PRIMERGY Econel 200 Server System

Options Guide

Edition November 2005

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1 Introduction

The PRIMERGY Econel 200 server is an Intel-based server for workgroups and small networks. The server is suitable for use as a file server and also as an application, information or Internet server.

1.1 Overview of the Documentation

PRIMERGY manuals are available in PDF format on the *ServerBooks* CD. The ServerBooks CD is part of the *ServerView Suite* delivered with each server system.

The PDF files for the manuals can also be downloaded free of charge from the Internet: at *http://manuals.fujitsu-siemens.com* you will find an overview page with the online documentation available on the Internet. You can go to the PRIMERGY Server documentation by clicking on "*industry standard servers*".

Concept and target group of this manual

This Options Guide describes how to expand and upgrade the server.

The actions described in this manual should only be performed by technicians, service personnel or technical specialists.

Additional server documentation

To the PRIMERGY Econel 200 documentation set belong the following additional manuals:

– "Safety" manual (print version delivered together with the system, PDF file available on the *ServerBooks* CD)

– "Warranty" manual (print version delivered together with the system, PDF file available on the *ServerBooks* CD)

– Operating Manual for the PRIMERGY Econel 200 (PDF file available on the *ServerBooks* CD)

– Technical Manual for the system board D2020 (PDF file available on the ServerBooks *CD)*

– "D2020 Setup Utility" (PDF file available on the *ServerBooks* CD)

- "PRIMERGY ServerView Suite - ServerStart" (PDF file available on the *ServerBooks*-CD)
- "LSI SATA Software RAID User's Guide" (PDF file available on the *ServerBooks* CD)
- "Quick Start Hardware - PRIMERGY Econel 200" (poster)
- "Quick Start Software - PRIMERGY ServerView Suite" (poster)
- "Warranty" manual (print version delivered together with the system, PDF file available on the *ServerBooks* CD)
- "Safety" manual (print version delivered together with the system, PDF file available on the *ServerBooks* CD)
- "Ergonomics" manual (PDF file available on the *ServerBooks* CD)
- "Helpdesk" (poster with worldwide help desk telephone numbers)
- Technical Manual for the D2020 system board (PDF file available on the *ServerBooks* CD)
- "D2020 Setup Utility" manual (PDF file available on the *ServerBooks* CD)
- "PRIMERGY Econel 200 Server System Options Guide" (PDF file available on the *ServerBooks* CD)

  In the "Options Guide", the server extension and modification possibilities are described.

- "ServerView Suite" includes the *ServerStart* CD, the *ServerBooks* CD and the *ServerSupport* CDs. The PDF version of the user manual "PRIMERGY ServerView Suite - ServerStart" is also available on the *ServerBooks* CD.

  If you need a backup of the *ServerBooks* CD, send the details of your server via email address: *Reklamat-PC-LOG@fujitsu-siemens.com*.

- "FastTrak S150 TX4 User Manual" (PDF file available on the *ServerBooks* CD)
- "FastTrak S150 TX4 Quick Start Guide" (PDF file available on the *ServerBooks* CD)
- "Promise Array Management (PAM) for FastTrak S150 TX2plus, S150 TX4 and TX4000 User Manual" (PDF file available on the *ServerBooks* CD)
- "LSI SATA Software RAID User's Guide" (PDF file available on the *ServerBooks* CD)

– “Global Array Manager Client Software User’s Guide“ (PDF file available on the *ServerBooks* CD)
– “Global Array Manager Server Software User’s Guide“ (PDF file available on the *ServerBooks* CD)
– “Integrated Mirroring User’s Guide“ (PDF file available on the *ServerBooks* CD)
– “Ultra320 SCSI Host Adapters User’s Guide” (PDF file available on the *ServerBooks* CD)

If you need a backup of the *ServerBooks* CD send the details of your server via email address: *Reklamat-PC-LOG@fujitsu-siemens.com*

Further sources of information:

– manual for the monitor
– manual for *ServerView server management*
– documentation for the boards and drives
– operating system documentation
– information files of your operating system

(see also “Related Publications” on page 55).

1.2 Expansions and Conversions

Extension of the main memory

The four slots (two memory banks with two memory modules each) are available for PC2700 DDRI/333 MHz (registered) SDRAM memory modules. Each memory bank can be populated with 512 Mbyte or 1 Gbyte memory modules. You find further information on the main memory in the Technical Manual for the system board D2020 (PDF file available on the *ServerBooks* CD).

Additional accessible drives

Two free 5.25-inch bays are available for additional accessible drives (CD-ROM, DVD-ROM, CD-RW/DVD, DVD+R/+RW/CD-RW or tape backup drive). If a backup drive (tape) is to be installed a PCI SCSI controller is needed.

The third bay is already occupied with a CD/DVD drive. The fourth, lowest bay (3.5-inch) is occupied by a 1.44 MB floppy disk drive.

Second processor

The server can be upgraded to a so-called dual processor system. A dual processor system needs a multi processor operating system. The second processor must have the same type and clock rate as the first.

Hard disk drives

Two basic configuration variants will be offered for the server: equipped either with SATA or with SCSI hard disk drives.

SATA hard disk drives

Up to four SATA hard disk drives can be installed. Two SATA hard disk drives are controlled by the onboard SCSI controller. If more than two hard disk drives are installed an additional PCI SATA controller is necessary.

SCSI hard disk drives

Up to four ULTRA320 SCSI hard disk drives can be installed. The SCSI hard disk drives are controlled by a PCI SCSI RAID controller.

Additional controllers in the PCI slots

The system board offers one PCI-E (Express) slot, two standard PCI slots (33 MHz) and two PCI-X slots (66 MHz) for additional controllers.

1.3 Notational Conventions

The following notational conventions are used in this manual:

text in italics	indicate commands, menu items or software programs.
“quotation marks”	indicate names of chapters and terms that are being emphasized.
►	describes activities that must be performed in the order shown
 **CAUTION!**	Pay particular attention to texts marked with this symbol. Failure to observe this warning may endanger your life, destroy the system or lead to the loss of data.
	indicates additional information, notes and tips

Table 1: Notational conventions

2 Procedure

CAUTION!

The actions described in this manual should only be performed by technicians, service personnel or technical specialists. Equipment repairs should only be performed by qualified staff. Any failure to observe the guidelines in this manual, and any unauthorized openings and improper repairs could expose the user to risks (electric shock, energy hazards, fire hazards) and could also damage the equipment. Please note that any unauthorized openings of the device will result in the invalidation of the warranty and exclusion from all liability.

- ► At first, please take notice of chapter “Safety” on page 13 and following.
- ► Make sure all necessary manuals (see “Additional server documentation” on page 5) are available; possibly print of the PDF files. You will definitely need the Operating Manual for the server and the Technical Manual for the system board.
- ► Shut down the server correctly, switch it OFF, pull out the power plug, and open the server as described in the chapter “Preparation” on page 19 and following.
- ► Expand or upgrade your server as described in the relevant chapter.
- ► Close the server, connect it to the mains, and switch it ON as described in chapter “Completion” on page 43 and following.
- ► Start the operating system and, if necessary, configure it as required (see Operating Manual).

3 Safety

The following safety notes are also provided in the “Safety” manual.

This device complies with the relevant safety regulations for information technology.

If you have any questions about where you can set up the device, contact your sales outlet or our customer service team.

CAUTION!

The actions described in this manual should only be performed by technicians, service personnel or technical specialists. Any repairs on the device must be performed by authorized, technically qualified personnel. Any unauthorized openings and improper repairs could expose the user to risks (electric shock, energy hazards, fire hazards) and could also damage the equipment. Please note that any unauthorized openings of the device will result in the invalidation of the warranty and exclusion from all liability.

Before operating the device

CAUTION!

- During installation and before operating the device, observe the instructions on environmental conditions for your device.
- If the device is brought in from a cold environment, condensation may form both inside and on the outside of the machine.

  Wait until the device has acclimatized to room temperature and is absolutely dry before starting it up. Material damage may be caused to the device if this requirement is not observed.
- Transport the device in its original packaging or in other suitable packaging which will protect it against shock or impact.

Installation and operation

CAUTION!

- The server automatically sets itself to a voltage in the range of 100 V to 240 V. Make sure that your local voltage is within this range.
- This device has a specially approved power cable and must only be connected to a grounded insulated socket.
- Ensure that the power socket on the device or the grounded wall outlet is freely accessible.
- The power switch does not disconnect the device from the mains voltage. To disconnect the line voltage completely, switch OFF the main power switch (if available) and remove the power plug from the grounded insulated socket.

CAUTION!

- Always connect the device and the attached peripherals to the same power circuit. Otherwise you run the risk of losing data if, for example, the central processing unit is still running but the peripheral device (e.g. storage subsystem) has failed during a power outage.
- Data cables must be adequately shielded.
- To the LAN wiring the requirements apply in accordance with the standards EN 50173 and EN 50174-1/2.
  As minimum requirement the use of a protected LAN line of category 5 for 10/100 MBps Ethernet, and/or of category 5e for Gigabit Ethernet is considered.
  The requirements of the specification ISO/IEC 11801 are to be considered.
- Route the cables in such a way that they do not form a potential hazard (make sure no-one can trip over them) and that they cannot be damaged. When connecting up a device, refer to the relevant notes in this manual.
- Never connect or disconnect data transmission lines during a storm (lightning hazard).
- Otherwise you run the risk of losing data if, for example, the central processing unit is still running but the peripheral device (e.g. storage subsystem) has failed during a power outage.

CAUTION!

- In emergencies (e.g. damaged casing, controls or cables, penetration of liquids or foreign matter), switch OFF the device immediately, remove the power plug and contact your sales outlet or customer service team.
- Proper operation of the system (in accordance with IEC 60950/EN 60950) is only ensured if the casing is completely assembled and the rear covers for the installation openings have been put in place (electric shock, cooling, fire protection, interference suppression).
- Only install system expansions that satisfy the requirements and rules governing safety and electromagnetic compatibility and relating to telecommunications terminal equipment. If you install other expansions, you may damage the system or violate the safety regulations and regulations governing RFI suppression. Information on which system expansions are suitable can be obtained from the customer service centre or your sales outlet.
- The components or parts marked with a warning label (e.g. lightning symbol) may only be opened, removed or exchanged by authorized, qualified personnel.
- The warranty expires if the device is damaged during the installation or replacement of system expansions.
- You may only set those resolutions and refresh rates specified in the “Technical data” section of the monitor description. Otherwise, you may damage your monitor. If you are in any doubt, contact your sales outlet or customer service centre.

Batteries

CAUTION!

- Incorrect replacement of batteries may lead to a risk of explosion. The batteries may only be replaced with identical batteries or with a type recommended by the manufacturer (see the technical manual for the system board under “Related Publications” on page 55).
- Do not throw batteries into the trash can. They must be disposed of in accordance with local regulations concerning special waste.
- The battery must be disposed of in accordance with local regulations concerning special waste.
- Replace the lithium battery on the system board in accordance with the instructions in the technical manual for the system board (see “Related Publications” on page 55).
- All batteries containing pollutants are marked with a symbol (a crossed-out garbage can). In addition, the marking is provided with the chemical symbol of the heavy metal decisive for the classification as a pollutant:

  Cd Cadmium
  Hg Mercury
  Pb Lead

Notes on handling CDs/DVDs and CD/DVD drives

CAUTION!

