



MicroVAX 3100

V2.4—25 January 1999

Systems and Options Catalog

Product Description

MicroVAX 3100 systems offer enhanced distributed computing capabilities and flexibility. They support more than 10,000 commercial and technical applications across local or wide area networks. MicroVAX 3100 systems support add-on synchronous options for wide area communications and asynchronous options, including modem options for terminal and printer connections. Networking allows communications in a variety of environments. PC clients based on MS-DOS, OS/2, and Macintosh can be connected to the MicroVAX 3100 system, enabling the entire business to share information. Digital's advanced client/server computing, based on NAS (Network Application Support), delivers a wide range of solutions to help integrate desktop workstations and PCs.

MicroVAX 3100 Model 88 and 98 systems are housed in a desktop mini-tower enclosure. In addition these systems offer enhancements in memory, support for up to 512 MB using low cost SIMM memory, and six internal storage devices are supported in system enclosure. All MicroVAX 3100 Models are available as Rackmount Systems from Compaq CustomSystems. MicroVAX 3100 systems are designed for sustained reliability and ease of serviceability. Their compact size provides mid-range systems performance at entry-level system prices.

MicroVAX 3100 Comparison Chart

	Model 88	Model 98
Performance (TPS/VUPS)	110e /16	200e / 38
Enclosures	MiniTower	MiniTower
Mbytes of memory: Included	64	64 / 128
Mbytes of memory: Maximum	512	512
Storage Devices (internal maximum)	6	6 ¹
Storage Devices (total internal and external)	14 ¹	14 ¹
Storage Capacity (total internal and external)	82.0 GB/ 255.0 GB	82.0 GB/ 255.0 GB

1.SCSI controller option (KZDDA-AB) supports seven additional external SCSI devices.

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Step 1—Systems

MicroVAX 3100 Model 88 and 98 Systems include:

- MiniTower enclosure with CPU/FPU.
- 64 MB or 128 MB SIMM memory.
- 802.3/Ethernet interface (ThinWire/Thick wire) with terminators.
- Ethernet kit includes ThinWire T-connector with BNC terminators and 15-pin thick wire terminator.
- Synchronous SCSI-2 interface for connecting internal and external SCSI devices; external connection via a 50-pin external SCSI-2 connector.
- Three DEC-423 asynchronous serial lines (MMJ data leads only).
- EIA-232 asynchronous serial line with modem control (25-pin D-subminiature connector).
- H8575-A 25-pin to MMJ DEC-423 to EIA-232 adapter.
- 7.6 meter (25 foot) console terminal cable.
- 120 V power cord (country-specific power cord required for 240 V use; see Step 9).
- Universal power supply that automatically adjusts to 88–132 V ac or 176–264 Vac.
- Hardware documentation EK-MV489-UI for Model 88 and 98.
- 2.1 GB disk (Uses one 3.5-inch half-height SCSI bay).
- 600 MB CD-ROM (Uses one 5.25-inch removable media bay).
- OpenVMS base license (with POSIX).
- DIGITAL NAS Base Server 200.
- Factory installed software¹.
- Three year hardware product warranty.
- 90 day software warranty.

1. FIS is not a substitute for a software load device; media and documentation are required for first system on site.

MicroVAX 3100 Model 88 and 98 Advantage Servers

Order Number	MicroVAX 3100	Memory	DIGITAL NAS	Disk Drive	CD-ROM
DV-31JCC-EA	Model 88	64 MB	Base Server 200	2.1 GB FIS ¹	600 MB
DV-31ISCC-EA	Model 98	64 MB	Base Server 200	2.1 GB FIS ¹	600 MB
DV-31ISCC-FA	Model 98	128 MB	Base Server 200	2.1 GB FIS ¹	600 MB

Rackmount MicroVAX 3100 Model 88 and 98 Advantage Servers

Order Number	MicroVAX 3100	Memory	DIGITAL NAS	Disk Drive	CD-ROM
DV-31ECC-EA	Model 88	64 MB	Base Server 200	2.1 GB FIS ¹	600 MB
DV-31NCC-EA	Model 98	64 MB	Base Server 200	2.1 GB FIS ¹	600 MB
DV-31NCC-FA	Model 98	128 MB	Base Server 200	2.1 GB FIS ¹	600 MB

1. Disk drive includes Factory Installed Software (FIS).

Step 2—Memory

- Systems with 64 MB memory include one PB7MA-CC memory option, select one additional memory option 64 MB or 128 MB for system total of 128 or 192 MB.
- Systems with 128 MB memory include one PB7MA-CD memory option, select one additional memory option 64 MB or 128 MB for system total of 192 or 256 MB.
- To expand beyond 256 MB see Memory Configuration Chart below.

