

Quick Start Guide

Viglen Product description: Intel DQ963GS Motherboard

Viglen Order Code: PMPGS001

Viglen System: Genie (s775)






Product Specification


Motherboard Form Factor	microATX (243.84 millimetres [9.60 inches] x 243.84 millimetres [9.60 inches])																																												
Motherboard chipset	Intel® Q963 Express Chipset, consisting of: <ul style="list-style-type: none"> • Intel® 82Q963 Graphics and Memory Controller Hub (GMCH) • Intel® 82801HB I/O Controller Hub (ICH8) 																																												
CPU connector type (s370, slot1 etc)	LGA 775																																												
Number of CPUs supported	1																																												
If >1 does it require a terminator?	N/A																																												
Supported CPU types (C, P3 or P4 etc)	Support for the following: <ul style="list-style-type: none"> • Intel® Core™2 Duo processor with 1066 or 800 MHz system bus • Intel® Pentium® D processor with 800 or 533 MHz system bus • Intel® Pentium® 4 processor with 800 or 533 MHz system bus • Intel® Celeron® D processor with 533 MHz system bus 																																												
Supported CPU speeds	<table border="1"> <thead> <tr> <th><u>CPU No.</u></th> <th><u>CPU speed</u></th> <th><u>FSB</u></th> <th><u>L2 cache</u></th> </tr> </thead> <tbody> <tr> <td>E6300- E6400</td> <td>1.86 –2.13GHz</td> <td>1066MHz</td> <td>2MB</td> </tr> <tr> <td>E6600- E6700</td> <td>2.40--2.66GHz</td> <td>1066Mhz</td> <td>4MB</td> </tr> <tr> <td>805</td> <td>2.66GhZ</td> <td>533MHz</td> <td>2MB</td> </tr> <tr> <td>820</td> <td>2.80Ghz</td> <td>800MHz</td> <td>2MB</td> </tr> <tr> <td>915-960</td> <td>2.80GHz-3.60GHz</td> <td>800MHz</td> <td>4MB</td> </tr> <tr> <td>524</td> <td>3.20GHz</td> <td>533MHz</td> <td>1MB</td> </tr> <tr> <td>520-551</td> <td>2.80GH – 3.40ghz</td> <td>800MHz</td> <td>1MB</td> </tr> <tr> <td>620-662</td> <td>2.80GHz-3.60GHz</td> <td>800MHz</td> <td>2MB</td> </tr> <tr> <td>320-355</td> <td>2.40-3.33GHz</td> <td>533MHz</td> <td>256KB</td> </tr> <tr> <td>352,356,360</td> <td>3.20,-3.46GHz</td> <td>533MHz</td> <td>512KB</td> </tr> </tbody> </table>	<u>CPU No.</u>	<u>CPU speed</u>	<u>FSB</u>	<u>L2 cache</u>	E6300- E6400	1.86 –2.13GHz	1066MHz	2MB	E6600- E6700	2.40--2.66GHz	1066Mhz	4MB	805	2.66GhZ	533MHz	2MB	820	2.80Ghz	800MHz	2MB	915-960	2.80GHz-3.60GHz	800MHz	4MB	524	3.20GHz	533MHz	1MB	520-551	2.80GH – 3.40ghz	800MHz	1MB	620-662	2.80GHz-3.60GHz	800MHz	2MB	320-355	2.40-3.33GHz	533MHz	256KB	352,356,360	3.20,-3.46GHz	533MHz	512KB
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Front side bus speed	1066MHz, 800MHz and 533MHz																																												
Number of PCI slots	2																																												
PCI slot speeds	33MHz																																												
Number of PCI-E slots	1 x PCI-e x1																																												
Number of AGP slots	0																																												
Number of AMR slots	0																																												
Additional slots	0																																												
On board video fitted? Type	Intel® GMA 3000 onboard graphics subsystem																																												
Ram size?	Shared system Memory (Max 256MB)																																												
Upgradeable?	N/A																																												
Onboard audio fitted? Type	6-channel (5.1) onboard subsystem, featuring: <ul style="list-style-type: none"> • Intel® High Definition Audio interface • SigmaTel* STAC9227 audio codec • HD Audio Link header 																																												
Front facing audio header and type	Yes																																												
Audio Upgradeable?	Yes via PCI																																												
Onboard network fitted? Type	Gigabit (10/100/1000 Mbits/sec) LAN subsystem using the Intel® 82566DC Gigabit Ethernet Controller																																												
Number of network	1																																												

