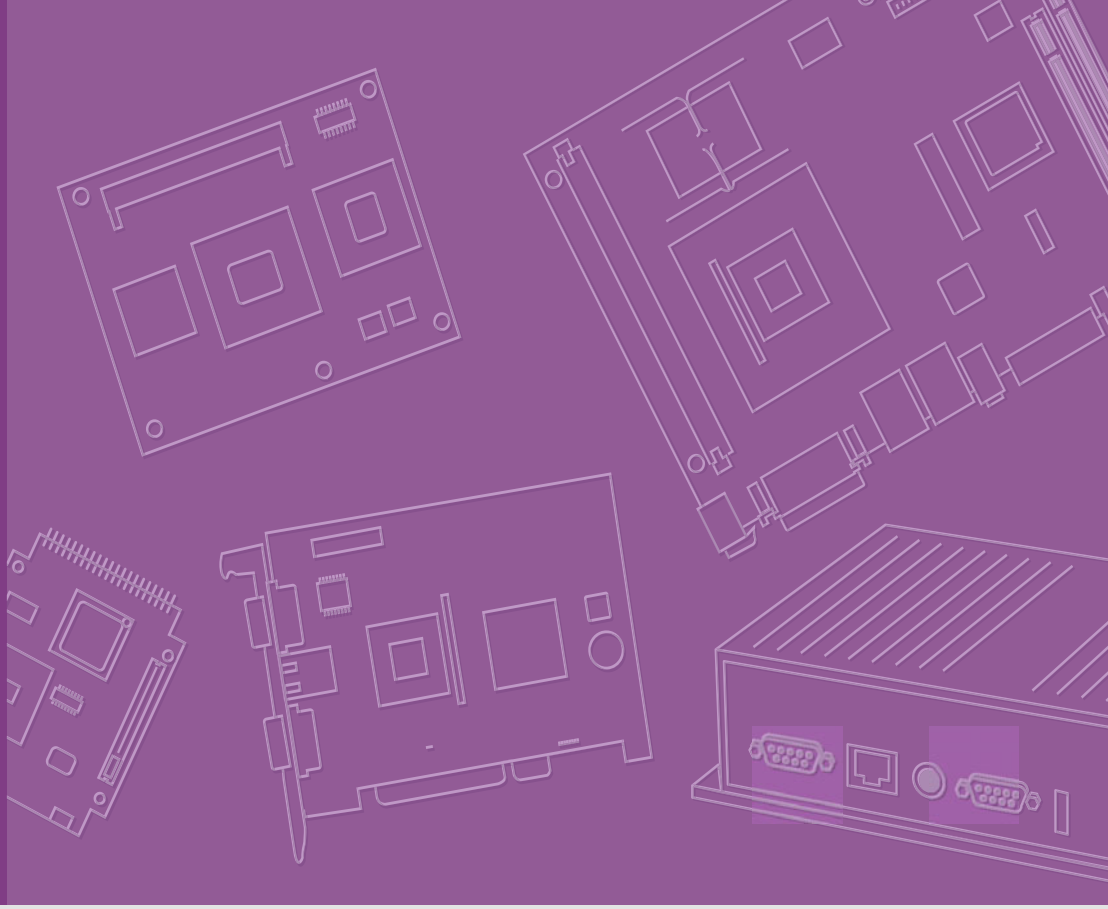

User Manual

AIMB-562 KIOSK

Intel® LGA775 Core™ 2 Duo mATX Motherboard with Dual VGA/LVDS/DDR2/10 COM/LAN

Trusted ePlatform Services

ADVANTECH

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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	FSB	Mgn tech	L2 cache	Advantech PN
Core2 Duo E7400 2.80GHz EM64T Dual Core	SLB9Y	M0	65W	1066	45nm	3MB	96MP2DD-28FA-3M7T
Core2 Duo E6700 2.66GHz EM64T Dual Core	SL9S7	B2	65W	1066	65nm	4MB	96MP2DD-26FA-4M7T
Core2 Duo E6600 2.40GHz EM64T Dual Core	SL9S8	B2	65W	1066	65nm	4MB	96MP2DD-24FA-4M7T
Core2 Duo E6400 2.13GHz EM64T Dual Core	SL9S9	B2	65W	1066	65nm	2MB	96MP2DD-21FA-2M7T
Core2 Duo E6300 1.86GHz EM64T Dual Core	SL9SA	B2	65W	1066	65nm	2MB	96MP2DD-18FA-2M7T
Core2 Duo E5300 2.6GHz EM64T Dual Core	SLB9U	R0	65W	800	45nm	2MB	96MPPD-2.6F8-2M7T1
Core2 Duo E4300 1.8GHz EM64T Dual Core	SL9TB	L2	65W	800	65nm	2MB	96MP2DD-18F8-2M7T
Pentium Dual-Core 1.8GHz E2160	SLA8Z	M0	65W	800	65nm	1MB	96MPPD-1.8F8-1M7T
Pentium-D 830 3.00GHz EM64T Dual Core	SL8CN	A0	130W	800	90nm	2MB	96MPPD-3.0F8-2M7T
Pentium-4 670 3.80GHz EM64T	SL7Z3	N0	115W	800	90nm	2MB	96MPP4-3.8F8-2M7T1
Celeron D E1200 1.6GHz EM64T	SLAQW	M0	65w	800	65nm	512KB	96MPC2-1.6F8-5K7T
Celeron-D 352 3.20GHz EM64T	SL96P	C1	86W	533	65nm	512KB	96MPCD-3.2F5-5K7T
Celeron 440 2GHz	SL9XL	A1	35W	800	65nm	512KB	96MPC4-2.0F8-5K7T
Celeron 430 1.8GHz	SL9XN	A1	35W	800	65nm	512KB	96MPC4-1.8F8-5K7T

Memory Compatibility

Brand	Size	Speed	Type	ECC	Vendor PN	Advantech PN	Memory
Apacer	1GB	DDR2 533	DDR2	N	78.01066.400	NA	SAMSUNG K4T51083QB-ZKD5 (128x4)
Transcend	256 MB	DDR2 533	DDR2	N	TS32MLQ64V5F	NA	SAMSUNG 443 K4T56083QF-GCD5 (32x8)
DSL	512 MB	DDR2 533	DDR2	N	NA	NA	infineon HYB18T512 800AF37 FSS43331 (64x8)
	1GB	DDR2 533	DDR2	N	NA	NA	ELPIDA E5108AE-5C-E (64x8)
Apacer (RoHS)	512 MB	DDR2 533	DDR2	N	78.91G66.420	96D2-512M533NN-AP	ELPIDA E5108AG-5C-E (64x8)
	1GB	DDR2 533	DDR2	N	78.01G66.420	96D2-1G533NN-AP	ELPIDA E5108AGBG-6E-E (64x8)
	512 MB	DDR2 667	DDR2	N	78.91G92.420	NA	ELPIDA E5108AG-6E-E (64x8)
	1GB	DDR2 667	DDR2	N	78.01G92.420	NA	ELPIDA E5108AGBG-6E-E (64x8)
	2 GB	DDR2 667	DDR2	N	78.A1G9O.404	96D2-2G667-AP	SEC K4T1G08400 (128x8)
Transcend (RoHS)	256 MB	DDR2 533	DDR2	N	TS32MLQ64V5M	96D2-256M533NN-TR	infineon HYB18T512160AF3.7 3VV21710 (32x16)
	512 MB	DDR2 533	DDR2	N	TS64MLQ64V5J	96D2-512M533NN-TR1	SEC K4T51083QC ZCD5 (64X8)
	512 MB	DDR2 667	DDR2	N	TS6QNJ22850-6S/ TS64MLQ64V6J	96D2-512M667NN-TR	SAMSUNG K4T51083QC ZCE6 (64x8)
	1GB	DDR2 667	DDR2	N	TS2QNJ23450-6S	96D2-1G667NN-TR	SEC K4T51083QE ZCE6 (64x8)
	1GB	DDR2 667	DDR2	N	TS2QNJ23450-6S/ TS128MLQ64V6J	96D2-1G667NN-TR	SEC K4T51083QG HCE6 (64x8)
	2GB	DDR2 667	DDR2	N	TS5QNU23451-6S	96D2-2G667-TR	SAMSUNG K4T1G084QD-ZCE6 (128x8)
	2GB	DDR2 667	DDR2	N	TS256MLQ64V6U	NA	Micron 7HE12 D9HNL (128x8)
Transcend (RoHS)	1GB	DDR2 800	DDR2	N	TS128MLQ64V8J	NA	ProMOS V59C1512804QBF25 (64x8)
	2GB	DDR2 667	DDR2	N	TS256MLQ64V6U	NA	SAMSUNG K4T1G084QA-ZCE6 (128x8)

DSL	1GB	DDR2 667	DDR2	N	NA	NA	ELPIDA E5108AGBG-6E-E (64x8)
	2GB	DDR2 667	DDR2	N	NA	NA	ELPIDA E1108ACSE-6E-E(128x8)
	1GB	DDR2 800	DDR2	N	NA	NA	ELPIDA E5108AHSE-8E-E (64x8)
	2GB	DDR2 800	DDR2	N	NA	NA	ELPIDA E1108ACBG-8E-E (128x8)
Kingston (RoHS)	2GB	DDR2 667	DDR2	N	KVR667D2 N5/2G	NA	Micron 7KE12 D9HNL (128x8)
	1GB	DDR2 800	DDR2	N	KVR800D2 N5/1G	NA	ELPIDA E5108AHSE-8E-E (64x8)

Ordering Information

AIMB-562 KIOSK Ordering Information

Part Number	On-board Processor	Chipset	Memory	LAN	COM	Display
AIMB-562VG-KSA1E	NA	945G	DDR2 533/ 667	1	10	CRT/CRT/ LVDS
AIMB-562VG-GRA1E	NA	945G	DDR2 533/ 667	1	10	CRT/CRT
AIMB-562L-KSA1E	NA	945GC	DDR2 533/ 667	1	10	CRT

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 Duo/Pentium 4/Pentium dual-core/Celeron® D Processor-based Micro ATX with DDR2/PCIe/Single GbE LAN
- 1 x AIMB-562 KIOSK startup manual
- 1 x CD with driver utility and manual
- 2 x Serial ATA HDD data cable
- 2 x Serial ATA HDD power cable
- 4 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-562 KIOSK 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-562 KIOSK, 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.

Contents

Chapter 1

General Information

1.1 Introduction

The AIMB-562 KIOSK is designed with the Intel® 945G/945GC 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 Duo up to 2.8 GHz / Pentium dual-core up to 2.2 Ghz / Pentium 4 up to 3.4 GHz/ Celeron® D up to 2.0 Ghz with 533/800/1066 MHz front side bus and DDR2 533/667 MHz up to 2 GB.

The AIMB-562 KIOSK offers cost-saving integrated graphics, built on the Intel® 945G/945GC chipset and features the unique Intel® Extreme Graphics architecture that maximizes VGA performance and shares system memory up to 224 MB.

Advantech AIMB-562 KIOSK is designed with an Intel 945G/945GC chipset and supports Intel Core 2 Duo processor up to FSB 1066 MHz. A rich I/O connectivity of 10 serial ports, 8 USB 2.0, single GbE LAN and 2 SATA ports.

1.2 Features

- **Cost effective 945G/945GC chipset:** support 533/800/1066 Front side bus
- **Rich I/O connectivity:** 10 serial ports, 8 USB 2.0, single GbE LAN
- **Standard Micro ATX form factor with industrial feature:** The AIMB-562 KIOSK is the most fully-featured Micro ATX motherboard with balanced expandability and the performance
- **Wide selection of storage devices:** SATA HDD, customers benefit the flexibility of using the most suitable storage device for large capacity
- **Optimized integrated graphic solution:** With Intel® Graphics Media Accelerator 950, it supports versatile display options and 32-bit 3D graphics engine.

1.3 Specifications

1.3.1 System

- **CPU:** LGA 775 Core™ 2 Duo up to 2.8 Ghz / Pentium dual-core up to 2.2 Ghz / Pentium 4 up to 3.4 Ghz / Celeron® D up to 2.0 Ghz
- **BIOS:** Award SPI 16 Mbit BIOS
- **System chipset:** Intel 945G/945GC with ICH7
- **SATA hard disk drive interface:** Two 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 DDRII 533/667 SDRAM

1.3.3 Input/Output

- **PCIe bus:** 1PCIe x 4 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 rate 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 PCI Express 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-562 KIOSK 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 your 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
JSETCOM3456	Serial port:RS232/RS422/RS485 jumper setting
JSETCOM78910	Serial port:RS232/RS422/RS485 jumper setting
JLVDSPWR1	LVDS Power Jumpr Selection
VOLADJ1	Volumn adjustment connector

Table 1.2: Connectors

Label	Function
JFP1	Reset connector
	HDD LED connector
	ATX soft power switch (PS_ON)
	Power/Sleep waiting LED
LPT1	Parallel port
USB56	USB port 5, 6 (on board)
USB78	USB port 7 8(on board)
VGA1	VGA connector
VGA2	2nd VGA connector
COM1/COM2	Serial port: COM1/COM2 (9-pin connector)
COM3~6/COM7~10	Serial port: COM3~-6/COM7~10 (40-pin connector)
KBMS1	PS/2 keyboard and Mouse connector Cable length: 20 meter
CPU_FAN1	CPU FAN connector
SYS_FAN1	System FAN connector 1
USB12	USB port 1,2
LAN2_USB34	LAN2/USB port 3,4
SATA1	Serial ATA0
SATA2	Serial ATA1

Table 1.2: Connectors	
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
GPIO2	GPIO pin header (SMD pitch=2.0 mm) 2 x 4
JLVDS1	LVDS connector
JLVDSPWR1	LVDS power jumper selection1-2:3.3 V 2-3:5 V
JBL1	LVDS inverter connector
SYS_FAN2	System Fan connector 2
VOLADJ1	Volume adjustment connector
AT_SWITCH1	AT Switch power connector

