

[User Manual v1.2](#)

Advanced Embedded & Network Solutions

IP-60690

Intel® Pentium® M/ Celeron® M COM Express Module with CRT/LVDS, LAN & Audio

MB-73140

COM Express ATX Evaluation Board with Digital Signage Features (used with computer-on-modules MB-73150 & IP-60690)



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Chapter 1. General Information

1.1 Introduction

WIN's COM Express modules are designed to the standard form factor with Basic Module Type 2 pinouts, compliant with PICMG COM Express Module Base Specification Revision 1.0. The COM Express series of products is suitable for the upgrade of ETX or other COMs, and for attaining higher performance, higher bus and I/O bandwidth, while maintaining SOMs small form factor and design and manufacturing flexibility.

COM Express is an open industry standard which supports new interfaces like PCI Express, Serial ATA, USB 2.0, Giga Ethernet and Serial DVO. WIN provides several COM Express solutions with a range of CPUs and chipsets. We also offer choice of heat-sinks and an evaluation baseboard (MB-73140). For additional information contact WIN or your WIN representative.

1-2. Specifications

1-2-1 IP-60690 Specifications

General Functions	
System	
CPU	Socket to supports Intel® Pentium® M / Celeron® M, 400/533MHz FSB or onboard Celeron® M 600MHz with 512KB cache
BIOS	Award® 512KB Flash BIOS
System Chipset	Intel® 915GME, ICH6M
System Memory	1 x DDRII SO-DIMM socket supports 400/533MHz memory up to 1GB
Watchdog Timer	255 levels timer interval, (1 ~ 255 seconds) , setup by software. Jumper set up for system reset or IRQ
System Monitoring	Built in 915GME chipset , supports dual independent displays
Expansion Interface	3 x PCI 2.2 32-bit 33MHz, supports up to four Req/Gnt pairs
I/O	
I/O Chipset	Winbond® 83627HG-AW supported by BIOS
I/O Interface	2 x SATA 150 ports, 1 x LPC & 12C bus, 8 x GPIO
USB	8 x USB ports, USB 2.0/1.1 compliant
Audio	AC 97 high definition Audio via ICH6M I/O Hub
Ethernet Interface	
Chipset	Intel® 82573L
Ethernet Interface	IEEE 802.3 10/100/1000Mbps compliant physical layer
Display	
Chipset	Built-in 915GME chipset supports dual independent displays
Features	Dual SDVO, dual 18-bit LVDS channels, Analog VGA and TV-out
External expansion	Supports PCI-Express x 16 graphic port
Memory Size	1/4/8/16/32/64MB
Resolution	CRT display mode up to 2048 x 1536 LCD display mode up to 1600 x 1200
LCD Interface	LVDS
LVDS Interface	Dual 18-bit LVDS
Mechanical and Environmental	
Form Factor	PICMG COM Express basic form factor, pin-out type II
Dimension (L x W)	95mm (L) x 125mm (W) (3.8"L x 5"W)
Power Supply Voltage	+12V
Operating Temperature	0° ~ 60°C (32°~ 140°F)
Operating Humidity	10% ~ 90% relative humidity, non-condensing
Storage Temperature	-20° ~ 85°C (-4°~ 185°F)
Storage Humidity	5% ~ 95% relative humidity, non-condensing
Ordering Information	

IP-6069A	Intel® 915GME COM Express module with socket 479, CRT/LVDS, LAN & Audio
IP-6069B	Intel® 915GME COM Express module with onboard Celeron M 600MHz (512KB cache), CRT/LVDS, LAN & Audio
MB-73140	COM Express evaluation board for GbE LAN w/o Express card slot
Optional	
39L-C36TRS-00	Screw + type M3*0.5*L5 (Ni) / RoHS
39L-C47TRS-00	3*10 Screw I type (Ni) / RoHS
39L-PAD005-00	PAD K 2.2 H48-2 T1.0 (18*18mm) / RoHS
Included Parts (Ships with Product)	
1 x IP-60690 SBC	

1-2-2 MB-73140 Evaluation Board Specifications

General Functions	
System	
Extended	4 PCI-Express x 1 and One PCI-Express x 16 One PCI 2.3 32-bit 33MHz
Display	Dual 18-bit LVDS channel, VGA (DB-15) & TV out (AV connector & S-terminal), one DVI-I rear panel connector with both Digital video & Analog VGA support
Communications	2 x RS-232 (One external DB-9 connector, one internal pin-header connector) RJ-45 Ethernet connectors
Audio	Audio high definition audio Line-in, Line-out, Mic. in audio jacks
I/O	IDE, SATA x 2, Keyboard, Mouse, 8 x USB (6 External + 2 Internal), Audio & 8 x GPIO
Size	304.8mm (L) x 243.7mm (W) (12"L x 9.6"W)
Weight	1 kg
Ordering Information	
MB-73140	COM Express evaluation board for GbE LAN w/o Express card slot
MB-73150	Intel® 945GM COM Express module with socket 479, CRT/LVDS, LAN, Audio
IP-60690	Intel® 915GM COM Express module with socket 479, CRT/LVDS,LAN, Audio
Included Parts (Ships with Product)	
1 x MB-73140 SBC	
1 x CD (Manual , Quick installation guide, Utility driver) or available through FTP download	

1.3 Packaging

Please make sure that the following items have been included in the package before installation.

1.3.1 IP-60690 Package

- IP-60690 SBC board
- Quick Installation Guide
- CD ROM which contains the following folders:

- Manual (in PDF format)
- LAN Driver
- VGA Driver
- Audio Driver
- BIOS Utility

1.3.2 MB-73140 Package

- MB-73140 SBC board
- Quick Installation Guide
- CD ROM which contains the following folders:
 - Manual (in PDF format)
 - LAN Driver
 - VGA Driver
 - Audio Driver
 - BIOS Utility

If any of these items are missing or damaged, please contact your dealer at once. Save the shipping materials for future shipping and/or storage. After you unpack the board, inspect it to assure an intact shipment. After proper grounding, press down all the integrated circuits to make sure they are properly seated in their sockets. Do not apply power to the board if it appears to have been damaged.

Leave the board in its original packing until you are ready to install it.

Precautions

Properly ground yourself before handling the IP-60690 or MB-07314 boards or their system components. Electrostatic discharge can easily damage the boards.

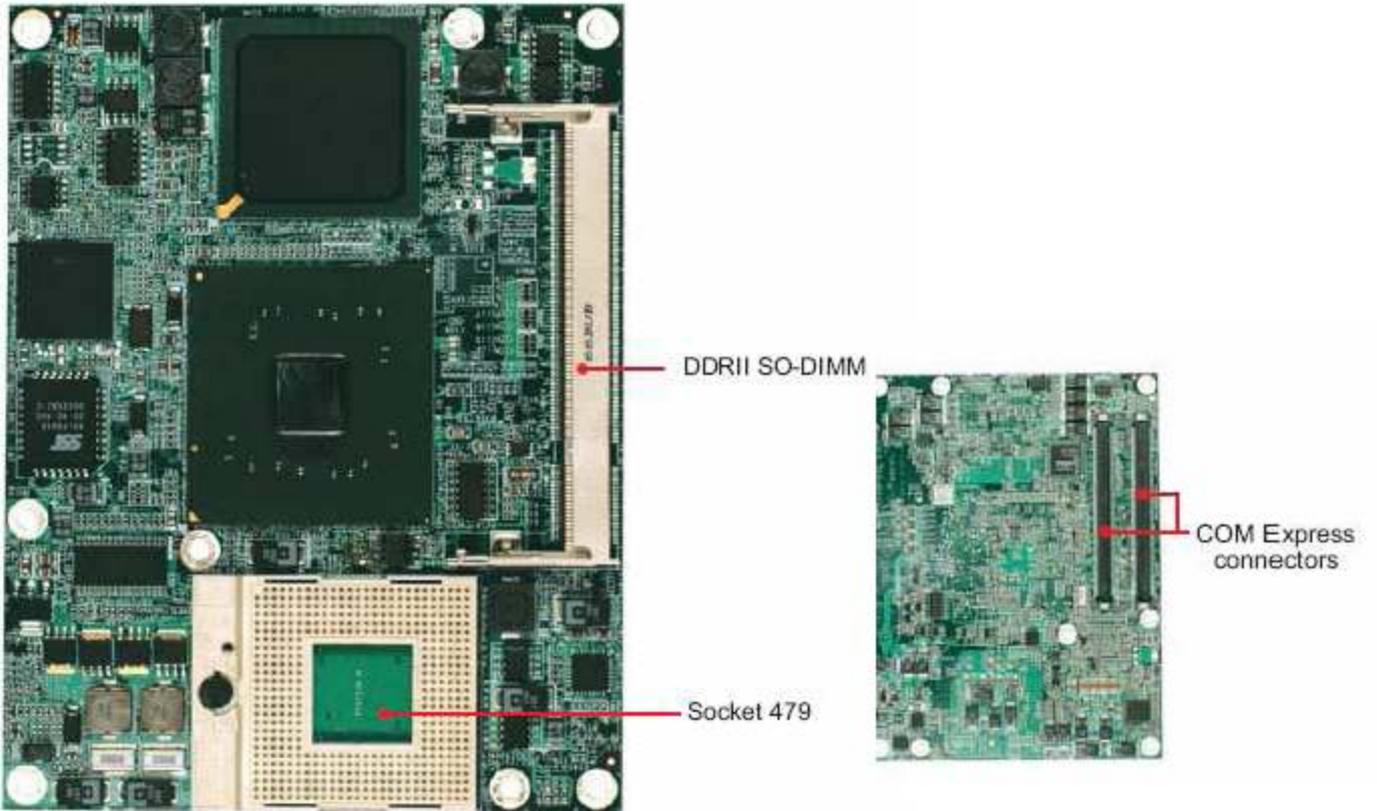
Do not remove the antistatic packing until you are ready to install the IP-60690 & MB-73140 boards.

Ground yourself before removing any system component from its protective antistatic packaging. To ground yourself, grasp the expansion slot covers or other unpainted parts of the computer chassis.

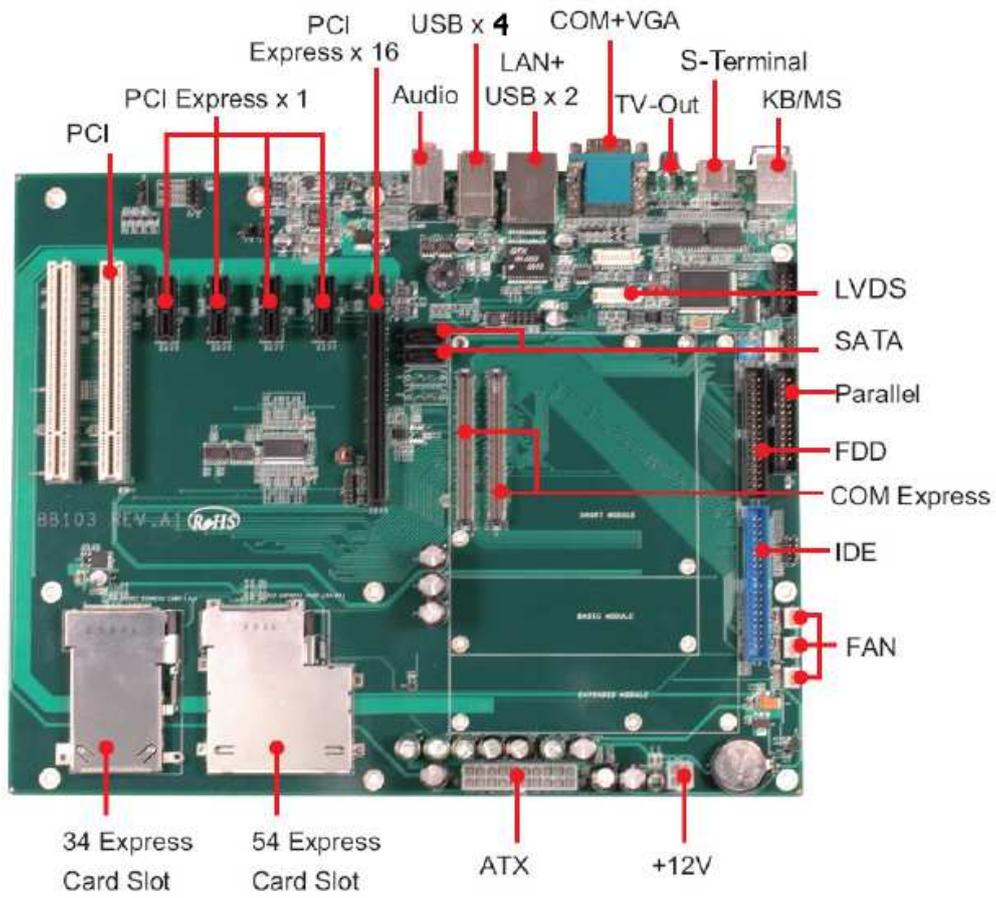
Handle the IP-60690 & MB-73140 board by their edges and avoid touching their components.

