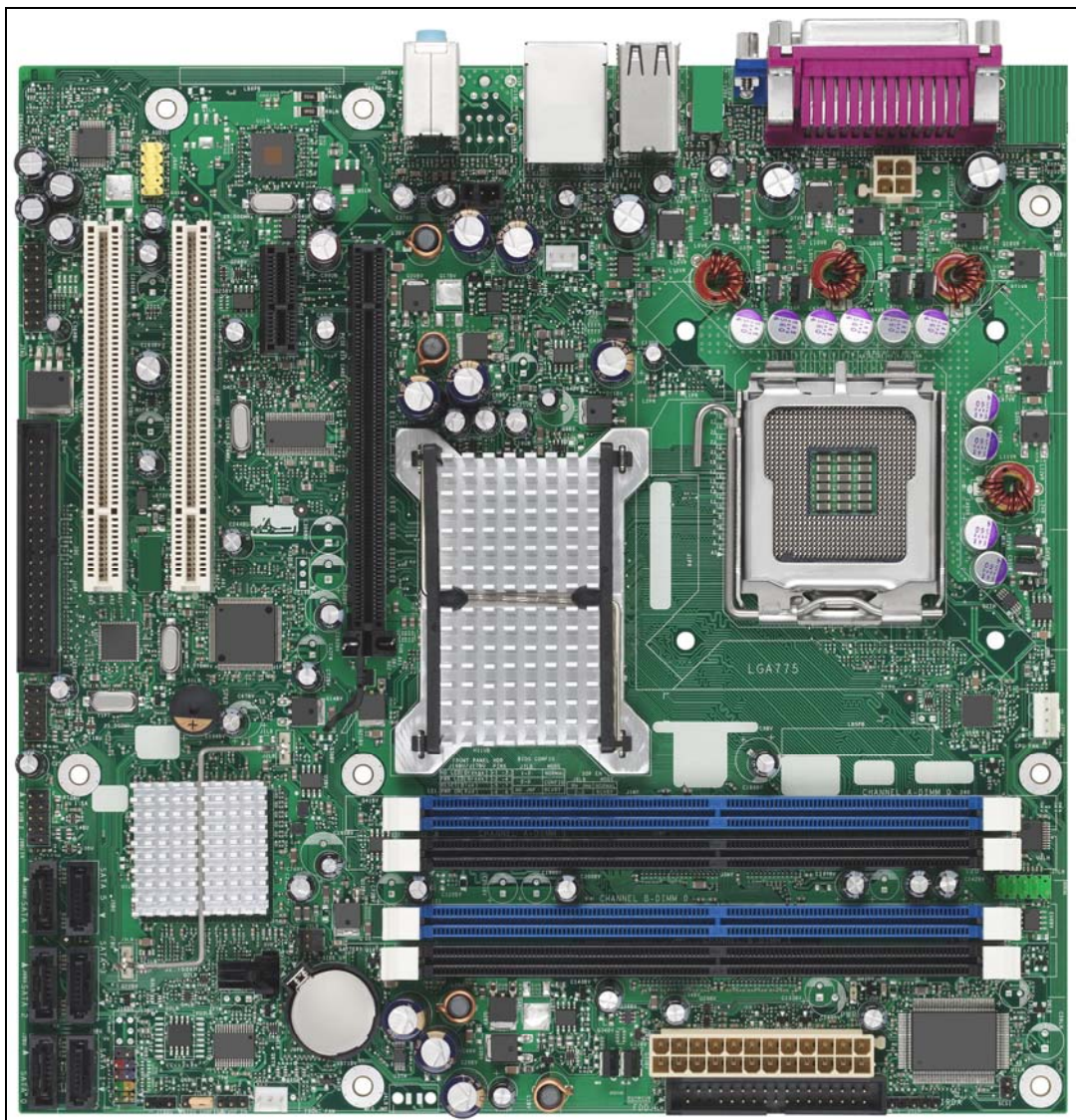# Quick Start Guide

Viglen Product Description: Intel D965GF Motherboard
Viglen order Code: PMPGF001
Viglen System: Genie (S775)

Product Photograph:

Product Specification

Motherboard Form Factor	microATX (243.84 millimeters [9.60 inches] x 243.84 millimeters [9.60 inches])
Motherboard chipset	Intel® Q965 Express Chipset consisting of: • Intel® 82G965 Graphics 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: • 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 • Supports Intel® EM64T

Supported CPU speeds	CPU No.	CPU speed	FSB	L2 cache
	E6300- E6400	1.86 –2.13GHz	1066MHz	2MB
	E6600- E6700	2.40--2.66GHz	1066Mhz	4MB
	805	2.66GhZ	533MHz	2MB
	820-840	2.80Ghz- 3.40GHz	800MHz	2MB
	915-960	2.80GHz-3.60GHz	800MHz	4MB
	505-506	2.66GHz-2.66GHz	533MHz	1MB
	520-571	2.80GH – 3.80Ghz	800MHz	1MB
	630-672	3.00GHz-3.80GHz	800MHz	2MB
	310-355	2.13-3.33GHz	533MHz	256KB
	352,356	320GHz-333GHz	533MHz	512KB

