COMPAQ

Environmental Products Part 1 of 2
V1.5—14 May 1999
Systems and Options Catalog

Environmental Products Overview

Applications Overview

Product Summary Chart

UPS Systems Overview

Desktop UPS Comparison Chart & Product Positioning

Environmental Products Software

Configuration Tools

UPS & Options Quick Selector

Custom Configuration & System Load Information

On-line UPS Systems

Prestige Desktop Models

Compaq's environmental products solve power-related problems and prevent system downtime and damage from occurring. For supplementary product information, call 1-800-AT-COMPAQ (1-800-282-6672), and ask for Environmental Products Support or contact a local Environmental Products Representative.

Environmental Products Summary Chart

O=Full Protection, **X**=Limited Protection

Condition	On-line UPS Systems[1]	Line Interactive UPS Systems[1]	Standby UPS Systems	CDM[2]	PDM[2]	Surge Supressor TVSS[2]
High energy transients, impulses and spikes	O	X	X[2]	-	-	O
High/low voltage, sags, surges	O	O[1]	X[2]	O	-	-
Frequency variation	O	X[2]	X	-	-	-
Electrical noise	O	X	X	X	X	-
Power outage	O	O	O	-	-	-
Environmental monitoring[3]	3	X	-	X	X	-
Network Monitoring	O	O	-	-	-	-
Auto-CPU shutdown	O	O	O	-	-	-

1 Buck boost circuit, may require battery use
2 Only during power failure when operating on battery and inverter
3 Contact local Environmental Products representative for environmetal monitoring solution

Power Protection Problems and Solutions—Applications Overview

Product	Application
UPS Systems	Power Protection against power loss, other power disturbances, and resultant data damage/loss.
Monitoring Software	Protects against system crashes when UPS reaches low battery state, tracks power history and provides notification of power loss or low battery. Some packages will allow real time monitoring and Network Management. Provides operation status of UPS.
Network Adapter	Allows management of UPS via SNMP based Network management system.
Data Surge TVSS Protection	Protects against data damage/loss from transients entering data communications lines.
Power Surge protection	Reduces damaging transients to controllable level at building entrance and clamps voltage to acceptable level at point of use. Should always be used in conjunction with data protection for total protection. When used with UPS, provides extra measure of protection for UPS electronics.
Hot Swap Power Pass	Allows safe swap-out of UPS without taking system down. Usually expands receptacle capacity as an added feature.
Power Distribution & Conditioning CDM & PDM	Allows flexible means to distribute cabling, monitors and regulates power (regulation on conditioning (CDM) models only); ensures proper wiring and grounding.

UPS Systems Overview

Compaq offers a full range of UPS systems to meet a variety of needs ranging from low-cost, dependable protection for the desktop to premium power protection for the most critical applications. See UPS and Options Quick Selector for system load data and recommended UPS.

System	Technology	Output[3] Load Range	Output Phases	Available Outlets[2]	Input Voltage	Output Voltage
Desktop Prestige	On-line	650–2000 VA	1	4 (expandable)	120	120
Prestige 3000	On-line	2.5 & 3kVA	1	5 (expandable)	120, 208, 240[1]	120/208 & 120/240[1]
Prestige 6000	On-line	4.5-6 kVA	1	10 (expandable)	208,240[1]	120, 120/208 & 120/240[1]
Powerware Profile	On-line	8–12 kVA[4]	1	4 to 8	176–276	100/200–120/240 (5 selections)
PUPS Plus	On-line	15–18 kVA	3	up to 9	176–253	100/200–120/240 (5 selections)
PUPS Plus	On-line	24–36 kVA	3	via PDU	176–253 or 480	115/200-127/220, 277/480[1]
MATRIX UPS	Line Interactive	3–5 kVA	1	6 (expandable)	208, 240[1]	120/208–120/240[1]
One-UPS	Standby	250-600 VA	1	4	120 or 230[1]	115 or 230[1]

1. Model dependent; see specifications
2. Hardwire output to remote panel also available for office/datacenter models. 15- and 20-Amp outlets on PUPS Plus are duplex type
3. Prestige and PUPS Plus Models are upgradeable in ranges shown, Desktop Models 650-1000m 1000EXT-1500EXT
4. Powerware Profile input for 8-12 kVA models is 2 phases

General Product Positioning

	High End Workstations/Low End Servers	Midrange/High End Servers	High End Servers
On-line Models	Prestige Desktop Models	Prestige Series 3000/6000	PUPS Plus/Profile Series

Desktop UPS Comparison Chart

Features	Prestige Desktop	One-UPS[1]
Topology	On-line	Standby
Power conditioning and voltage regulation	Superior performance	Value performance
Equipment selection	High-end workstations, Low end servers, Alpha systems, point of sale, standby generator applications	PC-clients, Internet- working hardware
Site conditions	All chronic power aberrations	Occasional brownouts/blackouts
VA ranges available	650–2000 VA	200–600 VA
Upgradable models	Yes; 2 ranges: 650–1000; 1000 EXT—1500 EXT	No
Full load battery time (model dependent)	5–15 minutes; 2–3 hours (Prestige EXT)	5–10 minutes
Rackmount application	Kit available all models	Kit available
EIA-232[2]	5 Programmed Settings	No
LAN Relay port	Included	Yes, except 200-280 VA
Warranty[3]	3 years	2 years
Output V normal operation (120 V units)	120 V ± 3%	same as utility, 98-102V minimum
Transfer to battery (full load)	85 V and 144 V	<98–103 V sel
Audible/visual alarms	Yes	audible only
Foreign models (230V)	Yes	Yes
Visual load/volt indicator	Yes, LED meter	No
Output V on battery	120 V ± 3% sine wave	115 V ±5% Step-sine wave