1.4. Board Layout

1.4.1. IP-60690 Board Layout

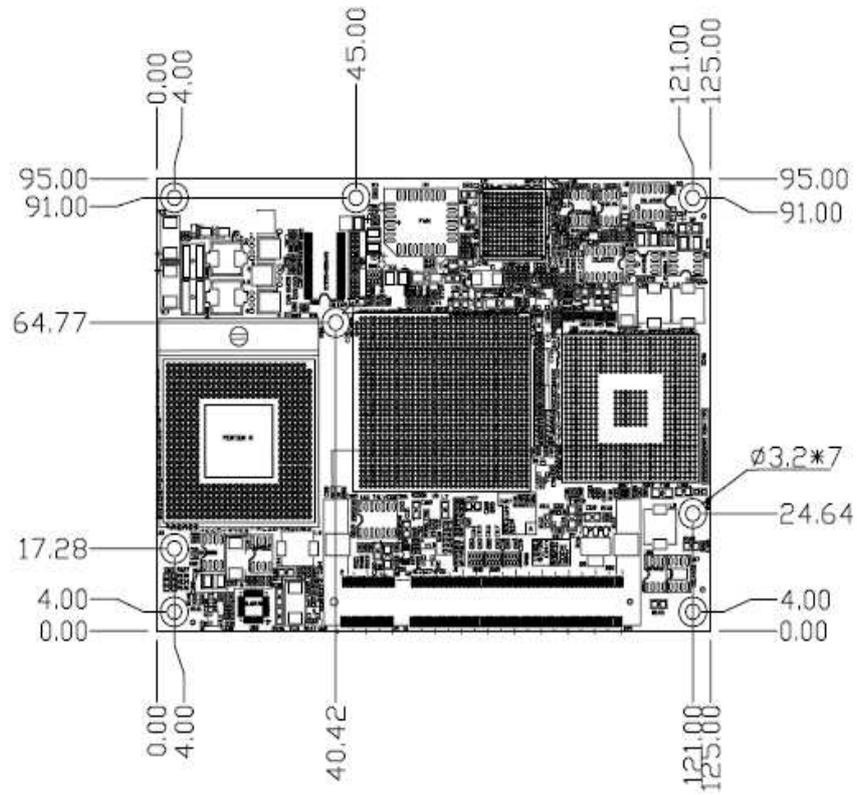


1.4.2 MB-73140 Board Layout

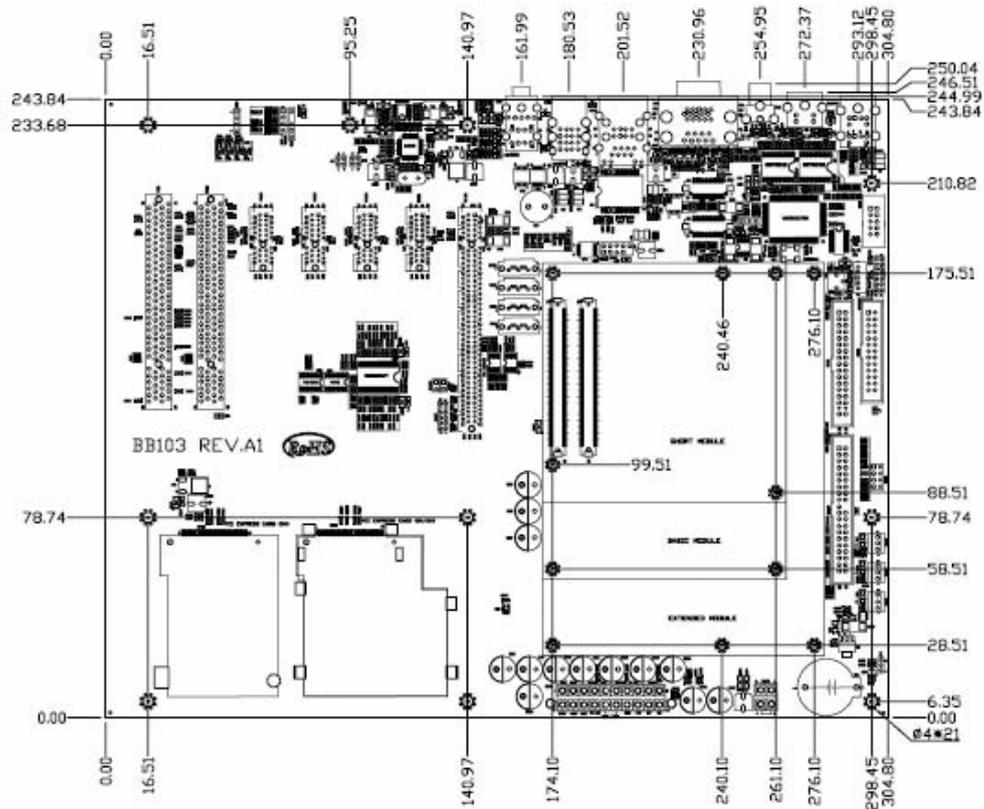


1.5. Board Dimensions

IP-60690 Board Dimensions (mm)



1.5.2 MB-73140 Board Dimensions (mm)



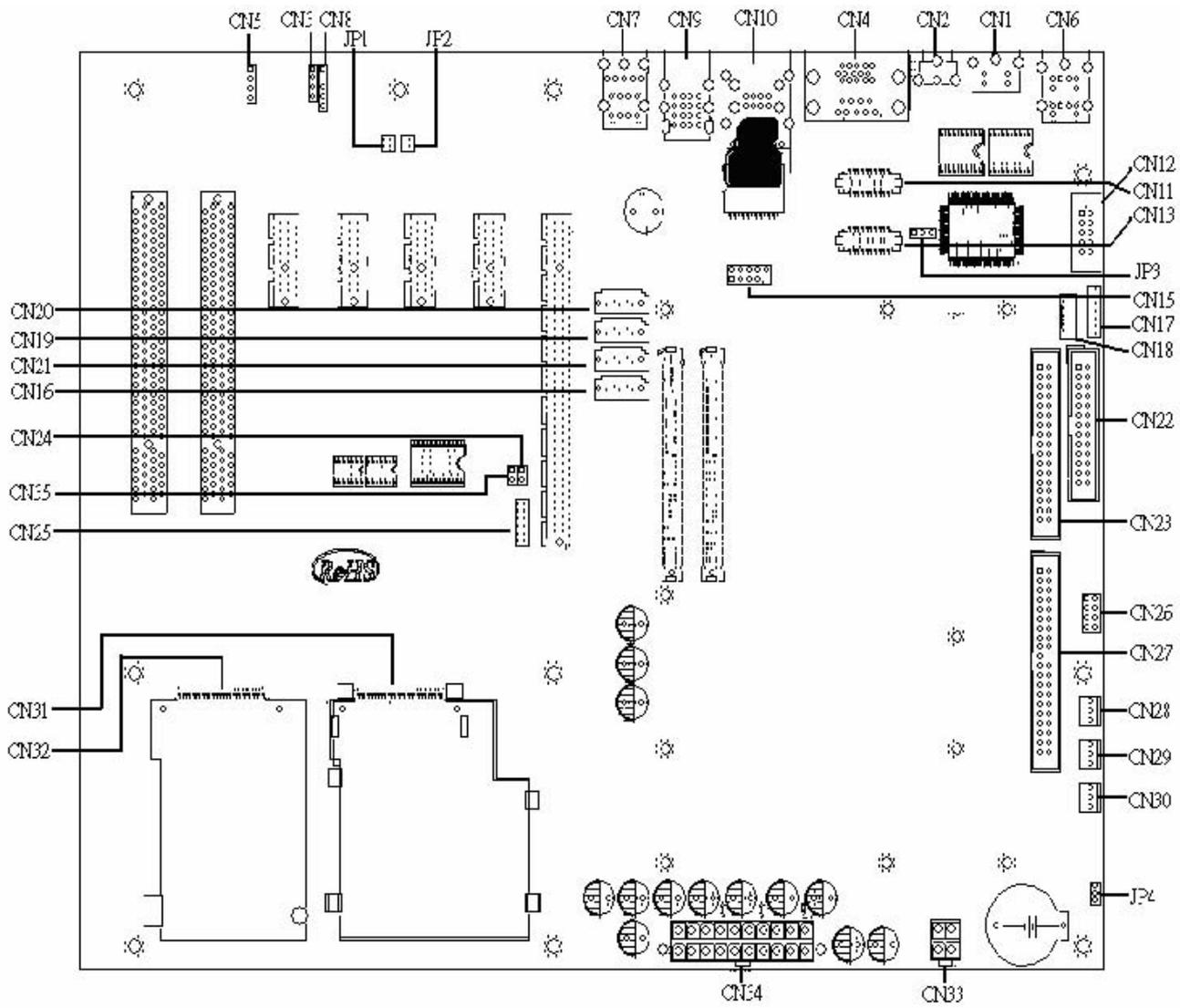
Chapter 2. Connectors and Jumper Settings

2-1. List of Connectors and Jumpers (BB-103)

Connector	Description	Connector	Description
CN1	S Terminal	CN19	SATA Connector
CN2	AV Connector	CN20	SATA Connector
CN3	CD-IN	CN21	SATA Connector (Reserved)
CN4-A	VGA Connector CD	CN22	Parallel Connector
CN4-B	COM1 Connector (D-9-SUB)	CN23	FDD Connector
CN5	Speak select	CN24	BIOS Disable
CN6	Keyboard and PS/2 Mouse Connector	CN25	GPIO Connector
CN7	Audio Connector	CN26	Frant panel Connector
CN8	IR Connector	CN27	IDE Connector
CN9	USB Connector	CN28	FAN Connector
CN10	USB & LAN Connector	CN29	
CN11	LVDS Connector	CN30	
CN12	COM2 Connector	CN31	34/54 Connector
CN13	LVDS Connector	CN32	34Connector
CN15	USB Connector (2*5 Pin-Header)	CN33	+12V POWER Connector
CN16	SATA Connector (Reserved)	CN34	ATX POWER Connector
CN17	LPC Pin-Header	CN35	PEG PORT SELECT
CN18	Backlight Connector		

Jumper	Description
JP1	PCI IDSEL Select
JP2	PCI IDSEL Select
JP3	LCD Power Select
JP4	Clear CMOS

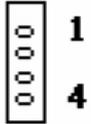
2.2. Location of Connectors and Jumpers (MB-73140)