connections?		
Upgradeable?	Yes via PCI	
Onboard SCSI fitted? Type	No	
No of channels?	N/A	
Manufacturer?	N/A	
Model Number?	N/A	
Speed?	N/A	
Number of IDE channels	One Parallel ATA IDE interface with UDMA 33, ATA-66/100/133 support	
Maximum number of disks	2	
Number of SATA Channels	Four Serial ATA (SATA) channels (3.0GB/s), via the ICH8, one device per channel.	
Diskette drive Interface	1	
Internal connectors	2 x USB connectors for 4 additional USB 2.0 devices	1 x Serial port header
	1 x HD Audio Link Header	1 x Front panel audio header
Rear I/O connectors	1 x Parallel Port	1 x RJ045 LAN Port
	1 x VGA port	1 x Audio In
	6 x USB 2.0 ports	1 x Audio Out
	2 x PS/2 Ports	1 x MIC
Memory type	DDR2 Supports: <ul style="list-style-type: none"> • Unbuffered, non-registered single or double-sided DIMMs • Non-ECC memory • Serial Presence Detect (SPD) memory only 	
For RIMMs install CRIMM in empty sockets	N/A	
Number of memory sockets	Four 240-pin DDR2 1.8 V SDRAM Dual Inline memory Module (DIMM) sockets	
Maximum memory support	• Support up to 8GB of system memory using DDR2 533 or DDR2 667 DIMMS	
Supported memory speed	DDR2 533/667 MHz single or Dual channel DDR2 DIMMS	
BIOS	<ul style="list-style-type: none"> • Intel® BIOS (resident in the SPI Flash device) • Support for Advanced Configuration and Power Interface (ACPI), Plug and Play, 	
Instantly Available PC Technology	<ul style="list-style-type: none"> • Support for PCI Local Bus Specification Revision 2.3 • Support for PCI Express Revision 1.0a • Suspend to RAM support • Wake on PCI, RS-232, front panel, PS/2 devices, and USB ports 	
Hardware Monitor Subsystem	<ul style="list-style-type: none"> • Intel® Quiet System Technology implemented through ICH8 • Voltage sense to detect out of range power supply voltages • Thermal sense to detect out of range thermal values • Three fan headers • Three fan sense inputs used to monitor fan activity 	
MTBF	130,087 hours.	

Supported CPU List in Detail

See the table below for a complete list of supported processors.

Processor Family	Processor Number	Processor Speed	System Bus Frequency	L2 Cache Size
 Intel® Core™2 Duo	E6700	2.66 GHz	1066 MHz	4 MB
	E6600	2.40 GHz	1066 MHz	4 MB
	E6400	2.13 GHz	1066 MHz	2 MB
	E6300	1.86 GHz	1066 MHz	2 MB
 Intel® Pentium® D	960	3.60 GHz	800 MHz	2x2 MB
	950	3.40 GHz	800 MHz	2x2 MB
	945	3.40 GHz	800 MHz	2x2 MB
	940	3.20 GHz	800 MHz	2x2 MB
	930	3 GHz	800 MHz	2x2 MB
	925	3 GHz	800 MHz	2x2 MB
	920	2.80 GHz	800 MHz	2x2 MB
	915	2.80 GHz	800 MHz	2x2 MB
	820	2.80 GHz	800 MHz	2x1 MB
	805	2.66 GHz	533 MHz	2x1 MB
 Intel® Pentium® 4	662	3.60 GHz	800 MHz	2 MB
	661	3.60 GHz	800 MHz	2 MB
	651	3.40 GHz	800 MHz	2 MB
	650	3.40 GHz	800 MHz	2 MB
	641	3.20 GHz	800 MHz	2 MB
	640	3.20 GHz	800 MHz	2 MB
	631	3 GHz	800 MHz	2 MB
	630	3 GHz	800 MHz	2 MB
	620	2.80 GHz	800 MHz	2 MB
	551	3.40 GHz	800 MHz	1 MB
	550J	3.40 GHz	800 MHz	1 MB
	550	3.40 GHz	800 MHz	1 MB
	541	3.20 GHz	800 MHz	1 MB
	540J	3.20 GHz	800 MHz	1 MB
	540	3.20 GHz	800 MHz	1 MB
	531	3 GHz	800 MHz	1 MB
	530J	3 GHz	800 MHz	1 MB