1. One UPS models have user replaceable batteries.
2. EIA-232 serial interface allows remote diagnostics, monitoring, and auto shutdown. LAN relay port allows auto shutdown feature only and does not denote direct network connectivity. Prestige models also include settings for AS400, Novell and 3Comm.
3. Each UPS system includes “Hot Swap” return-to-factory warranty (batteries included), allowing a new unit to be received within 48 hours and a $25,000 equipment protection guarantee.

Environmental Products Software Matrix

The following chart shows the available software and the applicable UPS system. Several products are available to support basic UPS monitoring and CPU shutdown. Select the product that meets the requirements of the UPS system and operating platform. See detailed descriptions below and Software Selection Chart.

Software Product	Order Number1	Operating System	Applicable Products	Number of CPU Monitoring Ports	Function
PowerMon	**4N-JBBBB-xx**	See order chart	See order chart	(1) Via Relay contact	Basic monitoring and single system shutdown
Multimon 4-port[2]	**4N-JMIU4-AA**	Packages include PowerMon software for OpenVMS (CD-ROM), TK50), Tru64 UNIX, Windows NT and Novell compatible with network adapters	Prestige and PUPS Plus	Up to 4 ports (relay contact)	Basic monitoring and multi system shutdown
Multimon 8-port[2]	**4N-JMIU8-AA**			Up to 8 ports (relay contact)	
Multimon 2-port[2]	**4N-JMMCR-AA**			Up to 2 ports (relay contacts) includes 3rd smart port for network interface	
Multimon 4-port[2] hardware only	**4N-JMIU4-AB**	Hardware and cables only		Up to 4 ports (relay contacts)	
OnliNet Basic	**4N-AEAES-A**	All except OpenVMS; see order chart		(1) via EIA 232	Extended monitoring single system shutdown
OnliNet Network	**4N-AEAES-B**				Network monitoring multiple system shutdown via network adapter
OnliSafe	**4N-AEAES-xx**	OpenVMS ; see order chart for other applications	Prestige, PUPS Plus, One-UPS	(1) via relay contacts	Basic monitoring and single system shutdown

1. All kits include media documentation, cables, and adaptors
2. Multimon and Micromon packages include multi-interface unit, 10-foot primary and 25-foot secondary cables and adapters for DB0, DB25 and RJ45 connection. Multimon packages include splitter cable for smart communications interface. Micromon packages also include a third smart port for monitoring/shutdown via EIA 232 and is compatible with OnliNet software but not compatible with basic software included in kit.

PowerMon Basic Monitoring Software

PowerMon software is a software interface that allows the UPS to communicate with most operating systems. Upon power loss, PowerMon will perform an unattended automatic system shutdown at a user-defined time or upon receipt of a low battery signal from the UPS system. It also keeps a record of power outages with history graph.

PowerMon operates as a background task and continually polls the UPS via its EIA-232 or LAN relay port and communicates to the EIA-232 port of the CPU. When power fails, a countdown timer (user-defined) is activated and a message "**on battery backup**" is broadcast to all users on the system. A final "**system shutdown**" message will appear prior to automatic power down. PowerMon has four user-modifiable scripts and an outpaging function that can be activated during power loss to execute functions toward an orderly system shutdown. **Note:** PowerMon requires a dedicated asynchronous EIA-232 port that supports modem control to detect low battery signal. See software ordering chart.

OnliNet and OnliSafe for Prestige and PUPS Plus On-line UPS Systems

OnliNet requires a UPS with an EIA 232 port.

OnliNet Basic: Full power monitoring in addition to basic "single CPU" shutdown, user friendly graphic interface allows remote tests and diagnostics:

OnliNet Network: Same as OnliNet basic except multiple CPU shutdown and Network power management provisions.

OnliSafe: Basic CPU shutdown with same features as PowerMon noted above; works with LAN relay or asynchronous EIA232 port.

Software Ordering Chart for UPS Systems

Part numbers noted OnliSafe and PowerMon are CPU shutdown with limited monitoring and notification. Part numbers noted OnliNet are full graphics display and extended UPS monitoring. Where noted Onlinet V3.1 also provides waveform display, simultaneous monitoring of remote adapters, battery test, built-in SNMP communications & integrated with Netview and Openview.