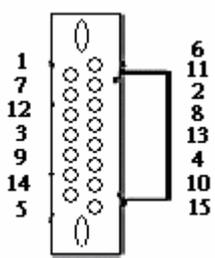
2.3. Connector Pin Assignment and Jumper Settings

2.3.1. Connector Pin Assignment

CN3: CD-IN

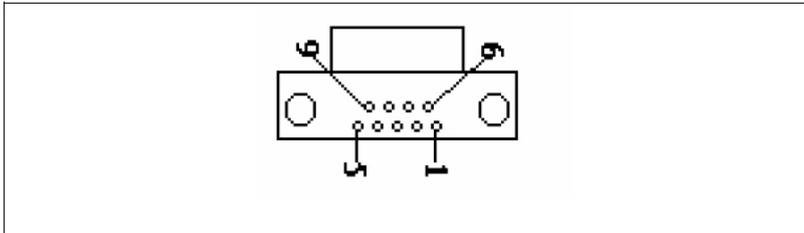
	
Pin	Define
1	CDINL
2	CDGND
3	CDGND
4	CDINR

CN4-A: VGA Connector CD

			
Pin	Define	Pin	Define
1	CRT_RED	9	+5V
2	CRT_GREEN	10	GND
3	CRT_BLUE	11	NC
4	NC	12	CRT_SDA

5	GND	13	CRT_HSYNC
6	VGAGND	14	CRT_VSYNC
7	VGAGND	15	CRT_SCL
8	VGAGND		

CN4-B: COM1 Connector (D-9-SUB)



Pin	Define	Pin	Define
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	Ground		

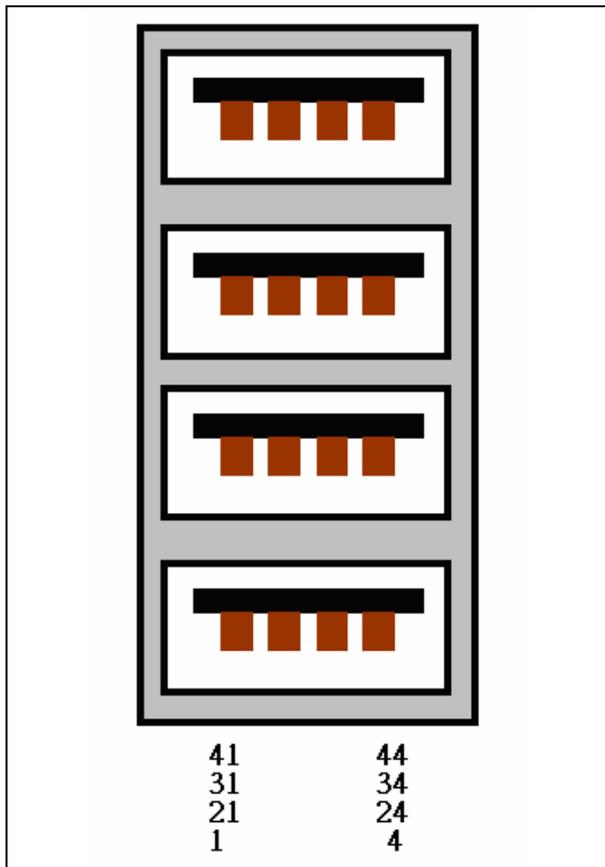
CN5: Speaker select

Pin	Define
1	+5V
2	NC
3	BUZZER
4	BEEP
3-4(OOPEN): EXT. SPKR	
3-4(SHORT): INT. SPKR	

CN8: IR Connector

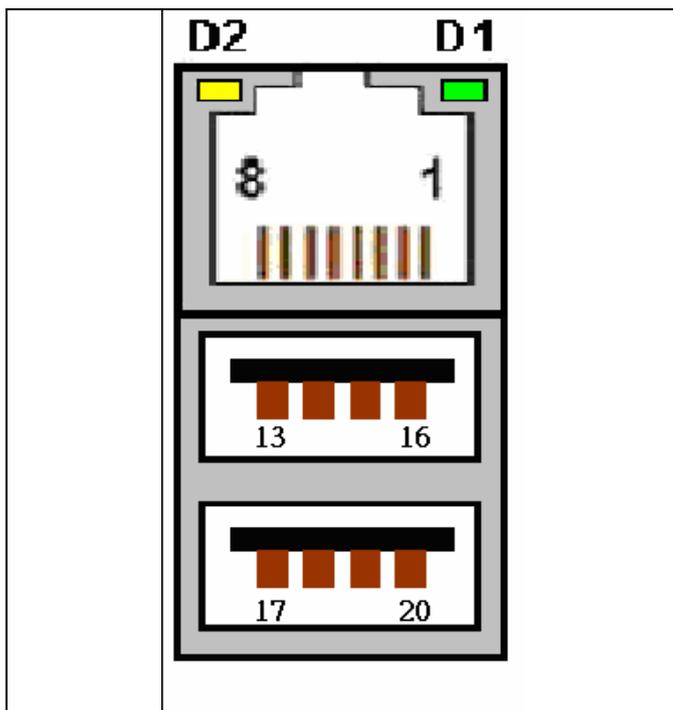
	
Pin	Define
1	+5V
3	IR_RX
4	GND
5	IR_TX

CN9: USB Connector



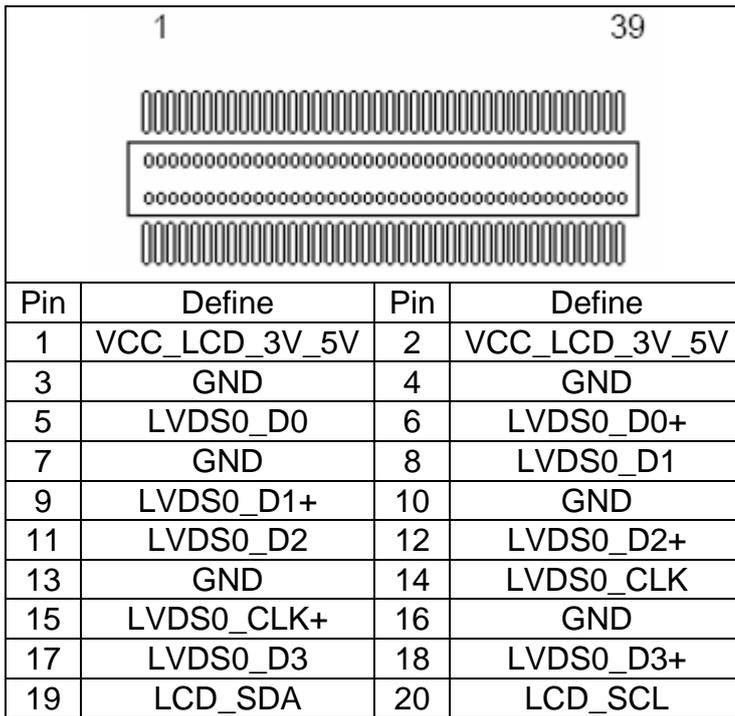
Pin	Define	Pin	Define
1	USB_PP_0	2	USB_PN_0
3	USBV01	4	GND
21	USB_PP_1	22	USB_PN_1
23	USBV01	24	GND
31	USB_PP_2	32	USB_PN_2
33	USBV23	34	GND
41	USB_PP_3	42	USB_PN_3
43	USBV23	44	GND

CN10: USB & LAN Connector

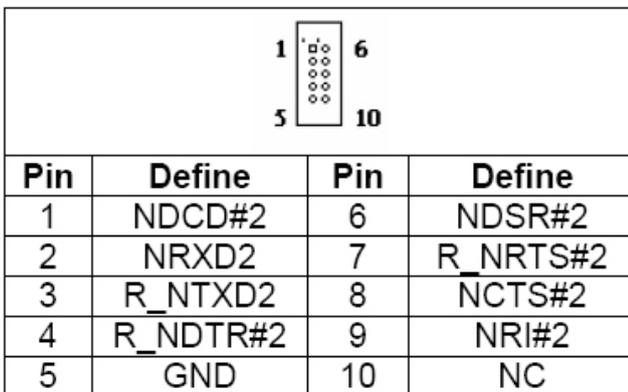


Pin	Define	Pin	Define
1	TXA+	2	TXA
3	TXB+	4	RXC+
5	RXC	6	TXB
7	RXD+	8	RXD
9	GBE_LINK	10	ACTIVITY_LED
11	LINK_100_LED	12	LINK_1000_LED
13	USBV45	14	USB_PN_4
15	USB_PP_4	16	GND
17	USBV45	18	USB_PN_5
19	USB_PP_5	20	GND
21	GND	22	GND
23	GND	24	GND
25	GND	26	GND
27	GND	28	GND

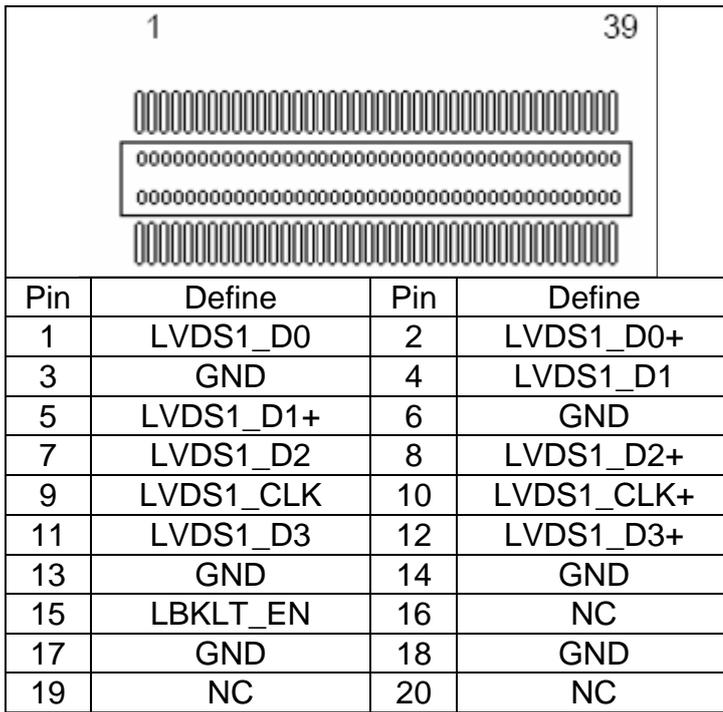
CN11: LVDS Connector



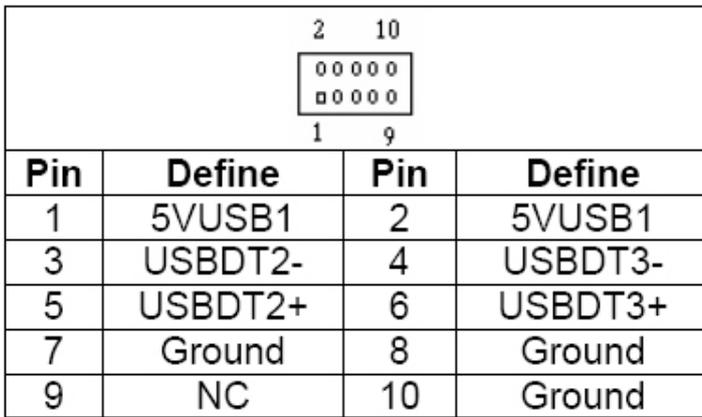
CN12: COM2 Connector



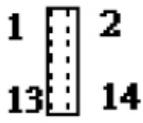
CN13: LVDS Connector



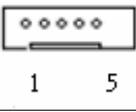
CN15: USB Connector (2*5 Pin Header)



CN17: LPC Pin Header

			
Pin	Define	Pin	Define
1	+3.3V	2	LAD0
3	LAD1	4	LAD2
5	LAD3	6	LFRAME#
7	PLT_RST#	8	+5V
9	SIO_PCLK	10	LPC_PME#
11	GND	12	GND
13	SERIRQ	14	LDRQ#0