PB7MA-CC	64 MB SIMM memory
PB7MA-CD	128 MB SIMM memory
MS45 -DA	128 MB SIMM memory expansion option includes 128 MB, and supports one additional 64 MB or 128 MB (PB7MA-CC/CD) SIMM memory option.

Step 2—Memory (*continued*)

Memory Configuration Chart

Required Memory	1st Memory Board (standard)		2nd Memory Expansion Board (optional)	
	64 MB	128MB	64 MB	128MB
64 MB	1	0	N/A	N/A
128 MB	2 or	1	N/A	N/A
192 MB	1	1	N/A	N/A
256 MB	0	2	N/A	N/A
320 MB	1	1	0	1
384 MB	0	2	0	1
448 MB	0	2	1	1
512 MB	0	2	0	2

Step 3—Storage

Select storage devices as required. See *Storage Devices* section for further details.

Step 3a—Internal Storage

- System supports maximum of six internal devices in any of the following combinations:
 - Six SCSI half-height disk drives, or
 - Five SCSI disk drives and one removable media device
 - Three SCSI half-height disk drives and three removable media devices
- Systems include Factory Installed Software (FIS), order a load device, if necessary
- OpenVMS Cluster satellite members or systems being loaded over the network do not require a load device.
- Field installed options require Customer Services installation.

Internal Removable Media

TLZ10-LK	8.0 GB 4 mm DAT drive
TZK11-LG	2.0 GB QIC tape drive
TZK20-LK	2.3 GB QIC tape drive in 5.25-inch frost white carrier
RRD47-AB	600 MB 32X CDROM in 5.25-inch frost white carrier

Internal SCSI Disk Drives

RZ29L-EB	4.3 GB 8-bit narrow 7200 RPM SCSI disk drive, 50-pin
RZ40-EB¹	9 GB 8-bit narrow 7200 RPM SCSI disk drive, 50-pin
RZ1EF-EB	18.2GB 8-bit narrow 7200 RPM SCSI disk drive, 50-pin

1. Only three supported per enclosure, require OpenVMS V6.0 or later.

Step 3b—External Storage

- Model 88 and 98:
 - Maximum 14 SCSI devices with additional SCSI card option.

Use the following table to calculate external SCSI bus length.

Maximum SCSI Bus Length

Internal	1.2 m (47.2 inches)
External	4.8 m (189.0 inches)
KZDDA internal	0.1 m (3.9 inches)
KZDDA external	5.9 m (232.0 inches)

Step 3b—External Storage (*continued*)
SCSI Controller and Tabletop Storage

KZDDA-AB	SCSI controller card supports seven additional external SCSI devices, maximum one per system
DS-TLZ10-DB¹	4/8 GB DAT tabletop drive with universal power supply; includes 120 V power cord
DS-TZ89N-TA¹	35/70 GB DLT single-ended tabletop drive
BC09D-03	TZ8x cable, 3 foot (0.9 m)
BC09D-06	TZ8x cable, 6 ft (1.8 m)
BC09D-12	TZ8x cable, 12 ft (3.6 m)

1. Country-specific power cord required for 240 V use.

StorageWorks Expansion Units

BA356-KD²	StorageWorks 16-bit shelf includes dual speed blowers. Supports maximum of seven 3.5-inch devices (8 or 16-bit), requires BA35X-MG 8-bit I/O module, and BN21H-xx SCSI cable
BA36R-AF	Front mount BA356-SB Rackmount StorageWorks shelf, BA35X-HF power supply, power cord and factory installation.
BA36R-AR	Rear mount BA356-SB Rackmount StorageWorks shelf, BA35X-HF power supply, power cord and factory installation.

2. One BA356 expansion unit supported per single ended SCSI bus; no other external device can be connected to system with BA356 unit.