	One-UPS[1]	Prestige Models	PUPS-Plus Models	Matrix	HA3000/HA4000 (EPE)
SUN-OS Sparc, CD-ROM	**4N-AEAES-CC** OnliSafe	**4N-AEAES-AD/BD** OnliNet V3.1[2]	**4N-AEAES-AD/BD** OnliNet V3.1[2]	N/A	**4N-JBBBB-AF** PowerMon
SUN-Solaris Workstation UNIX, CD-ROM	**4N-AEAES-CC** OnliSafe	**4N-AEAES-AD/BD** OnliNet V3.1[2]	**4N-AEAES-AD/BD** OnliNet V3.1[2]	N/A	N/A
SUN-Solaris x86 PC UNIX, 3.5"	**4N-AEAES-CG** OnliSafe	**4N-JBBBB-AG** PowerMon	**4N-JBBBB-AE** PowerMon	N/A	**4N-JBBBB-AF** PowerMon
IBM-AIX, 3.5"	**4N-AEAES-CC** OnliSafe	**4N-AEAES-AC/BC** OnliNet[2]	**4N-AEAES-AC/BC** OnliNet V3.1[2]	N/A	**4N-JBBBB-AF** PowerMon
HP-UX, CD-ROM	**4N-AEAES-CC** OnliSafe	**4N-AEAES-AE/BE** OnliNet[2]	**4N-AEAES-AE/BE** OnliNet V3.1[2]	N/A	N/A
SCO Unix, 3.5"	**4N-AEAES-CG** OnliSafe	**4N-AEAES-AG/BG** OnliNet[2]	**4N-AEAES-AG/BG** OnliNet[2]	N/A	**4N-JBBBB-AF** PowerMon
Digital Ultrix	**4N-AEAES-CL** OnliSafe	**4N-AEAES-EL** OnliSafe	**4N-AEAES-** OnliSafe	**4N-JBBBB-CB** PowerMon	**4N-JBBBB-CF** PowerMon
Tru64 UNIX, CD-ROM	**4N-AEAES-CD** OnliSafe	**4N-AEAES-AK/BK** OnliNet	**4N-AEAES-AK/BK** OnliNet	N/A	**4N-JBBBB-FF** PowerMon
Alpha & VAX OpenVMS, CD-ROM	**4N-AEAES-CM** OnliSafe	**4N-AEAES-EM** OnliSafe	**4N-AEAES-FM** OnliSafe	**4N-JBBBB-GB** PowerMon	**4N-JBBBB-GF** PowerMon
Alpha & VAX OpenVMS, TK50 V5.1 or later	**4N-AEAES-CE** OnliSafe	**4N-AEAES-EE** OnliSafe	**4N-AEAES-FE** OnliSafe	**4N-JBBBB-DB** PowerMon	**4N-JBBBB-DF** PowerMon
VAX OpenVMS, Magtape V5.1 or later	**4N-JBBBB-EA** PowerMon	**4N-JBBBB-EG** PowerMon	**4N-JBBBB-EE** PowerMon	**4N-JBBBB-EB** PowerMon	**4N-JBBBB-EF** PowerMon
Windows NT Alpha, CD-ROM	N/A	**4N-AEAES-AA/BA** OnliNet[2]	**4N-AEAES-AA/BA** OnliNet[2]	N/A	N/A
Windows NT x86, 3.5"	N/A	**4N-AEAES-AB/BB** OnliNet[2]	**4N-AEAES-AB/BB** OnliNet[2]	N/A	N/A
Windows DOS, 3.5"	N/A	**4N-AEAES-AH** OnliNet	**4N-AEAES-AH** OnliNet	N/A	N/A
OS/2, 3.5"	**4N-AEAES-** OnliSafe	**4N-AEAES-AJ** OnliNet	**4N-AEAES-AJ** OnliNet	N/A	N/A
Novell V2.0 or later Netware V3.11 or later	**4N-AEAES-CF** OnliSafe	**4N-AEAES-BF** OnliNet[3]	**4N-AEAES-BF** OnliNet[2]	N/A	

1. All models except 250 VA One-UPS.
2. Part numbers shown for OnliNet Basic/Network Power Management Software available for these operating systems. OnliNet Network allows single point management and multi-CPU shutdown interface via network adapters.
3. Novel NVX OnliNet Network Software allows network management of other UPS systems on the network. Not compatible with network adapters.