- Use only CDs/DVDs in proper condition in the CD/DVD drive of your server to prevent data loss, damage to the device and injuries.
- Therefore, check each CD/DVD for damage, cracks, breakage etc. before inserting it in the drive.

  Please note that any additional labels applied may change the mechanical properties of a CD/DVD and cause imbalance.

  Damaged and imbalanced CDs/DVDs can break at high drive speeds (data loss).

  Under certain conditions sharp-edged pieces of broken CDs/DVDs can penetrate the cover of the drive (damage to the device) and be thrown out of the device (danger of injury, particularly on uncovered body parts such as the face or neck).

You protect the CD/DVD drive and prevent mechanical damage, as well as premature wearing of the CDs/DVDs, by observing the following suggestions:

- Only insert the CDs/DVDs in the drive when needed and remove them after use.
- Store the CDs/DVDs in suitable sleeves.
- Protect the CDs/DVDs from exposure to heat and direct sunlight.

Note about the laser

The CD/DVD drive is classified for laser class 1 according to IEC 60825-1.

CAUTION!

The CD/DVD drive contains a laser diode (LED). Sometimes the LED produces a stronger laser beam than laser class 1. Direct view into the laser beam is dangerous.

Never remove parts of the CD/DVD drive assembly!

Modules with electrostatic-sensitive components:

Systems and components that might be damaged by electrostatic discharge (ESD) are marked with the following label:

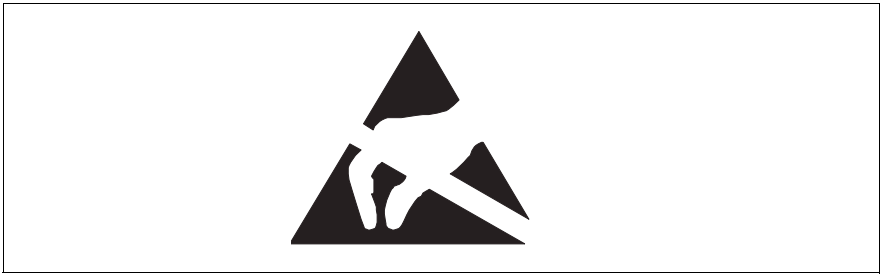

Figure 1: ESD label

When you handle components fitted with ESDs, you must observe the following points under all circumstances:

- Remove the power plug from the power socket before inserting or removing components containing ESDs.
- You must always discharge yourself of static charges (e.g. by touching a grounded object) before working.
- The equipment and tools you use must be free of static charges.
- Use a grounding cable designed for this purpose to connect yourself to the system unit as you install components.
- Only touch the components at the positions highlighted in green (touch point).
- Do not touch any exposed pins or conductors on a component.
- Place all components on a static-safe base.

You will find a detailed description for handling ESD components in the relevant European or international standards (EN 61340-5-1, ANSI/ESD S20.20).

4 Preparation

CAUTION!

Refer to the safety notes in chapter “Safety” on page 13 and following.

4.1 Opening the Housing

- Terminate all applications and shut down the server correctly.
- Switch OFF the power supply unit (press the main power switch), and remove the power plug from the grounded insulated socket.
- If required, remove the lock on the side cover.

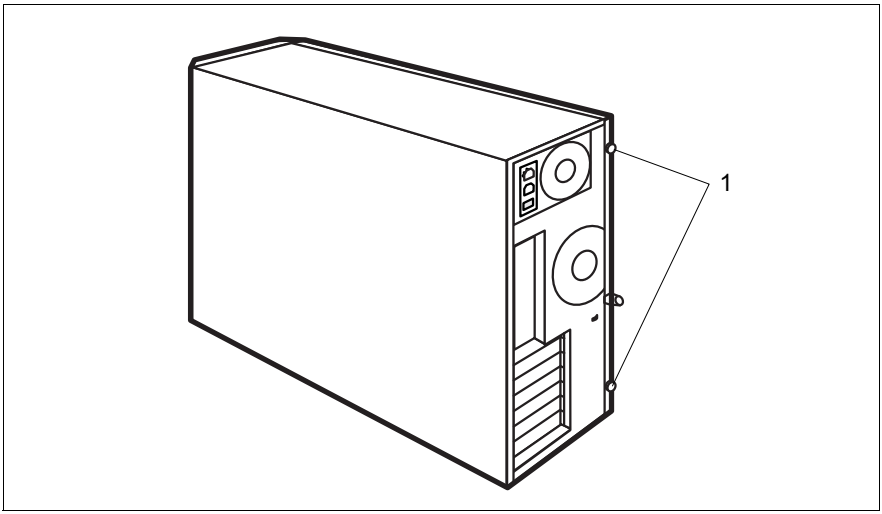

Figure 2: Loosen the knurled screws

- Loosen the two knurled screws (1) on the rear side of the server.

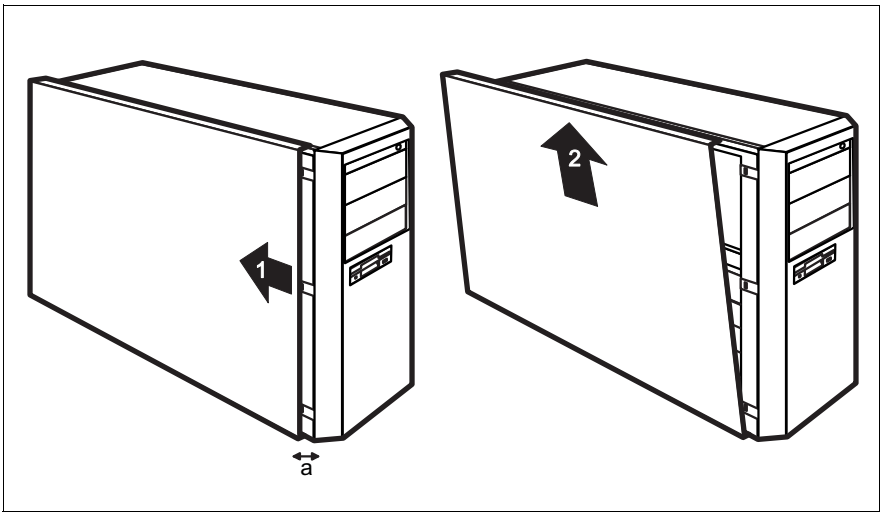

Figure 3: Removing the side cover

- ► Slide the side cover approximately 2 cm (a) in the direction of the arrow (1), until the stop.
- ► Remove the side cover (2).

4.2 Removing the Front Panel

For the installation of additional accessible drives the front panel is to be removed:

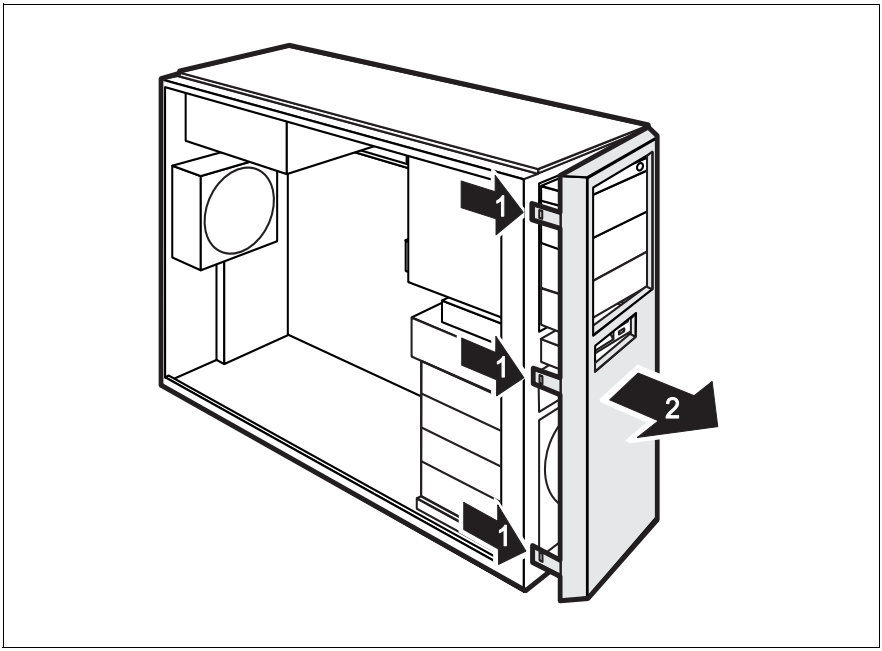

Figure 4: Removing the front panel

- ► Remove the side cover as described in section “Opening the Housing” on page 19.
- ► Detach the three unlocking levers (1) and open the front panel (2).
- ► Remove the front panel carefully.

4.3 Removing the System Fan

For the installation of additional memory modules the system fan is to be removed:

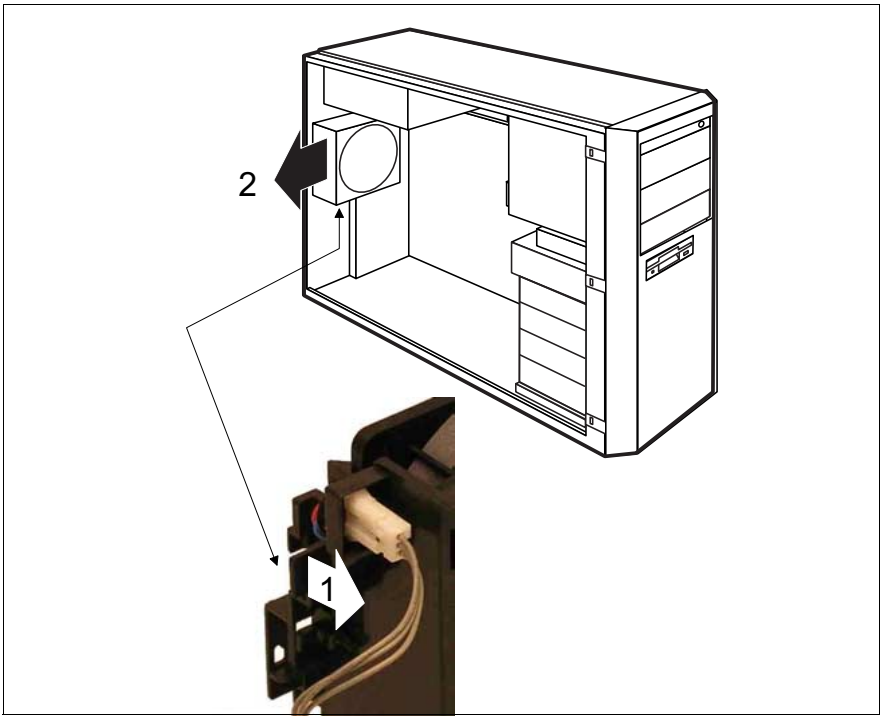

Figure 5: Removing the system fan

- ► Remove the side cover as described in section “Opening the Housing” on page 19.
- ► Remove the fan cable from the connector “rear fan” on the system board (see sticker D2020).
- ► Detach the locking lever (1) and remove the system fan (2).

5 Processors

CAUTION!

Refer to the safety notes in chapter “Safety” on page 13 and following.

CAUTION!

You may only use processors of the same type on the system board. The second processor must have the same type and clock rate as the first. Use a suitable multiprocessor operating system if dual operation is required.

The upgrade kit includes one processor, one heat sink and one processor fan.

5.1 Mounting/Removing the Processor

- ► Remove the side cover as described in section “Opening the Housing” on page 19.
- ► Take out the processor from its protective wrapper.

