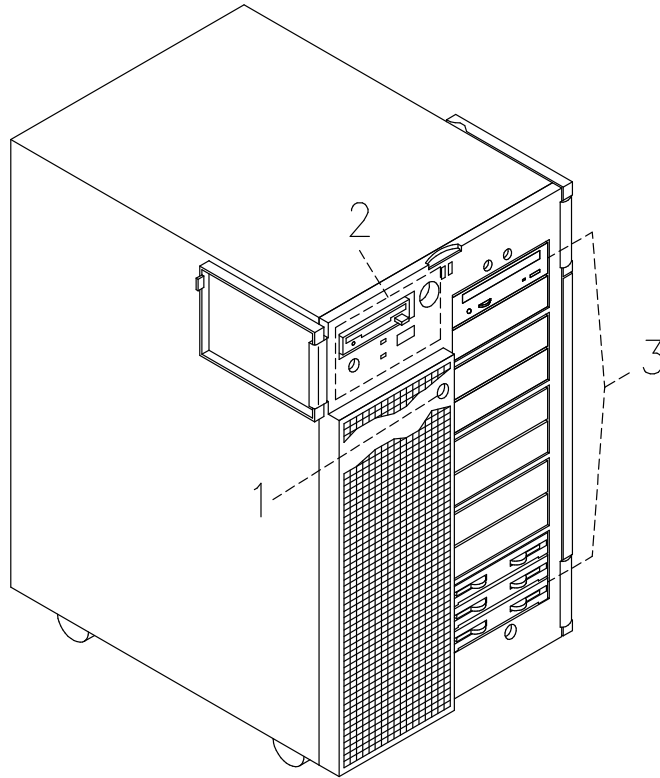
- Up to 12 x 1-Inch high or 8 x 1.6-Inch high hard disks.

### Media Devices

- Up to 2 media devices, such as CD-ROM, 4 mm/8 mm tape, QIC tape.

## Front View of the Base Unit

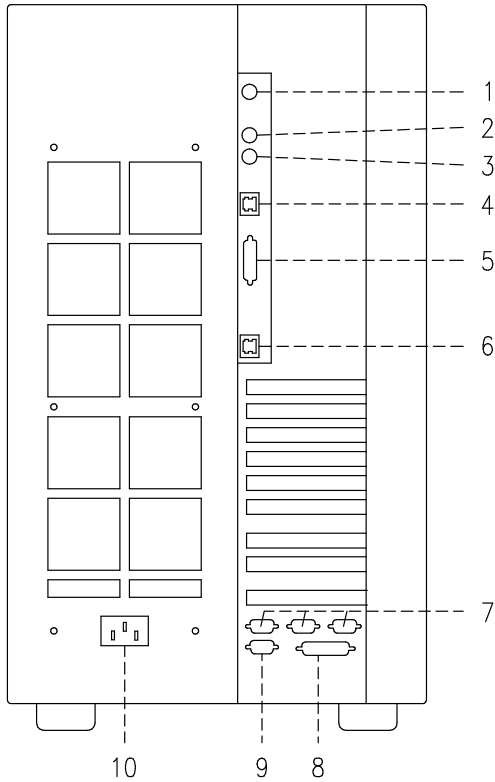
From the front of the base unit, you have access to the following features and components:



- ① **Device Shutter Key Lock**
- ② **Operator Panel**
- ③ **Media and Disk Devices Area**

## Rear View of the Base Unit

From the rear side of the base unit, you have access to the following connectors:



- ❶ **RS-485:** for expansion unit connection
- ❷ **Mouse:** 6-pin mini-DIN female
- ❸ **Keyboard:** 6-pin mini-DIN female
- ❹ **LAN 10M-bit:** RJ-45
- ❺ **LAN AUI:** 15-pin female
- ❻ **LAN 100M-bit:** RJ-45
- ❼ **Three serial ports RS-232:** 9-pin male, from right to left: COM1, COM2 and COM3
- ❽ **Parallel port:** 25-pin female
- ❾ **Video graphics:** SVGA 15-pin female
- ❿ **Power cord receptacle**

---

## Chapter 2. Site Preparation

The following paragraphs tell you how to find a suitable location for the system and list the system and environment specifications for the base unit.

The same level of information for the disk expansion unit is provided in the *Using the Disk Expansion Unit* manual.

- Preparing the Site**
- Physical Dimensions**
- Operating Specifications**
- Acoustic Noise**
- Standards**

---

## Preparing the Site

Make sure you have an adequate number of proper telephone plugs, grounded electrical outlets for your system, display, and any other options you intend to install.

Place your system in a location that is dry. Rain or spilled liquids might damage your system.

## Floor

The floor should be made of a durable, antistatic, insulating material which will not produce or retain dust and can be easily cleaned.

Recommended materials are:

- Laminated material
- Linoleum
- Tiles
- Vinyl.

Materials not to be used are:

- Parquet (produces dust when polished)
- Waxed or glass surfaces (a source of static electricity)
- Carpets (produce and retain dust and are a source of static electricity).

If a carpet is necessary, it must be made of an antistatic material or treated with antistatic product.

## Fire Protection

Fire extinguishers should be installed in the system room containing carbon dioxide (CO<sub>2</sub>) or inert gas. If a water system is used, precautions should be taken to prevent the accidental turning on of the water.

It is recommended to install smoke and heat detectors.

## Arranging your Office

We offer you some information for adjusting the furniture in your office.

An adjustable chair with comfortable support is suggested, adjust the chair to fit your body properly.

Your lower back (lumbar region) should be supported correctly by the back of the chair.

Place your monitor slightly below your eyes level when you are sitting at the keyboard. Keep an adequate distance from your eyes to the screen about 18 - 28 in. (450 - 700 mm).

Position the monitor to minimize glare and reflections on the screen and, if necessary, use the screen filter to protect against electrostatic discharge.

Keep your screen clean, to reduce unwanted reflections.

## Avoiding Fatigue

A non-direct light of about 500 lm/m<sup>2</sup> (lumen per square meter) measured at a distance of 750 mm from the floor should be enough to work in comfort.