UPS and Options Quick Selector

System	Input Plug	UPS System	Receptacle Module	Software	Est. Max. Load (VA) w/Monitor
AlphaServer 8400 (3-phase), 7000	(2) L21-30	**4N-AEAAN-BA**	**4N-AEACM-BK**	(2)	4600++
AlphaServer 8400 (1-phase)	(2) L6-30P	**4N-AEAAL-DA**	**4N-AEACK-DN**	(2)	4600++
AlphaServer 8200 (1-phase)	(2) L6-30P	**4N-AEAAJ-CL**	Included	(1)	2600++
AlphaServer 8200 Cab System/w storage	(2) L6-20P	**4N-AEAAJ-CS**	Included	(1)	3600++
AlphaServer 8400 Cab System/w storage	(1) L6-20P/30P	**4N-AEAAL-DA**	**4N-AEACK-DN**	(2)	5600++
AlphaServer 82/8400 (1-phase) w/SW500	(2) L6-30/L5-30	**4N-AEAAL-DA**	**4N-AEACK-DN**	(2)	4520/6520
AlphaServer 82/8400 (1-phase) w/SW800	(2) L6-30/L21-30	**4N-AEAAN-BA**	**4N-AEACM-BN**	(2)	7400/9400
AlphaServer 82/8400 (3-phase) w/SW800	(4) L21-30	**4N-AEAAN-BA**		(2)	7400/9400
AlphaServer 2100, AlphaServer 4100		**4N-AEAAH-AM**	Included	(1)	1540++
AlphaServer 2100 Cab (240V)	(2) L6-20P	**4N-AEAAJ-CS**	Included	(1)	3780++
AlphaServer 2100 Cab (120V)	(2) L6-30P	**4N-AEAAJ-CM**	Included	(1)	3780++
AlphaServer 2000		**4N-AEABG-AF**	Included	(1)	1270++
AlphaServer 1000/AlphaStation 600		**4N-AEABF-AA**	Included	(1)	945
AlphaServer 1000/AlphaStation 600 Cab System		**4N-AEABF-CA**	Included	(1)	1125
AlphaServer/AlphaStation 400 and XL		**4N-AEABD-AF**	Included	(1)	725
MicroVAX 3100, VAX 4000-100, AlphaStation 200/250		**4N-AEABC-AF**	Included	(1)	470
VAX 4000/200-700		**4N-AEABF-AB**	Included	(1)	1340
AlphaServer 2100LP Cab (1-4 Systems)	(2) L5-30P	**4N-AEAAJ-CM**[1]	Included	(1)	3240++
AlphaServer 2100LP Cab (5-8 Systems)	(4) L5-30P	**4N-AEAAN-BA**	**4N-AEACK-BC**	(2)	6480++
AlphaServer 4100 Cab (3 Systems)	(1) L6-30P	**4N-AEAAJ-CL**[2]	Included	(1)	3600++
AlphaServer 4100 Cab. (4+ Systems)	(1) L6-30P	**4N-AEAAL-DA**	**4N-AEACK-DN**	(2)	4800++
VAX 4000/100 Cab (2 Systems + storage)	(2) L5-30P	**4N-AEACH-AM**[3]	**4N-AEACH-AC**	(1)	2350
VAX 4000/200-700 Cab (1 System + 2 BA350)	(2) L5-30P	**4N-AEACH-AM**[3]	**4N-AEACH-AC**	(1)	1700
VAX 4000/200-700 Cab (2 Systems + 6 BA350)	(2) L5-30P	**4N-AEAAJ-AM**	Included		3760
VAXstation 4000 60/90		**4N-AEABD-AF**	Included	(1)	640
AlphaStation 255		**4N-AEABC-AF**	Included	(1)	575
AlphaStation 500		**4N-AEABE-AF**	Included	(1)	775

1. Cabinet mount UPS also available
2. Loads are for fully configured system and include video monitor. External devices may require larger UPS

Companion Data and AC Power Surge Protection

See UPS Options and TVSS Section also

Modem	10BaseT	ThinWire	Multi-port	AC Power 3 Stage	AC Power 5 Stage Hybrid High Performance
4N-GA249-AB*	**4N-GA249-CA***	**4N-GA510-B**	**4N-GA245-xx**	**4N-GA350-DA***	**4N-GA430-AF***
wall plug-in	wall plug-in	device port	din rail/rackmount	3 receptacle strip	3 receptacle strip

* Additional plug-in data modules, 4N-GA240-xx for 4N-GA249/4N-GA350/4N-GA420 series devices. AC panel protection aslo available, All devices include 5 year hot-swap warranty.

UPS Monitoring/Power Management Software

		Windows NT Alpha/Intel	Tru64 UNIX	Alpha and VAX OpenVMS EM/FM=CD-ROM, EE/FE=TK50
Basic Monitoring	1	**4N-AEAES-AA/AB**	**4N-AEAES-AK**	**4N-AEAES-EM/EE**
and	2	**4N-AEAES-AA/AB**	**4N-AEAES-AK**	**4N-AEAES-FM/FE**
Safe Shutdown				**4N-JBBBB-GB**
Internetworking or Multi-Shutdown [2]	1, 2	**4N-AEAES-BA/BB**	**4N-AEAES-BK**	See chart below
Network Adapter for SNMP	1, 2	Network adapter 4N-AEAEO-DA/DC, twisted pair/ThinWire (120V)		

Basic Monitoring & Shutdown for Multiple Systems on 1 UPS

Packages include PowerMon software, cables and adapters for Alpha Windows NT, Tru64 UNIX, Standard UNIX, OpenVMS and Novell.

Up to 8 ports	Up to 4 ports	Up to 2 ports*
4N-JMIU8-AA	**4N-JMIU4-AA** **4N-JMIU4-AB (hardware only)**	**4N-JMMCR-AA**

* Includes third port for network monitoring; not compatible with PowerMon software.

Note: See UPS Options Section for more details on available options.

Custom Configuration and System Load Information

Step 1—Determine Load Requirements

Determine present load requirements by adding VA and Watts components of CPU cabinet, external expansion, video console, and other equipment to be supported by UPS. Use the chart below for VA values and multiply by 0.7 for watts unless noted (see footnote 1) as power factor corrected, VA=Watts. CPU cabinet and storage loads are for maximum internal devices and, unless noted, do not include video monitor.