CAUTION!

Processors are components which are extremely sensitive to electrostatic discharges and must be handled with caution. After taking a processor out of its protective wrapper, set it on an insulated antistatic surface with the smooth side down. Never slide a processor over a surface.

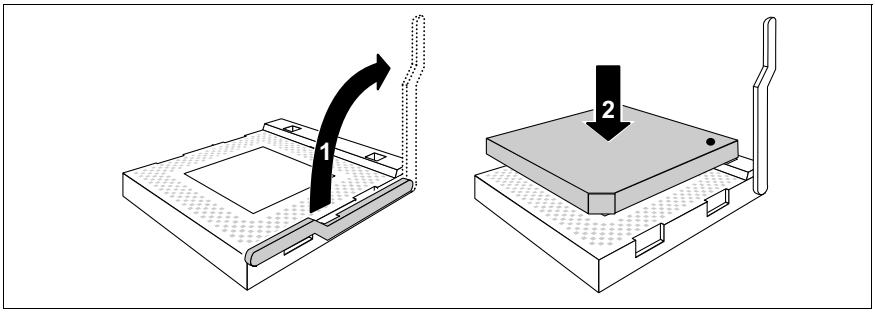

Figure 6: Installing the processor

- ► Release the socket lifter by pressing it sideways and pull it upward until it stops (1).
- ► Position the new processor over the socket, and press it carefully into the socket (2).

CAUTION!

The processor can only be installed in one particular direction. Pay attention to the location mark on one of the corners. Do not use force to press it into the socket to avoid damaging the pins or the processor.

- ► Lock the processor into place in the socket by placing the socket lever in its original position.
- ► Mount the heat sink and the processor fan as described in the next section.

CAUTION!

Never install a processor without heat sink and fan as otherwise the processor may overheat and fail, causing the complete system board to fail.

Proceed in the reverse order for removal.

5.2 Mounting/Removing the Heat Sink

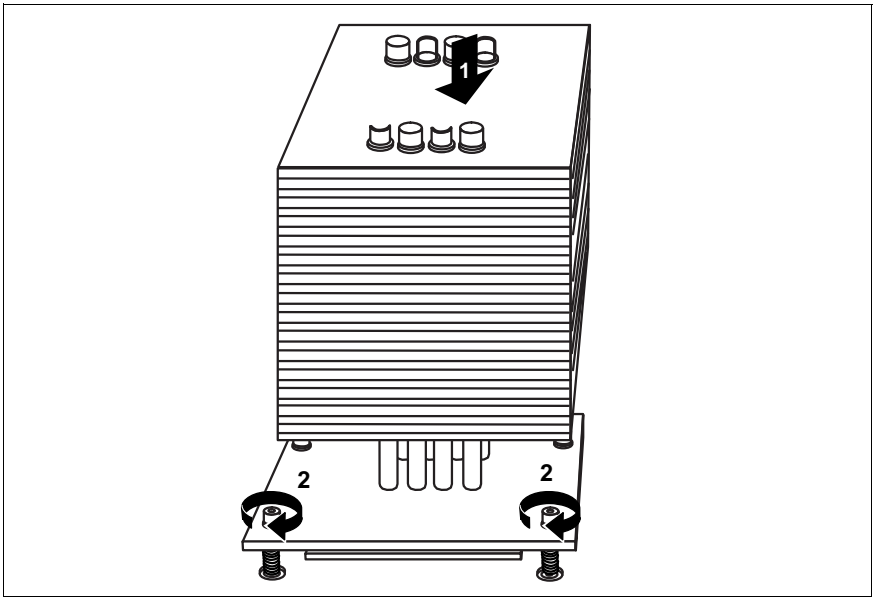

Figure 7: Mounting the heat sink

- ► Remove the protective cover on the underside of the heat sink.
- ► Place the heat sink onto the processor socket (1).

CAUTION!

If you find an air flow arrow on the top of the heat sink, place the heat sink in the way that the air flow arrow shows in direction of the server's rear side.

- ► Fasten the heat sink by tightening the four screws in a crossover pattern (2).

Proceed in the reverse order for removal.

5.3 Mounting/Removing the Fan

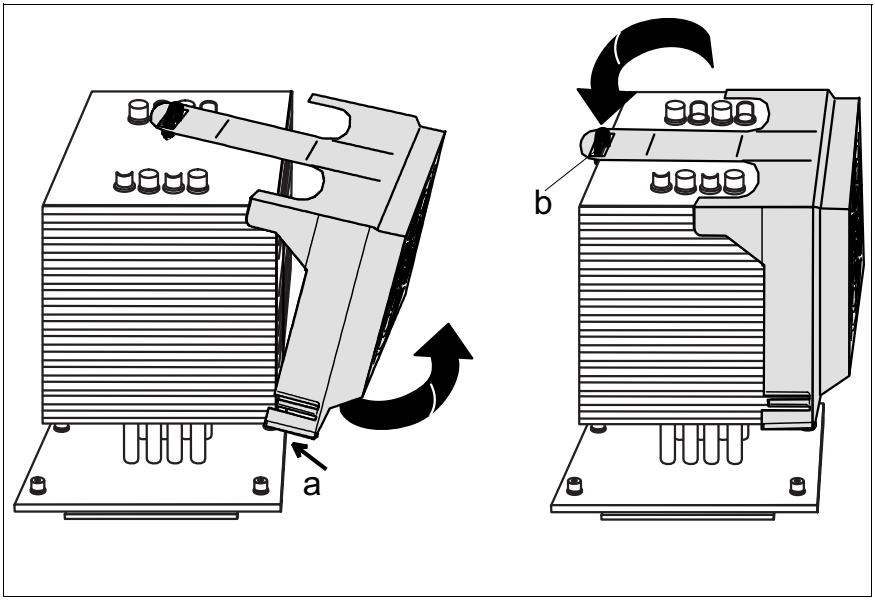

Figure 8: Mounting the processor fan

- ► Place the processor fan onto the lower edge of the heat sink (a). So, the rubber buffers into the air duct are not damaged.
- ► Tilt the fan in the direction of the arrow over the heat sink until the locking tab (b) engages in the ribs of the heat sink.
- ► Connect the fan to the connector „CPU fan 2“ on the system board (see the sticker on the side cover).
- ► Close the server, connect it to the mains, and switch it ON as described in chapter “Completion” on page 43 and following.

Proceed in the reverse order for removal.

6 Main Memory

CAUTION!

Refer to the safety notes in chapter “Safety” on page 13 and following.

The system board supports up to 4 Gbyte main memory. Four slots are available (two slots each form a memory bank) for the main memory. Each memory bank can be populated with two 512 Mbyte or 1 Gbyte registered DDR-RAM (PC2-2700) memory modules.

The basic unit includes the first memory bank populated either with 1x 512 Mbyte, 1 Gbyte or 2 Gbyte.

ECC with memory scrubbing and with Single Device Data Correction (SDDC, Chipkill) function is supported.

6.1 Slot Population Rules

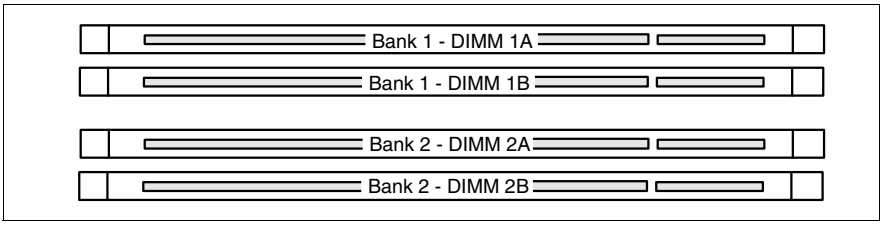

Figure 9: Structure of the main memory in memory banks and memory modules

The modules capacity can be different for the different memory banks: e.g. pair 1A/1B can be populated with two 512 Mbyte modules and pair 2A/2B with two 1 Gbyte modules.

Following table shows the mandatory population order.

channel A	DIMM 1A	bank 1	512 MB	512 MB	1 GB	512 MB	1 GB
	DIMM 2A	bank 2	--	--	--	1 GB	1 GB
channel B	DIMM 1B	bank 1	--	512 MB	1 GB	512 MB	1 GB
	DIMM 2B	bank 2	--	--	--	1 GB	1 GB
memory size			512 MB	1 GB	2 GB	3 GB	4 GB

Table 2: Memory modules population

With a dual channel configuration identical memory modules are to be used for the individual population possibilities.

6.2 Installing/Removing Main Memory

- ► Remove the side cover and the system fan as described in chapter “Preparation” on page 19.
- ► Unpack the memory module.

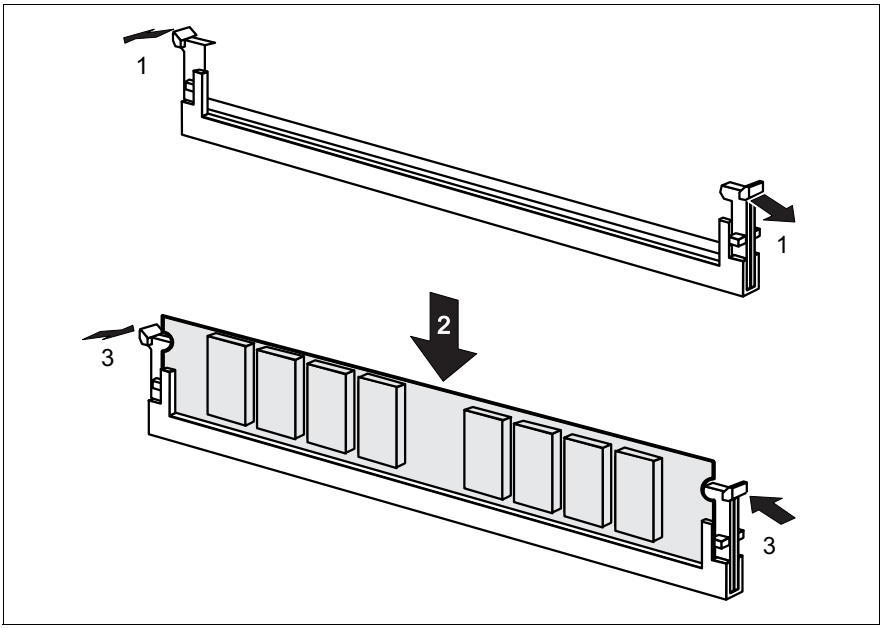

Figure 10: Installing a memory module

- ► Push the holder on each side of the memory slot outward (1).
- ► Insert the memory module in the slot (2) while folding the side holders up until the memory module engages (3).
- ► Close the server, connect it to the mains, and switch it ON as described in chapter “Completion” on page 43 and following.

Proceed in the reverse order for removal.

7 Accessible Drives

CAUTION!

Refer to the safety notes in chapter “Safety” on page 13 and following.

Two free 5.25-inch bays are available for additional accessible drives (CD-ROM, DVD-ROM, CD-RW/DVD, DVD+R/+RW/CD-RW or tape backup drive). If a backup drive (tape) is to be installed a PCI SCSI controller is needed.