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 x16 1 x PCI-e x1
Number of AGP slots	0
Number of AMR slots	0
Additional slots	0
On board video fitted? Type	Intel® Q965 Express Chipset with Intel® Graphics Media Accelerator 3000
Ram size?	N/A
Upgradeable?	N/A
Onboard audio fitted? Type	6-channel (5.1) onboard subsystem, featuring: • 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® 82566DM Gigabit Ethernet Controller Intel® Active Management Technology (Intel® AMT) with System Defence Feature	
Number of network connections?	1	
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	Six Serial ATA (SATA) channels (3.0GB/s), via the ICH8, one device per channel. Intel® Matrix Storage Technology (RAID 0, 1, 10, 5)	
Diskette drive Interface	1	
Internal connectors	2 x USB connectors for 4 additional USB 2.0 devices	1 x Chassis intrusion header
	1 x HD Audio Link Header	1 x Front panel audio header
	1 x Serial port 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
		1 x MIC
Memory type	DDR2 Supports: • 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 667 or DDR2 533 DIMMS • Support up to 4GB of system memory using DDR2 800 DIMMS	
Supported memory speed	DDR2 800/667/533 MHz single or Dual channel DDR2 DIMMS	
BIOS	Intel® Platform Innovation Framework for extensible firmware interface • 16 Mbit symmetrical flash memory • Support for SMBIOS • Intel® Rapid BIOS Boot • Intel® Express BIOS Update	
Power Management	Support for Advanced Configuration and Power Interface (ACPI) • Suspend to RAM (STR) • Wake on USB, PCI Express,, LAN, and front panel	
Hardware Management	• Intel® Quiet System Technology (Intel® QST) fan speed control • Three fan headers • Three fan sensing inputs used to monitor fan activity • Remote diode temperature sensing • Voltage sensing to detect out of range values	
MTBF	117,142 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
	840	3.20 GHz	800 MHz	2x1 MB
	830	3 GHz	800 MHz	2x1 MB
	820	2.80 GHz	800 MHz	2x1 MB
	805	2.66 GHz	533 MHz	2x1 MB
Intel® Pentium® 4	670	3.80 GHz	800 MHz	2 MB
	661	3.60 GHz	800 MHz	2 MB
	660	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
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
	351	3.20 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
Intel® Celeron® D	336	2.80 GHz	533 MHz	256 KB

Upgrading and ESD precautions

WARNING

Unplug the system before carrying out the procedures described in this document. Failure to disconnect power before you open the system can result in personal injury or equipment damage. Hazardous voltage, current, and energy levels are present in this product. Power switch terminals can have hazardous Voltages present even when the power switch is off.

The procedures assume familiarity with the general terminology associated with personal computers and with the safety practices and regulatory compliance required for using and modifying electronic equipment.

Do not operate the system with the cover removed. Always replace the cover before turning on the system.

As the colours of the wires in the mains lead of this computer may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter **E** or by the safety Earth symbol Ω or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter **N** or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter **L** or coloured red.
Make sure you are earthed and free of static charge before you open the computer case. If you are unsure about upgrading your computer, return it to Viglen so a qualified engineer can perform the upgrade.

CAUTION!
The Viglen D965GF motherboard and associated components are sensitive electronic devices. A small static shock from your body can cause expensive damage to your equipment.

Make sure you are earthed and free of static charge before you open the computer case. If you are unsure about upgrading your computer, return it to Viglen so a qualified engineer can perform the upgrade.

STEPS TO TAKE TO PREVENT STATIC DISCHARGE:

1. The best way to prevent static discharge is to buy an anti-static strap from your local electrical shop. While you are wearing the strap and it is earthed, static charge will be harmlessly bled to ground.

2. Do not remove the component from its anti-static protective packaging until you are about to install it.

3. Hold boards by the edges - try not to touch components / interface strips etc.

Note:
We recommend that you return your computer to the service department for upgrading. Any work carried out is fully guaranteed. Upgrades should only be carried out by persons who are familiar with handling IC's, as incorrect installation will invalidate the guarantee.
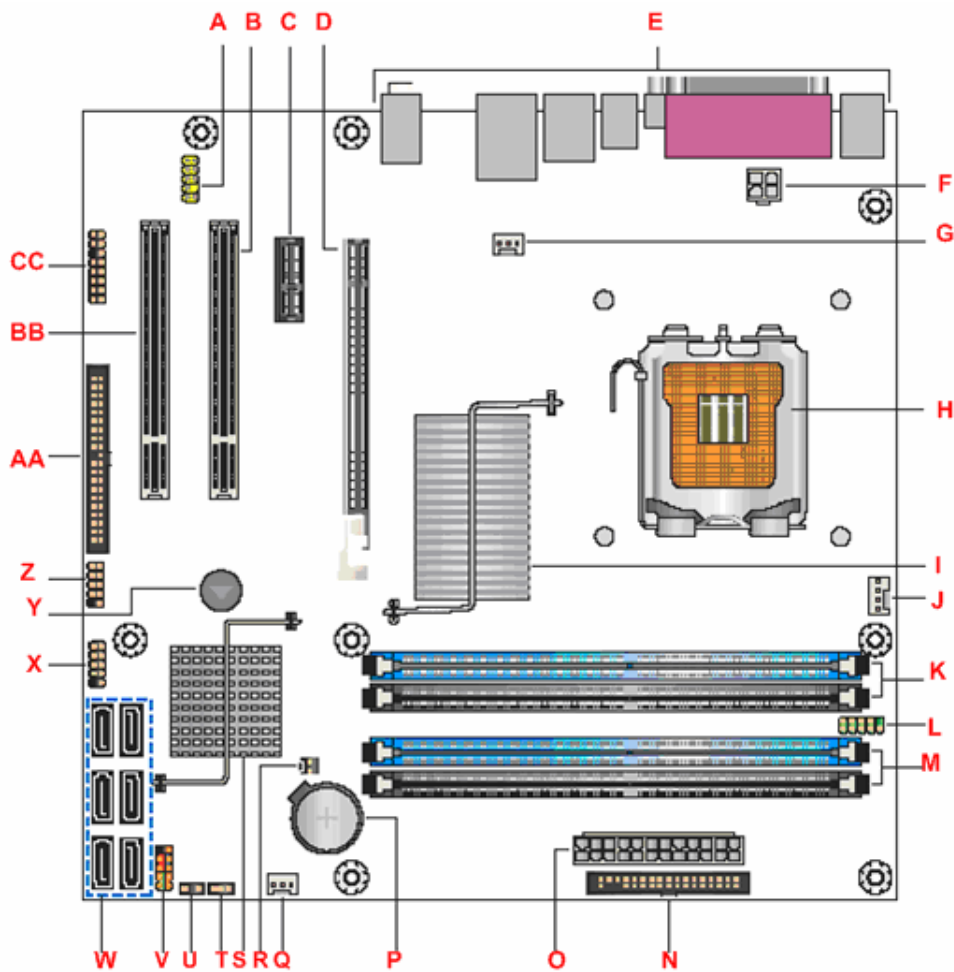
- ## System Board Components

