



User Manual

AIMB-567

**Intel® LGA775 Core™ 2 Quad/
Duo mATX Motherboard with
Dual VGA/DVI/DDR3/4 COM/
Dual LAN**

ADVANTECH

Enabling an Intelligent Planet

Safety Information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

Caution! *The symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.*



A Message to the Customer

Advantech Customer Services

Each and every Advantech product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Advantech equipment is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Advantech has come to be known.

Your satisfaction is our primary concern. Here is a guide to Advantech's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone.

So please consult this manual first. If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your Advantech products. In fact, most problems reported are minor and are able to be easily solved over the phone.

In addition, free technical support is available from Advantech engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products.

Declaration of Conformity

FCC

This device complies with the requirements in part 15 of the FCC rules:

Operation is subject to the following two conditions:

- This device may not cause harmful interference
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this device in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense. The user is advised that any equipment changes or modifications not expressly approved by the party responsible for compliance would void the compliance to FCC regulations and therefore, the user's authority to operate the equipment.

Caution! *There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.*



CPU Compatibility

| CPU Family | sSpec. | Core Stepping | Power | Vcore | FSB | Mfg. Tech | L2 cache | Advantech PN | Result |
|---|--------|---------------|-------|---------------|------|-----------|----------|--------------------------|--------|
| Core Quad Q9400 2.66GHz EM64T Quad Core | SLB6B | R0 | 95W | 0.85V-1.3625V | 1333 | 45nm | na | 96MP2QD-26FB-6M7T | PASS |
| Core2 Quad Q9300 2.5GHz EM64T Quad Core | SLAWE | Ma | 98W | 0.85V-1.3625V | 1333 | 45nm | 6MB | | PASS |
| Core2 Quad Q8200 2.33 GHz EM64T Quad Core | SLB5M | M1 | 95W | 0.85V-1.3625V | 1333 | 45nm | 4MB | | PASS |
| Core2 Quad Q6600 2.4GHz EM64T Quad Core | SL9UM | B3 | 105W | 0.85V-1.5V | 1066 | 65nm | 8MB | | PASS |
| Core2 Quad Q6600 2.4GHz EM64T Quad Core | SLACR | B3 | 95W | 0.85V-1.5V | 1066 | 65nm | 8MB | 96MP2QD-24FA-8M7T | PASS |
| Core2 Duo E8500 3.16GHz EM63T Dual Core | SLAPK | C0 | 65W | 0.85-1.3625V | 1333 | 45nm | 6MB | 96MP2DD-31FB-6M7B | PASS |
| Core2 Duo E8400 3.0GHz EM64T Dual Core | SLB9J | E0 | 65W | 0.85V-1.3625V | 1333 | 45nm | 6MB | 96MP2DD-3FB-6M7T1 | PASS |
| Core2 Duo E8400 3.0GHz EM64T Dual Core | SLAPL | C0 | 65W | 0.85-1.3625V | 1333 | 45nm | 6MB | 96MP2DD-3FB-6M7T | PASS |
| Core2 Duo E8200 2.66GHz EM64T Dual Core | SLAPP | C0 | 65W | 0.85-1.3625V | 1333 | 45nm | 6MB | | PASS |
| Core2 Duo E7400 2.80GHz EM64T Dual Core | SLB9Y | M0 | 65W | 0.85-1.3625V | 1066 | 45nm | 3MB | 96MP2DD-28FA-3M7T1/SLGW3 | PASS |
| Core2 Duo E7400 2.80GHz EM64T Dual Core | SLB9Y | R0 | 65W | 0.85-1.3625V | 1066 | 45nm | 3MB | 96MP2DD-28FA-3M7T1/SLGW3 | PASS |
| Core2 Duo E7300 2.66GHz EM64T Dual Core | SLAPB | M0 | 65W | 0.85-1.3625V | 1066 | 45nm | 3MB | | PASS |
| Core2 Duo E7200 2.53GHz EM64T Dual Core | SLAVN | M0 | 65W | 0.85-1.3625V | 1066 | 45nm | 3MB | | PASS |
| Core2 Duo E6750 2.66GHz EM64T Dual Core | SLA9V | G0 | 65W | 0.85-1.5V | 1333 | 65nm | 4MB | 96MP2DD-26FB-4M7T | PASS |
| Core2 Duo E6700 2.66GHz EM64T Dual Core | SL9S7 | B2 | 65W | 0.850-1.3525V | 1066 | 65nm | 4MB | 96MP2DD-26FA-4M7T | PASS |
| Core2 Duo E6600 2.40GHz EM64T Dual Core | SL9S8 | B2 | 65W | 0.850-1.3525V | 1066 | 65nm | 4MB | 96MP2DD-24FA-4M7T | PASS |
| Core2 Duo E6550 2.33GHz EM64T Dual Core | SLA9X | G0 | 65W | 0.962V-1.350V | 1333 | 65nm | 4MB | | PASS |
| Core2 Duo E6400 2.13GHz EM64T Dual Core | SL9S9 | B2 | 65W | 0.850-1.3525V | 1066 | 65nm | 2MB | 96MP2DD-21FA-2M7T | PASS |
| Core2 Duo E6300 1.86GHz EM64T Dual Core | SL9SA | B2 | 65W | 0.850-1.3525V | 1066 | 65nm | 2MB | 96MP2DD-18FA-2M7T | PASS |
| Core2 Duo E6420 2.13GHz EM64T Dual Core | SLA4T | B2 | 65W | 0.850-1.5V | 1066 | 65nm | 4MB | | PASS |
| Core2 Duo E6320 1.86GHz EM64T Dual Core | SLA4U | B2 | 65W | 0.850-1.5V | 1066 | 65nm | 4MB | | PASS |
| Core2 Duo E5300 2.6GHz EM64T Dual Core | SLB9U | R0 | 65W | 0.85V-1.3625V | 800 | 45nm | 2MB | | PASS |
| Core2 Duo E4700 2.6GHz EM64T Dual Core | SLALT | G0 | 65W | 1.162V-1.312V | 800 | 65nm | 2MB | | PASS |

| | | | | | | | | | |
|--|-------|----|-----|---------------|------|------|-------|-------------------|------|
| Core2 Duo E4500 2.2GHz EM64T Dual Core | SLA95 | M0 | 65W | 0.850-1.5V | 800 | 65nm | 2MB | | PASS |
| Core2 Duo E4400 2.0GHz EM64T Dual Core | SLA3F | L2 | 65W | 1.162V-1.312V | 800 | 65nm | 2MB | | |
| Core2 Duo E4300 1.8GHz EM64T Dual Core | SL9TB | L2 | 65W | 0.85V-1.5V | 800 | 65nm | 2MB | 96MP2DD-18F8-2M7T | PASS |
| Pentium Dual-Core E6500 2.93GHz EM64T | SLGUH | R0 | 65W | 0.85V-1.3625V | 1066 | 45nm | 8MB | | PASS |
| Pentium Dual-Core 1.8GHz E2160 | SLA8Z | M0 | 65W | 0.85V-1.5V | 800 | 65nm | 1MB | 96MPPD-1.8F8-1M7T | PASS |
| Pentium Dual-Core 1.8GHz E2160 | SLA3H | L2 | 65W | 0.85V-1.5V | 800 | 65nm | 1MB | | |
| Pentium Dual-Core 1.6GHz E2140 | SLA3J | L2 | 65W | 1.162V-1.312V | 800 | 65nm | 1MB | | PASS |
| Celeron E1200 1.6GHz EM64T | SLAQW | M0 | | 1.162V-1.312V | 800 | 65nm | 512KB | 96MPC2-1.6F8-5K7T | PASS |
| Celeron 440 2GHz | SL9XL | A1 | 35W | 1.0-1.3375V | 800 | 65nm | 512KB | | PASS |
| Celeron 430 1.8GHz | SL9XN | A1 | 35W | 1.0-1.3375V | 800 | 65nm | 512KB | 96MPC4-1.8F8-5K7T | PASS |
| Celeron 420 1.6GHz | SL9XP | A1 | 35W | 1.0-1.3375V | 800 | 65nm | 512KB | | PASS |

Memory Compatibility

| Brand | Size | Speed | Type | ECC | Vendor PN | Advantech PN | Memory | Result |
|-----------|------|-----------|------|-----|----------------------------------|------------------|--|------------------|
| Transcend | 1GB | DDR3 1066 | DDR3 | N | TS128MLK64V1U/ TS2KNU28100-1S | 96D3-1G1066NN-TR | 96D3-1G1066NN-TR | 96D3-1G1066NN-TR |
| | 1GB | DDR3 1066 | DDR3 | N | TS128MLK64V1U | 96D3-1G1066NN-TR | SEC K4B1G0846D HCH9 ENJ038A3 (128x8) | PASS |
| | 2GB | DDR3 1066 | DDR3 | N | TS256MLK64V1U/ TS5KNU28300-1S | 96D3-2G1066NN-TR | SEC K4B1G0846D- HCF9(128x8) | PASS |
| Apacer | 1GB | DDR3 1066 | DDR3 | N | 78.01GC3.420 | 96D3-1G1066NN-AP | ELPIDA J1108BDBG- DJ-F (128x8) | PASS |
| | 2GB | DDR3 1066 | DDR3 | N | 78.A1GC3.421 | 96D3-2G1066NN-AP | ELPIDA J1108BDBG- DJ-F (128x8) | PASS |
| DSL | 1GB | DDR3 1066 | DDR3 | N | D3UE28081XH18AB | NA | ELPIDA J1108BDSE- DJ-F (128x8) | PASS |
| | 2GB | DDR3 1066 | DDR3 | N | D3UE28082XH18AB | NA | ELPIDA J1108BDSE- DJ-F (128x8) | PASS |

| | | | | | | | | |
|--------|-----|--------------|------|---|----------------|----------------------|--|-------------|
| Apacer | 1GB | DDR3 1066 | DDR3 | N | 78.1GC3.20 | 96D3-1G1066NN- AP | ELPIDA J1108BABG- AE-E (128x8) | Pass |
| | 1GB | DDR3 1066 | DDR3 | N | 78.01GC3.420 | 96D3-1G1066NN- AP | ELPIDA J1108BABG- DJ-E (128x8) | Pass |
| | 2GB | DDR3 1066 | DDR3 | N | 78.A1GC3.421 | 96D3-2G1066NN- AP | ELPIDA J1108BABG- AE-E (128x8) | PASS |
| | 2GB | DDR3 1066 | DDR3 | N | 78.A1GC3.421 | 96D3-2G1066NN- AP | ELPIDA J1108BABG- DJ-E 092109D1P (128x8) | Pass |
| ATP | 4GB | DDR3 1066 | DDR3 | N | 78.B1GDJ.AF1 | NA | Hynix H5TQ2G83AF R H9C (256x8) | not support |
| | 4GB | DDR3 1066 | DDR3 | N | AQ12M64B8BKF8S | NA | SAMSUNG 940 K4B2G0846B- HCF8 (256x8) | not support |

Ordering Information

| AIMB-567 Ordering Information | | | | | | |
|-------------------------------|-----------|---------|-----|------------|-------------|-------------|
| Part Number | Chipset | Display | GbE | SW RAID | PCIe x 4 | PCIe x 1 |
| AIMB-567G2-00A1E | G41/ICH7R | VGA/DVI | 2 | Yes | 1 | - |
| AIMB-567VG-00A1E | G41/ICH7 | VGA | 1 | No | - | 1 |

Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.

4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Initial Inspection

Before you begin installing your motherboard, please make sure that the following materials have been shipped:

- LGA 775 Core™ 2 Quad/Duo Pentium 4/Pentium dual-core/Celeron® D Processor-based Micro ATX with DDR3/PCIe/Single GbE LAN
- 1 x AIMB-567 startup manual
- 1 x CD with driver utility and manual
- 2 x Serial ATA HDD data cable
- 2 x Serial ATA HDD power cable
- 2 x COM port cable kit
- 1 x I/O port bracket
- 1 x jumper package
- 1 x warranty card

If any of these items are missing or damaged, contact your distributor or sales representative immediately. We have carefully inspected the AIMB-567 mechanically and electrically before shipment. It should be free of marks and scratches and in perfect working order upon receipt. As you unpack the AIMB-567, check it for signs of shipping damage. (For example, damaged box, scratches, dents, etc.) If it is damaged or it fails to meet the specifications, notify our service department or your local sales representative immediately. Also notify the carrier. Retain the shipping carton and packing material for inspection by the carrier. After inspection, we will make arrangements to repair or replace the unit.

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Chapter 1

General Information

1.1 Introduction

The AIMB-567 is designed with the Intel® G41 and the ICH7 for industrial applications that require both performance computing and enhanced power management capabilities. The motherboard supports Intel Pentium LGA 775 Core™ 2 Quad up to 2.66 GHz/Core 2 Duo up to 3.16 GHz/Pentium Dual-Core up to 2.93 GHz/Celeron up to 1.6 GHz with 800/1066/1333 MHz front side bus and DDR3 800/1066/1333 MHz up to 4 GB.

The AIMB-567 offers cost-saving integrated graphics, built on the Intel® G41 chipset and features the unique Intel® Extreme Graphics architecture that maximizes VGA performance and shares system memory up to 352 MB.

Advantech AIMB-567 is designed with an Intel G41 chipset and supports Intel Core 2 Quad/Duo processor up to FSB 1333 MHz. A rich I/O connectivity of 4 serial ports, 8 USB 2.0, dual GbE LAN and 4 SATA ports.

1.2 Features

- **Cost effective G41 chipset:** supports 800/1066/1333 Front side bus
- **Rich I/O connectivity:** 4 serial ports, 8 USB 2.0, dual GbE LAN.
- **Standard Micro ATX form factor with industrial feature:** The AIMB-567 is a fully-featured Micro ATX motherboard with balanced expandability and the performance.
- **Wide selection of storage devices:** SATA HDD, customers benefit from the flexibility of using the most suitable storage device.
- **Optimized integrated graphic solution:** With Intel® Graphics Media Accelerator X4500, supports versatile display options and 32-bit 3D graphics engine.

1.3 Specifications

1.3.1 System

- **CPU:** LGA775 Core 2 Quad up to 2.66 GHz/Core 2 Duo up to 3.16 GHz/Pentium Dual-Core up to 2.93 GHz/Celeron up to 1.6 GHz with 800/1066/1333 MHz front side bus.
- **BIOS:** AMI SPI 16 Mbit BIOS.
- **System chipset:** Intel G41 with ICH7(VG) / ICH7R(G2).
- **SATA hard disk drive interface:** Four on-board SATA connectors with data transmission rate up to 300 MB.

1.3.2 Memory

- **RAM:** Up to 4 GB in 2 slots 240-pin SODIMM sockets. Supports dual channel DDR3 800/1066/1333 MHz SDRAM.

1.3.3 Input/Output

- **PCIe bus:** 1PCIe x4 slot.
- **Enhanced parallel port:** Configured to LPT1 with 25 pin box header. Supports EPP/SPP/ECP.
- **Serial ports:** Ten serial ports, two of RS-232/422/485 and eight of RS-232 serial ports.
- **Keyboard and PS/2 mouse connector:** Two 6-pin mini-DIN connectors are located on the mounting bracket for easy connection to a PS/2 keyboard and mouse.
- **USB port:** Supports up to eight USB 2.0 ports with transmission rates up to 480 Mbps, (4 on board pin header and 4 external ports).

1.3.4 Graphics

- **Controller:** Chipset integrated VGA controller.
- **Display memory:** Dynamically shared system memory up to 224 MB.
- **CRT:** Up to 2048 x 1536 resolution, 400 MHz RAMDAC.

1.3.5 Ethernet LAN

- Supporting single/dual 10/100/1000Base-T Ethernet port (s) via PCIe x1 bus which provides 500 MB/s data transmission rate.
- **Controller:** LAN: Realtek RTL8111C.

1.3.6 Industrial features

- **Watchdog timer:** Can generate a system reset. The watchdog timer is programmable, with each unit equal to one second or one minute (255 levels).

1.3.7 Mechanical and environmental specifications

- **Operating temperature:** 0 ~ 60° C (32 ~ 140° F, Depending on CPU).
- **Storage temperature:** -20 ~ 70° C (-4 ~ 158° F)
- **Humidity:** 5 ~ 95% non-condensing.
- **Power supply voltage:** +3.3 V, +5 V, +12 V, -12 V, 5 Vsb.

- **Power consumption:**
+5 V @ 4 A, +3.3 V @ 1.02 A, +12 V @ 2.35 A, 5 VSB @ 0.26 A, -12 V @ 0.12 A Measure the maximum current value which system under maximum load (CPU: Top speed, RAM & Graphic= full loading).
- **Board size:** 244 mm x 244 mm (9.6" x 9.6")
- **Board weight:** 0.75 kg

1.4 Jumpers and Connectors

Connectors on the AIMB-567 motherboard link it to external devices such as hard disk drives and a keyboard. In addition, the board has a number of jumpers used to configure the system for your application.

The tables below list the function of each of the board jumpers and connectors. Later sections in this chapter give instructions on setting jumpers. Chapter 2 gives instructions for connecting external devices to your motherboard.