1.5 Board layout: Jumper and Connector Locations

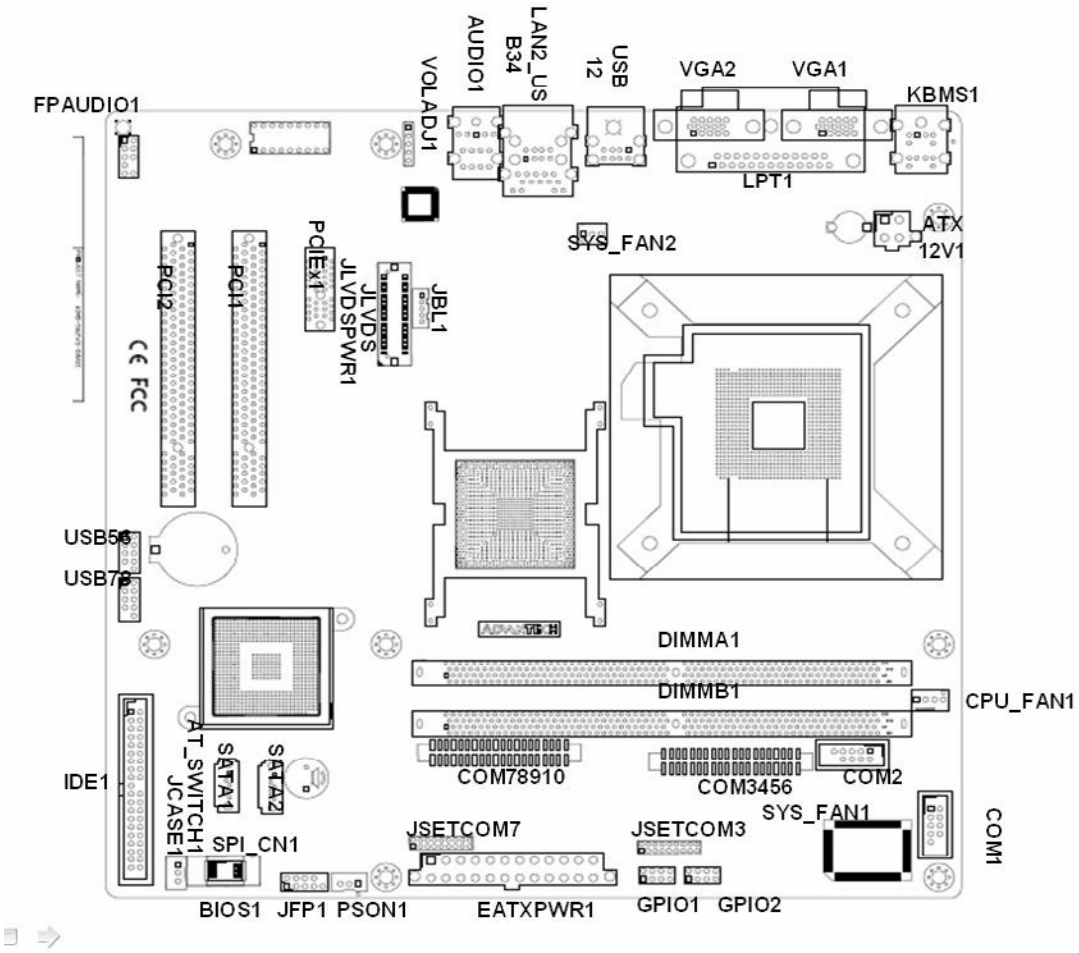


Figure 1.1 Jumper and Connector Location

Figure 1.2 I/O Connectors

1.6 AIMB-562 KIOSK Block Diagram

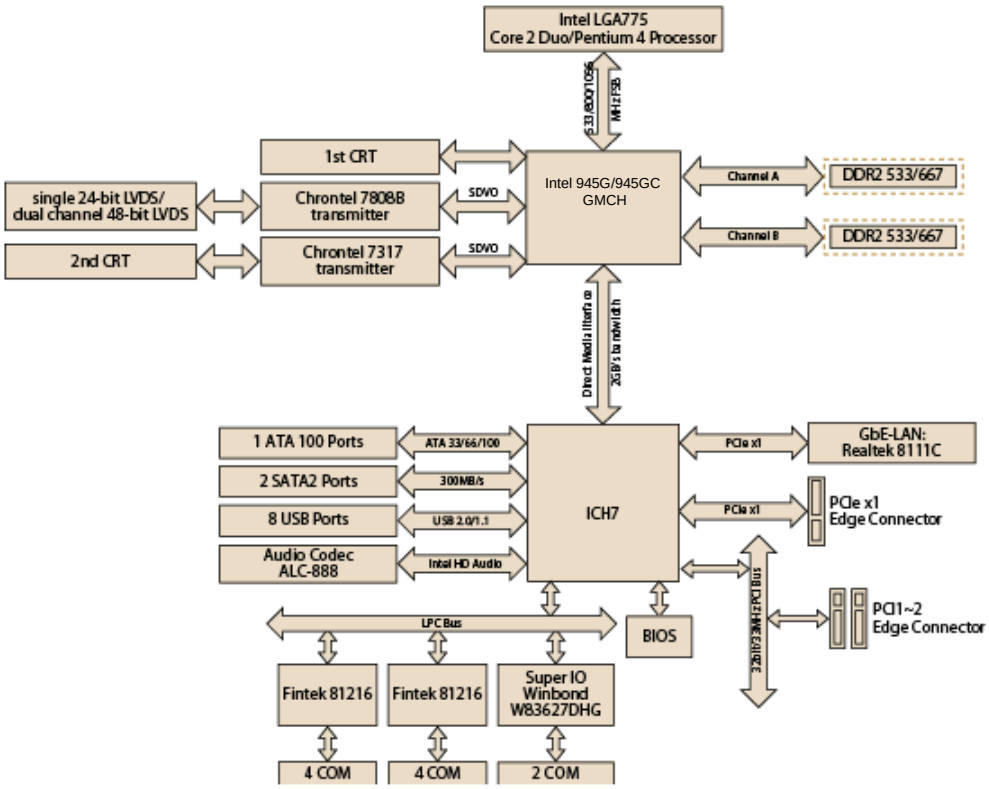


Figure 1.3 AIMB-562 KIOSK Block Diagram

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.

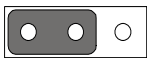
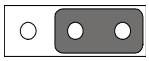
1.8.1 How to set jumpers

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-562 KIOSK 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.

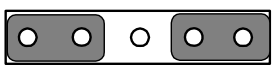
Table 1.3: CMOS1

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

1.8.3 Volumn adjustment(VOLADJ1)

Table 1.4: VOLADJ1

Function	Jumper Setting
*aduio from LINE_OUT	1-2 closed, 4-5 closed



Caution! *The volume output from LINE_OUT has been amplified so please be cautious when use earphone. Jumper 1-2 & 4-5 can be removed if user need sound from LINE_OUT with a tuner.*

1.8.4 Chassis instruction connector (JCASE1)

The AIMB-562 KIOSK motherboard contains a jumper that offer a chassis open sensor. The buzzer on the motherboad beeps when the case is opened.

1.8.5 ATX/AT mode selector (PSON1)

Table 1.5: ATX/AT mode selector (PSON1)

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

1.8.6 AT switch connector(AT_SWITCH1)

The AT switch connector for AIMB-562 KIOSK is default with 1-2 pin closed for only customer who use AT switch power supply.

1.8.7 COM3/7 RS 232/422/485 mode selector (JSETCOM3456/78910)

Users can use JSETCOM3456/78910 to select among RS 232/422/485 modes for COM3 and COM7. The default setting is RS 232.

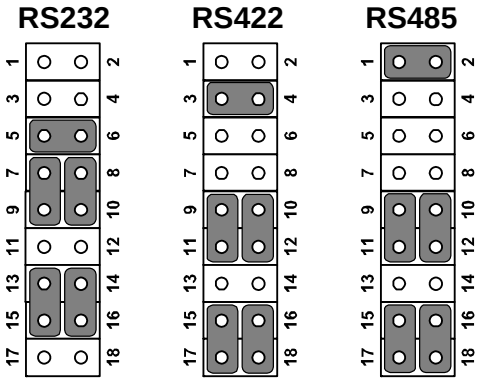


Table 1.6: COM3456/78910 RS 232/422/485 mode selector (JSETCOM3456/78910)

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	

1.8.8 LVDS power jumper connector(JLVDSPWR1)

JLVDSPWR1 is the jumper for either 3.3 V or 5 V output when connector to LCD panel.

Table 1.7: LVDS power jumper selectior

Function	Jumper Setting
connect to 3.3 V	1-2 pin closed
connect to 5 V	2-3 pin closed

1.9 System Memory

The AIMB-562 KIOSK has two sockets for 240-pin SODIMMx2.

All these sockets use 1.8 V unbuffered double data rate synchronous DRAMs (DDR2 SDRAM). They are available in capacities of 512 and 1024 MB. The sockets can be filled in any combination with DIMMs of any size, giving a total memory size between 512 MB and 2 GB. AIMB-562 KIOSK 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-562 KIOSK supports a CPU with one of the following built-in full speed L2 caches:

- 2048 MB for Intel Core 2 Duo CPU
- 1024 KB for Pentium dual core
- 1024 KB / 2048 KB for Pentium 4 CPUs
- 512 KB for Celeron D CPUs

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

1.12 Processor Installation

The AIMB-562 KIOSK is designed for LGA775, Intel Pentium 4, Intel Core 2 Duo, Celeron D and Intel Pentium dual core D processor.

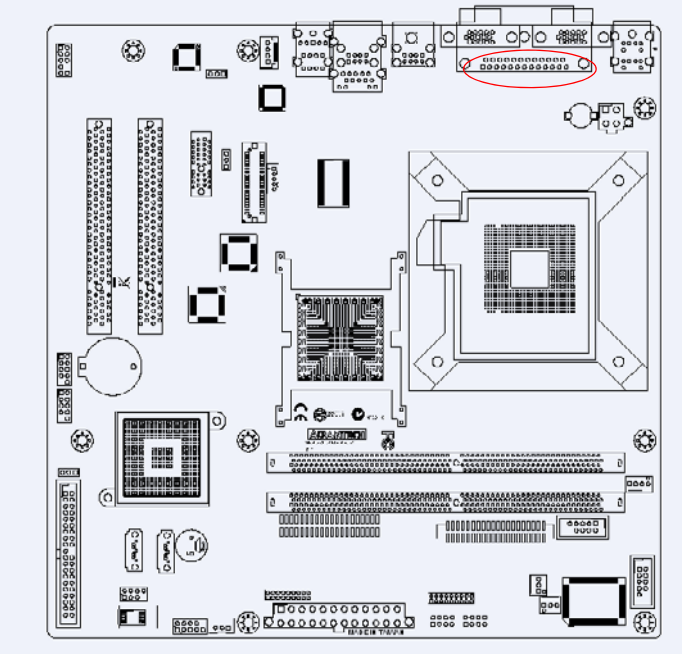
Chapter 2

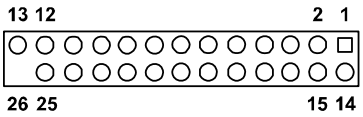
Connecting Peripherals

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 the card to make all the connections.

2.2 Parallel Port (LPT1)





LPT1

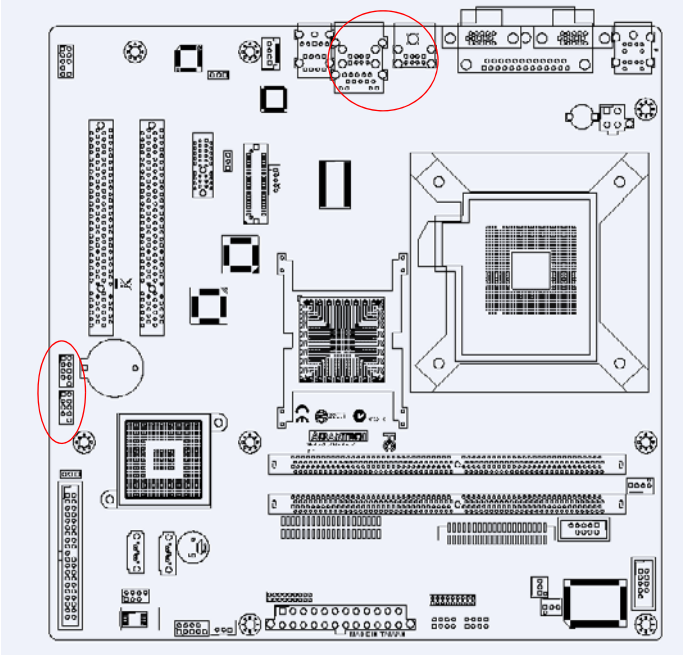
The parallel port is normally used to connect the motherboard to a printer. The AIMB-562 KIOSK includes an onboard parallel port, accessed through a 25-pin flat-cable connector, LPT1.

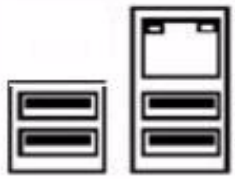
Note! *Parallel cable is not enclosed in the box as a standard accessory. The order part number is 1700008809.*

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

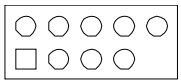
The AIMB-562 KIOSK provides up to eight ports of USB (Universal Serial Bus). The USB interface complies with USB Specification Rev. 2.0 supporting transmission rates up to 480 Mbps and is fuse protected. The USB interface can be disabled in the system BIOS setup.

The AIMB-562 KIOSK is equipped with one high-performance 1000 Mbps Ethernet LAN. They are supported by all major network operating systems. The RJ-45 jacks on the rear plate provide 1000Base-T operation.





USB12 LAN2_USB34

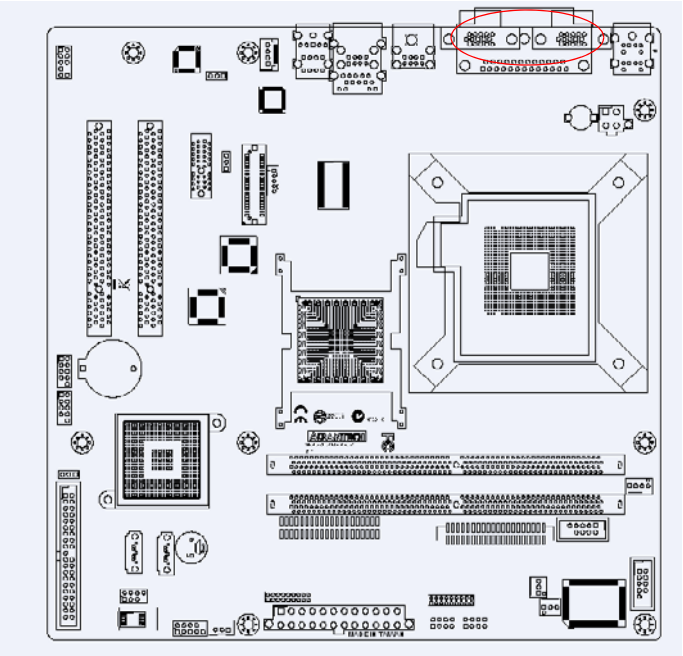


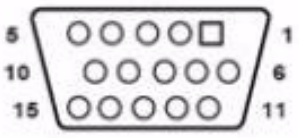
USB56/78

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/VGA2)

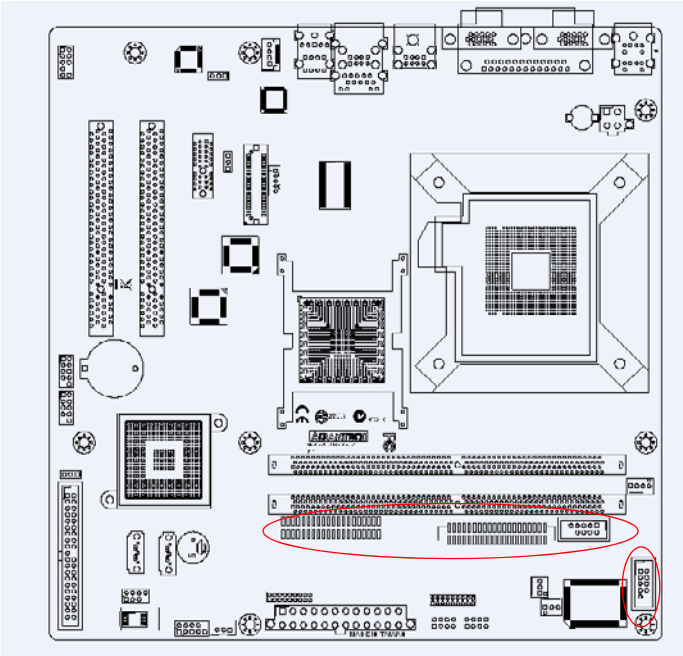


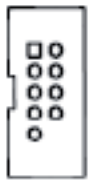


VGA1/VGA2

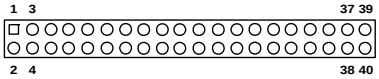
The AIMB-562 KIOSK includes a VGA interface that can drive conventional CRT displays. VGA1/VGA2 is a standard 15-pin D-SUB connector commonly used for VGA. Pin assignments for CRT connector VGA1/VGA2 are detailed in Appendix B.

2.5 Serial Ports (COM1~COM10)





COM1/COM2



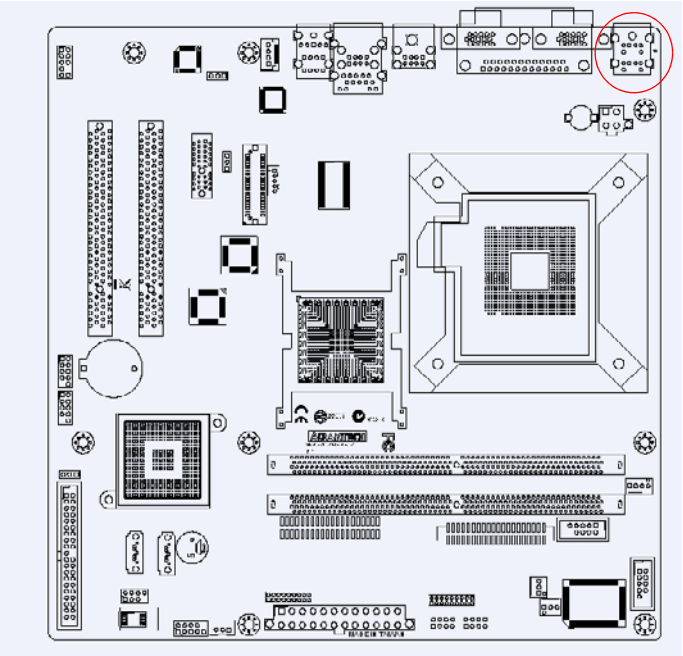
COM 3456/78910

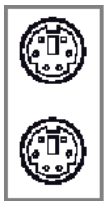
AIMB-562 KIOSK supports ten serial ports - eight RS-232, and two RS-232/422/485 - COM3 and COM7. The user can use JSETCOM3/7 to select among RS 232/422/485 modes for COM3 and COM7. These ports can connect to serial devices, such as a mouse or a printer, or to a communications network.