When you are seated since long time, stand up and take a short break to reduce fatigue and to relax your eyes.



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## Physical Dimensions

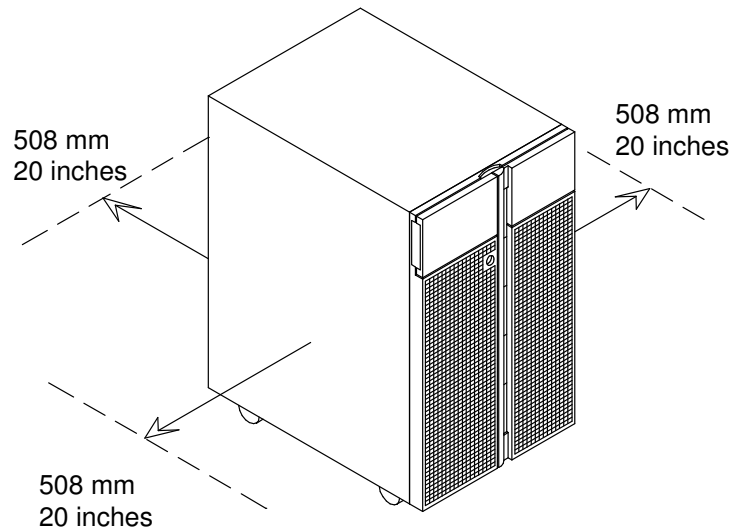
The table below lists the dimension of the system base unit.

	Base Unit	
<b>Height</b>	24.8 inches	630 mm
<b>Width</b>	13.9 inches	353 mm
<b>Depth</b>	20 inches	508 mm
<b>Weight</b>	121.4 lbs*	55 kg*

\* This value corresponds to a maximum system configuration; i.e. including a max. number of cards and devices.

## Clearance

The amount of space needed by the system unit during normal operation is indicated in the figure below.



In addition, before installing the system, you should keep into consideration also the space that could be necessary on each side for possible service and maintenance.

---

# Operating Specifications

The system base unit operates correctly with the following working conditions.

## Environment Specifications

### Relative Humidity

	System Running	System On Standby
<b>Relative Humidity:</b>	from 20% to 80% without condensation	from 5% to 95% without condensation
<b>Gradient:</b>	10%/h	30%/h
<b>Max. Wet Bulb Temperature:</b>	+24°C (+75.2°F)	+28°C (+82.4°F)
<b>Moisture Content:</b>	0.019kg water/kg dry air	0.024kg water/kg dry air

### Environment Temperature

	System Running	System On Standby
<b>Dry Bulb Temperature:</b>	from +10°C to +40°C** (from +50°F to +104°F)	from +5°C to +50°C (from +41°F to +122°F)
	** 32°C (89.6°F) with K45 CPU cards	
<b>Gradient:</b>	10°C/h (50°F/h)	25°C/h (77°F/h)

### Barometric Pressure

<b>Min:</b>	747 hPa (altitude 2500 m)
<b>Max:</b>	1020 hPa (altitude -150 m)

## Power Specifications

### Power International Standard

IEC 555-2 (IEC 1000-3-2)

### Base Unit Power

950 VA

### Operating Voltage

<b>Voltage:</b>	100 Vac to 127 Vac 200 Vac to 240 Vac	Nominal, Auto ranging Nominal, Auto ranging	+6%, -10% +6%, -10%
<b>Frequency range:</b>	50 to 60 Hz	±3%	
<b>Current:</b>	Max 9.5 A Max 4.5 A	at 100 Vac at 200 Vac	

---

## Acoustic Noise

The values listed in the table below correspond to a system placed in a room having the temperature of +20°C (+68°F), with a configuration including:

- 1 CPU card
- 4 memory risers
- 3 PCI/ISA cards
- 3 hard disks and
- 2 media devices.

	<b>System Running</b>	<b>System Idle</b>
<b>Acoustic Power</b>	Lw(A): 57 dB	Lw(A): 56 dB
<b>Acoustic Pressure</b>	Lp(A): 53 dB	Lp(A): 52 dB

---

## Standards

The system complies with the following standards:

### Hardware

- EMC-CISPR 22 Class A
- VDE871-2 Class A
- FCC CFR47 Class A
- VCCI Class A
- Safety: EN60950 / IEC950 - CSA950 - UL1950.

### Firmware

- IEEE1275-1994 (Open Firmware).

The system is also compliant with the following European directives:

- 73/23/EEC
- 89/336/EEC and 92/31/EEC
- 93/68/EEC.

---

## Chapter 3. Base Unit Setup Procedure

Perform all the procedures described in this chapter in the indicated order to setup your base unit and make it operational.

- Connecting Devices**
- Inserting the Operator Panel Key**
- Connecting the Power Cord**
- Starting the System for the First Time**

**Note:** If you need to connect one or more disk expansion units to the base unit, proceed as follows:

1. Set up the base unit, start it for the first time and make sure that no errors are detected during the initial start up, following the procedures described in this chapter.
2. When you are sure that the base unit operates correctly, connect the disk expansion unit(s), following the set up procedure described in the *Disk Expansion Unit Quick Set Up* guide.

---

## Connecting Devices

The following paragraphs explain how to physically connect devices to the system base unit.