CN18: Backlight Connector

	
Pin	Define
1	+12V
2	GND
3	LBKLT_CRTL
4	VR
5	+5V

CN24: BIOS Disable

Pin	Define	Pin	Define
1	GND	2	BIOS Disable

CN25: GPIO Connector (Pin-Header 2.0mm)

Pin	Define	Pin	Define
1	+5V	2	GPIN0
3	GPIN1	4	GPIN2
5	GPIN3	6	GND
7	+VCC	8	GPOUT0
9	GPOUT1	10	GPOUT2
11	GPOUT3	12	GND

CN26: Front Panel Connector (Pin Header 2.0 mm)

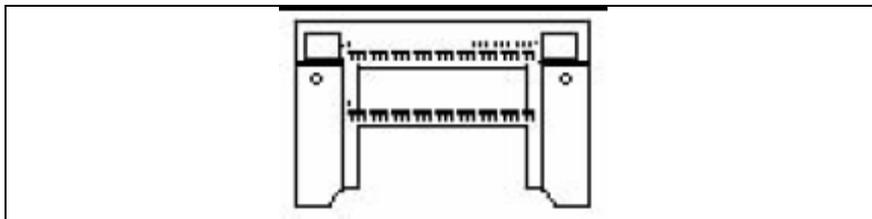
Pin	Define	Pin	Define
1	+5V	2	GND
3	+5V	4	IDELED
5	+5VSB	6	PANSWIN
7	GND	8	RESETBTN

CN31: 34/54 Connector

Pin	Define	Pin	Define	Pin	Define
1	GND	2	NC	3	NC
4	NC	5	NC	6	NC
7	SMB_CLK	8	SMB_DATA	9	+1.5V
10	+1.5V	11	PE_WAKE	12	+3.3VSB
13	PCIE_RESET	14	+3.3V	15	+3.3V

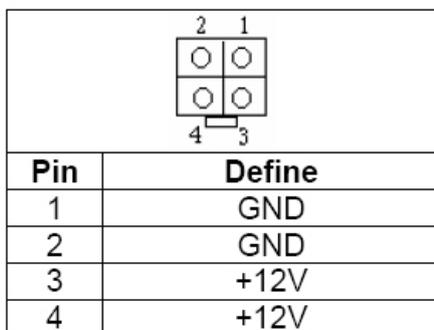
16	TestPoint	17	CPPE	18	REF_CLK
19	REF_CLK+	20	GND	21	PE_RXN
22	PE_RXP	23	GND	24	PE_TXN
25	PE_TXP	26	GND		

CN32: 34 Connector



Pin	Define	Pin	Define	Pin	Define
1	GND	2	NC	3	NC
4	NC	5	NC	6	NC
7	SMB_CLK	8	SMB_DATA	9	+1.5V
10	+1.5V	11	PE_WAKE	12	+3.3VSB
13	PCIE_RESET	14	+3.3V	15	+3.3V
16	TestPoint	17	CPPE	18	REF_CLK
19	REF_CLK+	20	GND	21	PE_RXN
22	PE_RXP	23	GND	24	PE_TXN
25	PE_TXP	26	GND		

CN33: +12V Power Connector

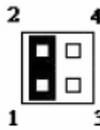
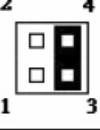


CN35: PEG Port Select

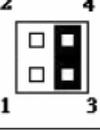
Pin	Define	Pin	Define
1	GND	2	SDVO CTRL DATA

2-3-2. Jumper Setting JP1: PCI IDSEL Select

JP1: PCI IDSEL Select

Setting		Define
	1-2	AD22
	3-4	AD23

JP2: PCI IDSEL Select

Setting		Define
	1-2	AD20
	3-4	AD21

JP3: LCD Power Select

Setting		Define
1 <input checked="" type="checkbox"/> 3 <input type="checkbox"/>	1-2	+3V
1 <input type="checkbox"/> 3 <input checked="" type="checkbox"/>	2-3	+5V

JP4: CLEAR CMOS

Setting		Define
1 <input checked="" type="checkbox"/> 3 <input type="checkbox"/>	1-2	Deaful
1 <input type="checkbox"/> 3 <input checked="" type="checkbox"/>	2-3	Clear CMOS

Chapter 3. BIOS Setup

The ROM chip of your IP-60690 board is configured with a customized Basic Input/Output System (BIOS) from Phoenix Award BIOS. The BIOS is a set of permanently recorded program routines that give the system its fundamental operational characteristics. It also tests the computer and determines how the computer reacts to instructions that are part of programs.

The BIOS is made up of code and programs that provide the device level control for the major I/O devices in the system. It contains a set of routines (called POST, for PowerOn Self Test) that check out the system when you turn it on. The BIOS also includes a CMOS Setup program, so no disk based setup program is required. CMOSRAM stores information for:

1. Date and time
2. Memory capacity of the main board
3. Type of display adapter installed
4. Number and type of disk drives

The CMOS memory is maintained by a battery installed on the IP-60690 board. By using the battery, all memory in CMOS can be retained when the system power is switched off. The system BIOS also supports the easy loading of the CMOS data when you replace the battery.

3.1 Quick Setup

In most cases, you can quickly configure the system by choosing the following main menu options:

1. Choose "Load Optimized Defaults" from the main menu. This loads the setup default values from the BIOS Features Setup and Chipset Features Setup screens.
2. Choose "Standard CMOS Features" from the main menu. This option lets you configure the date and time, hard disk type, floppy disk drive type, primary display and more.
3. In the main menu, press F10 ("Save & ExitSetup") to save your changes and reboot the system.

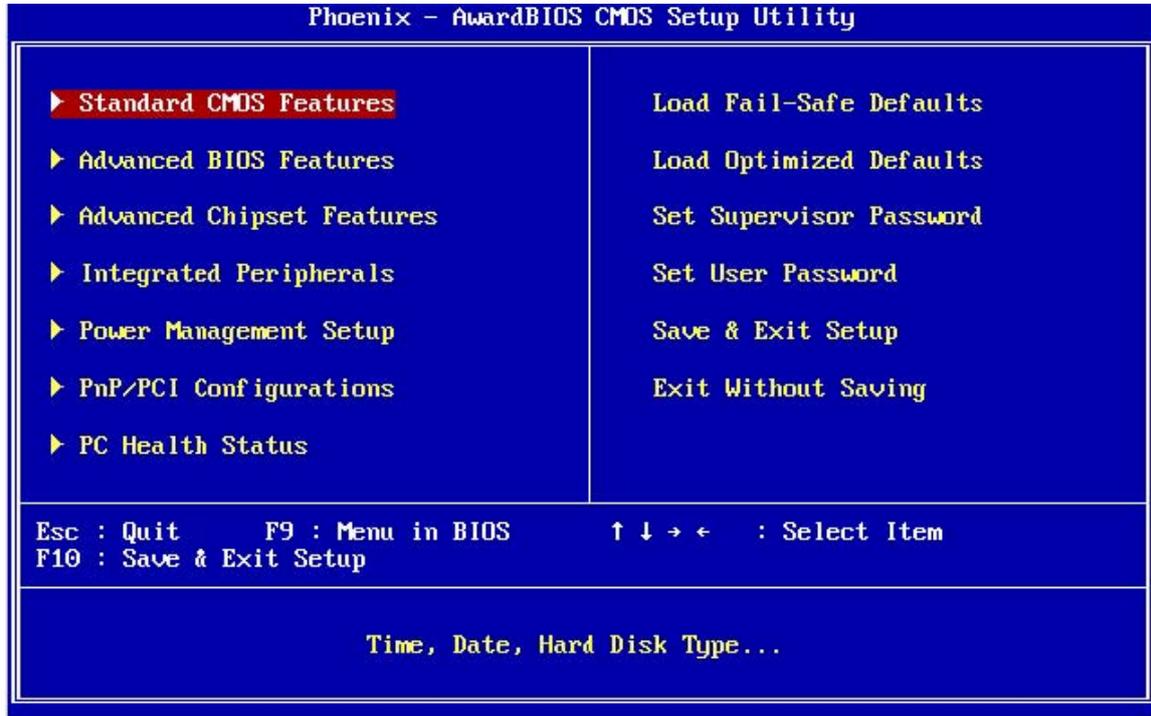
3.2 Entering the CMOS Setup Program

Use the CMOS Setup program to modify the system parameters to reflect the options installed in your system and to customize your system. For example, you should run the Setup program after you:

1. Received an error code at start up
2. Install another disk drive
3. Use your system after not having used it for a long time
4. Find the original set up missing
5. Replace the battery
6. Change to a different type of CPU
7. Run the Phoenix Award Flash program to update the system BIOS. Run the CMOS Setup program after you turn on the system. On screen instructions explain how to use the program.

↓ Enter the CMOS Setup program's main menu as follows:

1. Turn on or reboot the system. After the BIOS performs a series of diagnostic checks, the following message appears: "Press DEL to enter SETUP"
2. Press the key to enter CMOS Setup program. The main menu appears:
3. Choose a setup option with the arrow keys and press <Enter>. See the following sections for a brief description of each setup option.



In the main menu, press F10 ("Save & Exit Setup) to save your changes and reboot the system. Choosing "EXITWITHOUTSAVING" ignores your changes and exits the program. Pressing <ESC> anywhere in the program returns you to the main menu.

3.3 Menu Options

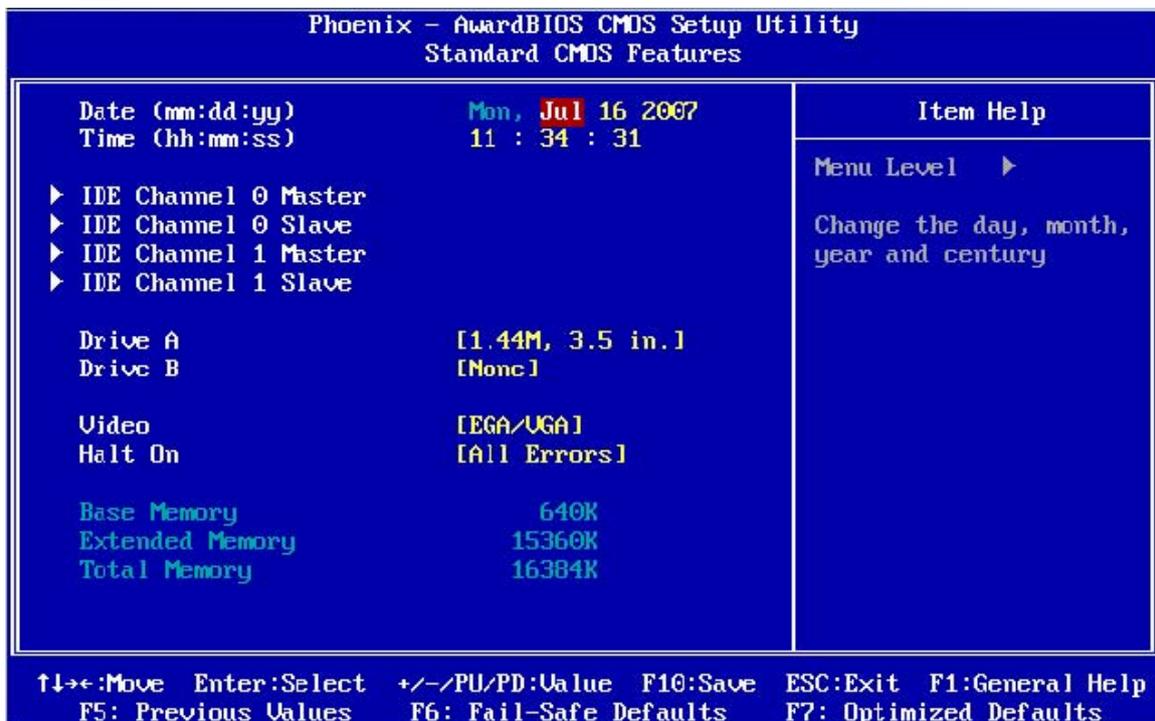
The main menu options of the CMOS Setup program are described in the following and the following sections of this chapter.

