

DECpc

85-MB, 127-MB, and 170-MB IDE
Hard Disk Drives Installation Guide

EK-XARCE-IA. B01

Digital Equipment Corporation
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Kit Contents

The 85-MB, 127-MB, and 170-MB hard disk drive kits contain the following:

Item	Order Number
One disk drive	RE22L-EA (85 MB) RE23M-EA (127 MB) RE23Q-E (170 MB)
Two expansion brackets	74-44337-01
Four screws, #6-32 x 3/16-inch	90-08020-01
Four screws, #6-32 x 1/4-inch	90-00038-19
<i>DECpc 85-MB, 127-MB, and 170-MB IDE Hard Disk Drives Installation Guide</i>	EK-XARCE-IA-B01

The 127-MB hard disk drive kit includes an IDE cable for use with the DECpc 400 ST computer. If you install the 85-MB or the 170-MB hard disk drive and require an IDE cable, you must order a cable separately (Digital order number 17-03541-01).

Before You Start

Read the following installation instructions. If you prefer not to install the drive yourself, contact your Digital service representative to schedule a technician to install the drive.

If you are replacing a drive, or adding a second drive, always back up the data before starting the installation.

The drive can be connected directly to the 40-pin IDE-bus connector located on the DECpc motherboard, or to a separate IDE-bus adapter board.

CAUTION

Static electricity can destroy the circuits on the drive's circuit board. Discharge static electricity by touching the drive's metal frame before touching the circuit board.

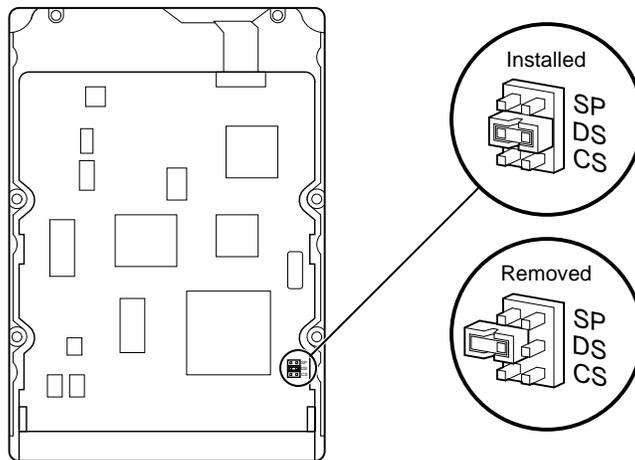
Installing the Drive

To install the drive, perform the following steps:

1. Verify the drive select (DS) jumper setting.

The DS jumper is a small, plastic block that is plugged onto a pair of metal pins on the circuit board (Figure 1).

If this drive is the ...	Then you must...
Only IDE drive in the system (boot drive)	Leave the DS jumper installed. (<i>factory default</i>)
Second IDE drive in the system	Remove the DS jumper by pulling it up with needle-nosed pliers. Save the jumper for future use by plugging it back onto only one of the pins.



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Figure 1. DS Jumper Location

Note

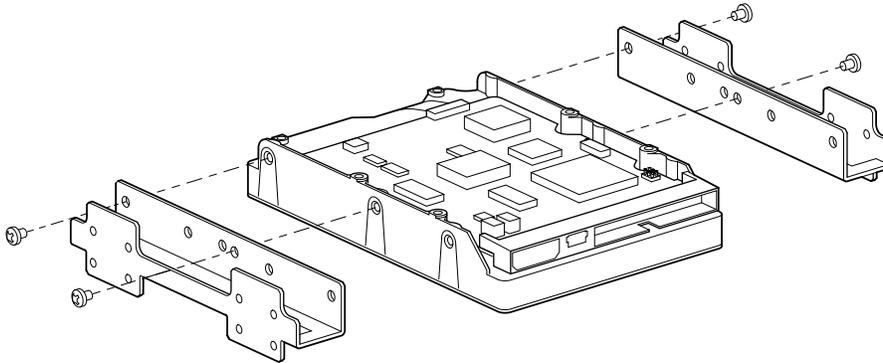
The slave present (SP) and cable select (CS) jumpers are not applicable to DECpc computers. Do not change their factory-default settings.

2. Turn off the computer and unplug the power cord from the wall outlet, then from the back of the system box.
3. Remove the system box cover and select an available drive bay. See your computer user guide for instructions.

Note

Depending on the layout of your computer, you may find it easier to connect the cables (described in step 5) before you mount the drive in the bay.

4. Mount the drive in a drive bay.
If you mount the drive in a 5¼-inch bay, attach the expansion brackets (Figure 2).
Some computers require you to install drive rails. If so, attach the drive rails, supplied with your computer, to the expansion brackets.