Figure 1 - Motherboard Layout & Components

Table 1

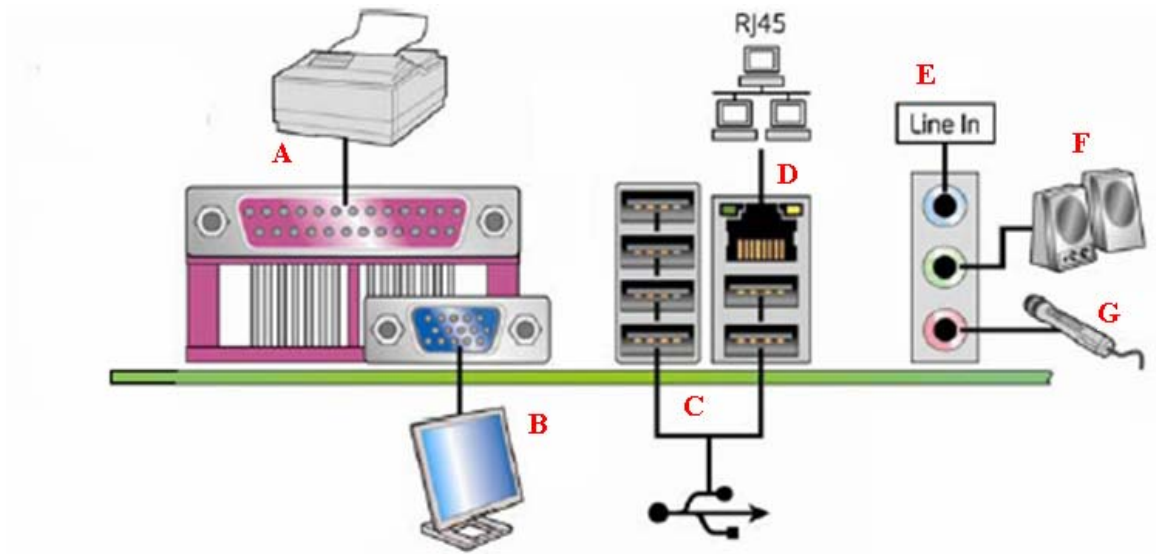| Item	Description	Item	Description
A	Front panel audio header (HD or AC97)	P	Battery
B	PCI Conventional bus add-in card connector 1	Q	Front chassis fan header
C	PCI Express x1 connector	R	Chassis intrusion header
D	PCI Express x16 connector	S	Intel 82801HO I/O Controller Hub (ICH8DO)
E	Back panel connectors	T	BIOS Setup configuration jumper block
F	Processor core power connector	U	Auxiliary front panel power LED header
G	Rear chassis fan header	V	Front panel header
H	LGA775 processor socket	W	Serial ATA connectors [6]
I	Intel 82Q965 GMCH	X	Front panel USB header
J	Processor fan header	Y	Speaker
K	DIMM Channel A sockets	Z	Front panel USB header
L	Serial port header	AA	Parallel ATE IDE connector
M	DIMM Channel B sockets	BB	PCI Conventional bus add-in card connector 2
N	Diskette drive connector	CC	High Definition Audio header
O	Main Power connector	-	-