Determine future load potential by adding load requirement of any planned free-standing equipment.

Note: Desktop UPS systems should not be used to support laser printers, large line printers, or RA/TA/TU devices.

Single-Phase Systems and Storage Estimated Load Ratings

Systems	Estimated Load (Volt-Amps) without monitors[5] unless noted**	Special Receptacle (all others (1) 5-15R)
AlphaServer 8400 Rackmount	4600[1]	L6-30R & L6-20R
AlphaServer 8200 Rackmount	2600[1]	(2) L6-20R
AlphaServer 4100 Rackmount	1100 each system[1]	IEC320 in cab[5]
AlphaServer 4100 and 2100 Pedestal (1 ps/2 ps)	880/1280[1]	(1) 5-15R/ (2) 5-15R
AlphaServer 2100 Rackmount	1200 each system[1]	(2) 5-15R in cab[5]
AlphaServer 2100LP Rackmount	810 each system[1]	
AlphaServer 2000[1] (1 ps/2 ps)	700/1020[1]	(1) 5-15R/ (2) 5-15R
AlphaServer 1000, AlphaStation 600 (1 ps/2 ps)	745/745	(1) 5-15R/ (2) 5-15R
AlphaStation 500	625	
AlphaStation/ AlphaServer 400	575	
AlphaStation 255	375	
AlphaStation 200/250	320	
VAX/DEC 7000 Rackmount (1 sys w/storage)	4500[1]	(2) L6-30R
VAX/DEC 7000 Rackmount (2 sys w/o external storage)	4000[1]	(2) L6-30R
DEC 4000 Model 600/700[1]	1740 VA[1]	(1) 5-20R
DEC 3000 Model 500/800	935 VA	
DEC 3000 Model 400/600	800 VA	
DEC 3000 Model 300X/300LX	380 VA	

Single-Phase Systems and Storage Estimated Load Ratings *(continued)*

Systems	Estimated Load (Volt-Amps) without monitors[5] unless noted**	Special Receptacle (all others (1) 5-15R)
DEC 2000 Model 300	375 VA	
DEC 2000 Model 500	1230 VA (includes two power supplies, requires one 5-15R receptacle)	
VAX 4000 Model 200-700	1140 VA	
VAX 4000 Model 100A	250 VA	
MicroVAX/VAXstation 3100	250 VA	
MicroVAX 3300	530 VA	
MicroVAX 3400/3500/3800	1030 VA	
MicroVAX 3600/3900	2880 VA	(1) L5-30R
MicroVAX II (BA23)	400 VA	
MicroVAX II (BA123)	800 VA	
VAXft 110 (2 CPU power supplies)	928 VA (total)	(2) 5-15R
VAXft 810 (dual-cabinet system)	3000 VA/2400 W per system zone[4]	(1) L5-30R and (1) 5-20R per zone
VAXstation 4000 Model 60/90	357 VA	
VAXstation VLC	100 VA	
DECsystem 5900	1630 VA	(1) L5-30R
DECsystem 5400/5500	855 VA	
DECsystem 5100	480 VA	
DECsystem/DECstation 5000	300 VA	
DECsystem 3100/DECstation 2100	250 VA	
VXT 2000/2000+	300 VA**	
applicationDEC 433MP	990 VA**	
applicationDEC 433XP	700 VA**	
DECpc AXP 150	575 VA**	
DECpc (deskside 4xx-MT/ST)	575 VA**	
DECpc XL models	700 VA**	
Venturis FP 4xx, DECpc Lpx	330**	
Venturis LP 4xx/560, DECpc Lpv	250**	
Expansion Boxes/CD-ROM (one cabinet)	**Estimated Load**	**Special Receptacle** (other than 5-15L)
BA350/355/356 w/BA35X-HA/HD power supply	250 VA w/BA35X-HA/HD 200 VA[1] w/BA356-HF	Up to (2) 5-15R for redundant power supply
BA346 Pedestal	410 VA	Up to (2) 5-15R for redundant power supply
BA347 Pedestal	270 VA[1]	
BA362	390 VA	Up to (2) 5-15R
BA364	600 VA	Up to (2) 5-15R
RAID Array 110/210 w/(2) BA35X-HA	375 VA w/BA35X-HA 270 VA[1] w/BA35X-HF	Up to (4) 5-15R
BA353	150 VA	
B400X, R400X	1140 VA	
SZ12, PCXAR-xx	300 VA	
SZ18	200 VA	
SZ16	570 VA	
Other Storage Devices		
MD410	180 VA	
RRD42x	60 VA	
RRD40, RW504/51, TK50Z-GA, TLZ08/09	200 VA	
RW100/514/516	330 VA	
RF72B/31B/30B/73B/R215F	520 VA	
SA/SF/SZ100, SF35	430 VA	
SA/SF 300	2520 VA	(1) L5-30R
TF, TA, TZ85/86, TLZ06/04	100 VA	
TF, TA, TZ857/867	160 VA	

