

Performance/Mainstream Desktop Chipsets								
	Intel® 850E Chipset	Intel® 850 Chipset	Intel® 845PE Chipset	Intel® 845GE Chipset	Intel® 845G Chipset	Intel® 845E Chipset	Intel® 845GV Chipset	Intel® 845 Chipset
HOST	850E Chipset	850 Chipset	845PE Chipset	845GE Chipset	845G Chipset	845E Chipset	845GV Chipset	845 Chipset
Target Segment	Entry-level Workstation, Performance PC, Mainstream PC	Entry-level Workstation, Performance PC, Mainstream PC	Mainstream PC	Mainstream PC	Performance PC, Mainstream PC	Performance PC, Mainstream PC	Mainstream PC Value PC	Mainstream PC Value PC
Processor	Pentium® 4 or Celeron® processor	Pentium® 4 or Celeron® processor	Pentium® 4 or Celeron® processor	Pentium® 4 or Celeron® processor	Pentium® 4 or Celeron® processor	Pentium® 4 or Celeron® processor	Pentium® 4 or Celeron® processor	Pentium® 4 or Celeron® processor
System Bus	533/400 MHz (data)	400MHz (data)	533/400 MHz (data)	533/400 MHz (data)	533/400 MHz (data)	533/400 MHz (data)	533/400 MHz (data)	400MHz (data)
Processor Package	mPGA478	mPGA478, mPGA423	mPGA478	mPGA478	mPGA478	mPGA478	mPGA478	mPGA478
Number Processors	1	1	1	1	1	1	1	1
MEMORY CONTROLLER HUB	850E Chipset	850 Chipset	845PE Chipset	845GE Chipset	845G Chipset	845E Chipset	845GV Chipset	845 Chipset
Type	82850E MCH	82850 MCH	82845PE MCH	82845GE GMCH	82845G GMCH	82845E MCH	82845GV GMCH	82845 MCH
Package	615 OLGA	615 OLGA	760 FC-BGA	760 FC-BGA	760 FC-BGA	FC-BGA 593	760 FC-BGA	FC-BGA 593
MEMORY	850E Chipset	850 Chipset	845PE Chipset	845GE Chipset	845G Chipset	845E Chipset	845GV Chipset	845 Chipset
Memory Modules	4 RIMMs	4 RIMMs	2 double-sided DDR DIMMs	2 double-sided DDR DIMMs	2 double-sided DDR DIMMs, 2 double-sided SDR DIMMs	2 double-sided DDR DIMMs	2 double-sided DDR DIMMs or SDR DIMMs	2 double-sided DDR DIMMs, 3 double-sided SDR DIMMs
Memory Type	PC1066 PC800-40 PC800-45 RDRAM	PC800-40 PC800-45 PC600-40 RDRAM	DDR 333/266	DDR 333/266	DDR 266/200 PC133 SDRAM	DDR 266/200	DDR 266/200 PC133 SDRAM	DDR 266/200 PC133 SDRAM
FSB/Memory Configurations	533/PC1066 533/PC800-40 400/PC800-45 400/PC800-40	400/PC800-45 400/PC800-40 400/PC600-40	533/333 533/266 400/266	533/333 533/266 400/266	533/266 533/200 400/266 400/200 400/133	533/266 533/200 400/266 400/200	533/266 533/200 400/266 400/200 400/133	400/266 400/200 400/133
Max Memory	2 GB (1.5 GB - PC1066)	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB	2 GB (3 GB - PC133)