Option	Function
Standard CMOS Features	This setup page includes all the items in standard compatible BIOS
Advanced BIOS features	This setup page includes all the Award special enhanced features.
Advanced Chipset Features	This setup page includes all the chipset special features.
Integrated Peripherals	This setup page includes all onboard peripherals.
Power Management Setup	This setup page includes all the items of Green function features.

PnP/PCI Configurations	This setup page includes all the configurations of PCI & PnP ISA resources.
PC Health Status	This setup page is the System auto-detect including temperature, voltage, fan, speed.
Load Fail Safe Defaults	Fail-Safe Defaults are the BIOS default values for the minimal/stable performance for your system to operate.
Load Optimized Defaults	Optimized Defaults are the factory settings for optimal performance of system operations.
Set Supervisor password	Change, set, or disable password, It allows you to limit access to the system and Setup, or just to Setup.
Set User Password	Change, Set, or disable password, It allows you to limit access to the system.
Save & Exit Setup	Save CMOS value setting to CMOS and exit setup.
Exit Without Saving	Abandon all CMOS values changes and exits setup.

Standard CMOS Features Use the Standard CMOS Setup options as follows:

1. ↓ Choose "Standard CMOS Features" from the main menu. The following screen appears:
2. Use the arrow keys to move between fields. Modify the selected field using the PgUP/PgDN/+/- keys. Some fields let you enter numeric values directly.



Date/Time Configuration:

The BIOS determines the day of the week from the other data information. This field is for information only. The time format is based on 24hour military time clock. For example, 1p.mis13:00:00. Press the left or arrow key to move to the desired field (month, date, year). Press the PU/PD key to increment the setting or type the desired value into the field.

IDE Primary/Secondary Master/Slave:

Choose from "Auto", "User" or "None". If your drive is not one of the predefined types, choose "User" and enter the following drive specifications:

- Capacitor: Approximate hard disk drive capacity
- Cylinders: Number of cylinders
- Heads: Number of heads
- Precomp: Write pre-compensation cylinder
- L-Zone: Landing Zone

Sectors: Number of sectors Refer to your drive's documentation, please change the value to None if no device installed.

Drive A:

Select this field to type of floppy disk drive installation in your system, the choices are: None; 360K, 5.25 in; 1.2M, 5.25 in; 720K, 3.5 in; 1.44MB, 3.5 in; 2.88M, 3.5 in

Video:

Choose: MONO, CGA 40, CGA 80 or EGA/VGA

- Mono: Monochrome Adapter, includes high resolution monochrome adapter
- CGA40: Color Graphics Adapter, power up in 40 column mode
- CGA80: Color Graphics Adapter, power up in 80 column mode
- EGA/VGA: Enhanced Graphics Adapter/Video Graphics Array, for EGA, VGA, SVGA or PGA

Halt On:

During the Power-On Self-Test (POST), the computer stops if BIOS detect a hardware error. This setting determines which type of error will cause the system to halt during booting. The options:

- All Errors (Default): Whenever the BIOS detects a non-fatal error, the system will be stopped and you will be prompted.
- No Errors: The system boot will not stop for any error that may be detected.
- All, But Keyboard: The system boot will not stop for a keyboard error, but it will stop for all others.
- All, But Diskette: The system boot will not stop for a diskette error but it will stop for all others.
- All, But Disk/Key: The system boot will not stop for a disk and keyboard error but it will stop for all others.

Base/Extended/Total Memory:

This category is display-only. The contents are determined by POST of the BIOS. You cannot make changes to these fields.

Base Memory:

Also called conventional memory. The DOS operating system and conventional application 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.

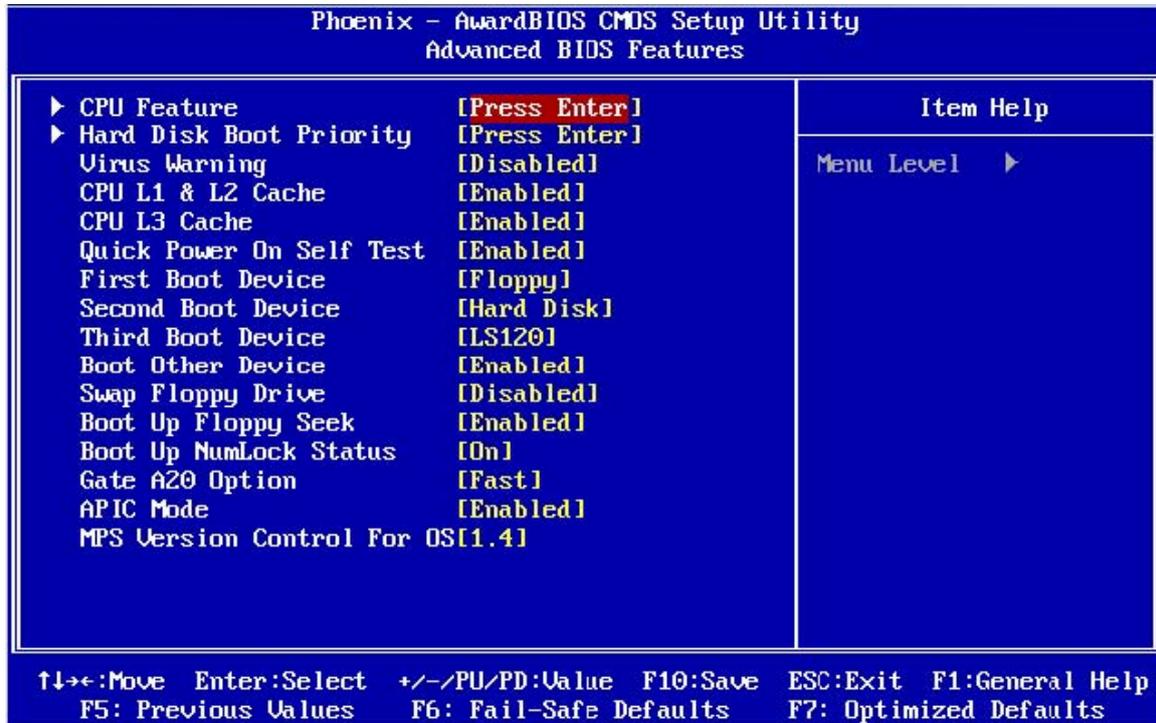
After you have finished with the Standard CMOS Features program, press the <ESC> key to return to the main menu.

Advanced BIOS Features Setup

Use the Advanced BIOS Feature Setup option as follows:



1. Choose "BIOS Features Setup" from the main menu. The following screen appears:
2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUP/PgDN keys. Press the <F1> "Help" key for information on the available options:



3. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUP/PgDN keys. Press the <F1> "Help" key for information on the available options:

First/Second/Third Boot Device:

BIOS attempts to load the operation system from the devices in the sequence selected. The available choices: Floppy, LS/ZIP, Hard Disk, SCSI, CDROM, USB-FDD/ZIP/CDROM, Disable, LAN.

Boot Other Device:

Enabled: select your boot device priority function.

Disabled: Disabled this function.

APIC Mode:

MPS Version Control for OS:

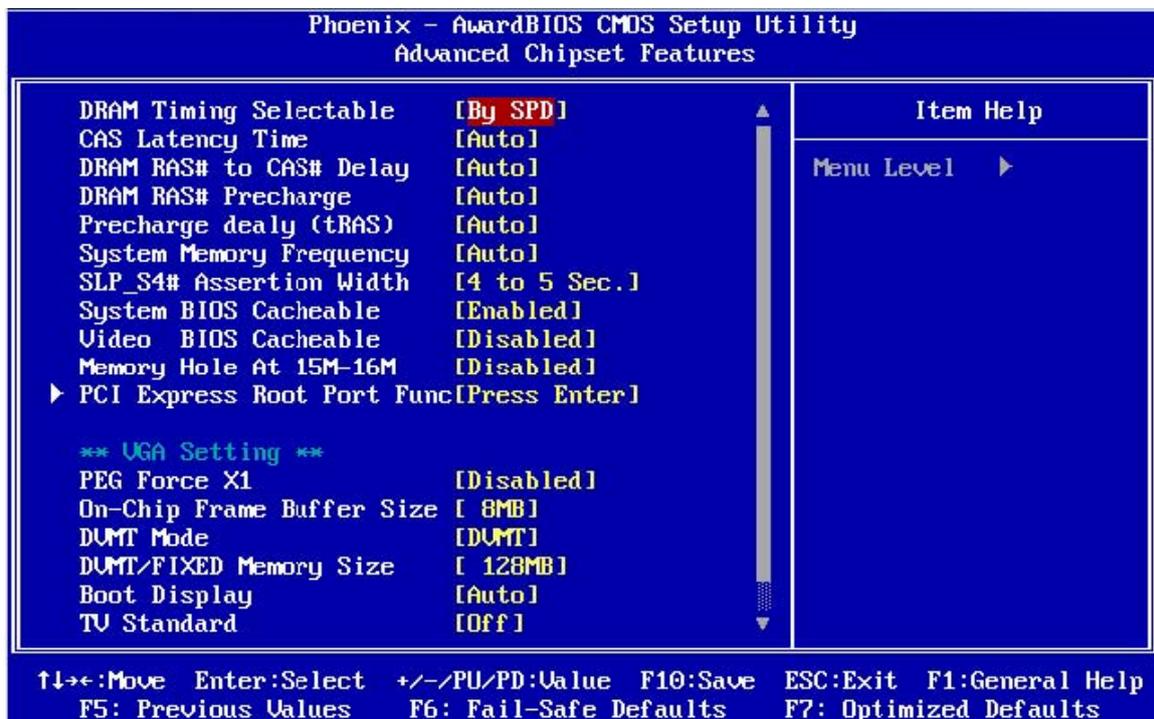
This feature is only applicable to multiprocessor motherboards as it specifies the version of the Multi Processor Specification (MPS) that the motherboard will use. The MPS is a specification by which PC manufacturers design and build Intel architecture systems with two or more processors. MPS version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

Advanced Chipset Features Setup

Use the Advanced Chipset Feature Setup option as follows:

1. Choose "Advanced Chipset Features Setup" from the main menu. The following screen appears:

2. Move between items and select values by using the arrow keys. Modify the selected fields using the PnUP/PgDN keys. For information on the various options, press <F1> key.



On-Chip Frame Buffer Size:

The On-Chip Frame Buffer Size can be set as 1MB or 8MB. This memory is shared with the system memory.