	530	3 GHz	800 MHz	1 MB
	521	2.80 GHz	800 MHz	1 MB
	520J	2.80 GHz	800 MHz	1 MB
	520	2.80 GHz	800 MHz	1 MB
	524	3.20 GHz	533 MHz	1 MB
 Intel® Celeron® D	360	3.46 GHz	533 MHz	512 KB
	356	3.33 GHz	533 MHz	512 KB
	355	3.33 GHz	533 MHz	256 KB
	352	3.20 GHz	533 MHz	512 KB
	347	3.06 GHz	533 MHz	256 KB
	350	3.20 GHz	533 MHz	256 KB
	346	3.06 GHz	533 MHz	256 KB
	345J	3.06 GHz	533 MHz	256 KB
	341	2.93 GHz	533 MHz	256 KB
	340J	2.93 GHz	533 MHz	256 KB
	336	2.80 GHz	533 MHz	256 KB
	335	2.80 GHz	533 MHz	256 KB
	330-331	2.66 GHz	533 MHz	256 KB
	325-326	2.53 GHz	533 MHz	256 KB
	320	2.40 GHz	533 MHz	256 KB

- System Board Components

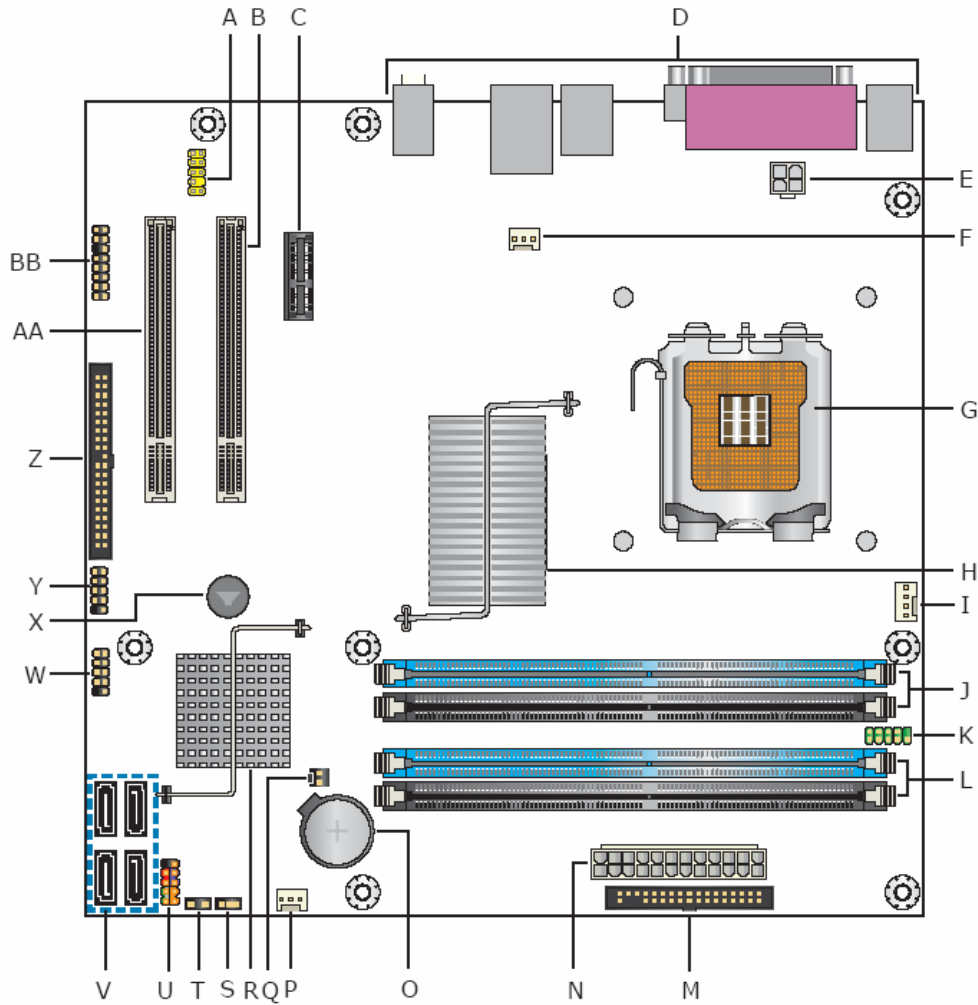


Figure 1 - Motherboard Layout & Components

Table 1

Item	Description	Item	Description
A	Front panel audio header	P	Front chassis fan header
B	PCI Conventional bus add-in card connector 1	Q	Chassis intrusion header
C	PCI Express x1 connector	R	Intel 82801HO I/O Controller Hub (ICH8DO)
D	Back panel connectors	S	BIOS Setup configuration jumper block
E	Processor core power connector	T	Auxiliary front panel power LED header
F	Rear chassis fan header	U	Front panel header
G	LGA775 processor socket	V	Serial ATA connectors [4]
H	Intel 82Q963 GMCH	W	Front panel USB header
I	Processor fan header	X	Speaker
J	DIMM Channel A sockets	Y	Front panel USB header
K	Serial port header	Z	Parallel ATE IDE connector
L	DIMM Channel B sockets	AA	PCI Conventional bus add-in card connector 2
M	Diskette drive connector	BB	High Definition Audio header
N	Main Power connector	-	-
O	Battery	-	-

- **Back Panel Connectors 5.1 SigmaTel audio STAC9227**

The Motherboard external IO connectors are attached to a metallic I/O shield. This shield serves several purposes:

- It protects the sensitive Motherboard from any external EMC interference.
- It stops the computer from interfering with other electrical devices.
- It allows the Motherboard to be easily upgraded in the future without having to resort to buying a whole new case. Simply change the I/O shield to match the Motherboard.

The I/O shield provides external access to onboard VGA port, Parallel Port, six USB connectors as well as one LAN Port and audio connectors.

