

## Memory configurations

You may install 512 MB, 1 GB, 2GB, and 4 GB unbuffered non-ECC DDR2 DIMMs into the DIMM sockets.



- You may install varying memory sizes in Channel A and Channel B. The system maps the total size of the lower-sized channel for the dual-channel configuration. Any excess memory from the higher-sized channel is then mapped for single-channel operation.
- Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor.
- When installing total memory of 4GB capacity or more, Windows® 32-bit operation system may only recognize less than 3GB. Hence, a total installed memory of less than 3GB is recommended.
- This motherboard does not support memory modules made up of 256 Mb chips.
- This motherboard supports Intel® ME technology. Your system may detect less memory size than that you installed when Intel® ME function is enabled. Refer to the following table for details.

### Memory reserved by Intel® ME

Memory slots				Total memory occupied by Intel® ME	
DIMM A1	DIMM A2	DIMM B1	DIMM B2	1GB / slot	2GB / slot
Installed				16MB	16MB
	Installed			16MB	16MB
		Installed		0MB	0MB
			Installed	0MB	0MB
Installed	Installed			16MB	64MB
Installed		Installed		32MB	64MB
Installed			Installed	32MB	64MB
	Installed	Installed		32MB	64MB
		Installed	Installed	0MB	0MB
	Installed		Installed	32MB	64MB
Installed	Installed	Installed		32MB	64MB
Installed	Installed		Installed	32MB	64MB
	Installed	Installed	Installed	32MB	64MB
Installed		Installed	Installed	32MB	64MB
Installed	Installed	Installed	Installed	64MB	64MB



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#### Notes on memory limitations

- Due to chipset limitation, this motherboard can only support up to 16 GB on the operating systems listed below. You may install a maximum of 4 GB DIMMs on each slot.

64-bit
Windows XP Professional x64 Edition
Windows Vista Professional x64 Edition

- The memory operation frequency depends on its Serial Presence Detect (SPD). By default, some memory modules for overclocking may run at lower frequency than the vendor-marked value. If you want to manually adjust the memory frequency, refer to section **2.4 AI Tweaker menu**.
  - To stabilize the memory modules, use an efficient memory cooling system that can support the work load and overclocking conditions.
  - The total memory may has 16MB reduction under Single Channel mode, and 64MB reduction under Dual Channel mode because the address space is reserved for the Intel® vPro™ Technology and the Intel® Quiet System Technology.
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## P5Q-EM DO Motherboard Qualified Vendors Lists (QVL)