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)

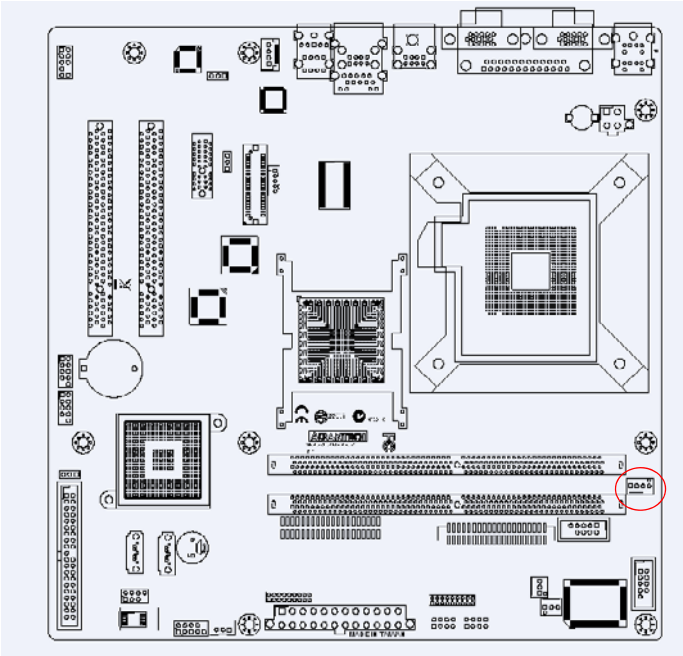


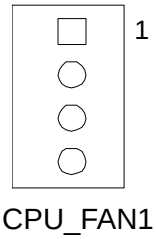


KBMS1

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

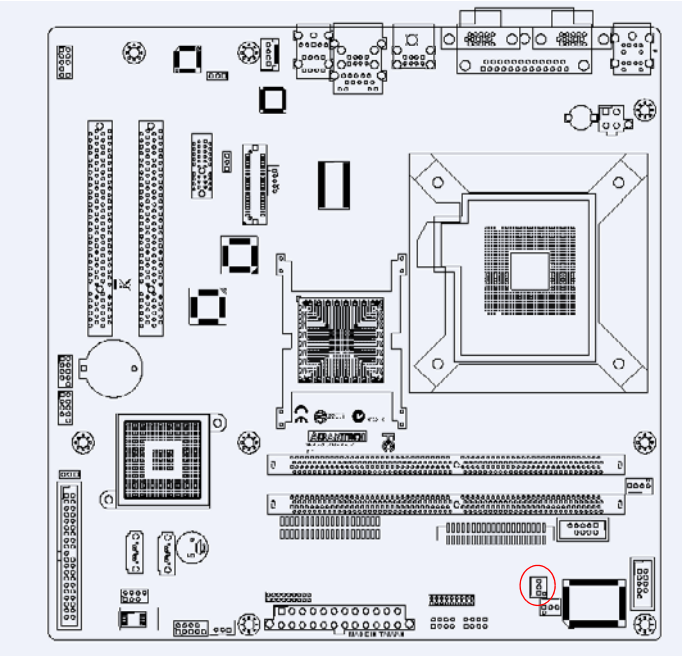
2.7 CPU Fan Connector (CPU_FAN1)

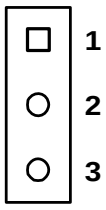




If a fan is used, this connector supports cooling fans of 500 mA (6 W) or less.

2.8 System FAN Connector (SYS_FAN1)



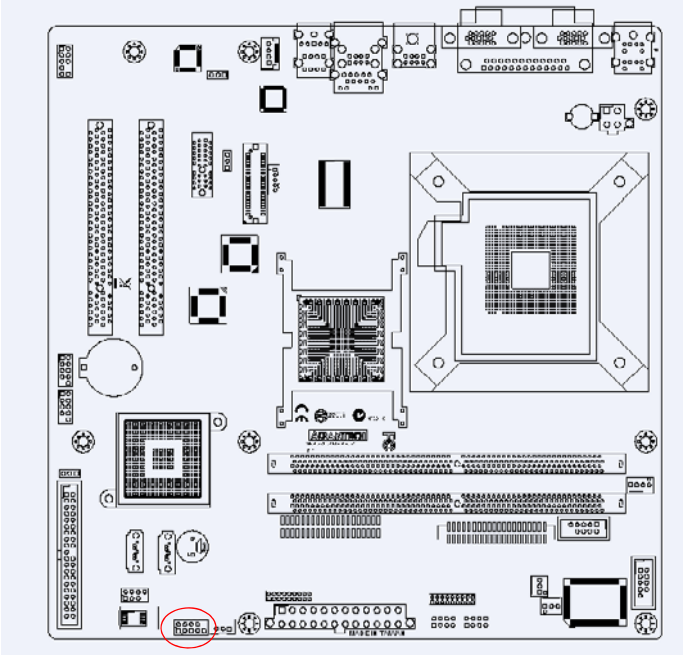


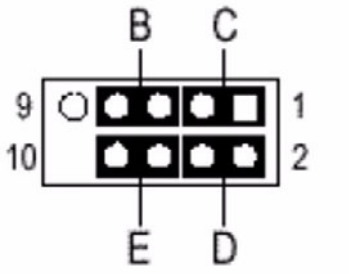
SYS_FAN1

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

2.9 Front Panel Connectors (JFP1)

There are several external switches to monitor and control the AIMB-562 KIOSK.





JFP1

B	5 and 7	Reset switch
C	1 and 3	Hard drive activity LED
D	2 and 4	Power/Sleep/Waiting LED
E	6 and 8	Power switch

2.9.1 Power/Sleep Waiting LED (JFP1)

JFP1 pins 2 & 4 is a 2-pin connector for the power LED. Refer to Appendix B for detailed information on the pin assignments. If a PS/2 or ATX power supply is used, the system's power LED status will be as indicated below:

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

Power mode	LED (ATX Power Mode) (On/off by tentative button)	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 Suspend	Fast flashes	Fast flashes	Fast flashes
System Off	Slow flashes	Off	Off

2.9.2 Reset Connector (JFP1 pins 5 & 7)

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

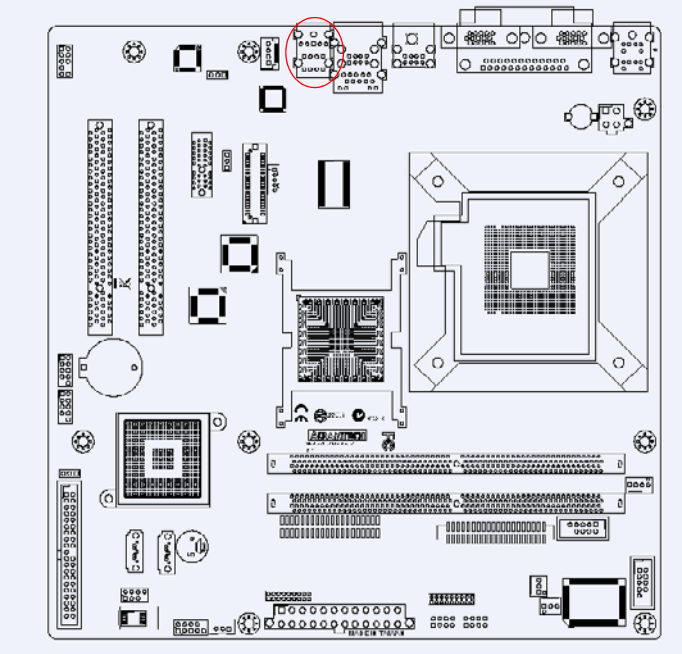
2.9.3 HDD LED Connector (JFP1 pins 1 & 3)

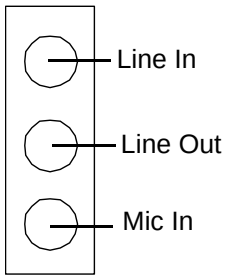
You can connect an LED to connector JFP2 to indicate when the HDD is active.

2.9.4 ATX Soft Power Switch (JFP1 pins 6 & 8)

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 pins 1&2. This connection enables you to turn your computer on and off.

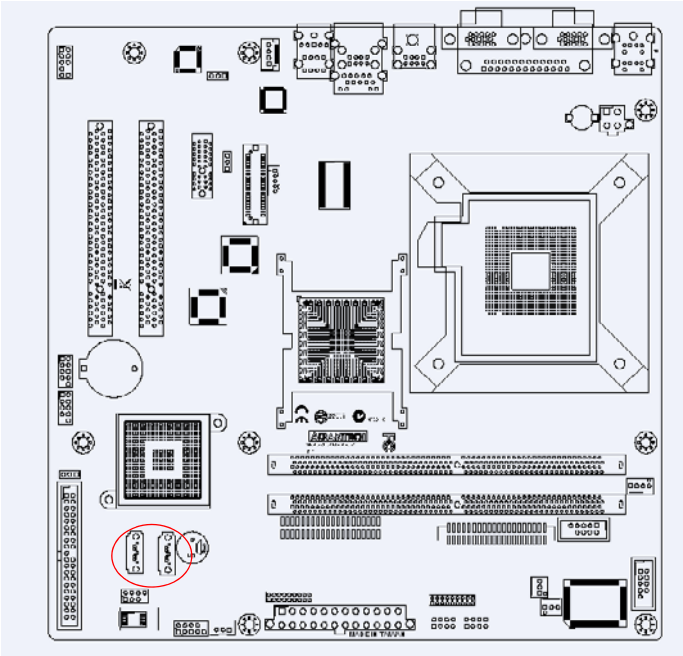
2.10 Line In, Line Out, Mic In Connector (AUDIO1)





AUDIO1

2.11 Serial ATA Interface (SATA1, SATA2)

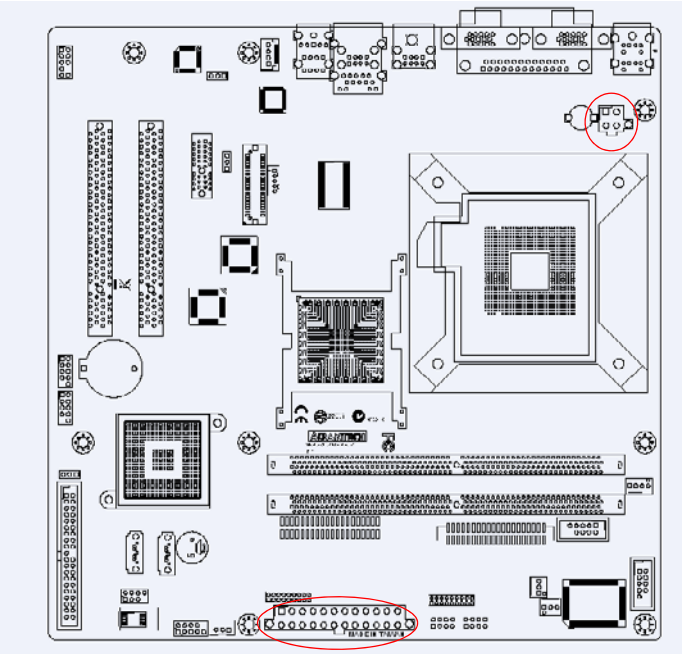


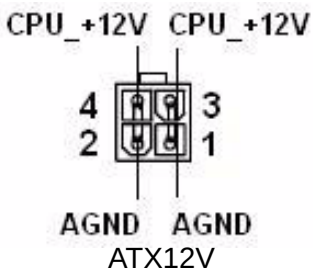
SATA1, SATA2

AIMB-562 KIOSK features two high performance serial ATA interface (up to 300 MB/s) which eases cabling to hard drives with thin and long cables.

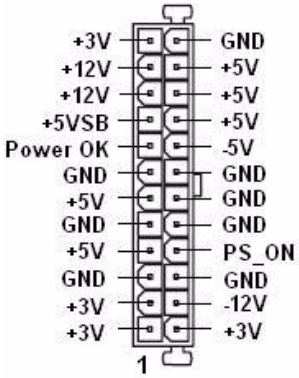
2.12 ATX Power Connector (ATX12V1, EATXPWR1)

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.





ATX12V

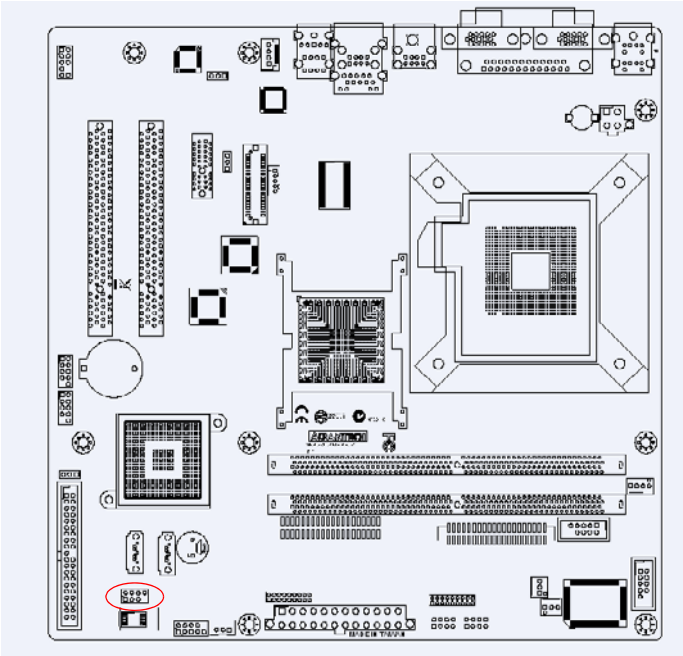


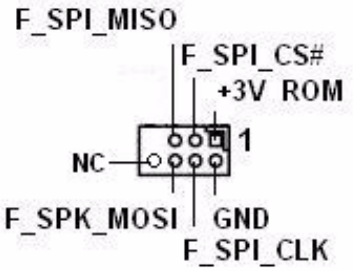
EATXPWR1

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)

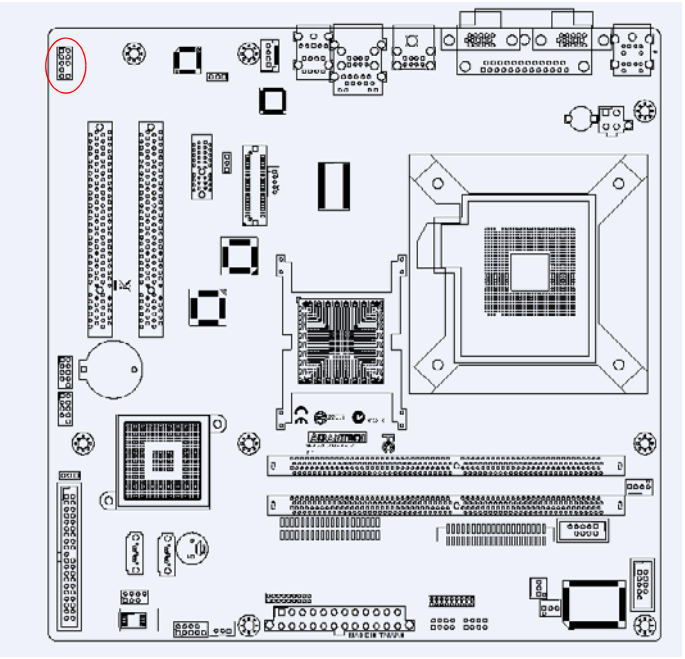


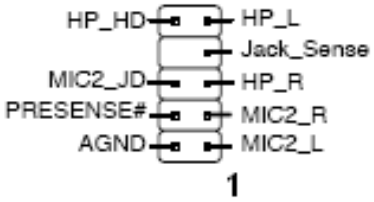


SPI flash card pin header which can be used to flash the BIOS.