Mbit Support	288/256 Mbit, 144/128 Mbit	288/256 Mbit, 144/128 Mbit	512/256/128 Mbit	512/256/128 Mbit	512/256/128 Mbit	512/256/128 Mbit	215/256/128 Mbit	512/256/128/64 Mbit
Error Correction	ECC/Non-ECC	ECC/Non-ECC	Non-ECC	Non-ECC	Non-ECC	ECC/Non-ECC	Non-ECC	ECC/Non-ECC
EXTERNAL GRAPHICS	850E Chipset	850 Chipset	845PE Chipset	845GE Chipset	845G Chipset	845E Chipset	845GV Chipset	845 Chipset
Interface	AGP4X (1.5V)	AGP4X (1.5V)	AGP4X (1.5V)	AGP4X (1.5V)	AGP4X (1.5V)	AGP4X (1.5V)	N/A	AGP4X (1.5V)
INTEGRATED GRAPHICS	850E Chipset	850 Chipset	845PE Chipset	845GE Chipset	845G Chipset	845E Chipset	845GV Chipset	845 Chipset
Type	N/A	N/A	N/A	Intel® Extreme Graphics	Intel® Extreme Graphics	N/A	Intel® Extreme Graphics	N/A
Core Speed	N/A	N/A	N/A	266 MHz	200 MHz	N/A	200 MHz	N/A
Max Dynamic Video Memory	N/A	N/A	N/A	64MB ¹ if >=256MB RAM, 32MB if 128 to 255MB RAM	64MB ¹ if >=256MB RAM, 32MB if 128 to 255MB RAM	N/A	64MB ¹ if >=256MB RAM, 32MB if 128 to 255MB RAM	N/A
Zone Rendering	N/A	N/A	N/A	Yes	Yes	N/A	Yes	N/A
Video / Display	N/A	N/A	N/A	350MHz DAC 2x12bit DVO ²	350MHz DAC 2x12bit DVO ²	N/A	350MHz DAC 2x12bit DVO ²	N/A
I/O CONTROLLER HUB	850E Chipset	850 Chipset	845PE Chipset	845GE Chipset	845G Chipset	845E Chipset	845GV Chipset	845 Chipset
Type	ICH2	ICH2	ICH4	ICH4	ICH4	ICH4	ICH4	ICH2
ICH Package	360 EBGA	360 EBGA	421 µBGA	421 µBGA	421 µBGA	421 µBGA	421 µBGA	360 EBGA
PCI Support	PCI 2.2	PCI 2.2	PCI 2.2	PCI 2.2	PCI 2.2	PCI 2.2	PCI 2.2	PCI 2.2
PCI Masters	6	6	6	6	6	6	6	6
IDE	ATA/100 IAA ³	ATA/100 IAA ³	ATA/100 IAA ³	ATA/100 IAA ³	ATA/100 IAA ³	ATA/100 IAA ³	ATA/100 IAA ³	ATA/100 IAA ³
USB Ports/Controllers	4 ports, USB 1.1	4 ports, USB 1.1	6 ports, Hi-Speed USB 2.0	6 ports, Hi-Speed USB 2.0	6 ports, Hi-Speed USB 2.0	6 ports, Hi-Speed USB 2.0	6 ports, Hi-Speed USB 2.0	4 ports, USB 1.1
LAN MAC/PNA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AC'97	Yes	Yes	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Yes
I/O Management	SMBus / GPIO	SMBus / GPIO	SMBus 2.0 / GPIO	SMBus 2.0 / GPIO	SMBus 2.0 / GPIO	SMBus 2.0 / GPIO	SMBus 2.0 / GPIO	SMBus / GPIO

¹64MB of Dynamic Video Memory with [Intel® Extreme Graphics Driver, version 11.1 or later](#).

²DVO = Intel® Digital Video Output Interface enables connection to TV or flat-panel displays

³[Intel® Application Accelerator](#): Accelerate boot time and disk I/O. Performs best on Pentium® 4 processor platforms.