### DDR2-800MHz capability

Vendor	Part No.	Size	SS/DS	Chip No.	CL	Chip Brand	DIMM Support		
							A*	B*	C*
A-DATA	M2OAD6H3J4171Q1E52	2048MB	DS	AD20908A8-25EG	N/A	A-DATA	•	•	•
Apacer	78.01GA0.9K5	1024MB	SS	AM4B5808CQJS8E	N/A	APACER	•	•	•
Apacer	78.91G9L9K5	512MB	SS	AM4B5708CQJS8E	N/A	APACER	•	•	•
Apacer	78.A1GA0.9K4	2048MB	DS	AM4B5808CQJS8E	5	APACER	•	•	•
CORSAIR	"Box P/N:TWIN2X4096-6400C5 (CM2X2048-6400C5)"	4096MB(Kit of 2)	DS	Heat-Sink Package	N/A	N/A	•	•	•
CORSAIR	"Box P/N:TWIN2X4096-6400C4DHX (CM2X2048-6400C4DHX)"	4096MB(Kit of 2)	DS	Heat-Sink Package	4-4-4-12	N/A	•	•	•
CORSAIR	"Box P/N:TWIN2X4096-6400C5DHX (CM2X2048-6400C5DHX)"	4096MB(Kit of 2)	DS	Heat-Sink Package	N/A	N/A	•	•	•
CORSAIR	CM2X1024-6400C4	1024MB	DS	Heat-Sink Package	4	N/A	•	•	•
Crucial	BL12864AA804.16FD3	1024MB	DS	Heat-Sink Package	4	N/A	•	•	•
Crucial	BL12864AA804.16FD	1024MB	DS	Heat-Sink Package	4	N/A	•	•	•
Crucial	BL12864AL804.16FD3	1024MB	DS	Heat-Sink Package	4	N/A	•	•	•
ELPIDA	E8E10EE8ABF8-8E-E	1024MB	SS	E1108AB-8E-E(ECC)	5	ELPIDA	•	•	•
G.SKILL	F2-6400CL5D-1GBNQ	1024MB(Kit of 2)	SS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
G.SKILL	F2-6400CL4D-2GBHK	1024MB	DS	Heat-Sink Package	N/A	N/A	•	•	•
G.SKILL	F2-6400CL4D-2GBPK	1024MB	DS	Heat-Sink Package	N/A	N/A	•	•	•
G.SKILL	F2-6400CL4D-4GBPK	4096MB(Kit of 2)	DS	Heat-Sink Package	4	N/A	•	•	•
G.SKILL	F2-6400CL5D-2GBNQ	1024MB	DS	Heat-Sink Package	N/A	N/A	•	•	•
G.SKILL	F2-6400CL5D-4GBPQ	4096MB(Kit of 2)	DS	Heat-Sink Package	5	N/A	•	•	•
G.SKILL	F2-6400CL6D-8GBNQ	8192MB(Kit of 2)	DS	Heat-Sink Package	6-6-6-18	N/A	•	•	•
G.SKILL	F2-6400PHU2-2GBNR	1024MB	DS	Heat-Sink Package	N/A	N/A	•	•	•
GEIL	GB22GB6400C4DC	2048MB(Kit of 2)	DS	GL2L64M088BA30EB	N/A	N/A	•	•	•
GEIL	GB22GB6400C5DC	2048MB(Kit of 2)	DS	GL2L64M088BA30EB	5-5-5-15	GEIL	•	•	•
GEIL	GB24GB6400C4DC	4096MB(Kit of 2)	DS	GL2L128M88BA25AB	4-4-4-12	GEIL	•	•	•
GEIL	GB24GB6400C4QC	4096MB(Kit of 4)	DS	GL2L64M088BA30EB	N/A	N/A	•	•	•
GEIL	GB24GB6400C5DC	4096MB(Kit of 2)	DS	GL2L128M88BA25AB	5-5-5-15	GEIL	•	•	•
GEIL	GB24GB6400C5QC	4096MB(Kit of 2)	DS	GL2L64M088BA30EB	N/A	N/A	•	•	•
GEIL	GB28GB6400C4QC	8192MB(Kit of 4)	DS	GL2L128M88BA25AB	N/A	N/A	•	•	•
GEIL	GB28GB6400C5QC	8192MB(Kit of 4)	DS	GL2L128M88BA25AB	N/A	N/A	•	•	•
GEIL	GE22GB800C4DC	2048MB(Kit of 2)	DS	Heat-Sink Package	4-4-4-12	N/A	•	•	•
GEIL	GE22GB800C5DC	2048MB(Kit of 2)	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
GEIL	GE24GB800C4DC	2048MB	DS	Heat-Sink Package	4-4-4-12	N/A	•	•	•
GEIL	GE24GB800C4QC	4096MB(Kit of 4)	DS	Heat-Sink Package	N/A	N/A	•	•	•
GEIL	GE24GB800C5DC	4096MB(Kit of 2)	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
GEIL	GE24GB800C5QC	4096MB(Kit of 4)	DS	Heat-Sink Package	4-4-4-12	N/A	•	•	•
GEIL	GE28GB800C4QC	2048MB	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
GEIL	GE28GB800C5QC	2048MB	DS	Heat-Sink Package	4-4-4-12	N/A	•	•	•
GEIL	GX22GB6400C4USC	2048MB	DS	Heat-Sink Package	4-4-4-12	N/A	•	•	•
GEIL	GX22GB6400DC	2048MB(Kit of 2)	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
GEIL	GX22GB6400LX	2048MB	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
GEIL	GX22GB6400UDC	2048MB(Kit of 2)	DS	Heat-Sink Package	4-4-4-12	N/A	•	•	•
GEIL	GX24GB6400DC	4096MB(Kit of 2)	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
Hynix	HYMP564U64CP8-S5	512MB	SS	HY5PS12821CFP-S5	5-5-5	Hynix	•	•	•
Hynix	HYMP 512U64CP8-S5	1024MB	DS	HY5PS12821CFP-S5	5-5-5	Hynix	•	•	•