- **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.
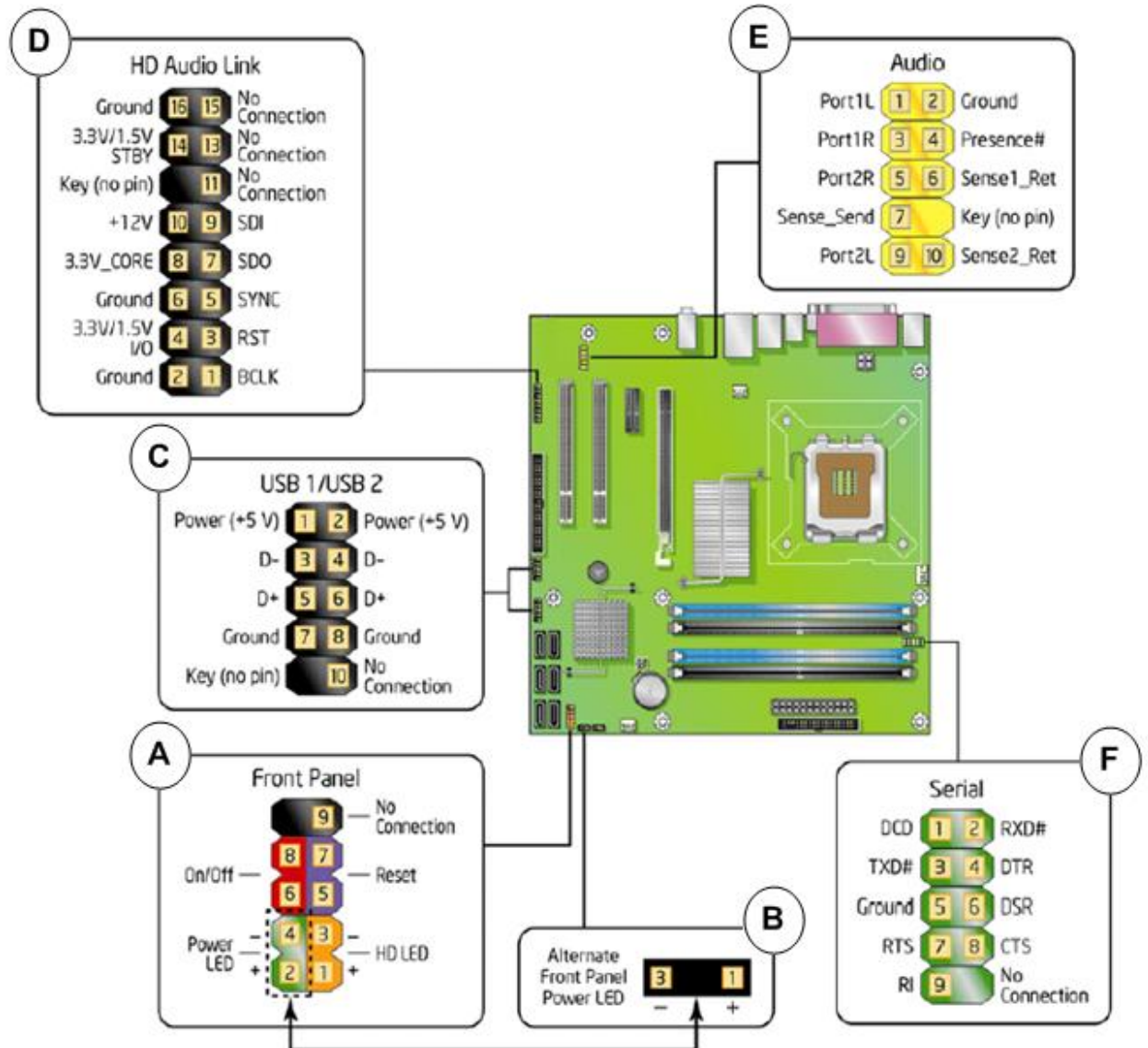

Figure 2 - Back Panel Connectors

Table 2

Item	Description	Item	Description
A	Parallel port (Burgundy)	E	Audio line in/Retasking Jack [Blue]
B	VGA port (blue)	F	Line out/retasking jack [Green]
C	USB 2.0 ports (six)	G	Mic in/retasking jack [Pink]
D	LAN (RJ45)	-	-

- ## 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).

D HD Audio Link

Ground	16 15	No Connection
3.3V/1.5V STBY	14 13	No Connection
Key (no pin)	11	No Connection
+12V	10 9	SDI
3.3V_CORE	8 7	SDO
Ground	6 5	SYNC
3.3V/1.5V I/O	4 3	RST
Ground	2 1	BCLK

E Audio

Port1L	1 2	Ground
Port1R	3 4	Presence#
Port2R	5 6	Sense1_Ret
Sense_Send	7	Key (no pin)
Port2L	9 10	Sense2_Ret

C USB 1/USB 2

Power (+5 V)	1 2	Power (+5 V)
D-	3 4	D-
D+	5 6	D+
Ground	7 8	Ground
Key (no pin)	10	No Connection

A Front Panel

	9	No Connection
On/Off	8 7	Reset
	6 5	
Power LED -	4 3 -	HD LED
+	2 1 +	

B Alternate Front Panel Power LED

3		1
−		+

F Serial

DCD	1 2	RXD#
TXD#	3 4	DTR
Ground	5 6	DSR
RTS	7 8	CTS
RI	9	No Connection

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

- ## 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.
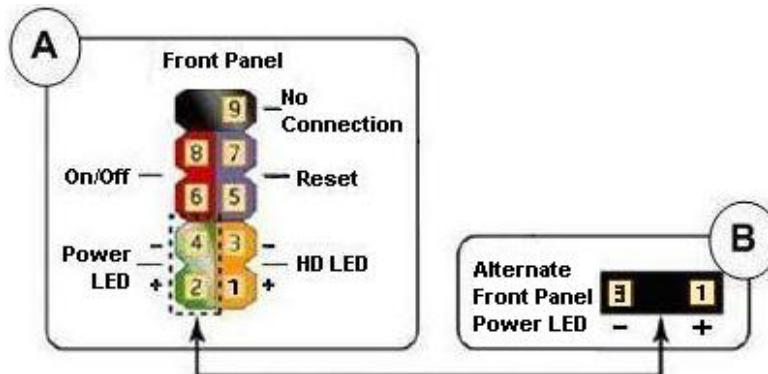

Figure 4 – Front Panel Connectors

Table 4

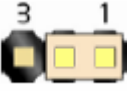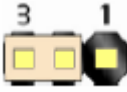| Pin	Connector	Comments
1-3	HD LED	This goes to the Hard Disk L.E.D. on the front panel, which lights up when the SATA Hard Disk is in use.
2-4	Power LED	This attaches to the power L.E.D on the front panel, to display if the computer is active or not.
5-7	Reset switch connector	When these pins are shorted, 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.

