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Macintosh: VRAM Chart (2/97)

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TOPIC -----

This article is a matrix of Macintosh computers and their VRAM requirements.

DISCUSSION -----

Begin_Table

LC Family	ON BOARD	VRAM Slots	Max VRAM	RAM SPEED	SIMM Size
-----	-----	-----	-----	-----	-----
Color Classic	256K (1)	1	512K	100 ns	256K
LC	256K/512K (2)	1	512K	100 ns	256K or 512K
LC II	256K/512K (2)	1	512K	100 ns	256K or 512K
LC III	512K (1)	1	768K	100 ns	256K or 512K (3)
LC 475	512K (2)	2	1 MB	80 ns	256K
LC 520	512K (1)	1	768K	80 ns	256K
LC 550	512K	1	1 MB	80 ns	512K
LC 575	0	2	1 MB	80 ns	256K or 512K
LC 580	1 MB	0	1 MB	n/a	n/a
LC 630	1 MB (1,4)	0	1 MB	n/a	n/a

Performa Family	ON BOARD	VRAM Slots	Max VRAM	RAM SPEED	SIMM Size
-----	-----	-----	-----	-----	-----
400/410/430	512K (2)	1	512K	100 ns	256K or 512K
405	256K (2)	1	512K	100 ns	256K or 512K
450/460	512K (1)	1	768K	100 ns	256K or 512K (3)
466/467	512K (1)	1	768K	100 ns	256K or 512K (3)
475/476	512K (2)	2	1 MB	80 ns	256K
550/560	512K (1)	1	1 MB	80 ns	512K
600	512K (2)	2	1 MB	100 ns	256K or 512K
630/635/636/637/638	1 MB (1,4)	0	1 MB	n/a	n/a
5200 Series	1 MB	0	1 MB	60 ns	n/a (1)
5300 Series	1 MB	0	1 MB	60 ns	n/a (1)
6200 Series	1 MB	0	1 MB	60 ns	n/a (1)
6400 Series	1 MB	0	1 MB	60 ns	n/a (1)
6360/160	1 MB	0	1 MB	60 ns	n/a (1)

Macintosh II Family	ON BOARD	VRAM Slots	Max VRAM	RAM SPEED	SIMM Size
-----	-----	-----	-----	-----	-----
IIsi	0K (5)	0	0	n/a	n/a
IIci	0K (5)	0	0	n/a	n/a
IIvx	512K (2)	2	1 MB	100 ns	256K or 512K
IIvi	512K (2)	2	1 MB	100 ns	256K or 512K

Note: The Macintosh II, IIx, IIfx, and IICx have no on-board video, and require video display cards.

Centris/Quadra Family	ON BOARD	VRAM Slots	Max VRAM	RAM SPEED	SIMM Size
-----	-----	-----	-----	-----	-----
Centris 610	512K (1)	2	1 MB	100 ns	256K
Centris 650	512K (1)	2	1 MB	80 ns	256K
Centris 660AV	1 MB (1)	0	1 MB	80 ns	0
Quadra 605	512K (2)	2	1 MB	80 ns	256K
Quadra 610	512K (1)	2	1 MB	100 ns	256K
Quadra 630	1 MB (1,4)	0	1 MB	n/a	n/a
Quadra 650	512K (1)	2	1 MB	80 ns	256K
Quadra 660AV	1 MB (1)	0	1 MB	80 ns	0
Quadra 700	512K (1)	6	2 MB	100 ns	256K (6)
Quadra 800	512K (1)	2	1 MB	80 ns	256K
Quadra 840AV	1 MB (1)	4	2 MB	80 ns	256K
Quadra 900	1 MB (1)	4	2 MB	80 ns	256K (6)
Quadra 950	1 MB (1)	4	2 MB	80 ns	256K (6)
AWS 60	512K (1)	2	1 MB	100 ns	256K
AWS 80	512K (1)	2	1 MB	80 ns	256K