The Intel® Pentium® 4 processor, Pentium® III Xeon™ processor, Xeon™ processor, Pentium® III processor, Celeron® processor, Intel® 860 chipset, Intel® 850 chipset, Intel® 850E chipset, Intel® 850G chipset, and Intel® 845 chipset may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

	Value Desktop Chipsets					
	Intel® 845GV Chipset	Intel® 845 Chipset	Intel® 845GL Chipset	Intel® 815E Chipset	Intel® 815 Chipset	Intel® 815EP Chipset
HOST	845GV Chipset	845 Chipset	845GL Chipset	815E Chipset	815 Chipset	815EP Chipset
Target Segment	Mainstream PC Value PC	Mainstream PC Value PC	Value PC	Value PC	Value PC	Value PC
Processor	Pentium® 4 or Celeron® processor	Pentium® 4 or Celeron® processor	Celeron® or Pentium® 4 Processor	Celeron® or Pentium® III Processor(.13µ and .18µ)	Celeron® or Pentium® III Processor(.13µ and .18µ)	Celeron® or Pentium® III Processor(.13µ and .18µ)
System Bus	533/400 MHz (data)	400MHz (data)	400 MHz (data)	133/100/66 MHz	133/100/66 MHz	133/100/66 MHz
Processor Package	mPGA478	mPGA478	mPGA478	PGA370	PGA370	PGA370
Number Processors	1	1	1	1	1	1
MEMORY CONTROLLER HUB	845GV Chipset	845 Chipset	845GL Chipset	815E Chipset	815 Chipset	815EP Chipset
Type	82845GV GMCH	82845 MCH	82845GL MCH	82815 GMCH	82815 GMCH	82815EP MCH
Package	760 FC-BGA	FC-BGA 593	760 FC-BGA	544 BGA	544 BGA	544 BGA
MEMORY	845GV Chipset	845 Chipset	845GL Chipset	815E Chipset	815 Chipset	815EP Chipset
Memory Modules	2 double-sided DDR DIMMs or SDR DIMMs	2 double-sided DDR DIMMs, 3 double-sided SDR DIMMs	2 double-sided DIMMs DDR or SDR	3 DIMMs	3 DIMMs	3 DIMMs
Memory Type	DDR 266/200 PC133 SDRAM	DDR 266/200 PC133 SDRAM	DDR 266/200, PC133 SDRAM	PC133/100 SDRAM	PC133/100 SDRAM	PC133/100 SDRAM
FSB/Memory Configurations	533/266 533/200 400/266 400/200 400/133	400/266 400/200 400/133	400/266 400/200 400/133	133/133 100/100 66/100	133/133 100/100 66/100	133/133 100/100 66/100
Max Memory	2 GB	2 GB	2 GB	512 MB	512 MB	512 MB
Mbit Support	215/256/128 Mbit	512/256/128/64 Mbit	512/256/128 Mbit	256/128/64/16 Mbit	256/128/64/16 Mbit	256/128/64/16 Mbit
Error Correction	Non-ECC	ECC/Non-ECC	Non-ECC	Non-ECC	Non-ECC	Non-ECC
EXTERNAL GRAPHICS	845GV Chipset	845 Chipset	845GL Chipset	815E Chipset	815 Chipset	815EP Chipset
Interface	N/A	AGP4X (1.5V)	N/A	AGP 4X/2X	AGP 4X/2X	AGP 4X/2X
INTEGRATED GRAPHICS	845GV Chipset	845 Chipset	845GL Chipset	815E Chipset	815 Chipset	815EP Chipset
Type	Intel® Extreme Graphics	N/A	Intel® Extreme Graphics	Intel® 3D with Direct AGP	Intel® 3D with Direct AGP	N/A
Core Speed	200 MHz	N/A	N/A	133 MHz	133 MHz	N/A
Max Dynamic Video Memory	64MB ¹ if >=256MB RAM, 32MB if 128 to 255MB RAM	N/A	64MB ¹ if > 128MB RAM, 32MB if <= 128MB RAM	32MB	32MB	N/A
Zone Rendering	Yes	N/A	Yes	N/A	N/A	N/A
