Advanced/ZE User-Installable Upgrades

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This document applies only to standard Advanced/ZE baseboards with BIOS identifier .BR0.

The devices listed below are categorized according to two levels of testing:

Full Functional Tested: The device has passed electrical and functional testing across the full temperature and voltage specifications for the product, as well as signal quality analysis and vendor specification analysis per the Full Functional Test Procedure for the particular device. The testing of the device may have been conducted by the vendor or other third party.

Basic Functional Tested: The device has passed basic functional testing at ambient temperatures per the Basic Functional Test Procedure for the particular device. The testing of the device may have been conducted by the vendor or other third party.

Devices are added to the list upon written notification to Intel that the device has passed all the requirements documented in the applicable test procedure. Devices not listed can be used, but in the event of unreliable system operation, the devices should be replaced with tested devices to determine whether the unlisted devices are causing the problem.

IMPORTANT NOTE:

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SYSTEM MEMORY

Table A-1 shows the possible memory combinations. The Advanced/ZE will support both Fast Page DRAM or EDO DRAM SIMMs, but they cannot be mixed within the same memory bank. If Fast Page DRAM and EDO DRAM SIMMs are installed in separate banks, each bank will be optimized for maximum performance. Parity generation and detection is NOT supported, but parity SIMMs (x36) may be used. SIMM requirements are 70ns Fast Page Mode or 60nS EDO DRAM (70 ns EDO may be used with a 60mhz or slower external CPU clock) with tin-lead connectors.

SIMM 1,2 (Bank 0)	SIMM 3,4 (Bank 1)	Total System Memory
SIMM Type (Size)	SIMM Type (Size)	
Empty	1M X 32 (4 MB)	8 MB
Empty	2M X 32 (8 MB)	16 MB
Empty	4M X 32 (16 MB)	32 MB
Empty	8M X 32 (32 MB)	64 MB
1M X 32 (4 MB)	Empty	8 MB
1M X 32 (4 MB)	1M X 32 (4 MB)	16 MB
1M X 32 (4 MB)	2M X 32 (8 MB)	24 MB
1M X 32 (4 MB)	4M X 32 (16 MB)	40 MB
1M X 32 (4 MB)	8M X 32 (32 MB)	72 MB
2M X 32 (8 MB)	Empty	16 MB
2M X 32 (8 MB)	1M X 32 (4 MB)	24 MB
2M X 32 (8 MB)	2M X 32 (8 MB)	32 MB
2M X 32 (8 MB)	4M X 32 (16 MB)	48 MB
2M X 32 (8 MB)	8M X 32 (32 MB)	80 MB
4M X 32 (16 MB)	Empty	32 MB
4M X 32 (16 MB)	1M X 32 (4 MB)	40 MB
4M X 32 (16 MB)	2M X 32 (8 MB)	48 MB
4M X 32 (16 MB)	4M X 32 (16 MB)	64 MB
4M X 32 (16 MB)	8M X 32 (32 MB)	96 MB
8M X 32 (32 MB)	Empty	64 MB
8M X 32 (32 MB)	1M X 32 (4 MB)	72 MB
8M X 32 (32 MB)	2M X 32 (8 MB)	80 MB
8M X 32 (32 MB)	4M X 32 (16 MB)	96 MB
8M X 32 (32 MB)	8M X 32 (32 MB)	128 MB

Table A-1. Possible SIMM Memory Combinations Note: SIMMs may be parity (x 36) or non-parity (x 32)

IMPORTANT NOTE

SIMMs with gold contacts should NOT be placed into SIMM sockets with tin-lead contacts or vice-versa. Mixing dissimilar metal contact types has resulted in unreliable memory operation. Use only Tin-lead contact SIMMs.

TESTED SIMM VENDORS

The following tables list SIMMs that have been tested. SIMMs that are not listed should also function properly as long as their specifications are compatible with the devices listed below. In general, SIMM devices that are faster than those specified for a given platform will work, although no extra performance will be realized.

