**Bull ESCALA EPC400** 

Hardware Tasks: Where Do I Find the Information I Need?

Introduction
System Setup and Features
Media Drives
Hard Disk Drives
Peripherals
Memory
CPU cards
Controllers
Maintenance Features
Documentation
Internet Site



# Bull ESCALA EPC400 Hardware Tasks: Where Do I Find the Information I Need?

### Hardware

July 1998

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# Introduction

The goal of this booklet is to help you quickly find any required information related to the main hardware tasks, such as upgrading your system hardware or using the system devices.

This booklet is organized in macro-topics; for each macro-topic the related hardware tasks are included. For each hardware task, the sequence you need to follow until you reach the relevant information is indicated.

Here is an example, supposing you need to remove a hard disk drive from the CPU drawer.

Scroll the booklet until you find the macro-topic (**Hard Disk Drives** in this example).

# **Hard Disk Drives**

Removing a Hard Disk Drive
 Using the System, Expanding Your System
 Configuration → Devices → Device Removal →
 Hard Disk Drive Removal

#### where:

 Removing a Hard Disk Drive is the description of the hardware task,

Using the System is the title of the manual that you are required to consult,

**Expanding Your System Configuration** is the chapter,

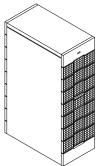
**Devices** is the paragraph,

**Device Removal** is the sub-paragraph, and

<u>Hard Disk Drive Removal</u> is the sub-paragraph that really contains the information you need.

**Note:** If you find any unknown term or concept when consulting a specific manual, have a look at the glossary placed at the end of that manual.

# **System Setup and Features**



### **System Description**

- Environment and Safety Considerations
   Site Preparation for Rack Systems, Overview of
   Site Preparation
- System Specifications Site Preparation for Rack Systems, Specifications
- System Cable Characteristics
   Site Preparation for Rack Systems, Power Cables
   and

Site Preparation for Rack Systems, **External Electrical Connections** 

- Rack Presentation
   Using the System, <u>Description of the System</u> →
   System Presentation
- CPU Drawer Presentation
   Using the System, <u>Description of the System</u> →
   <u>CPU Drawer Presentation</u> → <u>Front View</u> and <u>Rear View</u>

and

Setting Up the System, Knowing Your New System → System Features → CPU Drawer Features

- Rack Configuration
   Configuring the System, Rack Configuration
   Rules (the whole chapter)
- CPU Drawer Configuration
   Configuring the System, CPU Drawer
   Configuration Rules (the whole chapter)
- Drawers Installation/Removal
   Rack Service Guide, Installation and Removal
   Procedures
- Maintaining Configuration Variables (Open Firmware)
   Using the System, Maintaining the System →
   Maintaining System Configuration Variables

### System Setup

- First System Setup
   Setting Up the System, System Setup Roadmap
   and, in particular,
   Setting Up the System, CPU Drawer Setup
   Procedure (the whole chapter)
- Power Cord Connection
  Setting Up the System, CPU Drawer Setup
  Procedure → Connecting the Power Cords
  and

Setting Up the System, What To Do When a Problem Occurs → Power

### **Operator's Controls**

- Operator Panel Description
   *Using the System*, <u>Description of the System</u> →
   <u>CPU Drawer Presentation</u> → <u>CPU Drawer</u>
   <u>Operator Panel</u>
- Key Usage
   *Using the System*, <u>Description of the System</u> →
   <u>CPU Drawer Presentation</u> → <u>CPU Drawer Key</u>
   <u>Mode Switch</u>
- Starting and Stopping the System
   Setting Up the System, CPU Drawer Setup
   Procedure → Starting the System for the First
   <u>Time</u>
   and

Using the System, <u>Maintaining the System</u>  $\rightarrow$  <u>Starting and Stopping the System</u>

## **PCI Expansion Drawer**

- Setup and Features
   PCI Expansion Drawer Quick Set Up (the whole guide)
- Presentation
   *Using the System*, <u>Description of the System</u> →
   <u>PCI Expansion Drawer Presentation</u> → <u>Front</u>
   <u>View</u> and <u>Rear View</u>
- Operator Panel
   Using the System, Description of the System → PCI Expansion Drawer Presentation → PCI Expansion Drawer Operator Panel
- Starting and Stopping (daily)
   Using the System, Maintaining the System → Starting and Stopping the System
- Configuration
   Configuring the System, PCI Expansion Drawer
   Configuration Rules (the whole chapter)