Boot Display:

Boot Display determines the display output device where the system boots. The options are Auto, EFP, LFP, CRT and TV

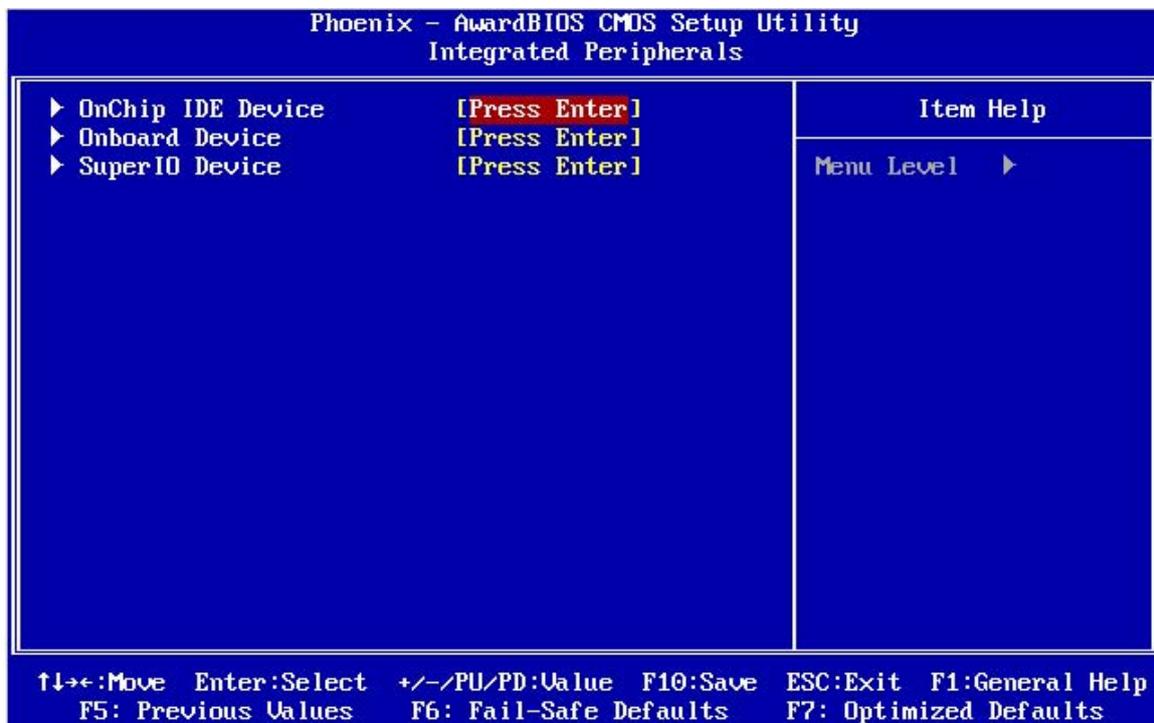
After you have finished with the Advanced Chipset Features program, press the <ESC> key to return to the main menu.

Integrated Peripherals

↓ Use the Integrated Peripherals Setup option as follows:

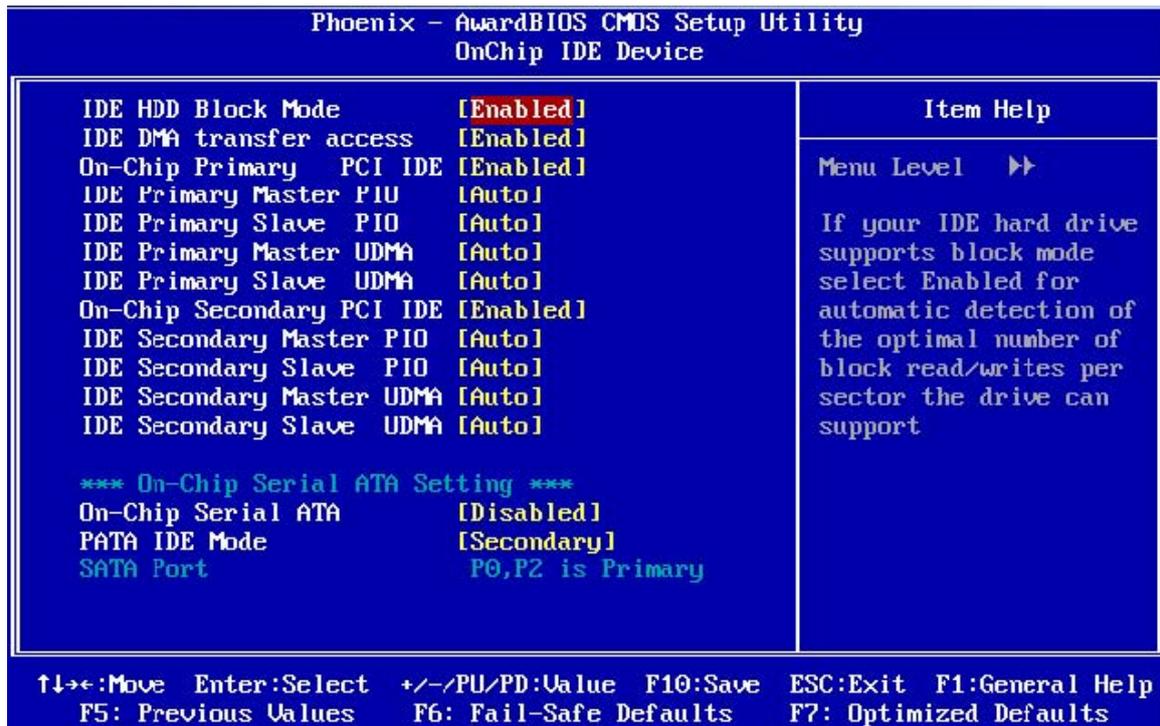
Choose "Integrated Peripherals Setup" from the main menu. The following screen appears:

2. Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. Please press the <F1> key for information on the various options.



OnChip IDE Device:

Select this item to setup the IDE device features. When you select this item, the following menu shows:



On Chip Primary/Secondary PCI IDE:

The system chip set contains a PCI IDE interface supports for two IDE channels. 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.

IDE Primary/Secondary Master/Slave PIO:

The four IDE PIC (Programmable Input/Output) fields let you set a PIC mode (0-1) for each of the four IDE devices that the onboard IDE interface supports. Modes 1 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The choices are: Mode 0, Mode 1, Mode 2, Mode 3 and Mode 4. IDE Primary/Secondary Master/Slave UDMA:

Ultra DMA implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA drive (Windows 95 OSR2 or a third-party IDE bus master drive).

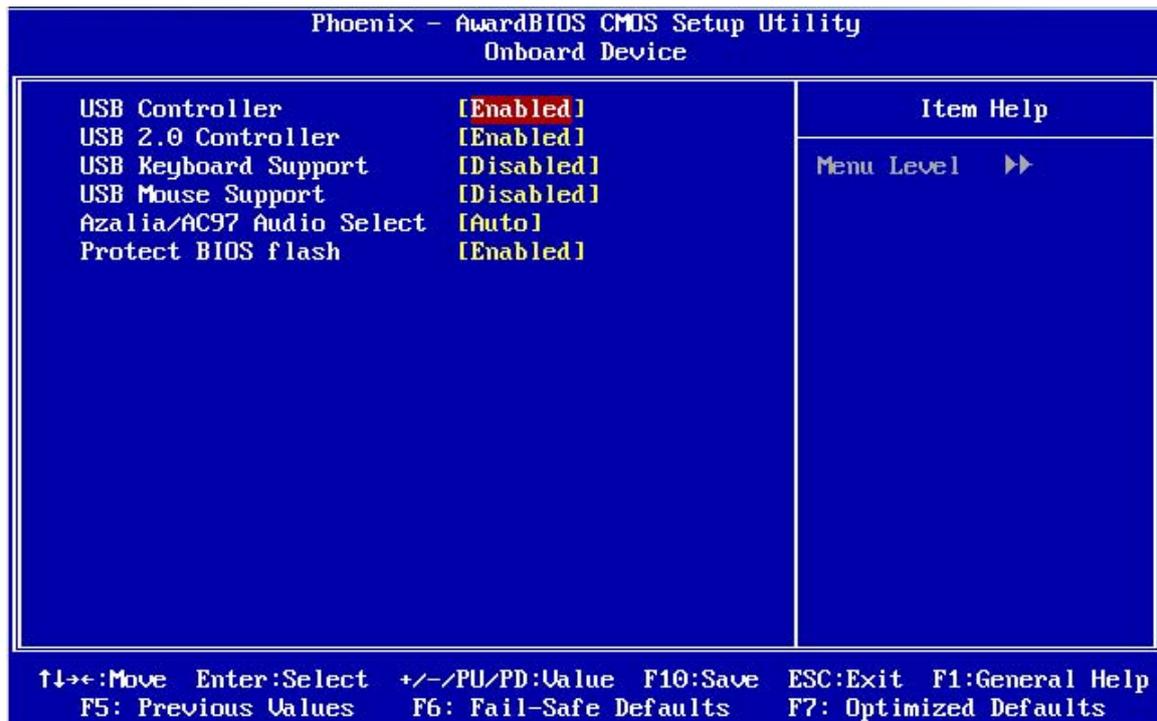
If your hard drive and your system software both support Ultra DMA, select Auto to enable BIOS support. The choices are Auto and Disabled.

IDE HDD Block Mode:

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optional number of block read/write per sector the drive can support. The available choices are Enabled, Disabled.

Onboard Device:

Select this item to setup the onboard device features. When you select this item, the following menu shows:



USB Controller:

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

USB2.0Controller:

Select Enabled if your system contains a Universal Serial Bus 2.0 controller and you have USB 2.0 peripherals.

USB Keyboard/Mouse Support:

Select Enabled if your USB controller is enabled and it needs USB keyboard/mouse support in legacy (old) operating systems such as DOS.

AC97Audio:

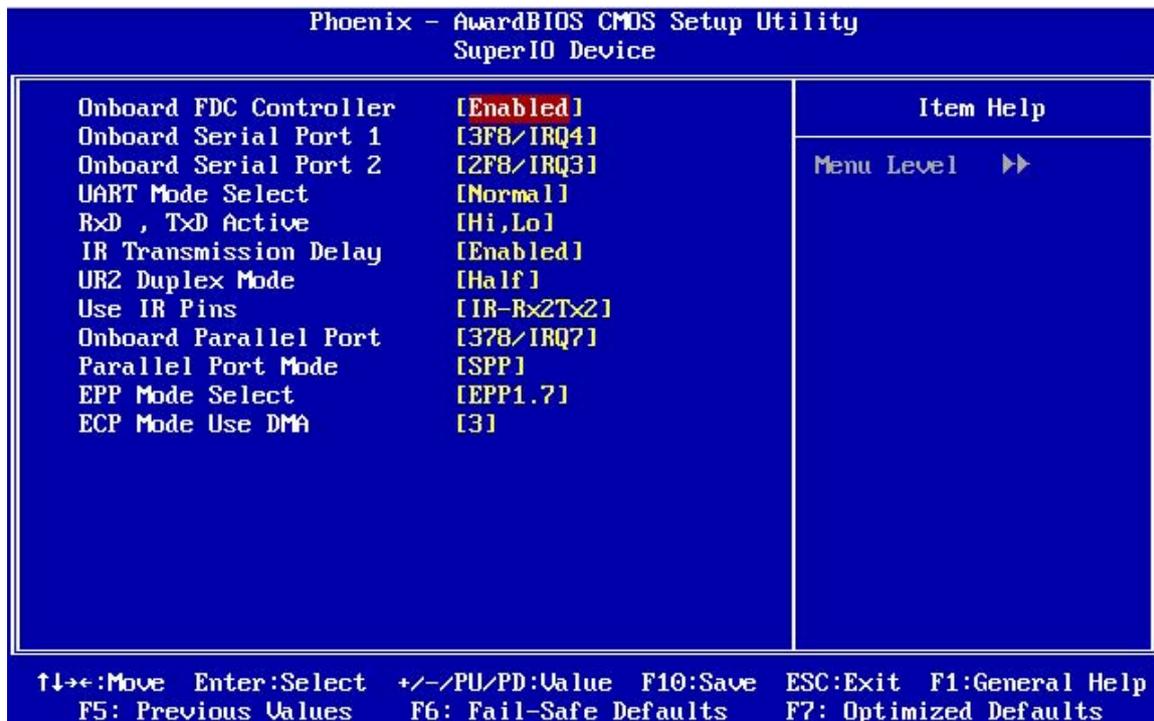
Select Auto will enable the AC97 audio if it is detected on board.

AC97Modem:

Select Auto will enable the AC97 modem if it is detected on board.

Super IO Device:

Select this item to setup the Super IO Device features. When you select this item, the following menu shows:



Onboard FDC Controller:

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled to this field.