All Sizes: Tin-lead contacts.

FAST PAGE SIMM

Vendor	Test	Vendor Part Number	Comments		
	1M x 32 (4MB), Non-Parity - 70ns				
Micron Technology	FULL	MT8D132M-7			
Samsung Corning Co, LTD.	FULL	KMM5321000BV-7			
Advantage Memory Corp.	BASIC	AMC1x32-70T			
Celestica Inc.	BASIC	CL001D01320B00J-70			
Kingston Technology Corp.	BASIC	KTM1x32L-70T			
Simple Technology	BASIC	STI321000-70T			
Super PC Memory	BASIC	4000/72NP	TIN must be specified when ordering		
Unigen Corporation	BASIC	1x32UG7PBT1			
Unigen Corporation	BASIC	1x32UG7SQT			
Viking Components	BASIC	1x32-70T			
VisionTek Inc.	BASIC	VT15020.E	***OBSOLETE P/N; Replaced by P/N below		
VisionTek Inc.	BASIC	VT69130.0	NEW P/N		
1M x 32 (4MB), Non-Parity - 60ns					
Vendor	Test	Vendor Part Number	Comments		
1st Tech Corporation	BASIC	20-132-60T			
Dataram Corp.	BASIC	62005			
VisionTek Inc.	BASIC	VT69030.0			
	1M x 36 (4MB), Parity - 70ns				
Vendor	Test	Vendor Part Number	Comments		
Simple Technology	BASIC	STI361000-70T			
VisionTek Inc.	BASIC	VT15070.E	***OBSOLETE P/N; Replaced by P/N below		
VisionTek Inc.	BASIC	VT69110.0	NEW P/N		

1M x 36 (4MB), Parity - 70ns (cont.)

