

AlphaServer "Linux® Ready" DS10**V1.2 —20 July 1999**

Systems and Options Catalog

Product Description

The AlphaServer DS10 is based on the Alpha 21264 microprocessor 466 MHz CPU with 2 MB ECC L2 cache. Servers are available in Desktop configurations or can be rackmounted in M-series cabinets. Systems are "Linux Ready" and do not include an operating system license. The end user or a Linux distributor must select and install a Linux operating system. The AlphaServer DS10 is a low-cost entry level server with enterprise level server features. The DS10 is ideal for ISP/Internet applications, High Performance Technical Computing, software development and replicated site applications. The DS10 has a 3U/5.25" form factor which makes it ideal for rackmounting into cabinets to conserve valuable floor space. Integrated on the system motherboard are Dual 10/100 BaseT ethernet ports, IDE controller for storage, Remote Management Console, diskette controller, two serial ports, one parallel port, two USB ports, and keyboard and mouse ports. An optional SCSI adapter and a SCSI cable kit are required to support internal SCSI disks and tape.

The AlphaServer DS10 supports five internal storage devices, including a floppy diskette, CD-ROM, and three hard disk drives. System supports up to 1 GB of memory and up to 30 GB of internal storage with three 10 GB SCSI disks installed.

System Ordering Rules

AlphaServer DS10 Linux Ready packaged systems do not include a system disk. Selection of a system disk is required. It is mandatory that users select either an IDE disk or a SCSI disk, SCSI Controller and SCSI cable kit as the system disk at the time of system order. The Linux Operating System is obtained by the user through the Linux distributor or one of the AlphaServer supported Linux vendors. The Linux Operating System is not factory installed.

To order a complete system, a graphic option, monitor and cabinetry may be selected. Call your sales representative on mandatory disk requirements for Linux cluster applications.

M-series Cabinet Enclosures

M-series Cabinet Enclosures are available in three sizes: 43 inch, 67 inch, and 79 inch. See Cabinet Configuration Chart for maximum system and StorageWorks shelves supported in M-series Cabinet Enclosures.

High Availability Features

The AlphaServer DS10 integrated Remote Management Console (RMC) features significantly enhanced capability to remotely manage and diagnose system conditions. The RMC allows a remote operator to monitor server voltages, temperatures, and fan, as well as manipulate the server (Power On/Off, reset, halt). An auxiliary regulator powers the RMC in the main power system that allows systems to be remotely interrogated even if systems are turned off or shut down. In the event of an alert condition, the RMC can be set up to automatically dial a user definable pager phone or another system to make a remote operator aware of the alert condition. Functionality may vary based on driver availability.

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Step 1—AlphaServer DS10 Linux Ready Desktop and Rackmount Systems

AlphaServer DS10 Linux Ready Desktop and Rackmount Systems include:

- Alpha microprocessor 21264 466 MHz CPU with 2 MB onboard ECC cache
- Onboard IDE controller for internal storage
- Onboard dual 10/100 BaseT Ethernet ports
- Four PCI expansion slots
 - Three 64-bit PCI slots
 - One 32-bit PCI slot
- 4 DIMM memory slots support 2 memory kits, one memory kit included
- Five storage bays
 - One diskette drive bay with 1.44 MB floppy drive
 - One CD-ROM drive bay with 600 MB CD-ROM
 - One 5.25-inch x 1-inch removable media bay or 3.5-inch x 1-inch hard disk drive bay
 - Two 3.5-inch x 1-inch hard disk drive bays
- Two serial ports
 - One serial port with full duplex asynchronous modem control
 - One RMC dedicated serial port with full duplex asynchronous modem control.
- One bi-directional enhanced parallel port
- PS/2 style keyboard port and mouse port
- 300 W (120/240V, 60/50 Hz) power supply
- 3 button mouse
- US English keyboard (North American orders only)
- US power cord (North American orders only)
- US English documentation
- Hardware Warranty: Three-year on-site hardware with next business day response
- Rackmount/Desktop kit included

Step 1a—Linux-Ready Systems

- Systems ordered in North America include a 104/105 key PC style US English keyboard and 120 V power cord.
- Selection of a country-specific keyboard and power cord is mandatory for all non North American orders.