## **Media Drives**

#### **General Tasks**

Description of the Device Areas
 Configuring the System, CPU Drawer
 Configuration Rules → Device Configuration
 and
 Configuring the System, PCI Expansion Drawer
 Configuration Rules → Device Configuration

Drives Configuration and SCSI-ID
 Configuring the System, CPU Drawer
 Configuration Rules → Device Configuration → SCSI-ID Configuration

anc

Configuration the System, PCI Expansion Drawer Configuration Rules  $\rightarrow$  Device Configuration  $\rightarrow$  SCSI-ID Configuration

 SCSI Connections (maintenance task)
 CPU Drawer Service Guide, SCSI Cables
 Description and Connection (the whole chapter)
and

PCI Expansion Drawer Service Guide, SCSI Cable Description and Connection (the whole chapter)

Examples of SCSI Connections
 Configuring the System, <u>CPU Drawer</u>
 Configuration Rules → <u>Device Configuration</u> →
 <u>Examples of SCSI Connections for the CPU Drawer</u>

and

Configuring the System, PCI Expansion Drawer
Configuration Rules → Device Configuration →
Examples of SCSI Connections for the PCI
Expansion Drawer

### **CD-ROM**



- Drive Description and Usage
   Using the System, <u>Using Devices and Tools</u> →
   <u>Using the CD-ROM Drive</u>
- Drive SCSI-ID
   *Disks and Tapes Configuration Information*,
   CD-ROM Drives → The paragraph related to your CD-ROM drive model
- Drive Upgrading
   *Using the System*, Expanding Your System
   Configuration → Devices → Device Upgrading
   → Media Drive Upgrading
- Drive Removal
   *Using the System*, Expanding Your System
   Configuration → Devices → Device Removal → Media Drive Removal

### **QIC Tape**



- Drive Description and Usage
   Using the System, <u>Using Devices and Tools</u> →
   <u>Using the QIC Tape Drive</u>
- Drive SCSI-ID
   Disks and Tapes Configuration Information,

   Tape Drives → The paragraph related to your tape drive model
- Drive Upgrading
   *Using the System*, Expanding Your System
   Configuration → Devices → Device Upgrading
   → Media Drive Upgrading
- Drive Removal
   Using the System, Expanding Your System
   Configuration → Devices → Device Removal
   Media Drive Removal

### 8mm Tape



- Drive Description and Usage
   Using the System, <u>Using Devices and Tools</u> →
   <u>Using the 8 mm Tape Drive</u>
- Drive SCSI-ID
   Disks and Tapes Configuration Information,
   <u>Tape Drives</u> → The paragraph related to your tape drive model
- Drive Upgrading
   *Using the System*, Expanding Your System
   Configuration → Devices → Device Upgrading
   → Media Drive Upgrading
- Drive Removal
   *Using the System*, Expanding Your System
   Configuration → Devices → Device Removal → Media Drive Removal

### 4mm Tape



- Drive Description and Usage
   Using the System, <u>Using Devices and Tools</u> →
   <u>Using the 4 mm Tape Drive</u>
- Drive SCSI-ID
   Disks and Tapes Configuration Information,

   Tape Drives → The paragraph related to your tape drive model
- Drive Upgrading
   *Using the System*, Expanding Your System
   Configuration → Devices → Device Upgrading
   → Media Drive Upgrading
- Drive Removal
   Using the System, Expanding Your System
   Configuration → Devices → Device Removal →
   Media Drive Removal

### 3.5-Inch Diskette



- Drive Description and Usage
   Using the System, <u>Using Devices and Tools</u> →
   <u>Using the 3.5-Inch Diskette Drive</u>
  - CPU Drawer Service Guide, CPU Drawer
    Hardware → Description of the Hardware
    Components → 3.5 Inch Diskette Drive
- Drive Configuration
   *Disks and Tapes Configuration Information*,
   3.5 Inch Diskette Drives → The paragraph related to your 3.5-inch diskette drive model
- Drive Installation/Removal (maintenance task)
   CPU Drawer Service Guide, <u>Hardware</u>
   Component Installation → 3.5-Inch Diskette <u>Drive</u>

