Single Board Computer
PEAK777VL2
User's Manual

Oct-05-2009 Edit

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Preface

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Acknowledgements

The PEAK777VL2VL2 series is a trademark of NEXCOM international CO., LTD. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and describes how to keep the system CE compliant.

Federal Communications Commission (FCC) For Class A Device

This equipment has been tested and verified to comply with the limits for a Class A digital device, pursuant to Part 15 of 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 instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to correct the interference (take adequate measures) at their own expense.

CE Certification

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

WARNINGS

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

CAUTION

Electrostatic discharge (ESD) can damage NSA components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the PEAK777VL2VL2, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a hearing device.

Table of Content

Chapter 1
General Information

1.1 Main Feature

PICMG 1.0 Full size Single Board Computer

PEAK777VL2 is PICMG 1.0 full-size Single Board Computer (SBC), which supports Intel® Core 2 Quad/ Core 2 Duo processors. It features Intel® G41 and ICH7R chipsets supporting speed up to 3.0 GHz and Hyper-Threading technology.

The Intel® G41 supports dual channel non-ECC DDR3 800/1066 MHz DRAM in tow DIMM slots and an integrated graphics controller. The Intel® ICH7R DO manages UltraATA 100 & SATA HDD ports, parallel ports and floppy port. Furthermore, it supports other versatile I/O ports such as two serial ports, eight USB ports and two PCIe Gigabit LAN ports.

NEXCOM offers the following 2U and 4U Backplanes that support the PICMG 1.0 specification:

- 2U Backplane: NBP 2U220 / NBP 2U040
- 4U Backplane: NBP 14570 / NBP 14111 / NBP 14210

1.2 Specifications

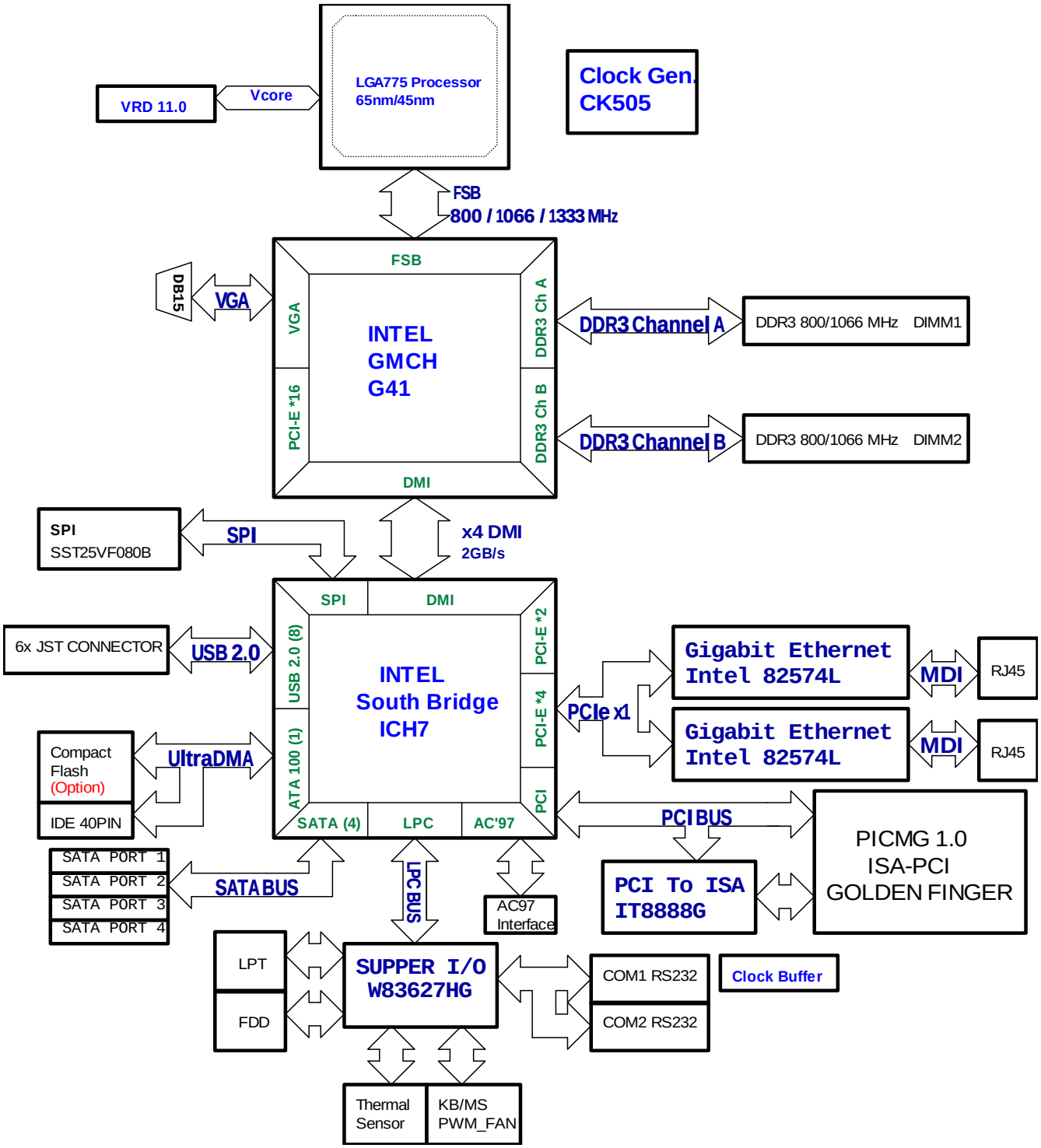
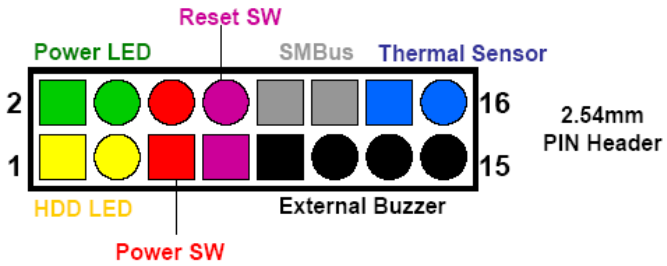


Figure 1.1: Block Diagram of PEAK 777VL2

Feature	Items	Description
● Board Layout	Detail	PICMG1.0 form factor with Dimensions: 338.5mm x 122mm (13.3" x 4.8")
● Processor	CPU Support Capability	Intel® LGA775 Core 2 Quad/Core 2 Duo / Celeron® processors with 800/1066/1333 MHz ◆ Intel Core 2 Quad Processor Q9400(2.66GHz) ◆ Intel Core 2 Duo Processor ◆ E8400(3GHz) /E7400(2.8GHz)/ E1500(2.2GHz) ◆ Intel Celeron Processor 440 (2GHz)
	Intel Embedded CPU	◆ Q9400(2.66GHz /FSB1333MHz) ◆ E8400(3GHz/FSB1333MHz) ◆ E7400(2.8GHz/FSB1066MHz) ◆ E1500(2.2GHz/FSB800MHz) ◆ Celeron 440(2GHz/FSB800MHz)
	FSB	800/1066/1333 MHz System Bus
● Chipset	Main Chips	◆ Intel® G41 Graphics Memory Controller Hub (GMCH) ◆ PEAK777VL: Intel® ICH7 I/O Controller Hub ◆ PEAK777VL2: Intel® ICH7R I/O Controller Hub
● Memory	Type	2 x DIMM, support Dual channel DDR3
	Capacity	Maximum 4 GB
● Graphic	Graphic Chip	Intel® G41 GMCH Integrated
	VGA Memory	Chipset included
	CRT	Analog Display Support Drive a standard progressive scan analog monitor with pixel resolution up to 2560x1600@75Hz
● Network	LAN Chip	Intel® 82574L PCIe Gigabit Ethernet Controllers RJ45 with LED connecter x 2 Support Boot From LAN (PXE) RJ45 LED Definition  Orange LED=> Blinking Orange With Traffic

		OFF No Traffic Green LED = > Steady Green Link OFF Not Link Support Boot From LAN (PXE) Support Wake on LANx2 Extra (External) LED: 2 x 4 pin header
• Floppy		34-pin connector x 1
• Storage	Compact Flash	Yes(Optional for solder side)
	IDE	Yes(40-pin)
	SATA	SATA HDD: 4 Serial ATA Ports
•	RAID	
• Audio		
• I/O	PS2 KB/Mouse	PS2 KB/MS reserve JST connector
	Parallel Port	26-pin Box Header x 1 (2.0mm)
	Serial Ports	SIO Box Header x 2 (2.0mm), support RS232 Only
	USB 2.0	6 Ports USB 2.0: 2 ports through 2.5mm JST Connectors, located near Rear Side of PCB 4 ports through 2.5mm JST connectors Bios menu for selection of USB1.0 and USB2.0
	User I/O	4-pin FAN JST connector x 1 (for CPU) 3-pin FAN connector x 1 (for System) On board pin header for IrDA Tx Rx HDD LED/Power LED /Power ON SW/Reset SW Buzzer /SM BUS / System Thermal PIN 
	Buzzer	On Board buzzer
	Bracket I/O	VGA DB15 / LAN1 RJ45 x1/ LAN2 RJ45 x1/ PS2 from top to down

• ISA Support	Legacy I/O Bus	◆ Through PCI to ISA Interface (ITE 8888G) ◆ No ISA Master Devices and No ISA DMA Devices ◆ ISA buffer for more ISA slots
• RTC	Battery	On chip RTC with battery back up / External Li-ion Battery RTC Torrance less than 2sec (24 hours) under 25°C
• Backplane		NBP0807p NBP1407P NBP1412P NBP1407-64 NBP1412-64
• BIOS	Type	Award system BIOS 8M bits SPI flash ROM
• OS Support		Win7, XP embedded, Linux Kernel 2.4 & 2.6, Fedora Core 7, 8, 9
• System Management	Monitoring	Derived from Super IO to support system monitor. Monitoring of 4 voltages, 3 temperature and 2 fans Speed. 4 voltage (For +3.3V, +5V, +12V, Vcore) 3 Temperatures (CPU, two external Temperature Sensor) 2 FANs speed (CPU and System FANs)
	Watchdog	Watchdog timeout can be programmable by Software from 1 second to 255 seconds Tolerance 15% under room temperature 25°C
• Certification		CE approval FCC Class A CB/CCC certification
• Environment	Operating Temp.	Operating temperatures: -20°C to 60°C
	Storage Temp.	-20°C to 85°C
	Relative Humidity	Operating 10%~90%, non-condensing Non-operating 5%~95%, non-condensing

• Power Input		Power source from Backplane through PCI/ISA Golden Finger 33. Support both AT(5V/12V) or ATX Power Supply (by jumper) 34. BIOS default is "AT" Mode, user need to change the BIOS setting at first boot up when use the ATX Power Supply and connect 3pin ATX 5Vsb power from Backplane. 35. When Change to ATX Mode, the BIOS default setting is as follow: ➢ POWER –SUPPLY TYPE ➔ [ATX] ➢ AUTO PWR-FAILURE RESUME ➔ [ON] 36. +3.3V is Converted from +5V and not directly from Backplane or Power Supply 37. +5Vsb (Standby power) is connected from Backplane through 3pins Connectors 38. 4 Pins +12V Power Input Connector.