2.14 Front Panel Audio Connector (FPAUDIO1)

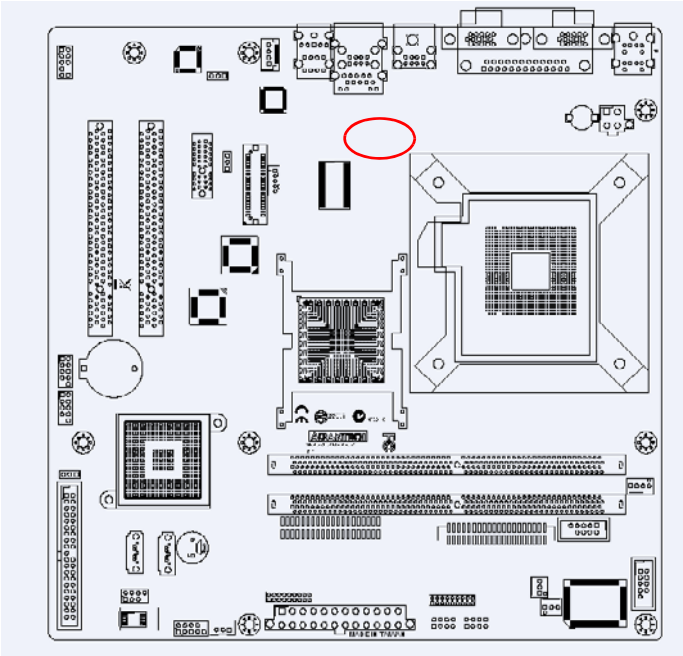
This connector is for a chassis_mounted front panel audio I/O module that supports either HD Audio or legacy AC'97 (optional) audio standard. Connect one end of the front panel audio I/O module cable to this connector.



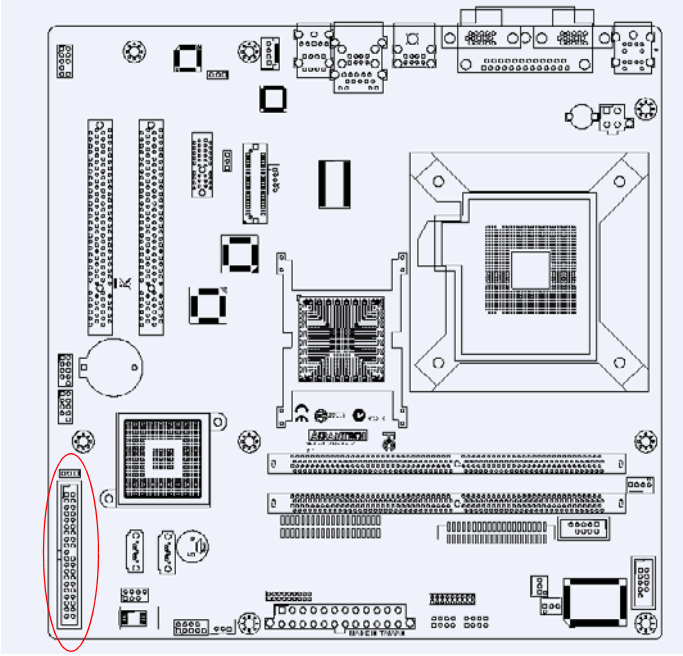


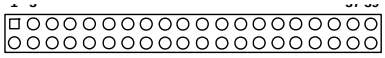
Note! *For motherboards with the optional HD Audio feature, we recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboardís high?definition audio capability.*

2.15 System FAN Connector (SYS_FAN2)



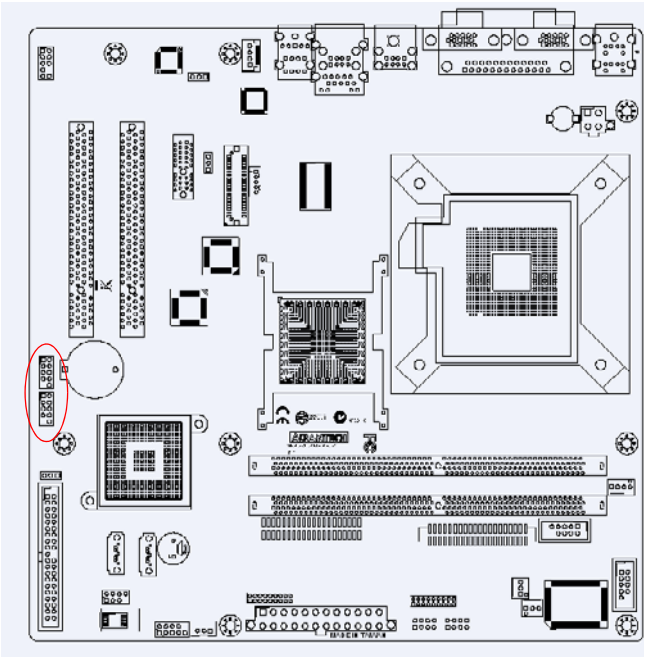
2.16 Primary EIDE Connector (IDE1)

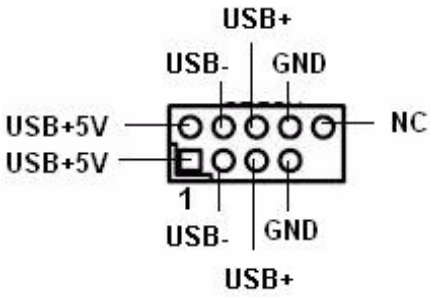




2.17 USB 2.0 Connector (USB 56, 78)

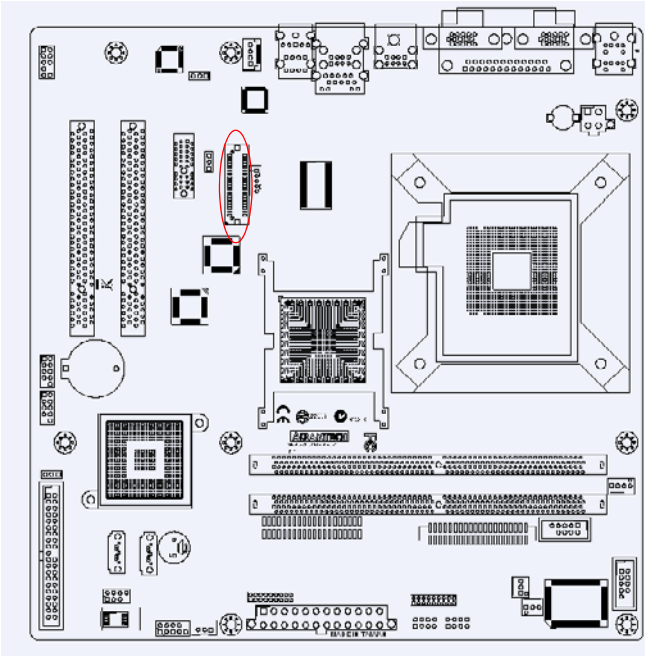
These connectors are for USB 2.0 ports. Connect the USB/GAME module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

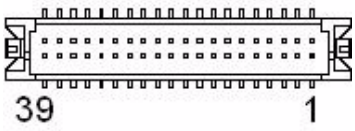




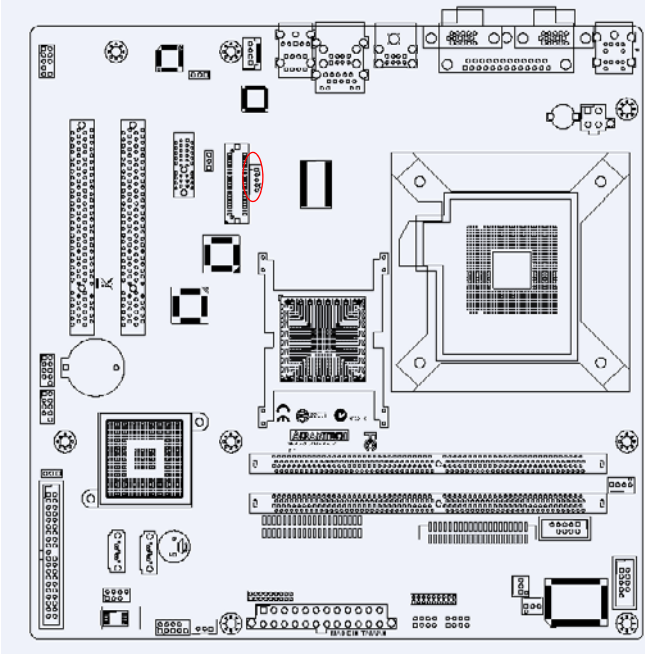
Note! *The USB module is purchased separately.*

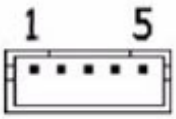
2.18 LVDS Connector (JLVDS1)



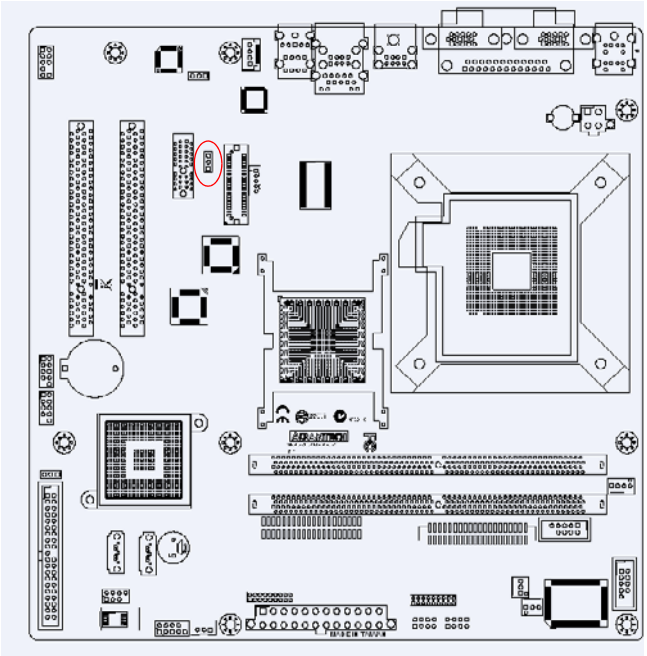


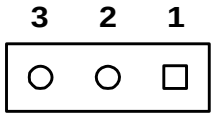
2.19 LVDS Backlight Enabler (JBL1)



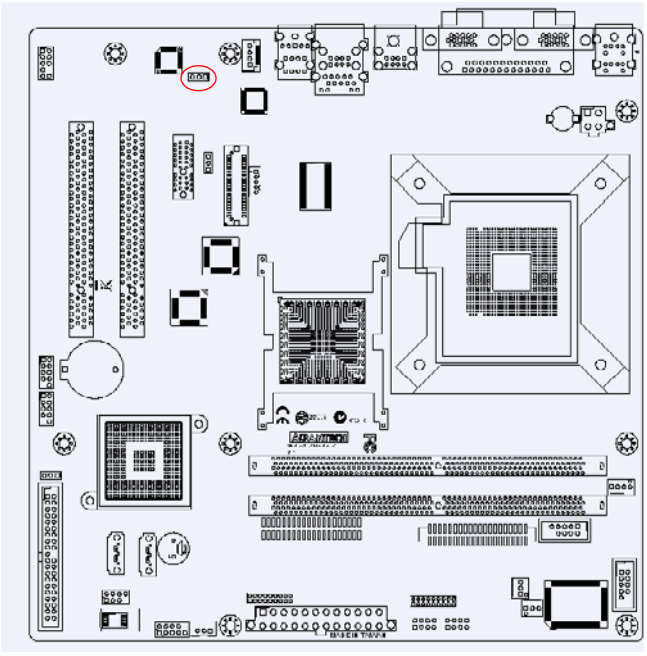


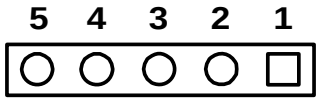
2.20 LVDS Power Jumper Selection1 (JLVDSPWR1)





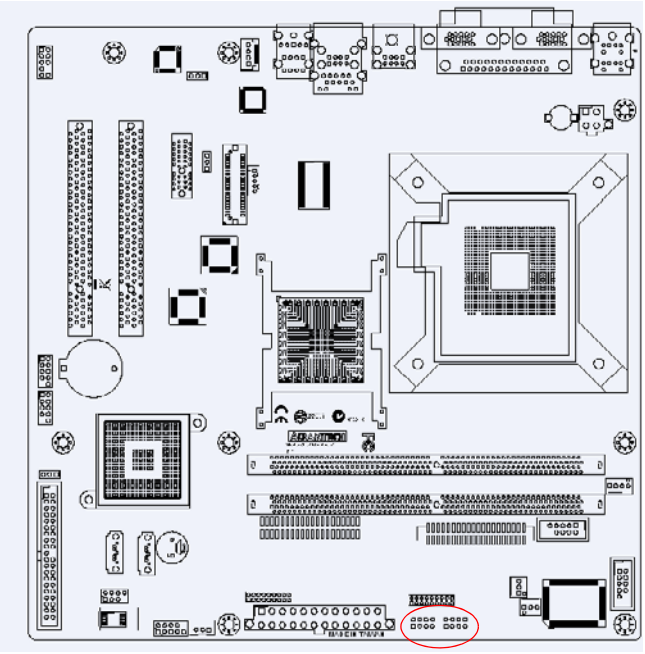
2.21 Volume Adjustment Connector (VOLADJ1)

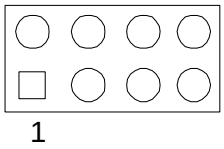




Note! *The volumn adjustment cable can be used to control the volumn. The cable need bought separately.*

2.22 GPIO Pin Header (GPIO1, GPIO2)





Note! *GPIO1 Pin 1 ~ Pin 8 current: GPI: 5V 1uA. GPO: 5V 8~ 10uA.*
GPIO2 Pin 1, 3, 5,7 current: GPO(output current only):5V,200mA
Pin 2, 4, 6, 8 current: GPI 5V, 1uA. GPO:5V, 8~10uA
GPIO2 Pin 1,3,5,7 are for 200mAT high current output use only.

Chapter 3

BIOS Operation

3.1 Introduction

Advantech provides full-featured AwardBIOS 6.0 and delivers the superior performance, compatibility and functionality that manufactures of Industry PC and Embedded boards, its many options and extensions let you customize your products to a wide range of designs and target markets.

The modular, adaptable AwardBIOS 6.0 supports the broadest range of third-party peripherals and all popular chipsets, plus Intel, AMD, nVidia, VIA, and compatible CPUs from 386 through Pentium and AMD Geode, K7 and K8 (including multiple processor platforms), and VIA Eden C3 and C7 CPU.

You can use Advantech's utilities to select and install features to suit your designs for customers need.

3.2 BIOS Setup

The AIMB-562 KIOSK KIOSK Series system has build-in AwardBIOS with a CMOS SETUP utility which allows user to configure required settings or to activate certain system features.

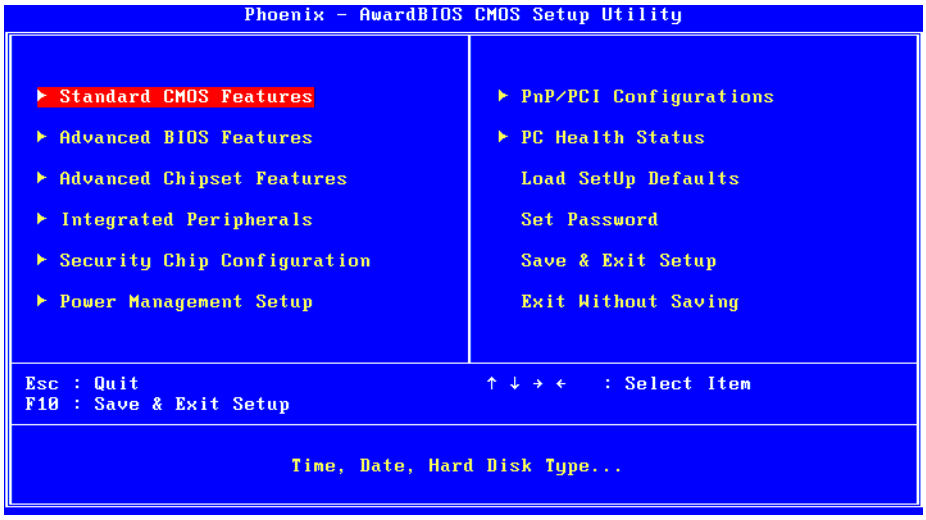
The CMOS SETUP saves the configuration in the CMOS RAM of the motherboard. When the power is turned off, the battery on the board supplies the necessary power to the CMOS RAM.