Video / Display Interface	350MHz DAC 2x12bit DVO ²	N/A	350MHz DAC 2x12bit DVO ²	230MHz DAC 1x12bit DVO ²	230MHz DAC 1x12bit DVO ²	N/A
I/O CONTROLLER HUB	845GV Chipset	845 Chipset	845GL Chipset	815E Chipset	815 Chipset	815EP Chipset
Type	ICH4	ICH2	ICH4	ICH2	ICH	ICH2
Package	421 µBGA	360 EBGA	421 µBGA	360 EBGA	241 BGA	360 EBGA
PCI Masters	6	6	6	6	6	6
PCI Support	PCI 2.2	PCI 2.2	PCI 2.2	PCI 2.2	PCI 2.2	PCI 2.2
IDE	ATA/100 IAA ³	ATA/100 IAA ³	ATA/100 IAA ³	ATA/100 IAA ³	ATA/66	ATA/100 IAA ³
USB	6 ports, Hi-Speed USB 2.0	4 ports, USB 1.1	6 ports, Hi-Speed USB 2.0	4 ports, USB 1.1	2 ports, USB 1.1	4 ports, USB 1.1
LAN MAC/PNA	Yes	Yes	Yes	Yes	No	Yes
AC'97 Digital Circuits	Enhanced 20-bit Audio	Yes	Yes	Yes	Yes	Yes
MANAGEABILITY	845GV Chipset	845 Chipset	845GL Chipset	815E Chipset	815 Chipset	815EP Chipset
I/O Management	SMBus 2.0 / GPIO	SMBus / GPIO	SMBus 2.0 / GPIO	SMBus / GPIO	SMBus / GPIO	SMBus / GPIO

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The Intel® Celeron™ processor, Intel® 845GL chipset, Intel® 815E chipset, Intel® 815 chipset, Intel® 815EP chipset, Intel® 810E2 chipset and Intel® 810E Chipset may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Server/Workstation Chipsets							
	Intel® E7205 Chipset	Intel® 860 Chipset	Intel® E7505 Chipset	Intel® E7500 Chipset	Intel® E7501 Chipset	Intel® 460GX Chipset	Intel® E8870 Chipset
HOST	E7205 Chipset	860 Chipset	E7505 Chipset	E7500 Chipset	E7501 Chipset	460GX Chipset	E8870 Chipset
Target Segment	Entry-level Workstation, Performance PC, High-End Desktop	Workstation	Workstation	Server	Server	Server & Workstation	Server
Processor	Pentium® 4 processor	Intel® Xeon™ processor for DP workstations	Intel® Xeon™ processor with 533 MHz System Bus and 512K L2 Cache	Intel® Xeon™ processor with 512KB L2 cache	Intel® Xeon™ processor with 533 MHz System Bus and 512K L2 Cache	Intel® Itanium® processor	Intel® Itanium® 2 processor
Number Processors	1	1-2	1-2	1-2	1-2	1-4	1-4
System Bus	533/400 MHz (data)	400MHz (data)	400/533MHz (data)	400 MHz	400/533MHz (data)	266/133 MHz	400 MHz (data)
MEMORY CONTROLLER HUB	E7205 Chipset	860 Chipset	E7505 Chipset	E7500 Chipset	E7501 Chipset	460GX Chipset	E8870 Chipset
Type	E7205 MCH	82860 MCH	E7505 MCH	E7500 MCH	E7501 MCH	82461GX, 82462GX	SNC
Package	1005 FC-BGA	1024 OLGA	1005 FC-BGA	1005 FC-BGA	1005 FC-BGA	567 OLGA	1357 OLGA-2B 12L
MEMORY	E7205 Chipset	860 Chipset	E7505 Chipset	E7500 Chipset	E7501 Chipset	460GX Chipset	E8870 Chipset
Memory Modules	4 DIMMs	4 RIMMs, up to 8 RIMMs with MRH-R	72-bit wide DDR SDRAM DIMM populated in pairs (single channel)	72-bit wide DDR SDRAM DIMM (single channel)	4 double-sided DIMMs	72-bit wide DDR SDRAM DIMM populated in quads	72-bit/64-bit wide DDR SDRAM DIMM populated in pairs Registered and Unbufferd Support