1.3 Power Consumption Measurement

Power Type	+12V	+5V	+5VSB	Total Watt
Consumed currents (Unit: A)	14.3	11.4	1.4	235.6W
Consumed watts (Unit: W)	171.6	57	7	

1.4 Board Layout

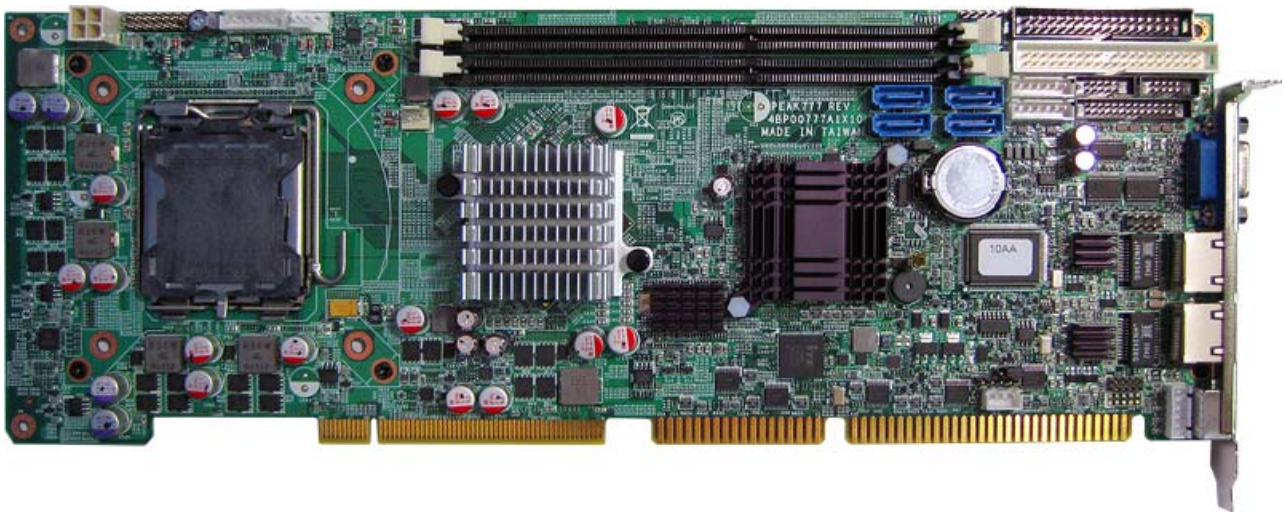


Figure 1.2: Overview of PEAK777VL2 (North Bridge will be heatsink only)

1.5 Board Placement

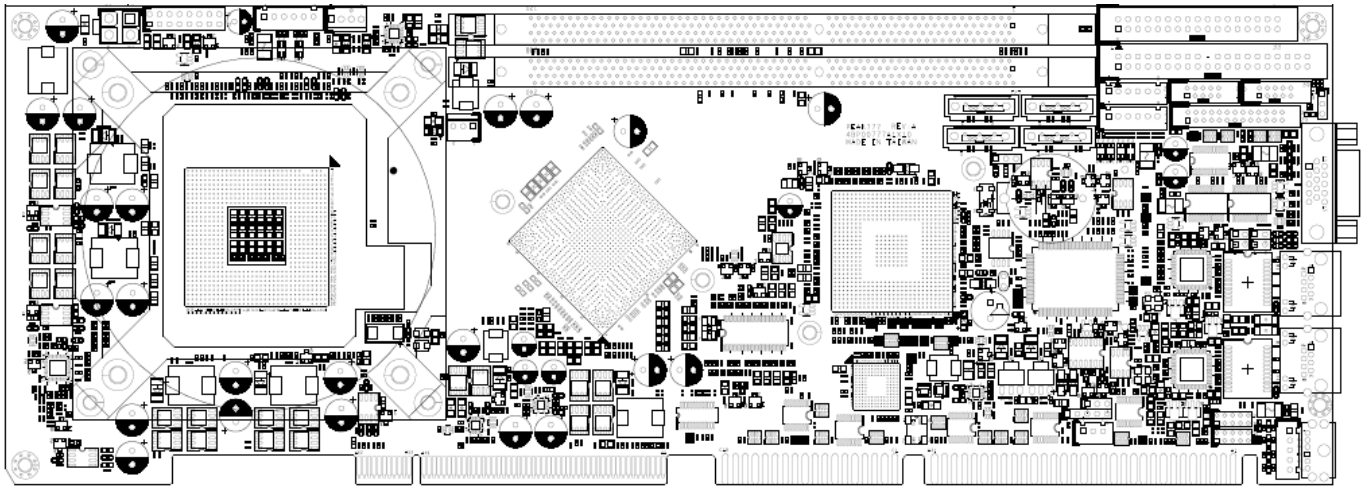


Figure 1.3: Placement of the PEAK777

Chapter 2
Jumper Setting

This chapter of the User's Manual describes how to set jumpers.

Note: The procedures that follow are generic for PEAK 777VL2.

2.1 Before You Begin

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- ♦ A Philips screwdriver
- ♦ A flat-tipped screwdriver
- ♦ A set of jewelers Screwdrivers
- ♦ A grounding strap
- ♦ An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environment tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

2.2 Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on the computers that are still connected to a power supply can be extremely dangerous. Follow the guidelines below to avoid damage to your computer or yourself:

- ♦ Always disconnect the unit from the power outlet whenever you are working inside the case.
- ♦ If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- ♦ Hold electronic circuit boards (such as the PEAK777VL2VL2 board) by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.
- ♦ Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- ♦ Use correct screws and do not over tighten screws.

2.3 Setting Jumpers

A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN. Please see the following illustrations

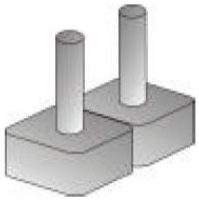
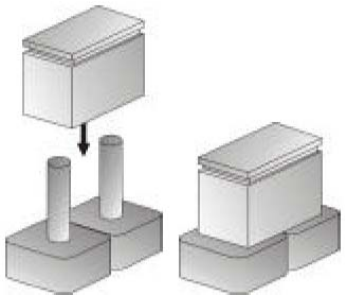
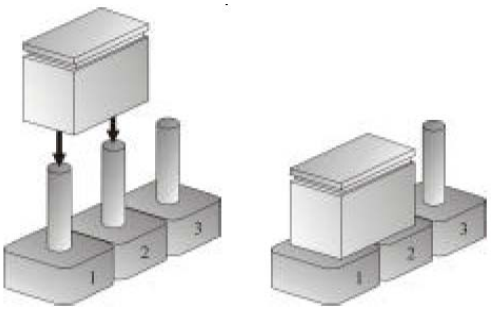
<table>
<tr><td rowspan="2">The illustrations on the right show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.</td><td>  </td><td>  </td></tr>
<tr><td>Open (Off)</td><td>Short (On)</td></tr>
<tr><td>These illustrations show a 3-pin jumper. Pins 1 and 2 are SHORT.</td><td colspan="2"> 
</td></tr>
</table>

Table 2-1: Setting Jumpers

2.4 Location of Jumpers

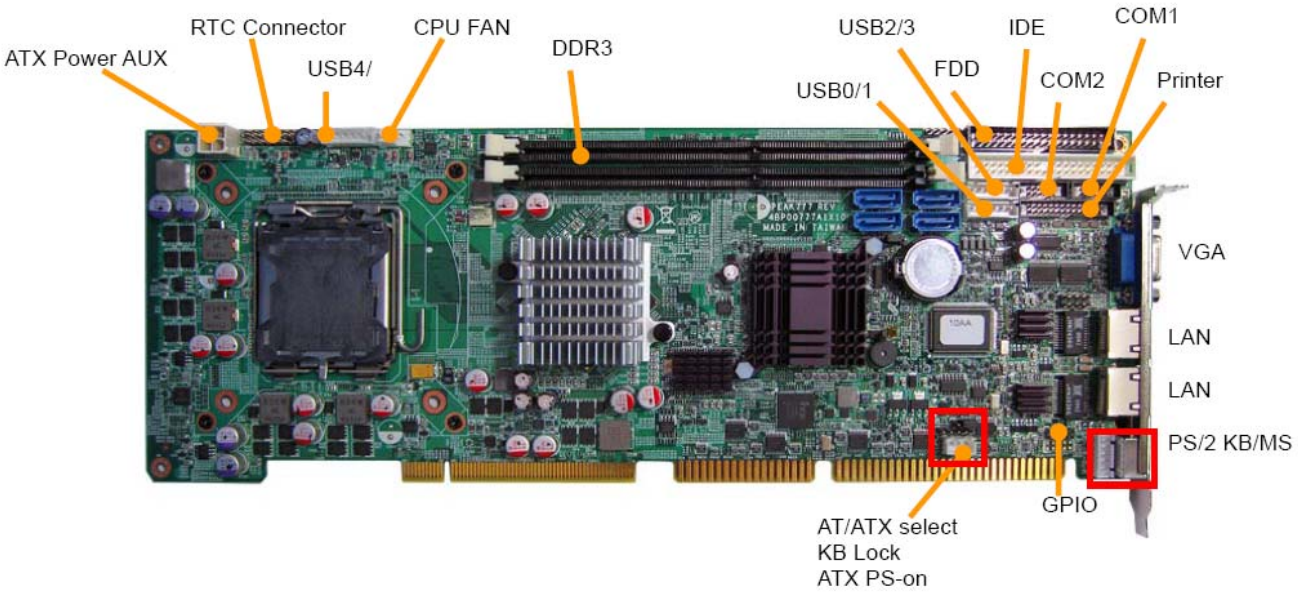
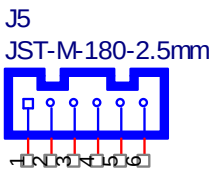


Figure 2-1: Jumper Location

USB port 0/1 box header:

A. Connector size: 1 X 6 = 6 Pin

B. Connector location: J5



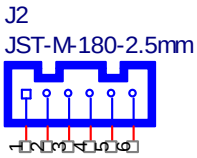
C. Connector pin definition

Pin	Signal
1	USB_VCC01
2	USB_0N
3	USB_0P
4	USB_1N
5	USB_1P
6	USB_GND

4.1 USB port 2/3 box header:

A. nnector size: 1 X 6 = 6 Pin

B. nnector location: J2



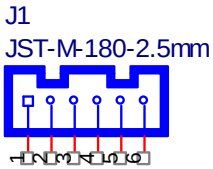
C. Connector pin definition

Pin	Signal
1	USB_VCC23
2	USB_2N
3	USB_2P
4	USB_3N
5	USB_3P
6	USB_GND

4.2 USB port 4/5 box header:

A. Connector size: 1 X 6 = 6 Pin

B. Connector location: J1



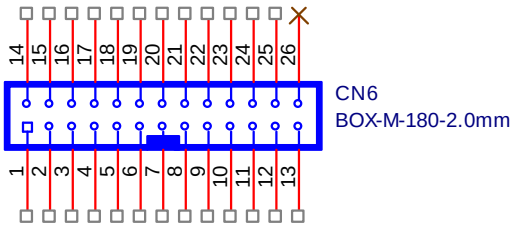
C. Connector pin definition

Pin	Signal
1	USB_VCC45
2	USB_4N
3	USB_4P
4	USB_5N
5	USB_5P
6	USB_GND

4.3 PIO box header:

A. Connector size: 2 X 13 = 26 Pin

B. Connector location: CN6



C. Connector pin definition

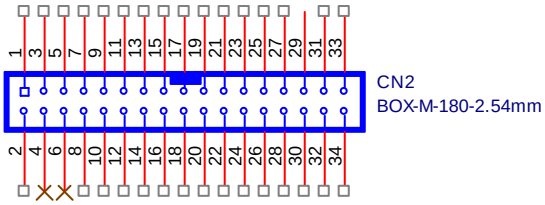
Pin	Signal	Pin	Signal

1	P_STB#	14	P_ALF#
2	PIO_D0	15	P_ERR#
3	PIO_D1	16	P_INIT#
4	PIO_D2	17	P_SLIN#
5	PIO_D3	18	P_GND
6	PIO_D4	19	P_GND
7	PIO_D5	20	P_GND
8	PIO_D6	21	P_GND
9	PIO_D7	22	P_GND
10	P_ACK#	23	P_GND
11	P_BUSY	24	P_GND
12	P_PE	25	P_GND
13	P_SLCT	26	P_GND

4.4 FDD box header:

A. Connector size: 2 X 17 = 34 Pin

B. Connector location: CN2



C. Connector pin definition

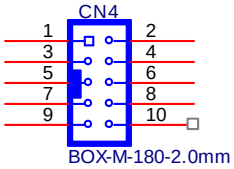
Pin	Signal	Pin	Signal
1	GND	2	DENSEL#
3	GND	4	NC
5	GND	6	NC
7	GND	8	INDEX#
9	GND	10	MOTEA#
11	GND	12	DRVB#
13	GND	14	DRVA#
15	GND	16	MOTEB#
17	GND	18	DIR#
19	GND	20	STEP#
21	GND	22	WDATA#
23	GND	24	WGATE#
25	GND	26	TK00#
27	GND	28	WPT#
29	GND	30	RDATA#

31	GND	32	SIDE1#
33	GND	34	DSKCHG#

4.5 COM2 box header:

A. Connector size: 2 X 5 = 10 Pin

B. Connector location: CN4



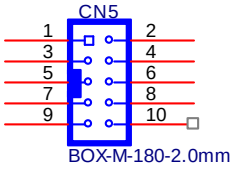
C. Connector pin definition

Pin	Signal	Pin	Signal
1	SIO_DCD#2_CON	2	SIO_RX2_CON
3	SIO_TX2_CON	4	SIO_DTR#2_CON
5	IO_GND	6	SIO_DSR#2_CON
7	SIO_RTS#2_CON	8	SIO_CTS#2_CON
9	SIO_RI#2_CON	10	NC

4.6 COM1 box header:

A. Connector size: 2 X 5 = 10 Pin

B. Connector location: CN5



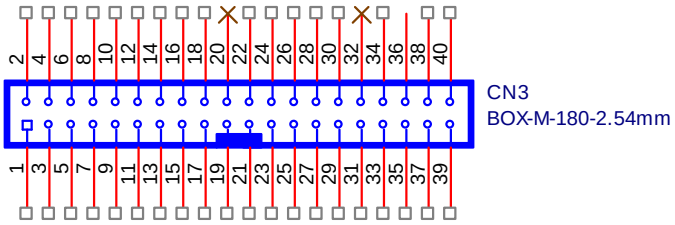
C. Connector pin definition

Pin	Signal	Pin	Signal
1	SIO_DCD#1_CON	2	SIO_RX1_CON
3	SIO_TX1_CON	4	SIO_DTR#1_CON
5	IO_GND	6	SIO_DSR#1_CON
7	SIO_RTS#1_CON	8	SIO_CTS#1_CON
9	SIO_RI#1_CON	10	NC