- Connecting Terminals**
- Connecting Keyboard and Mouse**
- Connecting Printers**
- Connecting PCI Controller Cables**

### **DANGER**

**When adding or removing any additional devices to or from the system, ensure that the power cables for those devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.**

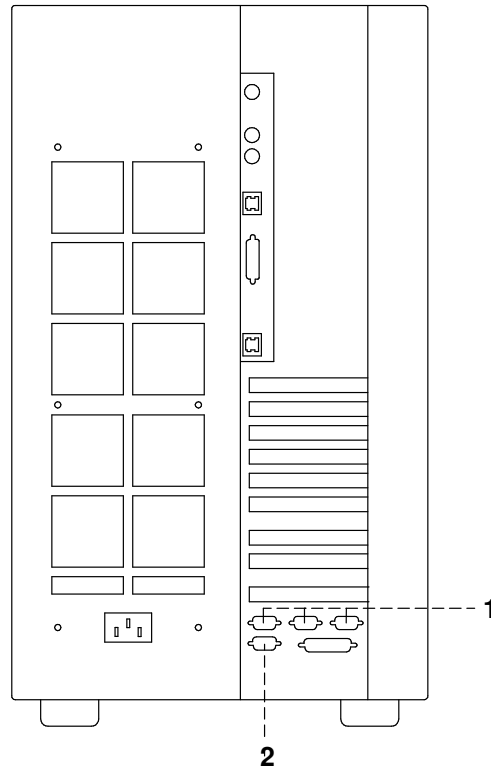
**Use one hand, when possible, to connect or disconnect signal cables to prevent a possible shock from touching two surfaces with different electrical potentials.**

**During an electrical storm, do not connect cables for display stations, printers, telephones, or station protectors for communication lines.**

## Connecting Terminals

The figure indicates the three serial ports and the SVGA port:

### Base Unit Rear Side



- ① From right to left: **COM1, COM2, COM3 serial ports**
- ② **SVGA port**

The following summarizes the function of the terminal ports available on the system:

- |             |   |
|-------------|---|
| <b>COM1</b> | Used to connect an ASCII terminal. This terminal is called BUMP console. The Stand-By menu is available only on the terminal connected to this port.  |
| <b>COM2</b> | Used to remotely connect, via an external modem, an ASCII terminal to be used for remote maintenance by customer service centers. It can also be used as a normal RS-232 serial line.   |
| <b>COM3</b> | Used as a normal RS-232 serial line. It can also be used to connect an external UPS device (Uninterruptible Power Supply). The UPS, if present, provides continuous power to the system and sustains it in case of outages, for a given amount of time. |
| <b>SVGA</b> | Used to connect a graphic display monitor which is defined, by default, as the Open Firmware console.   |

Perform the following steps to physically connect any terminals to your system:

1. Connect the terminal to the proper port on the rear of the unit, as follows:
  - If you have a graphic monitor, connect it to the SVGA port
  - If you have an ASCII terminal, connect it to the COM1 serial port (BUMP console) or to any other free serial port.
2. Connect the terminal(s) power cord(s) to the proper power outlet(s).

Once you have connected the required terminal(s), decide which one you want to use as the system console:

- If it is a graphic terminal, no additional operation is required.
- If it is an ASCII terminal, you need to:
  - Switch the terminal on
  - Press the appropriate key to activate the terminal setup menu

**Note:** For information about the key(s) used to activate the terminal setup menu and how to set the required options, refer to the terminal specific documentation.

- Check that the following options are set as specified below:

**Communication Options**

Line Speed (baud rate)	9600
Word Length (bits per character)	8
Parity	no (none)
Number of Stop Bits	2
Interface	RS-232C (or RS-422A)
Line Control	IPRTS

**Keyboard and Display Options**

Screen	normal
Row and Column	24x80
Scroll	jump
Auto LF (line feed)	off
Line Wrap	on
Forcing Insert	line (or both)
Tab	field
Operating Mode	echo
Turnaround Character	CR
Enter	return
Return	new line
New Line	CR
Send	page
Insert Character	space

- After having successfully completed the console setup, you may switch it off.

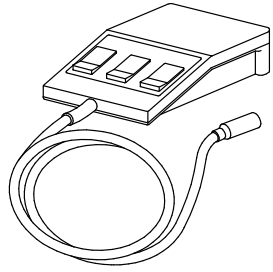
**Note:** Remember that the above settings must be performed for all ASCII terminals connected to the system, before you use them. Refer to the specific terminal documentation for detailed information.



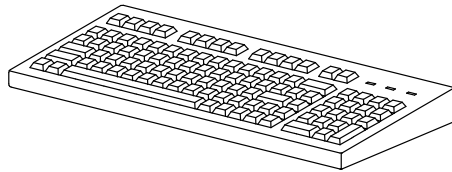
## Connecting Keyboard and Mouse

**Note:** Keyboard and mouse are for use with graphic monitors only. You do not need to connect them, if you are not going to connect any graphic monitor.

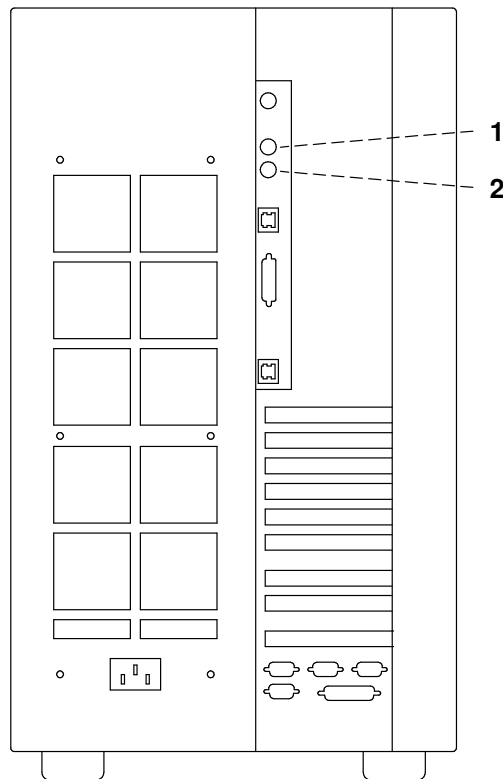
Connect the mouse to the dedicated connector at the rear of the base unit. Do not force the cable plug into the socket.



Connect the keyboard to the dedicated connector at the rear of the base unit. Do not force the cable plug into the socket.