### **Hard Disk Drives**



Description of the Device Areas
 Configuring the System, CPU Drawer
 Configuration Rules → Device Configuration
 and
 Configuring the System, PCI Expansion Drawer
 Configuration Rules → Device Configuration

 SCSI Connections (maintenance task)
 CPU Drawer Service Guide, SCSI Cables
 Description and Connection (the whole chapter)

PCI Expansion Drawer Service Guide, <u>SCSI Cable</u> <u>Description and Connection</u> (the whole chapter)

Examples of SCSI Connections
 Configuring the System, CPU Drawer
 Configuration Rules → Device Configuration →
 Examples of SCSI Connections for the CPU
 Drawer

and

Configuring the System, PCI Expansion Drawer
Configuration Rules → Device Configuration →
Examples of SCSI Connections for the PCI
Expansion Drawer

Configuration and SCSI-ID
 Configuring the System, CPU Drawer
 Configuration Rules → Device Configuration →
 SCSI-ID Configuration → Hard Disk Drive SCSI-ID
 and
 Configuring the System, PCI Expansion Drawer
 Configuration Rules → Device Configuration →
 SCSI-ID Configuration → Hard Disk Drive SCSI-ID

Hard Disk Drive Description and Usage
 Using the System, <u>Using Devices and Tools</u> →
 <u>Using Hard Disk Drives</u>

- Installing a Hard Disk Drive
   *Using the System*, Expanding Your System
   Configuration → Devices → Device Upgrading → Hard Disk Drive Upgrading
- Removing a Hard Disk Drive
   Using the System, Expanding Your System
   Configuration → Devices → Device Removal →
   Hard Disk Drive Removal
- Disk Cage Installation/Removal
  (maintenance task)

  CPU Drawer Service Guide, Hardware
  Component Installation → Disk Cage
  and

  PCI Expansion Drawer Service Guide, Hardware
  Component Installation → Disk Cage
- Hot Swapping
   Using the System, Expanding Your System
   Configuration → Devices → Device Hot
   Swapping
- RAID Configuration (CPU Drawer)
   Configuring the System, CPU Drawer
   Configuration Rules → Device Configuration → RAID Configurations

and

Configuring the System, CPU Drawer
Configuration Rules → Device Configuration →
Example of SCSI Connections for the CPU
Drawer → Devices under RAID Configuration

RAID Configuration (PCI Expansion Drawer)
 Configuring the System, PCI Expansion Drawer
 Configuration Rules → Device Configuration → RAID Configurations

and

Configuring the System, PCI Expansion Drawer
Configuration Rules → Device Configuration →
Example of SCSI Connections for the PCI
Expansion Drawer → Devices under RAID
Configuration

# **Peripherals**

# Keyboard



- Connection

  Setting Up the System, CPU Drawer Setup

  Procedure → Connecting Devices →

  Connecting Keyboard and Mouse
- Usage
   *Using the System*, <u>Using Devices and Tools</u> →
   <u>Using the Keyboard</u>
- Problems with the Keyboard
   Setting Up the System, What To Do When a
   Problem Occurs → Keyboard

### Mouse



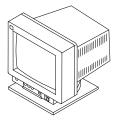
- Connection

  Setting Up the System, CPU Drawer Setup

  Procedure → Connecting Devices →

  Connecting Keyboard and Mouse
- Usage
  Using the System, Using Devices and Tools →
  Using the Mouse
- Problems with the Mouse
   Setting Up the System, What To Do When a
   Problem Occurs → Mouse

### **Terminal**



- Connection
   Setting Up the System, CPU Drawer Setup
   Procedure → Connecting Devices →
   Connecting Terminals
- Setup

and

Terminal and Printer Connections

 Problems with the Terminal Setting Up the System, What To Do When a Problem Occurs → Monitor

### **Printer**



- Connection

  Setting Up the System, CPU Drawer Setup

  Procedure → Connecting Devices →

  Connecting Printers
- Setup

*Terminals and Printers Configuration Guide*,

<u>Configuring Printers</u> → The paragraph related to your printer model

and

Terminal and Printer Connections

Problems with the Printer
 Setting Up the System, What To Do When a
 Problem Occurs → Printer