Table 1.1: Jumpers

| Label | Function |
|----------|--|
| CMOS1 | CMOS clear |
| JCASE1 | Chassis Instruction Connector |
| PSON1 | AT/ATX mode selector |
| JSETCOM3 | Serial port:RS232/RS422/RS485 jumper setting |

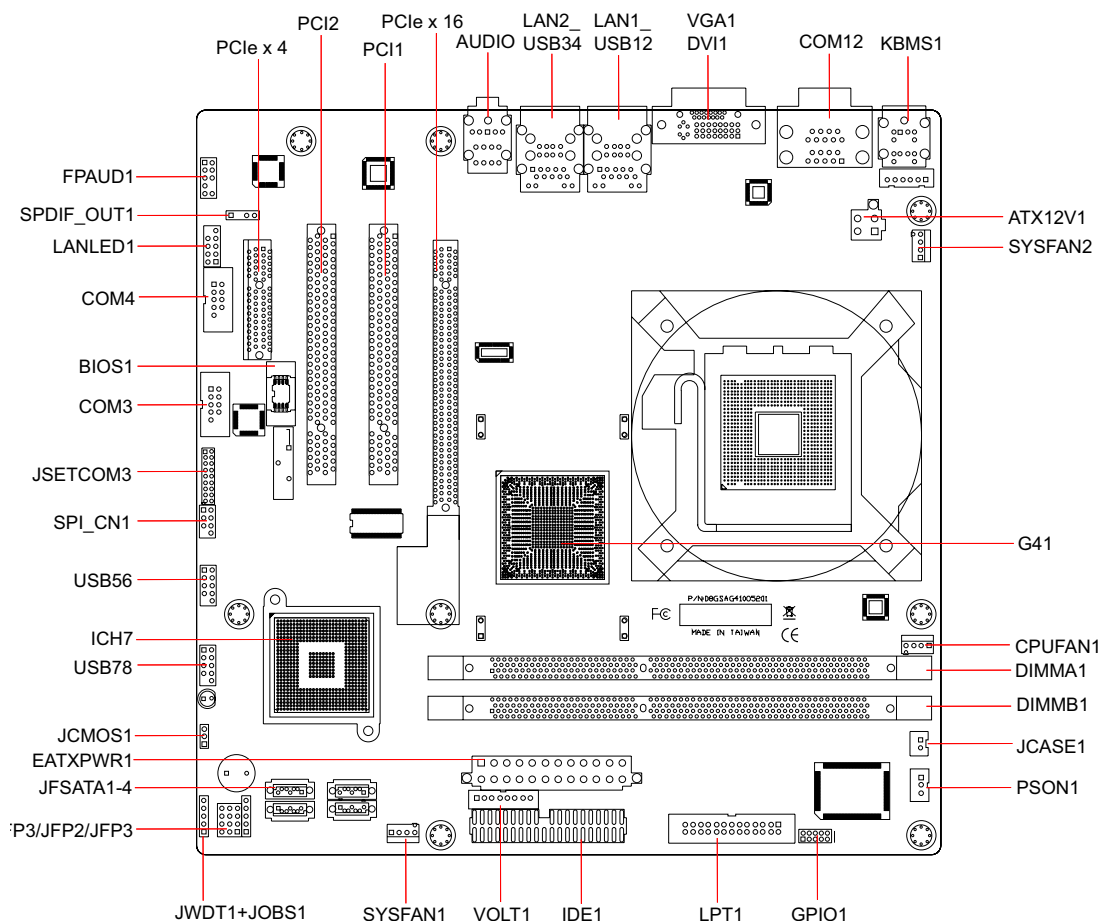
Table 1.2: Connectors

| Label | Function |
|-----------------------------|--|
| JFP1 | Power Switch / Reset connector |
| JFP2 | External speaker / SATA HDD LED connector / SM Bus connector |
| JFP3 | Power LED |
| Keyboard Lock and Power LED | Suspend: Fast flash (ATX/AT) |
| | System On: ON (ATX/AT) |
| | System Off: OFF (AT) |
| | System Off: Slow flash (ATX) |
| LPT1 | Parallel port (on board) |
| USB56 | USB port 5, 6 (on board) |
| USB78 | USB port 7 8(on board) |
| VGA1 | VGA connector |
| DVI1 | Extension I/O board connector 2 (Support DVI) |
| VOLT1 | Connector to check chassis LED board |
| IDE1 | Primary IDE connector (Black) |
| COM1/COM2 | Serial port: COM1/COM2 (9-pin connector) |
| COM 3 ~ 4 | Serial port: COM 3 ~ 4 (40-pin connector) |
| KBMS1 | PS/2 keyboard and Mouse connector Cable length: 20 meter |
| KBMS2 | PS/2 keyboard and Mouse connector (on board) |
| CPU_FAN1 | CPU FAN connector |
| SYS_FAN1 | System FAN connector 1 |
| SYS_FAN2 | System FAN connector 2 |
| LAN1_USB12 | LAN1/USB port 1, 2 |

Table 1.2: Connectors

| | |
|------------|---|
| LAN2_USB34 | LAN2/USB port 3, 4 |
| SATA 1 ~ 4 | Serial ATA connector |
| ATX12V1 | ATX 12 V Auxiliary power connector |
| EATXPWR1 | ATX power connector |
| SPI_CN1 | SPI flash card pin header |
| AUDIO1 | Line Out, Mic IN connector |
| FPAUDIO1 | Front Panel audio connector (FP_AUDIO) |
| GPIO1 | GPIO pin header (SMD pitch=2.0 mm) 2 x 4 |
| JCASE1 | Case open connector |
| LANLED1 | Front Panel LAN Indicator connector |
| SPDIF OUT1 | Digital Audio connector 4 x 1 header pitch =2.54 mm |

1.5 Board layout: Jumper and Connector Locations

**Figure 1.1 Jumper and Connector Location****Figure 1.2 I/O Connectors**

1.6 AIMB-567 Block Diagram

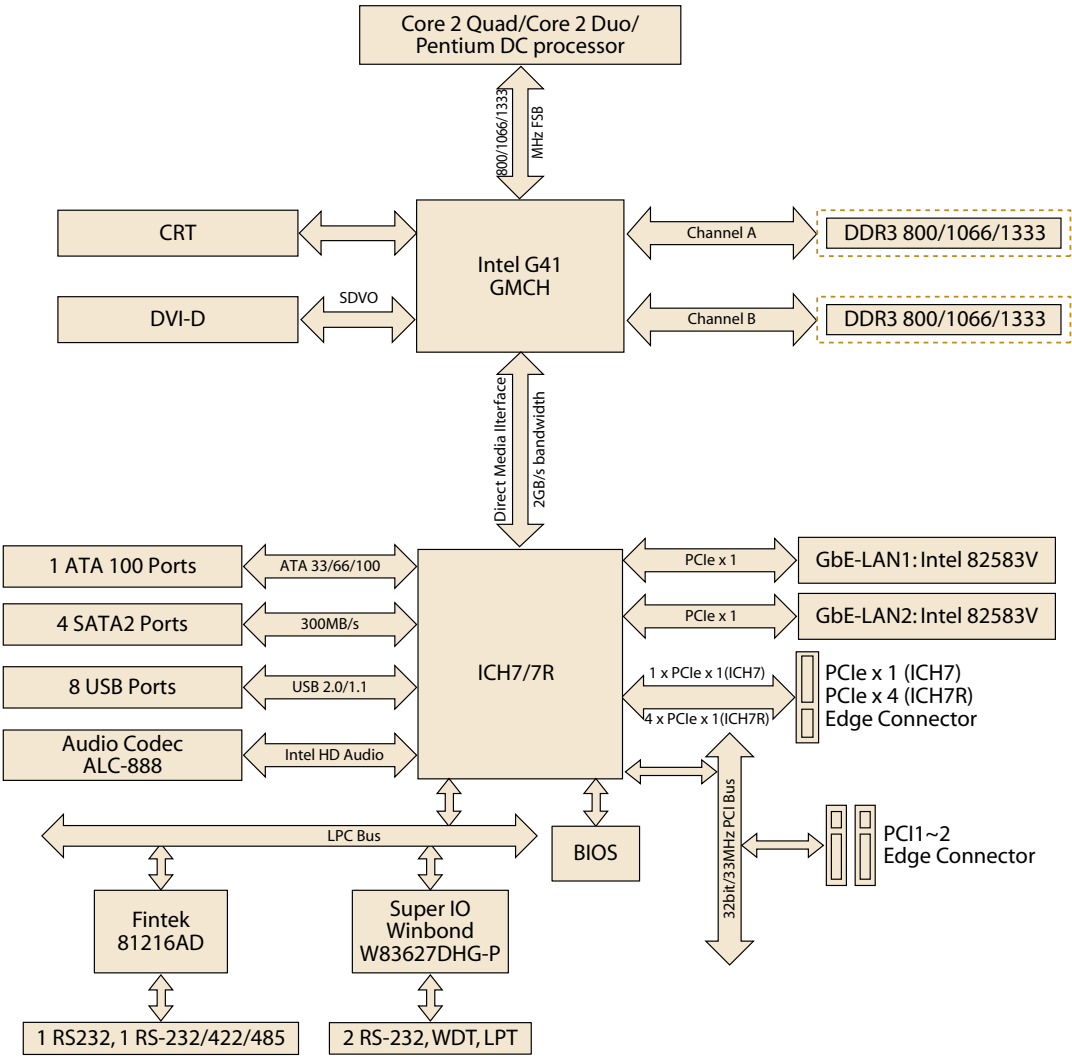


Figure 1.3 AIMB-567 Block Diagram

1.7 Safety Precautions

Warning! Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.



Caution! Always ground yourself to remove any static charge before touching the motherboard. Modern electronic devices are very sensitive to electrostatic discharges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis.



Caution! The computer is provided with a battery-powered Real-time Clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.



Caution! There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.



1.8 Jumper Settings

This section provides instructions on how to configure your motherboard by setting the jumpers. It also includes the motherboards's default settings and your options for each jumper.



1.8.1 How to set jumpers

You can configure your motherboard to match the needs of your application by setting the jumpers. A jumper is a metal bridge that closes an electrical circuit. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” (or turn ON) a jumper, you connect the pins with the clip. To “open” (or turn OFF) a jumper, you remove the clip. Sometimes a jumper consists of a set of three pins, labeled 1, 2, and 3. In this case you connect either pins 1 and 2, or 2 and 3. A pair of needle-nose pliers may be useful when setting jumpers.

1.8.2 CMOS clear (CMOS1)

The AIMB-567 motherboard contains a jumper that can erase CMOS data and reset the system BIOS information. Normally this jumper should be set with pins 1-2 closed. If you want to reset the CMOS data, set J1 to 2-3 closed for just a few seconds, and then move the jumper back to 1-2 closed. This procedure will reset the CMOS to its default setting.

Table 1.3: CMOS1

| Function | Jumper Setting |
|------------------|--|
| | 1 |
| *Keep CMOS data |  1-2 closed |
| | 1 |
| Clear CMOS data |  2-3 closed |
| *default setting | |

1.8.3 Chassis instruction connector (JCASE1)

The AIMB-567 motherboard contains a jumper for a chassis open sensor. When set, the buzzer on the motherboard beeps when the case is opened.

1.8.4 ATX/AT mode selector (PSON1)

Table 1.4: ATX/AT mode selector (PSON1)

| Function | Jumper Setting |
|------------------|----------------|
| AT mode | 1-2 closed |
| *ATX mode | 2-3 closed |
| *default setting | |

1.8.5 COM3 RS 232/422/485 mode selector (JSETCOM3)

Users can use JSETCOM3 to select among RS 232/422/485 modes for COM3. The default setting is RS 232.

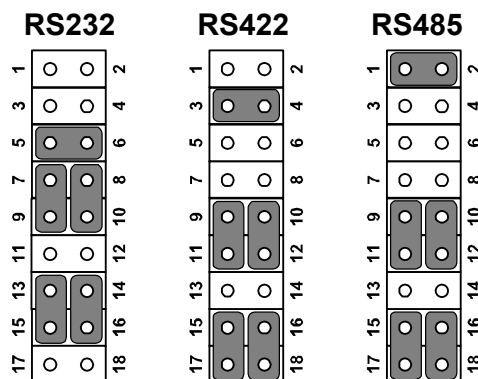


Table 1.5: COM3 RS 232/422/485 mode selector (JSETCOM3)

| Function | Jumper Setting |
|------------|---|
| *RS232 | (5-6) + (7-9) + (8-10) + (13-15) + (14-16) closed |
| RS422 | (3-4) + (9-11) + (10-12) + (15-17) + (16-18) closed |
| RS-485 | (1-2) + (9-11) + (10-12) + (15-17) + (16-18) closed |
| *: Default | |

1.9 System Memory

The AIMB-567 has two sockets for 240-pin SODIMMx2. All these sockets use 1.8 V unbuffered double data rate synchronous DRAMs (DDR3 SDRAM). They are available in capacities of 1024 MB. The sockets can be filled in any combination with DIMMs of any size, giving a total memory size on 4 GB. AIMB-567 does NOT support ECC (error checking and correction).

1.10 Memory Installation Procedures

To install SODIMMs, first make sure the two handles of the SODIMM socket are in the “open” position. i.e. The handles lean outward. Slowly slide the SODIMM module along the plastic guides on both ends of the socket. Then press the SODIMM module right down into the socket, until you hear a click. This is when the two handles have automatically locked the memory module into the correct position of the SODIMM socket. To remove the memory module, just push both handles outward, and the memory module will be ejected by the mechanism in the socket.

1.11 Cache Memory

The AIMB-567 supports a CPU with one of the following built-in full speed L2 caches:

- 6 MB for Intel Core 2 Quad CPU
- 6 MB for Intel Core 2 Duo CPU
- 8 MB for Intel Pentium Duo Core CPU
- 512 KB for Intel Celeron CPU

The built-in second-level cache in the processor yields much higher performance than conventional external cache memories.

1.12 Processor Installation

The AIMB-567 is designed for LGA775, Intel Core 2 Quad, Intel Core 2 Duo, Celeron D and Intel Pentium dual core D processor.

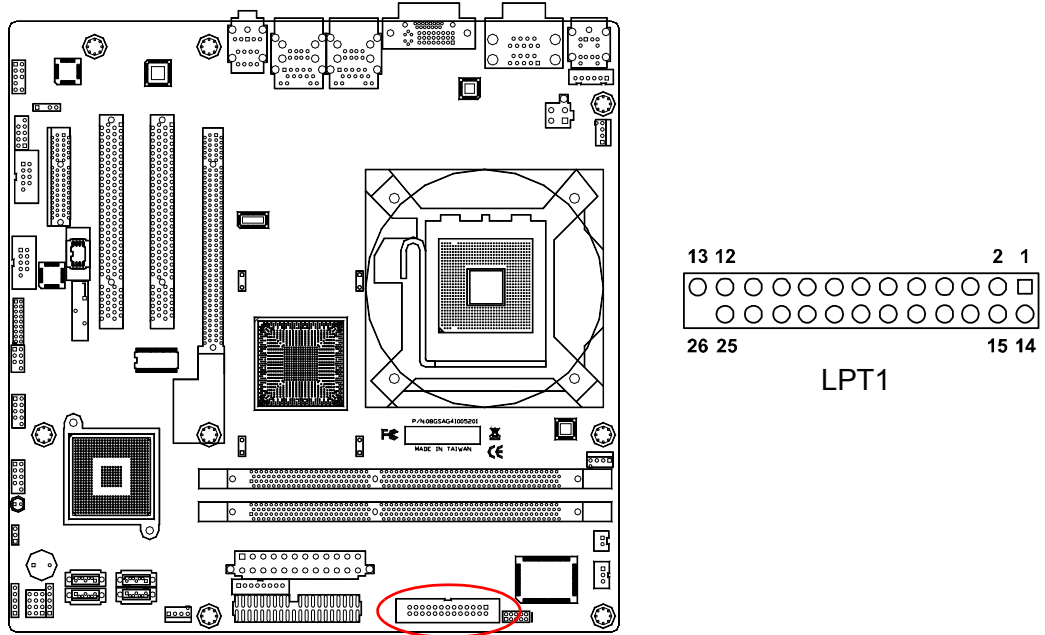
Chapter 2

Connecting
Peripherals

2.1 Introduction

You can access most of the connectors from the top of the board as it is being installed in the chassis. If you have a number of cards installed or have a packed chassis, you may need to partially remove a card to gain access to all the connections.

2.2 Parallel Port (LPT1)



The parallel port is normally used to connect the motherboard to a printer. The AIMB-567 includes an onboard parallel port, accessed through a 25-pin flat-cable connector, LPT1.

Note! The parallel cable is not enclosed in the box as a standard accessory. The order part number is 1700008809.



2.3 USB Ports (USB12/LAN2_USB34/USB56/USB78)

The AIMB-567 provides up to eight USB ports (Universal Serial Bus). The USB interface complies with USB Specification Rev. 2.0 supporting transmission rates up to 480 Mbps and is fuse protected. The USB interface can be disabled in the system BIOS setup.

The AIMB-567 is equipped with one high-performance 1000 Mbps Ethernet LAN. They are supported by all major network operating systems. The RJ-45 jack is on the rear plate providing 1000Base-T operation.

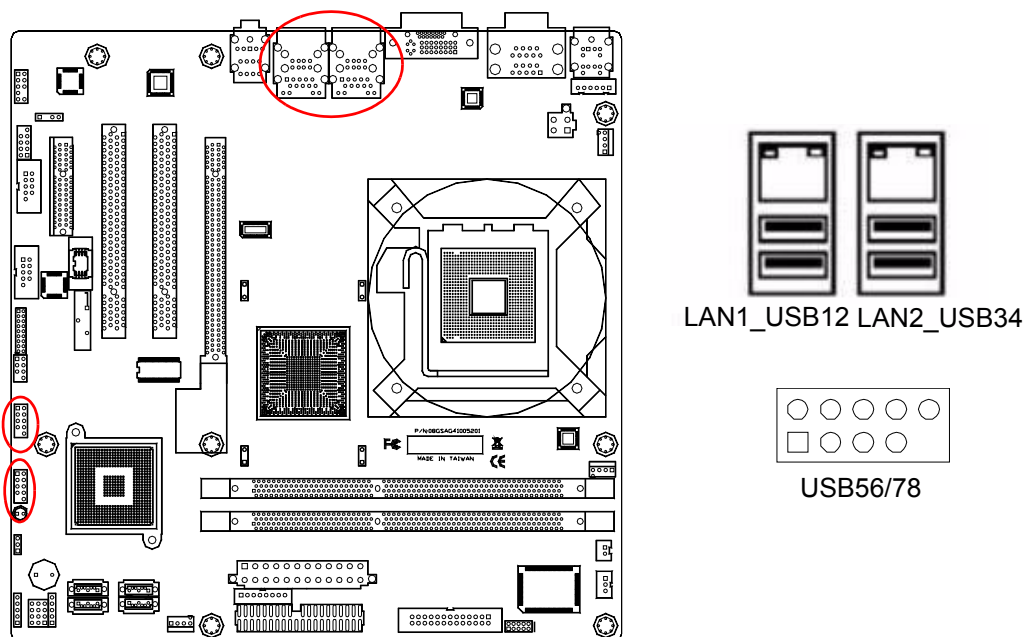
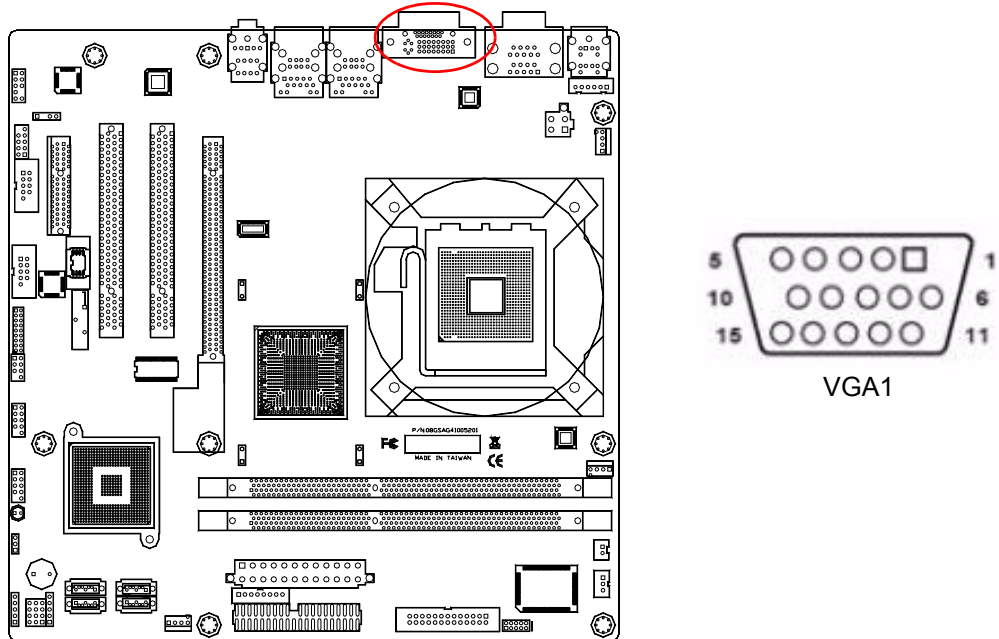


Table 2.1: LAN LED Indicator

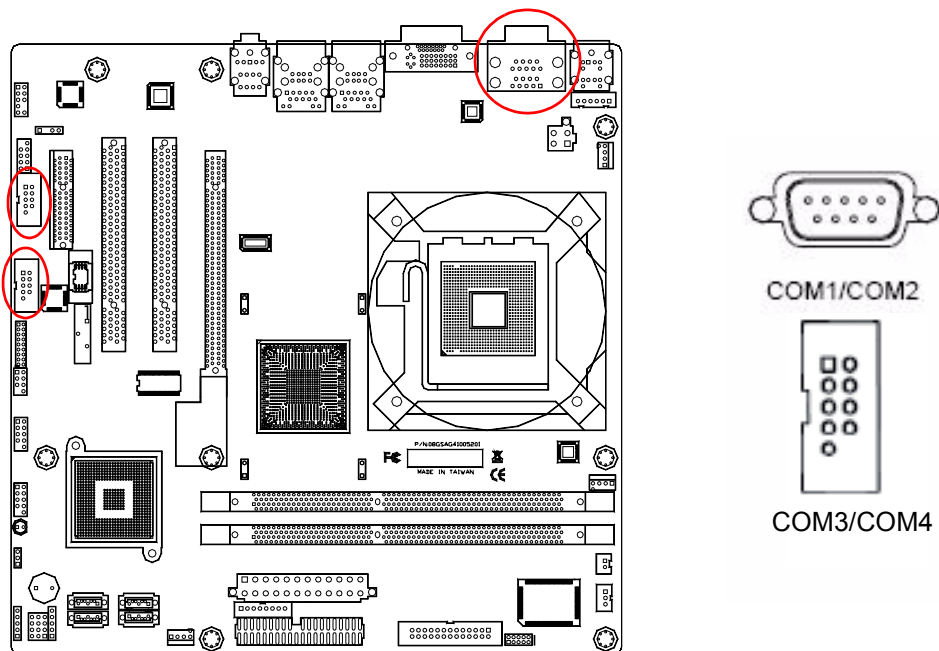
| LAN Mode | Lan Indicator |
|------------------|------------------|
| 1 Gbps Link on | LED1 Green on |
| 100 Mbps Link on | LED1 Orange on |
| Active | LED2 Green flash |

2.4 VGA Connector (VGA1)



The AIMB-567 includes a VGA interface that can drive conventional CRT displays. VGA1 is a standard 15-pin D-SUB connector commonly used for VGA. Pin assignments for CRT connector VGA1 are detailed in Appendix B.