- ## Jumper settings

CAUTION: *Do not move any jumpers with the power on. Always turn off the power and unplug the power cord from the computer before changing a jumper setting. Otherwise, the board could be damaged.*
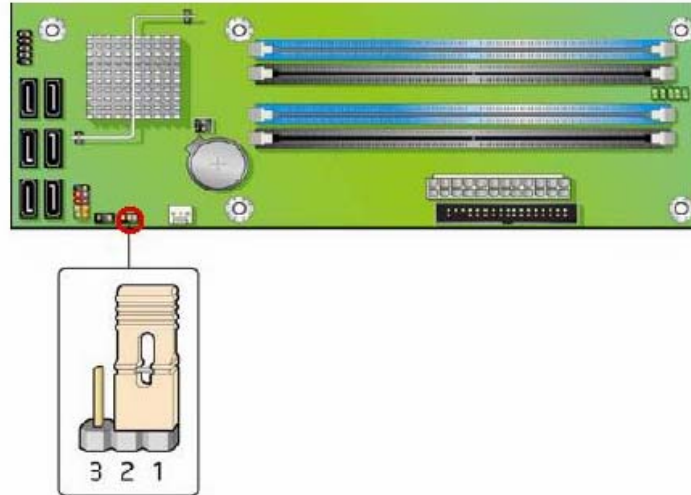
Figure 5 - Location of the BIOS Configuration Jumper Block

The three-pin BIOS jumper block enables all board configurations to be done in the BIOS Setup program. The table below shows the jumper settings for the BIOS Setup program modes.

Table 5

Function/Mode	Jumper Setting		Configuration
Normal (default)	1-2		The BIOS uses current configuration information and passwords for booting.
Configure	2-3		After the power-On Self-Test (POST) runs, the BIOS displays the Maintenance menu. Use this menu to clear passwords.
Recovery	None		The BIOS attempts to recover the BIOS configuration. A recovery diskette is required.

Note: The Default AMT 2.0 (Intel ® Management Engine) BIOS password is: admin (all lower case)

System 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;
- 4 GB maximum total system memory using DDR2 800 DIMMs.
- Minimum total system memory: 512 MB
- Non-ECC DIMMs
- Serial Presence Detect
- DDR2 800, DDR2 667, or DDR2 533 MHz SDRAM DIMMs
- DDR2 800 DIMMs with SPD timings of only 5-5-5 or 6-6-6 (tCL-tRCD-tRP)

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 6 - lists the supported DIMM configurations*

Table 6- 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
DDR2 800	256 Mbit	128 MB	512 MB	2 GB
DDR2 800	512 Mbit	256 MB	1 GB	4 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 800 memory is used with a 533 MHz system bus frequency processor, the memory will operate at 533 MHz. Table 14 lists the resulting operating memory frequencies based on the combination of DIMMs and processors.*

Table 7- 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
DDR2 800	533 MHz	533 MHz
DDR2 800	800 MHz	800 MHz
DDR2 800	1066 MHz	800 MHz

- **Memory Configurations**

The Intel 82Q965 GMCH supports the following types of memory organization:

Dual channel (Interleaved) mode. This mode offers the highest throughput for real world applications. Dual channel mode is enabled when the installed memory capacities of both DIMM channels are equal. Technology and device width can vary from one channel to the other but the installed memory capacity for each channel must be equal. If different speeds DIMMs are used between channels, the slowest memory timing will be used.

Single channel (Asymmetric) mode. This mode is equivalent to single channel bandwidth operation for real world applications. This mode is used when only a single DIMM is installed or the memory capacities are unequal. Technology and device width can vary from one channel to the other. If different speed DIMMs is used between channels, the slowest memory timing will be used.

Flex mode. This mode provides the most flexible performance characteristics. The bottommost DRAM memory (the memory that is lowest within the system memory map) is mapped to dual channel operation; the topmost DRAM memory (the memory that is nearest to the 8 GB address space limit), if any, is mapped to single channel operation. Flex mode results in multiple zones of dual and single channel operation across the whole of DRAM memory. To use flex mode, it is necessary to populate both channels.

Figure 6- illustrates the memory channel and DIMM configuration.

NOTE: *The DIMM0 sockets of both channels are blue. The DIMM1 sockets of both channels are black.*
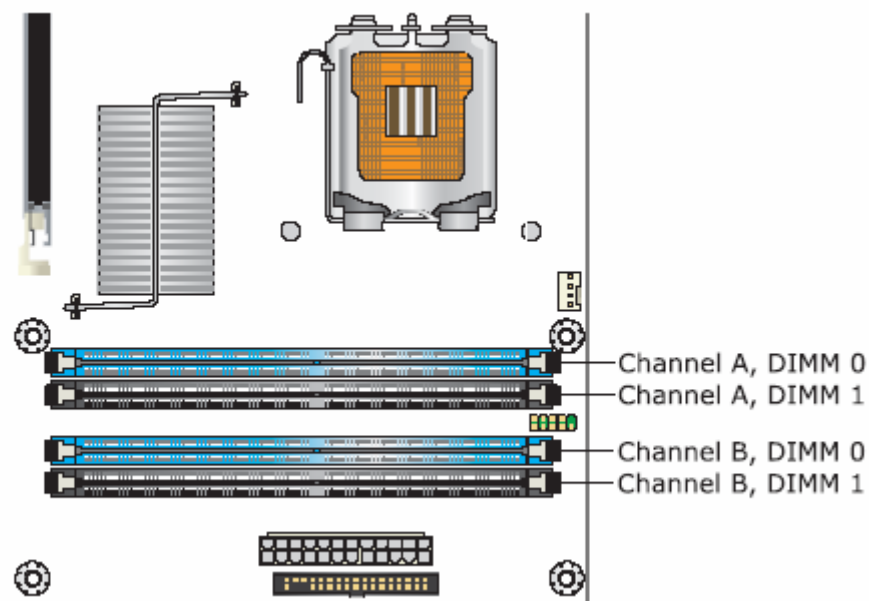