Vendor Test			1M x 36 (4MB), Parity - 70n	
Vendor Test	Vendor	Test	Vendor Part Number	Comments
Variable Variable	Workstation Direct	BASIC	MM1x36-70T12C	
BASIC 2022 2M x 32 (BMB), Non-Parity - Tons Vendor Test Vendor Part Number Comments Hyundas Full. Hyundas Hyun			1M x 36 (4MB), Parity -	60ns
BASIC 2022 2M x 32 (BMB), Non-Parity - Tons Vendor Test Vendor Part Number Comments Hyundas Full. Hyundas Hyun	Vendor	Test	Vendor Part Number	Comments
Vandor Test	Dataram Corp		62022	
Vendor Test	Bataram Corp.	B/ 1010		y - 70ne
Hyunds FULL HYM52200AM-70	Vandar	Toot		
Micron Technology				Comments
Micron Technology				
Samsung Coming Cot, LTD. FULL KMM5322200AW-7				
Advantage Memory Corp. BASIC AMC2-32-70T	Micron Technology		MT16D232M-6	
Celestical Inc.	Samsung Corning Co, LTD.	FULL	KMM5322200AW-7	
Celestical Inc.	Advantage Memory Corp.	BASIC	AMC2x32-70T	
Simple Technology			CL001D02320B00J-70	
Simple Technology				
Unigen Corporation				
Unigen Corporation				
VisionTek Inc.				
VisionTek Inc.				
VisionTek Inc.				
March Section Sectio	VisionTek Inc.	BASIC		***OBSOLETE P/N; Replaced by P/N below
March Section Sectio	VisionTek Inc.	BASIC	VT69150.0	NEW P/N
Vendor Test				r - 60ns
Isst Tech Corporation	Vendor	Test		
IstTech Corporation BASIC 20-232-601T 4 DRAMs				Commence
Dataram Corp. BASIC 62006				4 DRAMe
VisionTek Inc.				4 DIVAINIS
Simple Technology				
Simple Technology	VISION I EK INC.	BASIC		
VisionTek Inc. BASIC VT15150.E ****OBSOLETE P/N; Replaced by P/N below VisionTek Inc. BASIC VT6912.0 NEW P/N	1		, ,,	70ns
Vendor Test				
Vendor Test	VisionTek Inc.	BASIC	VT15150.E	***OBSOLETE P/N; Replaced by P/N below
Vendor Test Vendor Part Number Comments	VisionTek Inc.	BASIC	VT69120.0	NEW P/N
Vendor Test Vendor Part Number Comments	Workstation Direct			
Vendor				60ns
Dataram Corp.	Vendor	Toct	, ,,,	
Mx x 32 (16MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments				Confinents
Vendor	Dataram Corp.	BASIC		70
Celestica Inc.				
Kingston Technology	1 ,	- .		
Simple Technology			Vendor Part Number	
Unigen Corporation	Celestica Inc.	BASIC	Vendor Part Number CL001D04320B00J-70	
Viking Components	Celestica Inc.	BASIC BASIC	Vendor Part Number CL001D04320B00J-70	
VisionTek Inc.	Celestica Inc. Kingston Technology Corp.	BASIC BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T	
VisionTek Inc.	Celestica Inc. Kingston Technology Corp. Simple Technology	BASIC BASIC BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T	
VisionTek Inc.	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation	BASIC BASIC BASIC BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2	
AM x 32 (16MB), Non-Parity - 60ns	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components	BASIC BASIC BASIC BASIC BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T	Comments
Vendor Test Vendor Part Number Comments 1st Tech Corporation BASIC 20-432-60NT3 Advantage Memory Corp. BASIC AMC4x32-60T Dataram Corp. BASIC 62007 VisionTek Inc. BASIC VT69060.0 4M x 36 (16MB), Parity - 70ns Vendor Test Vendor Part Number Comments Micron Technology BASIC MT12D436DM-7 Samsung Corning Co, LTD. BASIC KMM5364100A-7 Simple Technology BASIC XT1-XPRESS/16HB VisionTek Inc. BASIC VT15208.E ****OBSOLETE P/N; Replaced by P/N below VisionTek Inc. BASIC VT69140.0 NEW P/N Workstation Direct BASIC MM4x36-70T12C 4M x 36 (16MB), Parity - 60ns Vendor Test Vendor Part Number Comments 1st Tech Corporation BASIC 20-436-60NT3 BASIC 1st Tech Corporation BASIC 20-1040-05 9 DRAMs Dataram	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc.	BASIC BASIC BASIC BASIC BASIC BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E	***OBSOLETE P/N; Replaced by P/N below
1st Tech Corporation	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc.	BASIC BASIC BASIC BASIC BASIC BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0	***OBSOLETE P/N; Replaced by P/N below NEW P/N
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Dataram Corp. BASIC 62007	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc.	BASIC BASIC BASIC BASIC BASIC BASIC BASIC BASIC BASIC Test	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns
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VisionTek Inc. BASIC VT69140.0 NEW P/N Workstation Direct BASIC MM4x36-70T12C 4M x 36 (16MB), Parity - 60ns Vendor Test Vendor Part Number Comments 1st Tech Corporation BASIC 20-436-60NT3 9 DRAMs 1st Tech Corporation BASIC 20-1040-05 9 DRAMs Dataram Corp. BASIC 62003 62003 SM x 32 (32MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC ST1328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD.	BASIC Test BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns
Workstation Direct BASIC MM4x36-70T12C 4M x 36 (16MB), Parity - 60ns Vendor Test Vendor Part Number Comments 1st Tech Corporation BASIC 20-436-60NT3 9 DRAMs 1st Tech Corporation BASIC 20-1040-05 9 DRAMs Dataram Corp. BASIC 62003 8M x 32 (32MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments
4M x 36 (16MB), Parity - 60ns Vendor Test Vendor Part Number Comments 1st Tech Corporation BASIC 20-436-60NT3 9 DRAMs 1st Tech Corporation BASIC 20-1040-05 9 DRAMs Dataram Corp. BASIC 62003 8M x 32 (32MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc.	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below