4.7 IDE box header:

A. Connector size: 2 X 20 = 40 Pin

B. Connector location: CN3



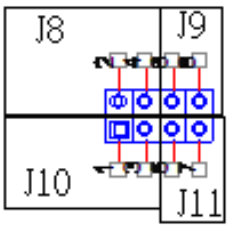
C. Connector pin definition

Pin	Signal	Pin	Signal
1	IDE_RST#_R	2	GND
3	IDE_D7	4	IDE_D8
5	IDE_D6	6	IDE_D9
7	IDE_D5	8	IDE_D10
9	IDE_D4	10	IDE_D11
11	IDE_D3	12	IDE_D12
13	IDE_D2	14	IDE_D13
15	IDE_D1	16	IDE_D14
17	IDE_D0	18	IDE_D15
19	GND	20	NC
21	ESB_IDE_DREQ	22	GND
23	IDE_IOW#	24	GND
25	IDE_IOR#	26	GND
27	ESB_IDE_IORDY	28	IDE_CABLE
29	ESB_IDE_DACK#	30	GND
31	IDE_IRQ14	32	NC
33	ESB_IDE_DA1	34	IDE_P66DET_R
35	ESB_IDE_DA0	36	ESB_IDE_DA2
37	IDE_CS1#	38	IDE_CS3#
39	IDE_LED#	40	GND

4.8 LAN Link/Active pin header:

A. Connector size: 2 X 4 = 8 Pin

B. Connector location: J8 & J9
J10 & J11



C. Connector pin definition

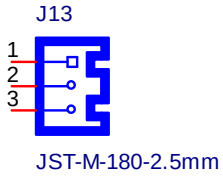
Pin	Signal	Pin	Signal

1	3.3V	2	3.3V
3	LAN1_LINK#	4	LAN2_LINK#
5	3.3V	6	3.3V
7	LAN1_ACTLED#	8	LAN2_ACTLED#

4.9 PSON pin header:

A. Connector size: 1 X 3 = 3 Pin

B. Connector location: J13



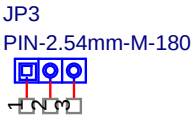
C. Connector pin definition

Pin	Signal
1	5VSB
2	GND
3	PSON#

4.10 CMOS Clear pin header:

A. Connector size: 1 X 3 = 3 Pin

B. Connector location: JP3



C. Connector pin definition

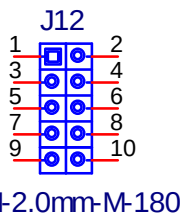
Pin	Signal
1	RTCRST#
2	SB_RTCRST#
3	CMOS_CLEAR

＊Jump Default Setting 1-2

4.11 GPIO pin header:

A. Connector size: 2 X 5 = 10 Pin

B. Connector location: J12



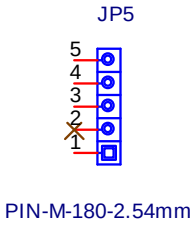
C. Connector pin definition

Pin	Signal	Pin	Signal
1	+5V	2	GND
3	GPI10	4	GPO14
5	GPI11	6	GPO15
7	GPI12	8	GPO16
9	GPI13	10	GPO17

4.12 Key lock pin header:

A. Connector size: 1 X 5 = 5 Pin

B. Connector location: JP5



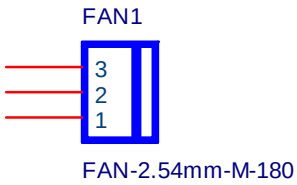
C. Connector pin definition

Pin	Signal
1	+5V
2	NC
3	GND
4	KBLOCK#
5	GND

4.13 SYSTEM FAN pin header:

A. Connector size: 1 X 3 = 3 Pin

B. Connector location: FAN1



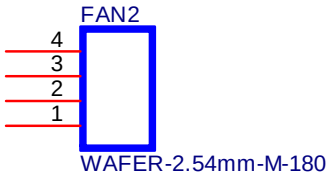
C. Connector pin definition

Pin	Signal
1	GND
2	VCC_12
3	FAN_SPEED

4.14 CPU FAN pin header:

A. Connector size: 1 X 4 = 4 Pin

B. Connector location: FAN2



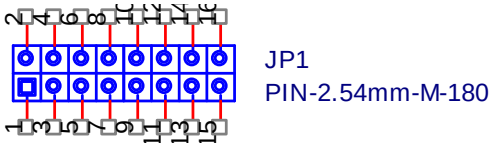
C. Connector pin definition

Pin	Signal
1	GND
2	VCC_12
3	CPU1_FAN_SPEED
4	CPU1_FANPWM

4.15 RTC pin header:

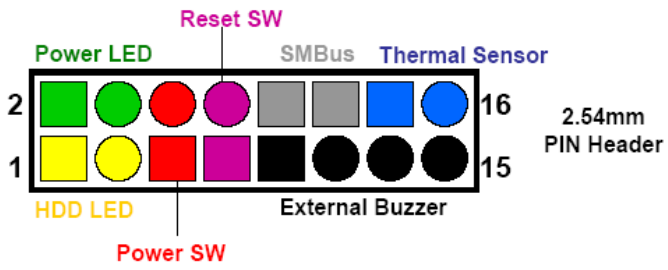
A. Connector size: 2 X8 = 16 Pin

B. Connector location: JP1



C. Connector pin definition

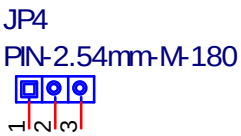
Pin	Signal	Pin	Signal
1	VCC	2	VCC
3	HDD_LED#	4	GND
5	GND	6	PUSH_BOT
7	SYS_RST	8	GND
9	CON_BEEP	10	SMBCLK
11	GND	12	SMBDATA
13	GND	14	CPUD-
15	VCC	16	AUXTIN



4.16 AT/ATX Power Type Select pin header:

A. Connector size: 1 X 3 = 3 Pin

B. Connector location: JP4



C. Connector pin definition

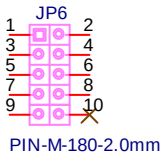
Pin	Signal
1	AT PUSH BOT
2	SB BUTTON
3	ATX PUSH BOT

∗Jump Default Setting 2-3

4.17 AC97 pin header:

A. Connector size: 2 X 5 = 10 Pin

B. Connector location: JP6



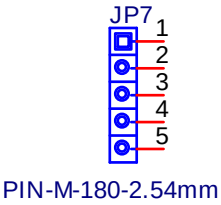
C. Connector pin definition

Pin	Signal	Pin	Signal
1	ACZ_SDOUT	2	+5V
3	ACZ_RST#	4	GND
5	ACZ_SYNC	6	+12V
7	ACZ_SDIN0	8	GND
9	ACZ_BIT_CLK	10	NC

4.18 IrDA pin header:

A. Connector size: 1 X 5 = 5 Pin

B. Connector location: JP7



C. Connector pin definition

Pin	Signal
1	+5V
2	CIRRX
3	IRRX
4	GND

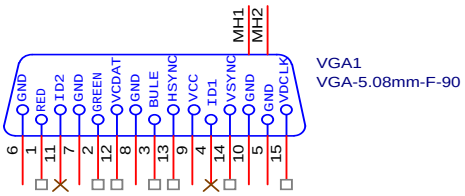
5	IRTX

(5) External connector specification

5.1 VGA connector:

A. Connector size: 15 PIN D-SUB FEMALE

B. Connector location: VGA1



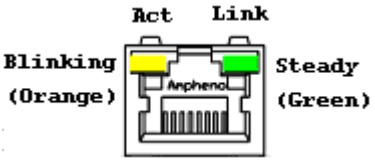
C. Connector pin definition

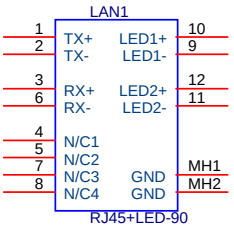
Pin	Signal	Pin	Signal
1	VGA_R_CON	2	VGA_G_CON
3	VGA_B_CON	4	NC
5	SGND	6	SGND
7	SGND	8	SGND
9	VGA_VCC	10	SGND
11	NC	12	VGA_I2CDAT_CON
13	VGA_HSYNC_CON	14	VGA_VSYNC_CON
15	VGA_I2CCLK_CON		
MH1	SGND	MH2	SGND

5.2 LAN1 connector:

A. Connector size: RJ45+LED

B. Connector location: LAN1





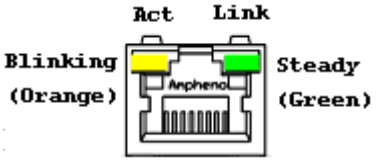
C. Connector pin definition

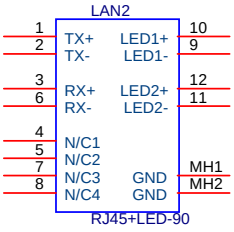
Pin	Signal	Pin	Signal
1	LAN1_M0P	2	LAN1_M0N
3	LAN1_M1P	4	LAN1_M2P
5	LAN1_M2N	6	LAN1_M1N
7	LAN1_M3P	8	LAN1_M3N
9	LAN1_LINK#	10	L1_CONVCC
11	LAN1_ACTLED#	12	L1_CONVCC_2
MH1	LAN_GND	MH2	LAN_GND

5.3 LAN2 connector:

A. Connector size: RJ45+LED

B. Connector location: LAN2





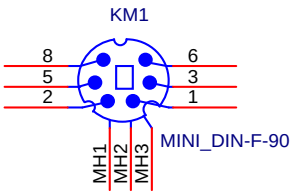
C. Connector pin definition

Pin	Signal	Pin	Signal
1	LAN2_M0P	2	LAN2_M0N
3	LAN2_M1P	4	LAN2_M2P
5	LAN2_M2N	6	LAN2_M1N
7	LAN2_M3P	8	LAN2_M3N
9	LAN2_LINK#	10	L2_CONVCC
11	LAN2_ACTLED#	12	L2_CONVCC_2
MH1	LAN_GND	MH2	LAN_GND

5.4 Keyboard/Mouse connector:

A. Connector size: MINI DIN 6PIN

B. Connector location: KM1

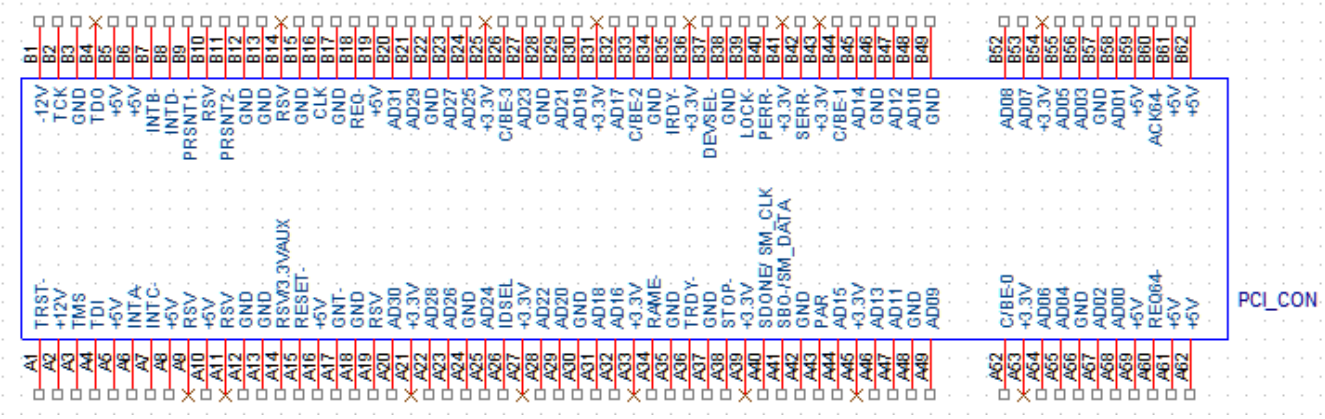


C. Connector pin definition

Pin	Signal	Pin	Signal
1	LKB_DAT	2	LMS_DAT
3	K/M_GND	5	LK/M_VCC
6	LKB_CLK	8	LMS_CLK
MH1	K/M_GND	MH2	K/M_GND
MH3	K/M_GND		

(6) PICMG1.0 Gold Finger

6.1 PCI Golden Finger

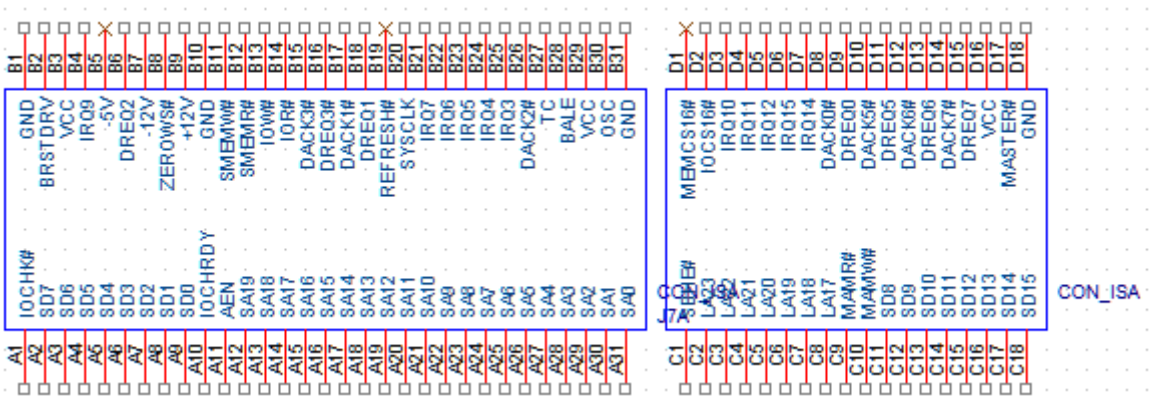


A. Connector pin definition

Pin	Signal	Pin	Signal		Pin	Signal	Pin	Signal
A1	TRST-	B1	-12V		A32	A_D16	B32	A_D17
A2	+12V	B2	TCK		A33	NC	B33	-C_BE2
A3	TMS	B3	GND		A34	-FRAME	B34	GND
A4	TDI	B4	NC		A35	GND	B35	-IRDY