### Base Unit Rear Side



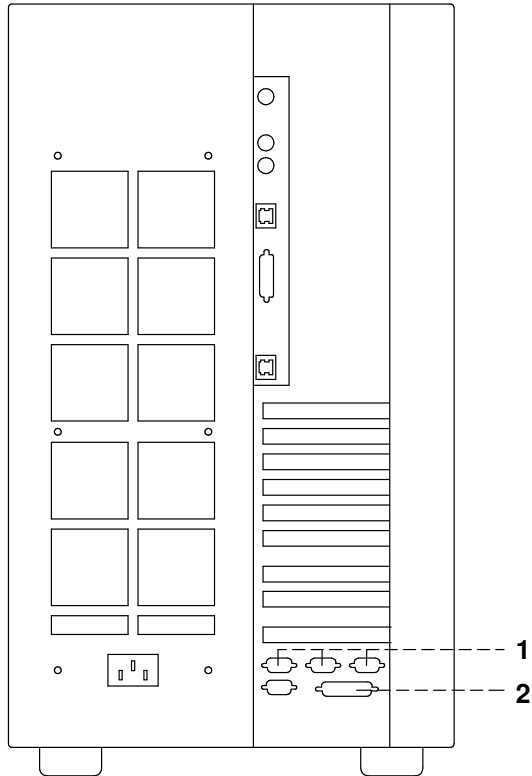
- 1 **Mouse Connector**
- 2 **Keyboard Connector**

## Connecting Printers

If you need to connect a printer to your system:

1. Connect the printer to the proper connector on the rear of the base unit, as follows:
  - If you are going to use it as a parallel printer, connect it to the enhanced parallel connector
  - If you are going to use it as a serial printer, connect it to one of the serial connectors (RS-232 ports).

### Base Unit Rear Side



#### ① Serial Ports

#### ② Parallel Port

You can also connect printers to a SCSI port (if PCI controllers housing SCSI ports are installed inside the system unit), and to the Ethernet network using either the native connector or external ones.

2. Connect the printer power cord first to the printer itself and then to a power outlet.

For further information about your printer connection and configuration, please refer to the documentation provided with the printer itself and to the *Terminals and Printers Configuration Guide*.

## Connecting PCI Controller Cables

If you need to connect one or more PCI controller cables for external connections, please refer to the specific documentation delivered with each controller and, for SCSI connections to the *Maintenance and Service Guide* and *Disk Expansion Unit Service Guide* manuals.

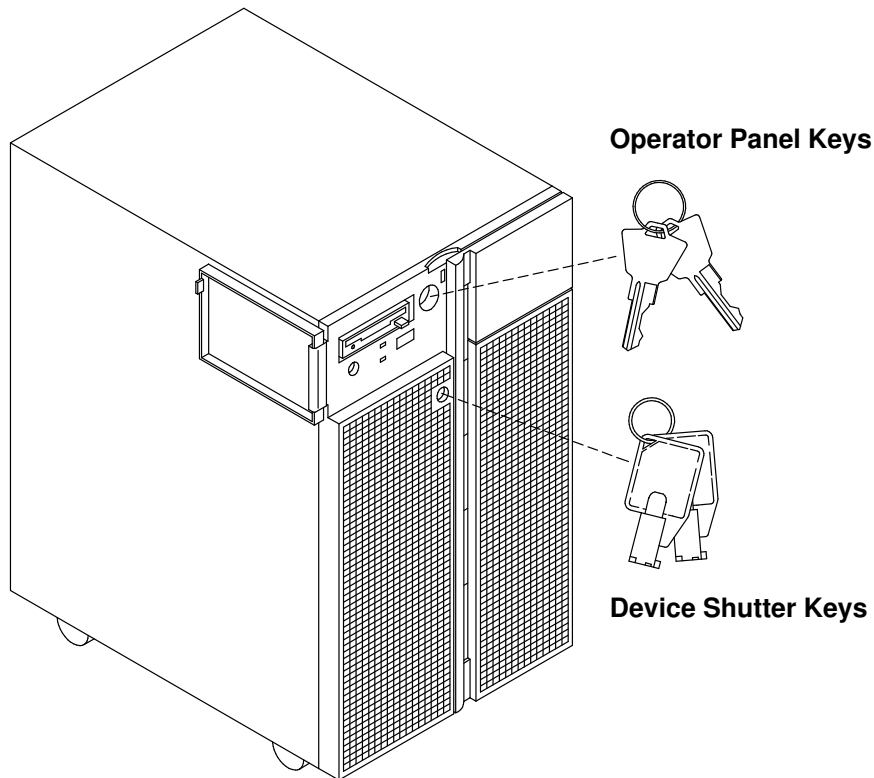
---

## Inserting the Operator Panel Key

Two pairs of keys are supplied with the system base unit.

One pair is used as the operator panel key which enables the power on/off function and the operation mode. These functions are managed by the key controlled switch which is named Key Mode Switch.

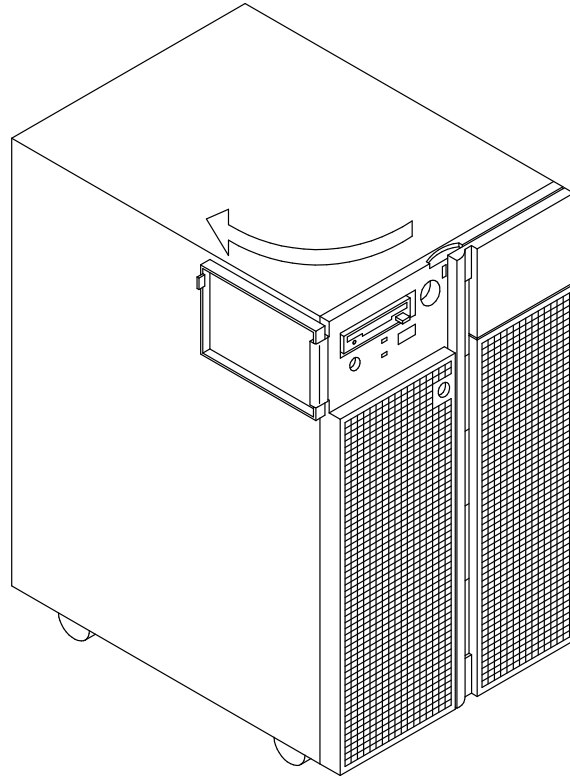
The second pair of keys is used to mechanically lock/unlock the device shutter.