Figure 6 - Memory Channel Configuration and DIMM Configuration

NOTE: *Regardless of the memory configuration used (dual channel, single channel, or flex mode), DIMM 0 of Channel A must always be populated. This is a requirement of the ICH8 Manageability Engine feature.*

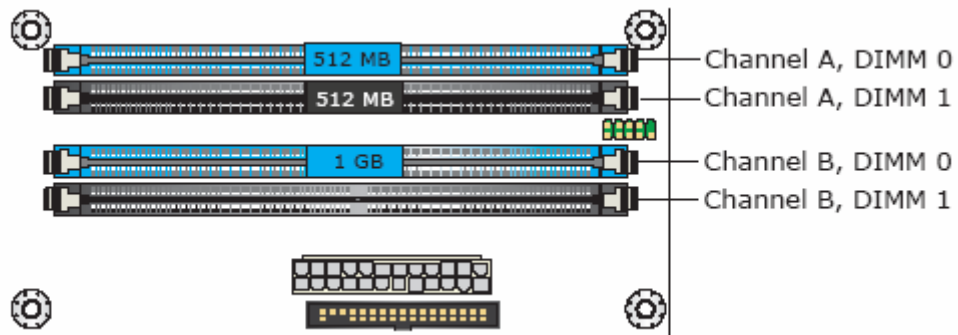### Dual Channel (Interleaved) Mode Configurations

Figure 7 shows a dual channel configuration using two DIMMs. In this example, the DIMM0 (blue) sockets of both channels are populated with identical DIMMs.
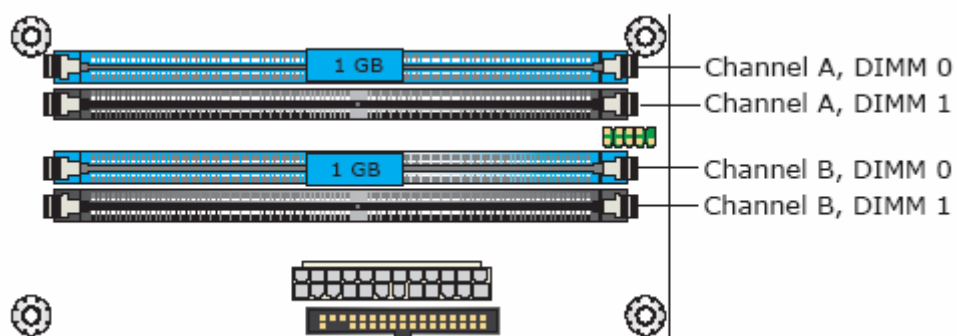
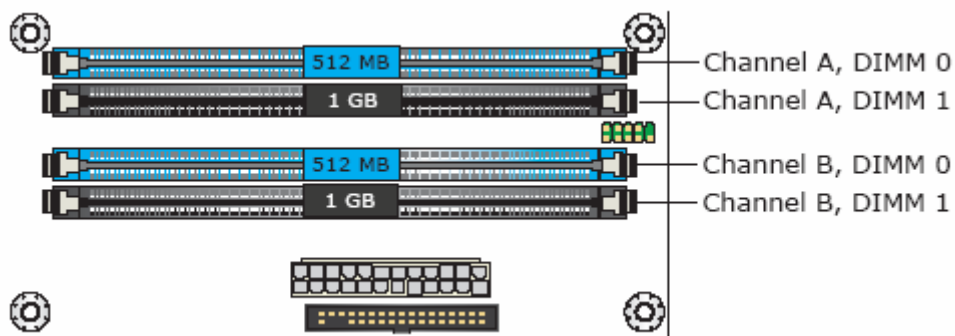**Figure 7** - Dual Channel (Interleaved) Mode Configuration with Two DIMMs

NOTE: *The Intel Management Engine in the chipset requires memory to be populated in Channel A, DIMM 0 in order for it to enable Intel Quiet System Technology and Intel Active Management Technology.*

Figure 8 shows a dual channel configuration using three DIMMs. In this example, the combined capacity of the two DIMMs in Channel A equal the capacity of the single DIMM in the DIMM0 (blue) socket of Channel B.

Figure 8 - Dual Channel (Interleaved) Mode Configuration with Three DIMMs

Figure 9 - shows a dual channel configuration using four DIMMs. In this example, the combined capacity of the two DIMMs in Channel A equal the combined capacity of the two DIMMs in Channel B. Also, the DIMMs are matched between DIMM0 and DIMM1 of both channels.


Figure 9 - Dual Channel (Interleaved) Mode Configuration with Four DIMMs

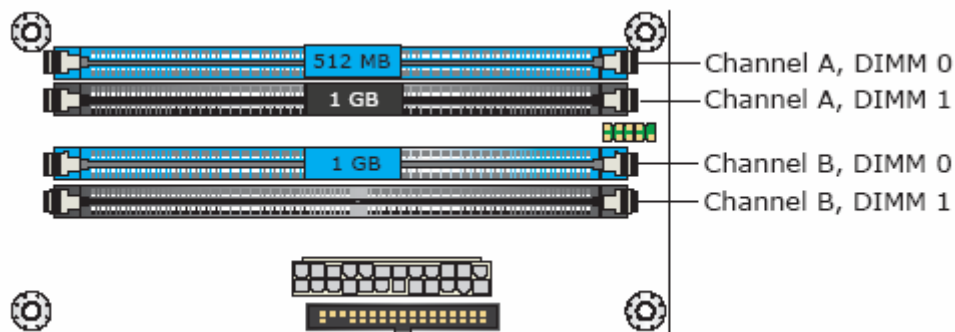## Single Channel (Asymmetric) Mode Configurations

NOTE: *Dual channel (Interleaved) mode configurations provide the highest memory throughput.*