A5	VCC	B5	VCC		A36	-TRDY	B36	NC
A6	-PIEQA	B6	VCC		A37	GND	B37	-DEVSEL
A7	-PIEQC	B7	-PIRQB		A38	-STOP	B38	GND
A8	VCC	B8	-PIRQD		A39	NC	B39	-PLOCK
A9	PCI_CK3	B9	-REQ3		A40	SMBCLK_PCI	B40	-PERR
A10	VCC	B10	-REQ1_ABT		A41	SMBDATA_PCI	B41	NC
A11	PCI_CK0_ABT	B11	-GNT3		A42	GND	B42	-SERR
A12	GND	B12	GND		A43	PAR	B43	NC
A13	GND	B13	GND		A44	A_D15	B44	C_BE1
A14	-GNT1_ABT	B14	PCI_CLK1_ABT		A45	NC	B45	A_D14
A15	-PCI_RSTSLOT	B15	GND		A46	A_D13	B46	GND
A16	VCC	B16	PCI_CK2		A47	A_D11	B47	A_D12
A17	-GNT0_ABT	B17	GND		A48	GND	B48	A_D10
A18	GND	B18	-REQ0_ABT		A49	A_D9	B49	GND
A19	-REQ2	B19	VCC		A50		B50	
A20	A_D30	B20	A_D31		A51		B51	
A21	NC	B21	A_D29		A52	-C_BE0	B52	A_D8
A22	A_D28	B22	GND		A53	NC	B53	A_D7
A23	A_D26	B23	A_D27		A54	A_D6	B54	NC
A24	GND	B24	A_D25		A55	A_D4	B55	A_D5
A25	A_D24	B25	NC		A56	GND	B56	A_D3
A26	-GNT2	B26	-C_BE3		A57	A_D2	B57	GND
A27	NC	B27	A_D23		A58	A_D0	B58	A_D1
A28	A_D22	B28	GND		A59	VCC	B59	VCC
A29	A_D20	B29	A_D21		A60	REQ64-	B60	ACK64-
A30	GND	B30	A_D19		A61	VCC	B61	VCC
A31	A_D18	B31	NC		A62	VCC	B62	VCC

6.2 ISA Golden Finger



A. Connector pin definition

Pin	Signal	Pin	Signal		Pin	Signal	Pin	Signal
A1	IOCHK#	B1	GND		C1	SBHE#	D1	MEMCS16#
A2	SD7	B2	RSTDRV		C2	LA23	D2	IOCS16#
A3	SD6	B3	VCC		C3	LA22	D3	IRQ10
A4	SD5	B4	IRQ9		C4	LA21	D4	IRQ11
A5	SD4	B5	-5V		C5	LA20	D5	IRQ12
A6	SD3	B6	DRQ2		C6	LA19	D6	IRQ15
A7	SD2	B7	-12V		C7	LA18	D7	IRQ14
A8	SD1	B8	ZEROWS#		C8	LA17	D8	DACK#0
A9	SD0	B9	+12V		C9	MEMR#	D9	DRQ5
A10	IOCHRDY	B10	GND		C10	MEMW#	D10	DACK#5
A11	AEN	B11	SMEMW#		C11	SD8	D11	DRQ5
A12	SA19	B12	SMEMR#		C12	SD9	D12	DACK#6
A13	SA18	B13	IOW#		C13	SD10	D13	DRQ6
A14	SA17	B14	IOR#		C14	SD11	D14	DACK#7
A15	SA16	B15	DACK#3		C15	SD12	D15	DRQ7
A16	SA15	B16	DRQ3		C16	SD13	D16	VCC
A17	SA14	B17	DACK#1		C17	SD14	D17	RMASTER#
A18	SA13	B18	DRQ1		C18	SD15	D18	GND
A19	SA12	B19	REFRESH#					
A20	SA11	B20	BCK					
A21	SA10	B21	IRQ7					
A22	SA9	B22	IRQ6					
A23	SA8	B23	IRQ5					
A24	SA7	B24	IRQ4					
A25	SA6	B25	IRQ3					
A26	SA5	B26	DACK#2					
A27	SA4	B27	TC					
A28	SA3	B28	BALE					

A29	SA2	B29	VCC					
A30	SA1	B30	RISAOSC					
A31	SA0	B31	GND					

(7) Power consumption

Power Type	+12V	+5V	+5VSB	Total Watt
Consumed currents (Unit: A)	14.3	11.4	1.4	235.6W
Consumed watts (Unit: W)	171.6	57	7	

(8) HW monitor

Monitor
Vcore
MCH_Vcore
+5V
+3.3V
+1.8V
+1.5V
+12

(9) Watchdog timer setting

9.1 Watchdog Timer Working Procedure

Watchdog Timer (WDT) is a special hardware device that monitors the computer system during normal operation. WDT has a clock circuit that times down from a set number to zero. If a monitored item occurs before the timer reaches zero, WDT resets and counts down again. If for some reason the monitored item doesn't occur before the timer reaches zero, WDT performs an action, such as a diagnostic operation (rebooting the computer).

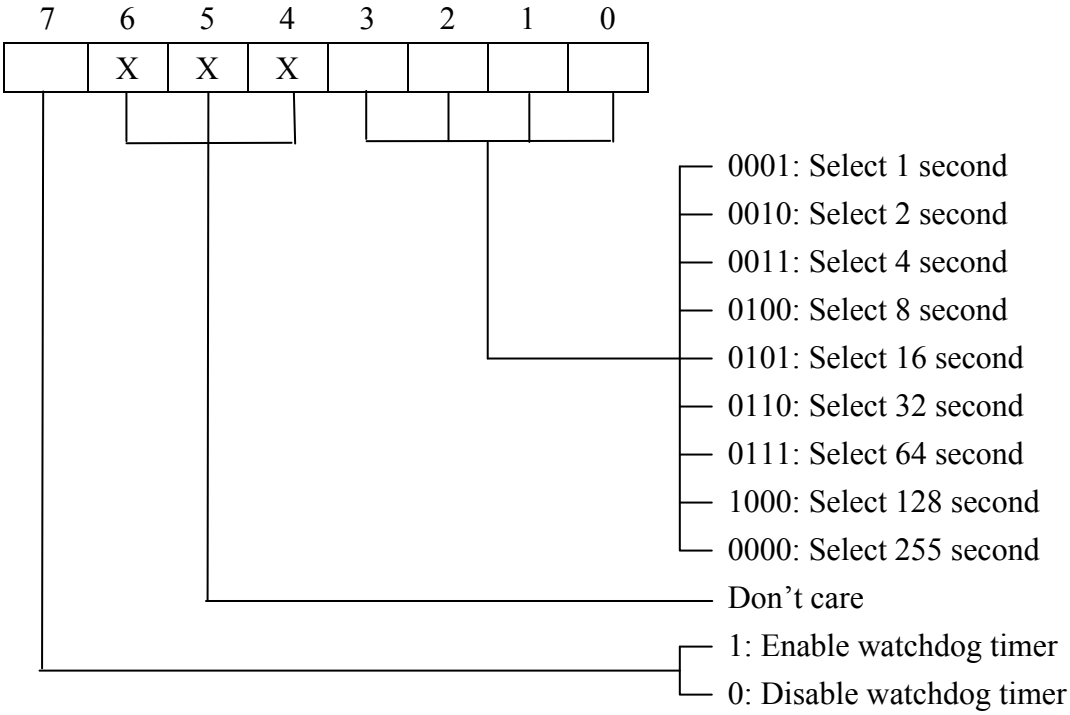
You must enter timer values into WDT Configuration Register (Write the control value to the Configuration Port), and clear WDT counter (read the Configuration Port).

WDT Configuration port	F2	Default at F2
Watch Dog Timer	Disabled	1. Default at disabled
	Enabled	2. Enabled for user's programming

WDT Active Time	1 sec 2 sec 4 sec 8 sec 16 sec 32 sec 64 sec 128 sec 255 sec	

9.2 Watchdog Timer Control Register

The Watchdog Timer Control Register controls the WDT working mode. Write the value to the WDT Configuration Port. The following table describes the Control Register bit definition:



9.3 Watchdog Timer Programming Procedure

Power On or Reset the System

The initial value of WDT Control Register (D7~D0) is zero (0), when power is on or the system has been reset. The following table indicates the initial value of WDT (00000000b):

Bit	Value	Mean
7	0	Disable Watchdog Timer
3, 2, 1, 0	0000	Select 255 second

Clear the WDT

WDT counter interval cannot be longer than the preset time, otherwise, WDT sends a reset signal to the system. The following is an example of clearing the WDT program in Intel 8086 assembly language.

```
;(Clear the WDT)
Mov dx, F2h    ;Setting the WDT configuration port
In     al, dx
```

Note: Before running WDT, you must clear WDT to ensure that the initial value is zero.

WDT Control Register

Note: This register writes to WDT configuration port.

Set WDT Control Register to control the WDT working mode. The initial value of WDT Control Register is shown as follows:

```
  ;(Setting the WDT Control Register as AL)
Mov al, 0h    ;Setting initial value=0 for the WDT Control Register
```

Follow these instructions to set the register:

1. Select the time-out intervals of WDT (decide the values of D3, D2, D1, D0 in F2)

Example: If D3~D0 = 0, the time-out interval is 255 seconds.

```
AND            al, 10000000b ; Setting the time-out interval as 255 second.
```

2. Enable or Disable WDT (decide D7 value in F2)

i.e. D7=0, Disables WDT

```
AND            al, 01111111b ; Disable the WDT
```

i.e. D7=1, Enables WDT

```
OR             al, 10000000b ; Enable the WDT
```

After finishing the above settings, you must output the Control Register's value to WDT Configuration Port. Then WDT will start according to the above settings.

```
MOV    dx, F2h ; Setting WDT Configuration Port

OUT    dx, al ; Output the Control Register Value
```

Chapter 3
Expansion

3.1 System Memory

PEAK777VL2 incorporates Intel G41 chipset supports dual channel non-ECC un-buffered DDR2 667/800/1066 MHz memory.Two 240-pins DIMM sockets support up to 4GB DIMM module.
Followings are the recommended memory modules.