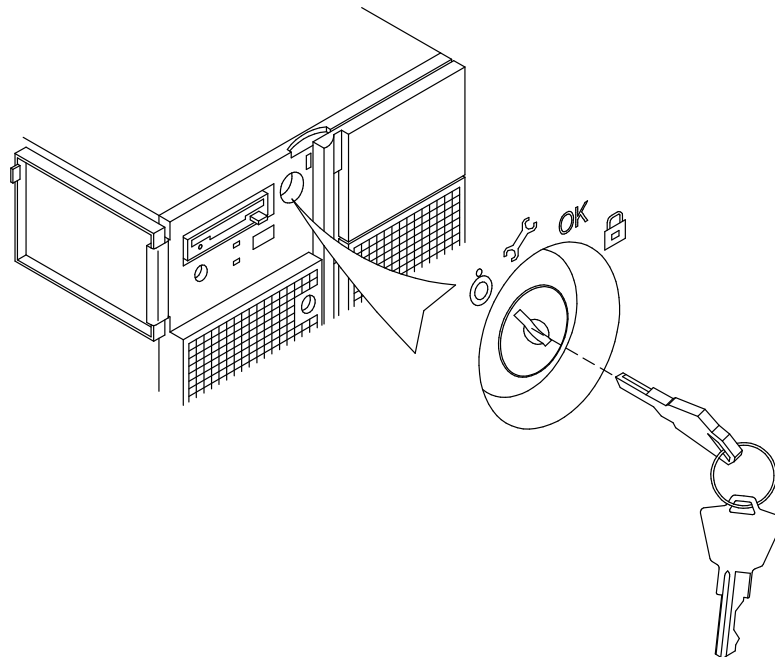
Put the device shutter keys in a safe place because these are not needed now. To go on with the system setup procedure you are required only to insert one of the operator panel keys in the Key Mode Switch.

Insert the operator panel key performing the following steps:

1. Gain access to the operator panel firmly gripping the front bezel and opening it to the left.



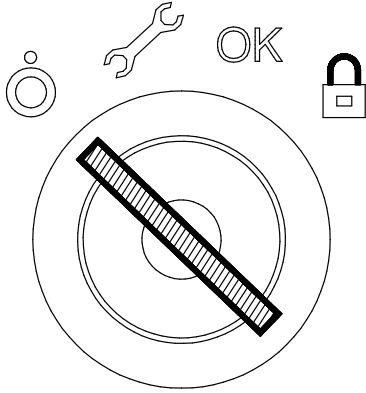
2. Insert the operator panel key in the Key Mode Switch in the position shown in the figure.



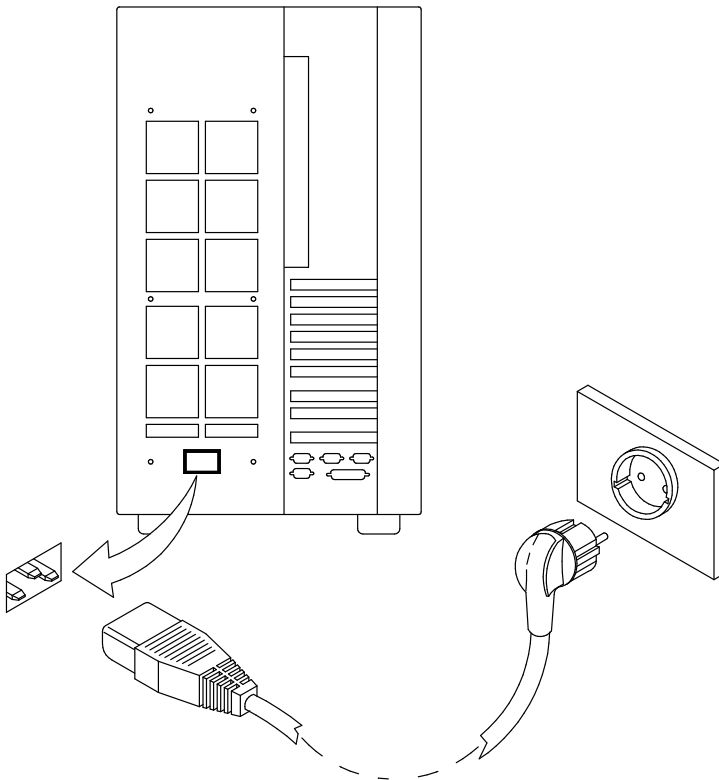
## Connecting the Power Cord

Before performing the first startup of the system, the following steps must be performed to give it AC power.

1. Make sure that the Key Mode Switch is set to the Power Off position and all external devices connected to the system are powered off.



2. Identify the power receptacle toward the bottom of the rear of the system.
3. Connect the power cord supplied with the system, first to the system unit, and then to the wall outlet as shown in the figure.



### CAUTION:

An electrical outlet that is not correctly wired could place hazardous voltage on 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.

---

## Starting the System for the First Time

- Checking the Software Status
- First Startup of a Pre-Installed System
- First Startup of a Not-Installed System

### Checking the Software Status

The software for your system unit can be:

- Pre-installed
- Not-installed.

By default, the system software is pre-installed on your system, when you receive it. This makes your first startup of the system easier and faster.

Make sure your system software is pre-installed, by checking that the *Preload Report* sheet has been supplied with the system unit. This is a one sheet document which indicates where you can find the preload report file on your system disk.

**Note:** Once the system is running, you can list the installed software with the command:

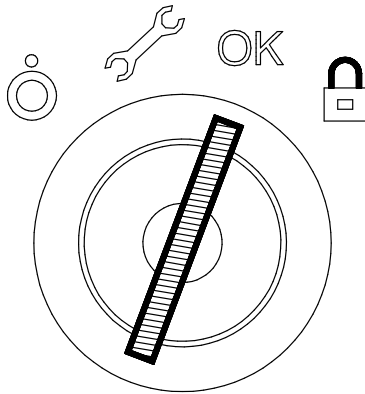
```
ls1pp -l | pg
```

According to the software status, choose the proper procedure for your system startup.

## First Startup of a Pre-Installed System

If your system is pre-installed, you only need to perform some simple customization tasks the first time you power it on. These are tasks like setting time and date, setting root password, create users. A guided program, called *Installation Assistant*, leads you through the required steps. A contextual help is included in the program.