The 5.25-inch bays can be equipped as follows with accessible drives:

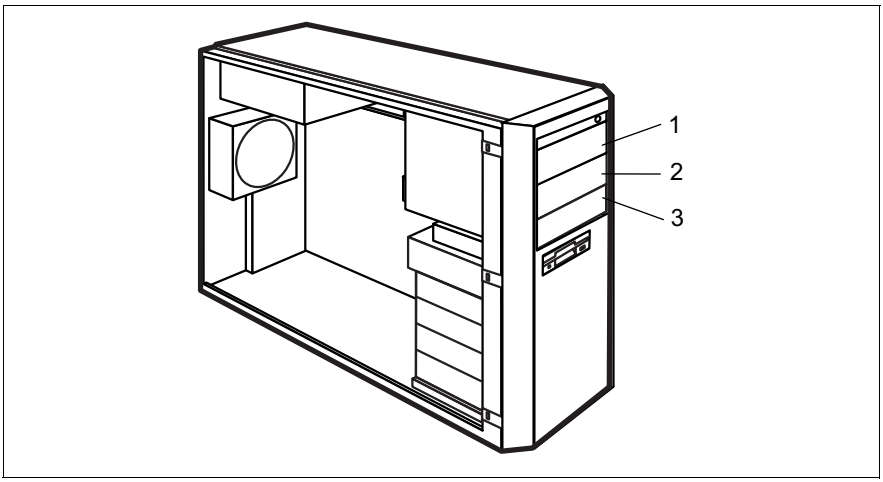

Figure 11: Accessible drives: overview of the installation sequence

pos.	slot	drive
1	1	second tape
2	2	first tape
3	3	first DVD or CD drive (already available)

Table 3:

The fourth bay (3.5-inch) is already occupied by a 1.44 MB floppy disk drive.

7.1 Installing the Tape Drive

- ► Remove the side cover as described in section “Opening the Housing” on page 19.
- ► Remove the front cover as described in section “Removing the Front Panel” on page 21.

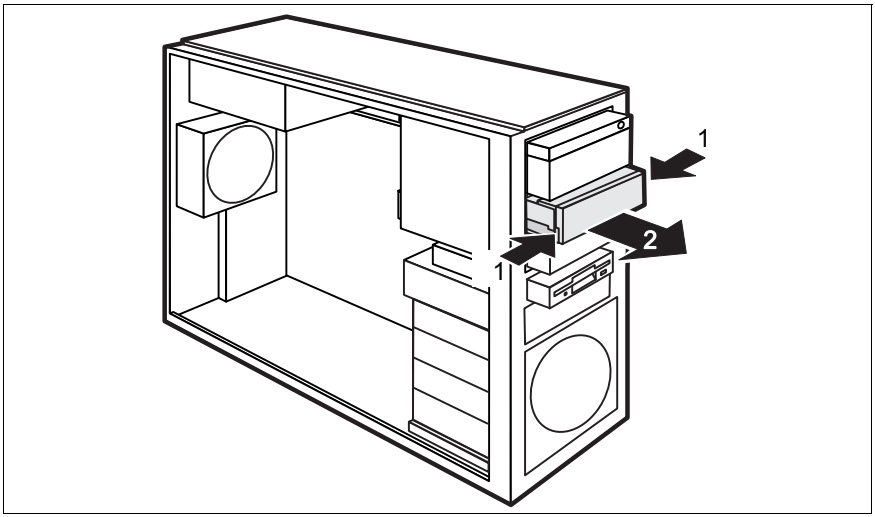

Figure 12: Removing the dummy module

- ► Press both tabs of the EasyClick rails together (1) and pull out the dummy module (2).

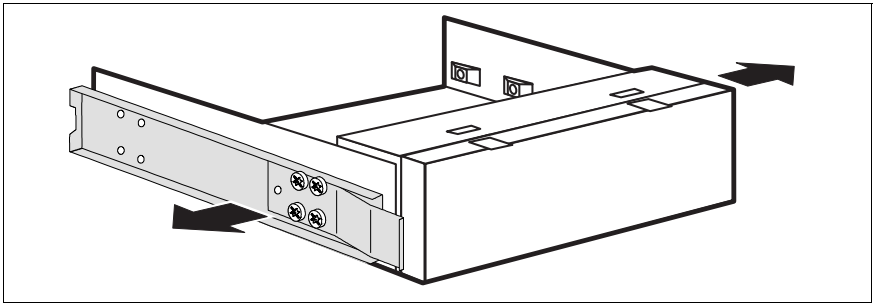

Figure 13: Removing the rails

- Release the screws and remove the EasyClick rails from the dummy module.

  CAUTION!

  Keep the dummy module for future use. If the drive is removed again and not replaced with a new drive, the dummy module must be reinstalled due to cooling, to comply with applicable EMC regulations (regulations on electromagnetic compatibility) and to protect against fire.

- Unpack the new drive, and make the desired settings. You should read the accompanying documentation supplied with the drive beforehand.

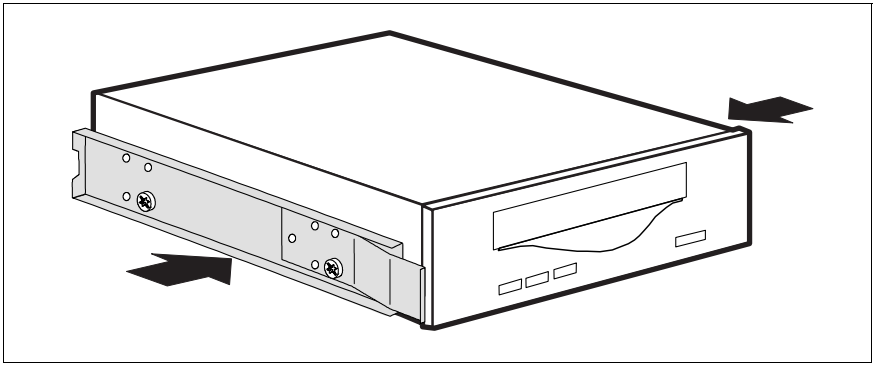

Figure 14: Attaching the rails to the CD-DVD-ROM drive

- Press the EasyClick rails into the lower mounting holes of the drive (two screws).
- Push the assembled drive with the rails into the free bay until the EasyClick rails are locked in position.

  Proceed in the reverse order for removal.

- Connect the cables to the drive as described in the next section.
- Close the server, connect it to the mains, and switch it ON as described in chapter “Completion” on page 43 and following.

7.1.1 Connecting the Drives

- Connect the power cable (connectors according to the installed PSU type in accordance with the figures in the section “Cabling” on page 47) to the relevant power connector of the drive. You should read the accompanying documentation supplied with the drive beforehand.

For the operation of backup drives (max. two tapes) an own PCI SCSI controller is needed. The PCI SCSI controller will be installed in one 64 Bit PCI slot (slot 2 or 3).

In the basic configuration with SCSI hard disk drives one of these two slots is already occupied by the PCI SCSI controller for these drives.

- Connect the SCSI cable T26139-Y3576-V209 (flat band cable delivered with the SCSI controller) to the relevant SCSI interface of the tape drive. You should read the accompanying documentation supplied with the drive and/or the controller beforehand.
- Connect the SCSI cable to the SCSI interface of the SCSI controller. You should read the accompanying documentation supplied with the drive and/or the controller beforehand.

8 Hard Disk Drives

CAUTION!

Refer to the safety notes in chapter “Safety” on page 13 and following.

The server can be delivered either with SATA or with SCSI hard disk drives.

Up to three additional hard disk drives can be installed.

8.1 Installing/Removing Hard Disk Drive

- Remove the side cover as described in section “Opening the Housing” on page 19.

You find the necessary pre-mounted EasyClick rails in the drive cage.

- Remove the necessary EasyClick rails from the next free bay of the hard disk drive cage (installation sequence from above downward).
- Unpack the new drive, and make the desired settings. You should read the accompanying documentation supplied with the drive beforehand.

  The SCSI IDs 0 - 3 are reserved for the SCSI hard disk drives and will be set with jumpers on the connection field of the drives (see figure 15).

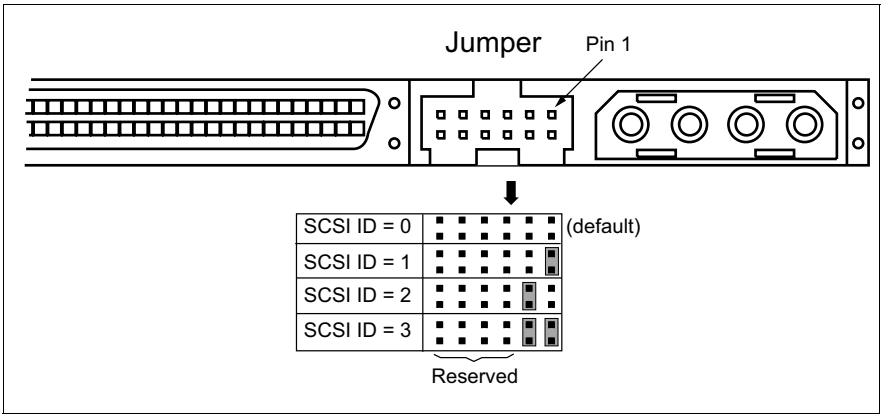

Figure 15: Connection field SCSI hard disk drives: SCSI-ID setting

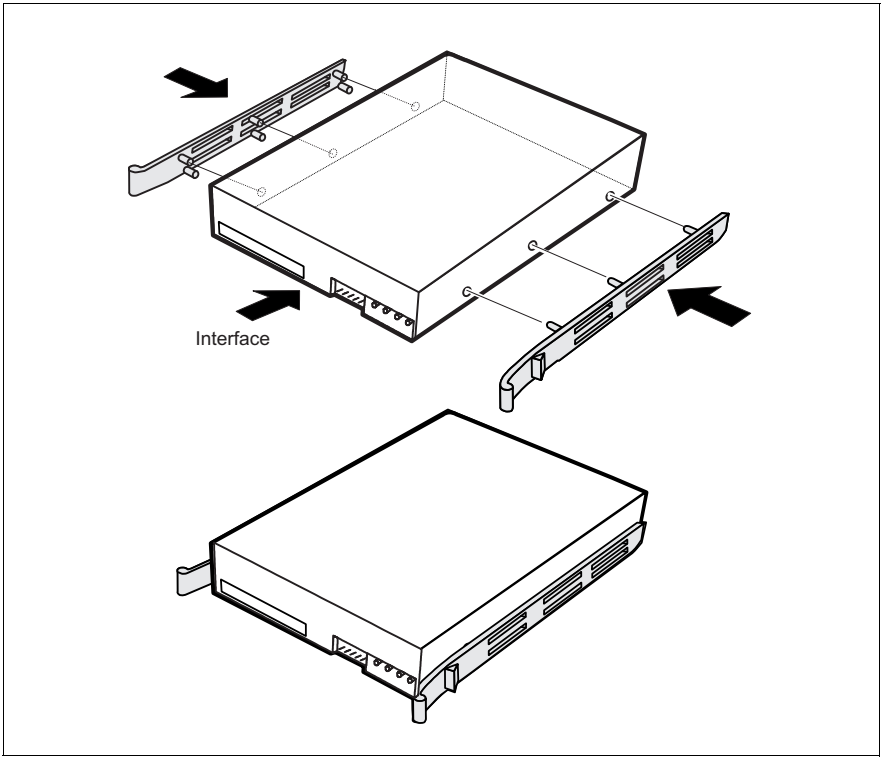

Figure 16: Attaching the rails to the hard disk drive (SATA hard disk drive)

- Press the EasyClick rails (upper pin row) into the mounting holes of the drive as shown in figure 16. Screws are not necessary, the pins at the rails engage into the mounting holes of the drive.

