HP 9000 A-Class Enterprise Servers

Note: *For more complete details about the A-Class, please see http://eproducts.hp.com/*

A180 and A180C Specifications

Table 2.a1 A180/A180C Specifications

SPU model number	A180	A180C
SPU product number	A5182A	A5183A
SPECint_rate95[1]	66e	83e
SPECfp_rate95[1]	68e	85e
SPECweb96[1]	500	650
Number of CPUs	1	1
PA-RISC Processor	PA7300LC	PA7300LC
Clock speed (MHz)	180	180
Cache/CPU - Instruction+Data(KB)	64+64	64+64 and 1024 second-level cache
Floating Point Coprocessor included	Y	Y
Maximum I/O slots	2	2
PCI/HSC combo slots	2	2
Earliest HP-UX revision (HP-UX 11.x is the recommended OS for all platforms.)	10.20	10.20
Software tier	1	1
EIA units	2	2
Standard Integrated I/O		
Single-ended SCSI-2	Y	Y
Fast/Wide/Differential SCSI-2	N	N
RS-232C Serial Ports	1	1
Parallel Centronics Port	N	N
Keyboard and mouse ports	N	N
10/100 Base-T	Y	Y
Secure Web Console functionality	Y	Y
Remote Management Port	N	N
Internal capacities		
Base RAM (MB)	128	128
Max. RAM capacity (MB)	2,048	2,048
Disk included with system (GB)	0	0
Max. SE disk mechanisms	2	2
Max. SE disk capacity (GB)[2]	18	18
Max. FWD disk mechanisms (Hot-plug)	0	0
Max. FWD disk capacity (GB)[2]	N/A	N/A
Max. removable media drives	None (External only)	None (External only)
Site preparation		
Site planning and installation incl.	N	N
Depth (inches/mm)	23/585	23/ 585
Width (inches/mm)	16¾/425	16¾/425
Height (inches/mm)	3 3/8/85	3 3/8/85
Weight (Lbs/Kg)	25/11	2 /11

[1] HP-UX 11.x is required for maximum SPECweb performance and is the recommended OS for performance sensitive users. HP-UX 10.20 will result in lower performance. Numbers marked with "e" are estimates.
[2] Using 9 GB disk drives.

SPU model number	A180	A180C
SPU product number	A5182A	A5183A
Max. external capacities		
SE disk mechanisms	7	7
SE disk capacity[5] (GB)	63	63
FWD disk mechanisms	30	30
FWD disk capacity[5] (GB)	273	273
FWD disk mech. w/arrays	30	30
FWD disk capacity w/arrays[6] (GB)	6,480	6,480
DAT mechanisms	16	16
DAT capacity without data comp. (GB)	64	64
Max. I/O and networking cards		
HSC Fast/wide/differential SCSI-2	2	2
PCI 100Base-T LAN with AUI port (single port)	2	2
HSC 100Base-T LAN with AUI port (dual port)	2	2
HSC Remote Management/Access Port card	1	1
Electrical Characteristics		
AC input power	100–127V, 200–240V, 50–60 Hz	100–127V, 200–240V, 50–60 Hz
Current requirements at 100V	1.0 A	1.0 A
Current requirements at 240V	0.43 A	0.43 A
Typical power dissipation (watts)	100	100
Maximum power dissipation (watts)	100	100
Environmental Characteristics		
Acoustics - Deskside	Less than 5.8 Bels (LwA) sound power at 30°C	
Operating temperature	+5° to +40°C (41° to 104°F)	
Non-operating temperature	–40° to +70°C (–40° to 158°F)	
Maximum rate of temperature change	20°C/hour w/hard media, 10°C/hour w/tape media	
Operating relative humidity	15% to 80% at 5° to 40°C non-condensing, max. wet bulb = 26°C	
Non-operating relative humidity	5% to 90% at 65°C, non-condensing	
Operating altitude	To 3.0 km (10,000 feet) above sea level	
Non-operating altitude	To 4.5 km (15,000 feet) above sea level	
Regulatory Compliance		
Electromagnetic interference	Complies with FCC Rules and Regulations, Part 15, as a Class A digital device. Manufacturer's Declaration to EN55022 Level A, VCCI Registered, Class 1	
Safety	UL Listed, CSA Certified, TÜV GS Mark, compliant with EN 60950 and EN 41003	
Key dates		
First CPL date	10/98	10/98
First ship date	10/98	10/98

[5] Using 9.1 GB external disk drives
[6] Using HP Model 12H AutoRAID with 216 GB per array

A180/A180C Description

Figure 2.a1 System Architecture Overview
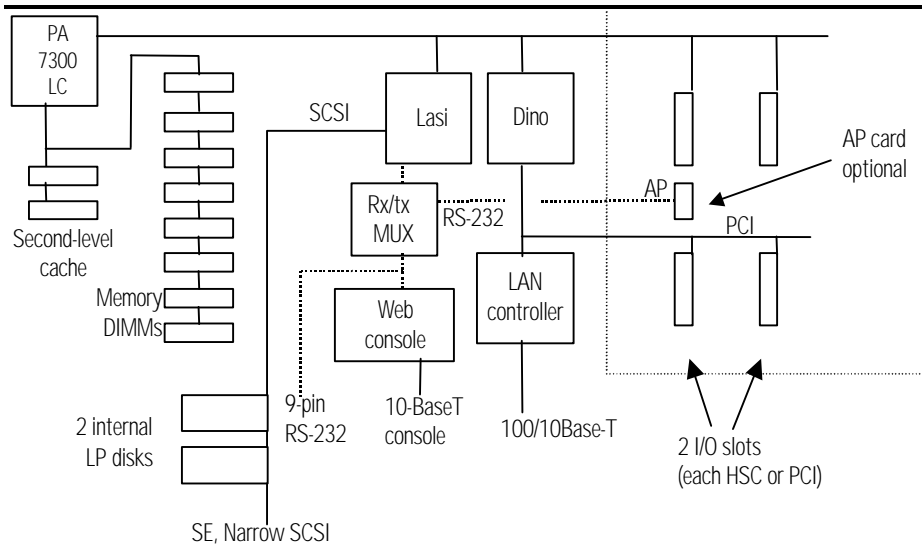
A180/A180C Features