When the power is turned on, press the <Del> button during the BIOS POST (Power-On Self Test) 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

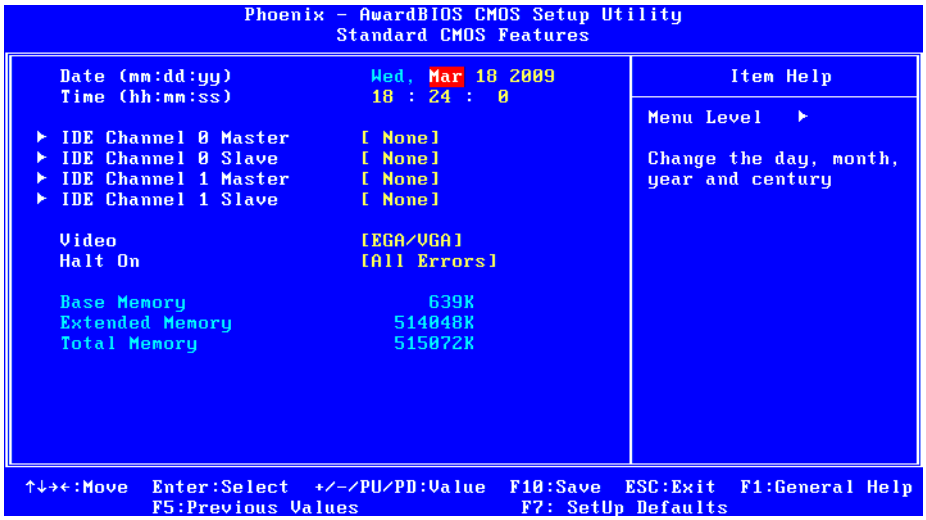
3.2.1 Main Menu

Press <Del> to enter AwardBIOS 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.



- Standard CMOS Features
  This setup page includes all the items in standard compatible BIOS.
- Advanced BIOS Features
  This setup page includes all the items of Award BIOS enhanced features.
- Advanced Chipset Features
  This setup page includes all the items of Chipset configuration features.
- Integrated Peripherals
  This setup page includes all onboard peripheral devices.
- Security chip configuration
  This SETUP page includes all the items of Trusted Module Configuration features. This sub-menu item only appears when Trusted Module plug in.
- Power Management Setup
  This setup page includes all the items of Power Management features.
- PnP/PCI Configurations
  This setup page includes PnP OS and PCI device configuration.
- PC Health Status
  This setup page includes the system auto detect CPU and system temperature, voltage, fan speed.
- Frequency/Voltage Control
  This setup page includes CPU host clock control, frequency ratio and voltage.
- Load Setup Defaults
  This setup page includes Load system optimized value, and the system would be in best performance configuration.
- Set Password
  Establish, change or disable password.
- Save & Exit Setup
  Save CMOS value settings to CMOS and exit BIOS setup.
- Exit Without Saving
  Abandon all CMOS value changes and exit BIOS setup.

3.2.2 Standard CMOS Features



- Date

  The date format is <weekday>, <month>, <day>, <year>.

Weekday	From Sun to Sat, determined and displayed by BIOS only
Month	From Jan. to Dec.
Day	From 1 to 31
Year	From 1999 through 2098

- Time

  The time format is <hour> <minute> <second>, based on 24-hour time.

- IDE Channel 0 Master/Slave

  IDE HDD Auto-Detection Press "Enter" for automatic device detection.

- Video

  Select EGA or VGA display.

- Halt on

  The item determines whether the computer will stop if an error is detected during power up.

No Errors	The system boot will not stop for any error.
All Errors	Whenever the BIOS detects a non-fatal error the system will be stopped.
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors. (Default value)

- Base Memory

  The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

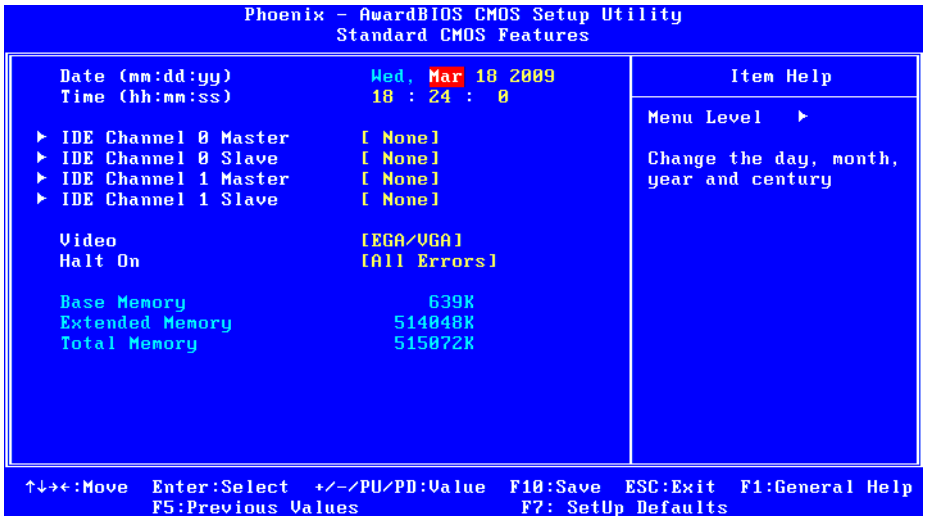
- Extended Memory

  The BIOS POST will determine the amount of extended memory (above 1 MB in CPU's memory address map) installed in the system.

- Total Memory

  This item displays the total system memory size.

3.2.3 Advanced BIOS Features



- CPU Feature

  This item allows user to adjust CPU features.

- Hard Disk Boot Priority

  This item allows user to select boot sequence for system device HDD, USB-HDD, SCSI, RAID.

- Virus Warning[Disabled]

  Enables or disables the virus warning.

- CPU L3 Cache

  This item allows user to enable CPU L3 cache.

- Quick Power On Self Test[Enabled]

  This field speeds up the Power-On Self Test (POST) routine by skipping retesting a second, third and forth time. Setup setting default is enabled.

- First / Second / Third / Other Boot Drive

Hard Disk	Select boot device priority by Hard Disk.
CDROM	Select boot device priority by CDROM.
USB-FDD	Select boot device priority by USB-FDD.
USB-ZIP	Select boot device priority by USB-ZIP.
USB-CDROM	Select boot device priority by USB-CDROM.
LAN	Select boot device priority by LAN.
Disabled	Disable this boot function.

- Gate A20 Option [Fast]

  This item enables users to switch A20 control by port 92 or not.

- Typematic Rate Setting

  This item enables users to set the two typematic controls items.

  – Typematic Rate (Chars/Sec)

  This item controls the speed at which the system registers auto-repeated keystrokes. The eight settings are 6, 8, 10, 12, 15, 20, 24 and 30.

  – Typematic Delay (Msec)

  This item sets the keypress time delay before autorepeat begins.

  Four delay rate options are 250, 500, 750 and 1000.

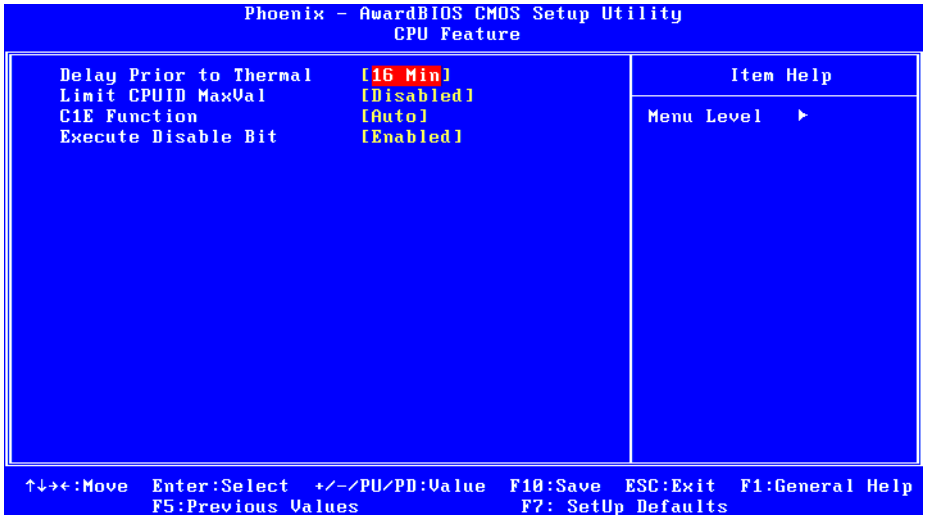
- Security Option [Setup]

System	System will not boot and refuses access to Setup page if the correct password is not entered at the prompt.
Setup	System will boot, but access to Setup requires password (default value).

- APIC Mode [Enabled]

  This item allows user to enabled of disabled “Advanced Programmable Interrupt Controller”. APIC is implemented in the motherboard and must be supported by the operating system, and it extends the number of IRQ's available.

3.2.4 Advanced Chipset Features



Note! *This “Advanced Chipset Features” page controls configuration of the board’s chipset. This page is chipset dependent; screens may differ somewhat depending on the chipset. It is strongly recommended that only technical users make changes to the default settings.*

- DRAM Timing Selectable [By SPD]

  This item enables users to set the optimal timings for items 2 through 5; system default setting “By SPD” follows the SPD information and ensures the system runs stably with optimal performance.

- CAS Latency Time [Auto]

  This item enables users to set the timing delay in clock cycles before SDRAM starts a read command after receiving it.

- DRAM RAS# to CAS# Delay [Auto]

  This item enables users to set the timing of the transition from RAS (row address strobe) to CAS (column address strobe) as both rows and column are separately addressed shortly after DRAM is refreshed.

- DRAM RAS# Precharge [Auto]

  This item enables users to set the DRAM RAS# precharge timing, system default is setting to “Auto” to reference the data from SPD ROM.

- Precharge delay (tRAS) [Auto]

  This item allows user to adjust memory precharge time.

- System Memory Frequency [Auto]

  This item allows user to adjust memory frequency to improvement performance.
- System BIOS Cacheable [Enabled]

  This item allows the system BIOS to be cached to allow faster execution and better performance.
- Video BIOS Cacheable [Disabled]

  This item allows the video BIOS to be cached to allow faster execution and better performance.
- Memory Hole At 15 M-16 M [Disabled]

  This item reserves 15 MB-16 MB memory address space to ISA expansion cards that specifically require the setting. Memory from 15 MB-16 MB will be unavailable to the system because of the expansion cards can only access memory at this area.
- PCI Express Root port Func [Press Enter]

  This item allows the user to adjust PCIE port on, off or auto.
- On-Chip Frame Buffer Size [8 MB]

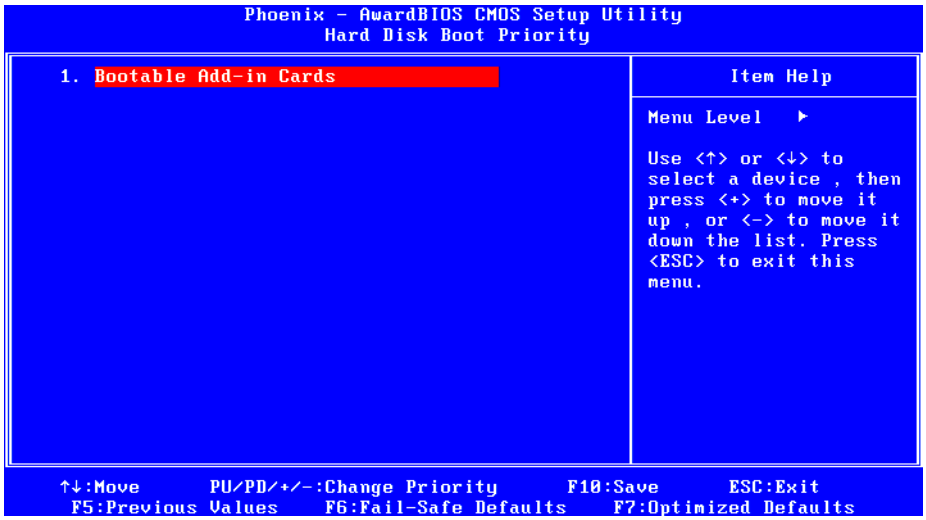
  This item allows the user to adjust the on-chip frame buffer size 8 MB or 1 MB.
- DVMT Mode [DVMT]

  This item allows the user to adjust Intel's Dynamic Video Memory Technology (DVMT). BIOS provides three options: DVMT, FIXED, and Both.
- DVMT/FIXED Memory Size [128MB]

  This item allows the user to adjust DVMT/FIXED graphics memory size.
- Init Display First

  This item is the setting for start up video output: either from PCI Express or Onboard device.

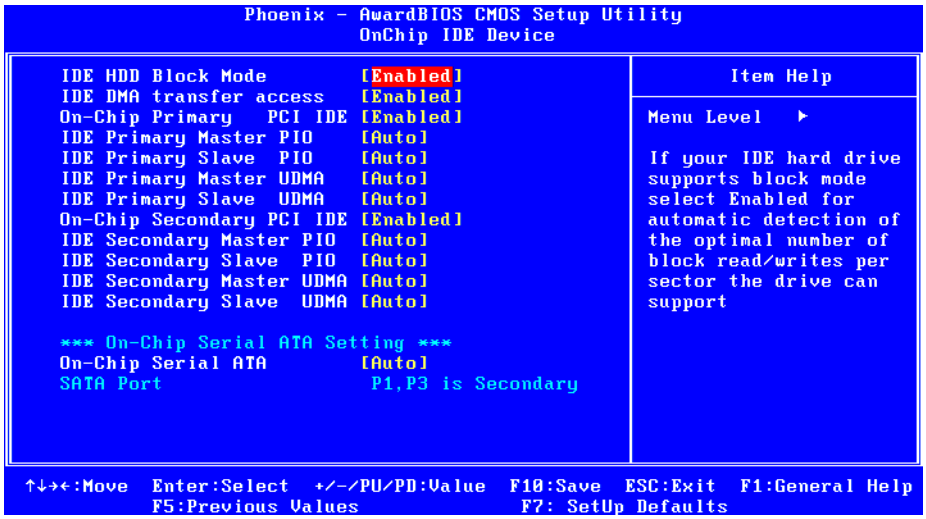
3.2.5 Integrated Peripherals



Note! *This "Integrated Peripherals" page controls the configuration of the board's chipset, including IDE, ATA, SATA, USB, AC97, MC97 and Super IO and Sensor devices. This page is chipset dependent; the screen capture above is illustrative, but screens do differ depending on chipset features.*

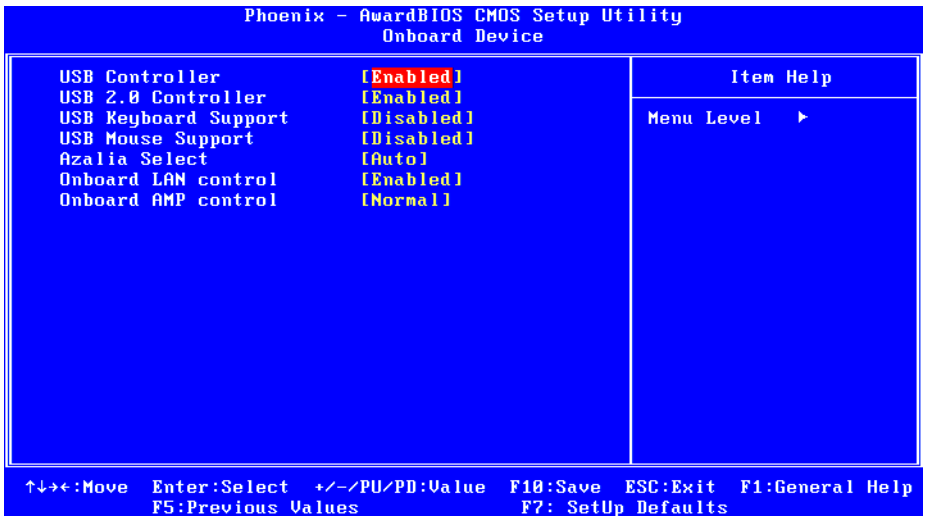
- OnChip IDE Device

  This item enables users to set the OnChip IDE device status, including some of new chipsets also support SATA devices (Serial-ATA).