Figure 10 - shows a single channel configuration using one DIMM. In this example, only the DIMM0 (blue) socket of Channel A is populated. Channel B is not populated.
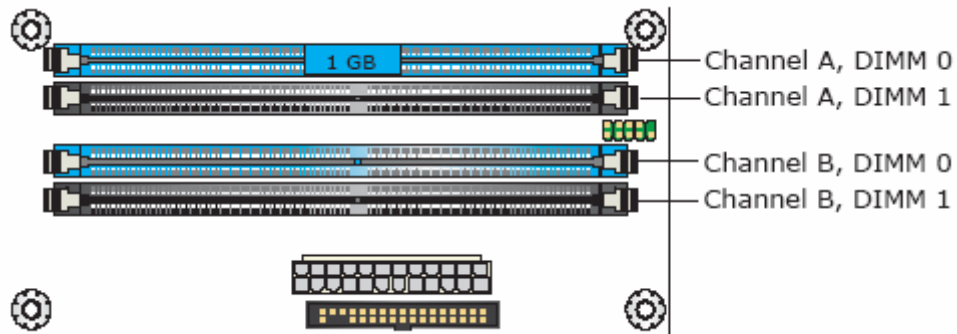
Figure 10 - Single Channel (Asymmetric) Mode Configuration with One DIMM

Figure 11- shows a single channel configuration using three DIMMs. In this example, the combined capacity of the two DIMMs in Channel A does not equal the capacity of the single DIMM in the DIMM0 (blue) socket of Channel B.

Figure 11 - Single Channel (Asymmetric) Mode Configuration with Three DIMMs

Flex Mode Configuration

NOTE: *The use of flex mode requires DIMMs to be installed in both channels.*

Figure 12 shows a flex mode configuration using two DIMMs. The operation is as follows:

- The 512 MB DIMM in the Channel A, DIMM 0 socket and the lower 512 MB of the DIMM in the Channel B, DIMM 0 socket operate together in dual channel mode.

- The remaining (upper) 512 MB of the DIMM in Channel B operates in single channel mode.
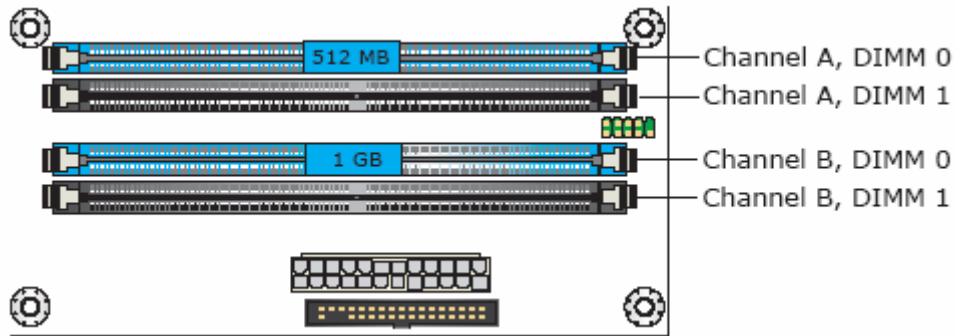
**Figure 12 -** Flex Mode Configuration with Two DIMMs

- ## Installing and Removing Memory

CAUTION: *When connected to AC power, the memory slots on the board will be powered and in use. A red LED (Figure 13) - B, located near the memory slots, will be lit if the memory slots are powered.*

Installing or removing memory from the board while the memory slots are powered may result in damage to both memory and board.

Before installing or removing memory, disconnect the system from AC power and wait for the LED to go off before proceeding.

The motherboard has two on-board power indicators: a + 5 V standby power indicators (green LED) and a memory power indicator (red LED) shown in Figure 15. The + 5 V standby power indicator (Figure 13) – A. is lit when there is standby power still present on the board even when the computer appears to be off. The memory power indicator (Figure 15) – B. is lit when there is power to the memory slots.
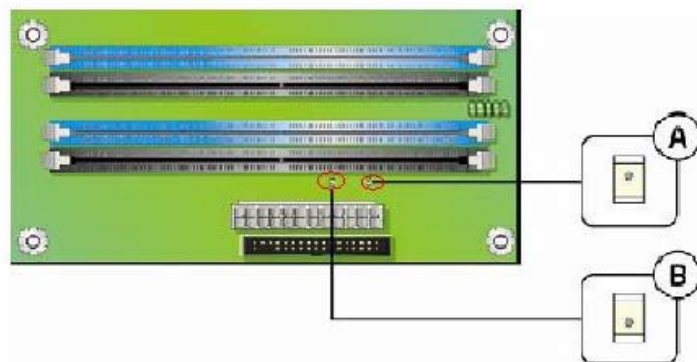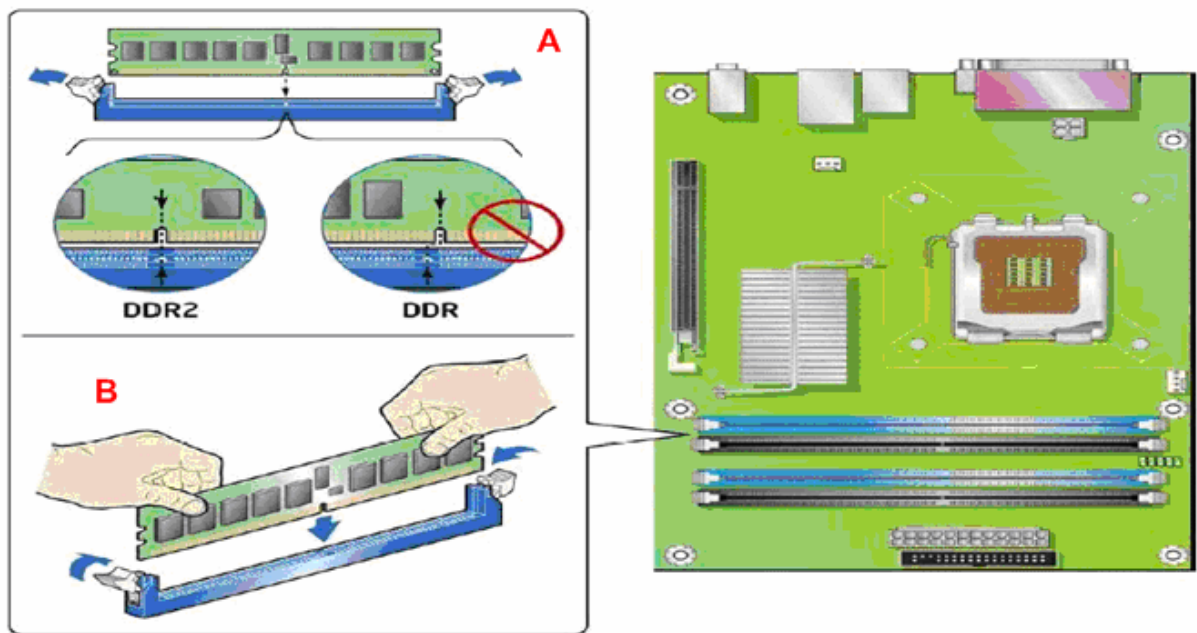