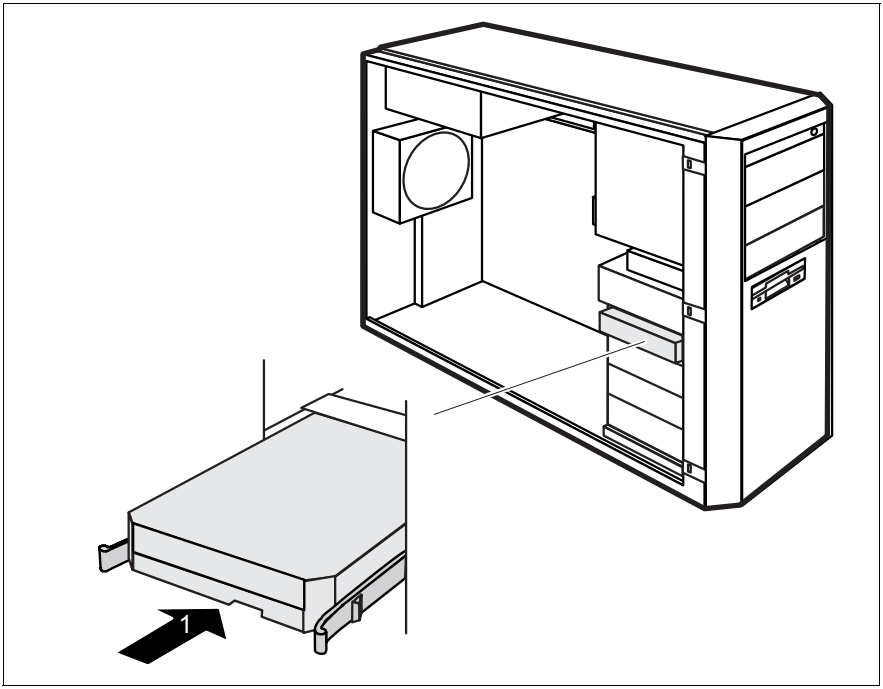

Figure 17: Installing the hard disk drive

- ► Push the assembled drive with the rails into the free bay until the EasyClick rails are locked in position.
- ► Attach the cables to the new drives described in the next section.
- ► Close the server, connect it to the mains, and switch it ON as described in chapter “Completion” on page 43 and following.

Proceed in the reverse order for drives removal.

8.1.1 Cabling Hard Disk Drives

Two SATA hard disk drives

The appropriate cabling is represented in the section “Cabling”, figure 27 on page 48 and figure 28 on page 49.

- Connect the power cable/connector P16 to the relevant power connector of the second SATA drive. You should read the accompanying documentation supplied with the drive beforehand.
- Connect the SATA cable T26139-Y3928-V101 to the SATA interface of the second SATA drive (the free cable is already connected to the system board and fixed with cable clips at the housing bottom) (see figure 18).

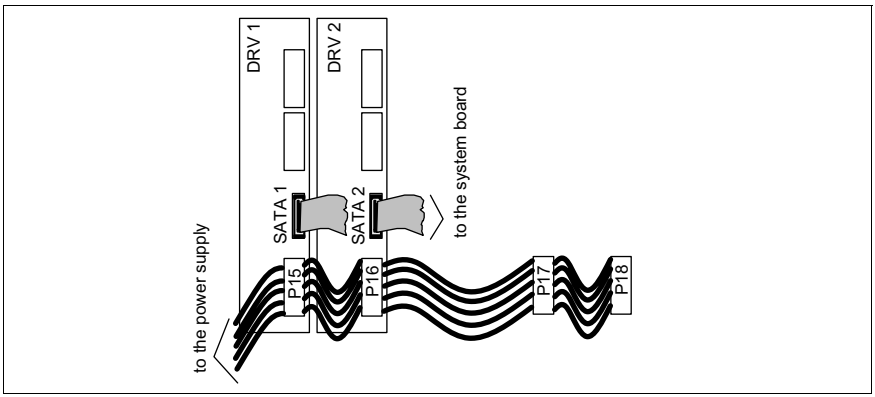

Figure 18: Two SATA drives: connectors

Four SATA hard disk drives

The appropriate cabling is represented in the section “Cabling”, figure 29 on page 50 and figure 30 on page 51.

If more than two SATA hard disk drives are installed an additional PCI SATA controller is necessary. The four SATA hard disk drives will be connected to the SATA interfaces (Port 1 - Port 4) of the controller (see figure 19 on page 37).

- Install the SATA controller in the lowest PCI slot (see chapter “Controllers in PCI Slots” on page 39).

- Connect the power cable/connector P17 and P18 to the relevant power connector of the third and fourth SATA drive. You should read the accompanying documentation supplied with the drive beforehand.
- Connect the two SATA cables T26139-Y3928-V101(delivered with the controller) to the SATA interface of the SATA drives (see also figure 19).
- Attach the HDLED cable T26139-Y2361-V102 (delivered with the controller) to the connector JP1 on the SA TA controller and the connector HDLED1 on the system board. You should read the accompanying documentation supplied with the controller beforehand.

Additional cables supplied with the SATA controller are not used.

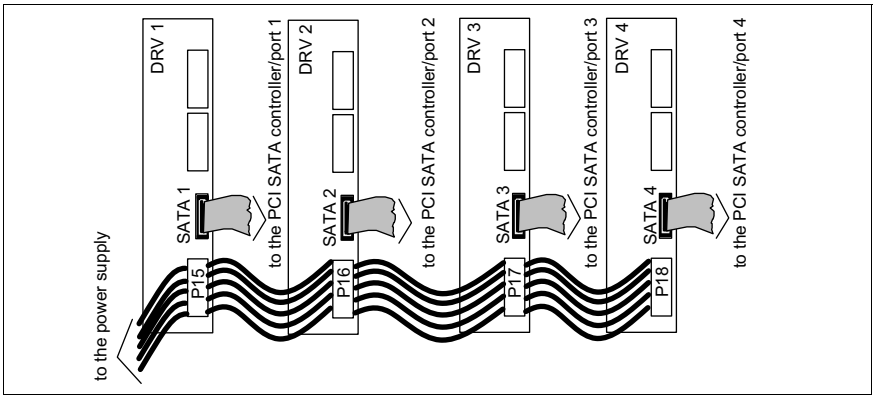

Figure 19: Four SATA drives: connectors

Four SCSI hard disk drives

The appropriate cabling is represented in the section “Cabling”, figure 31 on page 52 and figure 32 on page 53.

- Connect the new SCSI hard disk drives to the power supply unit (see figure 20 on page 38). You should read the accompanying documentation supplied with the drive beforehand.
- Connect the new drives to one free SCSI connector each of the SCSI cable T26361-Y3914-V1(see also figure 20 on page 38).

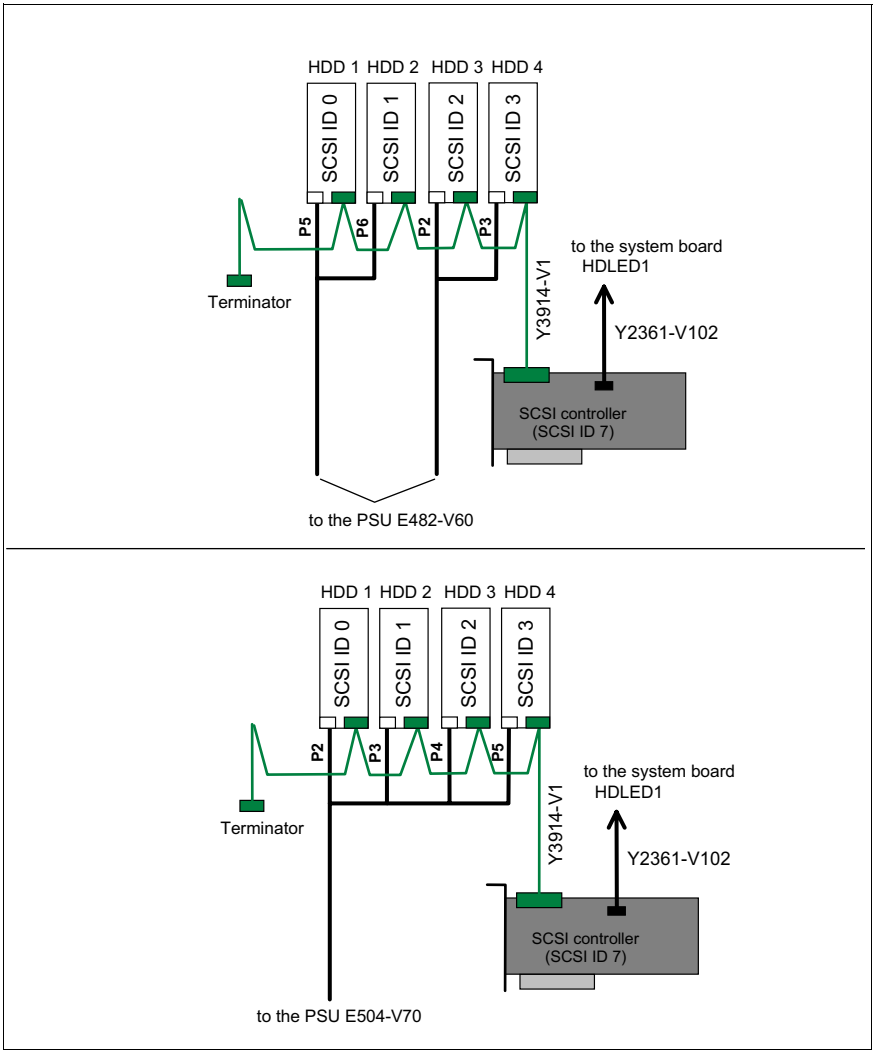

Figure 20: Four SCSI drives: connectors

9 Controllers in PCI Slots

CAUTION!

Refer to the safety notes in chapter “Safety” on page 13 and following.

The system board offers five PCI slots for additional controllers. The numbering of the slots takes place from down upward (2-6).

9.1 Installing the PCI Controller

- Remove the side cover as described in section “Opening the Housing” on page 19.

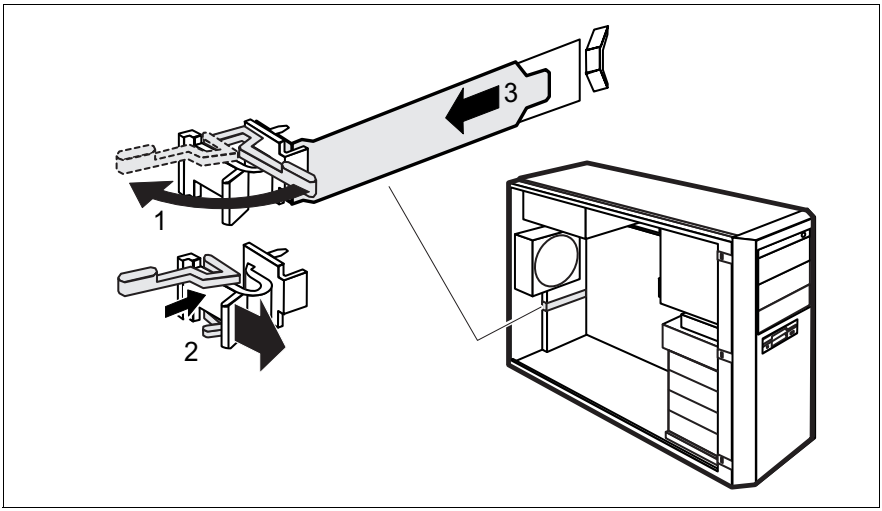

Figure 21: Removing the slot cover

- Swing the locking swivel in the direction of the arrow (1), press onto the clip (2) and remove it.
- Remove the PCI slot cover (3).