Memory Type	unbuffered only x72 or x64 DIMMs DDR - SDRAM	PC800/600 RDRAM	DDR 200/266 - SDRAM (PC1600/2100 - 6 DIMM registered, 4 DIMM unbuffered)	DDR 200 - SDRAM (PC1600 - 8 DIMM registered)	DDR 200/266 - SDRAM (PC1600/2100 - 8 DIMM registered for dual channel - 4 DIMM registered for single channel)	PC100 SDRAM	DDR SDRAM
Max Memory	4 GB	4 GB (w/ 2 repeaters)	16 GB	16 GB	16 GB	64 GB	128 GB (w/4 DDR Memory Hubs)
Number of Rows/Devices	1-4 physical rows, 2-4 DIMMs	32 RDRAM/channel	1-6 physical rows, 2-6 DIMMs	1-4 physical rows, 2-8 DIMMs	1-4 physical rows, 2-8 DIMMs (dual channel); 1-4 DIMMs (single channel)	32 DIMMs/memory card	32 DIMMs
Mbit Support	512/256/128 Mbit	288/256 Mbit, 144/128 Mbit	1-Gb or 512/256/128 Mbit	512/256/128/64 Mbit	512/256/128 Mbit	256/128/64 Mbit	512/256/128 Mbit and 1 Gbit
ECC/Parity	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EXTERNAL GRAPHICS	E7205 Chipset	860 Chipset	E7505 Chipset	E7500 Chipset	E7501 Chipset	460GX Chipset	E8870 Chipset
Interface	AGP 8X/4X (0.8V) AGP 4X/2X/1X (1.5V)	AGP 4X/2X (1.5V)	AGP 8X/4X (0.8V) or AGP4X/2X/1X (1.5V)	N/A	N/A	AGP 4X/2X	N/A
I/O CONTROLLER HUB	E7205 Chipset	860 Chipset	E7505 Chipset	E7500 Chipset	E7501 Chipset	460GX Chipset	E8870 Chipset
Type	ICH4	ICH2	ICH4 (82801DB)	ICH3-S	ICH3-S	IFB	SIOH
ICH Package	421 BGA	360 EBGA	421 BGA	421 BGA	421 BGA	324 BGA	1012 OLGA2b
PCI Support	PCI 2.2	PCI 2.2	Single 32-bit PCI segment. PCI 2.2 compliant.	Single 32-bit PCI segment. PCI 2.2 compliant.	Single 32-bit PCI segment. PCI 2.2 compliant.	PCI 2.2	Up to four 64-bit PCI/PCI-X controllers (P64H2) via HI 2.0 interface; maximum bandwidth greater than 1 GB/s per interface
PCI Masters	6	6	6	6	6	N/A	Each P64H2 contains two independent 64-bit channels, capable of 133MHz PCI-X
IDE	ATA/100 IAA ²	ATA/100 IAA ¹	ATA/100	ATA/100	ATA/100	ATA/33	ATA/100
USB Ports/Controllers	6 ports, USB 2.0	4 ports, USB 1.1	3 controllers: 6 ports, USB 1.1	3 controllers: 6 ports	3 controllers: 6 ports, USB 1.1	1 controller: 2 ports	3 UHCI controllers; 1 EHCI controller for USB2.0 support: 6 ports
LAN MAC/PNA	Yes	Yes	Integrated 10/100	Integrated 10/100	Integrated 10/100	No	N/A
AC'97 Digital Circuits	Yes	Audio/Modem	AC'97 2.2 compliant	AC'97 2.2 compliant	AC'97 2.2 compliant	Audio/Modem	AC'97 2.2 compliant
Manageability	E7205 Chipset	860 Chipset	E7505 Chipset	E7500 Chipset	E7501 Chipset	460GX Chipset	E8870 Chipset
I/O Management	SMBus / GPIO	SMBus / GPIO	SMBus 2.0 Support/ GPIO	SMBus / GPIO	SMBus / GPIO	SMBus / GPIO	SMBus / GPIO
Workstation/Server I/O Expansion	E7205 Chipset	860 Chipset	E7505 Chipset	E7500 Chipset	E7501 Chipset	460GX Chipset	E8870 Chipset