Single-Phase Systems and Storage Estimated Load Ratings *(continued)*

Systems	Estimated Load (Volt-Amps) without monitors[5] unless noted**	Special Receptacle (all others (1) 5-15R)
SF7x	250 VA	
RA8X 3-high cabinet	2500 VA	(1) L5-30R
RA9X 3-high cabinet	2200 VA	(1) L5-30R
SW300	1440 VA	
SW500	1200 VA	L5-20R[3]
Printers		
LA50/70/75/95/LJ2x	70 VA	
LA120/324/424	190 VA	
LA210/310	230 VA	
LG01/02	960 VA	
LG31/06/12	500 VA	
LP29	1460 VA	(1) L5-30R
LP37	1000 VA	
LJ16P	35 VA	
LJ32P	60 VA	
LPS20/32[2]	1400 VA	
LPS17[2]	300 VA	
LN03[2]	1200 VA	5-15R or 5-20R
Video Monitors/Terminals	**Estimated Load**	**Special Receptacle** (other than 5-15L)
VRT19, VR299	260 VA	
VR319/320, VR297	200 VA	
VRM17	100 VA	
VT220/VT420	80 VA	
VT320	60 VA	
Decservers/Routers		
DEChub 90 (DEHUB)	240 VA	
DECserver 90L (DSRVD)	100 VA	
DECserver 90L (DSRVG), 100, 200, 250, DELNI	40 VA	
DECserver 300, 700, 900	120 VA	
DECserver 500/550	1140 VA	
InfoServer 100, 150	350 VA	
DEChub 900 (DMHUB)	650 VA	
HSC60/65/90	1400 VA	(1) L5-30R

Three-Phase Systems and Storage Estimated Load Ratings

Systems	Estimated Load	Special Receptacle
DEC 7000/VAX 7000[1]	5200 VA[2] max (2400VA typical)	L21-30R
VAX 6000	2800 VA	L21-20R
Expansion Boxes (one cabinet)		
VAX/DEC 7000 expansion[1] (H9F00)	4300 VA	L21-30R
VAX 6000 expansion (H9657)	4300 VA	L21-20R
Other Storage Devices		
SF200/SF210	1870 VA	L21-30R
SF220	2840 VA	L21-30R
SF400	4200 VA	L21-30R[3]
SF500	3100 VA	L21-30R
SA600/SA800	3300 VA	L21-30R
SA900	4000 VA	L21-30R
SA482	3400 VA	L21-30R
SW800	4800 VA	L21-30R[3]
RA8X 4-high cabinet	3400 VA	L21-30R

1. For these systems, wattage and VA are approximately equal. Do not exceed UPS maximum wattage or rating
2. UPS for laser printers must be oversized to handle surge currents; call for information
3. Two receptacles required for optional redundant power controller
4. These systems include power factor corrected CPUs and non-power factor corrected storage devices
5. Rackmount systems generally plug into power controller in cabinet which requires L5-30R, L6-20R, L6-30R; call for information

Step 2—UPS Selection and Battery Time

For custom loads from Step 1, select UPS system based on total VA and wattage load, voltage and phase of equipment, receptacle quantity/type, and battery time. To allow for growth, multiply loads by 1.25 and select UPS with closest rating. See UPS Systems Overview at beginning of chapter for guidelines.

Compar battery time required with that shown in the individual product sections. Additional support time may require add-on battery or larger UPS selection.

Notes:
1. General-purpose outlets are simplex for desktop systems and duplex for PUPS Plus. Maximum rating of 15 A and 20 A simplex or duplex receptacles is 1440 VA and 1920 VA, respectively.
2. UPS systems have two ratings: VA (or kVA) and watts (or kW), typically 60–70% of VA (or kVA). This ratio meets all product requirements but may not meet the requirement for power factor corrected devices. These devices are noted in the equipment list in Step 1. Do not exceed maximum wattage or VA rating of UPS.

Step 3—Software for Unattended Orderly CPU Shutdown

Select software order number for associated UPS product and operating system from the software section. Also see UPS Options and TVSS section.

On-line UPS Systems

Desktop Servers/Workstations	Midrange-High End Servers	High End Servers
Prestige Desktop/Rackmount 650-2000VA/1500 & 3000VA	Prestige Series 3000/6000 2500-6000VA	Profile/Plus Models 10-36kVA

Made for Compaq by Exide Electronics, Compaq's portfolio of On-line UPS Systems provide premium power-line conditioning and outage protection for critical applications. This type of UPS completely isolates the load from the utility through a double conversion true on-line design and continuously controls the output voltage and frequency output to the computer system within tight tolerances to ensure the highest degree of system availability. A static bypass allows the system to continue to support the load even during overload or electronics failure. Because of the tight regulation they provide, without switching to battery, these microprocessor based on-line UPS systems are the recommended choice for critical "raid-like" applications, areas with very poor voltage stability and standby generator supported applications.

All units feature an intelligent communications interface for full monitoring and control across the network in most operating platform environments. Options include OnliNet/OnliSafe Software for monitoring and safe shutdown, and network adapters for twisted pair and ThinWire connections.

The Prestige models feature a revolutionary third generation on-line design with the industry's widest voltage input tolerance and a cell-saver feature to offer the most robust protection and battery life available. Units are rackmountable up to 3kVA via rackmount kits and special "**rack ready**" units are available in 1500 and 3000VA models. All Prestige models include a 3 year hot swap warranty.