Order Number	Memory	Hard Disk Drive	Ethernet	Graphics	Monitor
DJ-PB10A-BA	64 MB	Mandatory	Onboard	Optional	Optional
DJ-PB10A-BB	128MB	Mandatory	Onboard	Optional	Optional
DJ-PB10A-BC	256MB	Mandatory	Onboard	Optional	Optional
DJ-PB10A-BD	512MB	Mandatory	Onboard	Optional	Optional

Step 1b—Mandatory Options

- Selection of a System Disk drive is mandatory. Systems support up to three internal disk drives.
- System supports 1-inch x 3.5-inch internal drives only.

IDE Disk Drives

Order Number	System Disk
3X-RE56A-AA	10GB 5400rpm IDE hard disk drive

SCSI Disk Drives

Selection of a SCSI adapter and SCSI cable kit is mandatory if internal SCSI disk drives are selected.

Order Number	System Disk
DS-RZ2DA-WA	9.1 GB 7200rpm Ultra SCSI hard disk drive
DS-RZ1DD-WA	9.1 GB 10,000 rpm Ultra SCSI hard disk drive
DS-RZ2EA-WA	18GB 7200rpm Ultra SCSI hard disk drive

SCSI Adapters

Order Number	SCSI Adapter
KZPCM-DA	PCI-based two port UltraSCSI Single-ended adapter and 10/100 Mbit Ethernet Combo adapter
KZPBA-CA	PCI-based one port UltraSCSI Single-ended adapter

Step 1b—Mandatory Options*(continued)*
SCSI Cable Kit

Order Number	SCSI Cable Kit
3X-BN50A-01	SCSI cable kit (includes SCSI cable and SCSI LED cable)

Step 2—Memory

- Systems include one memory kit.
- Systems support a maximum of two memory kits. Each kit includes two industry standard DIMMs with ECC support
- Systems currently support a maximum of 1GB memory

Order Number	
3X-MS310-AA	64 MB, Two 200 pin, 100 MHz, 32 MB DIMMs
3X-MS310-BA	128 MB, Two 200 pin, 100 MHz, 64 MB DIMMs
3X-MS310-CA	256 MB, Two 200 pin, 100 MHz, 128 MB DIMMs
3X-MS310-DA	512 MB, Two 200 pin, 100 MHz, 256 MB DIMMs

Step 3—Storage
Step 3a—Internal Storage

- Systems include one 600 MB 32X CD-ROM drive and one 1.44 MB diskette drive in dedicated drive slot.
- Additional internal storage supported:
 - Three 1" hard disk drive bays (including mandatory selection from step 1b)
 - One 5.25-inch half-height removable media bay. Note: one 3.5-inch x 1-inch hard disk drive is supported in removable media bay.

IDE Disk Drives

Order Number	System Disk
3X-RE56A-AA	10GB 5400rpm IDE hard disk drive

SCSI disk drives

Order Number	System Disk
DS-RZ2DA-WA	9.1 GB 7200rpm Ultra SCSI hard disk drive
DS-RZ1DD-WA	9.1 GB 10,000rpm Ultra SCSI hard disk drive
DS-RZ2EA-WA	18 GB 7200rpm Ultra SCSI hard disk drive

SCSI Cable Kit

Order Number	SCSI Cable Kit
3X-BN50A-01	SCSI cable kit (includes SCSI cable and SCSI LED cable)

Step 3b—External Storage

Controllers/Adapters

Order Number	Description	LINUX
KZPBA-CA	PCI-based one port UltraSCSI Single-ended adapter, uses 1 PCI slot. Internal 68-pin and 50-pin HD connectors and external 68-pin HD connector.	2
KZPBA-CB	PCI-based one port UltraSCSI Differential adapter, uses 1 PCI slot, external 68-pin HD connector.	2
BN38C-xx	68-pin HD male to VHDCI male UltraSCSI cable; required for each external UltraSCSI shelf attached to KZPBA-CA/CB adapter.	