PCI Controller Type	N/A	PCI/Hub Interface Bridge, 64/32 bit (P64H)>	PCI/PCI-X 64-bit Hub 2.0 (P64H2)	PCI/PCI-X 64-bit Hub 2.0 (P64H2)	PCI/PCI-X 64-bit Hub 2.0 (P64H2)	PCI eXpander Bridge (PXB), Wide and fast PCI eXpander Bridge (WXB)	PCI/PCI-X 64-bit Hub 2.0 (P64H2)
Package		241 BGA	567 FC-BGA	567 FC-BGA	567 FC-BGA	540 PLGA, 567 OLGA1	567 FC-BGA
PCI Support	N/A	2-66MHz or 4-33 MHz PCI slots	Up to three 64-bit PCI/PCI-X Controller Hub 2.0 components, each with a maximum bandwidth greater than 1 GB/s.	Up to three 64-bit PCI/PCI-X Controller Hub 2.0 each maximum bandwidth greater than 1 GB/s.	Up to three 64-bit PCI/PCI-X Controller Hub 2.0 components, each with a maximum bandwidth greater than 1 GB/s.	One PXB and up to three WXB's	Up to four 64-bit PCI/PCI-X Controller Hub 2.0 each maximum bandwidth greater than 1 GB/s.
PCI Masters	N/A	Up to 6 PCI devices	Each P64H2 contains two independent 64-bit PCI/PCI-X interfaces. The PCI interface maximum bus speed is 66MHz. The PCI-X interface maximum bus speed is 133MHz.	Each P64H2 contains two independent 64-bit PCI/PCI-X interfaces. The PCI interface maximum bus speed is 66MHz. The PCI-X interface maximum bus speed is 133MHz.	Each P64H2 contains two independent 64-bit PCI/PCI-X interfaces. The PCI interface maximum bus speed is 66MHz. The PCI-X interface maximum bus speed is 133MHz.	The PXB supplies two 32-bit, 33MHz PCI interfaces. Each WXB supplies two 64-bit, 66MHz interfaces	Each P64H2 contains two independent 64-bit of maximum 133MHz PCI-X interface.
RASUM	N/A	N/A	Memory ECC, Intel® x4 Single Device Data Correction (Intel® x4 SDDC) **, Hub Interface ECC, Hardware Memory Scrubbing	Memory ECC, Intel® x4 Single Device Data Correction (Intel® x4 SDDC) **, Hub Interface ECC, Hardware Memory Scrubbing	Memory ECC, Intel® x4 Single Device Data Correction (Intel® x4 SDDC) **, Hub Interface ECC, Hardware Memory Scrubbing	N/A	Hot Plug Modules for processor and memory, ECC protection & correction, Memory Scrubbing, Memory Device Failure Recovery (MDFR), Multiple redundant I/O paths and Error Logging
Hyper-Threading Technology	E7205 Chipset	860 Chipset	E7505 Chipset	E7500 Chipset	E7501 Chipset	460GX Chipset	E8870 Chipset
Hyper-Threading Technology Support	Yes	No	Yes	Yes	Yes	No	No

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** In a x4 DDR memory device, the Intel® x4 Single Device Data Correction (Intel® x4 SDDC), provides error detection and correction for 1,2, 3, or 4 data bits within that single device and provides error detection, up to 8 data bits within two devices.

The Intel® Xeon™ processor, Intel® Itanium processor, Intel® Itanium 2 processor, Intel® E7500 chipset, Intel® E8870 chipset, Intel® 460GX chipset and Intel® 860 chipset may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.