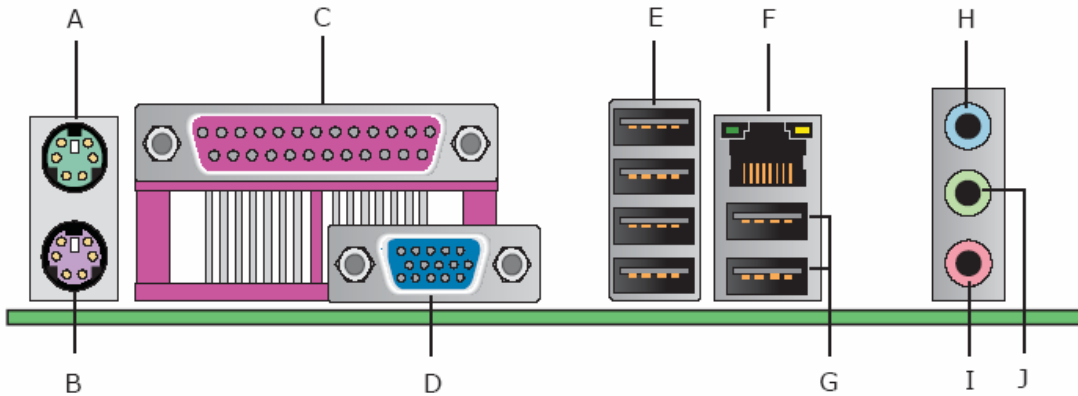


Figure 2 - Back Panel Connectors

Table 2

Item	Description	Item	Description
A	PS/2 Mouse Port	F	LAN (RJ45)
B	PS/2 Keyboard Port	G	USB 2.0 ports (2)
C	Parallel port (Burgundy)	H	Audio line in/Retasking Jack [Blue]
D	VGA port (blue)	I	Line out/retasking jack [Green]
E	USB 2.0 ports (4)	J	Mic in/retasking jack [Pink]
		-	-

- **Internal headers**

There are connector headers on the motherboard for Front Panel, Alternative front panel Power LED, USB1/USB2, HD Audio Link, Audio and Serial connector headers. The location and or details of these internal headers are shown below (Figure 3).