WE APPRONAL DDR3 MEMORY LIST:

(1)	DDR3/1066/2GB/Transcend/221652-0084/TS256MLK64V1U/8ND22 D9JNL
(2)	DDR3/1333/2GB/Transcend/517844-0610/TS256MLK64V3U/ SEC 846 HCH9 K4B1G0846D
(3)	X2)DDR3/10600/1GB/Apacer/SN:200908100132.33/ELPIDA^{TWN}J1108BABG-DJ-E
(4)	X2)DDR3/10600/1GB/Apacer/SN:200908100130.37/ELPIDA^{TWN}J1108BABG-DJ-E
(5)	X2)DDR2/1333/2GB/Kingston/B54232.01 0948 PTAR D1288JELDPGD9U
(6)	X2)DDR2/1333/2GB/ Transcend/523838-2438.39/TS256MLK64V3U SEC 907 HCH9 K481G0846D

Table 3.1: Recommended Memory Modules

3.2 Installing DIMM

To install DIMM

1. Make sure the two handles of the DIMM sockets are in the “open” position, i.e. the handles stay outward.

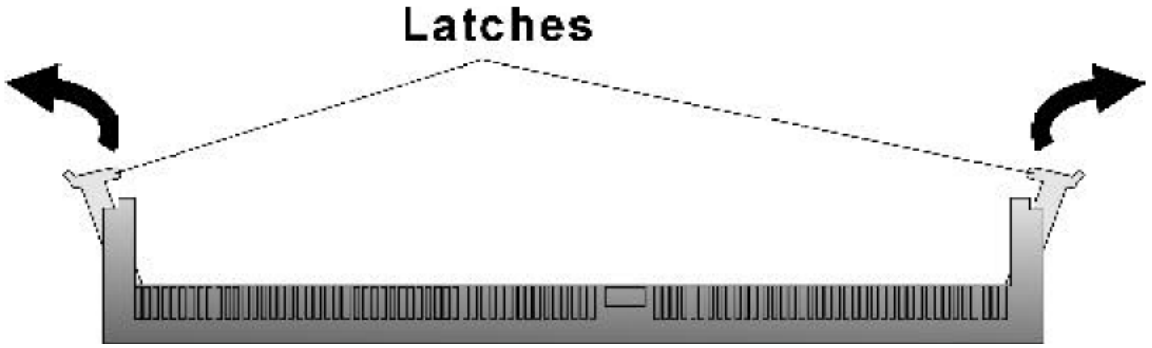


Figure3-1: How to Install DIMM (1)

2. Slowly slide the DIMM modules along the plastic guides in the both ends of the socket.

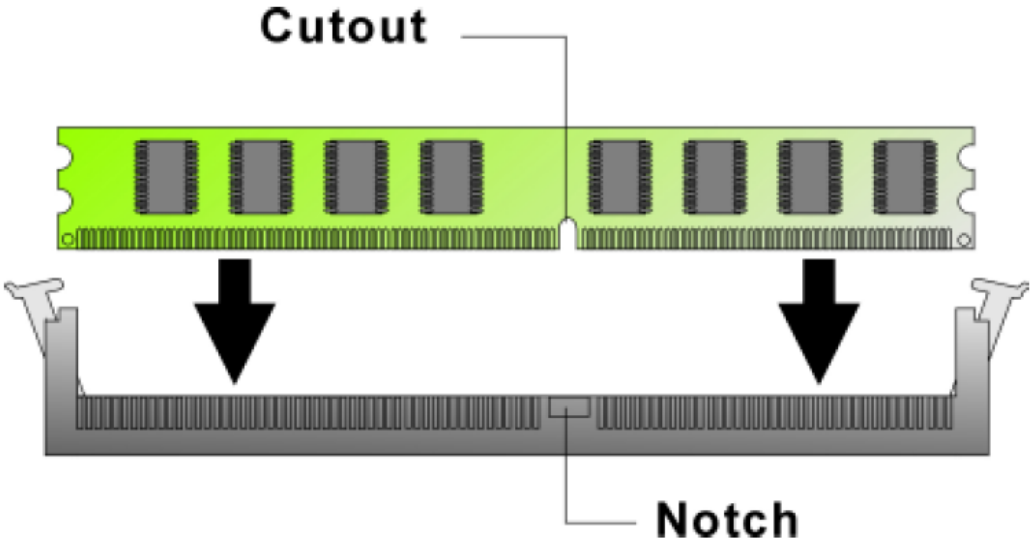


Figure 3-2: How to Install DIMM (2)

3. Then press the DIMM module down right into the socket, until a click is heard. That means the two
handles automatically locked the memory modules into the right position of the DIMM socket.

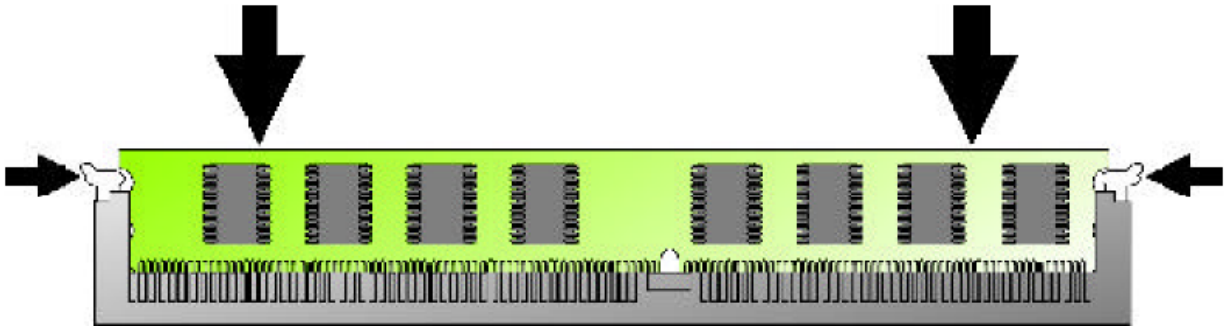


Figure 3-3: How to Install DIMM (3)

4. To take away the memory module, just push the both handles outward, the memory module will be
ejected by the mechanism in the socket.

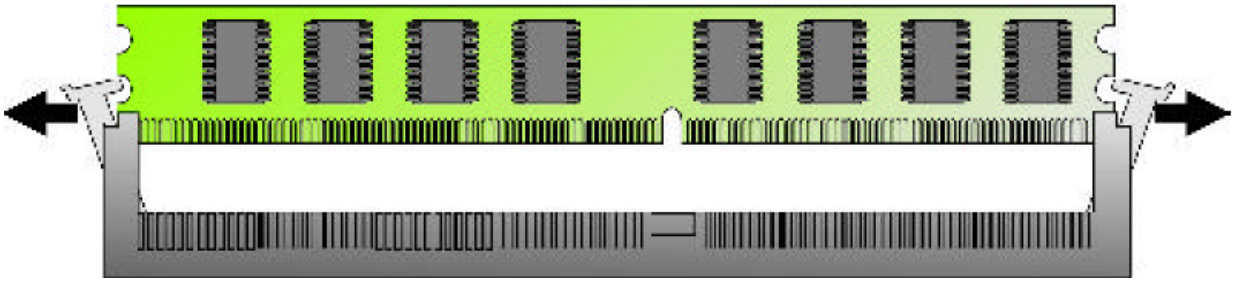


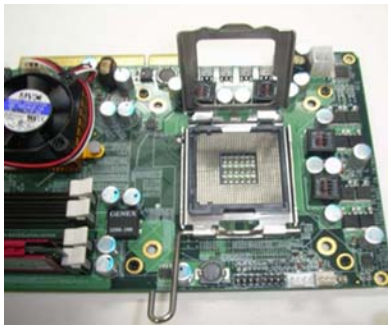
Figure 3-4: How to Install DIMM (4)

3.3 Installing LGA775 Intel Core 2 Duo CPU, Heat Sink, and Fan

Since the socket 775 is comprised of sensitive arrays of pins, improper or careless installation may cause permanent harm to the CPU. In some cases users may accidentally damage the socket simply by adjusting the position of the CPU.

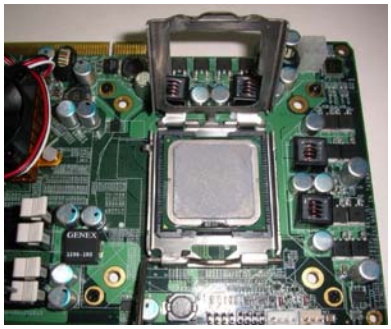
Please follow the installation instructions as shown below:

Step 1:
1. Opening the Socket:
a. Disengage the Load Lever by pressing down and out on the hook allowing the lever to clear the Retention Tab and rotate to the fully open position.
b. Rotate Load Plate to fully open position.
c. Remove the Protective Cover as shown below
Caution: Touch the Socket Contacts may damage to the contacts.



Step 2:
a. Remove processor from shipping media by grasping substrate edges only.
b. Grasp the processor with your thumb and forefinger on the edges with the orientation notches.
c. Carefully place the CPU into the socket.

Step 3:
a. Verify that the CPU if properly mated to the orientation keys.
b. Close the upper plate, place the load lever back to the original position.



Step 4:

a. Place the Heat Sink with Fan Set onto the four holes around the CPU socket making sure that the four screws are aligned with the holes on the PEAK777VL2.
b. Pressing down the metal pads on the four Stand-Offs.
c. Fasten the four screws.
d. Connect the 4-pins CPU fan cable to the power connector as shown below.

Chapter 4
Award BIOS Setup

This chapter explains how to use the BIOS Setup program for the PEAK777VL2. The current BIOS setup pictures in the chapter is for reference only, which may change by the BIOS modification in the future. User can download any major updated items from NEXCOM web site http://www.nexcom.com.tw. If any unclear message occurs, please contact NEXCOM customer service representative for help or log onto http://www.nexcom.com.tw/contact/contact.htm.

About the BIOS

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters. These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

With easy-to-use pull down menus, you can configure such items as:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

When to Run BIOS

This program should be executed under the following conditions:

- When changing the system configuration
- When a configuration error is detected by the system and you are prompted to make changes to the Setup program
- When resetting the system clock
- When setting the CPU clock speed so that it automatically runs either fast or slow
- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

4.1 Entering Setup

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

- If the error occurs before the display device is initialized, a series of beeps will be transmitted.
- If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing <**Del**> allows you to enter Setup. Another way to enter Setup is to power on the computer and wait for the following message during the POST:

TO ENTER SETUP BEFORE BOOT
PRESS <CTRL-ALT-ESC> OR <DEL>
KEY

Press the <**Del**> key or press the <**Ctrl**>, <**Alt**>, and <**Esc**> keys to enter Setup:

4.2 The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (Figure 1) will ap- pear on the screen. The main menu allows you to select from ten setup functions and two exit choices. Use arrow keys to select among the items and press**<Enter**> to accept or enter the sub-menu.

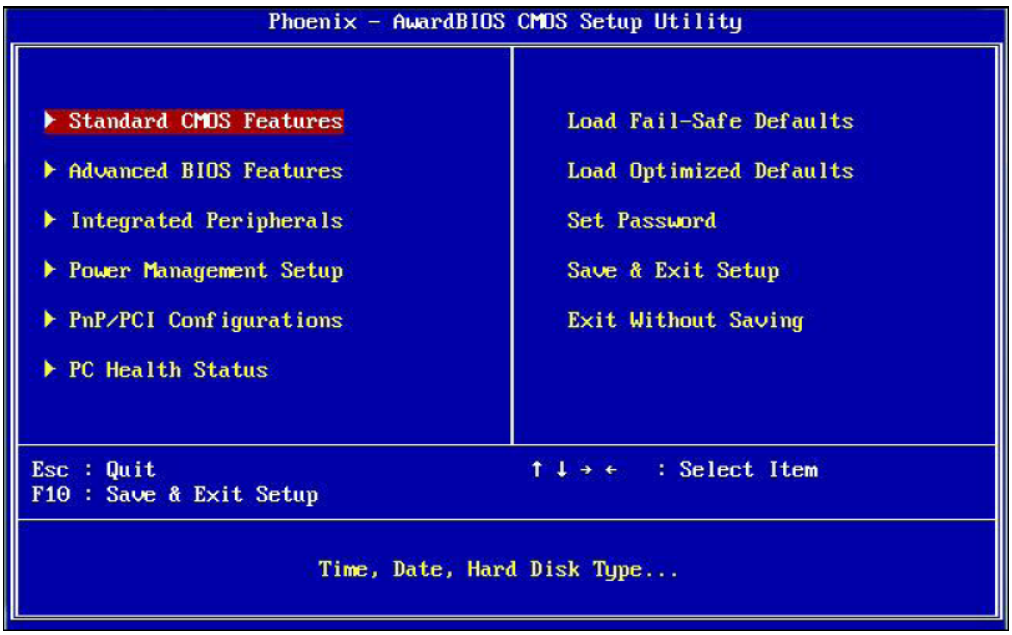


Figure 4-1: BIOS Setup Utility Main Menu

Standard CMOS Features

Use this menu for basic system configuration

Advanced BIOS Features

Use this menu to set the Advanced Features available on the system

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize the system's performance

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals

Power Management Setup

Use this menu to specify your settings for power management.

PnP/PCI Configurations

This entry appears if your system supports Plug and Play and PCI Configuration

PC Health Status

Displays CPU, System Temperature, Fan Speed, and System Voltages Value

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values, i.e., factory settings for optimal performance system operations. While Award has de-signed the custom BIOS to maximize performance, the factory has the option to change these defaults to meet their needs.

Set Supervisor/User Password

Enables you to change, set, or disable the supervisor or user pass-word.

Save & Exit Setup

Saves CMOS value changes to CMOS and exits setup.

Exit Without Saving

Ignores all CMOS value changes and exits setup.