# **Memory**



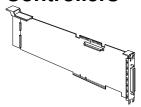
- Description and Configuration Rules
   Configuring the System, CPU Drawer
   Configuration Rules → Memory Configuration
   → Memory Configuration Rules
- Add Memory to the System Planar
   *Using the System*, Expanding Your System
   Configuration → Memory → Memory Upgrading on System Planar
- Add Memory to Memory Risers
   *Using the System*, Expanding Your System
   Configuration → Memory → Memory Upgrading on Memory Risers
- Add Memory Banks on Memory Risers
   *Using the System*, Expanding Your System
   Configuration → Memory → Adding a Memory Bank on Memory Risers
- Handling of Memory Errors (maintenance task)
   Maintenance Guide, Handling of Single Memory Errors

# **CPU Cards**



- Description and Configuration Rules
   Configuring the System, <u>CPU Drawer</u>
   Configuration Rules → <u>CPU Configuration</u> →
   <u>CPU Configuration Rules</u>
- Upgrading
   *Using the System*, Expanding Your System
   Configuration → CPU's → CPU Upgrading
- Removal
   Using the System, Expanding Your System
   Configuration → CPU's → CPU Removal

# **Controllers**



Description and Configuration Rules
 Configuring the System, CPU Drawer
 Configuration Rules → Controller Configuration
 → Controller Configuration Rules
 and
 Configuring the System, PCI Expansion Drawer

Configuring the System, PCI Expansion Drawer
Configuration Rules → Controller Configuration
→ Configuration Rules

SCSI Connections
 (maintenance task)
 CPU Drawer Service Guide, SCSI Cables
 Description and Connection (the whole chapter)
and

PCI Expansion Drawer Service Guide, SCSI Cable Description and Connection (the whole chapter)

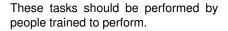
Installation
 *Using the System*, Expanding Your System
 <u>Configuration</u> → Controllers → Controller
 Installation

Removal
 Using the System, Expanding Your System
 Configuration → Controllers → Controller
 Removal

- List of Supported Controllers

  Configuring the System, PCI/ISA Controller List
  appendix.
- PCI/ISA Busses and Devices
   Configuring the System, PCI/ISA Busses and
   Devices appendix.

### **Maintenance Features**





### **General Maintenance Tasks**

The following points include information which is relevant to both the CPU drawer and the PCI expansion drawer.

Running Offline Tests
 *Maintenance Guide*, <u>System Configuration</u>
 <u>Variables and Flags</u> → <u>Stand-By Menu</u> →
 <u>Off-Line Tests</u>

and/or

 $\begin{tabular}{ll} \textit{Maintenance Guide}, & \underline{\textbf{System Configuration}}\\ & \underline{\textbf{Variables and Flags}} \rightarrow \underline{\textbf{Stand-By Menu}} \rightarrow \underline{\textbf{CPU}}\\ & \underline{\textbf{Test Monitor}}\\ \end{tabular}$ 

- Running Online Tests

  AIX Diagnostic Information, the whole manual
- Operator Panel Codes and System Messages
   AIX Diagnostic Information, (online tests) the whole manual

and/or

*Maintenance Guide*, **System Status Indicators** appendix

- Remote Maintenance Maintenance Guide, <u>Remote Maintenance</u>
- Service Lines

  Maintenance Guide, Service Lines
- Firmware Updating

  Maintenance Guide, Firmware Updating
- System Configuration Variables and Flags
   *Maintenance Guide*, System Configuration
   Variables and Flags → Stand-By Menu
   and

Maintenance Guide, System Configuration Variables and Flags → Open Firmware

Open Firmware
 Maintenance Guide, System Configuration
 Variables and Flags → Open Firmware

- Handling of a Dead System
   Maintenance Guide, Handling of a Dead System
- Handling of Power and Fan Errors
   *Maintenance Guide*, <u>Handling of Power and Fan</u>
   Errors
- Handling of Memory Errors
   Maintenance Guide, Handling of Single Memory Errors