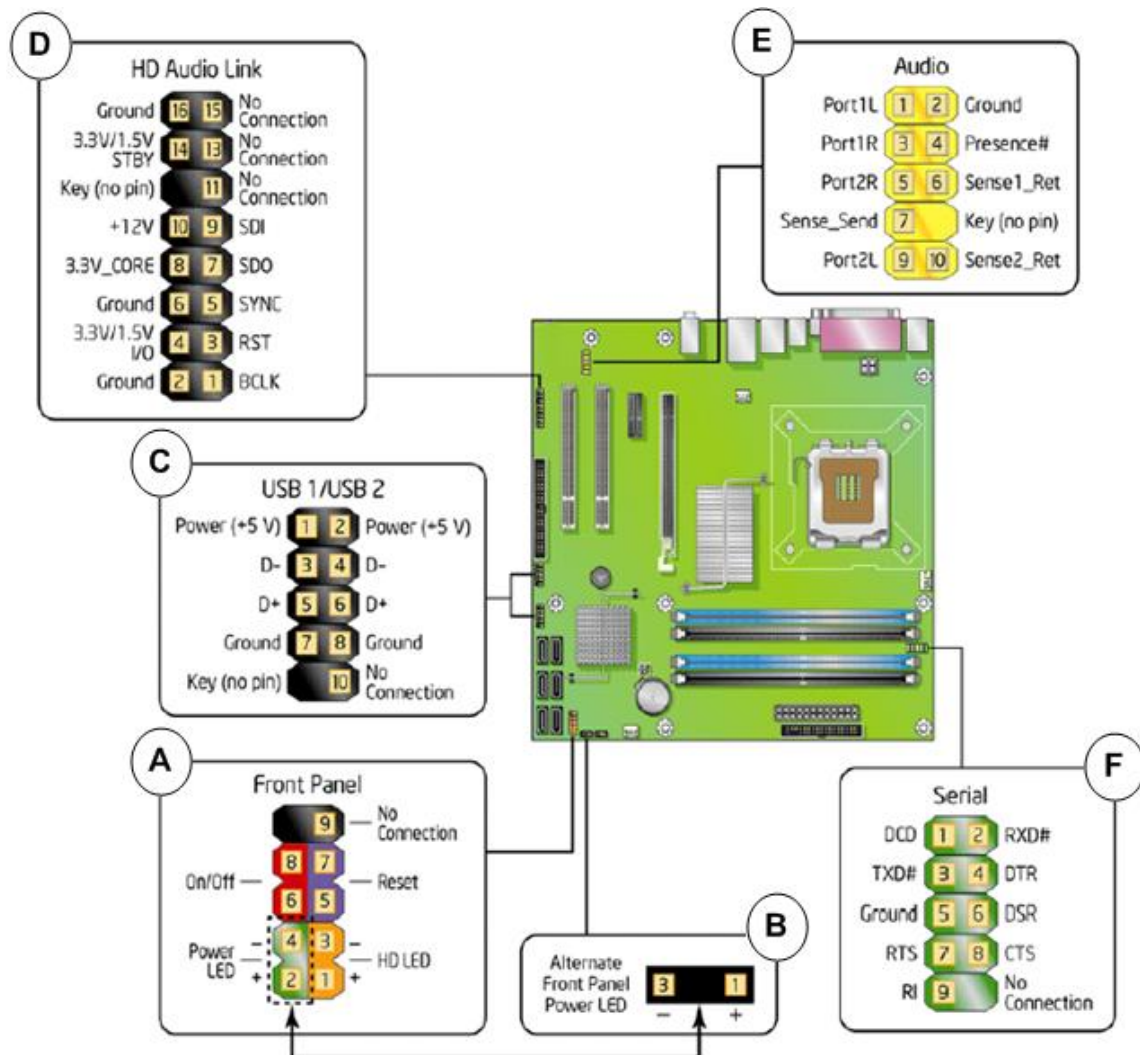


Figure 3 - Internal Headers

Table 3

Item	Description
A	Front Panel connectors
B	Alternative Front Panel Power LED
C	USB1/USB2
D	Intel HD Audio Link
E	Audio (HD/AC'97)
F	Serial Connector

- **Front Panel connections**

The following are all connectors situated along the front edge of the motherboard. They are often connected to buttons and LED's situated on the front panel.

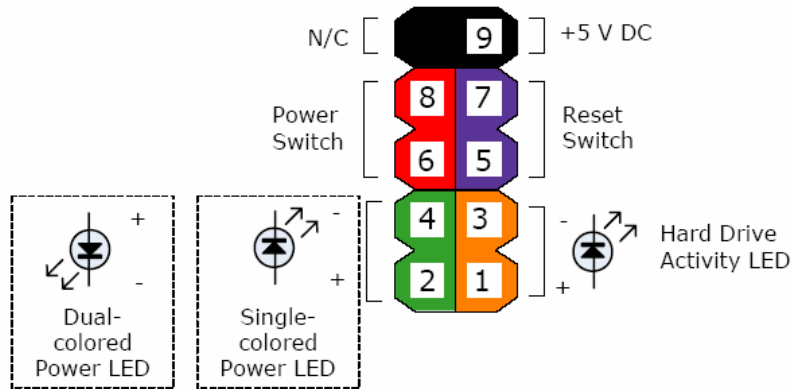


Figure 4 – Front Panel Connectors

Table 4

Pin	Connector	Comments
1-3	HD LED	This goes to the Hard Disk L.E.D. on the front panel, which lights up when the SATA Hard Disk is in use.
2-4	Power LED	This attaches to the power L.E.D on the front panel, to display if the computer is active or not.
5-7	Reset switch connector	When these pins are shorted, it will cause the computer to perform a cold reboot.
6-8	Power On/Off	When these pins are shorted it turns the computer on and off.

- **Memory**

The board has four DIMM sockets and supports the following memory features:

- 1.8 V (only) DDR2 SDRAM DIMMs with gold-plated contacts
- Unbuffered, single-sided or double-sided DIMMs with the following restriction: Double-sided DIMMs with x16 organization are not supported.
- 8 GB maximum total system memory using DDR2 667 or DDR2 533 DIMMs;
- Minimum total system memory: 512 MB
- Non-ECC DIMMs
- Serial Presence Detect
- DDR2 533 and DDR2 667 MHz SDRAM DIMMs

NOTE: A minimum of 512 MB of system memory is required to fully enable both the onboard graphics and the manageability engine.

NOTE: To be fully compliant with all applicable DDR SDRAM memory specifications, the board should be populated with DIMMs that support the Serial Presence Detect (SPD) data structure. This enables the BIOS to read the SPD data and program the chipset to accurately configure memory settings for optimum performance. If non-SPD memory is installed, the BIOS will attempt to correctly configure the memory settings, but performance and reliability may be impacted or the DIMMs may not function under the determined frequency. Table 5 - lists the supported DIMM configurations