SCSI devices supported in StorageWorks Expansion Units

DS-RZ29L-VA	4.3 GB 8-bit narrow 7200 RPM SCSI disk drive
DS-RZ1CF-VA	4.3 GB 8-bit narrow 7200 RPM SCSI disk drive
DS-RZ1DF-VA	9.1 GB 8-bit narrow 7200 RPM SCSI disk drive
DS-RZ1EF-VA	18.2 GB 8-bit narrow 7200 RPM SCSI disk drive
DS-RZ1CF-VW	4.3 GB 16-bit wide 7200 RPM SCSI disk drive
DS-RZ1DF-VW	9.1 GB 16-bit wide 7200 RPM SCSI disk drive
DS-RZ1EF-VW	18.2 GB 16-bit wide 7200 RPM SCSI disk drive
DS-TLZ10-VA	4/8 GB 4 mm DAT drive in 3.5-inch half-height StorageWorks carrier
TLZ9L-VA	32/64 GB DAT tape loader in StorageWorks carrier
TZ89N-VA	35/70 GB DLT single-ended tape drive in 5.25-inch StorageWorks carrier
TZK11-VA	2.0 GB QIC tape in 5.25-inch StorageWorks carrier

Step 4—Networks and Communications

- Systems support one asynchronous and one synchronous communication option
- An 8 line DEC-423 to 16 line DEC-423 upgrade option is available for the MicroVAX 3100, see *Network Products Guide* for more information.

Host Based Communications Controllers

Select host based communications controllers for standalone systems (without LAN connectivity), or for other requirements.

Asynchronous Multiplexer Options

Select one asynchronous multiplexer for communications expansion.

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|-----------------|--|
| DHW42-CB | Provides eight EIA-232 lines for a system total of 12 asynchronous lines (three data only and nine with modem control). Includes internal logic module with cable, EIA-232 I/O assembly, and two external 50-pin to 4 way 25-pin BC29J-06 1.8 m (6 ft) cables; factory or field installed. |
| DHW42-BB | Provides 16 DEC-423 lines for a system total of 20 asynchronous lines (19 data only and one with modem control). Includes internal logic module with cable, DEC-423 I/O assembly, two external 36-pin BC16C-10 3 m (10 ft) cables, and two H3104-00 eight line distribution harmonica; factory or field installed. |

Note: Addition of DHW42 xB options increases number of users; an OpenVMS license upgrade may be required.

Synchronous Communications Options

- Select one synchronous option.
- EIA-232/V.24 cable (BC19D-02) is included—select alternate cables for EIA-423/V.10 and EIA-422/V.11 connection.
- Synchronous communication option requires VAX WAN Device Driver V1.2 or higher required. VAX WAN Device Driver media included in OpenVMS Consolidated Software Disk CD-ROM media.

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| DSW43-AA | EIA-232 synchronous controller provides two lines). Includes synchronous logic module, I/O assembly, and external EIA-232 0.6 m (2 ft) adapter cable |
| BC19B-02 | EIA-422/V.11 0.6 m (2 ft) adapter cable |
| BC19E-02 | EIA-423/V.10 0.6 m (2 ft) adapter cable |

LAN Communications Controller

802.3/Ethernet Interface (ThinWire/Thick wire selectable) included with system. Connection of system to Ethernet requires a ThinWire BNC connection (e.g., BC16M cable) or a thick wire 15-pin AUI transceiver cable (e.g., BNE3x).

Local and Wide Area Communications Servers

Each communications server requires an 802.3/Ethernet connection. Depending on the server selected, either a ThinWire BNC connection (e.g., BC16M cable) or a thick wire 15-pin AUI transceiver cable is required (e.g., BNE3x). Software media and documentation and cables are also required. See *Network Products Guide*.

DECserver 90M, 90TL, 900TM, 90L+, 700, and MUXserver 90, 320, 380 Communications and Printer Servers

Select a terminal or printer server to provide users with multiple session access to systems on a LAN, to minimize on a LAN, to minimize cabling complexity and costs, and to conserve host resources such as backplane slots.

DEC WANrouter 90, 250, DECbrouter 90; and DECnis 500, 600 MultiProtocol Routers

Select a router to cost effectively link a LAN to a remote system or another LAN and to offload routing overhead from the application host system.

Network Connectivity Products

See the *Network Products Guide*.

Step 5—Console Terminal

A console device is necessary for a system to function. Console cable is included with system. Order video terminals (e.g., VT520) for each system unless otherwise available. If logging is required, a combination of video terminal and LAXx is recommended.

Step 6—Terminals and Printers

Select terminals and serial printers as required. Serial printers connect to an asynchronous line. A cable (e.g., BC16E-25) must be ordered with each unless available onsite.

Step 7—CPU Upgrades

Note: A non return charge will be assessed if old CPU board is not returned.