Prestige Desktop UPS Systems

The Desktop Prestige models are positioned for high-end workstations and low end servers. The system features upgradeability, full LED display with meters and alarms, touch panel controls, auto self test and network power management provisions through OnliNet Software.

A surge protected hot swap bypass option which mounts on the rear of models 1800VA and below allows the UPS electronics to be safely swapped out for replacement without impacting the critical load. This option also expands the number of output receptacles available for plug-in connection and includes one receptacle off UPS to surge protect devices which are generally too much for a small UPS to handle, i.e., laser printers.

As a bonus, on-line input power factor correction enables the 2kVA unit to be plugged into a standard NEMA 5-20P wall outlet without being derated. EXT models feature the ability to add plug and play battery extensions to increase support time to over two hours. Rackmount kits are available to mount up to two or three Prestige units or a unit in combination with an extended battery cabinet.

The following models are available:

- Prestige Standard600-1000VA
- Prestige EXT1000-1500VA
- Prestige Rackmount1500 & 3000VA

Prestige Desktop UPS Ordering Information

Prestige Desktop UPS	120V Models 50/60Hz	230V Models 50/60Hz	Capacity VA/ Watts	Runtime (min.) Full/Half load	Receptacle Number 120V/230V
Prestige 600	**NA**	**4N-AEABC-BF**	600/420	15 / 30	(3)IEC320
Prestige 650	**4N-AEABC-AF**	**N/A**	650 / 455	15 / 30	(4)5-15R/(3) IEC320
Prestige 800	**4N-AEABD-AF**	**4N-AEABD-BF**	800 / 560	11 / 20	(4)5-15R/(3) IEC320
Prestige 1000	**4N-AEABE-AF**	**4N-AEABE-BF**	1000 / 700	7 / 14	(4)5-15R(3) IEC320

Prestige Desktop UPS Systems *(continued)*

Extended Run Models (Upgradeable to 1500VA; add up to 4 battery packs - mix of full or half packs) - see Runtime chart below					
Prestige 800 EXT	**N/A**	**4N-AEABD-BG**	800/560	11 / 20	(3)IEC320
Prestige 1000 EXT	**4N-AEABE-AG**	**4N-AEABD-BG**	1000 / 700	10 / 20	(4)5-15R(3) IEC320
Prestige 1250 EXT	**4N-AEABF-AA**	**4N-AEABE-BG**	1250 / 900	9 / 17	(4)5-15R(3) IEC320
Prestige 1500 EXT	**4N-AEABF-AB**	**4N-AEABF-BF**	1500 / 1000	8 / 18	(4)5-15R(3) IEC320
Prestige 1800 EXT	**N/A**	**4N-AEABF-BH**	1800/1200	5/12	(3)IEC320
Prestige 2000 EXT	**4N-AEABG-AF**	See Series 3000 2.5kVA model	2000 / 1300	4 / 10	(4)5-15R / (1) 5-20
Extended Run Pkgs					
Prestige 2000 EXT					
w/ full pack	4N-AEABG-AG	See Series 3000	2000/1300	14 / 40	(4) 5-15R
w/ half pack	4N-AEABG-AH	See Series 3000	2000/1300	7 / 20	(4) 5-15R
Battery Packs for EXT models					
Add-on half battery pack	**4N-AEABF-BA**	**4N-AEABF-BC**	N/A	see run time chart	N/A
Add-on full battery pack	**4N-AEABF-BB**	**4N-AEABF-BD**	N/A	see run time chart	N/A
Rackmount Units					
Prestige 1500EXT	**4N-AEABF-CA**	**N/A**	1500/1050	7/20 & 14/40[1]	(4) 5-15R
Prestige 3000EXT w/L6-30P	**N/A**	**4N-AEAAH-DA**	3000/2100	7/20	(1) IEC320 C19, 16A
Prestige 3000EXT w/IEC309	**N/A**	**4N-AEAAH-DB**	3000/2100	7/20	(1) IEC320 C19, 16A
Add on battery tray[1]	**4N-AEABF-BE**	**N/A**	N/A	14/40 for 1500EXT	N/A

1 Rackmount units include up to (2) customer front-accessible hot swappable battery trays. 1500EXT unit includes one tray, 3000EXT includes two trays.
2 All 230V units include (2) IEC 320 output jumpers for load connection

See Software Section for Monitoring/Shutdown Software and Options Section for network adapters, hot swap-out options and rackmount kits

Prestige EXT Model Run Time Chart in Minutes*

# of Battery Packs	Run Times @	1 = Full Pack 1/2 = Half Pack	STD Unit	STD +1/2	STD +1	STD +1 1/2	STD +2	STD +2 1/2	STD +3	STD +3 1/2	STD +4
800 EXT	560 Watts	@Full Load	13	27	55	83	111	139	167	192	220
(230V only)		@Half Load	31	53	107	161	215	268	322	376	430
1000 EXT	700 Watts	@Full load	10	20	40	60	80	100	120	140	160
		@Half load	25	45	90	140	180	225	265	310	355
1250 EXT	900 Watts	@Full load	7	15	30	45	60	75	90	105	120
		@Half load	20	35	70	105	140	175	210	245	280
1500 EXT	1000 Watts	@Full load	6	14	28	42	57	71	85	100	112
		@Half load	16	30	60	90	120	150	180	210	240
1800 EXT	1000 Watts	@Full load	5	10	20	28	40	50	60	70	80
(230V only)		@Half load	13	27	55	83	111	139	167	192	220
2000 EXT	1300 Watts	@Full load	4	7	14	21	28	35	42	49	66
(120V only)		@Half load	10	20	40	60	80	100	120	140	160