Hard Disk Drives

DS-RZ1DA-VW	9.1 GB 7200 RPM UltraSCSI disk drive
DS-RZ1EA-VW	18.2 GB 7200 RPM UltraSCSI disk drive
DS-RZ1FB-VW	36.4 GB 7200 RPM UltraSCSI disk drive
DS-RZ1DD-VW	9.1 GB 10,000 RPM UltraSCSI disk drive
DS-RZ1ED-VW	18.2 GB 10,000 RPM UltraSCSI disk drive

Step 4—Graphics Options

SN-PBXGK-BB recommended for installation in PCI slot 1 and slot 2 (bottom 2) at this time

SN-PBXGK-BB	Elsa Gloria Synergy 8M Video Graphics controller
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Step 5—Monitors

Graphics monitors other than those listed below can be used if compatible with SVGA graphics ordered with a system.

Note: Selection of a video extension cable and a country specific power cord is mandatory for all monitor variants. See Step 5a for video extension cable. See Step 5b for country specific power cords.

3R-VRQV5-24/11	15" Corporate Series auto-scan color monitor, VGA to 1024 x 768 @ 85Hz. Requires mandatory selection of country specific power cord for all variants. -24 = Northern Hemisphere without power cord -11 = Southern Hemisphere without power cord
SN-VRQP7-24/23	17" (16.0" viewable image size) professional series auto-scanning color monitor, Trinitron CRT, 0.25 mm aperture grill pitch, VGA to 1280 x 1024 at 75 Hz, TCO 95, MPR-II, Energy Star, attached 1.8 meter video cable. Requires mandatory selection of video extension cable and country specific power cord for all variants. -24 = Northern Hemisphere without power cord -23 = Southern Hemisphere without power cord
SN-VRQP1-24/23	21" (19.6" viewable image size) auto-scanning color monitor, Trinitron CRT, 0.25 mm aperture grill pitch, VGA to 1600 x 1200 at 75 Hz NI, TCO 95, Energy Star, includes a 1.8 meter video cable. Requires mandatory selection of video extension cable and country specific power cord for all variants. -24 = Northern Hemisphere without power cord -23 = Southern Hemisphere without power cord

Step 5a—Video Extension Cable

BN39C-02	1.8 meter video extension cable. Order one for each monitor ordered.
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Step 5b—Monitor Power Cords

BN26J-1K	North America
BN19H-2E	Australia, New Zealand, 2.5 meters long

BN19C-2E	Central Europe, 2.5 meters long
BN19A-2E	UK, Ireland, 2.5 meters long
BN19E-2E	Switzerland, 2.5 meters long
BN19K-2E	Denmark, 2.5 meters long
BN19M-2E	Italy, 2.5 meters long
BN19S-2E	Egypt, India, South Africa, 2.5 meters long
BN18L-2E	Israel, 2.5 meters long

Step 6—Keyboards and Power Cords

Keyboards

- Systems ordered in North America include US English keyboard.
- Selection of a country specific keyboard is mandatory for all non North American orders.

Keyboard	Country
SN-LKQ47-AA	US/English
SN-LKQ47-AB	Belgian
SN-LKQ47-AC	Canadian/French
SN-LKQ47-AD	Danish
SN-LKQ47-AE	UK
SN-LKQ47-AF	Finnish
SN-LKQ47-AG	German
SN-LKQ47-AI	Italian
SN-LKQ97-AJ	Japanese
SN-LKQ47-AK	Swiss/French
SN-LKQ47-AM	Swedish
SN-LKQ47-AN	Norwegian
SN-LKQ47-AP	French
SN-LKQ47-AR	Latin-American
SN-LKQ47-AS	Spanish
SN-LKQ47-AT	Hebrew
SN-LKQ47-AV	Portuguese
SN-LKQ47-AX	BHCSY
SN-LKQ47-BA	International
SN-LKQ47-BH	Greek
SN-LKQ47-BI	Taiwanese
SN-LKQ47-BK	Korean
SN-LKQ47-BP	Polish
SN-LKQ47-BQ	Hungarian
SN-LKQ47-BR	Arabic
SN-LKQ47-BT	Cyrillic
SN-LKQ47-BU	Turkish
SN-LKQ47-BV	Czech
SN-LKQ47-CB	Thai
SN-LKQ47-CV	Simplified Chinese
SN-LKQ47-CZ	Slovak