Order Number	From	To	Includes
49JAC-AA	MicroVAX 3100 Model 88	MicroVAX 3100 Model 98	MicroVAX 3100 Model 98 Server CPU OpenVMS base license

Step 8—Software

Licenses required to support additional users beyond those included in base systems. Operating System support requires V5.5-2H4, V6.2 or higher

Software Processor Code = B

Clusterwide License Rating = 20 (C)

OpenVMS VAX Concurrent Use Licenses

OpenVMS VAX Concurrent Use licenses are for customers running OpenVMS VAX V6.2 or greater.

OpenVMS VAX Concurrent Use license provides the right to interactively use the operating system by the specified number of concurrent users on a designated OpenVMS system. OpenVMS Concurrent Use licenses can be moved from one OpenVMS system to another OpenVMS system at user discretion and can be shared in a mixed OpenVMS VAX and OpenVMS Alpha Cluster.

QL-MT3AA-3B	OpenVMS Concurrent Use 1-user license
QL-MT3AA-3C	OpenVMS Concurrent Use 2-user license
QL-MT3AA-3D	OpenVMS Concurrent Use 4-user license
QL-MT3AA-3E	OpenVMS Concurrent Use 8-user license
QL-MT3AA-3F	OpenVMS Concurrent Use 16-user license
QL-MT3AA-3G	OpenVMS Concurrent Use 32-user license
QL-MT3AA-3H	OpenVMS Concurrent Use 64-user license
QL-MT3AA-3J	OpenVMS Concurrent Use 128-user license
QL-MT3AA-3K	OpenVMS Concurrent Use 256-user license
QL-XULA5-AA	OpenVMS VAX Traditional unlimited user license

Step 8—Software (*continued*)

OpenVMS VAX Interactive User Licenses

OpenVMS VAX Interactive User licenses are for customers running OpenVMS VAX V5.5 or greater. OpenVMS VAX Interactive User licenses are specific to a single system and **cannot** be shared across an OpenVMS Cluster.

QL-XULA9-BB	OpenVMS VAX Interactive 1-user license
QL-XULA9-BC	OpenVMS VAX Interactive 2-user license
QL-XULA9-BD	OpenVMS VAX Interactive 4-user license
QL-XULA9-BE	OpenVMS VAX Interactive 8-user license
QL-XULA9-BF	OpenVMS VAX Interactive 16-user license
QL-XULA9-BG	OpenVMS VAX Interactive 32-user license
QL-XULA9-BH	OpenVMS VAX Interactive 64-user license
QL-XULAA-BR	OpenVMS VAX Interactive 128-user license
QL-XULAB-BR	OpenVMS VAX Interactive 256-user license

OpenVMS VAX Distributed Interactive User Licenses

OpenVMS VAX Distributed Interactive User licenses are for customers running OpenVMS VAX Version 6.0 or greater. OpenVMS VAX Distributed Interactive User licenses are **not** specific to a single system and can be moved between systems at user discretion. OpenVMS VAX Distributed Interactive User licenses can also be shared across an entire OpenVMS Cluster running OpenVMS VAX V6.0 or greater.

Note: OpenVMS VAX Distributed Interactive User licenses are architecture specific and **cannot** be shared across a **mixed** OpenVMS Cluster (OpenVMS VAX and OpenVMS Alpha systems).

QL-09SA9-BB	OpenVMS VAX Distributed Interactive 1-user license
QL-09SA9-BC	OpenVMS VAX Distributed Interactive 2-user license
QL-09SA9-BD	OpenVMS VAX Distributed Interactive 4-user license
QL-09SA9-BE	OpenVMS VAX Distributed Interactive 8-user license
QL-09SA9-BF	OpenVMS VAX Distributed Interactive 16-user license
QL-09SA9-BG	OpenVMS VAX Distributed Interactive 32-user license
QL-09SA9-BH	OpenVMS VAX Distributed Interactive 64-user license
QL-09SAA-BR	OpenVMS VAX Distributed Interactive 128-user license
QL-09SAB-BR	OpenVMS VAX Distributed Interactive 256-user license
QL-VBRAP-AA	VAXcluster license for multiuser systems

OpenVMS VAX Media and Documentation

Operating system media and documentation is recommended for first system on site. Operating System support for Models 88 and 98 require V5.5-2H4 or higher.

QA-001AA-H8	OpenVMS media with extended documentation on CD-ROM
QA-09SAA-H8	OpenVMS media with base documentation on CD-ROM

OpenVMS Consolidated Software Media and Documentation

Choose as an alternative to the above OpenVMS kits. Requires RRD47 CD-ROM.