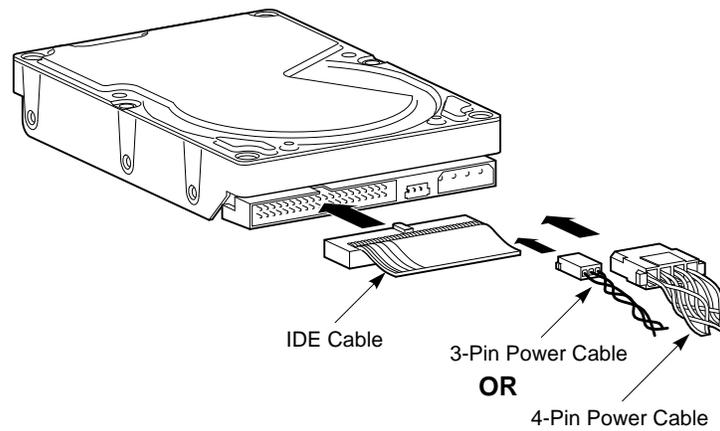
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Figure 2. Attaching Expansion Brackets

CAUTION

Use the short (3/16-inch) screws to mount the brackets to the drive. The longer screws will extend into the circuit board and damage the drive. Use the longer screws to attach the drive rails to the expansion brackets, or to mount the brackets to the computer case.

5. Connect the IDE cable and 4-pin dc power cable (Figure 3).



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Figure 3. Connecting Cables

6. Determine if your computer has an ISA or an EISA bus and run the appropriate Setup utility to enter the new drive parameters.

Bus	Configuration Utility
ISA (16-bit)	System Setup utility
EISA (32-bit)	System Configuration utility (SCU)

See your computer user guide for the configuration instructions.

7. Select the Hard Drive 1/Hard Drive 2 field in the appropriate Setup utility.

Using the following *logical* addressing parameters (Table 1), you either:

- Select a drive type, from a predetermined list of drives, that matches these parameters.
- Enter the parameters as a user-definable hard drive.

Table 1. Logical Addressing Parameters

Size	Formatted Capacity	Heads	Cylinders	Precomp	Landing Zone	Sectors
85 MB	81 MB	10	977	Not used	Not used	17
127 MB	122 MB	16	919	Not used	Not used	17
170 MB	162 MB	15	1011	Not used	Not used	22

If you select an adapter board instead of the computer's main logic board IDE hard disk controller, *disable* the computer's main logic board IDE hard disk controller. See the Setup utility in your computer user guide.

8. Reboot your computer.

If the operating system is not installed, boot the system with the operating system installation diskette. See the operating system information for further instructions.

9. Partition and format the drive.

Use these commands with the MS-DOS operating system:

- `FDISK` to partition the drive.
- `FORMAT` to prepare each partition to receive MS-DOS files.
- `FORMAT C: /S` to copy the operating system to the primary DOS partition (master drive partitions only).

See the MS-DOS user information for specific instructions.

10. Restore any backup files.

Specifications

The following table describes operational specifications:

Table 2. Operational Specifications

Characteristics	85-MB Drive	127-MB Drive	170-MB Drive
Number of disks	1	2	2
Data surfaces	2	3	4
Physical data heads	2	3	4
Physical cylinders	1536	1536	1536
Track density (tracks/in)	1800	1800	1800
Physical sectors/track	42 to 64	42 to 64	42 to 64
Logical data heads	10	16	15
Logical cylinders	977	919	1011
Logical sectors/track	17	17	22
Track-to-track seek	5.5 ms	5.5 ms	5.5 ms
Average seek	17 ms	17 ms	17 ms
Full stroke seek	33 ms	33 ms	33 ms
Rotational latency	8.2 ms	8.2 ms	8.2 ms
Rotation speed (r/min)	3663 ± 0.2%	3663 ± 0.2%	3663 ± 0.2%
Data transfer to media	2.5 MB/s	2.5 MB/s	2.5 MB/s
Data transfer from read buffer	4.0 MB/s	4.0 MB/s	4.0 MB/s
Power (typical)	3.0 W	3.0 W	3.0 W
Temperature <ul style="list-style-type: none"> • Operating • Nonoperating 	4°C to 50°C -40°C to 65°C	4°C to 50°C -40°C to 65°C	4°C to 50°C -40°C to 65°C

Installation Guide

Humidity			
• Operating	8% to 85%	8% to 85%	8% to 85%
• Nonoperating	5% to 95%	5% to 95%	5% to 95%
Altitude			
• Operating	-60 m to 3 km	-60 m to 3 km	-60 m to 3 km
• Nonoperating	-60 m to 12 km	-60 m to 12 km	-60 m to 12 km