Step 6—Keyboards and Power Cords (continued)
Pedestal Power Cords

- Systems ordered in North America include one 3X-BN46K-2E 120 V North American power cord.
- Selection of a country specific power cord is mandatory for all non North American orders.

3X-BN46K-2E	North America
3X-BN46G-02	Japan, 2.5 meters long, Dentori approved
BN19H-2E	Australia, New Zealand, 2.5 meters long
BN19C-2E	Central Europe, 2.5 meters long
BN19A-2E	UK, Ireland, 2.5 meters long
BN19E-2E	Switzerland, 2.5 meters long
BN19K-2E	Denmark, 2.5 meters long
BN19M-2E	Italy, 2.5 meters long
BN19S-2E	Egypt, India, South Africa, 2.5 meters long
BN18L-2E	Israel, 2.5 meters long

Rackmount Power Cords

BN20Z-4E	4.5m rackmount power cord for NA
3X-BN46L-4E	4.5m rackmount power cord for non-NA
3X-BN46D-4E	4.5m rackmount power jumper cord, Japan, Dentori

Step 7—Cabinet Enclosures and Accessories
M-series Top Gun Blue Cabinet Enclosures are available in three sizes:

- 43" high Cabinet Enclosure (H9A11-xx) 20U or 35.0" of usable vertical space.
- 67" high Cabinet Enclosure (H9A10-xx) 31U or 54.2" of usable vertical space.
- 79" high Cabinet Enclosure (H9A15-xx) 38U or 66.5" of usable vertical space.

Cabinet Configuration Chart

Cabinet Enclosure	Mounting Kit	Cabinet Height and Space		System	Shelves	Ballast Kit
H9A11-MC/MD	Included in Rackmount System	35.0 inches	20U	1	0	1
				2	6	1
				3	4	0
				4 or 5	2	0
				6	0	0
Cabinet Enclosure	Mounting Kit	Height	Space	System	Shelves	Ballast Kit
H9A10-MC/MD	Included in Rackmount System	54.2 inches	31U	1	0	2
				2	0	2
				3	6	1
				4 or 5	6	1
				6	6	0
				7	4	0
				8 or 9	2	0
				10	0	0

Step 7—Cabinet Enclosures and Accessories (continued)

Cabinet Enclosure	Mounting Kit	Height	Space	System	Shelves	Ballast Kit
H9A15-MC/MD	Included in Rackmount System	66.5 inches	38U	1	N/A	N/A
				2	0	2
				3	6	2
				4, 5 or 6	6	1
				7 or 8	6	0
				9 or 10	4	0
				11	2	0
				12	0	0

M-series Cabinet Enclosure Options

M-series Cabinet Enclosures require the **mandatory** selection of: (removed periods on each bullet)

- H9A11, H9A10, or H9A15 Cabinet 120V or 240V variant.
- Cabinet front door based on cabinet height (optional on H9A11 cabinet).
- Factory Integration.
- Ballast kits as required.