Table 2.a2 A180/A180C Standard Features

System	Minimum System	Maximum SPU Capacities	Standard Features	Standard HP-UX Internet Features
A180 *180 MHz* A180C *180 MHz*	• 1 CPU (PA7300LC processor with 64/64 KB cache, 180C includes additional 1024 KB L2 cache) • 128 MB ECC RAM • 2 PCI/HSC combo I/O slots • 2 disk drive bays (low-profile)	• 1 CPU (PA7300LC processor with 64/64 KB cache, 180C includes additional 1024 KB L2 cache) • 4 GB EDO RAM • 2 PCI or HSC I/O cards • 2 disk drives (low-profile)	• Single-ended SCSI-2 with external connector • HP-UX operating system with unlimited user license • 10/100Base-T LAN • 1 high speed RS-232C console serial port • Factory integration of memory, disk drives, and I/O cards • One-year on-site next-day warranty • Secure Web-Based Console • HP Domain Web QoS Service Control software • Web-based Owner's Guide and General Usage documentation set • Field or factory rackmountable into 19-inch, 1.1, 1.6, or 2.0 meter cabinets	**Standard Web Services** • Netscape Fast Track • Oracle Web Application Server • Netscape Communicator **E-Mail** • Mail, MailX, ELM • Sendmail rev 8.8, MIME, SMTP, ESMTP **Remote Access Services** • Telnet, ftp, anonymous ftp server **Internet Server Functions** • Internet server (inetd) • Domain name server • Routing (OSPF, BIND, RIP, EGP, HELLO, gateD) • Network Time Protocol **Client Configuration Services** • Automatic configuration for printers, PCs, workstations, and X terminals (DHCP, Bootp, tftp, rbootp)

Configuration

I/O Configuration

Supported I/O cards

HP-HSC (High Speed Connect) EISA Form Factor:
- A4107A Fast/Wide/Differential SCSI-2 interface card
- A3342A HP Remote Management/Access Port
- J3516A 2-port 10/100Base-T adapter

PCI:
- A5230A 1-port 10/100Base-T adapter

  If one PCI card and one HSC card are installed in the two I/O slots, then the HSC card must be in the bottom slot.

  The Remote Management/Access Port card must be used in the bottom slot.

I/O Performance Tip:

HP recommends HP-UX 11.x for customers requiring high performance networking.

Note: *Booting over an add-in I/O card is not supported.*

Memory Configuration

Common Rules for A-Class Servers:
1. SIMM cards are available for A-Class in modules of 128 MB (2×64 MB), 256 MB (2×128 MB) or high-density modules of 512 MB (2×256 MB)
2. Memory modules **must** be installed in SIMM board pairs. Pairs can be mixed in the system.
3. Install highest density memory modules first.
4. Each memory SIMM of a SIMM board pair must be of the same size (e.g., 128 MB and 128 MB, or 256 MB and 256 MB).
5. All memory pairs in a system must support EDO mode for EDO mode to be turned on. Otherwise, memory will be in fast page mode.
6. All memory uses 60ns DRAMs.

Performance Tips:
- If growth is planned for the system, order high-density 512 MB SIMM modules initially.

Table 2.a5 A-Class Memory Module

Product Number	ECC RAM in module	SIMM cards in module
A3408A option 0D1	128 MB (Not EDO capable)	Two cards (64 MB each)
A3564A option 0D1	256 MB (EDO capable)	Two cards (128 MB each)
A3717A option 0D1	512 MB (EDO capable)	Two cards (256 MB each)

Table 2.a6 A-Class Memory Configuration

Configuration	Base Memory (ECC/EDO RAM)	Maximum Memory with High-Density (ECC/EDO RAM)	SIMM Slot Capacity
A180, A180C	128, 256 or 512 MB	2 GB	CPU/Memory board with eight total SIMM slots

Power Protection

HP PowerTrust Uninterruptible Power Supplies (UPS) are designed to provide at least 15 minutes of protection against data or transaction loss during power outages.

HP PowerTrust UPS units communicate power status to the UPS monitoring and control software that is standard with the HP-UX operating system. In the event of a power failure an HP PowerTrust UPS will deliver uninterrupted power to the A-Class server and protected peripheral devices. This ensures continued transaction activity during power outages until the UPS batteries become low, at which time the HP PowerTrust UPS will signal this status allowing the graceful shutdown of applications and operating system.

HP PowerTrust UPS Configuration Guidelines

The HP PowerTrust UPS available for use with the A-Class systems are the 600VA and 1.3 kVA deskside units and the 1.3-kVA, 1.8-kVA and 3.0-kVA rackmount units.

HP PowerTrust UPS units can be ordered with the initial order and factory integrated into the A-Class server's rackmount cabinet. The UPS must be plugged into the RS232 connector on the optional Remote Management Card.

When ordering PowerTrust units for use with a A-Class server please order option 021 for the correct DB-9 to DB-9 cable. This provides the connection between UPS and the DB-9 ports of the Remote Management Card.

See the UPS section in Chapter 4 of this Configuration Guide for more information.