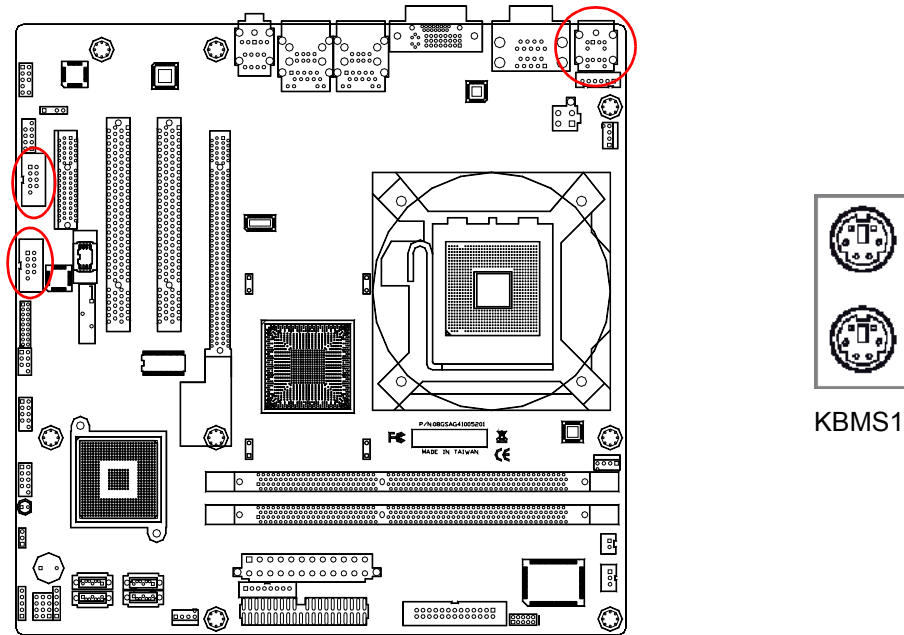
2.5 Serial Ports (COM1~COM4)



AIMB-567 supports four serial ports - three RS-232, and one RS-232/422/485 - COM3. The user can use JSETCOM3 to select among RS 232/422/485 modes for COM3. These ports can connect to serial devices, such as a mouse or a printer, or to a communications network.

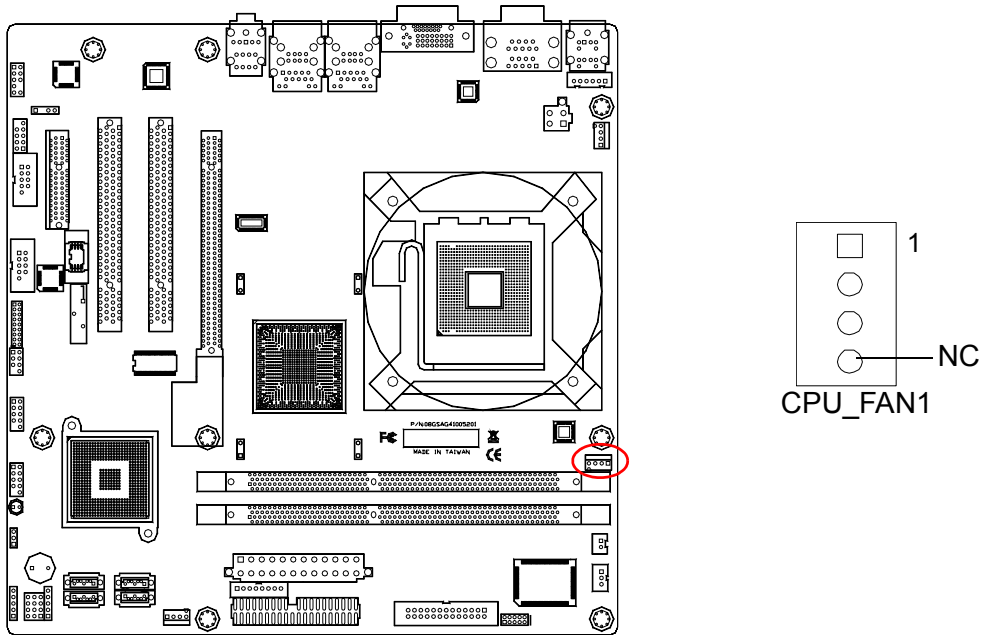
The IRQ and address ranges for both ports are fixed. However, if you want to disable the port or change these parameters later, you can do this in the system BIOS setup. Different devices implement the RS-232/422/485 standards in different ways. If you are having problems with a serial device, be sure to check the pin assignments for the connector.

2.6 PS/2 Keyboard and Mouse Connector (KBMS1)



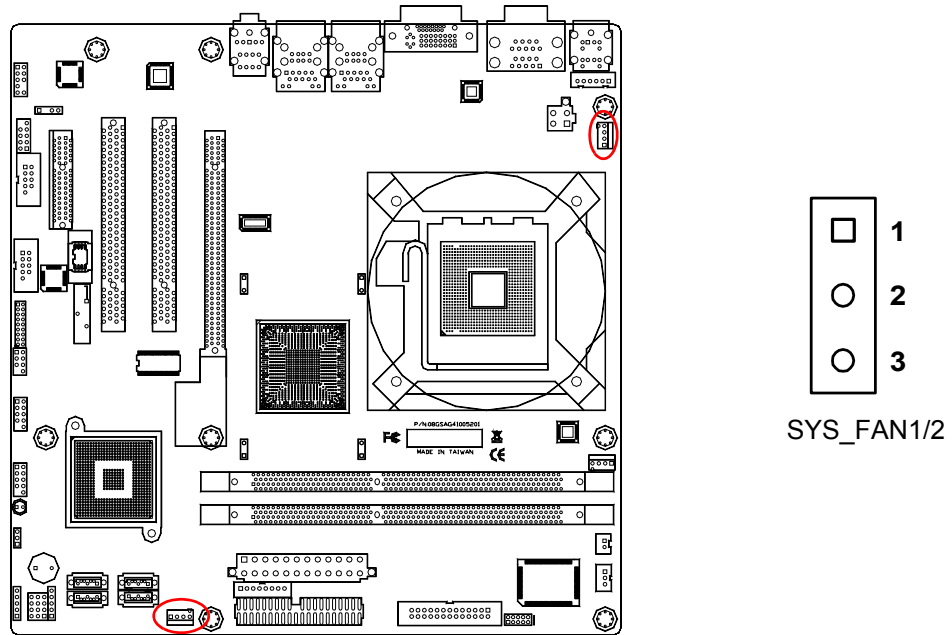
Two 6-pin mini-DIN connectors (KBMS1) on the motherboard provide connection to a PS/2 keyboard and a PS/2 mouse, respectively.

2.7 CPU Fan Connector (CPU_FAN1)



If a fan is used, this connector supports cooling fans of 500 mA (6 W) or less.

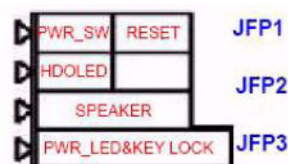
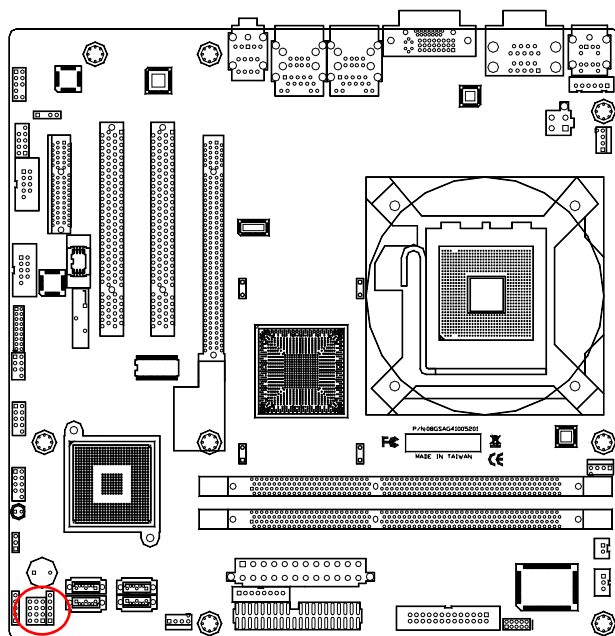
2.8 System FAN Connector (SYS_FAN1/2)



If a fan is used, this connector supports cooling fans of 500 mA (6 W) or less.

2.9 Front Panel Connectors (JFP1/2/3)

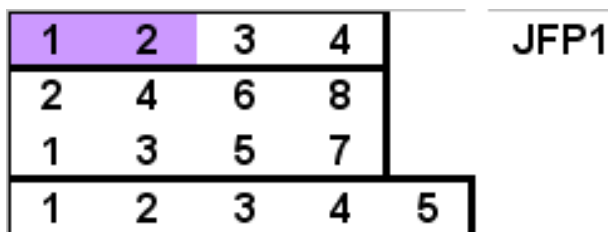
There are several external switches to monitor and control the AIMB-567. JFP1+JFP2 are for front panel (HDD LED/SNMP SMBus/Speaker pin header/ Power switch). JFP3 is for Power LED and Keyboard lock timer.



| | | | | | |
|-------------|---|---|---|----|---|
| JFP1 & JFP2 | 3 | 6 | 9 | 12 | |
| | 2 | 5 | 8 | 11 | |
| | 1 | 4 | 7 | 10 | |
| JFP3 | 1 | 2 | 3 | 4 | 5 |

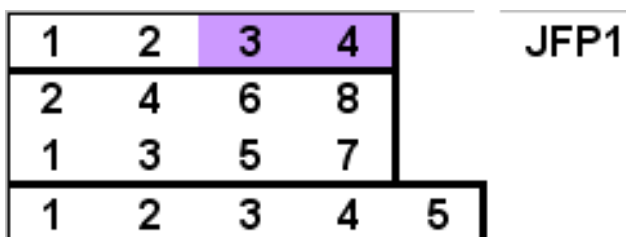
2.9.1 ATX Soft Power Switch (JFP1)

If your computer case is equipped with an ATX power supply, you should connect the power on/off button on your computer case to JFP1 PIN1, 2. This connection enables you to turn your computer on and off.



2.9.2 Reset Connector (JFP1)

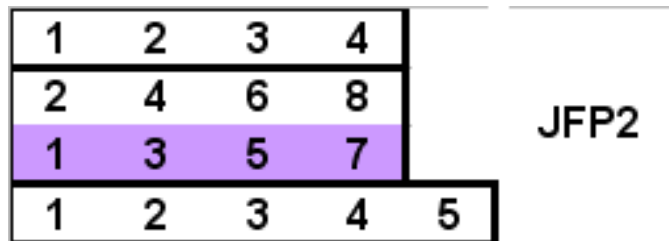
Many computer cases offer the convenience of a reset button. Connect the wire from the reset button.



| JFP1 | |
|-------------|---------|
| pin.1 | #PWR_SW |
| pin.2 | GND |
| pin.3 | #RST_SW |
| pin.4 | GND |

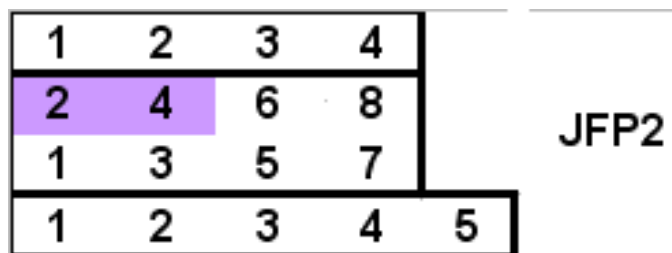
2.9.3 External Speaker (JFP2)

JFP2 is a 4-pin connector for an external speaker. If there is no external speaker, the AIMB-566 provides an onboard buzzer as an alternative. To enable the buzzer, set pins 5-7 as closed.



2.9.4 HDD LED Connector (JFP2)

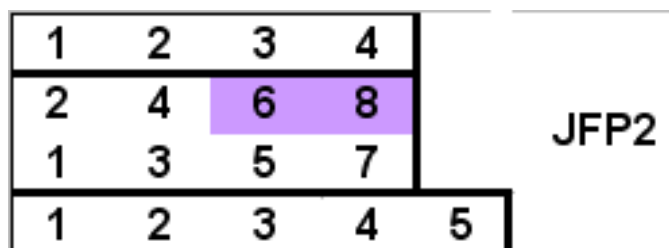
You can connect an LED to connector JFP2 to indicate when the HDD is active.



2.9.5 SM Bus Connector (JFP2 PIN 6,8)

This connector is reserved for Advantech's SNMP-1000 HTTP/SNMP Remote System Manager. The SNMP-1000 allows users to monitor the internal voltages, temperature and fans from a remote computer through an Ethernet network.

JFP2 PIN 6,8 can be connected to CN19 of SNMP-1000. Please be careful about the pin assignments, pin 6 must be connected to pin 1, and pin 8 to pin 2 on both ends of cable.



| JFP2 | | | |
|-------------|----------|-------|----------|
| pin.1 | BUZZER+ | pin.2 | HDD_LED+ |
| pin.3 | NC | pin.4 | HDD_LED- |
| pin.5 | MB_BEEP+ | pin.6 | SM_DAT |
| pin.7 | BUZZER- | pin.8 | SM_CLK |

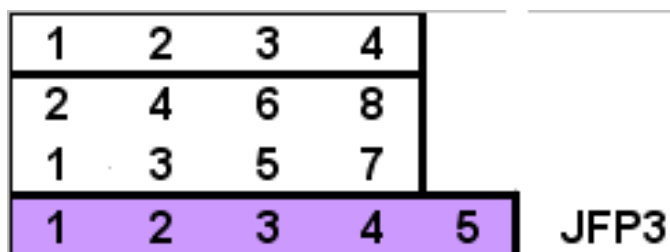
2.9.6 Power LED and keyboard lock connector (JFP3 / PWR_LED&KEY LOCK)

(JFP3 / PWR_LED&KEY LOCK) is a 5-pin connector for the power on LED and Key Lock function. The Power LED cable should be connected to pin 1-3. The key lock button cable should be connected to pin 4-5.

There are 3 modes for power supply connection. The first is “ATX power mode”, whereby the system is turned on/off through software and other means. The second is “AT Power Mode”, whereby the system is turned on/off by the power supply switch on the back. The third is another “AT Power Mode” which uses the front panel power switch. The power LED status is indicated as in following table:

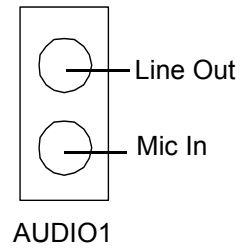
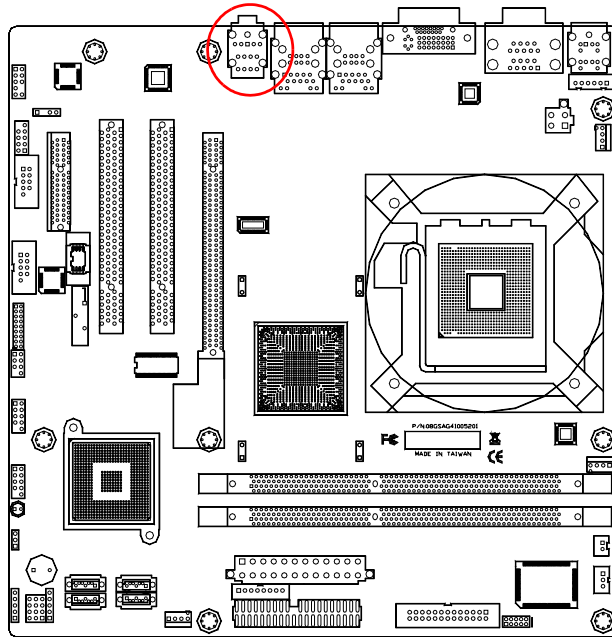
Table 2.2: ATX power supply LED status (No support for AT power)

| Power Mode | LED (ATX Power Mode) (On/Off by software or other) | LED (AT Power Mode) (On/Off by switching power supply) | LED (AT Power Mode) (On/Off by front panel switch) |
|--|---|---|---|
| PSON1 (On Back plane) Jumper Setting | 2-3 pin closed | 1-2 pin closed | Connect 1-2 pin cable with switch |
| System On | On | On | On |
| System Status | Fast flashes | Fast flashes | Fast flashes |
| System Off | Slow flashes | Off | Off |

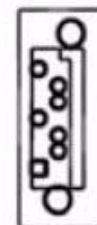
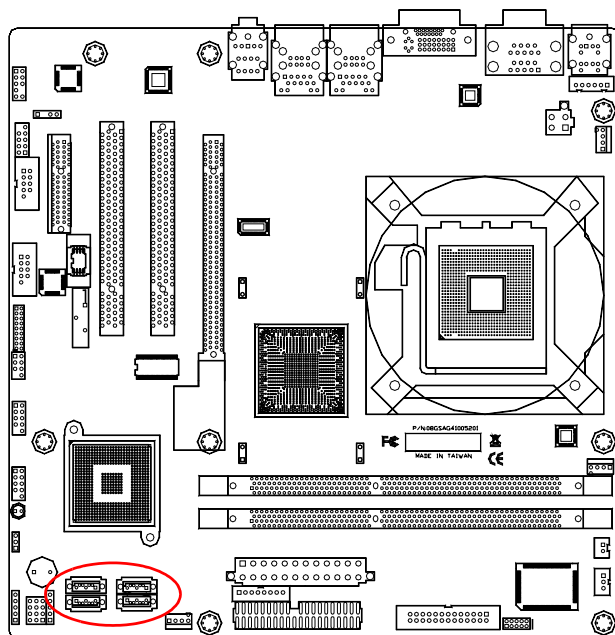


| JFP3 | |
|-------------|----------|
| pin.1 | PWR_LED+ |
| pin.2 | NC |
| pin.3 | PWR_LED- |
| pin.4 | #KB_LOCK |
| pin.5 | GND |

2.10 Line Out and Mic In Connector (AUDIO1)



2.11 Serial ATA Interface (SATA 1/2/3/4)

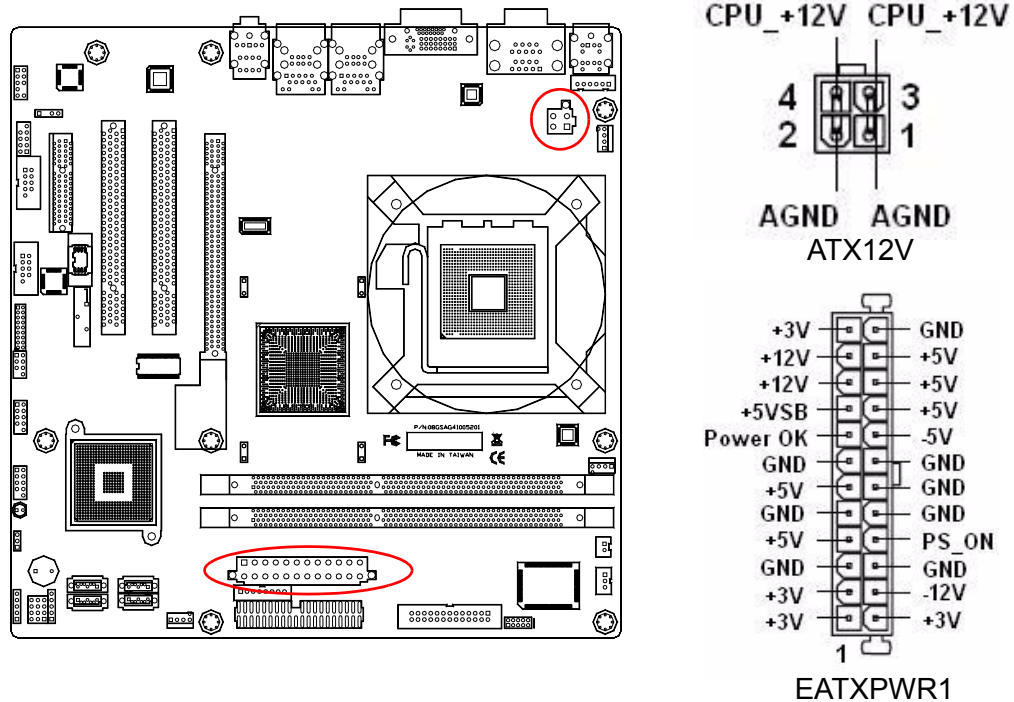


SATA1/2/3/4

AIMB-567 features four high performance serial ATA interface (up to 300 MB/s) which eases cabling to hard drives with thin and long cables.

