

## General Description

Newport Digital's memory for the HP C-Class workstations consists of two 72-pin ECC memory cards. The sets can be configured with 64, 128, 256, or 512 megabytes dynamic rams (drams). The access speed of the drams can be 50 or 60 nanosecond, and the type of dram can be fast page (FP) mode or extended data out (EDO). The C200 and C240 systems support the slightly faster cycle and access times when all the cards installed in the system use 50 nanosecond drams. If any of the cards use 60 nanosecond drams, all of the cards will default to the slightly slower cycle and access times. In addition, the EDO drams provide a slight increase in performance if all of the cards in the system use EDO drams and the system has the processor dependent code (PDC) that supports EDO (see HP documentation for more information).

## System Compatibility

The memory is fully compatible with the HP 9000 C-Class Workstations: C100, C110, C160L, C160, C180, C180XP, C200, and C240.

## Maximum System Memory

The maximum system memory for the C100, C110 and C160L workstations is 2 GB. The maximum system memory for the C160, C180, C200, C240 workstations is 3 GB.

## Installation Procedure

The installation procedure is quick and easy. Power the system down. Remove the main tray from the system. Add the memory card to the main tray using the appropriate guidelines. Slide the main tray back into the system. Power the system up. Verify that the system has the expected RAM size.

## Power Requirements

64 Megabytes	1.40 Amps Max	1.00 Amps Typical
128 Megabytes	1.50 Amps Max	1.00 Amps Typical
256 Megabytes	1.40 Amps Max	1.00 Amps Typical
512 Megabytes	1.50 Amps Max	1.00 Amps Typical

## Cycle and Access Times

The memory cycle and access times for the 11-17-0xxx cards are identical to those of the HP A4209A, A4208A, and A4177A memory cards. The memory cycle and access times for the 11-23-0xxx cards are identical to those of the HPA4515A, HP A4516A, A4517A, and A3737A memory cards.

## Operating Limits

Operating Temperature:	0-70 degrees Centigrade
Operating Humidity:	0-95 percent with no condensation

## HP Documentation

HP 9000 Model C100/110 Owner's Guide (A4200-90013).  
HP 9000 Model C160 / C180 / C200 / C240 Owner's Guide (A4200-90033).  
HP 9000 C Class Service Handbook (A4200-90041).

## Product Warranty

The memory has an unconditional lifetime warranty.

## Ordering Information

<u>Product Description</u>	<u>HP Equivalent</u>	<u>Newport Digital Part Number</u>
HP C100/110/160/160L/180 Memory – 64MB (60ns / FP)	A4209A	11-17-0064
HP C100/110/160/160L/180 Memory – 128MB (60ns / FP)	A4208A	11-17-0128
HP C100/110/160/160L/180 Memory – 256MB (60ns / EDO)	A4177A	11-17-0256
HP C200/240 Memory – 64MB (50ns / EDO)	A4515A	11-23-0064
HP C200/240 Memory – 128MB (50ns / EDO)	A4516A	11-23-0512
HP C200/240 Memory – 256MB (50ns / EDO)	A4517A	11-23-0256
HP C200/240 Memory – 512MB (50ns / EDO)	A3737A	11-23-0512

## Newport Digital