Vendor Test Vendor Part Number Comments 1st Tech Corporation BASIC 20-436-60NT3 9 DRAMs 1st Tech Corporation BASIC 20-1040-05 9 DRAMs Dataram Corp. BASIC 62003 8M x 32 (32MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Comments Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc.	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity-Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below
1st Tech Corporation BASIC 20-436-60NT3 1st Tech Corporation BASIC 20-1040-05 9 DRAMs Dataram Corp. BASIC 62003 8M x 32 (32MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc.	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity-Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N
1st Tech Corporation BASIC 20-1040-05 9 DRAMs Dataram Corp. BASIC 62003 8M x 32 (32MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc.	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity-Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity-	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns
Dataram Corp. BASIC 62003 8M x 32 (32MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. Workstation Direct	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N ***OBSOLETE P/N; Replaced by P/N below NEW P/N
8M x 32 (32MB), Non-Parity - 70ns Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. Vorkstation Direct	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments
Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. Vorkstation Direct	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments
Vendor Test Vendor Part Number Comments Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. Vorkstation Direct Vendor 1st Tech Corporation 1st Tech Corporation	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3 20-1040-05	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments
Advantage Memory Corp. BASIC AMC8x32-70T Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. Vorkstation Direct Vendor 1st Tech Corporation 1st Tech Corporation	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3 20-1040-05 62003	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments ***OBSOLETE P/N; Replaced by P/N below Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments 9 DRAMS
Kingston Technology Corp. BASIC KTM8x32L-70T Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. Vorkstation Direct Vendor 1st Tech Corporation 1st Tech Corporation Dataram Corp.	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3 20-1040-05 62003 8M x 32 (32MB), Non-Parity	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments 9 DRAMs
Simple Technology BASIC STI328000-70T Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. VisionTek Inc. VisionTek Inc. Vorkstation Direct Vendor 1st Tech Corporation 1st Tech Corporation Dataram Corp. Vendor	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3 20-1040-05 62003 8M x 32 (32MB), Non-Parit Vendor Part Number	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments 9 DRAMs
Unigen Corporation BASIC 8x32UG7KBT2 Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation 1st Tech Corporation Dataram Corp. Vendor Advantage Memory Corp.	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3 20-1040-05 62003 8M x 32 (32MB), Non-Parit Vendor Part Number AMC8x32-70T	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments 9 DRAMs
Viking Components BASIC 8x32-70T	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation 1st Tech Corporation Dataram Corp. Vendor Advantage Memory Corp. Kingston Technology Corp.	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3 20-1040-05 62003 8M x 32 (32MB), Non-Parit Vendor Part Number AMC8x32-70T KTM8x32L-70T	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments 9 DRAMs
	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation 1st Tech Corporation 1st Tech Corporation 1st Tech Corporation Dataram Corp. Vendor Advantage Memory Corp. Kingston Technology Corp. Simple Technology	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3 20-1040-05 62003 8M x 32 (32MB), Non-Parit Vendor Part Number AMC8x32-70T KTM8x32L-70T STI328000-70T	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments 9 DRAMs
	Celestica Inc. Kingston Technology Corp. Simple Technology Unigen Corporation Viking Components VisionTek Inc. VisionTek Inc. Vendor 1st Tech Corporation Advantage Memory Corp. Dataram Corp. VisionTek Inc. Vendor Micron Technology Samsung Corning Co, LTD. Simple Technology VisionTek Inc. VisionTek Inc. Workstation Direct Vendor 1st Tech Corporation 1st Tech Corporation 1st Tech Corporation Dataram Corp. Vendor Advantage Memory Corp. Kingston Technology Corp. Kingston Technology Unigen Corporation	BASIC	Vendor Part Number CL001D04320B00J-70 KTM4x32L-70T STI324000-70T 4x32UG7KBT2 4x32-70T VT15182.E VT69160.0 4M x 32 (16MB), Non-Parit Vendor Part Number 20-432-60NT3 AMC4x32-60T 62007 VT69060.0 4M x 36 (16MB), Parity - Vendor Part Number MT12D436DM-7 KMM5364100A-7 STI-XPRESS/16HB VT15208.E VT69140.0 MM4x36-70T12C 4M x 36 (16MB), Parity - Vendor Part Number 20-436-60NT3 20-1040-05 62003 8M x 32 (32MB), Non-Parit Vendor Part Number AMC8x32-70T KTM8x32L-70T STI328000-70T 8x32UG7KBT2	***OBSOLETE P/N; Replaced by P/N below NEW P/N y - 60ns Comments 70ns Comments ***OBSOLETE P/N; Replaced by P/N below NEW P/N 60ns Comments 9 DRAMs