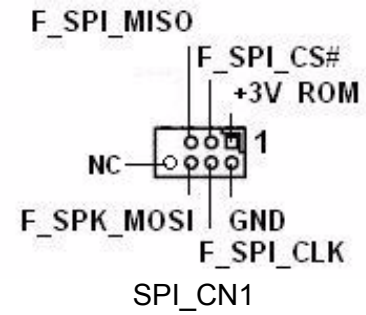
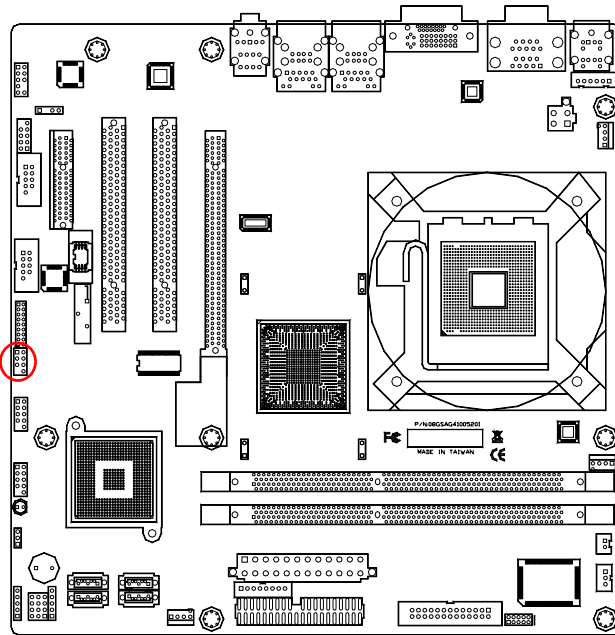
2.12 ATX Power Connector (ATX12V1, EATXPWR1)

These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.



- Note!**
1. Make sure that your ATX 12V power supply can provide 8A on the +12V lead and at least 1A on the +5-volt standby lead (+5VSB). The minimum recommended wattage is 230W, or 300W for a fully configured system. The system can become unstable and might experience difficulty powering up if the power supply is inadequate.
 2. You must install a PSU with a higher power rating if you intend to install additional devices.

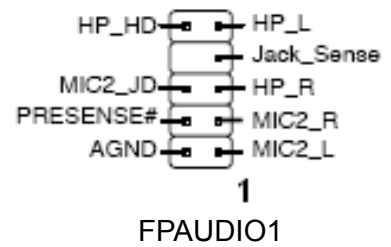
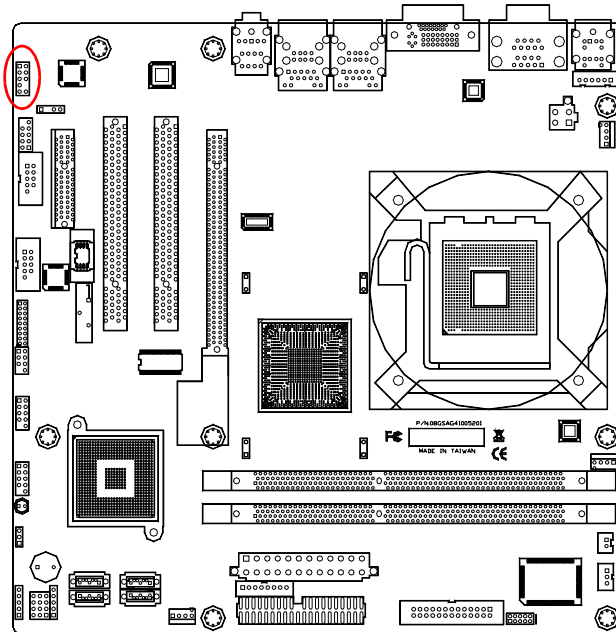
2.13 SPI Flash Connector (SPI_CN1)



SPI flash card pin header can be used to flash the BIOS.

2.14 Front Panel Audio Connector (FPAUDIO1)

This connector is for a chassis mounted front panel audio I/O module that supports either HD Audio or legacy AC'97 (optional) audio standard. Connect one end of the front panel audio I/O module cable to this connector.

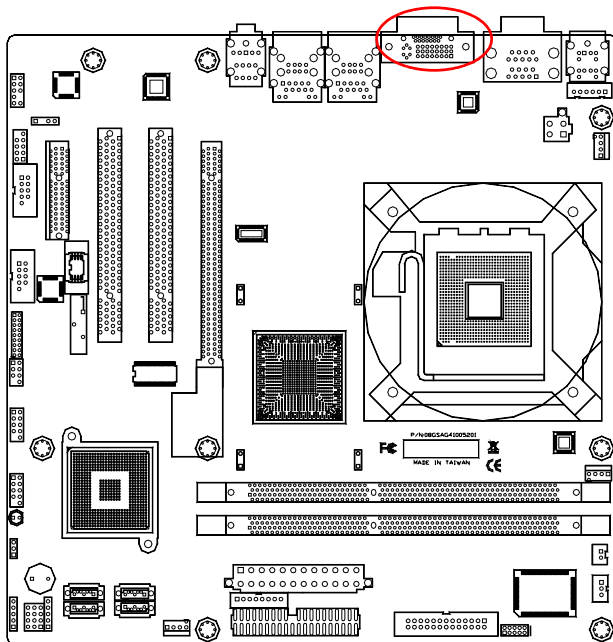


Note! For motherboards with the optional HD audio feature, we recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high definition audio capability.



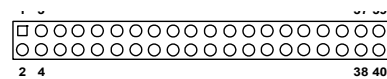
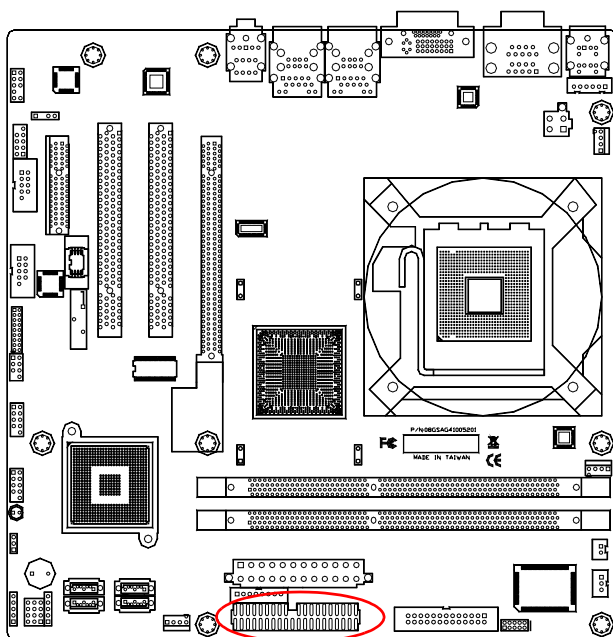
2.15 DVI connector(DVI1)

DVI1 connector provides a video interface standard designed to maximize the visual quality of digital display devices such as flat panel LCD computer displays and digital projectors. It is designed for carrying uncompressed digital video data to a display with a DVI-D output.



DVI1

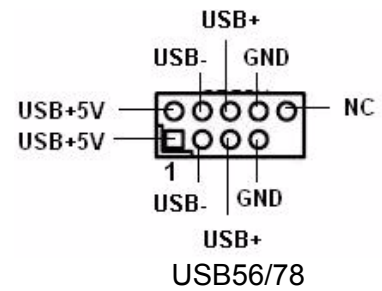
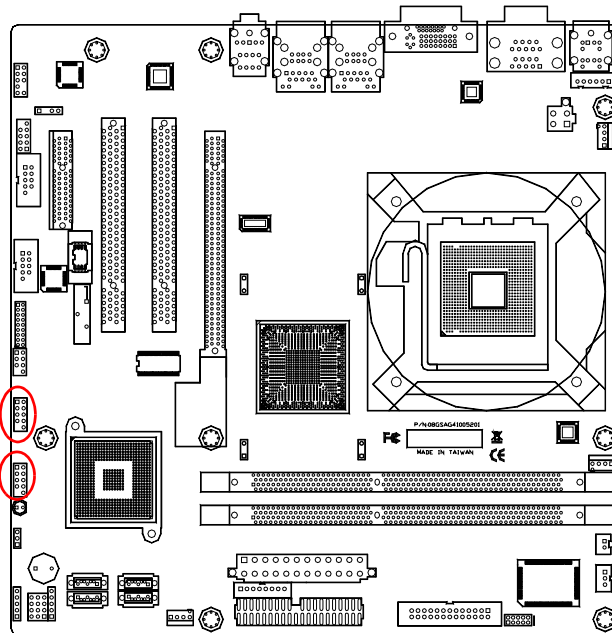
2.16 Primary EIDE Connector (IDE1)



IDE1

2.17 USB 2.0 Connector (USB 56, 78)

These connectors are for USB 2.0 ports. Connect the USB/GAME module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

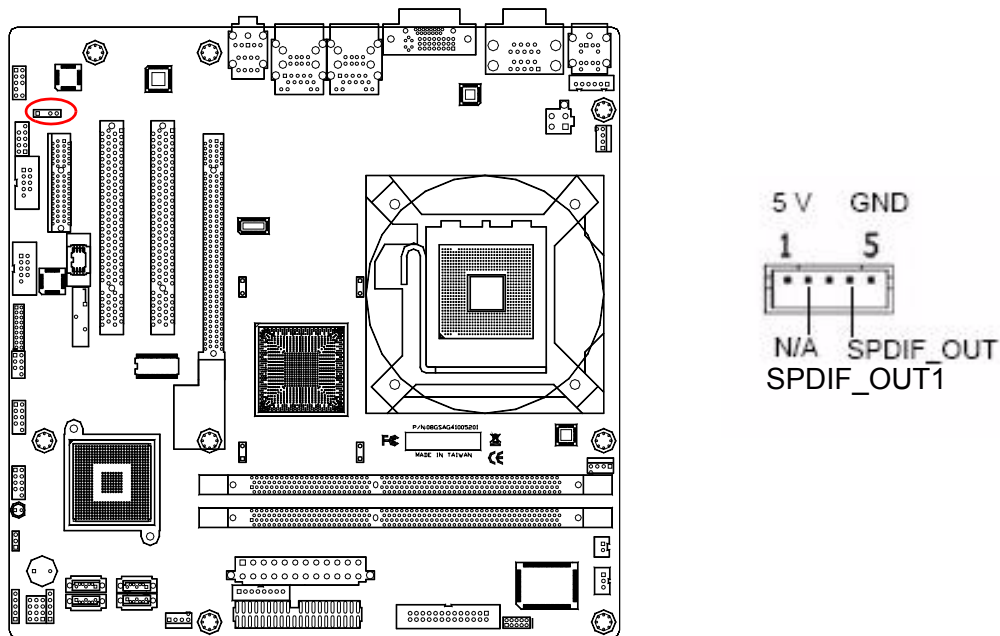


Note! The USB module is purchased separately.



2.18 Digital Audio Connector(SPDIF_OUT1)

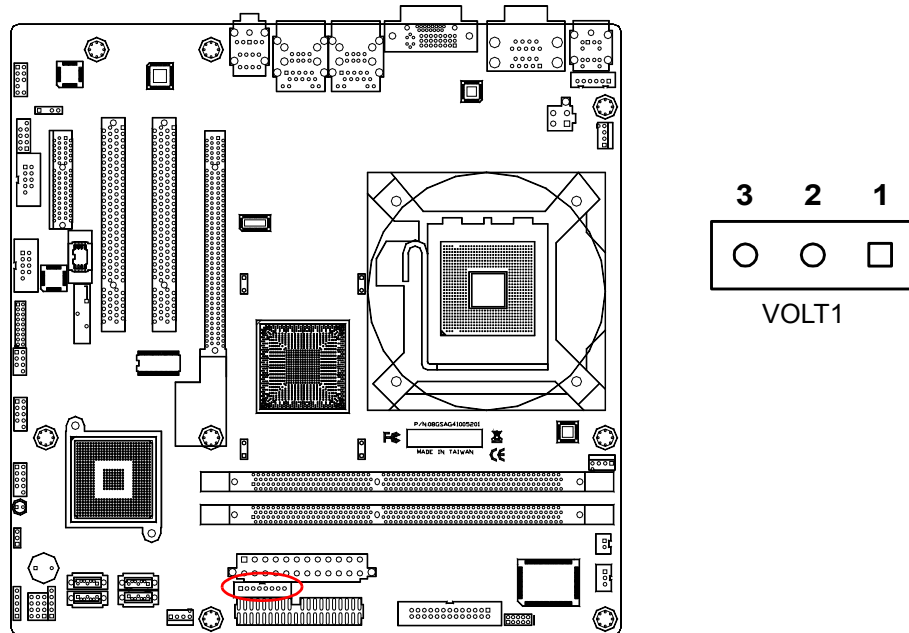
This connector is for the S/PDIF audio module to allow digital sound output. Connect one end of the S/PDIF audio cable to this connector and the other end to the S/PDIF module.



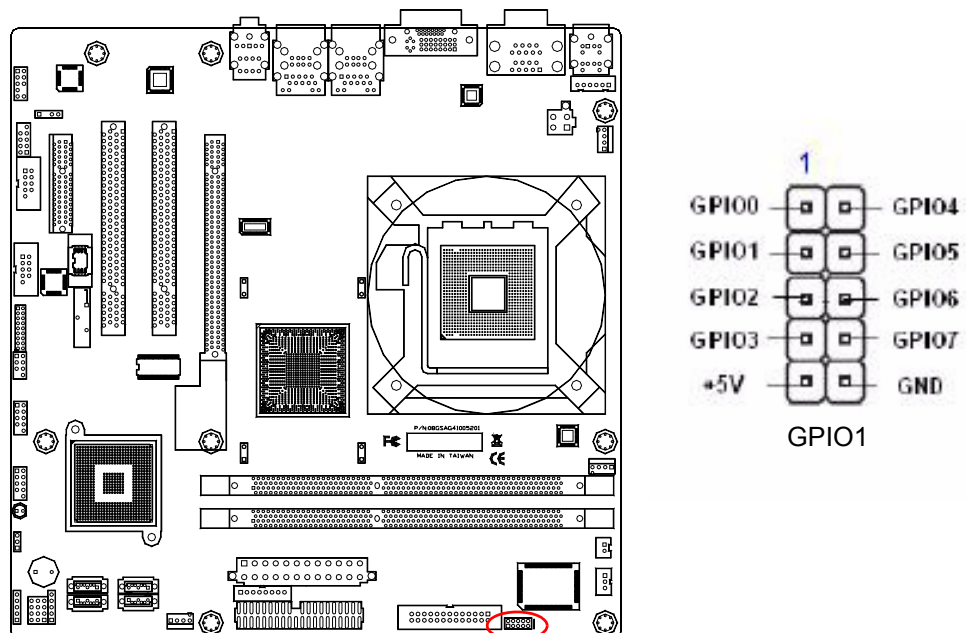
Note! The S/PDIF out module is purchased separately.



2.19 Connector to check chassis LED board(VOLT1)



2.20 GPIO Pin Header (GPIO1)



Chapter 3

BIOS Operation

3.1 Introduction

AMI BIOS has been integrated into many motherboards, and has been very popular for over a decade. People sometimes refer to the AMI BIOS setup menu as BIOS, BIOS setup or CMOS setup.

With the AMI BIOS setup program, you can modify BIOS settings and control the special features of your computer. The Setup program uses a number of menus for making changes and turning special features on or off. This chapter describes the basic navigation of the AIMB-567 setup screens.

3.2 BIOS Setup

The AIMB-567 series system has AMI BIOS build-in with a CMOS SETUP utility which allows users to configure required settings or to activate certain system features.

The CMOS SETUP saves the configuration in the CMOS RAM of the motherboard. When the power is turned off, the battery on the board supplies the necessary power to the CMOS RAM.

When the power is turned on, press the button during the BIOS POST (Power-On Self Test) which will take you to the CMOS SETUP screen.

Control Keys

| | |
|----------------------|---------------------|
| < ↑ >> ↓ >> ← >> → > | Move to select item |
|----------------------|---------------------|

| | |
|---------|-------------|
| <Enter> | Select Item |
|---------|-------------|

| | |
|-------|---|
| <Esc> | Main Menu - Quit and not save changes into CMOS Sub Menu - Exit current page and return to Main Menu |
|-------|---|

| | |
|-------------|--|
| <Page Up/+> | Increase the numeric value or make changes |
|-------------|--|

| | |
|---------------|--|
| <Page Down/-> | Decrease the numeric value or make changes |
|---------------|--|

| | |
|------|----------------------------------|
| <F1> | General help, for Setup Sub Menu |
|------|----------------------------------|

| | |
|------|-----------|
| <F2> | Item Help |
|------|-----------|

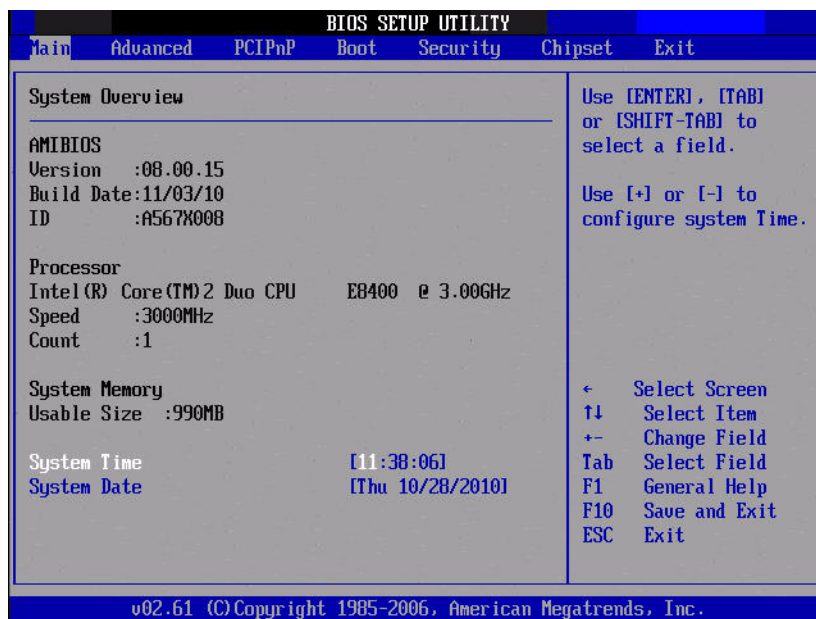
| | |
|------|----------------------|
| <F5> | Load Previous Values |
|------|----------------------|

| | |
|------|--------------------|
| <F7> | Load Setup Default |
|------|--------------------|

| | |
|-------|-----------------------|
| <F10> | Save all CMOS changes |
|-------|-----------------------|

3.2.1 Main Menu

Press to enter AMI BIOS CMOS Setup Utility, the Main Menu will appear on the screen. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.