1. Be sure that you have connected all external devices to the system unit and all power cords (including the system unit one) to the proper power outlets, as previously described in this guide.
2. Power on all external devices (e.g., terminals and printers).
3. Power on the system unit setting the Key Mode Switch to the Normal position.



4. After some minutes, each terminal connected to the system displays a screen asking you to identify your system console. A specific key is indicated for each terminal. Press the specified key on the terminal you want to use as the system console. Press a key on only one terminal.
5. The startup procedure continues up to the display of the *login* prompt. Type `root` and press the Enter key or click on the OK button. If you are using a graphic monitor go to step 6, otherwise skip to step 7.
6. Open a window on your desktop.
7. Type `install_assist` and press the Enter key.
8. The *Installation Assistant* screen appears. Execute the tasks that apply to your system in the order they are listed. If you need information on the tasks, use the program help. You can also find further information on the *Installation Assistant* program in the *AIX Installation Guide*.
9. When all the needed tasks are completed, exit to the operating system login prompt, through the *Tasks Completed* selection of the program.

If you need information on the operating system licenses, please refer to the *AIX Installation Guide*.

Your system is ready to work.

## First Startup of a Not-Installed System

In case your system software is not installed, refer to the *AIX Installation Guide*.



---

## Chapter 4. Starting and Stopping the System

This chapter describes the steps for the power on and power off procedures for daily operation of your system.

- Starting the System**
- Logging into the System**
- Stopping the System**
- Rebooting the System**

---

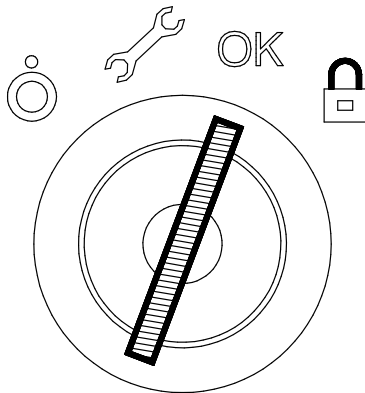
## Starting the System

**CAUTION:**

**For proper cooling and safe operation of the computer, all the covers must be in place before you power up the system.**

Follow these steps to power up the system for your daily operation.

1. If a disk expansion unit is connected, be sure that its Key Mode Switch is properly set. For detailed information, please refer to the *Using the Disk Expansion Unit* manual.
2. Be sure that the system unit, all external devices and expansion units (if any), are connected to the proper power outlets.
3. Switch on the external devices (if connected).
4. Switch on the system console.
5. Power on the system setting the base unit Key Mode Switch to the Normal position.



6. The system begins its normal startup routine and is ready for use.
7. You can now log into the system.

**Note:** In case you power on the system by setting the Key Mode Switch to the Service position, you enter the operating system diagnostic mode.

---

## Logging into the System

**Warning:** After you have started the system, it may take a few minutes for your login prompt to appear on the display. This amount of time depends on your system configuration. Do not press any keys while you are waiting, as this may cause unexpected results.

When the login prompt appears on the display:

1. Type your login name and press the Enter key or click on the OK button.
2. If a *password* is required (the related prompt appears), type your password and press the Enter key or click on the OK button (the screen does not display your password as you type it).

If the password prompt does not appear, you have no password defined and you can begin working on the operating system.

If the system displays:

**login incorrect**

Log in again, and enter the correct login name and password. If you still have problems, call your system administrator.

---

## Stopping the System

**Warning:** When using the shutdown procedure for your system, enter the correct command before you stop the system. Failure to do so, may result in loss of data. Please refer to your operating system documentation.

1. Exit any applications that are running. Consult the applications manuals for instructions.
2. Ensure that the media drives do not contain any media.
3. Exit the operating system using the appropriate shutdown command.
  - a. It is possible to execute the shutdown procedure from the system console (local or remote line) with the base unit key set to the Secure position. Remember, before rebooting the system, to set the base unit Key Mode Switch to the Normal or the Service position.
  - b. When the shutdown program is executed, a warning message is sent to all connected terminals. You can specify the time period between the sending of the warning message and the system shutdown.

Here is an example:

```
shutdown -h +5r  
represents a period of 5 minutes.
```

**Warning:** This period should allow all the users sufficient time to finish their sessions and save their data. The amount of time can vary from a few seconds (allowing the user to exit the vi editor, for example) to several minutes (allowing the user to properly finish the update of a database). In the case of a user updating a database, if the system is shutdown before the user has properly finished his update session, there can be loss of important data.

4. Set the base unit Key Mode Switch to the Power Off position.

**Note:** If nobody needs to use the system, set the Key Mode Switch to the Secure position and remove the key, to prevent unauthorized reset of the system.

---

## Rebooting the System

A system reboot recopies the operating system from disk to memory and starts it without turning the system completely off. Reboot is also known as a system reset. It reinitializes the operating system by repeating the Initial Program Load (IPL) operation.

The **reboot** command synchronizes the hard disks and performs some other shutdown activities without halting the system. Use the **reboot** command to reboot the operating system when it is accessed by only one user. The **shutdown** command is used instead of the **reboot** command when the system is running and multiple users are logged on.

Reboot to cause the system to recognize newly installed software, to reset peripheral devices or to recover from a system crash.

To reboot the system you must have root user authority.

At the prompt, enter:

```
reboot
```

The system reboots.



---

## Chapter 5. What To Do When a Problem Occurs

- Identifying the Problem
- System Power
- Monitor
- Mouse
- Keyboard
- Printer

## Identifying the Problem

It may happen, sometimes, that a problem prevents the system from working correctly.

In many cases, this depends on trivial causes, simple human faults, which can be easily discovered and removed, with no need for a specialist intervention.

In other cases, bad functioning is due to more serious human faults or to a system failure, and the problem solution requires technical intervention.

This chapter describes some common problems, the possible trivial causes and the related solutions.

Only when you have ensured that the problem is not due to any of the listed causes, you need technical intervention.

The system itself offers some maintenance tools, available also when the operating system is not running, which test the system hardware, and perform the fault isolation.

If you are maintaining the system on your own, you can find the description of these tools in the *Maintenance and Service Guide*. This guide is available at your supplier.