Figure 13 - Location of the On-board Power Indicators

- ## Installing DIMMs

To install a DIMM, follow these steps:

1) Turn off all peripheral devices connected to the computer. Turn off the computer and disconnect the AC power cord.
2) Make sure the clips at either end of the DIMM socket(s) are pushed outward to the open position (see Figure 14)-A.
3) Holding the DIMM by the edges, remove it from its anti-static package.
4) Position the DIMM above the socket. Align the small notch at the bottom edge of the DIMM with the keys in the socket (see inset in Figure 14)-B.
5) Insert the bottom edge of the DIMM into the socket.
6) When the DIMM is inserted, push down on the top edge of the DIMM until the retaining clips snap into place. Make sure the clips are firmly in place.
7) Replace computer cover and re-connect the AC power cord.

Figure 14 - Installing a DIMM

- ## Removing DIMMs

To remove a DIMM, follow these steps:

1) Turn off all peripheral devices connected to the computer. Turn off the computer.
2) Remove the AC power cord from the computer.
3) Remove the computer's cover.
4) Gently spread the retaining clips at each end of the DIMM socket. The DIMM pops out of the socket.
5) Hold the DIMM by the edges, lift it away from the socket, and store it in anti-static package.
6) Reinstall and reconnect any parts you removed or disconnected to reach the DIMM sockets.
7) Replace the computer cover and reconnect the AC power cord.
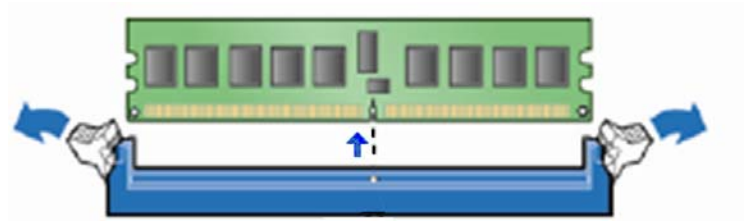
Figure 15 - Removing DIMMs

BIOS Initial Release.

CO96510J.86A.4713.2006.0828.1752

Driver's initial release

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

Windows 2000 & Windows XP Drivers

Audio: Sigmatel STAC9227	5.10.5143_v1_	23.5MB	27 July 2006
INF: Intel® Chipset Software Installation Utility	8.0.1002 PC	1.07MB	24 May 2006
LAN: Intel® PRO Network Connections	11.1	36.3MB	19 July 2006
Management Engine AFSC	2.0.18.118	2.06	15 August 2006
Graphics: Intel Graphics	14.21.1.4642	25.3MB	25 July 2006
Intel(R) Active Management Technology-Serial Over LAN (iAMT SOL)	5.1.2600.9403	2.0MB	6 June 2006
RAID Intel Storage Program	6.10.1002	16.8MB	30 August 2006
RAID Storage Image + F6 driver disk	6.1.0.1002	318KB	30 August 2006
Trusted Platform Module (TPM)	1.00.17	55.7MB	26 May 2006

Windows XP Professional x64 Edition Drivers

Audio: Sigmatel STAC9227	5.10.5143_v1	23.5MB	27 July 2006
INF: Intel® Chipset Software Installation Utility	8.0.1002 PC	1.07MB	24 May 2006
LAN: Intel® PRO Network Connections	11.1	36.3MB	19 July 2006
Management Engine AFSC	2.0.18.118	2.06	15 August 2006
Graphics: Intel Graphics	14.21.1.4642	11.1MB	25 July 2006
Intel(R) Active Management Technology-Serial Over LAN (iAMT SOL)	5.1.2600.9403	2.0MB	6 June 2006
RAID Intel Storage Program	6.10.1002	16.8MB	30 August 2006
RAID Storage Image + F6 driver disk	6.1.0.1002	411KB	30 August 2006
Trusted Platform Module (TPM)	1.50.03	47.1MB	15 February 2006

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

Note: The Trusted Platform Module (TPM) is disabled by Default in BIOS when system shipped to end users from factory. This is to insure that end user of the system initializes the TPM and configures all security passwords. End user will also need to install the Trusted Platform module software (TPM_ST_Micro). This can be found under C:\Utils\Onboard directory of the system hard disk drive or from Driver CD or Viglen FTP site.

Note: All the above drivers are PC99 certified.