Table 5. Supported Memory Configuration

DIMM Type	SDRAM Technology	Smallest usable DIMM (one x16 Single-sided DIMM)	Largest usable DIMM (one x8 Double-sided DIMM)	Maximum capacity with four identical x8 Double-sided DIMMs
DDR2 533	256 Mbit	128 MB	512 MB	2 GB
DDR2 533	512 Mbit	256 MB	1 GB	4 GB
DDR2 533	1 Gbit	512 MB	2 GB	8 GB
DDR2 667	256 Mbit	128 MB	512 MB	2 GB
DDR2 667	512 Mbit	256 MB	1 GB	4 GB
DDR2 667	1 Gbit	512 MB	2 GB	8 GB

NOTE: Regardless of the DIMM type used, the memory frequency will either be equal to or less than the processor system bus frequency. For example, if DDR2 667 memories is used with a 533 MHz system bus frequency processor, the memory will operate at 533 MHz. Table 6 lists the resulting operating memory frequencies based on the combination of DIMMs and processors.

Table 6- Operating Memory Frequencies

DIMM Type	Processor system bus frequency	Resulting memory frequency
DDR2 533	533 MHz	533 MHz
DDR2 533	800 MHz	533 MHz
DDR2 533	1066 MHz	533 MHz
DDR2 667	533 MHz	533 MHz
DDR2 667	800 MHz	667 MHz
DDR2 667	1066 MHz	667 MHz

Initial BIOS Release.

MQ96510J.86A.1577.2006.1115.2315 (VERSION: 1577)

Driver's initial release

Windows 98SE, Windows ME, Windows NT4 are not supported

Windows 2000 & Windows XP Drivers

Audio: Sigmatel STAC9227	5.10.5208	11.2MB	08/11/2006
INF: Intel® Chipset Software Installation Utility	8.1.1.1010	665KB	08/12/2006
LAN: Intel® PRO Network Connections (Intel® 82566DC Gigabit Ethernet Controller)	11.2	86.2MB	19/10/2006
Intel Management Engine AFSC	2.1.22.1026	916KB	11/7/2006
Graphics: Intel Graphics (Intel® GMA 3000)	14.25.4704	11.5MB	09/10/2006

Windows XP Professional x64 Edition Drivers

Audio: Sigmatel STAC9227	5.10.5208	12MB	08/11/2006
INF: Intel® Chipset Software Installation Utility	8.1.1.1010	665KB	08/12/2006
LAN: Intel® PRO Network Connections (Intel® 82566DC Gigabit Ethernet Controller)	11.2	86.2MB	19/10/2006
IntelManagement Engine AFSC	2.1.22.1026	916KB	11/7/2006
Graphics: Intel Graphics (Intel® GMA 3000)	14.25.64.4704	11.5MB	15/10/2006

Windows XP64 Audio driver Hot fix:

IMPORTANT: Audio drivers may fail to install in Windows* XP 64-Bit Edition. Symptoms may include error messages, such as "Error in installation" or "Unknown error". Microsoft's Update for Windows XP x64 Edition (KB901105) fixes this issue. After installing this update, the audio drivers for Windows XP 64-Bit Edition will successfully install.

<http://support.microsoft.com/default.aspx?scid=kb;en-us;901105>

WindowsServer2003.WindowsXP-KB901105-v3-x64-ENU.exe	KB901105	734KB	-
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NDSIS2

Intel(R) PRO/1000 Gigabit Ethernet Connection Driver	4.96	1.61MB	-
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Note: All the above drivers are PC99 certified.

Other Drivers and Patches

Patch-USBBIOSx (Registry Patch for Windows XP Pro & Windows Home for wake-up under S3 via USB mouse/Keyboard)	-	260 KB	06 Sept 2006
DOS CDROM Support Driver Instruction (SBIDE.SYS)	-	614 KB	15 April 1997

Drivers Installation Instruction

When carrying out fresh installation of operating systems it is recommended device drivers be installed in following order.

1. Chipset (Intel® Chipset Software Installation Utility)
2. Intel Management Engine AFSC
3. Display (Intel Graphics (Intel® GMA 3000))
4. Audio (Sigmatel STAC9227)
5. LAN (Intel® PRO Network Connections)