The following paragraphs list some of the problems that may occur working with the system, during either the system power on or its normal operating state. If you encounter one of these problems, you can try to solve it on your own.

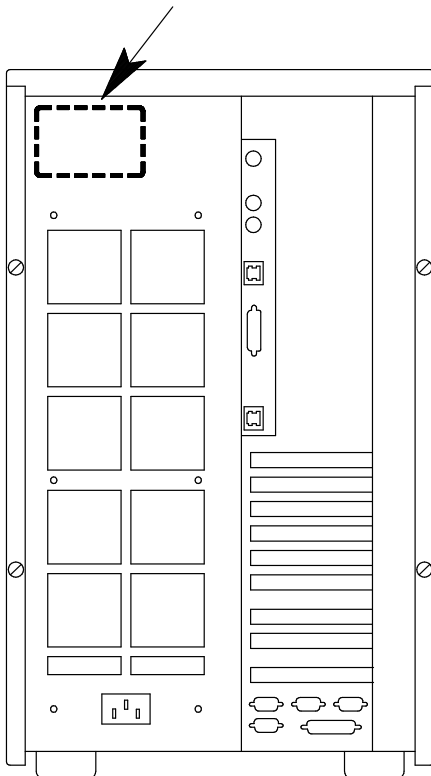
Otherwise, if it is necessary to call the technical support for assistance, remember to read the system serial number, as this will be requested by the technical support.

The system serial number is written on the rating plate label placed on the rear side of the unit, as shown in the figure.

Its format is XAN - Kxx - Mnnnn, where:

Kxx	is the system run code defined by the manufacturer
M	is a character that identifies the system model
nnnnn	is the system serial number (5 digits).

**Note:** XAN changes into XBH for the systems shipped to Brazil.



<b>Problem Description</b>	<b>Possible Cause</b>	<b>Solution</b>
<b>System Power</b>		
<b>The system does not power on</b>	The system power cord is not connected to an AC outlet.	<i>Connect the power cord to a working AC outlet.</i>
	The system power cord is not properly connected.	<i>Properly connect the power cord to the system unit and to the AC outlet.</i>
	The AC outlet is faulty.	<i>Try another AC outlet.</i>
	The AC source is missing.	<i>Call your electrician to check the AC source.</i>
<b>Monitor</b>		
<b>The monitor does not power on (the monitor power light is off)</b>	The monitor power switch is not set to the ON position.	<i>Set the switch to the ON (I) position.</i>
	The power cord is not connected to an AC outlet.	<i>Connect the power cord to a working AC outlet.</i>
	The power cord is not properly connected.	<i>Properly connect the power cord to the monitor and to the AC outlet.</i>
	The AC outlet is faulty.	<i>Try another AC outlet.</i>
<b>The monitor power light is on but nothing displays on the screen (see note below)</b>	The monitor contrast and/or brightness knobs are set too low.	<i>Adjust the contrast and/or brightness knobs until you can see the display.</i>
	The computer system is not powered on.	<i>Power on the system.</i>
	The monitor video cable is not properly connected to the dedicated port.	<i>Properly connect the video cable to the dedicated port.</i>
	The video cable is not connected to the proper port.	<i>Check that video cable is connected to: - The SVGA port for a graphic monitor - A serial port for any ASCII terminal.</i>
<b>Mouse</b>		
<b>The mouse does not move the cursor or there is no cursor on the screen</b>	The mouse driver has not been loaded.	<i>Load the mouse driver.</i>
	The wrong mouse driver is loaded.	<i>Remove the conflicting mouse driver and install the correct one.</i>
	The mouse needs to be cleaned.	<i>Remove the tracking ball and clean it with a damp cloth. Clean the contacts with a component cleaning spray.</i>
	You are not using the mouse with the proper monitor.	<i>Use the mouse with the system graphic monitor.</i>
<b>The mouse buttons do not work</b>	The contacts are dirty.	<i>Clean the contacts with a component cleaning spray.</i>
<b>Note:</b> After you have powered on both the system and the graphic terminal connected to the SVGA port, it may take several seconds before something is displayed on the screen. You have a problem only if nothing displays after at least 1 minute.		

<b>Problem Description</b>	<b>Possible Cause</b>	<b>Solution</b>
<b>Keyboard</b>		
<b>The keyboard does not function</b>	The keyboard is not connected to the system keyboard port.	<i>Check the cable connection to the system.</i>
	The keyboard cable is not properly connected.	<i>Properly connect the keyboard cable.</i>
	You are not using the keyboard with the proper monitor.	<i>Use the keyboard with the system graphic monitor.</i>
<b>The keyboard types random characters</b>	Liquid or dust spilled into the keyboard.	<i>Allow the keyboard to dry, or clean it with alcohol or component cleaning spray.</i>
<b>Some of the keys on the keyboard stick or do not work</b>	Liquid spilled into the keyboard.	<i>Gently pull the key cap off and remove the sticky substance with alcohol.</i>
	The key contacts are dirty.	<i>Clean the key contacts with a component cleaning spray; allow the keyboard to dry thoroughly before powering up the system.</i>
<b>Printer</b>		
<b>The printer does not power on</b>	The printer power switch is not set to the ON position.	<i>Set the switch to the ON (I) position.</i>
	The power cord is not connected to an AC outlet.	<i>Connect the power cord to a working AC outlet.</i>
	The power cord is not properly connected.	<i>Properly connect the power cord to the printer and to the AC outlet.</i>
	The AC outlet is faulty.	<i>Try another AC outlet.</i>
<b>The printer does not print</b>	The printer is off-line.	<i>Press the printer ON-LINE switch and make certain the ON-LINE LED lights.</i>
	The printer data cable is not properly connected.	<i>Check the cable and connect it to the correct port.</i>
	The printer interface is not properly set.	<i>Check that the printer is set either to serial mode if you are using a serial connection or to parallel mode if you are using a parallel connection. For more details, please refer to the printer documentation.</i>



---

# Glossary

---

## A

**A:** Ampere.

**AC:** Alternating Current.

**AIX:** IBM's implementation of UNIX operating system.

**ANSI:** American National Standards Institute.

**Appliance Coupler:** A standard IEC 320 male plug placed on the system rear side.

**ASCII:** American Standard Code for Information Interchange.

**AUI:** Attachment Unit Interface.

---

## B

**bank:** See memory bank.

**BOT:** Beginning Of Tape marker. A marker on a magnetic tape used to indicate the beginning of the recordable area; for example, a photoreflexive strip, a transparent section of tape. Contrast with end of tape marker (EOT).