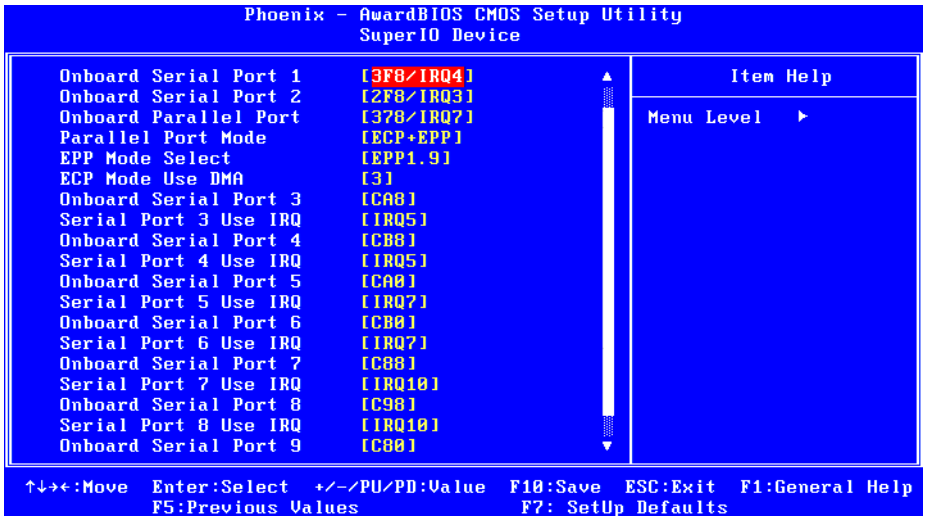
- Onboard Device

  This item enables users to set the Onboard device status, including enabling USB, AC97, and LAN devices.



- Super IO Device

  This item enables users to set the Super IO device status, including enabling of COM, LPT, and IR.



- Onboard Serial port 1 [3F8 / IRQ4]

  This item allows user to adjust serial port 1 of address and IRQ.

- Onboard Serial port 2 [2F8/ IRQ3]

  This item allows user to adjust serial port 2 of address and IRQ.

- UART Mode Select [Normal]

  This item allows you to select UART mode. The choices: “IrDA”, “ASKIR”, and “Normal”.

- RxD, TxD Active

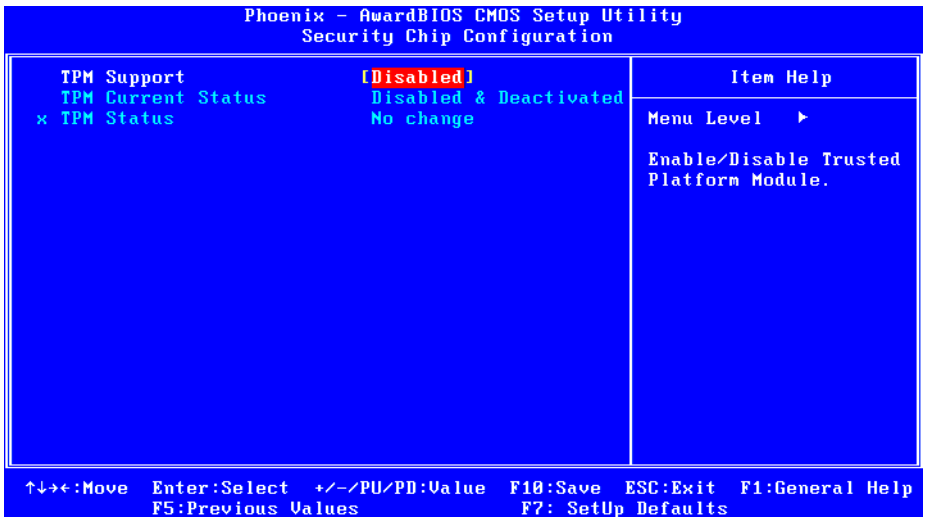
  This item allows you to determine the active level of the RxD and TxD serial lines. The choices: “Hi, Hi”, “Lo, Lo”, “Lo, H”, and “Hi, Lo”.

- IR Transmission Delay

  This item allows you to enable/disable IR transmission delay. The options are “Enabled” and “Disabled”.

- UR2 Duplex Mode
  This item allows you to select the IR half/full duplex function. The options are “Half” and “Full”.
- Use IR Pins
  The options are “RxD2, TxD2” and “IR-Rx2Tx2”.
- Onboard Parallel Port [378/IRQ7]
  This item allows user to adjust parallel port of address and IRQ.
- Parallel Port Mode [ECP+EPP]
  This item allows user to adjust parallel port mode.
- EPP Mode Select [EPP1.9]
  This field allows you to select EPP port type 1.7 or 1.9. The choices are “EPP1.9” and “EPP1.7”.
- ECP Mode Use DMA [3]
  This item allows user to adjust ECP DMA resource.
- Onboard Serial port 3 [3E8/IRQ10]
  This item allows user to adjust serial port 3 of address and IRQ.
- Onboard Serial port 4 [2E8/IRQ10]
  This item allows user to adjust serial port 4 of address and IRQ.

3.2.6 Security Chip Configuration

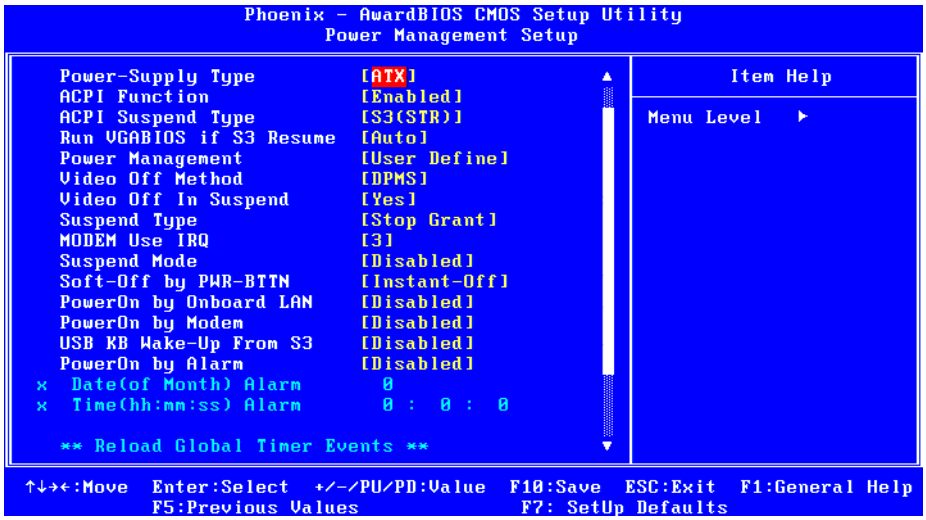


3.2.7 TPM Support

The items in this menu allow you to set the TPM (Trusted Platform Module) features. Select an item and then press <Enabled> to display the configuration options.

Note! *To enable the TPM function, set the TPM Support item to [Enabled] and then save the change; after rebooting, the TPM configuration menu will show the active options.*

3.2.8 Power Management Setup



Note! *Adjust "Power management Setup" to configure the system to most effective energy savings still consistent with the intended style of use.*

- PCI Express PM Function

  This allows you to control Power On by onboard LAN chip feature.
- Power-Supply Type [ATX]

  This item allows user to set power-supply type, ATX or AT mode.
- ACPI Function [Enabled]

  This item defines the ACPI (Advanced Configuration and Power Management) feature that makes hardware status information available to the operating system, and communicates with PC and system devices for improving the power management.
- ACPI Suspend Type [S3(STR)]

  This item allows user to select sleep state when in suspend.

S1(POS)	The suspend mode is equivalent to a software power down;
S3(STR)	The system shuts down with the exception of a refresh current to the system memory.

- Run VGA BIOS if S3 Resume [Auto]

  This item allows system to reinitialize VGA BIOS after system resume from ACPI S3 mode.
- Power Management [User Define]

  This item allows user to select system power saving mode.

Min Saving	Minimum power management. Suspend Mode=1 hr.
Max Saving	Maximum power management. Suspend Mode=1 min.
User Define	Allows user to set each mode individually. Suspend Mode= Disabled or 1 min ~1 hr.

- Video Off Method [DPMS]

  This item allows user to determine the manner is which the monitor is blanked.

V/H SYNC+Blank	This option will cause system to turn off vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Initial display power management signaling.

- Video Off In Suspend [Yes]

  This item allows user to turn off video when system is in suspend mode.

- Suspend Type [Stop Grant]

  This item allows user to determine the suspend type.

- Modem use IRQ [3]

  This item allows user to determine which IRQ the MODEM can use.

- Suspend Mode [Disabled]

  This item allows user to set a delay time. If system inactivity exceeds the delay time, all devices except the CPU will be shut off.

- Soft-Off by PWR-BTTN [Instant-Off]

  This item allows user to define function of power button.

Instant-Off	Pressing power button initiates instant power off.
Delay 4 Sec	Press power button for four seconds to initiate power off.

- PowerOn by LAN [Enabled]

  This item allows user to power on the system via LAN. The choices are “Enabled” and “Disabled”.

- PowerOn by Modem [Enabled]

  This item allows user to power on the system by Modem. The choices are “Enabled” and “Disabled”.

- USB KB Wake_Up From S3 [Disabled]

  This item allows user to allow a USB keyboard to wake up the system from S3 suspend. Options: Enabled or Disabled.

- PowerOn by Alarm [Disabled]

  The choices are “Enabled” and “Disabled”. If enabled, the fields that follow indicate dates and times of alarm settings.

- Primary IDE 0 (1) and Secondary IDE 0 (1) [Disabled]

  When Enabled, the system will resume from suspend mode if Primary IDE 0 (1) or Secondary IDE 0 (1) becomes active. The choices are “Enabled” and “Disabled”.

- FDD, COM, LPT PORT [Disabled]

  When Enabled, the system will resume from suspend mode if the FDD interface, COM port, or LPT port becomes active. The choices are ”Enabled” and “Disabled”.

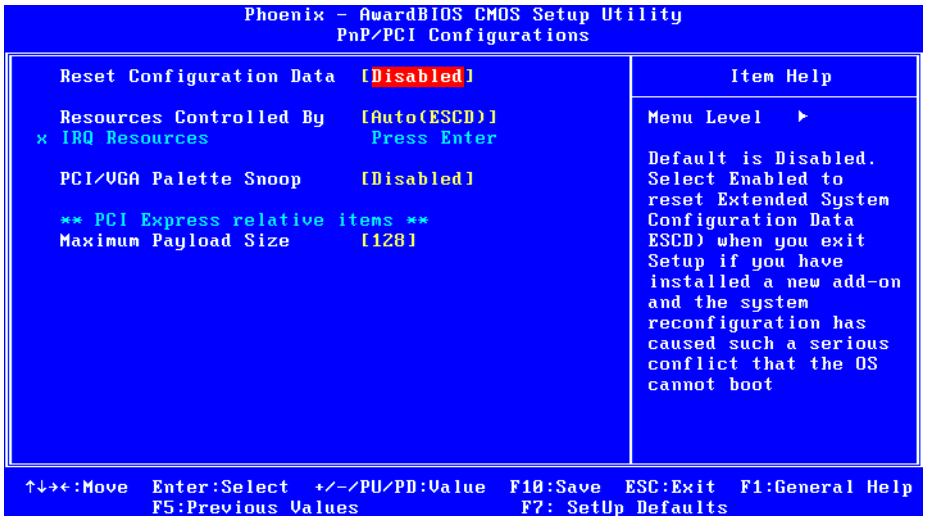
- PCI PIRQ [A-D]# [Disabled]

  When Enabled, the system resumes from suspend mode if an interrupt occurs. The choices are “Enabled” and “Disabled”.

- PWRON After PWR-Fail [Former-Sts]

  Use this to set up the system after power failure. The “Off” setting keeps the system powered off after power failure, the “On” setting boots up the system after failure, and the “Former-Sts” returns the system to the status before power failure.

3.2.9 PnP/PCI Configurations



- Reset Configuration Data [Disabled]

  The default is Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) if you have installed a new add-on card, and system configuration is in such a state that the OS cannot boot.

- Resources Controlled By [Auto(ESCD)]

  The commands here are “Auto(ESCD)” or “Manual”. Choosing “Manual” requires you to choose resources from the following sub-menu. “Auto(ESCD)” automatically configures all of the boot and Plug and Play devices, but you must be using Windows 95 or above.

- PCI / VGA Palette Snoop [Disabled]

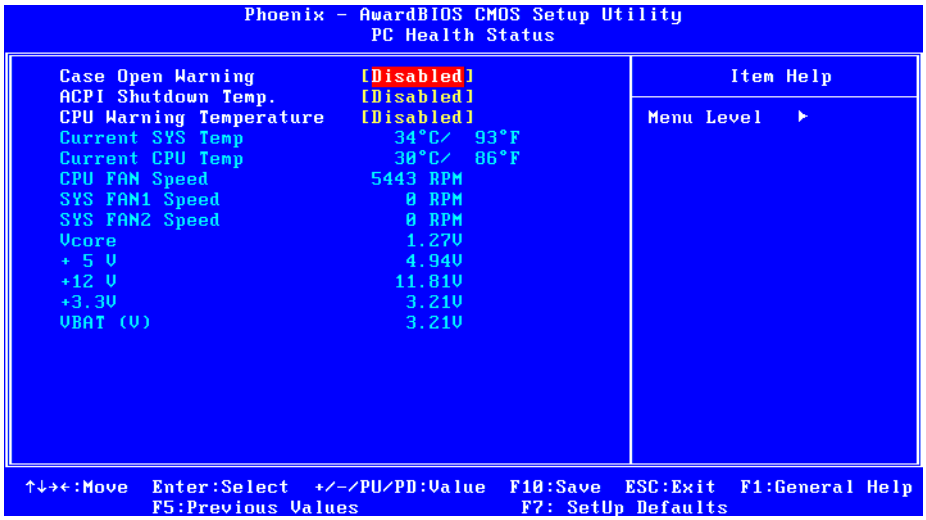
  This is set to “Disabled” by default.

- Maximum Payload Size [128]

  This item shows you the maximum TLP payload size for PCI Express devices.

  The option is set to [128 bytes] by chipset specification.

3.2.10 PC Health Status



- ACPI Shutdown Temperature [Disabled]

  The system will shut down automatically if the CPU temperature goes over the selected setting.
- CPU Warning Temperature [Disabled]

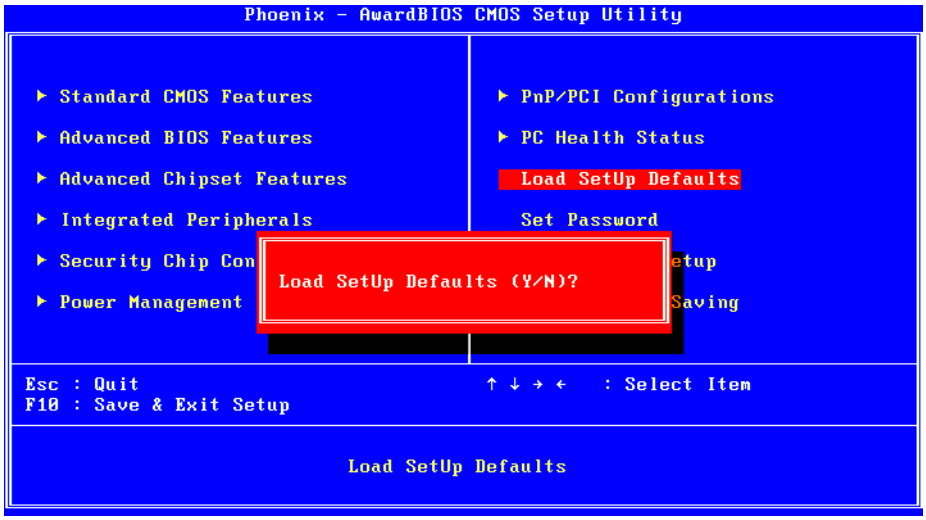
  The system will give an automatic warning if the CPU temperature goes over the selected setting.
- Current System Temperature

  This shows you the current temperature of system.
- Current CPU Temperature

  This shows the current CPU temperature.
- VCORE and Other Voltages

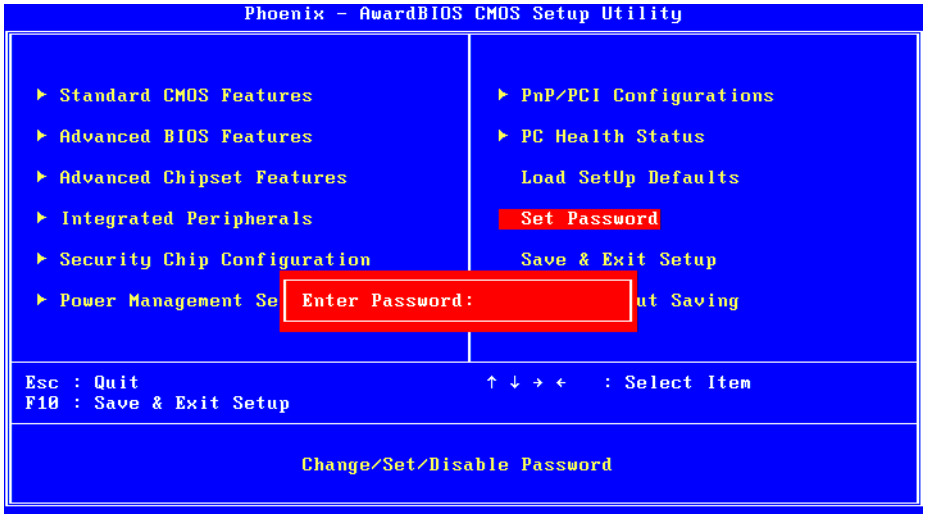
  This shows the voltage of VCORE, +3.3 V, +5 V, +12 V, -12 V, VBAT(V), and 5 VSB (V).