Cabinet Enclosures

H9A11-MC	120 V one 24 A controller with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific. Includes rear door, 1 H7600-AA power distribution unit, trim kit, and front filler bezel kit
H9A11-MD	240 V one 16 A controller with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe Includes rear door, 1 H7600-DB power distribution unit, trim kit, and front filler bezel kit
H9A10-MC	120 V dual 24 A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific. (add period) Includes rear door, top fan tray, and 2 H7600-AA power distribution units
H9A10-MD	240 V dual 16 A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe Includes rear door, top fan tray, and 2 H7600-DB power distribution units
H9A15-MC	120 V dual 24 A controller, each with 10 NEMA 5-15R outlets, input power plug NEMA L5-30P, Americas, Asia Pacific (add period) Includes rear door, top fan tray, and 2 H7600-AA power distribution units
H9A15-MD	240 V dual 16 A controller, each with 12 IEC C13 outlets, input power plug IEC 309, 16A, Europe (add period) Includes rear door, top fan tray, and 2 H7600-DB power distribution units

For custom integration of systems, options, and additional Compaq and third party devices, or for other cabinets, doors, and trim kits of a different color, contact Compaq CustomSystems at 1-800-AT-COMPAQ (1-800-282-6672), or contact your local authorized Compaq Certified Integration Partner.

Cabinet Front Door

H9C10-TF	Top Gun Blue front door for H9A10-MC/MD Cabinet Enclosure
H9C15-TF	Top Gun Blue front door for H9A15-MC/MD Cabinet Enclosure
H9C11-EB¹	Top Gun Blue front door for H9A11-MC/MD Cabinet Enclosure

1. Selection of front door for H9A11 cabinet is optional, cabinet includes front trim kit and filler bezel kit.

Step 7—Cabinet Enclosures and Accessories (continued)**Shelves supported in M-series Cabinets with front doors (H9A10/M9A15)**

BA36R-RC	StorageWorks UltraSCSI single bus, single-ended shelf with 180 W power supply and RETMA mounting kit
BA36R-RD	StorageWorks UltraSCSI split bus, single-ended shelf with 180 W power supply and RETMA mounting kit
BA35R-MR	StorageWorks controller shelf with RETMA mounting kit and NEMA power for H9A10-MC, H9A15-MC cabinets (Americas, Asia Pacific) Order BN30B-02 power cord for H9A10-MD, H9A15-MD cabinets (Europe)
CK-BA35X-HH	180 W power supply

Shelves supported in M-series Cabinets with trim kit (H9A11)

BA35C-AA	StorageWorks UltraSCSI single bus, single-ended shelf with 180 W power supply and RETMA mounting kit—blue bezel
BA35C-BA	StorageWorks UltraSCSI split bus, single-ended shelf with 180 W power supply and RETMA mounting kit—blue bezel

Factory Integration

YS-ASCAA-AA	Factory Integration of systems and storage devices assembled and configured in cabinet enclosure for H9A10/15 cabinet enclosures.
YS-ASCAA-AB	Factory Integration of systems and storage devices assembled and configured in cabinet enclosure for H9A11 cabinet enclosures.

Ballast Kit

Ballast is dead weight that is added to a cabinet at specific locations for specific configurations to meet safety regulations for installation, operation, and service. See Cabinet Configuration Chart for ballast kit requirements.

H9C10-MC	Two 35-40 lbs. steel plates
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For additional information on M-series Cabinet Enclosures visit www.digital.com/alphaserver/products/m-series.html

Step 7—Cabinet Enclosures and Accessories (continued)
Rackmount System Management Station for M-Series Cabinets

The Rackmount System Management Station for the M-Series Cabinets consists of the following items:
a switch, keyboard + mouse, cables and flat panel monitor.

These components to be configured and rackmounted in your cabinet at the factory, call CustomSystems. Otherwise, the components will need to be assembled into the M-Series cabinet on-site.

For each rack, order:

- One console switch (2T-AIOSW-B4 or 2T-AIOSW-B8)
- One Flat Panel Display (332662-001)
- One keyboard with shelf (2T-IODEV-LB)
- One rear extender bracket for the Flatpanel display (2T-QH915-03)
- One rear extender bracket for the Console Switch (2T-QH915-03)
- One switch to server cable (2T-ACCSW-12) (Required: 1 per server)

Part Number	Description	U Height	Note
2T-AIOSW-B4	4 port switch	1U	Requires **
2T-AIOSW-B8	8 port switch	1U	Requires **
332662-001	Retractable 14.5" opal Flat Panel Display	2U	Flips up after being removed from cabinet. Requires **
2T-IODEV-LB	Blue keyboard with shelf	1U	Self-contained unit
**2T-QH915-03	One rear extender bracket secures both the Flat Panel Display and a switch	N/A	Attached to rear rails for 25" depth mounting
2T-ACCSW-12	12' switch to server cable	N/A	One required per system

Compaq CustomSystems Support

Cabinets containing systems and storage must be assembled by qualified assemblers: Compaq Manufacturing, Compaq's Customs Systems Group, or an authorized Compaq Certified Integration Partner.