The Main BIOS setup screen has two main frames. The left frame displays all the options that can be configured. Grayed-out options cannot be configured; options in blue can. The right frame displays the key legend.

Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it.

■ System time / System date

Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard.

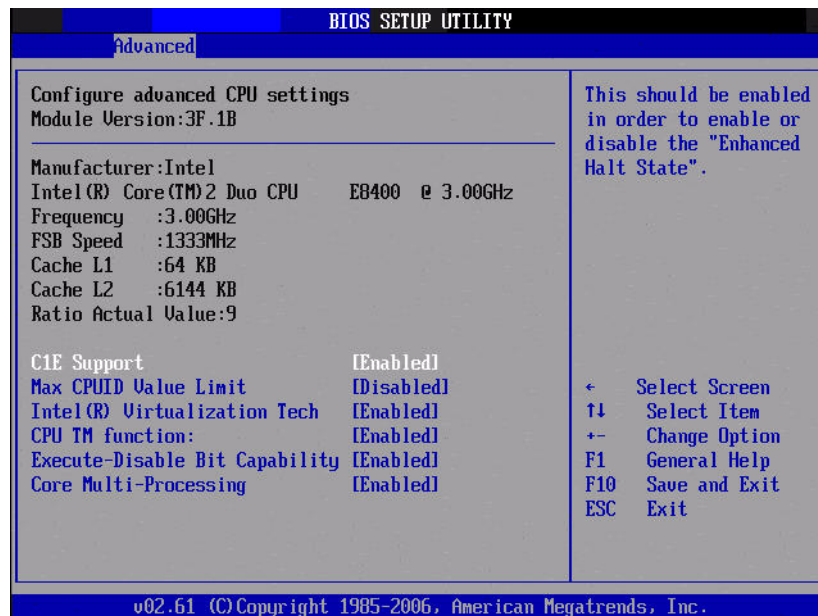
Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time must be entered in HH:MM:SS format.

3.2.2 Advanced BIOS Features

Use the <Arrow> keys to enter the Advanced BIOS Setup. You can select any of the items in the left frame of the screen, such as CPU Configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it and using the <Arrow> keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.



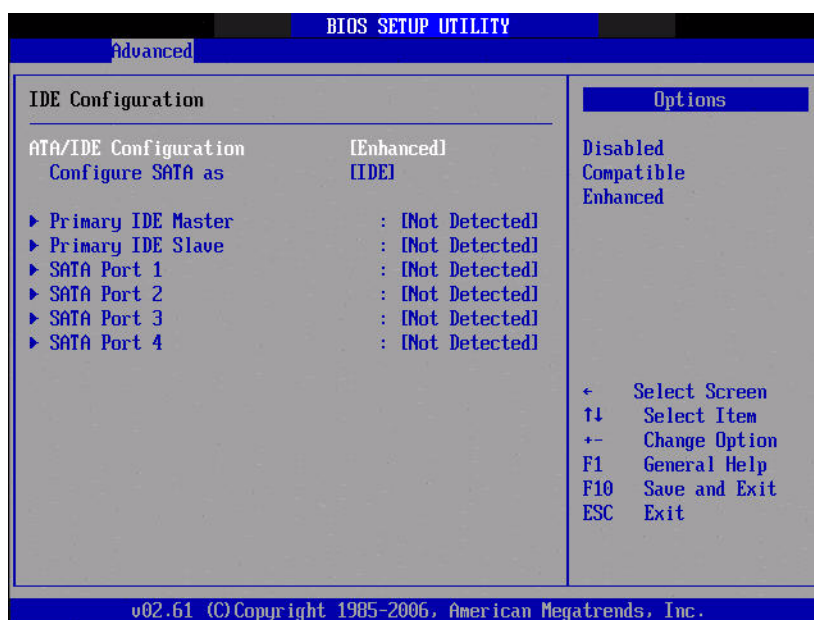
3.2.3 CPU Configuration



- **C1E Support**
Allows you to enable or disable C1E support. Configuration options are "Enabled" or "Disabled".
- **Max CPUID Value Limit**
Setting this item to [Enabled] allows legacy operating systems to boot even without support for CPUs with extended CPUID functions. Configuration options are "Enabled" or "Disabled".

- **Intel® Virtualization Tech**
Intel Virtualization Technology (Intel VT) is a set of hardware enhancements to Intel server and client platforms that provide software-based virtualization solutions. Intel VT allows a platform to run multiple operating systems and applications in independent partitions, allowing one system to function as multiple virtual systems.
- **CPU TM Function**
Enables or disables Intel CPU Thermal Monitor (TM) function, a CPU overheating protection function. When enabled, the CPU core voltage and frequency are reduced when the CPU overheats. Configuration options are “Enabled” or “Disabled”.
- **Execute-Disable Bit Capability**
This item allows you to enable or disable the No-Execution page protection technology.
- **Core Multi-Processing**

3.2.4 IDE/SATA Configuration



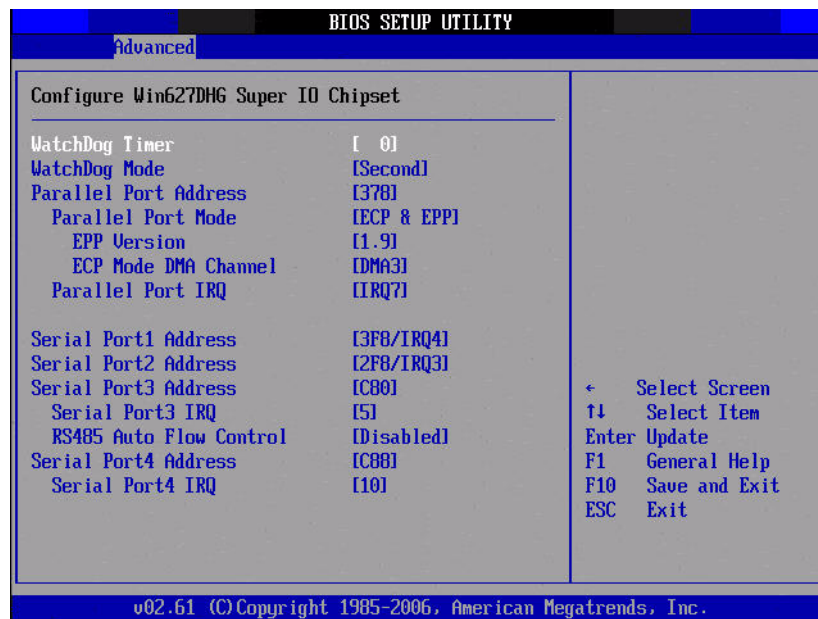
- **ATA/IDE Configuration**
This can be configured as Disabled, Compatible or Enhanced.
- **Configure SATA as**
This can be configured as IDE or AHCI.
- **Primary IDE Master/Slave, SATA1-4**
While entering Setup, the BIOS automatically detects the presence of IDE/SATA devices. There is a separate sub-menu for each IDE/SATA device. Select a device item then press <Enter> to display the IDE/SATA device information. The BIOS automatically detects the values opposite the dimmed items (Device, Vendor, Size, LBA Mode, Block Mode, PIO Mode, Async DMA, Ultra DMA, and SMART monitoring). These values are not user-configurable. These items show Not Detected if no IDE/SATA device is Installed in the system.
- **Type [Auto]**
Selects the type of IDE drive. Setting to Auto allows automatic selection of the appropriate IDE device type. Select CDROM if you are specially configuring a CD-ROM drive. Select ARMD (ATAPI Removable Media Device) if your device

is either a ZIP, LS-120, or MO drive. Configuration options are “Not Installed”, “Auto”, “CDROM” and “ARMD”. This item does not appear when you select SATA 1/2/3/4 devices.

- **SATA1/SATA2/SATA3/SATA4**
While entering setup, the BIOS automatically detects the presence of SATA devices. This displays the status of SATA device auto-detection.
- **LBA/Large Mode**
Enables or disables the LBA mode. Setting to [Auto] enables the LBA mode if the device supports this mode, and if the device was not previously formatted with LBA mode disabled. Configuration options are “Disabled” and “Auto”.
- **Block (Multi-Sector Transfer)**
Enables or disables data multi-sector transfers. When set to [Auto], data is transferred from multiple sectors at a time to and from devices if the device supports a multi-sector transfer feature. When set to [Disabled], the data transfer to and from the device occurs one sector at a time. Configuration options are “Disabled” and “Auto”.
- **PIO Mode**
Select the PIO mode. Configuration options are “Auto”, “0”, “1”, “2”, “3” and “4”.
- **DMA Mode**
Select the DMA mode. Configuration option is “Auto”.
- **S.M.A.R.T.**
Sets the Smart Monitoring, Analysis, and Reporting Technology. Configuration options are “Auto”, “Disabled” and “Enabled”.
- **32Bit Data Transfer**
Enables or disables 32-bit data transfer. Configuration options are “Disabled” and “Enabled”.

3.2.5 Super IO Configuration

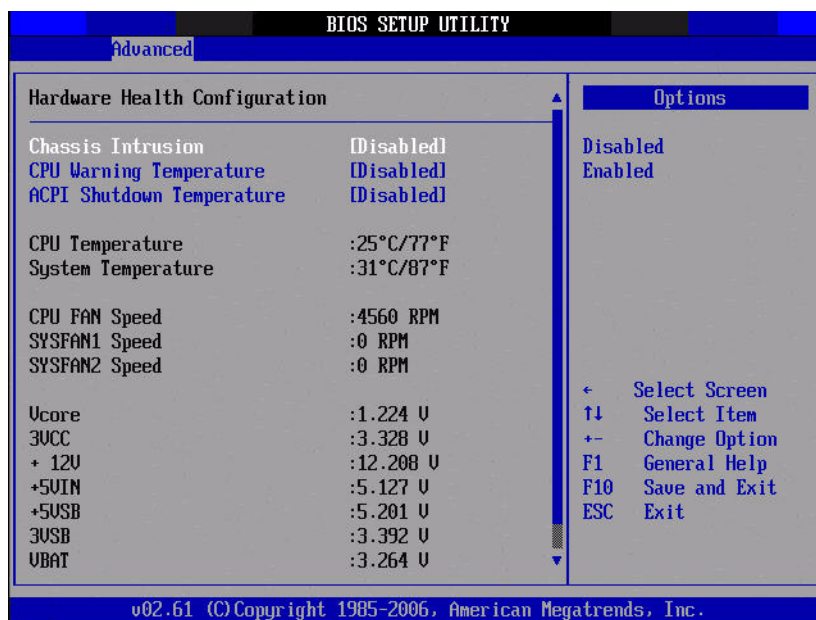
This item enables users to set the Super IO device status, including enabling of COMs.



- **Watchdog Timer**
- **Watchdog Mode**

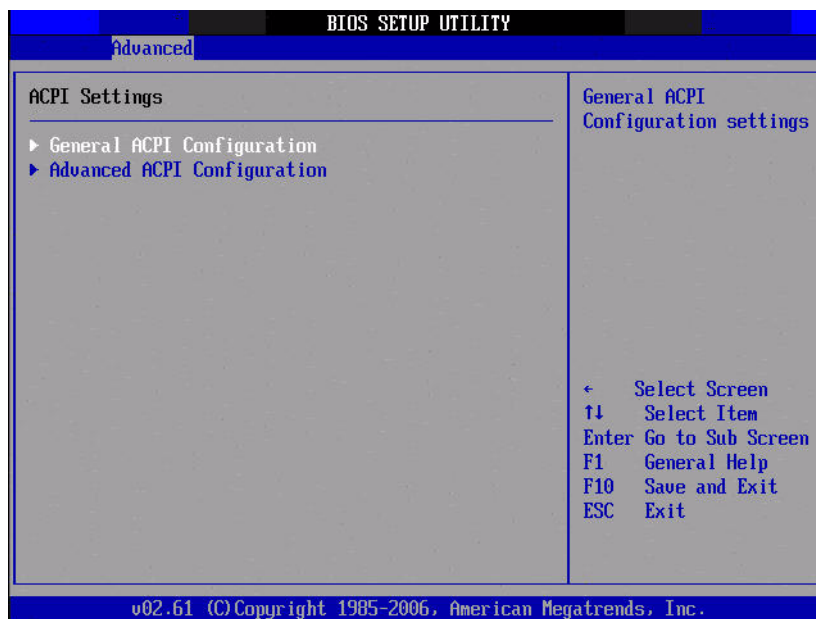
- **Parallel Port Address**
Allows you to select the parallel port base addresses.
- **Serial Port Address**
Allows you to select the serial ports base address.

3.2.6 Hardware Health Configuration

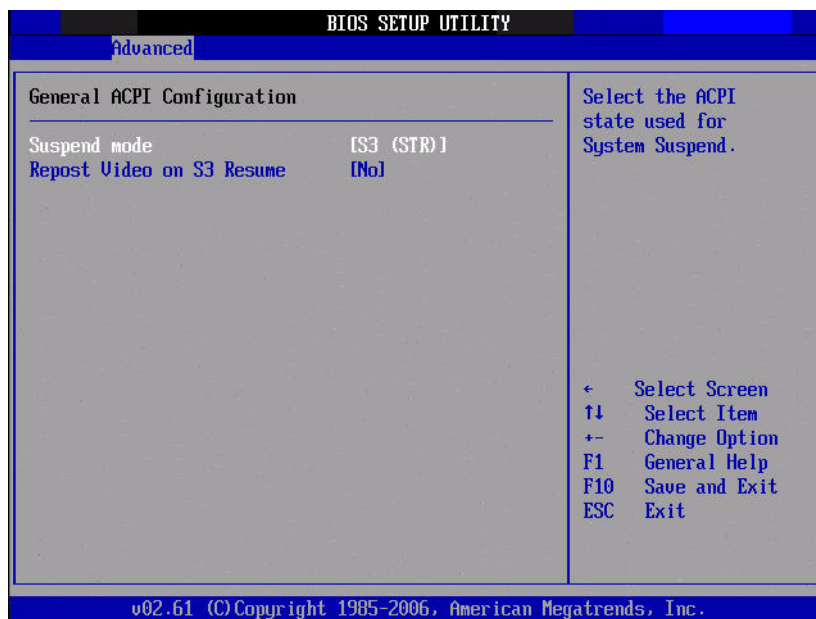


- **Chassis Intrusion**
Gives warning message beeping sounds when the case has been opened.
- **CPU warning temperature**
Use this to set the CPU warning temperature threshold. When the system CPU reaches the warning temperature, the buzzer will beep.
- **ACPI Shut Down Temperature**
This screen allows users to set the CPU temperature at which the system will automatically shut down to prevent the CPU from overheating damage.
- **System Temperature**
The onboard hardware monitor automatically detects and displays the system temperature.
- **CPU Temperature**
The onboard hardware monitor automatically detects and displays the CPU temperature.
- **CPUFAN Speed**
Shows CPU FAN speed [xxxxRPM].
- **SYSTEMFAN1 Speed**
Shows SYSTEMFAN1 speed [xxxxRPM].
- **SYSTEMFAN2 Speed**
Shows SYSTEMFAN2 speed [xxxxRPM].

3.2.7 ACPI Setting



3.2.8 General ACPI Setting



■ Suspend mode

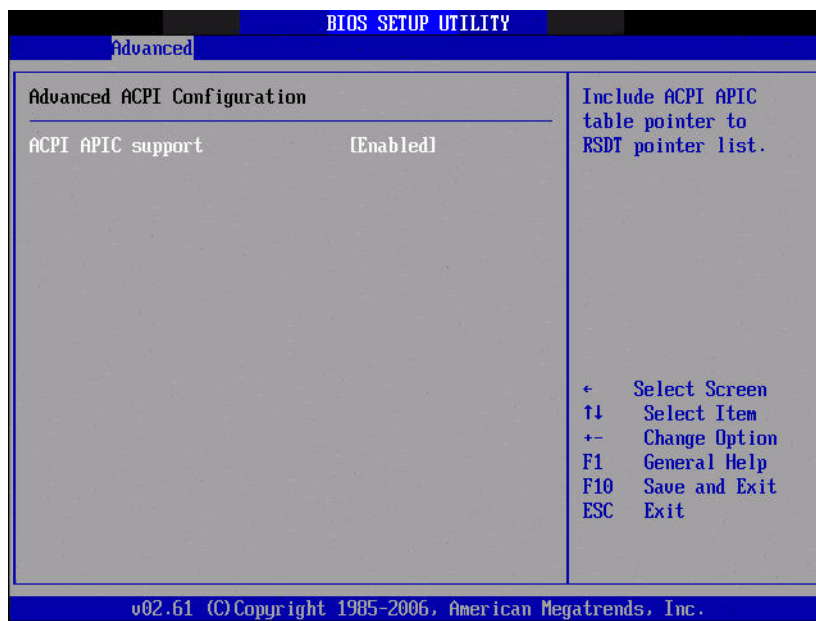
Allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend.

[Auto] The system automatically configures the ACPI suspend mode.

[S1 (POS) only] Sets the ACPI suspend mode to S1/POS (Power On Suspend).

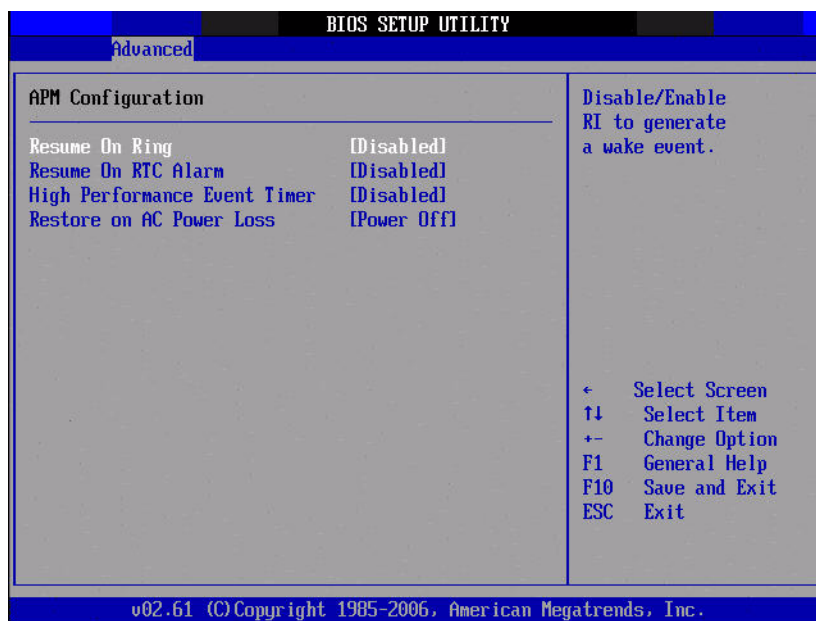
[S3 only] Sets the ACPI suspend mode to S3/STR (Suspend to RAM)

3.2.9 Advanced ACPI Configuration



- **ACPI APIC Support**
Enable/Disable ACPI APIC support.