3.2.11 Load Setup Defaults



Note! *Load Setup Defaults loads the default system values directly from ROM. Useful if the stored record created by the Setup program should ever become corrupted (and therefore unusable).*

3.2.12 Set Password



Note! *To enable this feature, you should first go to the Advanced BIOS Features menu, choose the Security Option, and select either Setup or System, depending on which aspect you want password protected. "Setup" requires a password only to enter Setup. "System" requires the password either to enter Setup or to boot the system. A password can be at most 8 characters long.*

To Establish Password

1. Choose the Set Password option from the CMOS Setup Utility main menu and press <Enter>.
2. When you see “Enter Password”, enter the desired password and press <Enter>.
3. At the “Confirm Password” prompt, retype the desired password, then press <Enter>.
4. Select Save to CMOS and EXIT, type <Y>, then <Enter>.

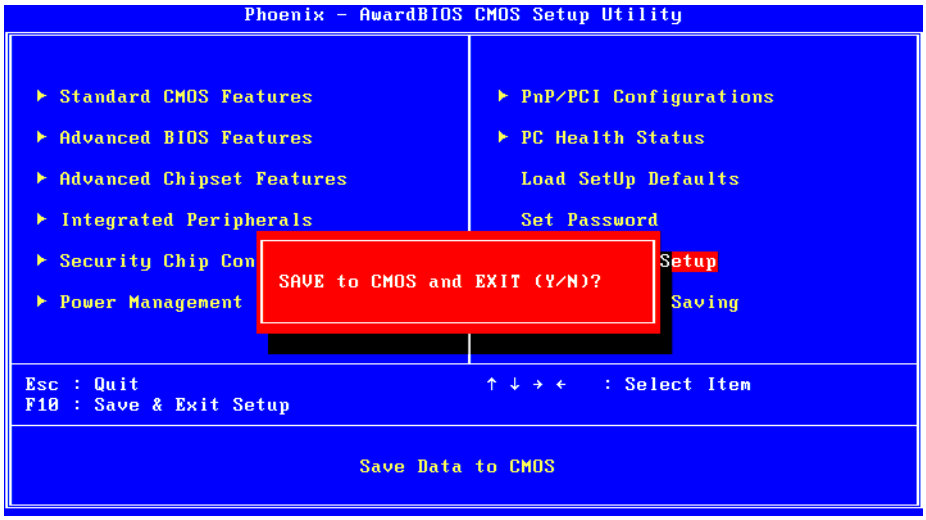
To Change Password

1. Choose the Set Password option from the CMOS Setup Utility main menu and press <Enter>.
2. When you see “Enter Password”, enter the existing password and press <Enter>.
3. You will see “Confirm Password”. Type it again, and press <Enter>.
4. Select Set Password again, and at the “Enter Password” prompt, enter the new password and press <Enter>.
5. At the “Confirm Password” prompt, retype the new password, and press <Enter>.
6. Select Save to CMOS and EXIT, type <Y>, then <Enter>.

To Disable Password

1. Choose the Set Password option from the CMOS Setup Utility main menu and press <Enter>.
2. When you see “Enter Password”, enter the existing password and press <Enter>.
3. You will see “Confirm Password”. Type it again, and press <Enter>.
4. Select Set Password again, and at the “Enter Password” prompt, please don’t enter anything; just press <Enter>.
5. At the”Confirm Password” prompt, again, don’t type in anything; just press <Enter>.
6. Select Save to CMOS and EXIT, type <Y>, then <Enter>.

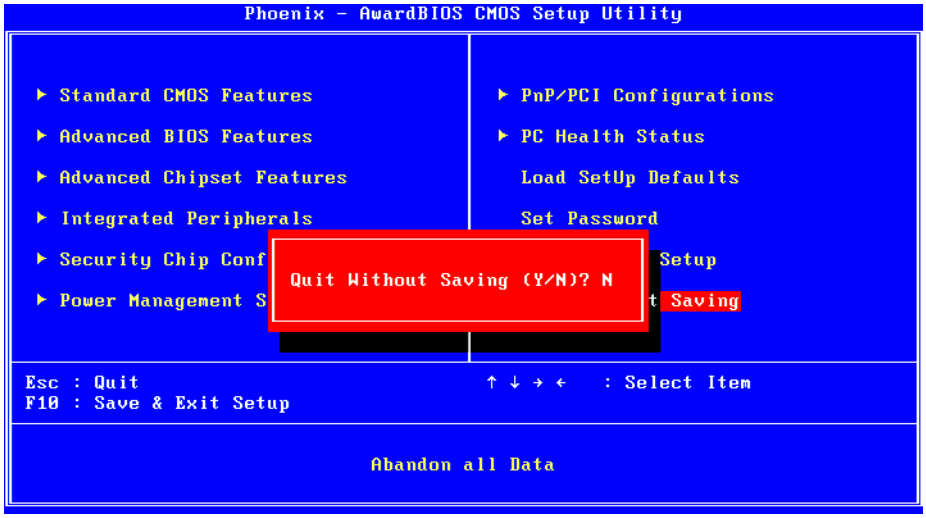
3.2.13 Save & Exit Setup



Note! *Typing "Y" will quit the BIOS Setup Utility and save user setup values to CMOS.*

Typing "N" will return to BIOS Setup Utility.

3.2.14 Quit without Saving



Note! *Typing "Y" will quit the BIOS Setup Utility without saving to CMOS.*

Typing "N" will return to BIOS Setup Utility.

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 the AIMB-562 KIOSK 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:

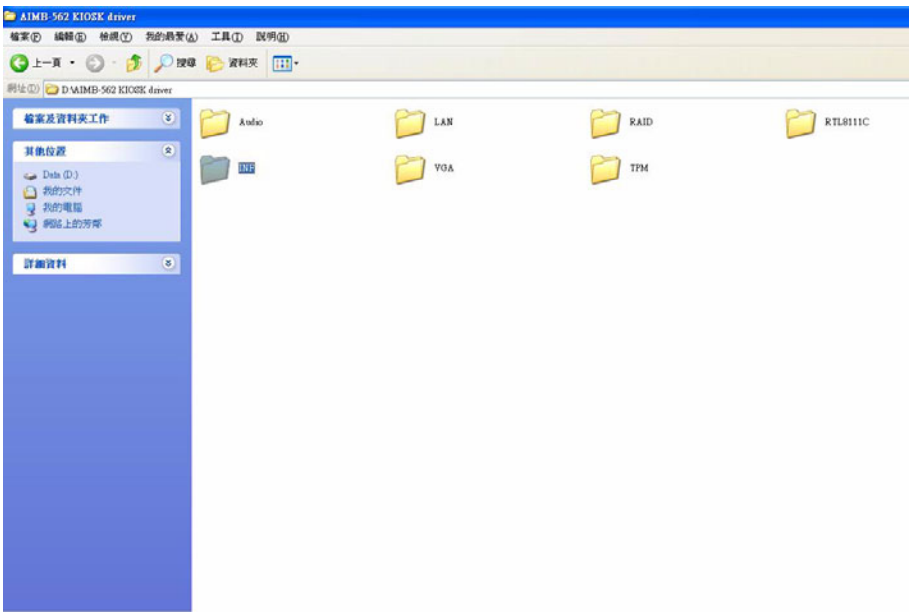
- Core PCI PnP services
- IDE Ultra ATA 100/66/33 and Serial ATA interface support
- USB 1.1/2.0 support (USB 2.0 driver needs to be installed separately for Win98)
- Identification of Intel® chipset components in the Device Manager
- Integrates superior video features. These include filtered sealing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

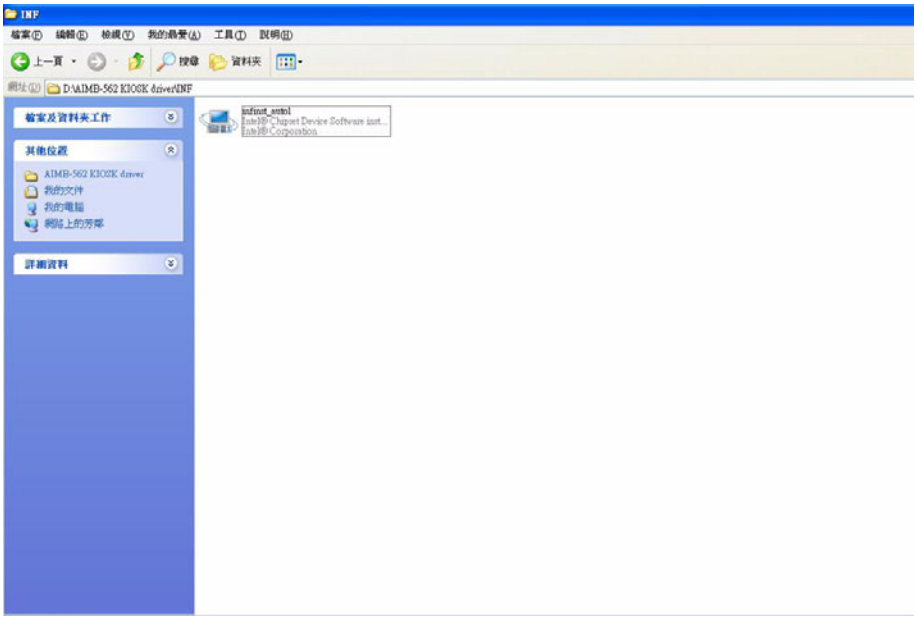
Note! *This utility is used for the following versions of Windows, and it has to be installed before installing all the other drivers:*

- *Windows 2000*
- *Windows XP*
- *Windows Vista*

4.3 Windows XP 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

The Intel 945G/945GC integrated graphics controller. You need to install the VGA driver to enable the function.

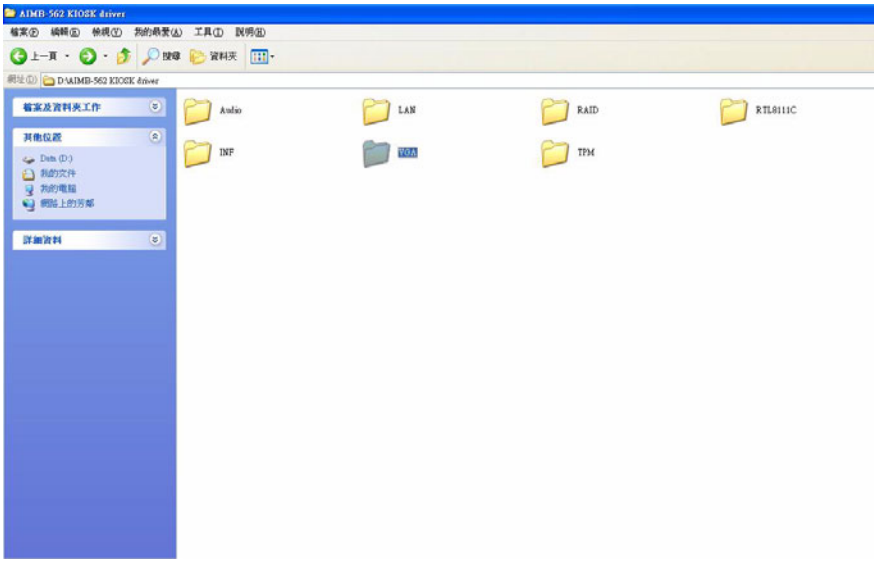
The Intel 945G/945GC integrated graphics controller includes the following features:

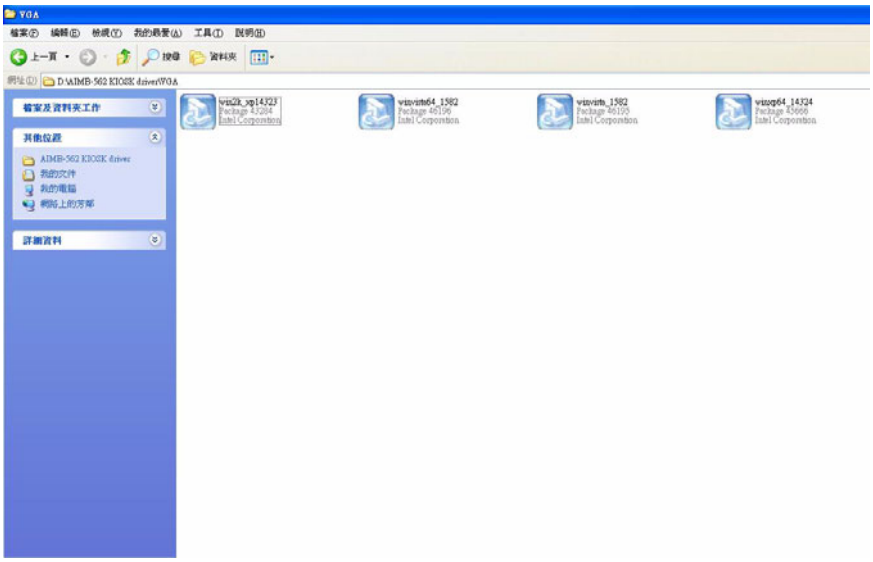
- Intel Graphics Media Accelerator 950: Incorporating the latest Microsoft* DirectX*9 support capabilities, it allows software developers to create lifelike environments and characters. Dual independent display, enhanced display modes for widescreen flat panels, and optimized 3D support deliver an intense and realistic visual experience without requiring a separate graphics card.

5.2 Windows Vista/XP/2000

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 Vista, Windows XP, and Windows 2000.