Power Macintosh Family	ON BOARD	VRAM Slots	Max VRAM	RAM SPEED	SIMM or DIMM* Size
-----	-----	-----	-----	-----	-----
4400/200	1 MB	1	4 MB	60 ns	1, 2, 4 MB (13)
5200/75	1 MB	0	1 MB	60 ns	n/a (1)
5300/100	1 MB	0	1 MB	60 ns	n/a (1)
5400 Series	1 MB	0	1 MB	60 ns	n/a (1)
5500 Series	2 MB	0	2 MB		n/a (14)
6400/200	1 MB	0	1 MB	60 ns	n/a (1)
6500 Series	2 MB	0	2 MB		n/a (14)
6100 (7)	n/a	n/a	n/a	n/a	n/a
6100AV (7)	2 MB	0	2 MB	n/a	n/a
7100 (7)	1 MB	4	2 MB	80 ns	256k
7100AV (7)	2 MB	0	2 MB	n/a	n/a
8100 (7)	2 MB	4	4 MB	80 ns	512k
8100AV (7)	2 MB	0	2 MB	n/a	n/a
7200(8)	1 MB(9)	4(9)	4 MB	(10)	1 MB
7300(8)	2 MB(9)	4(9)	4 MB	(10)	1 MB
7500(8)	2 MB(9)	4(9)	4 MB	(10)	1 MB
7600(8)	2 MB(9)	4(9)	4 MB	(10)	1 MB
8500(8)	2 MB(9)	4(9)	4 MB	(10)	1 MB

8600(8)	2 MB(9)	4(9)	4 MB	(10)	1 MB
9500(w/video card)	2 MB(CARD)	2(11)	4 MB	(11)	(11)
9500(w/o video)	No onboard VRAM; requires video card (12)				
9600 (w/video card)	4 MB(CARD)	0	4 MB	(15)	(15)

Apple Server Family	ON BOARD	VRAM Slots	Max VRAM	RAM SPEED	DIMM Size
-----	-----	-----	-----	-----	-----
7250/120 (8)	1 MB(9)	4	4 MB	70 ns	1 MB
8550/132 (8)	2 MB(9)	4	4 MB	70 ns	1 MB

End_Table

Notes

- (1) VRAM soldered on the logic board.
- (2) Removable SIMM. No VRAM soldered on the logic board.
- (3) You can install 512K VRAM SIMM, but only an additional 256K of VRAM is recognized.
- (4) Uses DRAM instead of VRAM. The amount of DRAM is not expandable.
- (5) The IICI and IISI use the 1 MB of DRAM installed in the computer. On the IICI, this is the bank A.
- (6) VRAM SIMMs in the Quadra 700, Quadra 900, and Quadra 950 must be installed in pairs of two SIMMs.
- (7) Power Macintosh models use DRAM based video for the built-in video, they are only expandable with the VRAM Expansion Card installed. All SIMM slots must be filled on the VRAM expansion card. The Power Macintosh 6100/60 is not expandable. The AV card in the AV versions of the Power Macintosh computers have 2 MB of VRAM and are not expandable.
- (8) The 7200, 7300, 7500, 7600, 8500, 8600, and 9500 use VRAM DIMMs instead of the customary SIMMS in older Macintosh computers.
- (9) "On Board" in context of the PCI-based Power Macintosh computers indicates that 1 or more VRAM slots are taken up with DIMMS when they leave the factory: thus, the 7200 has 3 available VRAM slots, while the 7300, 7500, 7600, 8500, and 8600 each have two available to reach the 4 MB VRAM maximum.
- (10) All DIMMs for these computers are manufactured with identical specs; so this is not a relevant statistic.
- (11) For the Power Macintosh 9500 computers with the onboard video you can purchase a separate 2 MB Upgrade Kit that installs onto the card itself.

- (12) Since Power Macintosh 9500 computers without video cards require third-party PCI video support, the VRAM requirements and capabilities vary by manufacturers.
- (13) The Power Macintosh 4400 series includes 2 MB of EDO memory for video memory, but it supports configurations up to 2 MB 5 V EDO memory or 1, 2, or 4 MB of 3.3 V SDRAM or 3.3 V SGRAM.
- (14) The Power Macintosh 5500 and 6500 series computers include 2 MB of SGRAM, which is NOT expandable.
- (15) The video card included with the Power Macintosh 9600 series computers includes 4 MB of video memory, which is not expandable.

Service and Support Providers Notice

- Please do not return the logic board for repair with RAM or VRAM SIMMs
- For more details please refer to the Apple Service Source.

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