Onboard Serial Port 1/2:

This feature allows you to manually select the I/O address and IRQ for the first and second serial ports. It is recommended that you leave it as Auto so that the BIOS can select the best settings for it. But if you need a particular I/O port or IRQ that's been taken up by this serial port, you can manually select an alternative I/O port or IRQ for it. You can also disable this serial port if you do not need to use it. Doing so frees up the I/O port and IRQ used by this serial port. Those resources can then be reallocated for other devices to use.

UART Mode Select:

Select an operating mode for the serial port, the choices are: Normal, IrDA, ASKIR.
RxD, TxD Active:

UR2 Duplex Mode:

In an Infrared port mode, this field appears. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time. Select the value required by the IR device connected to the IR port.

Onboard Parallel Port:

This feature allows you to select the I/O address and IRQ for the onboard parallel port. The default I/O address of 378H and IRQ7 should work well in most cases. Unless you have a problem with the parallel port, you should leave it at the default settings. The choices are: 378/IRQ7

Parallel Port Mode:

Select an operating mode for the onboard parallel (printer) port. There are four options: Normal, SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP.

EPP Mode Select:

When the onboard parallel port is set to EPP mode,

ECP Mode Use DMA:

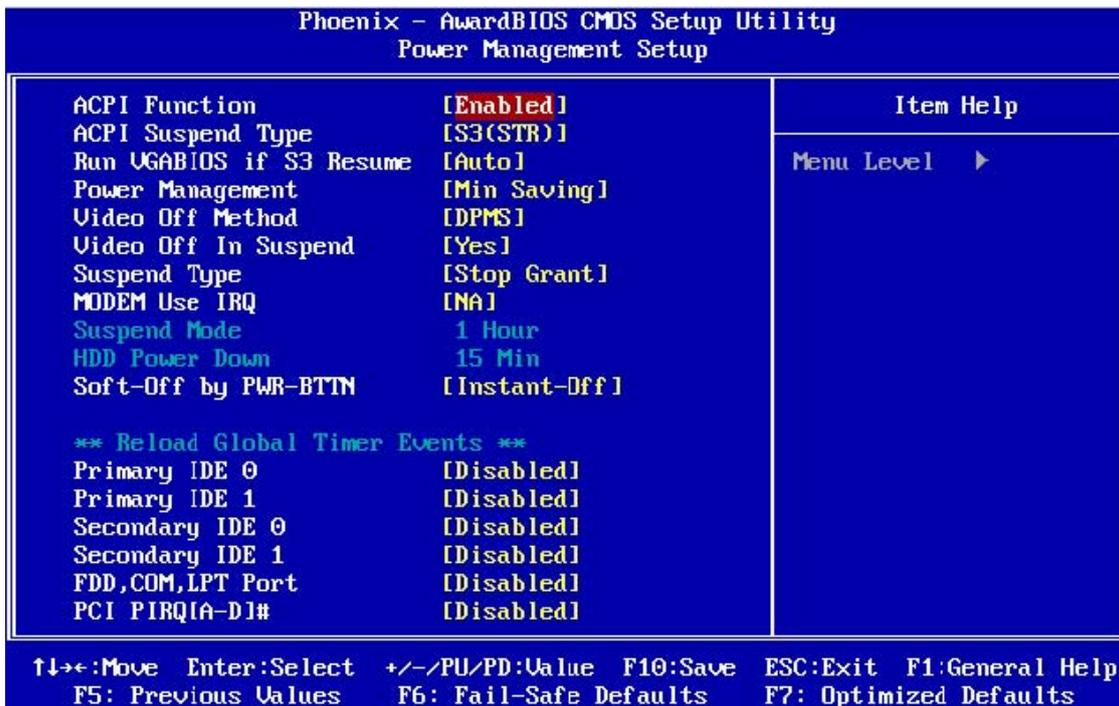
When the onboard parallel port is set to ECP mode, the parallel port can use DMA3 or DMA1.

Power Management Setup

The Power Management Setup controls the board's "green" features. To save energy these features shut down the video display and hard disk drive.

Use the Power Management Setup option as follows:

1. Choose "Power Management Setup" from the main menu. The following screen appears.
2. Move between items and select values by using the arrow keys. Modify the selected field the PgUP/PgDN keys. For information on the various options, press <F1> key.



ACPI Function:

The ACPI standard (Advanced Configuration and Interface power) 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: Enabled and Disabled.

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ACPI functions are normally activated by the BIOS. The choices: Enabled and Disabled.

ACPI Suspend Type:

This option specifies what technology must be used for the state of hibernation. The choices are: S1 (POS) Power on Suspend; S3 (STR) Suspend to RAM; S1 & S3

Run VGABIOS if S3 Resume:

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:

- 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.
- Blank Screen: This option only writes blanks to the video buffer.
- 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:

MODEM Use IRQ:

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

Suspend Mode:

After the selecting period of system inactivity, all devices except the CPU shut off. The choices are 1~2 min, 2~3 min,.....up to 1 hour.

Soft-Off by PWR-BTTN:

This function can turn the system off with the on/off button places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity. The choices are Delay 4 seconds and Instant-Off.

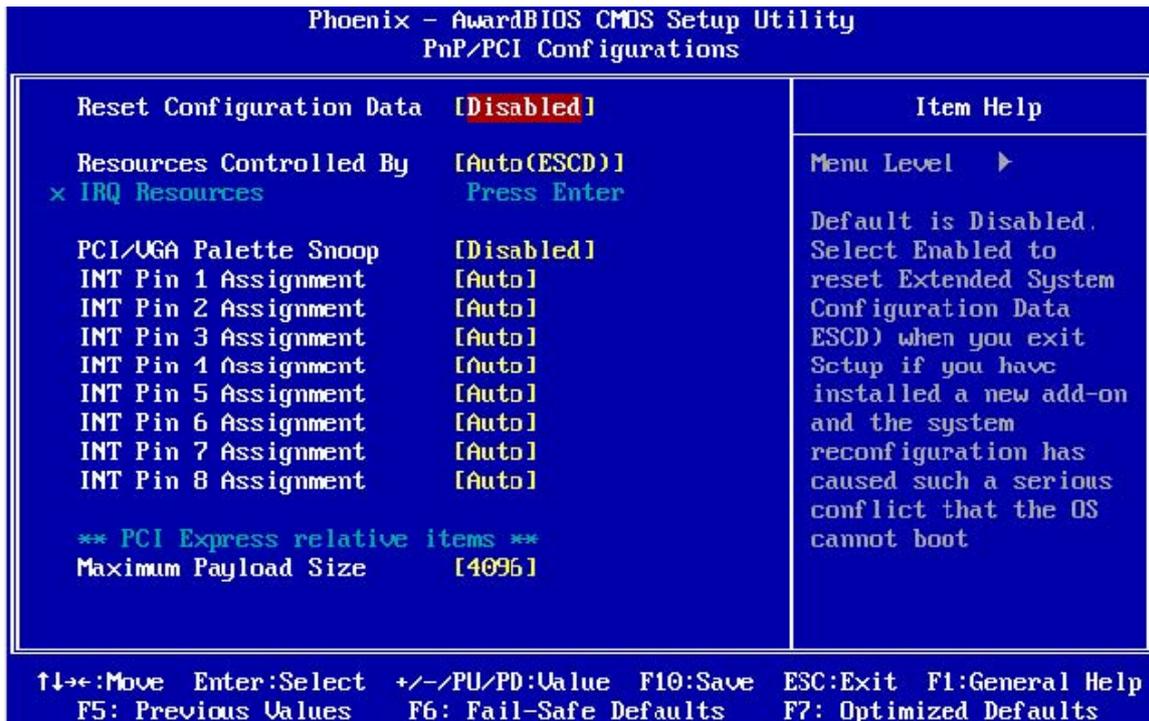
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PNP/PCI Configuration

This setup is used to configure Plug "n" Play IRQ assignments and route PCI interrupts to designated ISA interrupts.

↓ Use the PNP/PCI Configuration Setup option as follows:

1. Choose "PNP/PCI Configuration Setup" from the main menu, the following screen appears.



2 .Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. For information on the various options, please press <F1> key.

Reset Configuration Date:

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 as serious conflict that the operating system can not boot.

The choices: Enabled and Disable.

Resources Controlled By:

The Award Plug and Play BIOS has the capacity to automatically configure all of the boots and Plus and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as going into each of the submenus that follows this field. The choice are Auto (ESCD) and Manual.

IRQ Resources:

When user select manual for Resource Controlled, this setting allows the user to specify what IRQ will be assigned to PCI devices in the chosen slot.

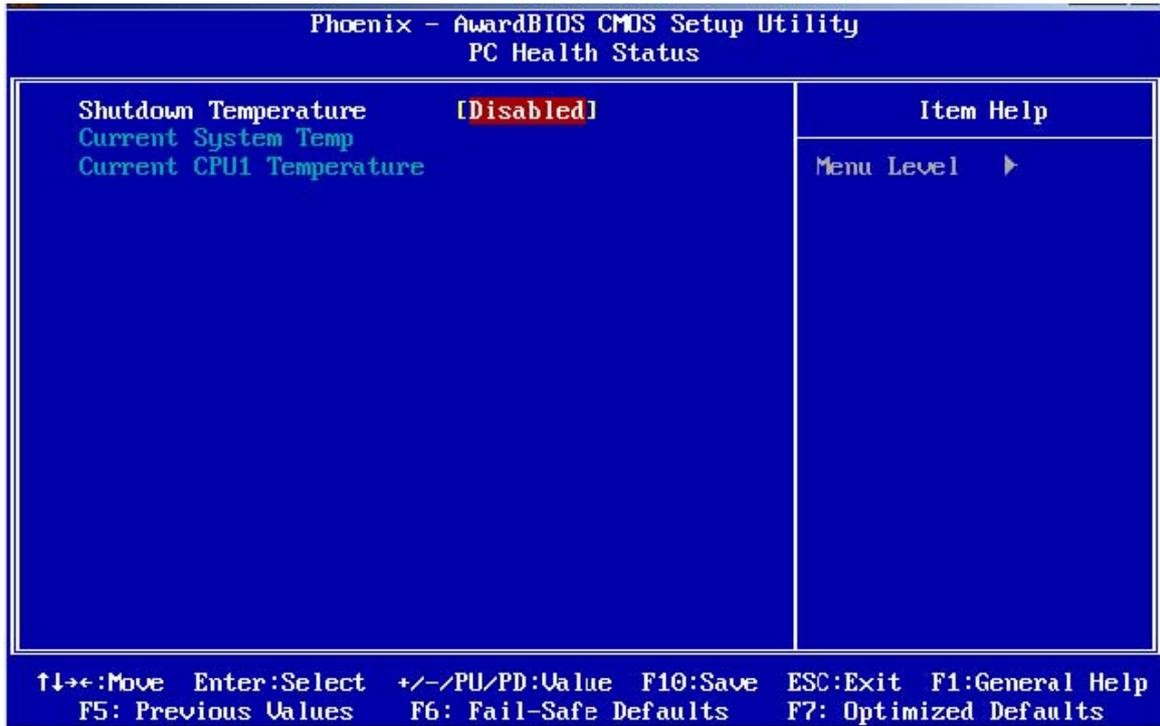
Optional available: Auto, 3, 4, 5, 7, 9, 10, 11, 12, 14 and 15.

PCI/VAG Palette Snoop:

PC Health Status

↓ Use the PC Health Setup option as follows:

- 1 Choose "PC Health Setup "from the main menu, the following screen appears.
- 2 Move between items and select values by using the arrow keys. Modify the selected field using the PgUp/PgDn keys .For information on the various, options, press the <F1> key.