# Maintenance Tasks Specific for the CPU Drawer

- Description of the Hardware Components
   CPU Drawer Service Guide, CPU Drawer
   Hardware → Description of the Hardware
   Components
- Description of the CPU Drawer Internal Connectors CPU Drawer Service Guide, CPU Drawer Hardware → Internal Connectors
- Faulty Components Replacement CPU Drawer Service Guide, <u>Hardware</u> <u>Component Installation</u> chapter
- SCSI Connections
   CPU Drawer Service Guide, SCSI Cables
   Description and Connection chapter

# Maintenance Tasks Specific for the PCI Expansion Drawer

- Description of the Hardware Components
   PCI Expansion Drawer Service Guide, PCI

   Expansion Drawer Hardware Components →
   Description of the Hardware Components
- Description of the PCI Expansion Drawer Internal Connectors
   PCI Expansion Drawer Service Guide, PCI
   Expansion Drawer Hardware Components → Internal Connectors
- Faulty Components Replacement
   PCI Expansion Drawer Service Guide, Hardware
   Component Installation chapter
- SCSI Connections
   PCI Expansion Drawer Service Guide, SCSI Cable
   Description and Connection chapter

### **Documentation**





### Online Documentation

Accessing and using the Online Documentation from CD-ROM

Hypertext Information Base Library
Operating Instructions, Using the CD-ROM

## **System Specific Documentation**

Site Preparation for Rack Systems 86 A1 30PX It details the environmental and electrical characteristics of the site where the rack must be installed.

**Setting Up the System**86 A1 18PX
How to setup the system and start it for the first time. It also gives an overview of the system characteristics.

**Using the System**86 A1 19PX
How to operate system and devices properly, how to upgrade the system in terms of memory, CPU's, controllers and devices.

**Configuring the System**86 A1 27PX It provides information about the rack, CPU drawer and PCI expansion drawer configuration rules. It also gives some examples of SCSI connections.

**Disks and Tapes Configuration Information** 86 A1 88GX How to set disk and tape drive addresses and switches. It also includes information on CD-ROM drives setting.

# Terminals and Printers Configuration Guide 86 A1 22WE How to configure terminals, printers and LAN terminal

How to configure terminals, printers and LAN terminal concentrators.

**Terminal and Printer Connections** 86 A1 86GX How to connect a terminal or a printer that is not supplied with the system.

#### Rack Service Guide

86 A1 20PX

How to install drawers in the rack and remove them. This guide is not delivered with the system, but it is available at your supplier if you need it.

#### CPU Drawer Service Guide

86 A1 21PX

How to replace faulty components of the CPU drawer. This guide is not delivered with the system, but it is available at your supplier if you need it.

#### Maintenance Guide

86 A1 22PX

How to use maintenance features.

This guide is not delivered with the system, but it is available at your supplier if you need it.

#### AIX Diagnostic Information

86 A1 58HX

How to run online diagnostics.

This guide is not delivered with the system, but it is available at your supplier if you need it.

**Cabling Guide for Multiple Bus Systems** 86 A1 87AQ It contains all cabling information.

This guide is not delivered with the system, but it is available at your supplier if you need it.

The following manuals contain information relevant only to the PCI expansion drawer.

**PCI Expansion Drawer Quick Set Up**(Delivered with the PCI expansion drawer)
How to set up the PCI expansion drawer.

**PCI Expansion Drawer Service Guide** 86 A1 33PX How to replace faulty components of the PCI expansion drawer.

This guide is not delivered with the system, but it is available at your supplier if you need it.

**Note:** If you need to order any of these documents, record the related number (e.g. 86 A1 22PX), and contact your Service Representative.

### **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.

The maintenance kit includes the following hardware manuals, in English only:

- Rack Service Guide
- CPU Drawer Service Guide
- Configuring the System
- Using the System
- Maintenance Guide
- PCI Expansion Drawer Service Guide
- AIX Diagnostic Information
- Terminals and Printers Configuration Guide
- Disks and Tapes Configuration Information
- Cabling Guide for Multiple Bus Systems.

# **Internet Site**



Information about our services and products is available at our World Wide Web Internet address:

### www.bull.com

In particular, information related to system architecture, components, performances, upgrading, is given for any models included in the open systems platforms.

Your visit to our Internet site is really welcome.

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