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Macintosh IIvx: Memory (7/93)

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TOPIC -------------------------------------------------------------


This article describes the Macintosh IIvx (Performa 600 and Performa 600CD)
DRAM, VRAM, ROM configurations, and the Memory Map.


DISCUSSION --------------------------------------------------------


DRAM (Dynamic Random Access Memory)
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All Macintosh IIvx configurations have 4MB of DRAM soldered to the logic
board.  The 5MB configuration with the AppleCD 300i CD-ROM drive has
another 1MB of DRAM installed in the four 30-pin DRAM SIMM sockets.  The
sockets support up to 16MB DRAM SIMMs, for a maximum of 68MB.  All DRAM
must be at least 80 ns fast page mode.


Possible DRAM Configurations
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4MB     4MB soldered to logic board, empty SIMMs
5MB     4MB soldered and 1MB in SIMMs (four 256K SIMMs)
8MB     4MB soldered and 4MB in SIMMs (four 1MB SIMMs)
12MB    4MB soldered and 8MB in SIMMs (four 2MB SIMMs)
20MB    4MB soldered and 16MB in SIMMs (four 4MB SIMMs)
68MB    4MB soldered and 64MB in SIMMs (four 16MB SIMMs)


VRAM (Video RAM)
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The Macintosh IIvx uses VRAM for video and sound data storage.  This
internal video support is similar to that of the Macintosh LC and Macintosh
LC II. It's an improvement on the Macintosh IIci and IIsi scheme, which
uses available main DRAM for video and sound, causing delays when both the
video circuitry and the CPU were accessing DRAM at the same time.  The VRAM
is installed into two 68-pin SIMM sockets with pinouts identical to that of
VRAM sockets on the Macintosh LC and Macintosh Quadras.  Both SIMM sockets
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must be filled with either 256K or 512K SIMMs. The video data path is 32
bits wide.

Two 256K SIMMs (part #M5953LL/A) yield 512K of VRAM and support 640 x 480
monitors at up to 8 bits per pixel (256 colors or shades of gray) or
512 x 384 monitors at up to 16 bits per pixel (thousands of colors).

Two 512K SIMMs (part #M0517LL/A) yield 1MB of VRAM, which supports
640 x 480 and 512 x 384 monitors at up to 16 bits per pixel. This 1MB VRAM
configuration is standard on any Macintosh IIvx configured with the
AppleCD 300i.

ROM

Macintosh IIvx has 1MB of ROM and can be upgraded via the ROM expansion
SIMM (for ROM SIMM pinout see article "Macintosh IIvx: Pinouts").

Memory Map (32-bit)

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DRAM —4MB on logic board       $00000000 - $003FFFFF
Expansion DRAM (in SIMMs)      $00400000 - $043FFFFF  (up to 68MB)
Unassigned DRAM space          $04400000 - $3FFFFFFF
ROM read                       $40000000 - $403FFFFF
ROM flash write                $40400000 - $407FFFFF
Repeated ROM images            $40800000 - $4FFFFFFF
VIA1                           $50x00000 - $50x01FFF  (x = $0 - F)
SCC                            $50x04000 - $50x05FFF
SCSI                           $50x10000 - $50x11FFF
   SCSI DMA                    $50x12000 - $50x13FFF
   SCSI Handshake              $50x06000 - $50x07FFF
Sound                          $50x14000 - $50x15FFF
SWIM                           $50x16000 - $50x17FFF
VDAC                           $50x24000 - $50x25FFF
VIA2/VASP registers            $50x26000 - $50x27FFF
CPUID                          $5FFFFFFC - $5FFFFFFF
VRAM                           $60000000 - $600FFFFF  (up to 1MB)
VRAM repeated images           $60100000 - $6FFFFFFF
NuBus space                    $70000000 - $FFFFFFFF
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Article Change History:
07/12/93 - Revised to include Performa 600 and Performa 600CD.

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