3.2.10 APM Configuration

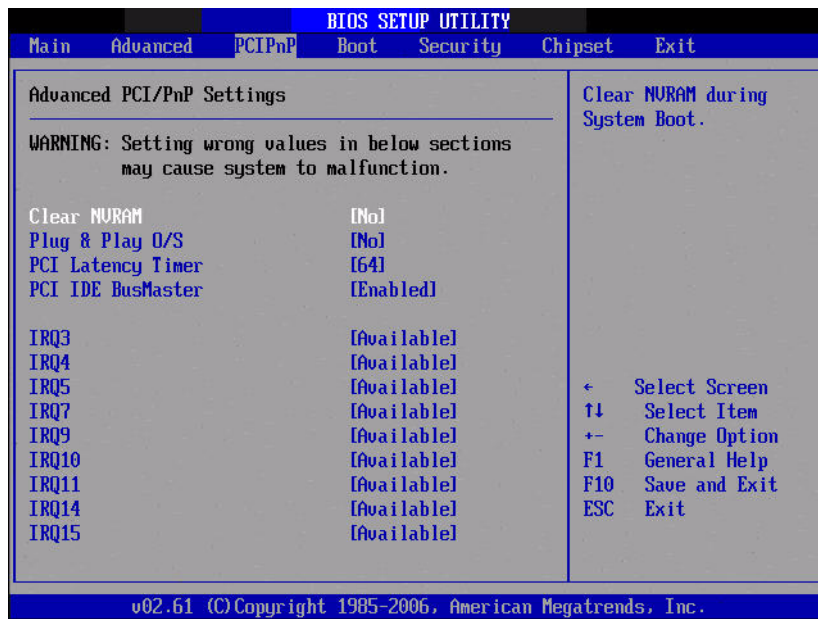


- **Resume On Ring**
This allows either settings of [Enabled] or [Disabled] for powering up the computer when the external modem receives a call while the computer is in Soft-off mode. Configuration options:[Disabled][Enabled].
- **Resume On RTC Alarm**
Allows you to enable or disable RTC to generate a wake event. When this item is set to Enabled, the items RTC Alarm Date, RTC Alarm Hour, RTC Alarm Minute, and RTC Alarm Second appear with set values. Configuration options:[Disabled][Enabled].

- **High Performance Event Timer**
Enabled/Disabled high performance event timer.
- **Restore on AC Power Loss**
When set to [Power Off], the system goes into an off state after an AC power loss. When Set to [Power On], the system goes into an on state after an AC power loss. When set to [Last State], the system goes into either an on or off state - whatever the system state was before the AC power loss. Configuration options:[Power Off][Power On][Last State].

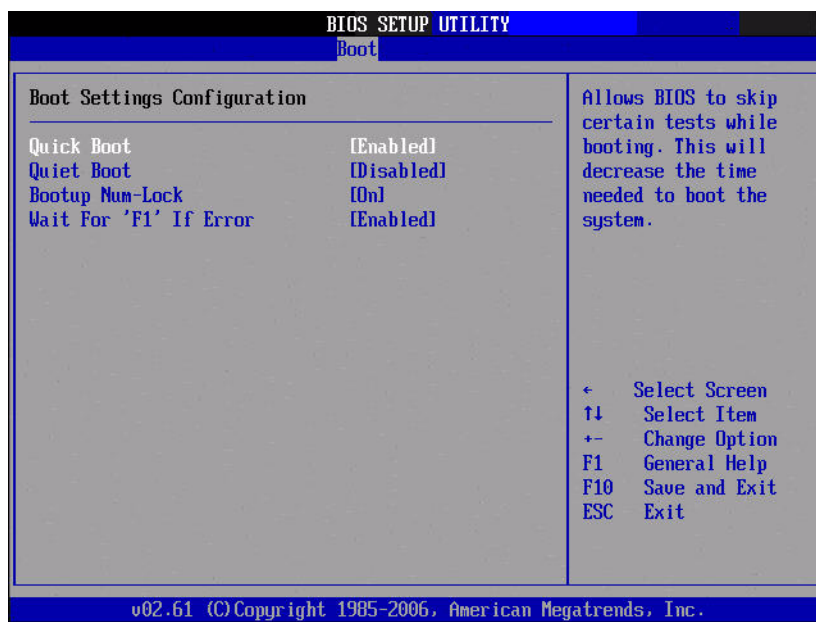
3.2.11 Advanced PCI/PnP Setting

Select the PCI/PnP tab from the AIMB-567 setup screen to enter the Plug and Play BIOS Setup screen. You can display a Plug and Play BIOS Setup option by highlighting it using the <Arrow> keys. All Plug and Play BIOS setup options are described in this section. The Plug and Play BIOS setup screen is shown below.



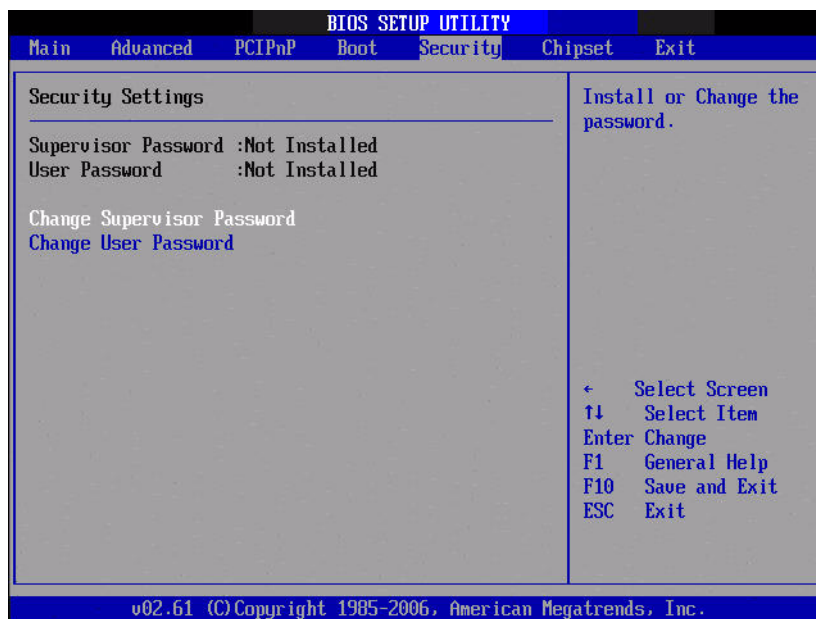
- **Clear NVRAM**
Set this value to force the BIOS to clear the Non-Volatile Random Access Memory (NVRAM). The Optimal and Fail-Safe default setting is No.
- **Plug & Play O/S**
When set to No, BIOS configures all the devices in the system. When set to Yes and if you install a Plug and Play operating system, the OS configures all Plug and Play devices not required for bootup.
- **PCI Latency Timer**
Value in units of PCI clocks for PCI device latency timer register.
- **PCI IDE BusMaster**

3.2.12 Boot Setting



- **Quick Boot**
This item allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
- **Quiet Boot**
If this option is set to Disabled, the BIOS displays normal POST messages. If Enabled, an OEM Logo is shown instead of POST messages.
- **Bootup Num-Lock**
Select the Power-on state for Numlock.
- **Wait For .F1. If Error**
Wait for the F1 key to be pressed if an error occurs.

3.2.13 Security Setting



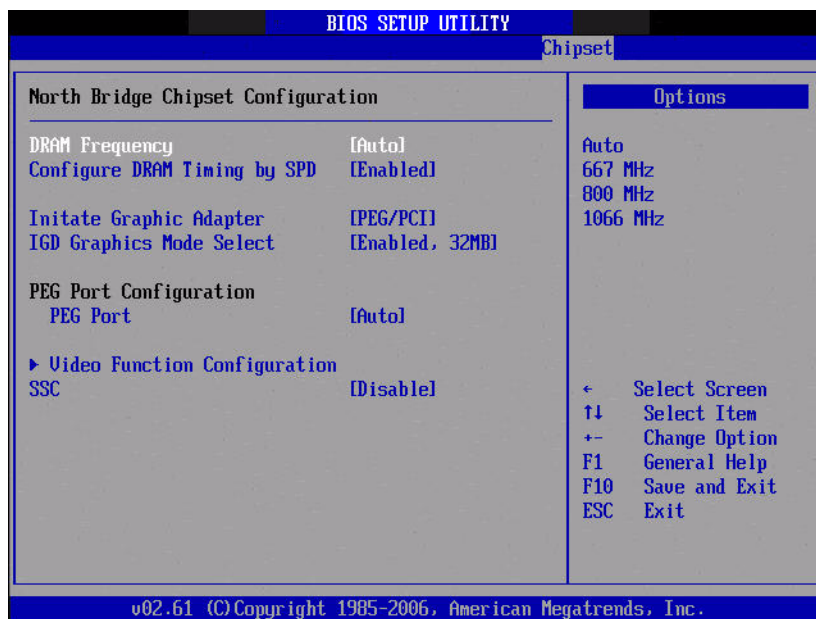
Select Security Setup from the AIMB-567 Setup main BIOS setup menu. All Security Setup options, such as password protection and virus protection are described in this section. To access the sub menu for the following items, select the item and press <Enter>:

- **Change Supervisor / User Password**
Provides for either installing or changing the password.

3.2.14 Advanced Chipset Settings



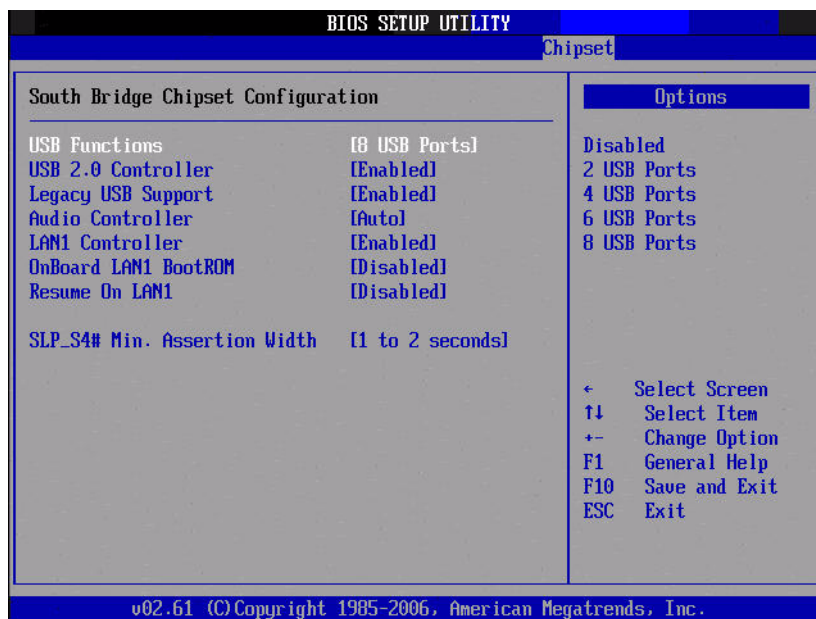
3.2.15 North Bridge Chipset Configuration



- **DRAM Frequency**
This item allows you to manually change DRAM frequency.
- **Configure DRAM Timing by SPD**
This item allows you to enable or disable detection by DRAM SPD.
- **Initiate Graphic Adapter**
This item allows you to select which graphics controller is to be used as the primary boot device.
- **Internal Graphics Mode Select**
Select the amount of system memory used by the Internal graphics device.
- **PEG Port Configuration**
Enabled/Disabled PEG port configuration.
- **Video Function Configuration**
Enabled/Disabled video function configuration.

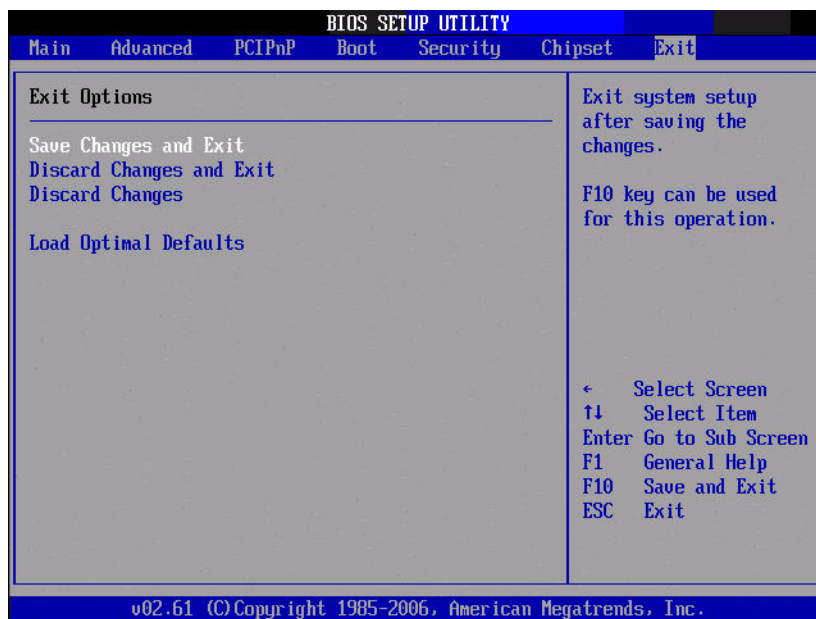


3.2.16 South Bridge Chipset Configuration



- **USB Functions**
Select: Disabled, 2 USB Ports, 4 USB Ports, 6 USB Ports or 8 USB Ports.
- **USB 2.0 Controller**
Enables or disables the USB 2.0 controller.
- **Legacy USB Support**
Allows you to enable or disable support for legacy USB storage devices, including USB flash drives and USB hard drives. Setting to [Auto] allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, legacy USB support is disabled. Configuration options:[disabled][enabled][Auto].
- **Audio Controller**
- **LAN1 GbE controller**
Enables or disables the GbE controller.
- **OnBoard LAN1 BootROM**
- **Resume on LAN1**
Enables or disables GbE LAN wake up from S5 function.
- **SLP_S4# Min. Assertion Width**
This item allows you to set a delay of a set number of seconds.

3.2.17 Exit Option



■ Save Changes and Exit

When you have completed system configuration, select this option to save your changes, exit BIOS setup and reboot the computer so the new system configuration parameters can take effect.

1. Select Save Changes and Exit from the Exit menu and press <Enter>.

The following message appears:

Save Configuration Changes and Exit Now?

[Ok] [Cancel]

2. Select Ok or Cancel.

■ Discard Changes and Exit

Select this option to quit Setup without making any permanent changes to the system configuration.

1. Select Save Changes and Exit from the Exit menu and press <Enter>.

The following message appears:

Save Configuration Changes and Exit Now?

[Ok] [Cancel]

2. Select Ok to discard changes and exit.

■ Discard Changes

1. Select Discard Changes from the Exit menu and press <Enter>.

■ Load Optimal Defaults

The AIMB-567 automatically configures all setup items to optimal settings when you select this option. Optimal Defaults are designed for maximum system performance, but may not work best for all computer applications. In particular, do not use the Optimal Defaults if your computer is experiencing system configuration problems. Select Load Optimal Defaults from the Exit menu and press <Enter>.

Chapter 4

Chipset Software
Installation Utility

4.1 Before you begin

To facilitate the installation of the enhanced display drivers and utility software, read the instructions in this chapter carefully. The drivers for AIMB-567 are located on the software installation CD. The driver in the folder of the driver CD will guide and link you to the utilities and drivers under a Windows system. Updates are provided via Service Packs from Microsoft*.

Note! *The files on the software installation CD are compressed. Do not attempt to install the drivers by copying the files manually. You must use the supplied SETUP program to install the drivers.*



Before you begin, it is important to note that most display drivers need to have the relevant software application already installed in the system prior to installing the enhanced display drivers. In addition, many of the installation procedures assume that you are familiar with both the relevant software applications and operating system commands. Review the relevant operating system commands and the pertinent sections of your application software's user manual before performing the installation.

4.2 Introduction

The Intel® Chipset Software Installation (CSI) utility installs the Windows INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

- Core PCI PnP services
- IDE Ultra ATA 100/66/33 and Serial ATA interface support
- USB 1.1/2.0 support (USB 2.0 driver needs to be installed separately for Win98)
- Identification of Intel® chipset components in the Device Manager
- Integrates superior video features. These include filtered sealing of 720 pixel DVD content, and MPEG-2 motion compensation for software DVD

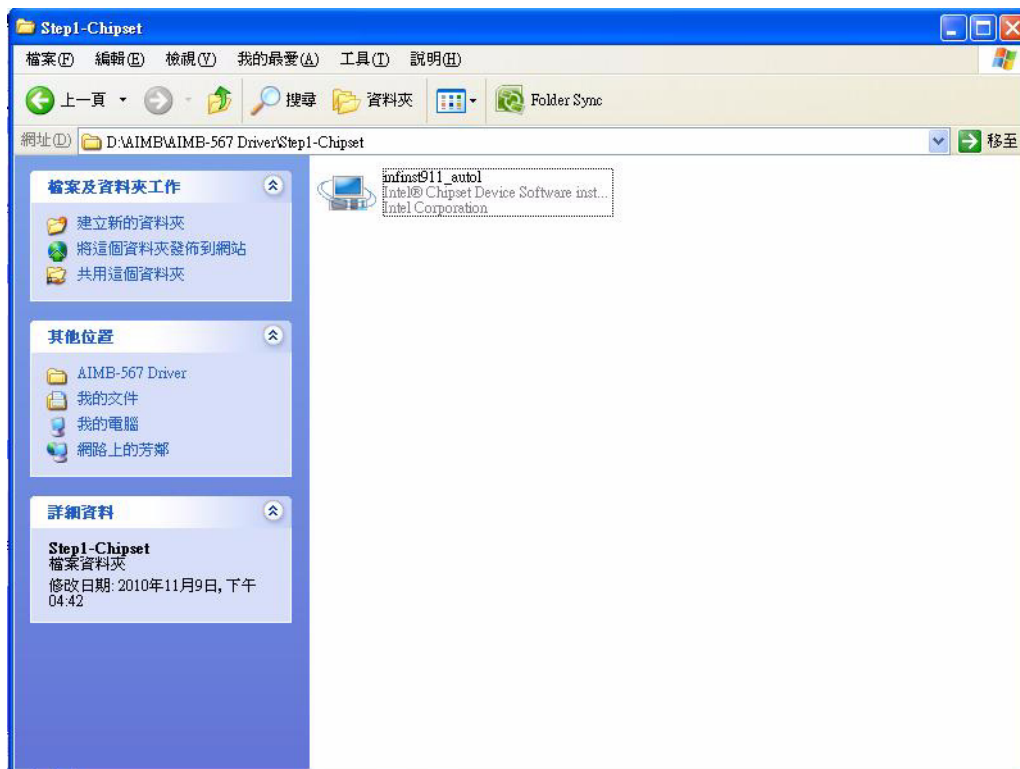
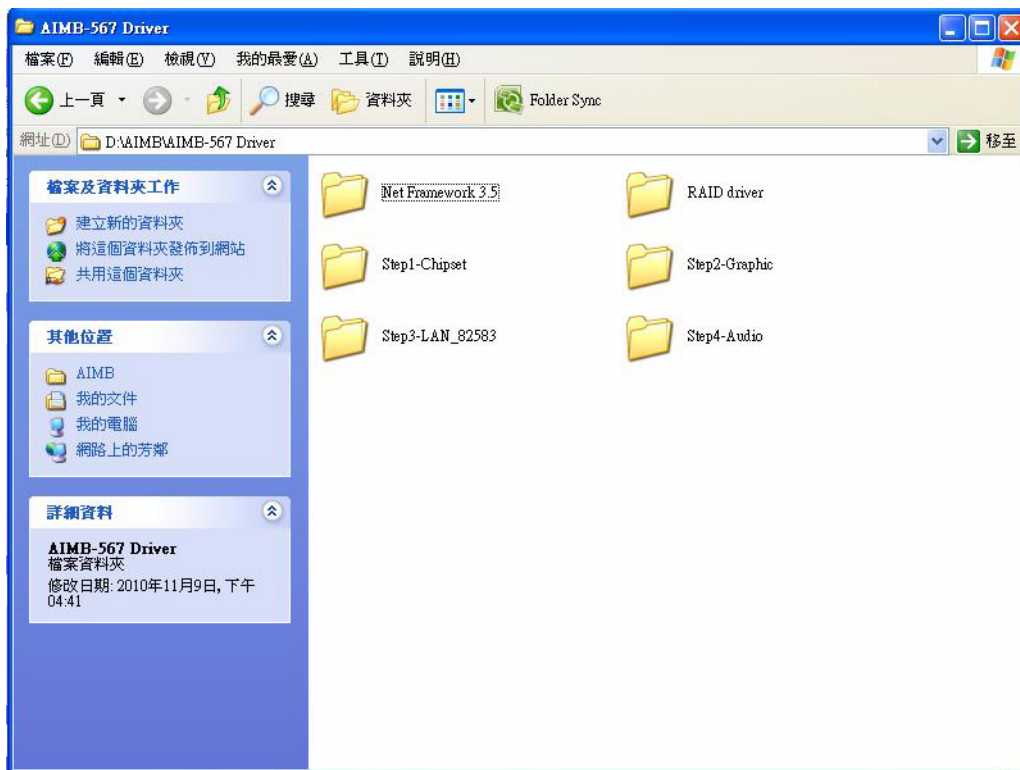
Note! *This utility is used for the following versions of Windows, and it has to be installed before installing all the other drivers:*



- Windows 7 (32-bit)
- Windows 7 (64-bit)
- Windows XP professional edition (32-bit)
- Windows XP professional edition (64-bit)

4.3 Windows XP/Windows 7 Driver Setup

1. Insert the driver CD into your system's CD-ROM drive. You can see the driver folder items. Navigate to the "INF" folder and click "setup.exe" to complete the installation of the driver.