VGA
檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)
上一頁
搜尋
資料夾
網址(D) D:\AIMB-562 KIOSK driver\VGA
檔案及資料夾工作
其他位置
AIMB-562 KIOSK driver
我的文件
我的電腦
網路上的芳鄰
詳細資料
Intel Corporation
Intel Corporation
Intel Corporation
Intel Corporation

Chapter 6

LAN Configuration

6.1 Introduction

The AIMB-562 KIOSK has a single/dual Gigabit Ethernet LAN via dedicated PCI Express x 1 bus (Realtek RTL8111C), which offers bandwidth of up to 500 MB/sec, eliminating the bottleneck of network data flow and incorporating Gigabit Ethernet to operate 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

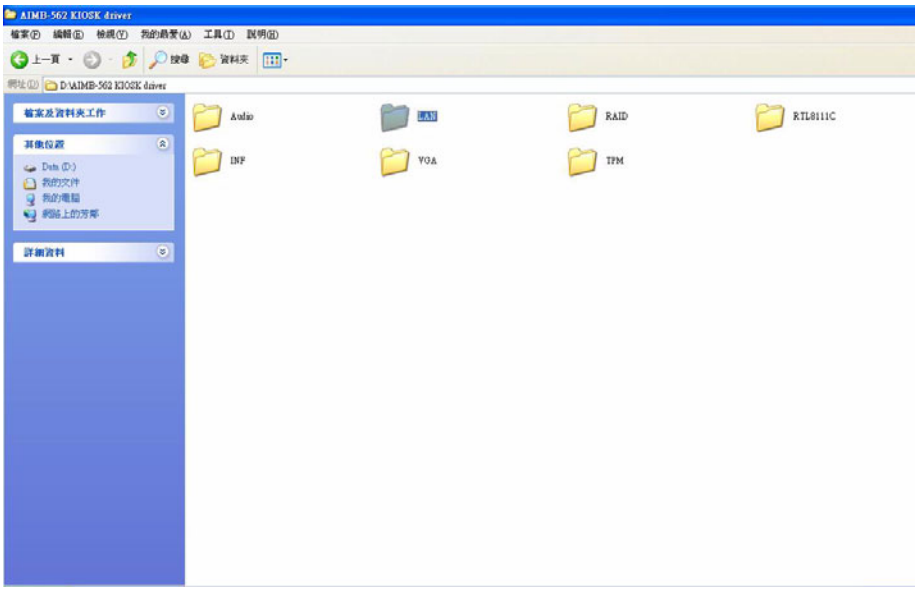
6.3 Installation

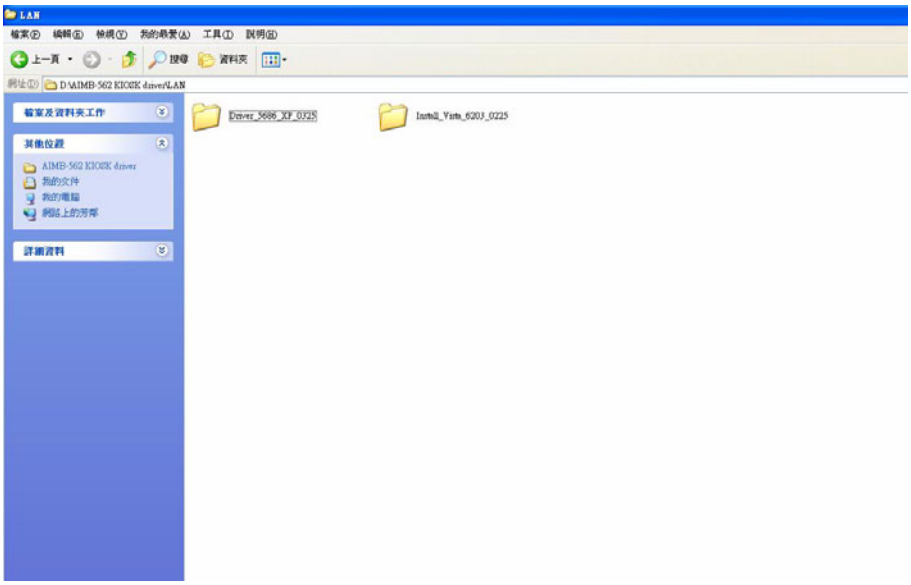
Note! *Before installing the LAN drivers, make sure the CSI utility has been installed on your system. See Chapter 4 for information on installing the CSI utility.*

The AIMB-562 KIOSK Realtek RTL8111C Gigabit integrated controller supports all major network operating systems. However, the installation procedure varies with different operating systems. Please find and use the section that provides the driver setup procedure for the operating system you are using.

6.4 Win XP/Vista Driver Setup (Realtek RTL8111C)

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




LAN
檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)
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資料夾
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其他位置
AIMB-562 KIOSK driver
我的文件
我的電腦
網路上的芳鄰
詳細資料
Driver_5686_XP_0325
Install_Vista_6203_0225

Appendix A

Programming the Watchdog Timer

A.1 Programming the Watchdog Timer

The AIMB-562 KIOSK'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 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).

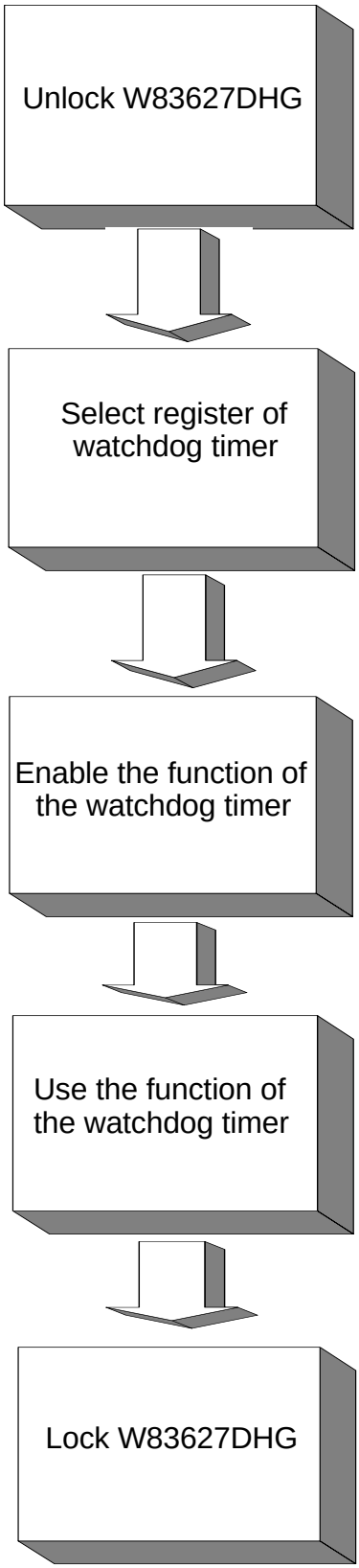

Unlock W83627DHG
Select register of watchdog timer
Enable the function of the watchdog timer
Use the function of the watchdog timer
Lock W83627DHG

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 watch-dog 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 inter-rupt or reset signal. Writing a new value to this reg-ister 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 key-board to reset the timer, 0 to disable.[default] Bit 5: Write 1 to generate a timeout signal immedi-ately 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)

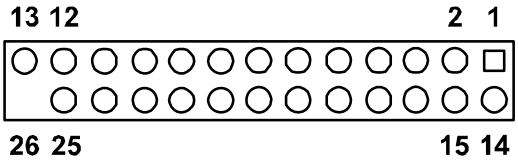


Table B.1: Parallel Port (LPT1)

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)

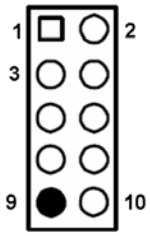


Table B.2: USB Header (USB56)

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)

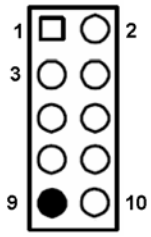


Table B.3: USB Header (USB78)			
Pin	**Signal**	**Pin**	**Signal**
1	USB0_VCC5	2	USB1_VCC5
3	USB0_D-	4	USB1_D-
5	USB0_D+	6	USB1_D+
7	GND	8	GND
9	Key	10	GND

B.4 VGA Connector (VGA1)

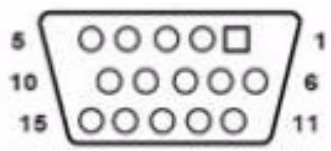


Table B.4: VGA Connector (VGA1)			
Pin	**Signal**	**Pin**	**Signal**
1	RED	9	CRT_VCCIN
2	VGA_G	10	GND
3	VGA_B	11	N/C
4	N/C	12	V_SDAT
5	GND	13	H-SYNC
6	GND	14	V-SYNC
7	GND	15	V_SCLK
8	GND		

B.5 VGA Connector (VGA2)

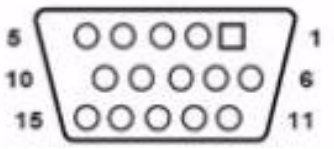


Table B.5: VGA Connector (VGA2)

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.6 RS-232 Interface (COM1-COM2)

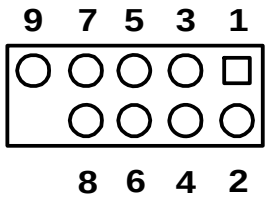


Table B.6: RS-232 Interface (COM1~COM2)

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

B.7 RS-232/422/485 Setting Interface (JETCOM3456~78910)

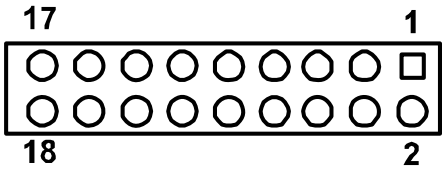


Table B.7: RS-232/422/485 Setting Interface (JETCOM3456~78910)

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.8 RS-232 Interface (COM3456)

Table B.8: RS-232 Interface(3456)

Pin	Signal	Pin	Signal
1	COM3_1	2	DDSR3#
3	COM3_2	4	RRTS3#
5	COM3_3	6	CCTS3#
7	COM3_4	8	RRI3#
9	GND	10	GND
11	DDCD4#	12	DDSR4#
13	RRXD4	14	RRTS4#
15	TTXD4	16	CCTS4#
17	DDTR4#	18	RR14#
19	GND	20	GND
21	DDCD5#	22	DDSR5#
23	RRXD5	24	RRTS5#
25	TTXD5	26	CCTS5#
27	DDTR5#	28	RRI5#
29	GND	30	GND
31	DDCD5#	32	DDSR6#
33	RRXD6	34	RRTS6#
35	TTXD6	36	CCTS6#
37	DDTR6#	38	RRI6#
39	GND	40	GND

COM3 is RS-232/422/485.

B.9 RS-232 Interface (COM78910)

Table B.9: RS-232 Interface (COM78910)

Pin	Signal	Pin	Signal
1	COM7_1	2	DDSR7#
3	COM7_2	4	RRTS7#
5	COM7_3	6	CCTS7#
7	COM7_4	8	RRI7#
9	GND	10	GND
11	DDCD8#	12	DDSR8#
13	RRXD8	14	RRTS8#
15	TTXD8	16	CCTS8#
17	DDTR8#	18	RR18#
19	GND	20	GND
21	DDCD9#	22	DDSR9#
23	RRXD9	24	RRTS9#
25	TTXD9	26	CCTS9#
27	DDTR9#	28	RRI9#
29	GND	30	GND
31	DDCD9#	32	DDSR10#
33	RRXD10	34	RRTS10#
35	TTXD10	36	CCTS10#
37	DDTR10#	38	RRI10#
39	GND	40	GND

COM7 is RS-232/422/485.

B.10 SPI_CN1: SPI fresh card pin connector

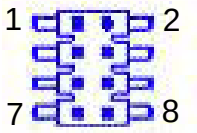


Table B.10: SPI_CN1:SPI fresh card pin connector			
Pin	**Signal**	**Pin**	**Signal**
1	+F1_3V	2	GND
3	F1_SPI_CS#_Q	4	F1_SPI_CLK_Q
5	F1_SPI_MISO_Q	6	F1_SPI_MOSI_Q
7	NC	8	NC

B.11 PS/2 Keyboard and Mouse Connector (KBMS1)

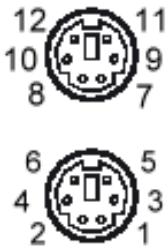


Table B.11: PS/2 Keyboard and Mouse Connector (KBMS1)	
Pin	**Signal**
1	KB DATA
2	N/C
3	GND
4	KB VCC
5	KB CLK
6	N/C
7	M_DATA
8	N/C
9	GND
10	M_VCC
11	M_CLK
12	N/C

B.12 CPU Fan Power Connector (CPU_FAN1)

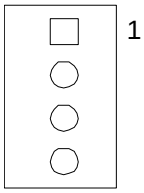


Table B.12: CPU Fan Power Connector (CPU_FAN1)

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

B.13 System Fan Power Connector (SYS_FAN1/ SYS_FAN2)

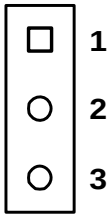
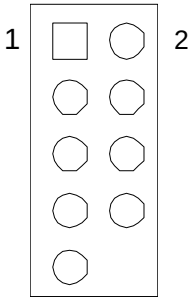


Table B.13: System Fan Power Connector (SYSFAN1/SYSFAN2)

Pin	Signal
1	GND
2	+12 V
3	DETECT

B.14 Front Panel Connectors (JFP1)



B.14.1 Power/Sleep LED (JFP1)

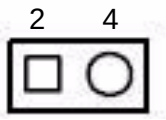


Table B.14: Power/Sleep LED (JFP1)	
Pin	**Signal**
2	LED power (+5 V)
4	LED power (+5 V)

B.14.2 Reset Connector (JFP1)

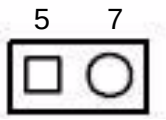


Table B.15: Reset Connector (JFP1)	
Pin	**Signal**
5	RESET
7	GND

B.14.3 HDD LED Connector (JFP1)

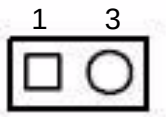


Table B.16: HDD LED Connector (JFP1)	
Pin	**Signal**
1	IDE LED+
3	IDE LED-

B.14.4 ATX Soft Power Switch (JFP1)

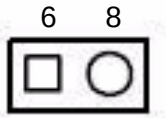


Table B.17: ATX Soft Power Switch (JFP1)	
Pin	**Signal**
6	5 VSB
8	PWR-BTN

B.15 ATX1 12 V Auxiliary Power Connector (ATX12V1)

Table B.18: ATX1 12 V Auxiliary Power Connector (ATX12V1)

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

B.16 ATX Power Connector (EATXPWR1)

Table B.19: 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

B.17 USB/LAN ports (LAN2_USB12/USB34)

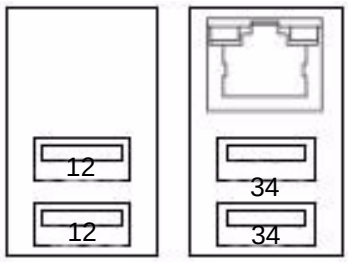
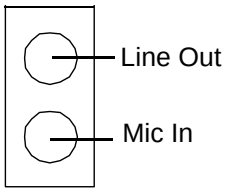


Table B.20: USB Port			
Pin	**Signal**	**Pin**	**Signal**
1	VCC	3	Data0+
2	Data0-	4	GND

Table B.21: 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.18 Line Out, Mic In Connector (AUDIO1)



B.19 Serial ATA0 (SATA1)

Table B.22: 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.20 Serial ATA1 (SATA2)

Table B.23: 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.21 AT/ATX Mode (PSON1)

Table B.24: AT/ATX Mode (PSON1)			
Pin	**Signal**	**Pin**	**Signal**
1	#PSON_SIO (to super IO)	2	#PSON (to power supply)
3	GND		

B.22 JLVDS1: LVDS connector

Table B.25: LVDS Connector (JLVDS1)			
Pin	**Signal**	**Pin**	**Signal**
1	VDDSAFE	2	VDDSAFE
3	GND	4	GND
5	VDDSAFE	6	VDDSAFE
7	OD0-	8	ED0-
9	OD0+	10	ED0+
11	GND	12	GND
13	OD1-	14	ED1-
15	OD1+	16	ED1+
17	GND	18	GND
19	OD2-	20	ED2-
21	OD2+	22	ED2+
23	GND	24	GND
25	OCK-	26	ECK-
27	OCK+	28	ECK+
29	GND	30	GND
31	DDC_CLK	32	DDC DAT
33	GND	34	GND
35	OD3-	36	ED3-
37	OD3+	38	ED3+
39	HPLG	40	VCON

B.23 JBL1(LVDS inverter connector)

Table B.26: LCD Inverter Power Connector (JBL1)	
Pin	**Signal**
1	VCC12_INV1
2	GND
3	LVDS_BKLTEN
4	VBR
5	VP3_P5

B.24 JLVDSPWR1(LVDS power jumper selection)

Table B.27: LVDS power jumper selection (JLVDSPWR1)	
Pin	**Signal**
1	3.3 V
2	+LVDS_PWR_SEL
3	5 V

1-2 pin 3.3 V
2-3 pin 5 V

B.25 FPAUDIO1(Front Panel Audio Connector)

Table B.28: 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.26 GPIO12(GPIO pin header)

Table B.29: 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

Table B.30: 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

GPIO1 Pin 1 ~ Pin 8 current: GPI: 5V 1uA. GPO: 5 V 8 ~ 10 uA.
GPIO2 Pin 1, 3, 5, 7 current: GPO (output current only): 5 V, 200 mA
Pin 2, 4, 6, 8 current: GPI 5 V, 1 uA. GPO:5 V, 8~ 10 uA
GPIO2 Pin 1, 3, 5, 7 are for 200mAT high current output use only.

B.27 VOLADJ1(Volumn Adjustment connector)

Table B.31: Volumn Adjustment connector (VOLADJ1)	
Pin	**Signal**
1	AMP_L_OUT_C
2	AMP_L_OUT
3	GND
4	AMP_R_OUT
5	AMP_R_OUT_C

B.28 System I/O Ports

Table B.32: 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

Table B.32: System I/O Ports	
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.29 JCASE1(Open Case Connector)

Table B.33: Case Open Connector(JCASE1)	
Pin	Signal
1	+5VSB
2	N/A
3	ICH_INTRUDER#
4	GND

B.30 DMA Channel Assignments

Table B.34: 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.31 Interrupt Assignments

Table B.35: 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.32 1st MB Memory Map

Table B.36: 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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