* Run times based on typical computer type load @ 0.65 PF

Prestige Desktop Systems Specifications

Models[6]		**Standard**			**EXT**				**Rackmount**
120V Models		650	800	1000	1000 EXT	1250 EXT	1500 EXT	2000 EXT	1500 EXT
230V Models		600	800	1000	800 EXT	1000 EXT	1250 EXT	1500 EXT	3000 EXT
System Input Characteristics									
Input voltage range without using battery	120V 230V	85-144 VAC (Full Load) 75-144 VAC (Half Load) 140-276VAC							
Max amps continuous 120/230V		4.8/2.6	5.6/3.1	7.1/3.9	7.1/3.1	8.85/3.9	10.6/4.8	14.2/5.8	10.6/12.5
Input frequency		45-65 Hz							
Input Cord120V Models 230V Models		6 ft (2m) detachable with standard plug 5-15P IEC320 C19 (16A) male connector						5-20P	5-15P L6-30P, IEC309
Input power factor		.95 (120V models) and .90 (240V models) @ full load							
System Output Characteristics									
Output voltage		120 Vac (North American models); 208/220/230/240V selectable (International models) ±3							
120V Models VA/Watts		650/455	800/560	1000/700	1000/700	1250/900	1500/1000	2000/1300	1500/1050
230V Models VA/Watts		600/420	800/560	1000/700	800/560	1000/700	1250/900	1500/1000	3000/2100
Amps continuous 120V/230V		5.4A/2.6A	6.7A/3.5A	8.3A/4.3A	8.3A/3.5A	10.4A/4.3A	12A/5.4A	16A/6.5A	12A/12A
Amps Peak @<5% THD at 3:1 crest factor 120/230V		16.2/7.8	20/10.5	25/12.9	25/10.5	31/12.9	35/16.2	48/19.5	36/36
Output frequency		50 Hz or 60 Hz[1] ±3 Hz[2] (±0.1%)[3]							
Receptacles 120 V		(4) 5-15R; (7) with Power Pass option						(4)5-15R (1)5-20R	(4)5-15R
Receptacles 230V		(3) IEC320, 10A; (6) with Power Pass option							(1)IEC320 16A & 7A
Overload before bypass transfer		>106% to < 110% 4 min; ≥ 10% 4 seconds							
Transient response		±18% nominal output V. for 100% load Step or drop on battery							
Noise rejection @ 100 kHz Normal/common mode		80/60db							
Environmental Specifications									
Temperature, humidity, altitude		10°C to 40°C operation; –20°C to 60°C storage; 5% to 95% noncondensing Operation @4000 ft without derating							
Btu/hour online 120V/230V		185/200	236/236	295/295	295/236	380/295	421/380	604/421	421/931
Audible noise @ 1 meter		<45 dBA							
Agency Compliance									
Surge/electrostatic (ESD)		IEEE 587/ANSI C6 2.41 CAT A&B/ESD withstand 200 kV							
EMI suppression		EN50081-1, EN50082-1 (230V) FCC Part 15, Subpart J, Class A (120V)							
Safety		UL 1778, Canadian Standards Assoc. Listed; EN50091-1							
Weight and Dimensions UPS System (Including Internal Battery)									
Weight		12.9kg (28.5 lb) All			14.9kg (33 lb) All				36.6kg(81 lb) 54.5kg(120 b)
Dimensions (H x W x D)		252 x 143 x 400 mm (9.9 x 5.6 x 15.8 inches)							6.97x17x24 in
Extended Battery Pack									
Weight		N/A			13.4 kg (29.5 lb) half (each) 23.6 kg (52 lb) full (each)				N/A
Dimensions (H x W x D)		N/A			252 x 143 x 400 mm (9.9 x 5.6 x 15.8 inches				N/A
Batteries—sealed lead acid type									
Recharge Time to 80%	Standard	4 Hrs (120V Models)			8 Hrs (230V Models)				4 hrs
	Extended	N/A			Call for information				4 hrs
Duration Full/ half load min[5]	120V standard	15/30	10/24	8/16	10/25	7/20	6/16	4/10	6/16
	230V	16/30	10/24	8/16	5/13	10/25	7/20	6/16	7/20
	Extended 120V	N/A			See Runtime Chart				14/30
	Extended 230V	N/A			See Runtime Chart				N/A

1. Input frequency automatically sensed.
2. Normal operation; output synchronized to input.
3. Input frequency out of acceptable limits or input not present.
4. Recharge time after discharge into 100% load.
5. Battery time within +-10% based on system wattage and normal ambient temperature.
6. 240 V models include (2) ouput jumpers with IEC320 connection.