Chapter 5

VGA Setup

5.1 Introduction

You need to install the VGA driver to enable the Intel G41 integrated graphics controller.

The Intel G41 integrated graphics controller includes the following features:

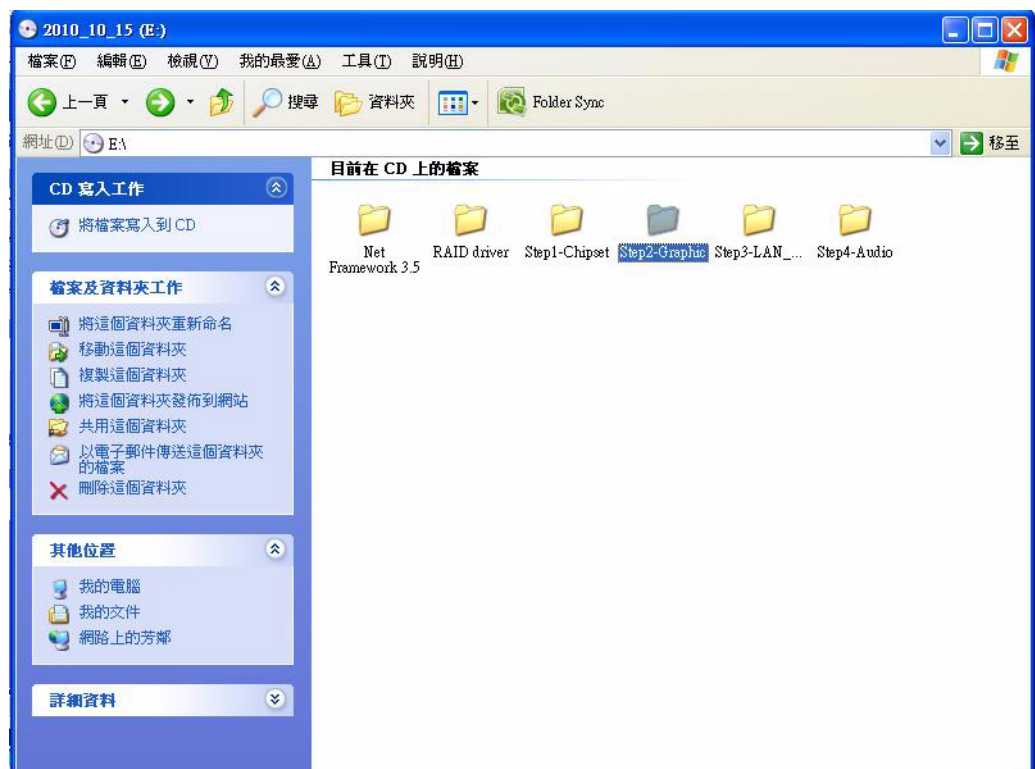
- Intel Graphics Media Accelerator X4500: Incorporating the latest Microsoft* DirectX*9 support capabilities, it allows software developers to create lifelike environments and characters. Dual independent display, enhanced display modes for wide screen flat panels, and optimized 3D support delivers an intense and realistic visual experience without requiring a separate graphics card.

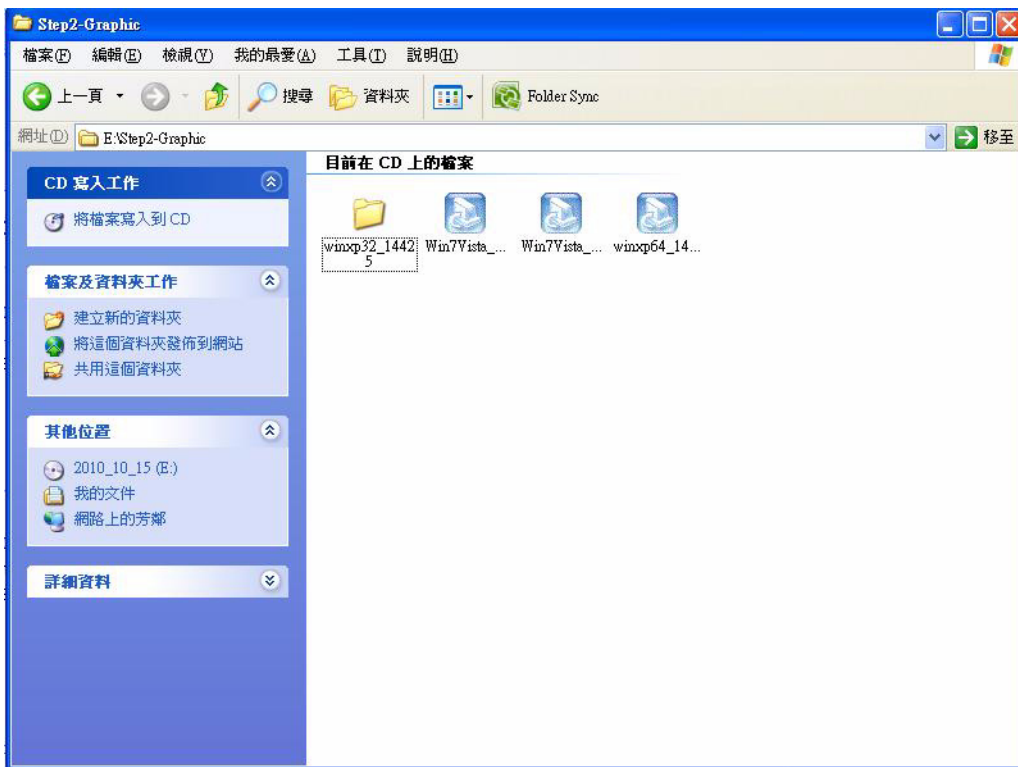
5.2 Windows XP/7

Note! Before installing this driver, make sure the CSI utility has been installed in your system. See Chapter 4 for information on installing the CSI utility.



Insert the driver CD into your system's CD-ROM drive. You can see the driver folders items. Navigate to the "VGA" folder and click "setup.exe" to complete the installation of the drivers for Windows 7, Windows XP.





Chapter 6

LAN Configuration

6.1 Introduction

The AIMB-567 has dual Gigabit Ethernet LANs via dedicated PCI Express x1 lanes (Intel 82583V (LAN1) and 82583V (LAN2)) that offer bandwidth of up to 500 MB/ sec, eliminating the bottleneck of network data flow and incorporating Gigabit Ethernet at 1000 Mbps.

6.2 Features

- Integrated 10/100/100 BASE-T transceiver
- 10/100/1000 BASE-T triple-speed MAC
- High-speed RISC core with 24-KB cache
- On-chip voltage regulation
- Wake-on-LAN (WOL) support
- PCI Express X1 host interface

6.3 Installation

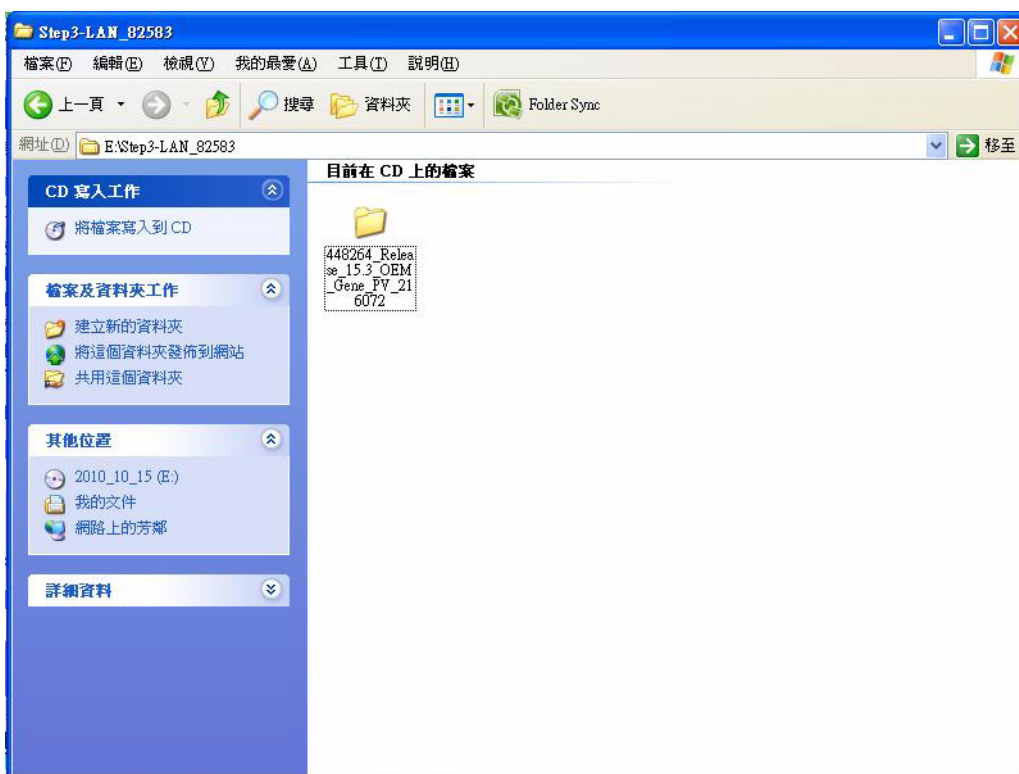
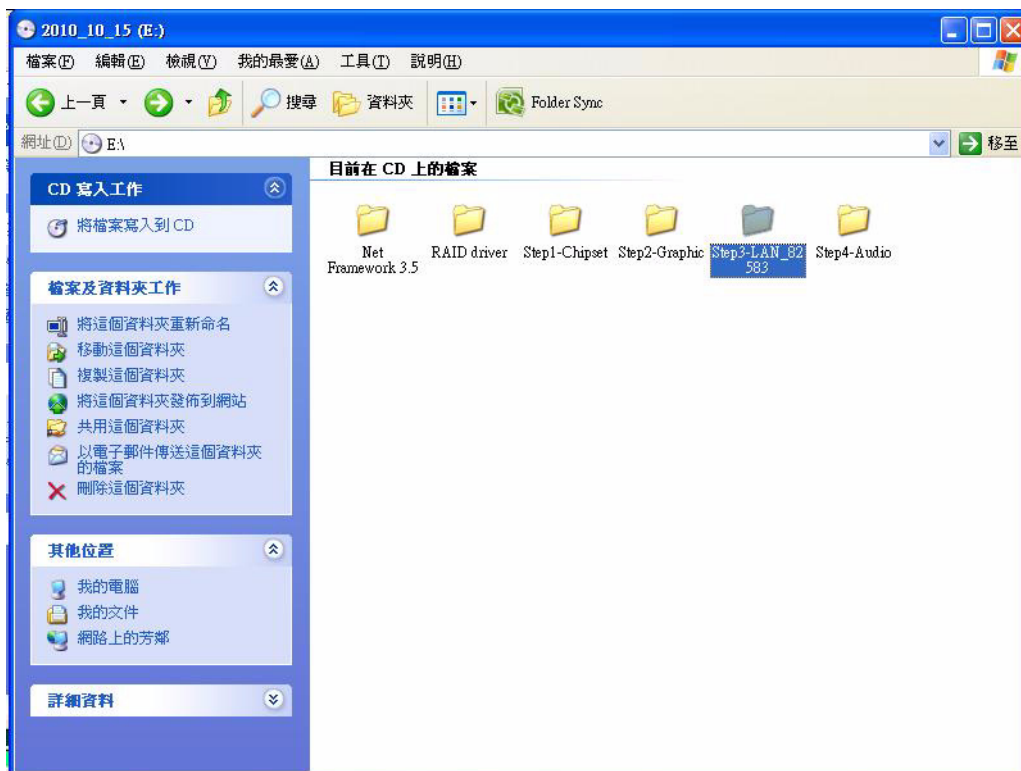
Note! *Before installing the LAN drivers, make sure the CSI utility has been installed on your system. See Chapter 4 for information on installing the CSI utility.*

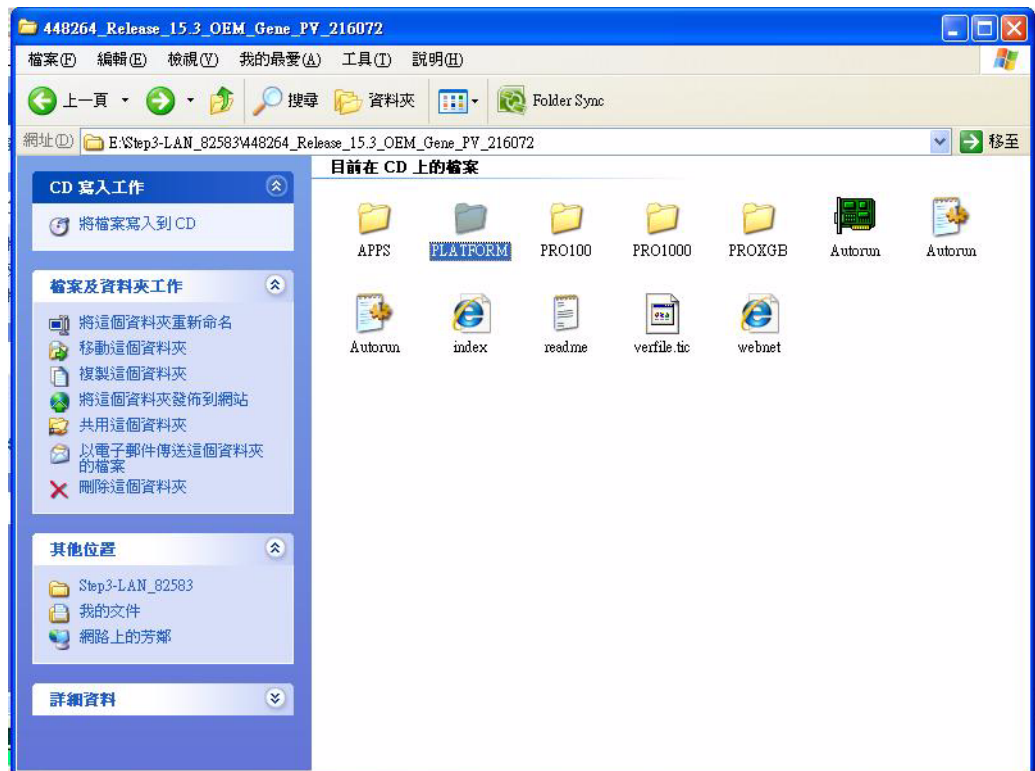


The AIMB-567's Intel 82583V (LAN1) and 82583V (LAN2) Gigabit integrated controllers support all major network operating systems. However, the installation procedure varies from system to system. Please find and use the section that provides the driver setup procedure for the operating system you are using.

6.4 Windows XP/ Windows 7 Setup (Intel 82583V)

Insert the driver CD into your system's CD-ROM drive. Select the Drv_LAN folder then navigate to the directory for your OS.





Appendix **A**

Programming the
Watchdog Timer

A.1 Programming the Watchdog Timer

The AIMB-567's watchdog timer can be used to monitor system software operation and take corrective action if the software fails to function within the programmed period. This section describes the operation of the watchdog timer and how to program it.

A.1.1 Watchdog timer overview

The watchdog timer is built into the super I/O controller W83627DHG. It provides the following user-programmable functions:

- Can be enabled and disabled by the user program
- Timer can be set from 1 to 255 seconds or 1 to 255 minutes
- Generates an interrupt or resets signal if the software fails to reset the timer before time-out

A.1.2 Programming the Watchdog Timer

The I/O port address of the watchdog timer is 2E (hex) and 2F (hex). 2E (hex) is the address port. 2F (hex) is the data port. You must first assign the address of register by writing an address value into address port 2E (hex), then write/read data to/from the assigned register through data port 2F (hex).