4.3 Getting Help

Main Menu

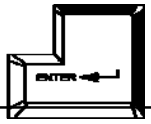
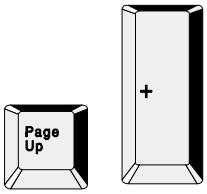
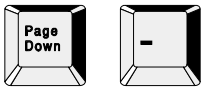
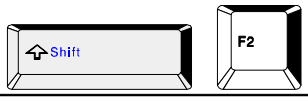
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/ Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press **<F1>** or **<Esc>.**

4.4 Control Keys

The table below lists the keys that help you navigate the setup program.

Up arrow		Move to previous item
Down arrow		Move to next item
Left arrow		Move to the item to the left
Right arrow		Move to the item to the right
Esc key		*Main Menu:* Quit without saving changes to CMOS *Status/Option Page Setup Menus*: Exit current page andretu rn to Main Menu.
Enter Key		Select or Accept an Item
PgUp/plus key		Increase the numeric value or make changes
PgDn/minus key		Decrease the numeric value or make changes
F1 key		General help, only for Status Page Setup Menu and Option Page Setup Menu
F2/Shift + F2 key		Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F5 key		Restore the previous CMOS value from CMOS (only for Option Page Setup Menu)
F6 key		Load the default CMOS value from BIOS default table (only for Option Page Setup Menu)
F7 key		Load the Setup default value (only for Option Page Setup Menu)

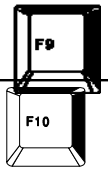
F9 Key		Menu in BIOS
F10 key		Save all the CMOS changes (only for Main Menu)

Figure 4-2 : BIOS Control Keys

4.5 Standard CMOS Features

Selecting Standard CMOS Features on the main program screen displays the following menu:

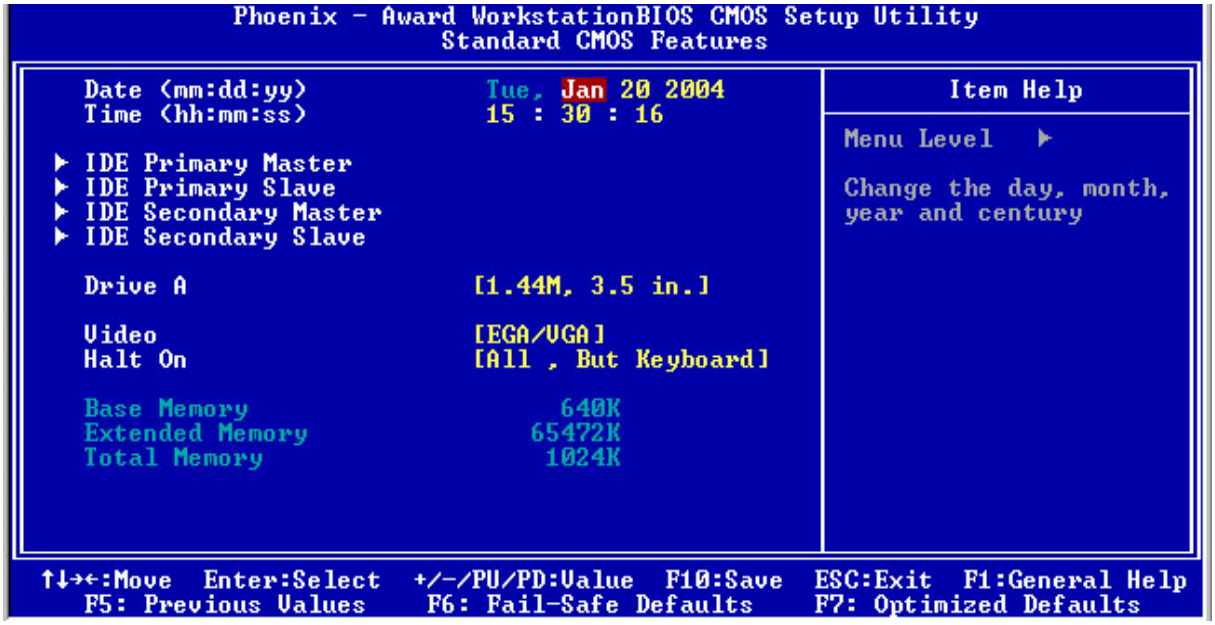


Figure 4-3 : BIOS -- Standard CMOS Features

The Standard CMOS Setup utility is used to configure the following features:

Date (mm:dd:yy)

The BIOS determines the day of the week from the other data information. This field is for information only. Press the left or right arrow key to move to the desired field (date, month, year). Press the PgUp or PgDn key to arrange the setting, or type the desired value into the field.

Time (hh:mm:ss)

The times format in <hour> <minute> <second>. The time is calculated based on the

24-hour military-time clock. For example, 1 p.m. is 13:00:00.

IDE Devices

Your computer has two IDE channels and each channel can be installed with one or two

devices (Master and Slave). Use these items to configure each device on the IDE channel. Press <Enter> to display the IDE submenu:

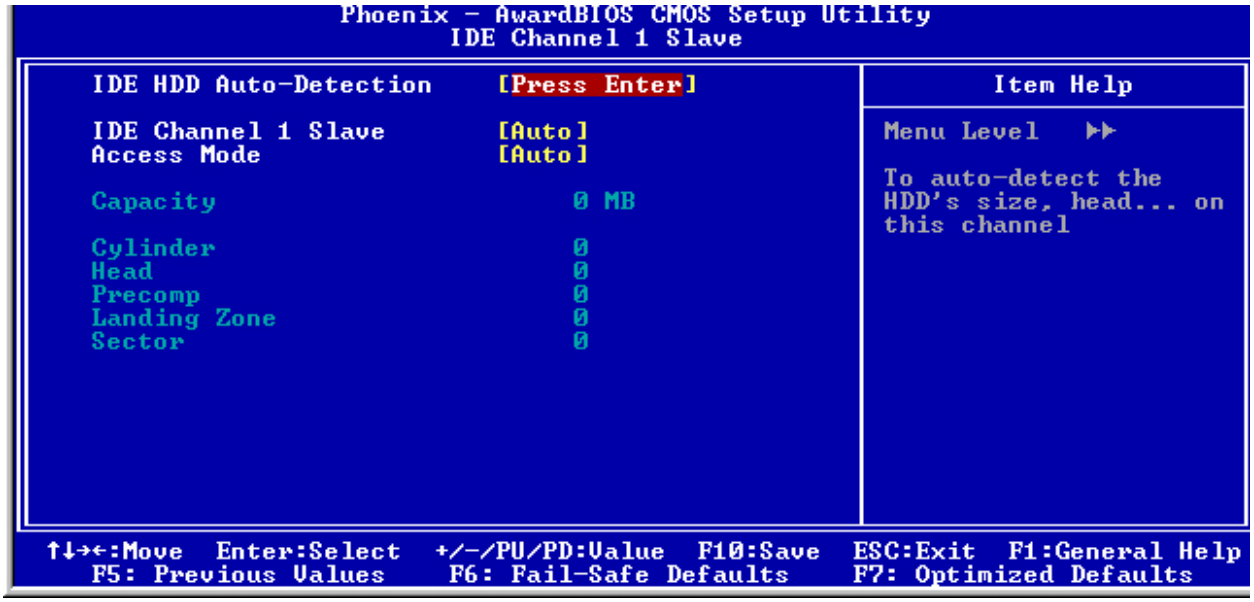


Figure 4-4 : BIOS -- IDE Channel Slave

IDD HDD Auto-Detection

If you want the Setup Utility to automatically detect and configure a hard disk drive on the IDE channel, press <**Enter**> while this item is highlighted.

If your system has an IDE hard drive, you can use this utility to detect its param- eters and enter them into the Standard CMOS Setup automatically.

If the auto-detected parameters displayed do not match the ones that should be used for your hard drive, do not accept them. Press the <**N**> key to reject the values and enter the correct ones manually in the Standard CMOS Setup screen.

(**Note:** If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists *LBA* for an LBA drive.)

Do not choose **Large** or **Normal** if the hard disk drive is already fully formatted when you installed it. Select the mode that was used to format it.

IDE Primary/Secondary Master/Slave

If you leave this item at **Auto**, the system will automatically detect and configure any IDE devices it finds. If it fails to find a hard disk, change the value to **Manual** and then manually configure the drive by entering the characteristics of the drive in the items below:

Capacity	**approximate hard disk drive capacity**
Cylinder	**number of cylinders**
Head	**number of heads**
Precomp	**write precompensation cylinder**
Landing Zone	**landing zone**
Sector	**number of sectors**

Refer to your drive's documentation or look on the drive if you need to obtain this information. If no device is installed, change the value to **None**.

Access Mode

This item defines some special ways that can be used to access IDE hard disks such as LBA (Logical Block Addressing). Leave this value at **Auto** and the system will automatically decide the fastest way to access the hard disk drive.

Press **<Esc>** to close the IDE device submenu and return to the Standard CMOS Features page.

Floppy Drive A

Options for these fields are:

None	**No floppy drive installed**
360K, 5.25 in	**5-1/4 inch PC-type standard drive; 360 kilobyte capacity**
1.2M, 5.25 in	**5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity**
720K, 3.5 in	**3-1/2 inch double-sided drive; 720 kilobyte capacity**
1.44M, 3.5 in	**3-1/2 inch double-sided drive; 1.44 megabyte capacity**
2.88M, 3.5 in	**3-1/2 inch double-sided drive; 2.88 megabyte capacity**

The **None** option could be used for diskless workstations.

Video

Set this field to the type of graphics card installed in your system. If you are using a VGA or higher resolution card, choose the **EGA/VGA** option. The options are:

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA, or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode
CGA 80	Color Graphics Adapter, power up in 40 column mode
Mono	Monochrome adapter, includes high resolution monochrome adapters

Halt On

This setting determines which type of errors will cause the system to halt during booting. The options are:

All Errors	Whenever the BIOS detect a non-fatal error, the system will be stopped and you will be prompted.
No Errors	The system boot will not be stopped for any error that may be detected.
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

Base/Extended/Total Memory

This category is display-only. The contents are determined by the POST (Power-On Self-Test) of the BIOS. You cannot make changes to these fields.

Base Memory: Also called conventional memory. The DOS operating system and conventional applications use this area.

Extended Memory: The POST of the BIOS will determine the amount of extended memory installed in the system.

Total Memory: This option shows system memory capacity.

After you have made your selections in the Standard CMOS Setup screen, press <**ESC**> to go back to the main screen.

4.6 Advanced BIOS Features

Selecting Advanced BIOS Features on the main program screen displays this menu, which allows you to define advanced information about your system. You can make modifications to most of these items without causing fatal errors to your system.

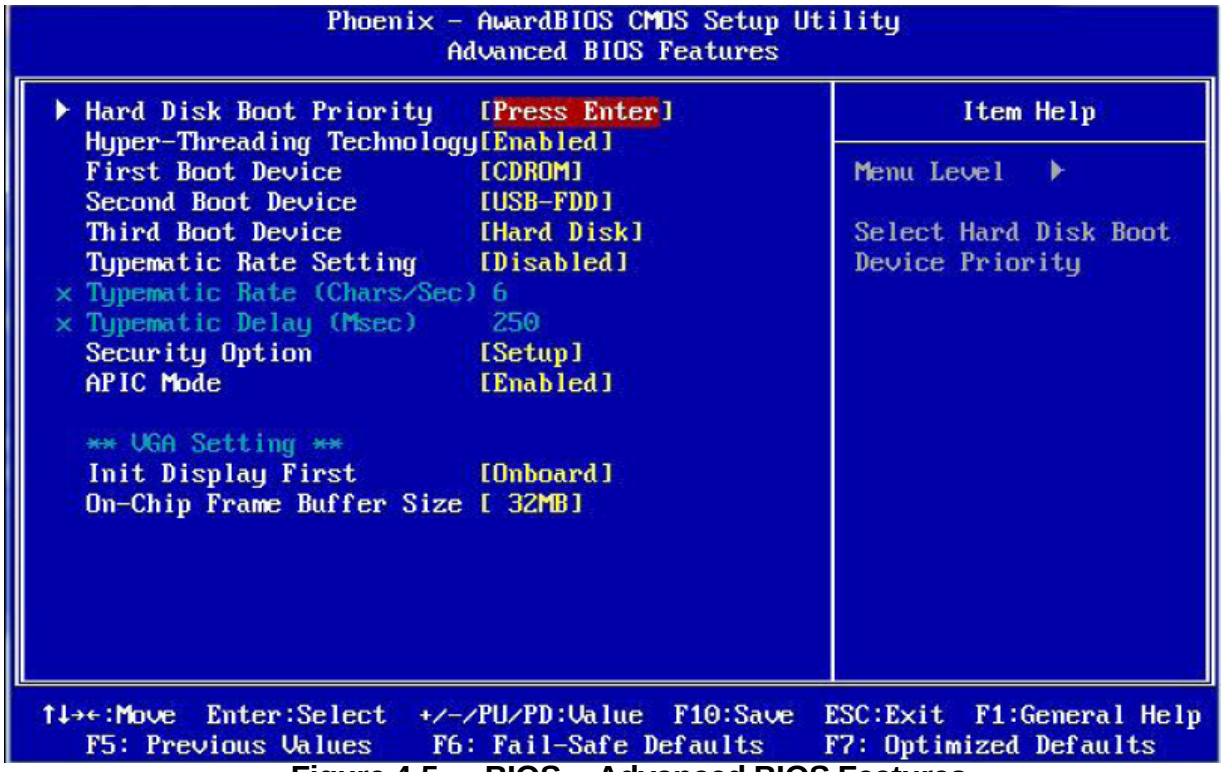


Figure 4-5 : BIOS -- Advanced BIOS Features

The following explains the options for each feature:

Virus Warning

Allows you to choose the Virus Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and an alarm will beep.