For custom integration of systems, options, and additional Compaq and third party devices, or for other cabinets, doors, and trim kits of a different color, contact Compaq CustomSystems at 1-800-AT-COMPAQ (1-800-282-6672), or contact your local authorized Compaq Certified Integration Partner

Step 8—Network Options

- Systems include dual embedded 10/100 BaseT ethernet ports (BN25G-xx cable must be ordered separately).
- Additional ethernet ports can be added using available PCI slots

Order Number	Description
DE500-BA	PCI-based 10/100-Mbit 1 port Fast Ethernet controller (Twisted Pair)
DE504-BA	PCI-based 10/100-Mbit 4 Port Fast Ethernet controller (Twisted Pair)
BN25G-xx	Cable for 10BaseT Twisted Pair connection

Step 9—Printers and Remote Console

Systems include two full duplex asynchronous serial ports and one bi-directional enhanced parallel port.

Asynchronous serial ports have 9-pin D-subminiature connectors. A 9-pin to MMJ adapter (H8571-J) is required for each connection. See printer section of *Systems and Options Catalog* for serial and parallel printer information.

Step 10—Software

Operating system software is not supplied with this system.

Step 11—Hardware and Software Supplemental Services

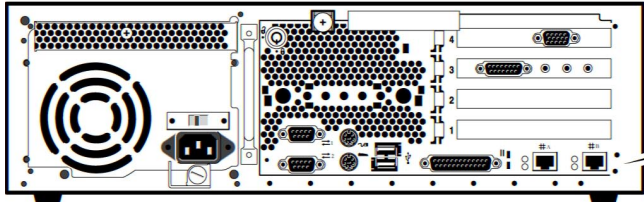
Hardware Supplemental Services

FM-MK4HR-36	3 YR 5X9/4HR, AS1000/AlphaServer DS10
FM-MK4HR-60	5 YR 5X9/HR, AS1000 /AlphaServer DS10
FM-MK512-36	3 YR 5X12/4HR, AS1000 /AlphaServer DS10
FM-MK512-60	5 YR 5X12/4HR, AS1000 /AlphaServer DS10
FM-MK616-36	3 YR 6X16/4HR, AS1000/AlphaServer DS10
FM-MK616-60	5 YR 6X16/4HR, AS1000/AlphaServer DS10
FM-MK724-36	3 YR 7X24/4HR, AS1000/AlphaServer DS10
FM-MK724-60	5 YR 7X24/4HR, AS1000/AlphaServer DS10
FM-MKXHW-60	YR 4-5 5X9/N.D., AS1000/AlphaServer DS10

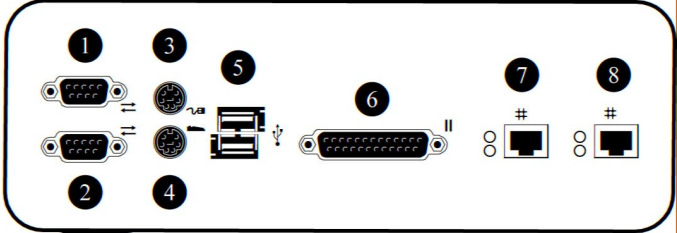
See the AlphaServer DS10 Linux-Ready web site for more details: <http://www.digital.com/alphaserver/linux/index.html>