**bulkhead:** The pass-thru plate for the connection of the SCSI busses.

**BUMP:** Bring-Up Microprocessor. A low power microprocessor which monitors the system, especially during the various boot phases before the Operating System is loaded.

---

## C

**CD-ROM:** Compact Disc Read-Only Memory. High-capacity read-only memory in the form of an optically readable compact disc.

**chip:** Synonym for integrated circuit (IC).

**CPU:** Central Processing Unit.

---

## D

**DDS:** Digital Data Storage.

**device shutter:** The shutter which protects media and disk device areas. This shutter should be kept closed during system operations.

**DIMM:** Dual In-line Memory Module. It is the smallest component of the system memory.

**disk cage:** A metallic box which can host two or three disk carriers.

**disk carrier:** A sled used to install hard disk drives into the system.

---

## E

**ECC:** Error Correcting Code.

**ECMA:** European Computer Manufacturers Association.

**EOT:** End Of Tape marker.

---

## F

**FAST-10 WIDE-16:** A standard SCSI interface, 16 bits, providing synchronous transfer rate of up to 10 MHz, with a data transfer speed of 20M bytes per second.

**FAST-20 WIDE-16:** An enhanced standard SCSI interface, 16 bits, providing synchronous transfer rate of up to 20 MHz, with a data transfer speed of up to 40M bytes per second. It is also called ULTRA WIDE.

**firmware:** It describes the microcode in read-only memory (ROM). It consists of an ordered set of instructions and data stored in a way that is functionally independent of main storage.

---

## G

No entries.

---

## H

**high availability:** Continuous availability of system resources due to their redundant configuration.

**hot swapping:** The operation of removing a faulty hard disk drive and replacing it with a good one without interrupting the system activity.

---

## I

**ID:** A number which uniquely identifies a device on a bus.

**I/O:** Input/Output.

**IPL:** Initial Program Load. It defines the firmware functional phases during the system initialization.

**ISA:** Industry Standard Architecture.

---

## J

**JBOD:** Just a Bunch Of Disks.

---

## K

**Key Mode Switch:** Key controlled switch which controls the system operation mode.

**KP2:** The back plane of a disk cage that connects two hard disk drives with 1.6 inch form factor.

**KP3:** The back plane of a disk cage that connects three hard disk drives with 1 inch form factor.

---

## L

**LAN:** Local Area Network.

**LED:** Light-Emitting Diode. On the disk expansion unit operator panel, it indicates the power on status.

---

## M

**media and disk device areas:** Areas which house the media drives and the hard disk drives.

**memory bank:** The minimum quantity of memory used by the system. It physically consists of four memory DIMM's. See also DIMM and riser.

**multimedia:** Information presented through more than one type of media. On computer systems, this media includes sound, graphics, animation and text.

**multitasking:** The ability to perform several tasks simultaneously. Multitasking allows you to run multiple applications at the same time and exchange information among them.

---

## N

**NVRAM:** Non Volatile Random Access Memory.

---

## O

**OF:** Open Firmware. See Open Firmware.

**OP:** Operator Panel. See Operator Panel.

**Open Firmware:** An architecture for the firmware that controls a computer before the Operating System execution. It also provides a user-interface.

**Operating System:** The software which manages the computer's resources and provides the operating environment for application programs.

**Operator Panel:** The system panel where the 3-Digit Hexadecimal Display and Key Mode Switch are located.

---

## P

**PCI:** Peripheral Component Interconnect. A bus architecture that supports high-performance peripherals such as graphic boards, multimedia video cards and high-speed network adapters.

**POST:** Power On Self Test.

**PowerPC:** A standard RISC microprocessor family.

---

## Q

**QIC:** Quarter-Inch Cartridge.

---

## R

**RAID:** Redundant Array of Inexpensive Disks. A method of combining hard disk drives into one logical storage unit which offers disk-fault tolerance.

**riser:** A card which can host up to six memory DIMM's. It is used to expand the system memory storage.

**ROM:** Read-Only Memory.

**RS-232:** An EIA interface standard that defines the physical, electronic, and functional characteristics of an interface line.

**RS-422:** An EIA interface standard that defines the physical, electronic and functional characteristics of an interface line.

**RS-485:** The interface for base / disk expansion unit interconnection. This connection allows the remote control of the disk expansion unit power on/off.

---

---

## S

**SCSI:** Small Computer System Interface. An input and output bus that provides a standard interface used to connect peripherals such as disks or tape drives in a daisy chain.

**SCSI-ID:** See ID.

**slot cover:** A metallic plate that covers free PCI/ISA controller card slots in order to protect the system unit from dust or debris, and to guide cooling air to the top of the unit.

**SMIT:** System Management Interface Tool. It is an interactive screen-oriented command interface. It is provided with your Operating System.

**Stand-By menu:** A menu which is available on the terminal connected to the COM1 port when the system is in standby state. It is used for system maintenance and testing activities.

**SYSID:** System Identification.

**system console:** A console, usually equipped with a keyboard and display screen, that is used by an operator to control and communicate with a system.

**system planar:** The planar which interconnects all the system resources.

**SVGA:** Super Video Graphics Array.

---

## T

**torx:** A special screw with a six-point starlike hollow.

**TSOPII:** Tin Small Outline Package II.

---

## U

**ULTRA SCSI:** See Fast-20 WIDE-16.

**UPS:** Uninterruptible Power Supply. A device which provides continuous power and sustains the system it is connected to, in case of outages.

---

## V

**V:** Volt.

**VCC:** Voltage Continuous Current.

**VGA:** Video Graphics Array.

---

## W

No entries.

---

## X

No entries.

---

## Y

No entries.

---

## Z

No entries.



---

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