CAUTION!

Keep the slot cover for further use. If the controller is removed again and not replaced with a new controller, the slot cover has to be reinstalled to comply with applicable EMC regulations and satisfy cooling requirements and fire protection measures.

- Unpack the new controller, and make the desired settings. You should read the accompanying documentation supplied with the controller beforehand.

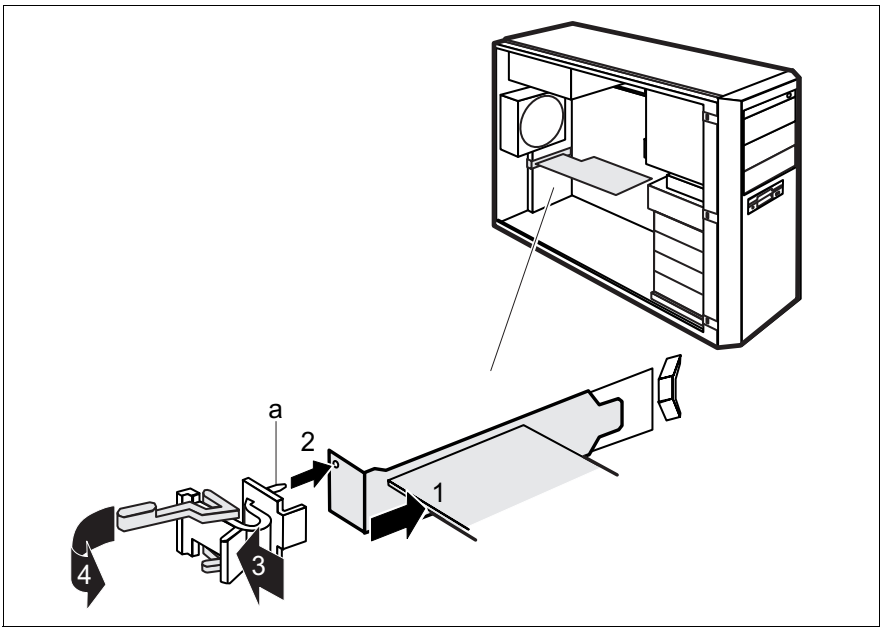

Figure 22: Installing the controller

- Install the controller into the PCI slot (1) and press it carefully into the associated plug-in location on the system board until it engages properly.
- Place the clip onto the slot cover in such a way that the pin (a) puts into the opening of the cover (2), and press the clip in the direction of the arrow (3) until it engages.
- Swing the swivel (4) in its locking position.
- If required, connect the cables to the controller and other components.
- Close the server, connect it to the mains, and switch it ON as described in chapter “Completion” on page 43 and following.

Please check the relevant PCI slot settings in the *BIOS-Setup Utility D2020*. If necessary, change the settings. Please read the documentation for the installed PCI card.

Pay attention to the allocation of the PCI interrupts. You find further information in the Technical Manual for the system board D2020 (PDF file available on the *ServerBooks* CD).

Proceed in the reverse order for removal.

10 Completion

CAUTION!

Refer to the safety notes in chapter “Safety” on page 13 and following.

10.1 Mounting the System Fan

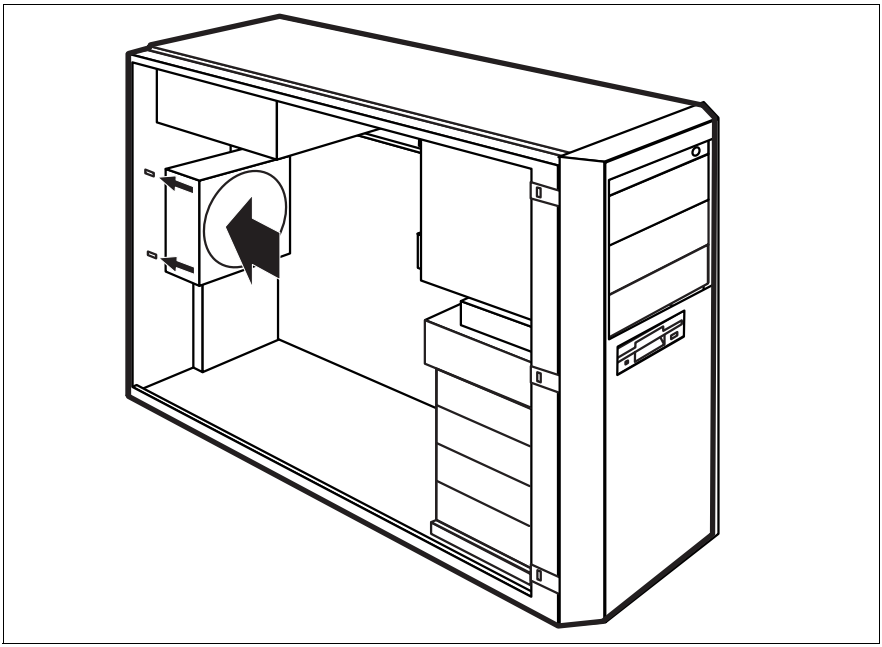

Figure 23: Mounting the system fan

- ► Place the system fan into the relevant holes and press it in the direction of the arrow until it clicks audibly into place.
- ► Connect the fan cable to the connector “rear fan” on the system board (see sticker D2020).

10.2 Mounting the Front Cover

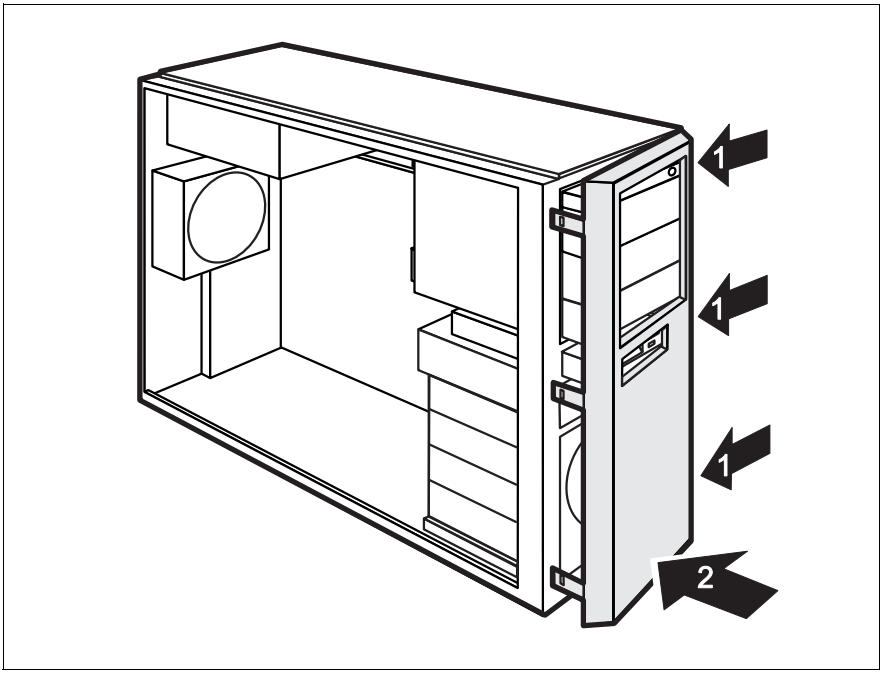

Figure 24: Mounting the front cover

- ► Hook on the front cover (1).
- ► Swing the front panel in the direction of the arrow (2) until it engages.

10.3 Closing the Housing

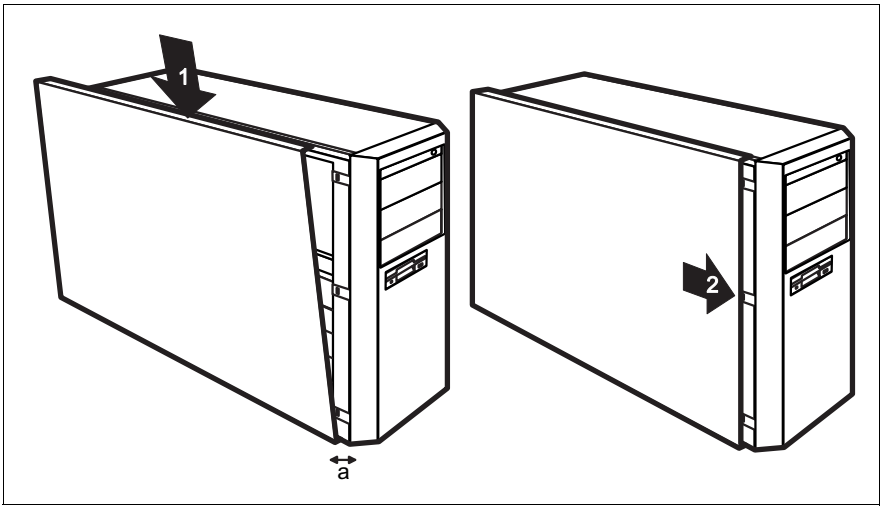

Figure 25: Mounting the side cover

- ► Place the side cover into the lower guide rail of the housing (1). Make sure that the cover is offset by approximately 2 cm (a).
- ► Hook the top edge of the cover on the housing and slide the side cover in the direction of the arrow (2) until it engages.

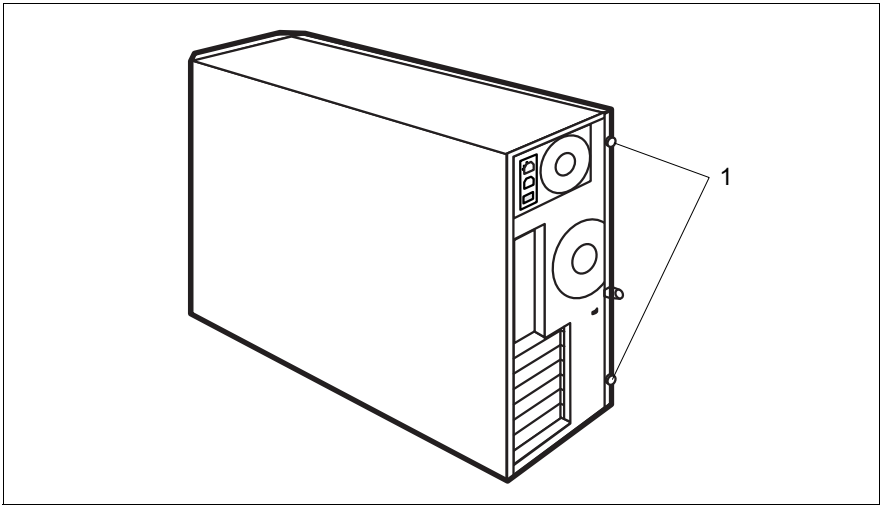

Figure 26: Fastening the side cover

- ► Press the side cover onto the housing and tighten the two knurled screws (1).
- ► Return the server to its original installation location.
- ► Reconnect any disconnected cables.
- ► Connect the power plug to the grounded power outlet, switch ON the power supply unit (press the main power switch) and press the ON/OFF button.