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Vendor	Test	Vendor Part Number	Comments	
VisionTek Inc.	BASIC	VT15186.E	***OBSOLETE P/N; Replaced by P/N below	
VisionTek Inc.	BASIC	VT69170.0	NEW P/N	
		8M x 32 (32MB), Non-Parity	r - 60ns	
Vendor	Test	Vendor Part Number	Comments	
1st Tech Corporation	BASIC	20-832-60NT3		
1st Tech Corporation	BASIC	20-1040-15		
Dataram Corp.	BASIC	62008		
VisionTek Inc.	BASIC	VT69070.0		
		8M x 36 (32MB), Parity - 7	70ns	
Vendor	Test	Vendor Part Number	Comments	
Samsung Corning Co, LTD.	BASIC	KMM5368100A-7		
Simple Technology	BASIC	STI-XPRESS/32HB		
VisionTek Inc.	BASIC	VT15215.E	***OBSOLETE P/N; Replaced by P/N below	
VisionTek Inc.	BASIC	VT69180.0	NEW P/N	
	8M x 36 (32MB), Parity - 60ns			
Vendor	Test	Vendor Part Number	Comments	
1st Tech Corporation	BASIC	20-1040-07		
Dataram Corp.	BASIC	62004		

EDO SIMM

Note: 60ns EDO SIMMs are required when the external CPU clock is set to 66 MHz (e.g., for the 100, 133, 166, and 200 MHz Pentium processor). Either 60ns or 70ns SIMMs can be used for external clock frequencies of 50 MHz and 60 MHz, but no additional performance will be seen with the 60ns SIMMs.

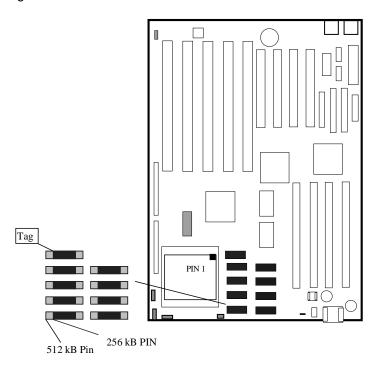
Vendor	Test	Vendor Part Number	Comments
		1M x 32 (4MB), Non-Pa	arity - 70ns
Micron Technology	FULL	MT8D132M-7X	
Simple Technology	BASIC	STI321004A-70T	
Viking Components	BASIC	EDO1327T	
		1M x 32 (4MB), Non-Pa	arity - 60ns
Vendor	Test	Vendor Part Number	Comments
1st Tech Corporation	BASIC	20-1039-09	
Advantage Memory Corp.	BASIC	AMC1x32-60TEDO	
Dataram Corp.	BASIC	61972	
Kingston Technology Corp.	BASIC	KTM1x32L-60ET	
Unigen Corporation	BASIC	1x32UG6DBT-EDO	
VisionTek Inc.	BASIC	VT69210.0	
		2M x 32 (8MB), Non-Pa	arity - 70ns
Vendor	Test	Vendor Part Number	Comments
Simple Technology	BASIC	STI322004A-70T	
Viking Components	BASIC	EDO2327T	
<u> </u>		2M x 32 (8MB), Non-Pa	arity - 60ns
Vendor	Test	Vendor Part Number	Comments
1st Tech Corporation	BASIC	20-1039-11	
Advantage Memory Corp.	BASIC	AMC2x32-60TEDO	
Celestica Inc.	BASIC	CL001D02325B00J-60	
Dataram Corp.	BASIC	61973	
Kingston Technology Corp.	BASIC	KTM2x32L-60ET	
NEC	BASIC	MC-422000F32BA-60	
Unigen Corporation	BASIC	2x32UG6DBT-EDO	
VisionTek Inc.	BASIC	VT69220.0	
		4M x 32 (16MB), Non-P	arity - 70ns
Vendor	Test	Vendor Part Number	Comments
Simple Technology	BASIC	STI324004-70T	
Unigen Corporation	BASIC	4x32UG7KBT2EDO	
Viking Components	BASIC	EDO4327T	
		4M x 32 (16MB), Non-P	arity - 60ns
Vendor	Test	Vendor Part Number	Comments
1st Tech Corporation	BASIC	20-1040-17	
Advantage Memory Corp.	BASIC	AMC4x32-60TEDO	
Celestica Inc.	BASIC	CL001D04325B00J-60	
Dataram Corp.	BASIC	61978	
Kingston Technology Corp.	BASIC	KTM4x32L-60ET	
VisionTek Inc.	BASIC	VT69240.0	