· **Enabled:** Activates automatically when the system boots up causing the follow- ing warning message to appear when anything attempts to access the boot sector or hard disk partition table:

!WARNING!
Disk boot sector is to be modified
Type "Y" to accept write or "N" to abort write

· **Disabled:** No warning message will appear when an attempt is made to access the boot sector or hard disk partition table.

Note:
This function is available only for DOS and other operating systems that do not trap INT13. For complete protection against viruses, install virus software in your operating system and update the virus definitions regularly. Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you disable the virus warning.

CPU L1, L2 and L3 Cache

Cache memory is additional memory that is much faster than conventional DRAM (system memory). This BIOS feature is used to enable or disable the processor's Level 1, Level 2 and Level 3 cache. Naturally, the default and recommended setting is Enabled.

Hyper Threading Technology

The Intel Hyper-Threading Technology allows a single processor to execute *two or more* separate threads concurrently. When hyper-threading is enabled, multi- threaded software applications can execute their threads in parallel, thereby im- proving the processor's performance.

Quick Power On Self Test

This item speeds up the Power On Self Test (POST) when you turn on the computer. If it is set to Enabled, BIOS will shorten or skip some check items dur- ing the POST.

First/Second/Third Boot Device

BIOS attempts to load the operating system from the devices in the sequence selected in these items. The available choices are Floppy, LS120, Hard Disk Drive, SCSI, CDROM, HDD 1, HDD 2, HDD 3.

Boot Other Device

If the selected boot devices fail to boot, selecting Enabled for this item allows

the BIOS to boot from other boot devices (in a predefined sequence) which are present but not selected as boot devices in the setup.

Boot Up Floppy Seek

Enable this to allow the system to search for floppy drives during the POST. Disable this item to boot faster.

Boot Up NumLock Status

Toggle between On or Off to control the state of the NumLock key when the system boots. If On, the numeric keypad is in numeric mode. If Off, the numeric keypad is in cursor control mode.

Gate A20 Option

Enables you to select whether the chipset or the keyboard controller should control Gate A20. The options are:

- **Normal:** A pin in the keyboard controller controls Gate A20.
- **Fast:** Lets chipset control Gate A20.

Typematic Rate Setting

If set to Enabled, enables you to set the Typematic Rate and Typematic Delay.

Typematic Rate (Chars/Sec)

This setting controls the speed at which the system registers held-down key- strokes. The choices range from 6 to 30 Chars/Sec.

Typematic Delay (Msec)

This setting controls the time between the display of the first character and suc- cessive characters. There are four delay choices: 250ms, 500ms, 750ms and
1000ms.

Security Option

Enables you to select whether the password is required every time the system boots or only when you enter Setup.

System: The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

Setup: The system will boot, but access to Setup will be denied if the correct password is not entered at setup.

MPS Version Control for OS

This feature is only applicable to multiprocessor motherboards as it specifies the version of the Multi-processor Specification (MPS) that the motherboard will use. The MPS is a specification by which PC manufacturers design and build Intel architecture systems with two or more processors. MPS version 1.4 is required for a motherboard to support a bridgeless secondary PCI bus.

After you have made your selections in the Advanced BIOS Features setup, press <**ESC**> to go back to the main screen.

4.7 Hard Disk Boot Priority

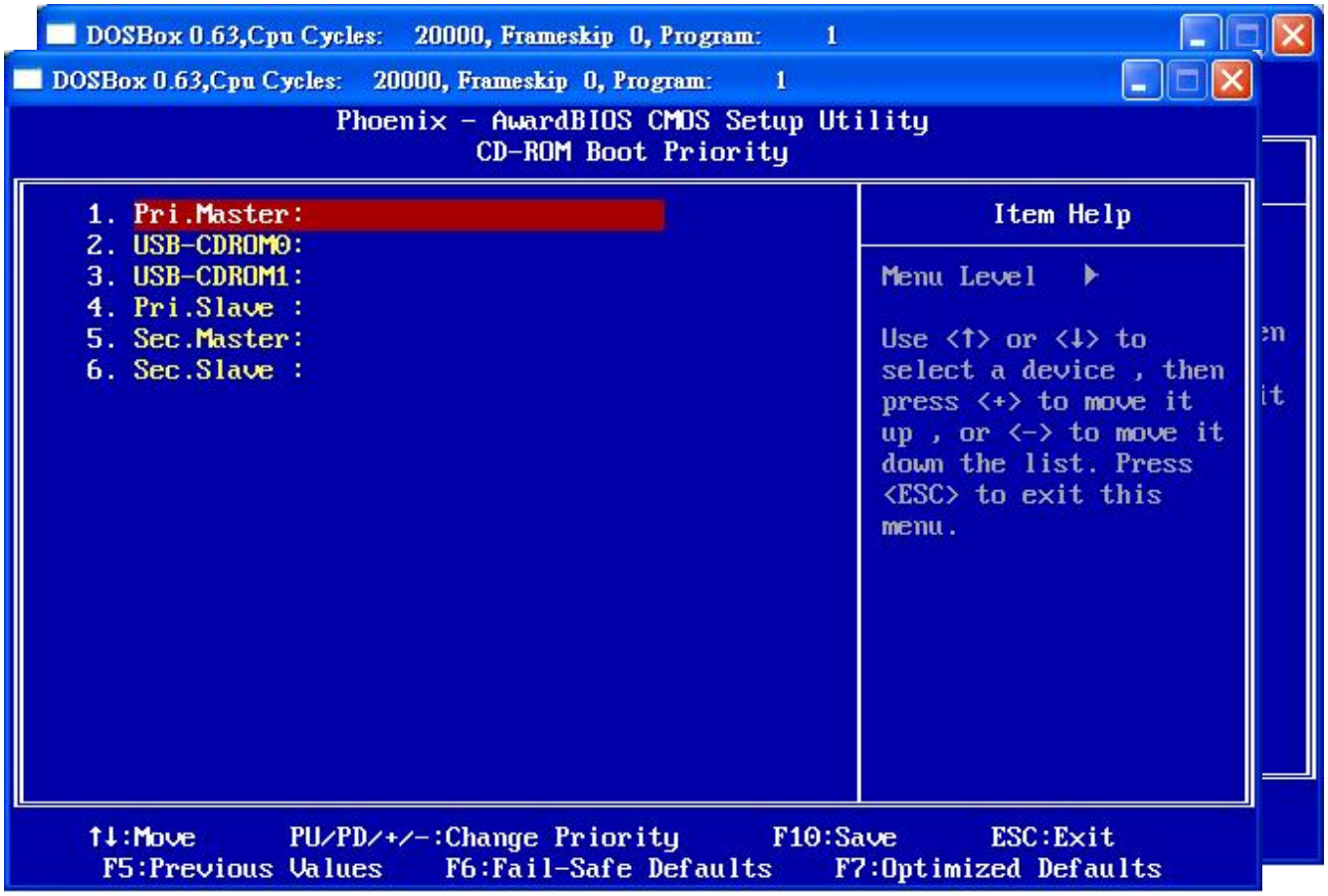


Figure 4-5 : BIOS- HDD Disk/CD-ROM Boot Priority

4.8 Integrated Peripherals

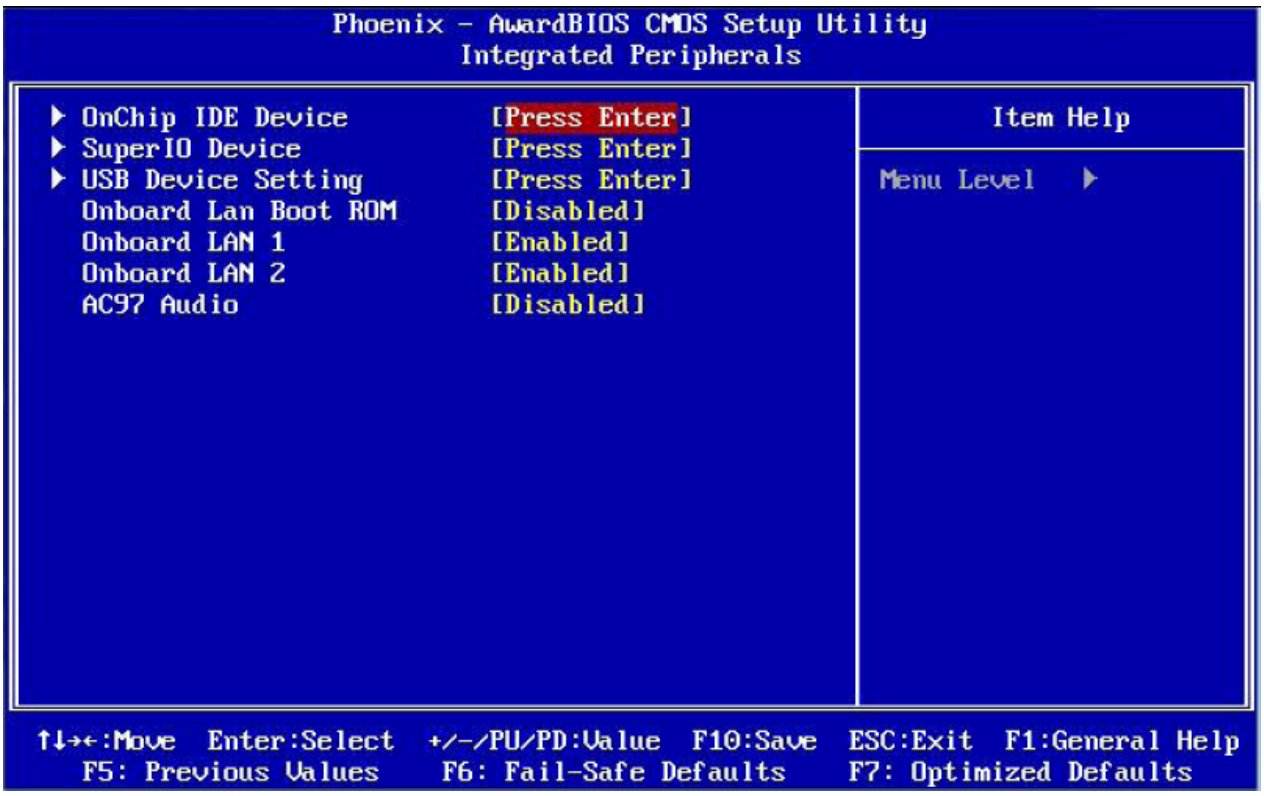


Figure 4-6 : BIOS- Integrated Peripherals

On-Chip IDE Device

The system chipset contains IDE HDD Block mode, and a PCI IDE interface with support for two IDE Primary (Master & Slave) PIO's and two IDE Primary (Master & Slave) UDMA's, and two IDE Secondary (Master & Slave) PIO's and two IDE Secondary (Master & Slave) UDMA's. Select Enabled to activate the primary and/or secondary IDE interface. Select Disabled to deactivate this interface if you install a primary and/or secondary add-in IDE interface.

USB Controller

Select Enabled if your system contains a Universal Serial Bus controller and you have USB peripherals.