11 Appendix

11.1 Cabling

The following table gives you an overview of the cables:

Part number	Name
T26139-Y3848-V101	Operating panel cable/temperature sensor
T26139-Y3718-V701	ID-Combo
T26139-Y3662-V304	IDE cable
T26139-Y1248-V201	Floppy disk drive
T26139-Y3859-V11 or T26139-Y3576-V209	SCSI cable
T26139-Y3967-V301 or T26139-Y3914-V1	SCSI cable (SCSI HDD)
T26139-Y3609-V102	Front fan
T26139-Y3736-V201	Intrusion detection switch
T26139-Y3928-V101	SATA cable
T26139-Y2361-V102	HDLED cable
T26139-Y3646-V1	System fan

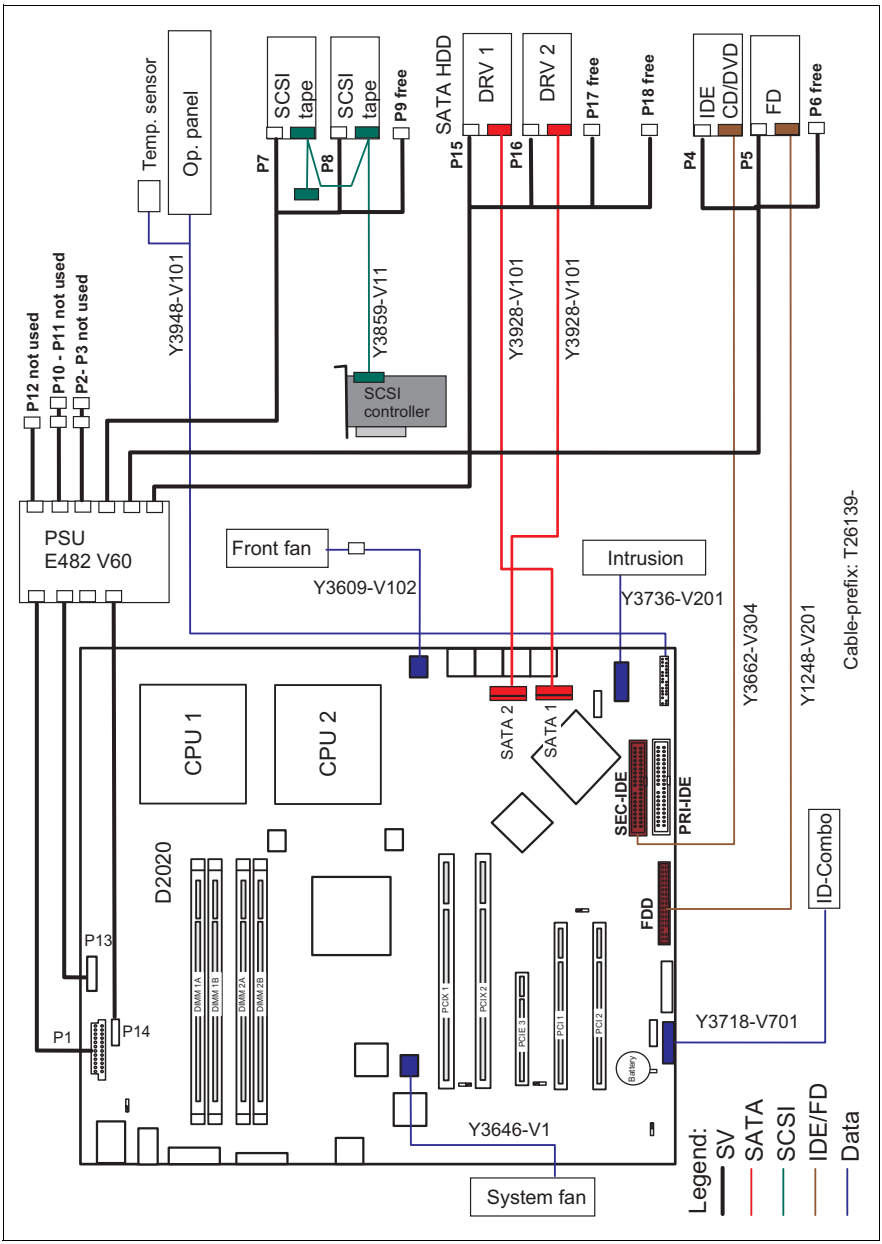

Figure 27: PSU E482-V60: Basic cabling with two SATA hard disk drives

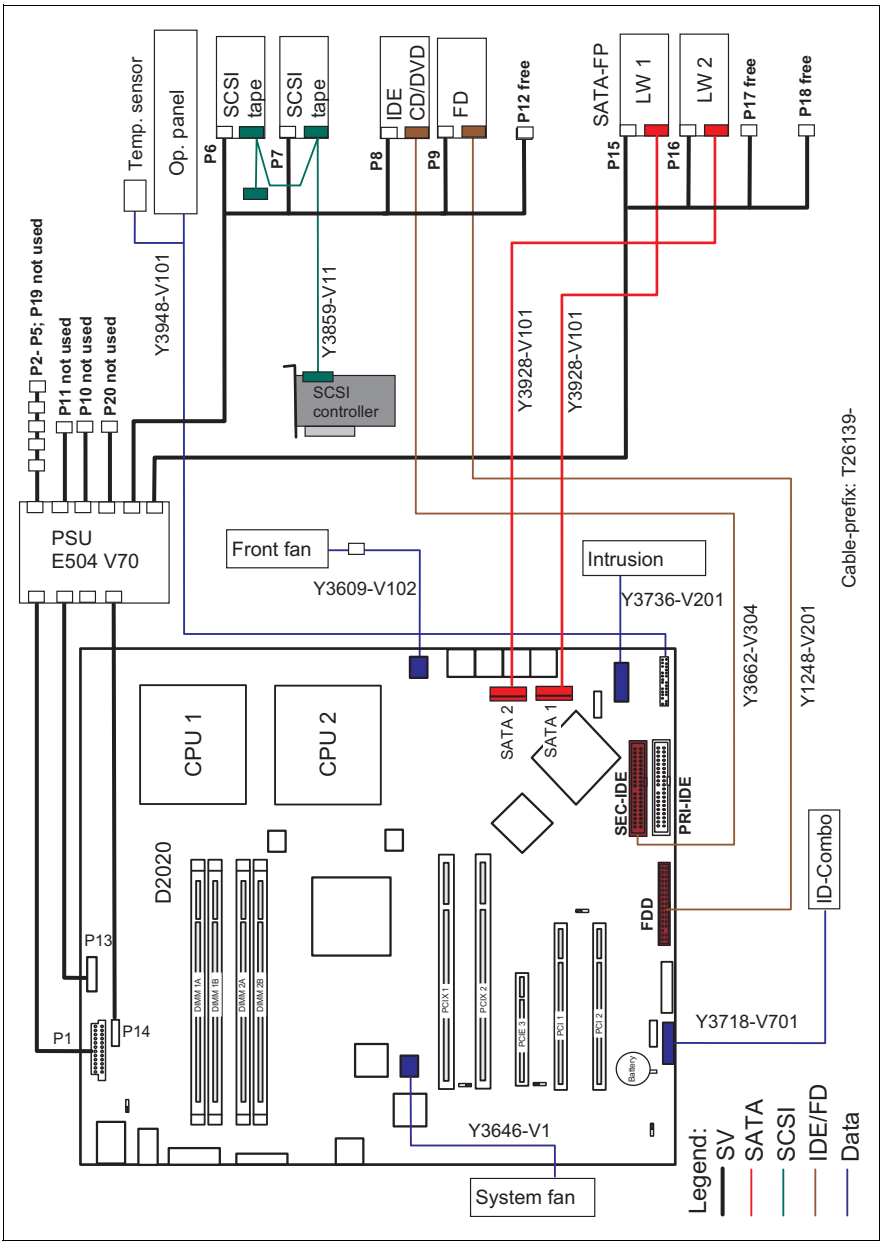

Figure 28: PSU E504-V70: Basic cabling with two SATA hard disk drives