8M x 32 (32MB), Non-Parity - 70ns

		OIVI X 32 (32IVID), INOITI AII	ity - 70113
Vendor	Test	Vendor Part Number	Comments
1st Tech Corporation	BASIC	20-1026-02	
Simple Technology	BASIC	STI328004-70T	
Viking Components	BASIC	EDO8327T	
		8M x 32 (32MB), Non-Pari	ity - 60ns
Vendor	Test	Vendor Part Number	Comments
1st Tech Corporation	BASIC	20-1040-21	
Advantage Memory Corp.	BASIC	AMC8x32-60TEDO	
Dataram Corp.	BASIC	61979	
Kingston Technology Corp.	BASIC	KTM8x32L-60ET	
VisionTek Inc	BASIC	VT69280.0	

CACHE SRAM

Baseboards configured for 0 KB of L2 cache can be upgraded to either 256 KB or 512 KB of L2 cache by installing eight 24-pin 32k x 8 or 28-pin 64k x 8 3.3 volt SOJ SRAM (20 ns) devices into the provided sockets. The TAG socket accepts a 24-pin 32k x 8 5.0V SOJ SRAM (15 ns). The figure below shows the Pin 1 location for the TAG and data SRAM. To properly support an external clock frequency of 66 MHz (e.g.; the 100 MHz Pentium Processor), the data and tag SRAM must be 15 ns devices.



CACHE SRAM VENDORS

Vendor	Test	Vendor Part Number	Comments
		Tag SRAM (32Kx8, 15ns, 5V)	
Alliance Semiconductor Corp.	FULL	AS7C256-15JCTR	
Alliance Semiconductor Corp.	FULL	AS7C256-12JCTR	
Cypress Electronics	FULL	CY7C199-15VCT-CS4154AT	
Etron Technology Inc.	FULL	EM51256C-15J	
Etron Technology Inc.	FULL	EM51256C-15JL	
ldt	FULL	IDT71256SA15Y	

Tag SRAM (32Kx8, 15ns, 5V) - (cont.)

Vendor	Test	Vendor Part Number	Comments
Integrated Silicon Solutions	FULL	IS61C256AH-15J	Do not use or order Date Code 9451 2/95
Mitsubishi	FULL	M5M5278DJ-15	
Motorola	FULL	MCM6206-15	
Nkk	FULL	N341256SJ-15	
Samsung Corning Co.,Ltd	FULL	KM68257CJ-15T	
Winbond Electronics	FULL	W24257AJ-15	
Micron Technology	BASIC	MT5C2568DJ-15T	

Data SRAM (32Kx8, 20ns, 3.3V)

Vendor	Test	Vendor Part Number	Comments
Alliance Semiconductor Corp.	FULL	AS7C3256-20JC T&R	
Alliance Semiconductor Corp.	FULL	AS7C3256-15JC	
ldt	FULL	IDT71V256SA20Y	
ldt	FULL	IDT71V256SL15Y	
ldt	FULL	IDT71V256SA-15Y	
Integrated Silicon Solutions	FULL	IS61LV256-20J	

Data SRAM (32Kx8, 20ns, 3.3V) cont.