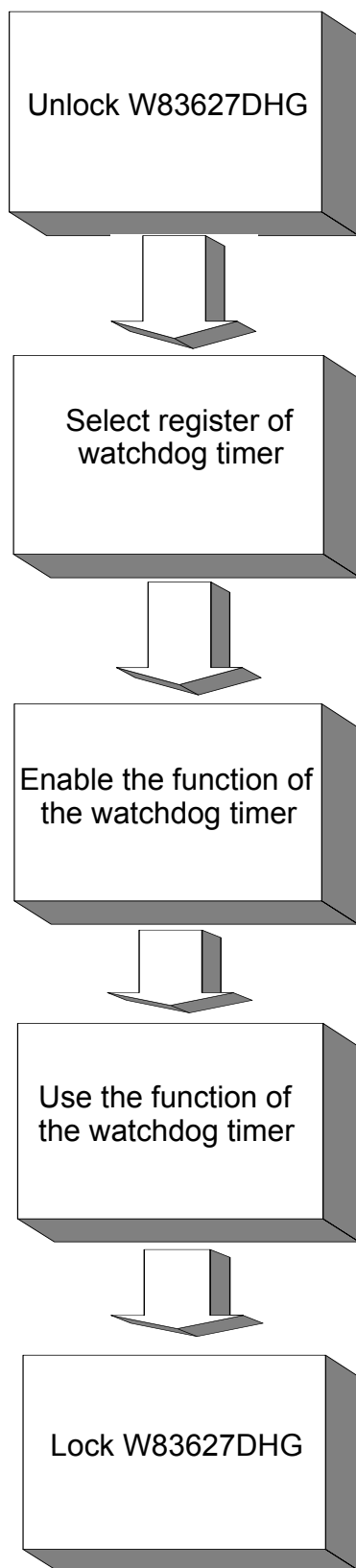


Table A.1: Watchdog Timer Registers

| Address of register (2E) Attribute | | |
|---|--------------------------|---|
| Read/Write | Value (2F) & description | |
| 87 (hex) | ---- | Write this address to I/O address port 2E (hex) twice to unlock the W83627DHG. |
| 07 (hex) | write | Write 08 (hex) to select register of watchdog timer. |
| 30 (hex) | write | Write 01 (hex) to enable the function of the watchdog timer. Disabled is set as default. |
| F5 (hex) | write | Set seconds or minutes as units for the timer. Write 0 to bit 3: set second as counting unit. [default] Write 1 to bit 3: set minutes as counting unit. |
| F6 (hex) | write | 0: stop timer [default] 01~FF (hex): The amount of the count, in seconds or minutes, depends on the value set in register F5 (hex). This number decides how long the watchdog timer waits for strobe before generating an interrupt or reset signal. Writing a new value to this register can reset the timer to count with the new value. |
| F7 (hex) | read/write | Bit 7: Write 1 to enable mouse to reset the timer, 0 to disable [default]. Bit 6: Write 1 to enable keyboard to reset the timer, 0 to disable. [default] Bit 5: Write 1 to generate a timeout signal immediately and automatically return to 0. [default=0] Bit 4: Read status of watchdog timer, 1 means timer is "timeout". |
| AA (hex) | ---- | Write this address to I/O port 2E (hex) to lock the watchdog timer 2. |

A.1.3 Example Program

1. Enable watchdog timer and set 10 sec. as timeout interval

```

;-----
Mov dx,2eh ; Unlock W83627DHG
Mov al,87h
Out dx,al
Out dx,al
;-----
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;-----
Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;-----
Dec dx ; Set second as counting unit
Mov al,0f5h
Out dx,al
Inc dx
In al,dx
And al,not 08h
Out dx,al
;-----
Dec dx ; Set timeout interval as 10 seconds and start counting
Mov al,0f6h
Out dx,al
Inc dx
Mov al,10
Out dx,al
;-----
Dec dx ; Lock W83627HG
Mov al,0aah
Out dx,al

```

2. Enable watchdog timer and set 5 minutes as timeout interval

```

;-----
Mov dx,2eh ; Unlock W83627HG
Mov al,87h
Out dx,al
Out dx,al

```

```

;-----
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;-----
Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;-----
Dec dx ; Set minute as counting unit
Mov al,0f5h
Out dx,al
Inc dx
In al,dx
Or al,08h
Out dx,al
;-----
Dec dx ; Set timeout interval as 5 minutes and start counting
Mov al,0f6h
Out dx,al
Inc dx
Mov al,5
Out dx,al
;-----
Dec dx ; Lock W83627HG
Mov al,0aah
Out dx,al
3. Enable watchdog timer to be reset by mouse
;-----
Mov dx,2eh ; Unlock W83627HG
Mov al,87h
Out dx,al
Out dx,al
;-----
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;-----

```



```

Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;-----
Dec dx ; Enable watchdog timer to be reset by mouse
Mov al,0f7h
Out dx,al
Inc dx
In al,dx
Or al,80h
Out dx,al
;-----
Dec dx ; Lock W83627HG
Mov al,0aah
Out dx,al
4. Enable watchdog timer to be reset by keyboard
;-----
Mov dx,2eh ; Unlock W83627HG
Mov al,87h
Out dx,al
Out dx,al
;-----
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;-----
Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;-----
Dec dx ; Enable watchdog timer to be strobed reset by keyboard
Mov al,0f7h
Out dx,al
Inc dx
In al,dx
Or al,40h
Out dx,al

```

```

;-----
Dec dx ; Lock W83627HG
Mov al,0aah
Out dx,al
5. Generate a time-out signal without timer counting
;-----
Mov dx,2eh ; Unlock W83627HG
Mov al,87h
Out dx,al
Out dx,al
;-----
Mov al,07h ; Select registers of watchdog timer
Out dx,al
Inc dx
Mov al,08h
Out dx,al
;-----
Dec dx ; Enable the function of watchdog timer
Mov al,30h
Out dx,al
Inc dx
Mov al,01h
Out dx,al
;-----
Dec dx ; Generate a time-out signal
Mov al,0f7h
Out dx,al ;Write 1 to bit 5 of F7 register
Inc dx
In al,dx
Or al,20h
Out dx,al
;-----
Dec dx ; Lock W83627HG
Mov al,0aah
Out dx,al

```

Appendix **B**

I/O Pin Assignments

B.1 Parallel Port (LPT1)

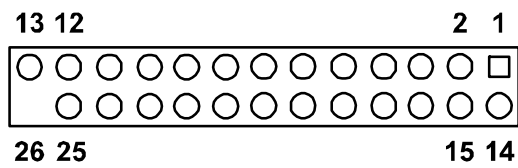


Table B.1: Parallel Port (LPT1)

| Pin | Signal | Pin | Signal |
|-----|---------|-----|----------|
| 1 | STROBE* | 14 | AUTOFD* |
| 2 | D0 | 15 | ERR |
| 3 | D1 | 16 | INIT* |
| 4 | D2 | 17 | SLCTINI* |
| 5 | D3 | 18 | GND |
| 6 | D4 | 19 | GND |
| 7 | D5 | 20 | GND |
| 8 | D6 | 21 | GND |
| 9 | D7 | 22 | GND |
| 10 | ACK* | 23 | GND |
| 11 | BUSY | 24 | GND |
| 12 | PE | 25 | GND |
| 13 | SLCT | 26 | N/C |

* Low activity

B.2 USB Header (USB56)

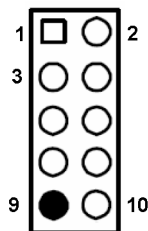


Table B.2: USB Header (USB56)

| Pin | Signal | Pin | Signal |
|-----|-----------|-----|-----------|
| 1 | USB0_VCC5 | 2 | USB1_VCC5 |
| 3 | USB0_D- | 4 | USB1_D- |
| 5 | USB0_D+ | 6 | USB1_D+ |
| 7 | GND | 8 | GND |
| 9 | Key | 10 | GND |

B.3 USB Header (USB78)

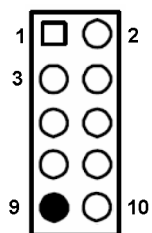


Table B.3: USB Header (USB78)

| Pin | Signal | Pin | Signal |
|-----|-----------|-----|-----------|
| 1 | USB0_VCC5 | 2 | USB1_VCC5 |
| 3 | USB0_D- | 4 | USB1_D- |
| 5 | USB0_D+ | 6 | USB1_D+ |
| 7 | GND | 8 | GND |
| 9 | Key | 10 | GND |

B.4 VGA Connector (VGA1)

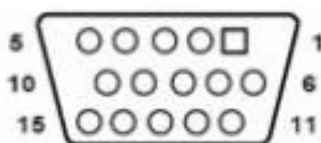


Table B.4: VGA Connector (VGA1)

| Pin | Signal | Pin | Signal |
|-----|--------|-----|-----------|
| 1 | RED | 9 | CRT_VCCIN |
| 2 | VGA_G | 10 | GND |
| 3 | VGA_B | 11 | N/C |
| 4 | N/C | 12 | V_SDAT |
| 5 | GND | 13 | H-SYNC |
| 6 | GND | 14 | V-SYNC |
| 7 | GND | 15 | V_SCLK |
| 8 | GND | | |

B.5 RS-232 Interface (COM1-COM4)

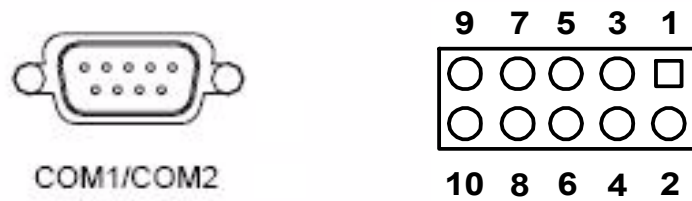


Table B.5: RS-232 Interface (COM1~COM2)

| Pin | Signal |
|-----|--------|
| 1 | DCD |
| 2 | DSR |
| 3 | RXD |
| 4 | RTS |
| 5 | TXD |
| 6 | CTS |
| 7 | DTR |
| 8 | RRI |
| 9 | GND |

B.6 RS-232/422/485 Setting Interface (JETCOM3)

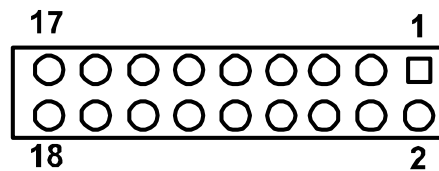


Table B.6: RS-232/422/485 Setting Interface (JETCOM3)

| Pin | Signal | Pin | Signal |
|-----|--------------|-----|--------------|
| 1 | R_SINA | 2 | RXD485_1 |
| 3 | R_SINA | 4 | RXD422_1 |
| 5 | R_SINA | 6 | RXD232_1 |
| 7 | DCDA | 8 | SOUTA |
| 9 | COM1_DCD# | 10 | COM1_SOUT |
| 11 | COM1_TXD485N | 12 | COM1_RXD485P |
| 13 | SINA | 14 | DTRA |
| 15 | COM1_SIN | 16 | COM1_DTR# |
| 17 | COM1_TXD485P | 18 | COM1_RXD485N |

B.7 SPI_CN1: SPI fresh card pin connector

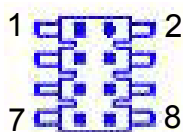


Table B.7: SPI_CN1:SPI fresh card pin connector

| Pin | Signal | Pin | Signal |
|-----|---------------|-----|---------------|
| 1 | +F1_3V | 2 | GND |
| 3 | F1_SPI_CS#_Q | 4 | F1_SPI_CLK_Q |
| 5 | F1_SPI_MISO_Q | 6 | F1_SPI_MOSI_Q |
| 7 | NC | 8 | NC |

B.8 PS/2 Keyboard and Mouse Connector (KBMS1)



Table B.8: PS/2 Keyboard and Mouse Connector (KBMS1)

| Pin | Signal |
|-----|---------|
| 1 | KB DATA |
| 2 | N/C |
| 3 | GND |
| 4 | KB VCC |
| 5 | KB CLK |
| 6 | N/C |
| 7 | M_DATA |
| 8 | N/C |
| 9 | GND |
| 10 | M_VCC |
| 11 | M_CLK |
| 12 | N/C |

B.9 CPU Fan Power Connector (CPU_FAN1)

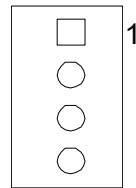


Table B.9: CPU Fan Power Connector (CPU_FAN1)

| Pin | Signal |
|-----|-----------|
| 1 | GND |
| 2 | +12 V PWM |
| 3 | DETECT |
| 4 | NC |

B.10 System Fan Power Connector (SYS_FAN1/ SYS_FAN2)

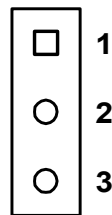
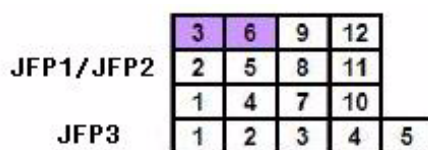


Table B.10: System Fan Power Connector (SYSFAN1/SYSFAN2)

| Pin | Signal |
|-----|--------|
| 1 | GND |
| 2 | VCC |
| 3 | DETECT |

B.11 Front Panel Connectors (JFP1/2)



B.11.1 Power LED & Keyboard Lock Connector (JFP3)

You can use an LED to indicate when the single board computer is on. Pin 1 of JFP3 supplies the LED's power, and Pin 3 is the ground.

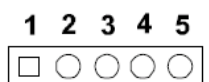


Table B.11: Power LED & Keyboard Lock Connector (JFP3)

| Pin | Function |
|-----|-----------|
| 1 | LED power |
| 2 | NC |
| 3 | GND |
| 4 | KEYLOCK# |
| 5 | GND |

B.11.2 Power switch/HDD LED/SMBus/Speaker (JFP1/JFP2)

The single board computer has its own buzzer. You can also connect it to the external speaker on your computer chassis.

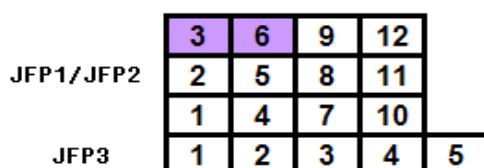


Table B.12: Power Switch/HDD LED/SMBus/Speaker (JFP1/JFP2)

| Pin | Signal | Pin | Signal |
|-----|---------|-----|---------|
| 1 | SPK | 2 | HDDLED+ |
| 3 | PWR | 4 | NC |
| 5 | HDDLED- | 6 | PWR |
| 7 | SPK | 8 | SMB_DAT |
| 9 | SYS_RST | 10 | SPK |
| 11 | SMB_CLK | 12 | SYS_RST |

B.12 ATX1 12 V Auxiliary Power Connector (ATX12V1)

Table B.13: ATX1 12 V Auxiliary Power Connector (ATX12V1)

| Pin | Signal |
|-----|--------|
| 1 | GND |
| 2 | GND |
| 3 | +12 V |
| 4 | +12 V |

B.13 ATX Power Connector (EATXPWR1)

Table B.14: ATX Power Connector (ATX2)

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1 | +3.3 V | 2 | +3.3 V |
| 3 | GND | 4 | +5 V |
| 5 | GND | 6 | +5 V |
| 7 | GND | 8 | POK |
| 9 | 5 VSB | 10 | + 12 V |
| 11 | + 12 V | 12 | 3.3 V |
| 13 | 3.3 V | 14 | -12 V |
| 15 | GND | 16 | PSON |
| 17 | GND | 18 | GND |
| 19 | GND | 20 | -5 V |
| 21 | GND | 22 | GND |
| 23 | GND | 24 | GND |

B.14 USB/LAN ports (LAN1/2_USB12/USB34)

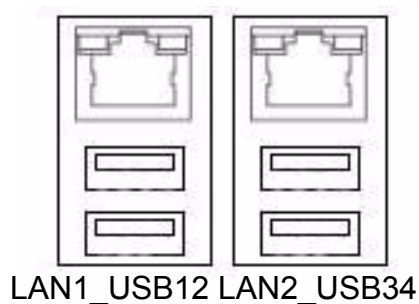


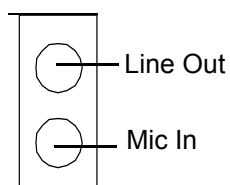
Table B.15: USB Port

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1 | VCC | 3 | Data0+ |
| 2 | Data0- | 4 | GND |

Table B.16: Ethernet 10/100Base-T RJ-45 Port

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1 | XMT+ | 5 | N/C |
| 2 | XMT- | 6 | RCV- |
| 3 | RCV+ | 7 | N/C |
| 4 | N/C | 8 | N/C |

B.15 Line Out, Mic In Connector (AUDIO1)



B.16 Serial ATA0 (SATA1)

Table B.17: Serial ATA0 (SATA1)

| Pin | Signal | Pin | Signal |
|-----|-----------|-----|-----------|
| 1 | GND | 2 | SATA_0TX+ |
| 3 | SATA_0TX- | 4 | GND |
| 5 | SATA_0RX- | 6 | SATA_0RX+ |
| 7 | GND | 8 | |

B.17 Serial ATA1 (SATA2)

Table B.18: Serial ATA1 (SATA2)

| Pin | Signal | Pin | Signal |
|-----|-----------|-----|-----------|
| 1 | GND | 2 | SATA_1TX+ |
| 3 | SATA_1TX- | 4 | GND |
| 5 | SATA_1RX- | 6 | SATA_1RX+ |
| 7 | GND | 8 | |

B.18 AT/ATX Mode (PSON1)

Table B.19: AT/ATX Mode (PSON1)

| Pin | Signal | Pin | Signal |
|-----|----------------------------|-----|----------------------------|
| 1 | #PSON_SIO (to super IO) | 2 | #PSON (to power supply) |
| 3 | GND | | |

B.19 FPAUDIO1(Front Panel Audio Connector)

Table B.20: Front Panel Audio Connector (FPAUDIO1)

| Pin | Signal |
|-----|----------|
| 1 | MIC2_L |
| 2 | AGND |
| 3 | MIC2_R |
| 4 | PRESENSE |
| 5 | LIN2_R |
| 6 | GND |
| 7 | FIO_JD |
| 8 | N/A |
| 9 | LIN2_L |
| 10 | GND |

B.20 GPIO1(GPIO pin header)

Table B.21: GPIO pin header(GPIO1)

| Pin | Signal | Pin | Signal |
|-----|----------|-----|----------|
| 1 | DIO_GP20 | 5 | DIO_GP22 |
| 2 | DIO_GP24 | 6 | DIO_GP26 |
| 3 | DIO_GP21 | 7 | DIO_GP23 |
| 4 | DIO_GP25 | 8 | DIO_GP27 |

B.21 System I/O Ports

Table B.22: GPIO pin header(GPIO2)

| Pin | Signal | Pin | Signal |
|-----|----------|-----|----------|
| 1 | DIO_GP10 | 5 | DIO_GP12 |
| 2 | DIO_GP14 | 6 | DIO_GP16 |
| 3 | DIO_GP11 | 7 | DIO_GP13 |
| 4 | DIO_GP15 | 8 | DIO_GP17 |

Table B.23: System I/O Ports

| Addr. range (Hex) | Device |
|-------------------|--|
| 000-01F | Interrupt controller 1, master |
| 022-023 | Chipset address |
| 040-05F | 8254 timer |
| 060-06F | 8042 (keyboard controller) |
| 070-07F | Real-time clock, non-maskable interrupt (NMI) mask |
| 080-09F | DMA page register |
| 0A0-0BF | Interrupt controller 2 |
| 0C0-0DF | DMA controller |
| 0F0 | Clear math co-processor |
| 0F1 | Reset math co-processor |
| 0F8-0FF | Math co-processor |
| 1F0-1F8 | Fixed disk |
| 200-207 | Game I/O |
| 278-27F | Parallel printer port 2 (LPT3) |
| 290-297 | On-board hardware monitor |
| 2F8-2FF | Serial port 2 |
| Serial port 2 | Prototype card |
| 360-36F | Reserved |
| 378-37F | Parallel printer port 1 (LPT2) |
| 380-38F | SDLC, bisynchronous 2 |
| 3A0-3AF | Bisynchronous 1 |
| 3B0-3BF | Monochrome display and printer adapter (LPT1) |
| 3C0-3CF | Reserved |
| 3D0-3DF | Color/graphics monitor adapter |
| 3F0-3F7 | Diskette controller |
| 3F8-3FF | Serial port 1 |

B.22 JCASE1(Open Case Connector)

Table B.24: Case Open Connector(JCASE1)

| Pin | Signal |
|-----|------------|
| 1 | CASE_OPEN# |
| 2 | GND |

B.23 DMA Channel Assignments

Table B.25: DMA Channel Assignments

| Channel | Function |
|---------|------------------------------|
| 0 | Available |
| 1 | Available |
| 2 | Floppy disk (8-bit transfer) |
| 3 | Available |
| 4 | Cascade for DMA controller 1 |
| 5 | Available |
| 6 | Available |
| 7 | Available |

B.24 Interrupt Assignments

Table B.26: Interrupt Assignments

| Priority | Interrupt# | Interrupt source |
|----------|------------|---------------------------------------|
| 1 | NMI | Parity error detected |
| 2 | IRQ0 | Interval timer |
| 3 | IRQ1 | Keyboard |
| - | IRQ2 | Interrupt from controller 2 (cascade) |
| 4 | IRQ8 | Real-time clock |
| 5 | IRQ9 | Cascaded to INT 0A (IRQ 2) |
| 6 | IRQ10 | Serial communication port 3/4 |
| 7 | IRQ11 | Available |
| 8 | IRQ12 | PS/2 mouse |
| 9 | IRQ13 | INT from co-processor |
| 10 | IRQ14 | Primary IDE Channel |
| 11 | IRQ15 | Secondary IDE Channel |
| 12 | IRQ3 | Serial communication port 2 |
| 13 | IRQ4 | Serial communication port 1 |
| 14 | IRQ5 | Available |
| 15 | IRQ6 | Diskette controller (FDC) |
| 16 | IRQ7 | Parallel port 1 (print port) |

B.25 1st MB Memory Map

Table B.27: 1st MB Memory Map

| Addr. range (Hex) | Device |
|--------------------------|---------------|
| E0000h - FFFFFh | BIOS |
| CC000h - DFFFFh | Unused |
| C0000h - CBFFFh | VGA BIOS |
| A0000h - BFFFFh | Video Memory |
| 00000h - 9FFFFh | Base memory |

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