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## DDR2-800MHz capability

Vendor	Part No.	Size	SS/DS	Chip No.	CL	Chip Brand	DIMM Support		
							A*	B*	C*
KINGMAX	KLDC28F-A8K15	512MB	SS	KKABE1BF-HJK-25A	N/A	KINGMAX	•	•	•
KINGMAX	KLDD48F-ABK15	1024MB	DS	KKABE1BF-HJK-25A	N/A	KINGMAX	•	•	•
KINGMAX	KLDE88F-B8K5	2048MB	DS	KKBBFFBXF-CFA-25A	N/A	KINGMAX	•	•	•
KINGSTON	KHX6400D2/ 512	512MB	SS	Heat-Sink Package	N/A	N/A	•	•	•
KINGSTON	KVR800D2N5/ 512	512MB	SS	E5108AJBG-8E-E	N/A	ELPIDA	•	•	•
KINGSTON	KVR800D2N5/1G	1024MB	SS	HY5PS1GB31CFP-S5	N/A	Hynix	•	•	•
KINGSTON	KVR800D2N6/ 512	512MB	SS	E5108AJBG-8E-E	1.8	ELPIDA	•	•	•
KINGSTON	KHX6400D2/2G	2048MB	DS	Heat-Sink Package	N/A	N/A	•	•	•
KINGSTON	KHX6400D2LL/1G	1024MB	DS	Heat-Sink Package	4-4-4-12	N/A	•	•	•
KINGSTON	KVR800D2N5/1G	1024MB	DS	E5108AJBG-8E-E	N/A	ELPIDA	•	•	•
KINGSTON	KVR800D2N5/1G	1024MB	DS	V59C1512804QBF25	N/A	N/A	•	•	•
KINGSTON	KVR800D2N5/2G	2048MB	DS	E1108ACBG-8E-E	N/A	ELPIDA	•	•	•
KINGSTON	KVR800D2N6/1G	1024MB	DS	E5108AJBG-8E-E	1.8	ELPIDA	•	•	•
NANYA	NT 512T64U880BY-25C	512MB	SS	NT5TU64M8BE-25C	5	NANYA	•	•	•
NANYA	NT1G764U8HCOBY-25D	1024MB	DS	NT5TU64M8CE-25D	N/A	NANYA	•	•	•
NANYA	NT2G764U8HCOBY-AC	2048MB	DS	NT5TU128M8CE-AC	5	NANYA	•	•	•
OCZ	OCZ2FX800C32GK	1024MB	DS	Heat-Sink Package	N/A	N/A	•	•	•
OCZ	OCZ2G8001G	1024MB	DS	Heat-Sink Package	5	N/A	•	•	•
OCZ	OCZ2T8002GK	1024MB	DS	Heat-Sink Package	N/A	N/A	•	•	•

## DDR2-667MHz capability

Vendor	Part No.	Size	SS/ DS	Chip No.	CL	Chip Brand	DIMM Support		
							A*	B*	C*
Apacer	78.01G90.9K5	1024MB	SS	AM4B5808CQJS7E	N/A	APACER	•	•	•
Apacer	78.91G92.9K5	512MB	SS	AM4B5708CQJS7E	N/A	APACER	•	•	•
Apacer	78.A1G90.9K4	2048MB	DS	AM4B5808CQJS7E	N/A	APACER	•	•	•
CORSAIR	VS 512MB667D2	512MB	SS	64M8CFEG	N/A	N/A	•	•	•
CORSAIR	VS1GB667D2	1024MB	DS	64M8CFEG	N/A	N/A	•	•	•
crucial	BL6464AA663.8FD	512MB	SS	Heat-Sink Package	3	N/A	•	•	•
crucial	BL12864AA663.16FD2	1024MB	DS	Heat-Sink Package	3	N/A	•	•	•
crucial	BL12864AA663.16FD	1024MB	DS	Heat-Sink Package	3	N/A	•	•	•
crucial	BL12864AL664.16FD	1024MB	DS	Heat-Sink Package	3	N/A	•	•	•
ELPIDA	EBE51UD8AEFA-6E-E	512MB	SS	E5108AE-6E-E	5	ELPIDA	•	•	•
G.SKILL	F2-5300CL5D-4GBMQ	4096MB(Kit of 2)	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
G.SKILL	F2-5400PHU2-2GBNT	2048MB(Kit of 2)	DS	D264M8GCF	5-5-5-15	G.SKILL	•	•	•
GEIL	GX21GB5300SX	1024MB	DS	Heat-Sink Package	3-4-4-8	N/A	•	•	•
GEIL	GX22GB5300LX	2048MB	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
GEIL	GX24GB5300LDC	4096MB(Kit of 2)	DS	Heat-Sink Package	5-5-5-15	N/A	•	•	•
Hynix	HYMP112U64CP8-Y5	1024MB	SS	HY5PS1GB31CFP-Y5	5	Hynix	•	•	•
Hynix	HYMP512U64CP8-Y5	1024MB	DS	HY5PS12821CFP-Y5	5	Hynix	•	•	•
KINGSTON	KVR667D2N5/ 512	512MB	SS	D6408TEBGL3U	5	KINGSTON	•	•	•
KINGSTON	KVR667D2E5/1G	1024MB	DS	E5108AGBG-6E-E(ECC)	N/A	ELPIDA	•	•	•
KINGSTON	KVR667D2E5/2G	2048MB	DS	D9HNL(ECC)	N/A	MICRON	•	•	•
KINGSTON	KVR667D2N5/1G	1024MB	DS	E5108AGBG-6E-E	N/A	KINGSTON	•	•	•
KINGSTON	KVR667D2N5/1G	1024MB	DS	E5108AJBG-8E-E	N/A	ELPIDA	•	•	•
KINGSTON	KVR667D2N5/1G	1024MB	DS	HY5PS12821CFP-Y5	N/A	Hynix	•	•	•
KINGSTON	KVR667D2N5/2G	2048MB	DS	E1108AB-6E-E	N/A	ELPIDA	•	•	•