QA-VWJ8A-A8	OpenVMS and layered product binaries on CD-ROM without hardcopy documentation.
QA-VYR8A-G8	OpenVMS extended online documentation and layered product online documentation on CD-ROM; requires DECwindows Bookreader.
QA-GXXAB-H8	POSIX media and documentation (without IEEE documentation) on CD-ROM

Step 8—Software (continued)
DIGITAL NAS Base Server 200

DIGITAL NAS packaged products do not include hardcopy documentation, (documentation is CD-ROM only).

QL-MC1AB-AA DIGITAL NAS Base Server 200 license for OpenVMS VAX systems
QA-MC1AA-Hx¹ DIGITAL NAS Base Server 200 media and documentation kit

1. x denotes media type: 8 = CD-ROM, M = magtape

Step 9—Power Cords

BN19P-1K power cord is included with North American systems. Select country specific power cord for 240 V use.

Order Number	Country/Voltage	Amps	Plug	Meters (Feet)
BN19P-1K	U.S./Canada/Japan 125 V	10	NEMA 5-15	3.1 (10)
BN19H-2E	Australia/New Zealand 125 V	10	AS 3112-1981	2.5 (8.2)
BN19C-2E	Central Europe, 250 V	10	CEE 7/7 (Schuko)	2.5 (8.2)
Order Number	Country/Voltage	Amps	Plug	Meters (Feet)
BN19A-2E	U.K./Ireland, 250 V	10	BS 1363	2.5 (8.2)
BN19E-2E	Switzerland, 250 V	10	SEV 1011	2.5 (8.2)
BN19K-2E	Denmark, 250 V	10	Afsnit 107	2.5 (8.2)
BN24X-2E	Italy, 250 V	10	CEI 23-16 / VII	2.5 (8.2)
BN19S-2E	India/South Africa, 250 V	10	BS 546	2.5 (8.2)
BN18L-2E	Israel, 250 V	10	SI 32	2.5 (8.2)

Rackmount Power Cords

One 17-00083-51 power cord is included with North American Systems. Select country specific power cord for 240 V use.

Order Number	Country/Voltage	Amps	Plug	Meters (Feet)
BN35S-4E	250V for use with H7600-DB	10	IEC C13 / IEC C14	4.5 (15)
17-00083-51	250V for use with H7600-DB	10	NEMA 6-15 / IEC C15	4.5 (15)

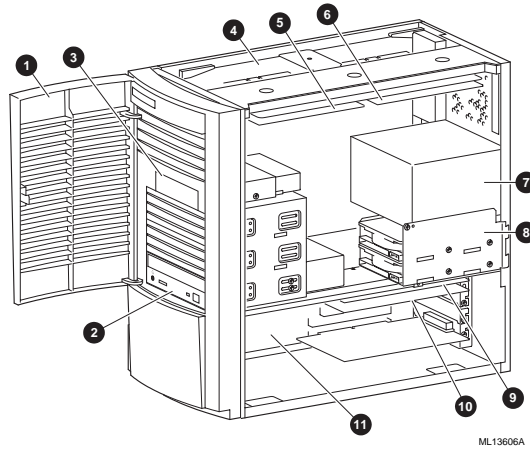
Step 10—Cabinet Enclosures

Select cabinet enclosure if required. 19 inch EIA Cabinet Enclosure Dimensions: Recommended cabinets:

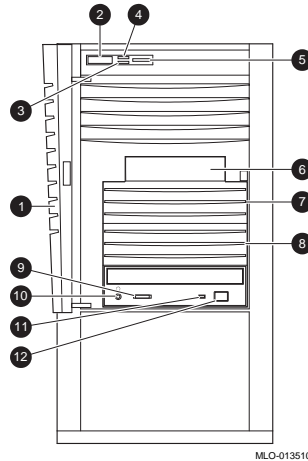
Order Number				Usable Height
H9A10-CN	Front swing door	Rear swing door	2 H7600-AA, 120 V	1.5 m (4.9 ft)
H9A10-CU	Front swing door	Rear swing door	2 H7600-DB, 240 V	1.5 m (4.9 ft)
H9A11-BA	None	Rear lift off door	1 H7600-AA	0.9 m (3.06 ft)
H9A11-BG	None	Rear lift off door	1 H7600-AA	0.9 m (3.06 ft)
H9A15-BC	Front swing door	Rear swing door	2 H7600-AA, 120 V	1.8 m (5.9 ft)
H9A15-BH	Front swing door	Rear swing door	2 H7600-DB, 240 V	1.8 m (5.9 ft)