DS10 System Diagrams

I/O PORTS

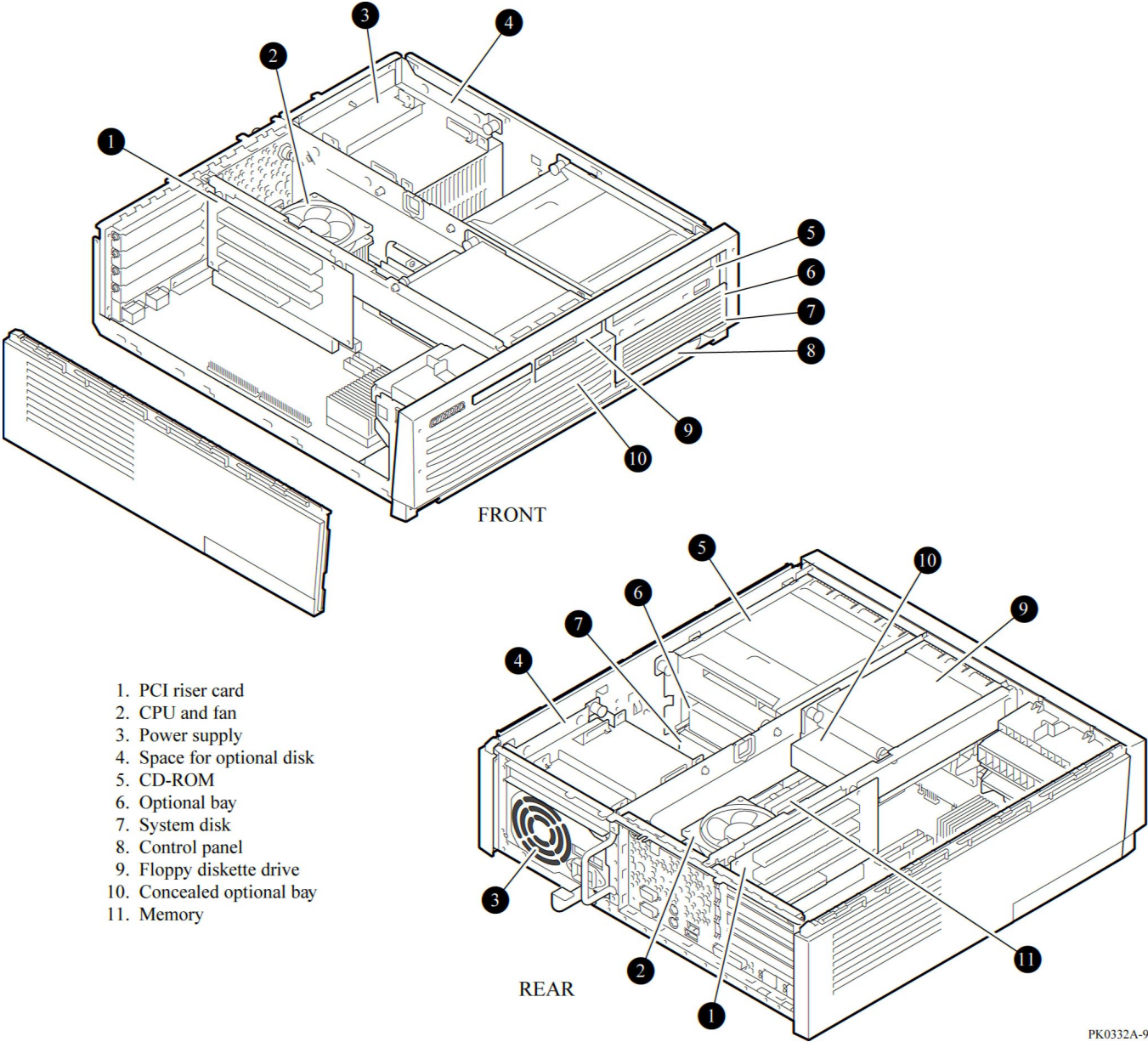


PK0334-99



- 1. COM1 and RMC port
- 2. COM2 port
- 3. Mouse
- 4. Keyboard
- 5. USB ports
- 6. Parallel port
- 7. Ethernet A
- 8. Ethernet B

AlphaServer DS10



PK0332A-99