Micron Technology	FULL	MT5LC2568DJ-20T	
Micron Technology	FULL	MT5LC2568DJ-15T	
Samsung Corning Co.,Ltd	FULL	KM68V257J-20T	
Samsung Corning Co.,Ltd	FULL	KM68V257CJ-20T	
Samsung Corning Co.,Ltd	FULL	KM68V257J-17T OR -15T	
Toshiba Corp	FULL	TC55V328J-20 (EL)	
Toshiba Corp	FULL	TC55V328J-15 (EL)	
Toshiba Corp	FULL	TC55V328AJ-20	
Toshiba Corp	FULL	TC55V328AJ-15	

Data SRAM (32Kx8, 15ns, 3.3V)

Vendor	Test	Vendor Part Number	Comments
Alliance Semiconductor Corp.	FULL	AS7C3256-15JC	Rev G Tested
ldt	FULL	IDT71V256SL15Y	
ldt	FULL	IDT71V256SA-15Y	
Motorola	FULL	MCM6306DJ-15	
Samsung Corning Co.,Ltd	FULL	KM68V257CJ-15T	
Toshiba Corp	FULL	TC55V328J-15 (EL)	
Toshiba Corp	FULL	TC55V328AJ-15	

Data SRAM (64Kx8, 20ns, 3.3V)

Vendor	Test	Vendor Part Number	Comments

Data SRAM (64Kx8, 15ns, 3.3V)

Vendor	Test	Vendor Part Number	Comments	

RTC BATTERY

The battery can be replaced with the following batteries:

APPROVED BATTERY VENDORS

Vendor	Test	Vendor Part Number	Comments				
Battery, Coin cell, CR2032							
Maxell Corporation	FULL	CR2032					
Panasonic Industrial Company	FULL	CR2032					
Renata Batteries U.S.	FULL	CR2032					
Sanyo Energy Corp	FULL	CR2032					
Sony Corp	FULL	CR-2032					

OVERDRIVE PROCESSOR SUPPORT MATRIX

The information below describes the specific OPSD systems that support the OverDrive 320-pin PODP 3V-XXX processors which can be accommodated in a 320 pin Type 5 Socket or a 321 pin Type 7 Socket. The tables list the jumper settings required for the selected OverDrive processor. These OverDrive processors select their clock ratios internally and do not use the baseboard's internal clock ratio jumpers. These OverDrive processors work over a voltage range that includes both VR and VRE voltage ranges, therefore the user does not need to change the voltage specification jumpers on the baseboard.

For any particular baseboard, the type and speed of memory and/or the speed of the cache components that are used on the baseboard, may limit a baseboards' maximum achievable External CPU Clock speed. This would then limit the selection of Pentium OverDrive processor that could be used to full effect on this particular baseboard. Use the current external CPU clock settings as a guide in selecting a compatible selection for a Pentium OverDrive processor speed.

The Advanced/ZE baseboard comes in two configurations, a 320-pin Type 5 Zero Insertion Force (ZIF) socket or a 321 pin Type 7 Zero Insertion Force (ZIF) socket. Either configuration provides users with a Pentium OverDrive processor performance upgrade path.

PROCESSOR UPGRADES	Original	External CPU Clock	External CPU Clock Switch/ Jumper	External Clock Switch/ Jumper
	CPU Type	Speed	Switch 7	Switch 8
CPU Type		,		
Intel PODP 3V - 125 MHz	75 MHz	50 MHz	on	off
Intel PODP 3V - 150 MHz	90 MHz	60 MHz	off	off
Intel PODP 3V - 166 MHz	100 MHz	66 MHz	on	on

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