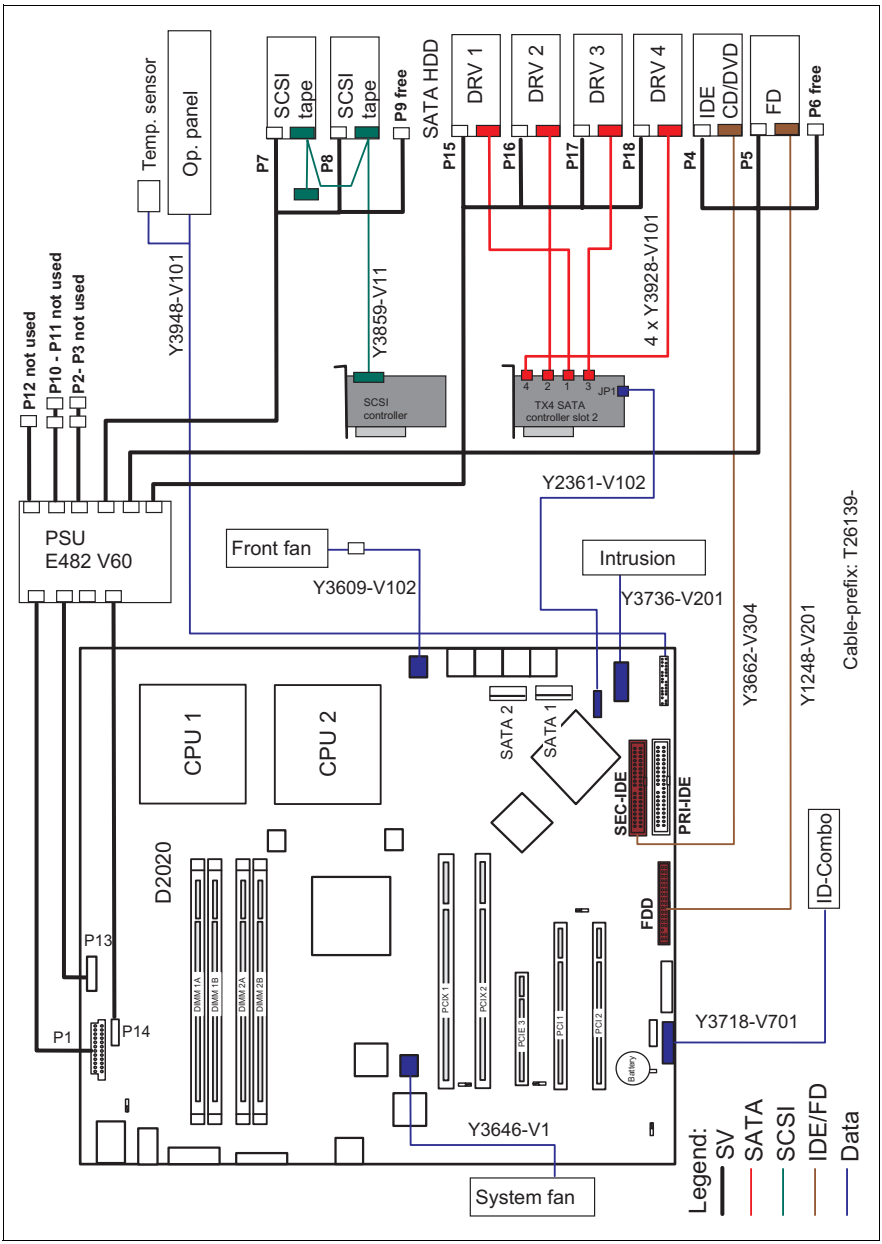

Figure 29: PSU E482-V60: Basic cabling with four SATA hard disk drives

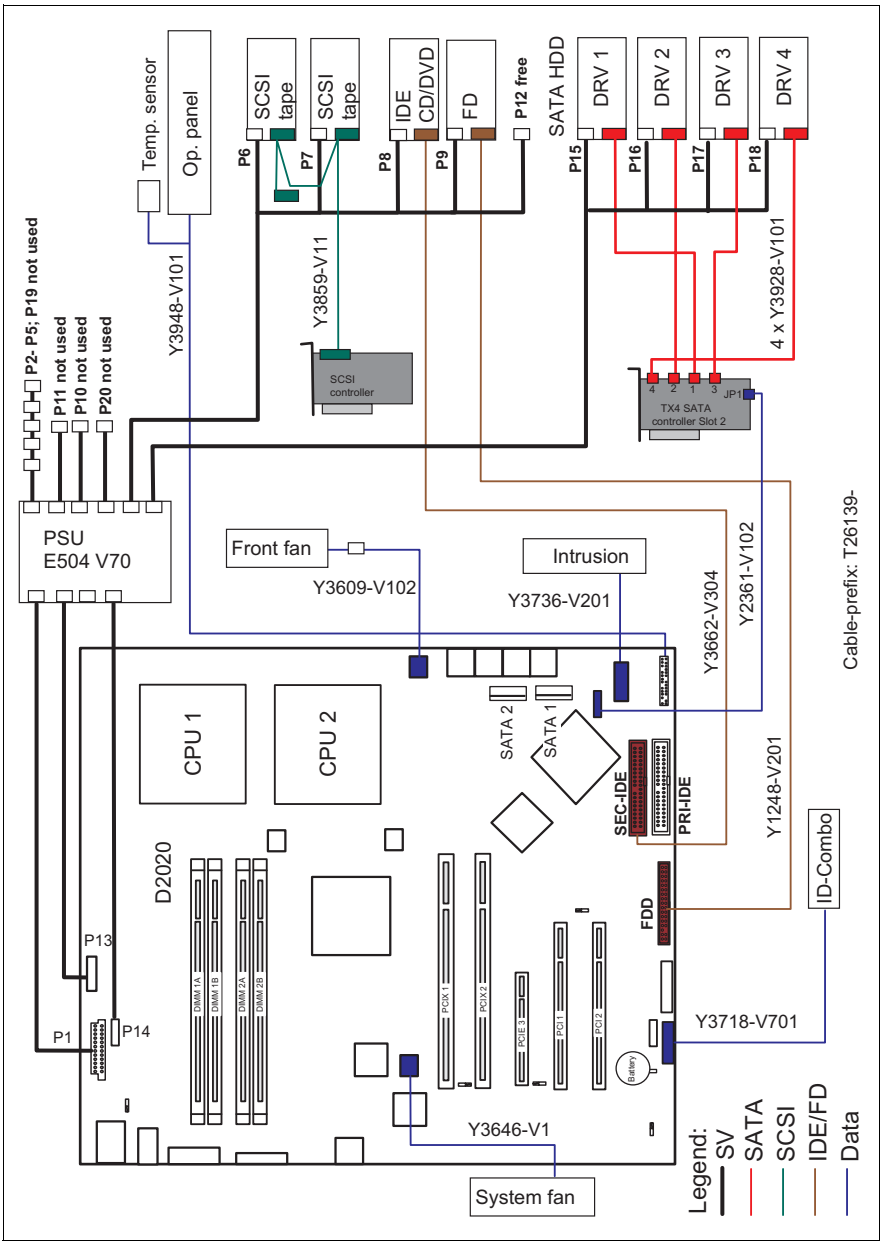

Figure 30: PSU E504-V70: Basic cabling with four SATA hard disk drives

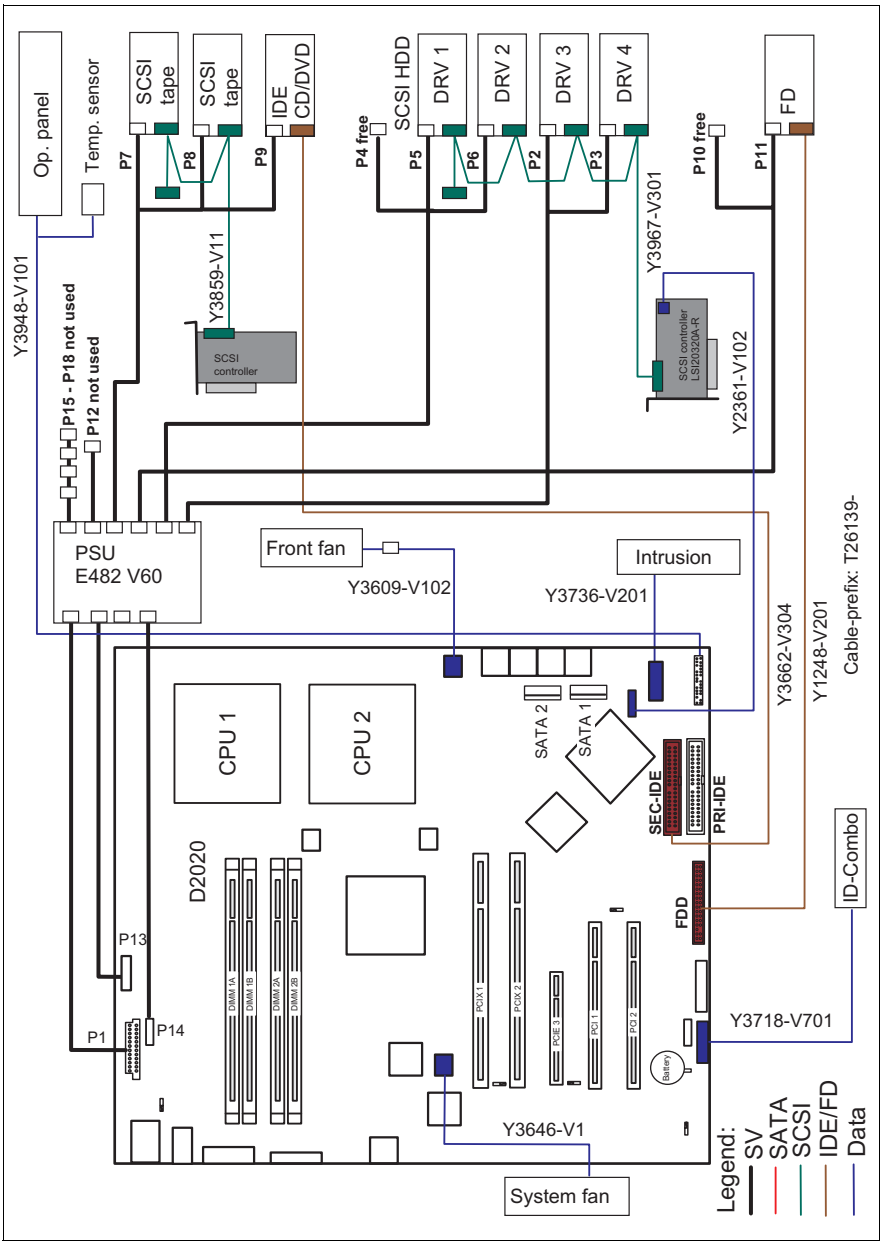

Figure 31: PSU E482-V60: Basic cabling with four SCSI hard disk drives

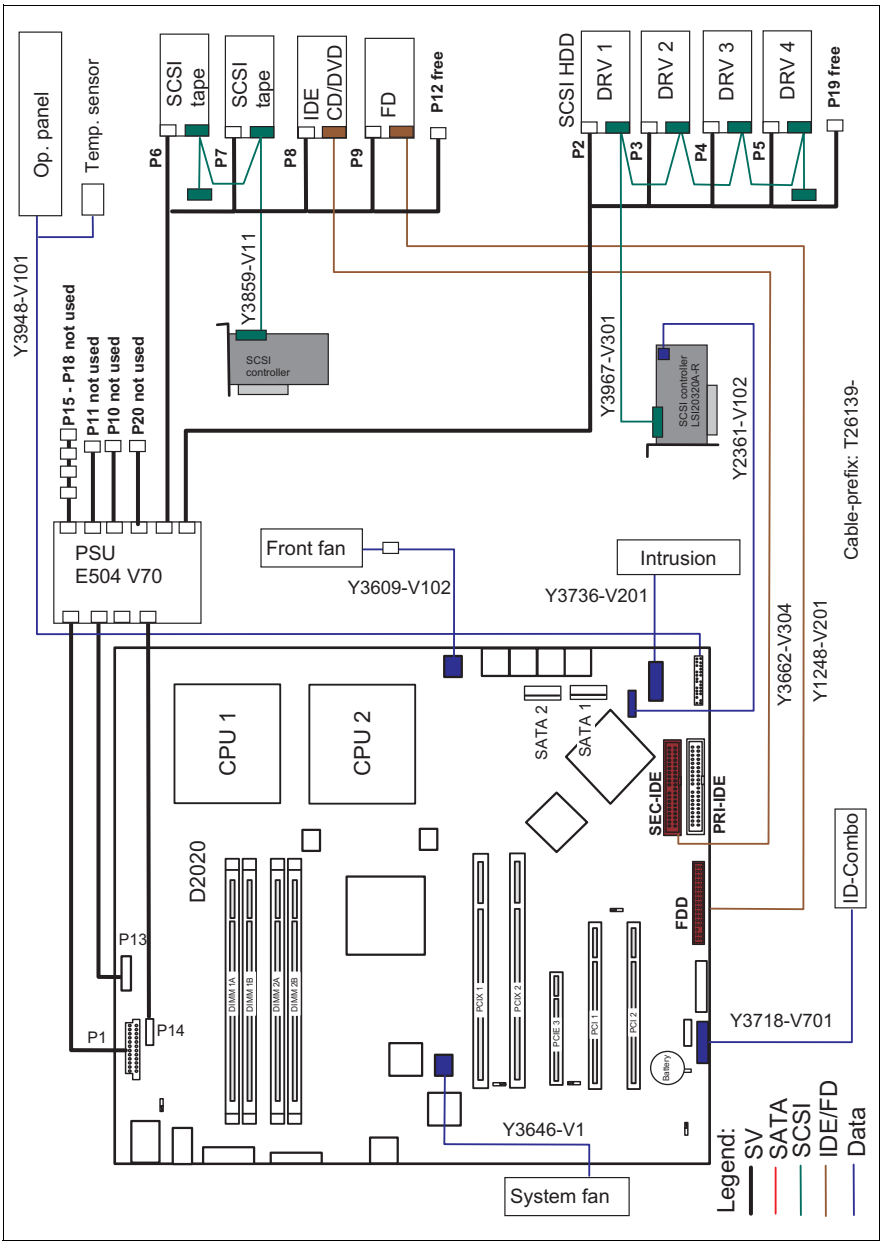

Figure 32: PSU E504-V70: Basic cabling with four SCSI hard disk drives

Related Publications

PRIMERGY manuals are available as PDF files on the *ServerBooks* CD. The *ServerBooks* CD is part of the „*ServerView Suite*“ delivered with each server system.

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