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## DDR2-667MHz capability

Vendor	Part No.	Size	SS/ DS	Chip No.	CL	Chip Brand	DIMM Support		
							A*	B*	C*
KINGSTON	KVR667D2N5/2G	2048MB	DS	HY5PS1G831CFP-Y5	N/A	Hynix	•	•	•
NANYA	NT512T64U8JB0JY-3C	512MB	SS	NT5TU64M8BE-3C	5	NANYA	•	•	•
NANYA	NT2GT64U8HB0JY-3C	2048MB	DS	NT5TU128M8BJ-3C	5	NANYA	•	•	•
PSC	AL7E8E63J-6E1	1024MB	DS	A3R12E3JFF719AGT02	5	PSC	•	•	•
Qimonda	HYS64T256020EU-3S-C2	2048MB	DS	HYB18T1GB00C2F-3S	555-12	Qimonda	•		
SAMSUNG	M378T6553EZS-C66	512MB	SS	K4T51083QE	5	SAMSUNG	•	•	•
SAMSUNG	M378T2953EZ3-C66	1024MB	DS	K4T51083QE	5	SAMSUNG	•	•	•
SAMSUNG	M378T5263AZ3-C66	4096MB	DS	K4T2G084QA-HCE6	5	SAMSUNG	•	•	•
Super Talent	T6UA 512C5	512MB	SS	Heat-Sink Package	5	N/A	•	•	•
Super Talent	T6UB1GC5	1024MB	DS	Heat-Sink Package	5	N/A	•	•	•
Transcend	JM667QLU-1G	1024MB	SS	TQ243ECF8	5	Transcend	•	•	•
Transcend	JM667QLU-2G	2048MB	DS	TQ243ECF8	5	Transcend	•	•	•
TwinMOS	8D-23JK5M2ETP	512MB	SS	TMM6208G8M30C	5	TwinMOS	•		
Aeneon	AET660UD00-30DB97X	512MB	SS	AET93R300B	5	AENEON	•	•	•
Aeneon	AET860UD00-30DB08X	2048MB	DS	AET03F30DB	5	AENEON	•	•	•
Asint	SLX264M8-J6E	512MB	SS	DDRII6408-6E	N/A	Asint	•	•	•
Asint	SLY2128M8-J6E	1024MB	SS	DDRII1208-6E	N/A	Asint	•	•	•
CENTURY	26V2H8	512MB	SS	HY5PS12821CFP-Y5	5	Hynix	•	•	•
CENTURY	26VOH8	1024MB	DS	HY5PS12821CFP-Y5	5	Hynix	•	•	•
Kingbox	N/A	1024MB	SS	EPD2128082200E-4	N/A	N/A	•	•	•
Kingbox	N/A	1024MB	DS	EPD264082200E-4	N/A	N/A	•	•	•
MDT	M 512-667-8	512MB	SS	18D 51280D-30648	4	MDT	•	•	•
Patriot	PSD2 51266781	512MB	SS	PM64MBD2BU-3KC	N/A	N/A	•	•	•
Patriot	PSD21G6672	1024MB	DS	PM64MBD2BU-3PAC	5	Patriot	•	•	•
UMAX	U2S12D30TP-6E	1024MB	DS	D46701GP3-63BJU	N/A	UMAX	•	•	•
UMAX	U2S24D30TP-6E	2048MB	DS	D46702GP0-73BCU	N/A	UMAX	•	•	•



SS - Single-sided / DS - Double - sided

DIMM support:

- A\*: Supports one module inserted in any slot as Single-channel memory configuration.
- B\*: Supports one pair of modules inserted into either the yellow slots or the black slots as one pair of Dual-channel memory configuration.
- C\*: Supports four modules inserted into both the yellow and black slots as two pairs of Dual-channel memory configuration.



Visit the ASUS website for the latest DDR2-800/667 MHz QVL.