MicroVAX 3100

Model 88 and 98 System Diagram

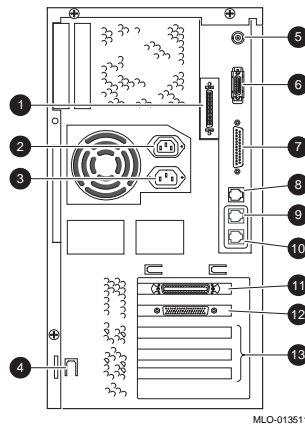


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|-----------------------------|-----------------------------|
| 1 Front Door | 6 2nd SIMM board (optional) |
| 2 CD-ROM | 7 Power Supply |
| 3 System Disk Drive | 8 Rear drive bay |
| 4 System board | 9 DHW42 Asynchronous option |
| 5 1st SIMM board (standard) | 10 DSW43 synchronous option |



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|--|--|
| 1 Front door | 7 Accessible/non accessible bay for 3.5" or 5.25" device |
| 2 Power switch | 8 Accessible/non accessible bay for 3.5" or 5.25" device |
| 3 Disk drive LED | 9 CD-ROM volume switch |
| 4 Power LED | 10 CD-ROM headphone jack |
| 5 Halt switch; halts system and returns it from operating system to console mode | 11 CD-ROM activity light |
| 6 RZ2x SCSI disk (non accessible) | 12 CD-ROM eject button |

Model 88 and 98 System Diagram



- 1 SCSI port (terminated required)
- 2 2A AC power outlet connection
- 3 AC power input connector
- 4 Pre installed software label
- 5 System identification label
- 6 Lockdown hasp
- 7 ThinWire Ethernet
- 8 ThinWire Ethernet LED
- 9 Thick wire Ethernet
- 10 Thick wire Ethernet LED
- 11 Modem port (with adapter)
- 12 MMJ port (for console only)
- 13 MMJ port
- 14 MMJ port
- 15 DHW42 Asynchronous communication (optional)
- 16 DSW43 Synchronous communication (optional)
- 17 KZDDA SCSI port (optional)

Specifications

Physical Characteristics	Models 88, 98
Height	40.64 cm (16.0 inches)
Width	22.1 cm (8.7 inches)
Depth	47.5 cm (18.7 inches)
Weight	16.0 kg (35.0 lb)
Power Requirements	
Nominal voltage	120/240 V rms
Power source phasing	Single
Nominal frequency	50-60 Hz
Voltage range	88-132 V rms 176-264 V rms
Line frequency tolerance	47-63 Hz
Typical running current	2.3/1.3 A
Typical power consumption (Watts)	170W
Standard Communication	
Minimum MMJ lines	3 DEC-423
Modem lines	1 EIA-232
Synchronous lines	Thick wire and ThinWire supported on all models
Communications Options ¹	
MMJ lines	16 DEC-423
Modem lines	8 EIA-232
Synchronous lines	2 synchronous
Operating Environment	Temperature (sea level) 10-40°C (50-90°F) Relative humidity 10%-80% noncondensing; 20% to 80% if tape is in system box. Maximum operating altitude 3.5 km (10,000 ft)

¹ DEC-423, EIA-232 and synchronous lines can be ordered separately. The DEC-423 and EIA-232 options cannot be configured together in the same system.

Specifications

Physical Characteristics	Rackmount Models 88, 98
Height	22.2 cm (8.75 inches)
Width	48.2 cm (19.0 inches)
Depth	63.5 cm (25.0 inches) system chassis 73.7 cm (29.0 inches) system chassis & rackmount hdw.
Weight	16.0 kg (35.0 lb)
Power Requirements	
Nominal voltage	120/240 V rms
Power source phasing	Single
Nominal frequency	50–60 Hz
Voltage range	88–132 V rms 176–264 V rms
Line frequency tolerance	47–63 Hz
Typical running current	2.3/1.3 A
Typical power consumption (Watts)	170W
Standard Communication	
Minimum MMJ lines	3 DEC-423
Modem lines	1 EIA-232
Synchronous lines	Thick wire and ThinWire supported on all models
Communications Options¹	
MMJ lines	16 DEC-423
Modem lines	8 EIA-232
Synchronous lines	2 synchronous
Operating Environment	Temperature (sea level) 10–40°C (50–90°F) Relative humidity 10%–80% noncondensing; (20% to 80% if tape is in system box. Maximum operating altitude 3.5 km (10,000 ft)

¹ DEC-423, EIA-232 and synchronous lines can be ordered separately. The DEC-423 and EIA-232 options cannot be configured together in the same system.