4.9 Power Management Setup

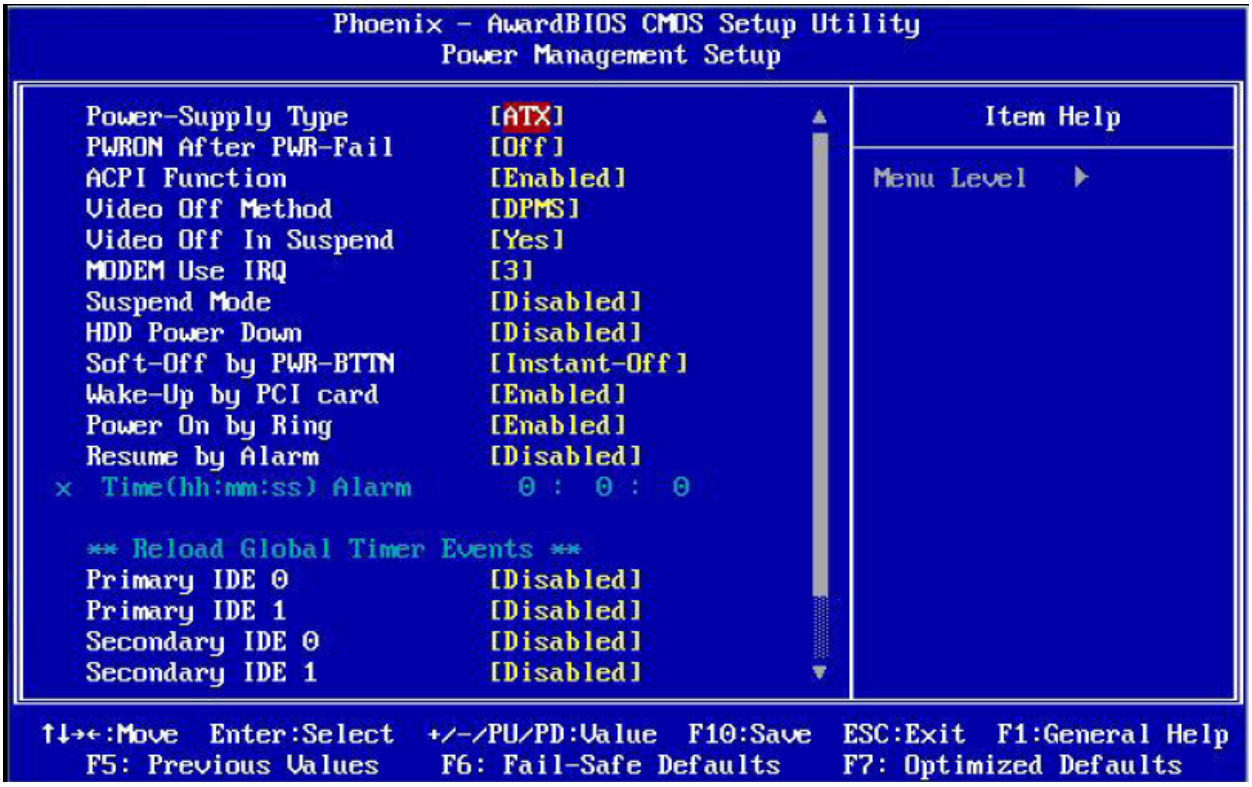


Figure 4-7 : BIOS -- Power Management Setup

Auto PWR-Failure Resume

This setting specifies whether your system reboots after a power failure.

There are three selections:

Off: The system will remain off when power comes back after a power failure.

On: The system will switch on when power comes back after a power failure.

Power Supply Type

The choices: AT, ATX.

ACPI Function

The ACPI standard (Advanced Configuration and Power Interface) allows the operating system to directly check the functions of energy saving and the PnP (Plug and Play) functionality. The ACPI functions are normally activated by the BIOS. The choices are: Enabled and Disabled.

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes: HDD Power Down, Doze Mode and Suspend Mode

- Min. Saving: Minimum power management
- Max Saving: Maximum power management
- User Define: Allows you to set each mode individually

Video Off Method

This determines the manner in which the monitor is blanked. There are three choices:

1. V/H SYNC+Blank: This selection will cause the system to turn off the vertical and horizontal synchronization port and write blanks to the video buffer.
2. Blank Screen: This option only writes blanks to the video buffer.
3. DPMS Support: Select this option if your monitor supports the Display Power Management signaling (DPMS) standard of the Video Electronics Standard to select video power management values.

Video Off In Suspend

This determines the manner in which the monitor is blanked. The choices: Yes, No.

Suspend Type

Select the Suspend Type.
The Choices: PwrON Suspend, Stop Grant.

MODEM Use IRQ

This determines the IRQ in which the MODEM can use.
The Choices: 3, 4, 5, 7, 9, 10, 11, NA.

Soft-Off by PWRBTN (Power Button)

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system “hangs”. The available choices are Delay 4 Seconds, Instant-Off

Wake up on LAN 1

When the system enters a Soft-off mode (Standby power exists but system is not working), it will wake up system when specific signals occurred. The BIOS monitors the system for “activity” to determine when to enable power management.

If you enable this feature, the computer specifies that any signal noticed on the LAN bus channel must go out from the hibernation state. The choices: Enabled, Disabled.

Power On by Ring

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state. The choices: Enabled, Disabled.

Reload Global Timer Events
Primary IDE 0
Primary IDE 1
Secondary IDE 0
Secondary IDE 1

The events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything which occurs to a device which is configured as Enabled, even when the system is in a power down mode. The choices: Enabled, Disabled.

4.10 PnP/PCI Configurations

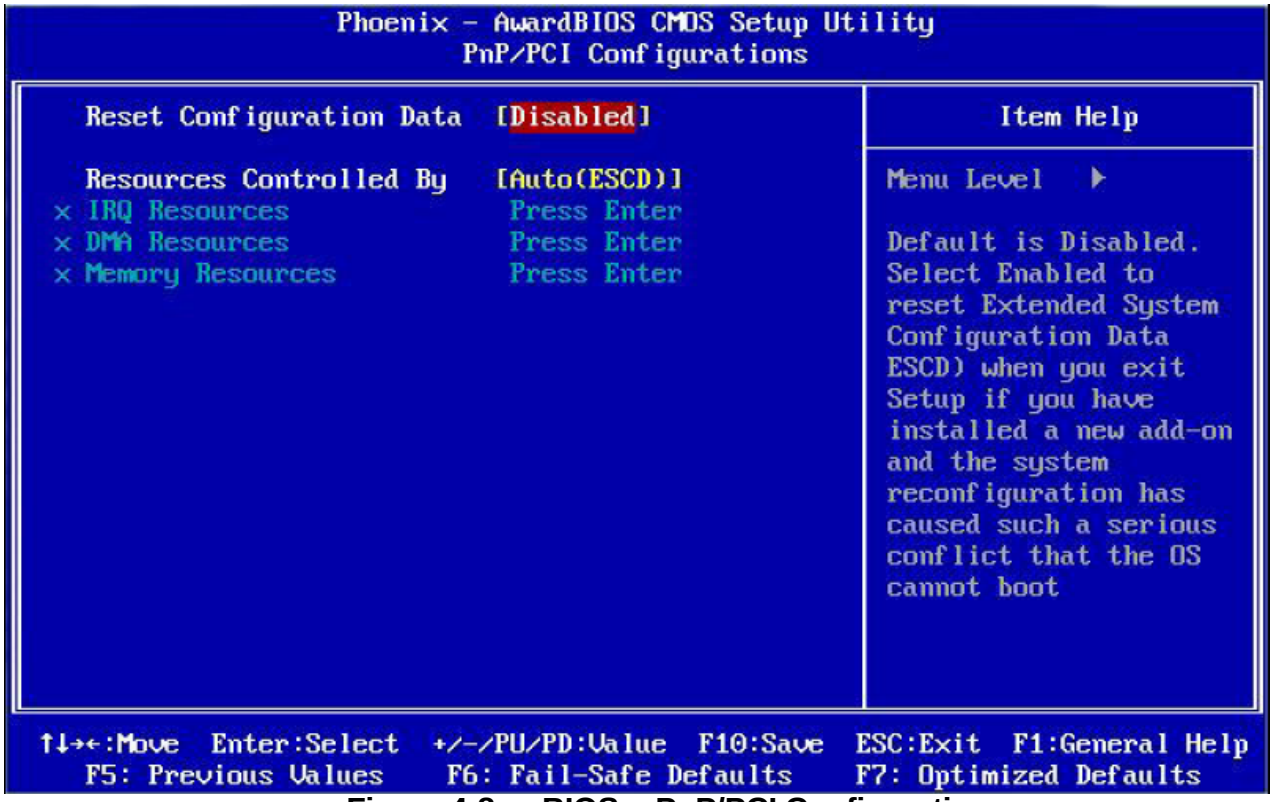


Figure 4-8 : BIOS -- PnP/PCI Configurations

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on Card and the system reconfiguration has caused such a serious conflict that the operating system cannot boot.

The choices: Enabled, Disabled .

Resources Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows95. If you set this field to Manual, then choose specific resources by going into each of the submenus that follows this field.

The Choice: Auto (ESCD), Manual.

4.11 PC Health Status

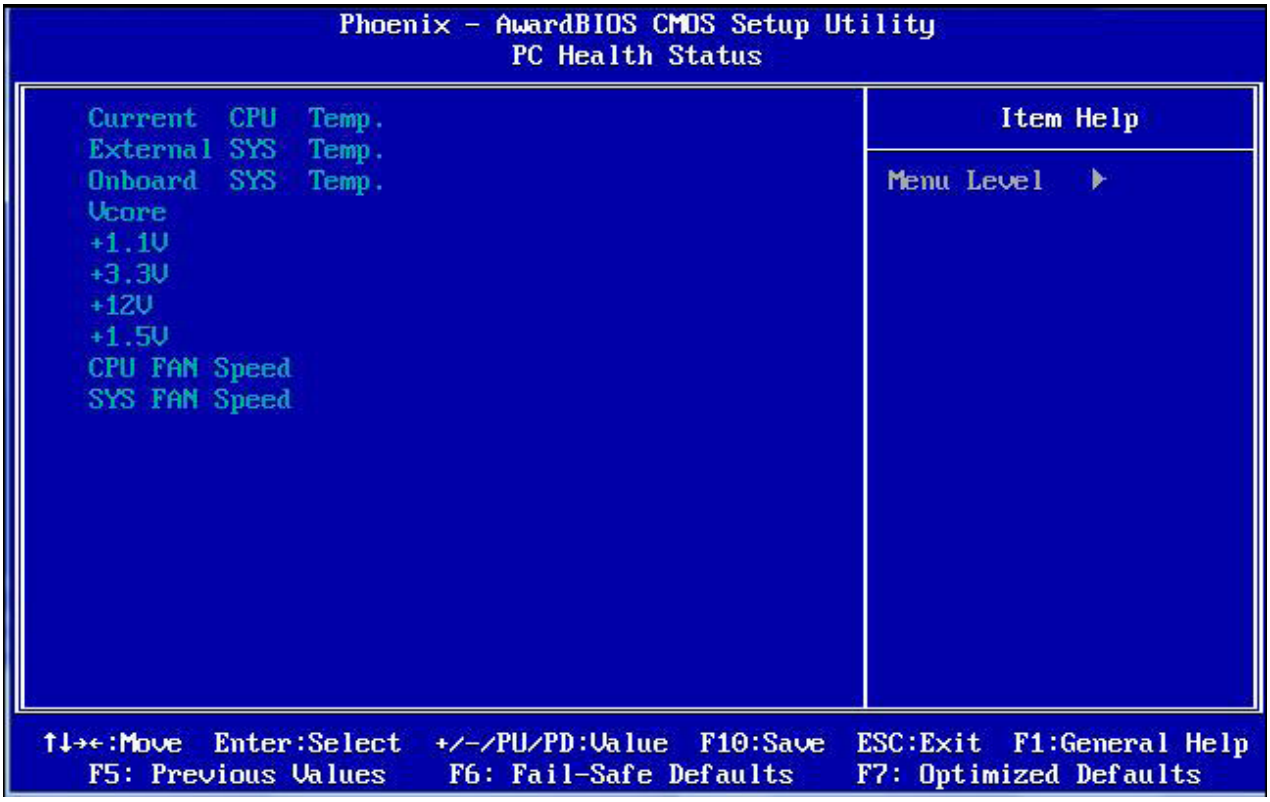


Figure 4-9 : BIOS- PC Health Status

After you have read the PC Health Status, press the <**ESC**> key to go back to the main program screen.

4.12 Load Fail-Safe Defaults

This option opens a dialog box that lets you install fail-safe defaults for all appropri- ate items in the whole setup utility.

Use this option if you have changed your system and it does not operate correctly or does not power up.

4.13 Load Optimized Defaults

This option opens a dialog box that lets you install optimized defaults for all appropri- ate items in the whole Setup Utility. Press the <Y> key and then <Enter> to install the defaults. Press the <N> key and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press the <F7> key.

4.14 Set Supervisor/User Password

The Supervisor/User Password utility sets the password. The mainboard is shipped with the password disabled. If you want to change the password, you must first enter the current password, then at the prompt enter your new password. The password is case sensitive. You can use up to eight alphanumeric characters. Press <Enter> after entering the password. At the next prompt, confirm the new password by retyping it and pressing <Enter> again.

To disable the password, press <Enter> instead of entering a new password when the Enter Password dialog box appears. A message appears confirming that the password has been disabled.

If you have set supervisor and user passwords, only the supervisor password allows you to enter the BIOS Setup Program.

Note: If you forget your password, the only way to solve this problem is to discharge the CMOS memory by turning power off and placing a shunt (jumper cap) on jumper JP2 to short pin 2 and pin 3 for five seconds, then putting the shunt back to pin 1 and pin 2 of JP2.

4.15 Save & Exit Setup

Selecting this option and pressing <Enter> will save the new setting information in the CMOS memory and continue with the booting process.

4.16 Exit Without Saving

Selecting this option and pressing <Enter> will exit the Setup Utility without recording any new values or changing old ones.