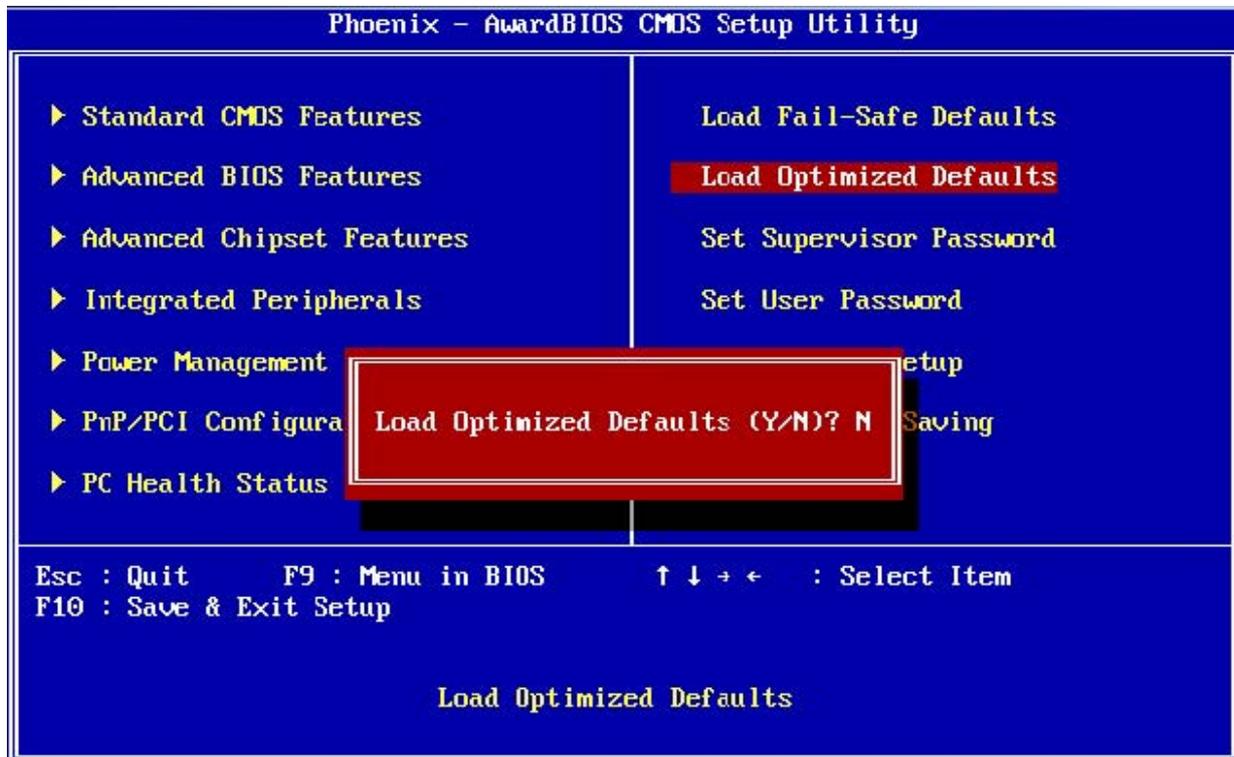
Load Fail Safe Defaults

This option loads the trouble shooting default values permanently stored in the BIOS ROM. This is useful if you are having problems with the main board and need to debug or trouble shoot the system. The loaded default settings do not affect the Standard CMOS Setup screen. To use this feature, highlight it on the main screen and press <Enter>. A line will appear on the screen asking if you want to load the Fail Safe default values. Press the <Y> key and then press <Enter> if you want to load the BIOS default.



Load Optimized Defaults

This option loads optimized settings stored in the BIOS ROM. The auto-configured settings do not affect the Standard CMOS Setup screen. To use this feature, high light it on the main screen and press <Enter>. A line will appear on the screen asking if you want to load the Optimized Default Values. Press the <Y> key and then press <Enter> if you want to load the SETUP default.

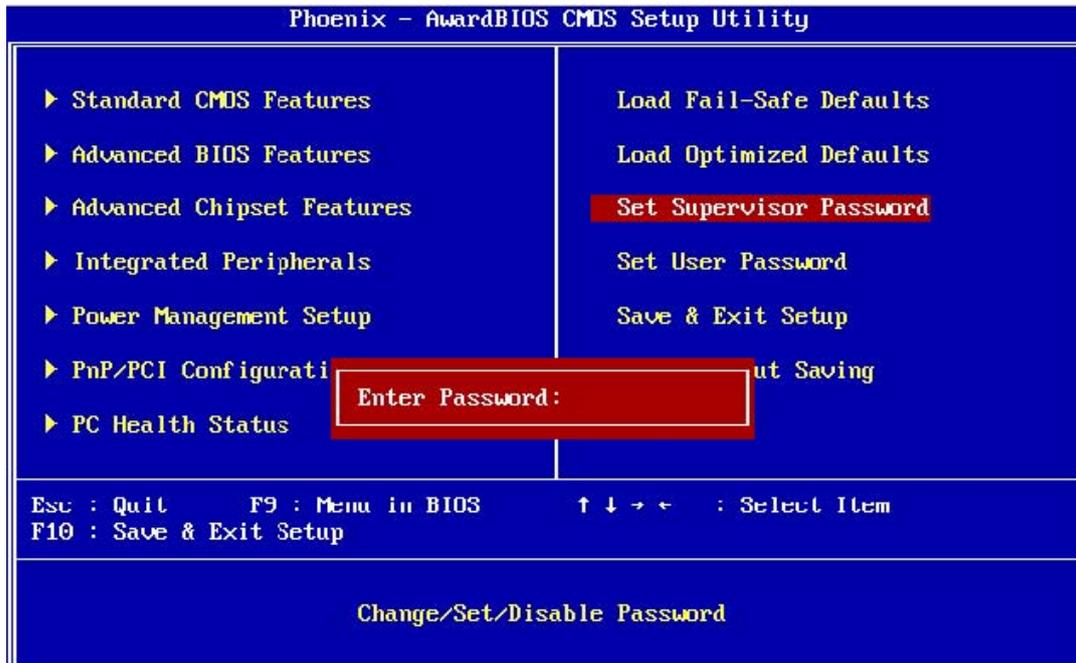


Supervisor/User Password

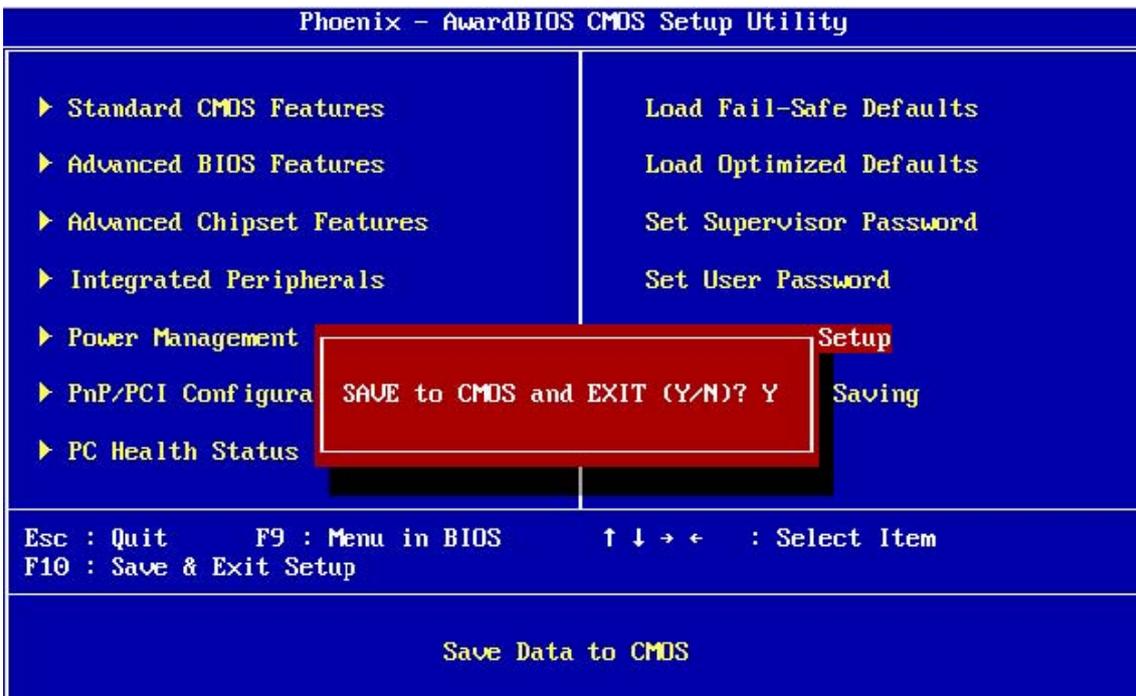
The password options let you prevent unauthorized system boot up or unauthorized use of CMOS setup. The Supervisor Password allows both system and CMOS Setup program access; the User Password allows access to the system and the CMOS Setup Utility main menu.

The password functions are disabled by default. You can use these options to enable a password function or, if a password function is already enabled, change the password.

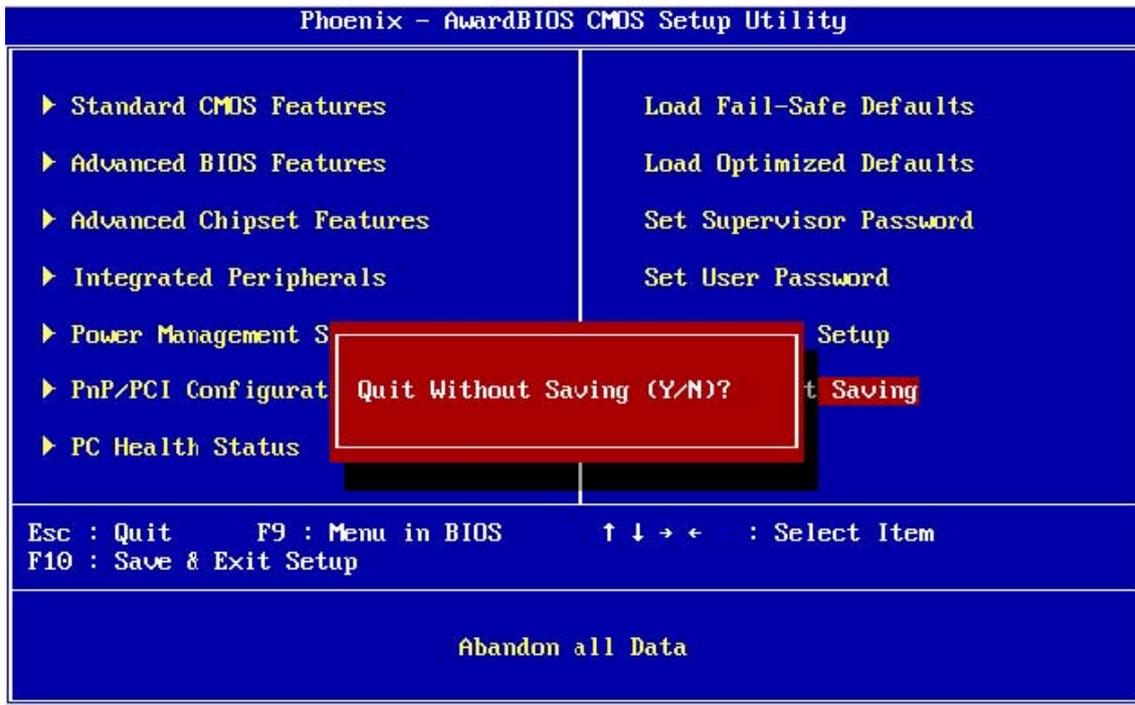
To change a password, first choose a password option from the main menu and enter the current password. Then type your new password at the prompt. The password is case sensitive and you can use up to 8 alphanumeric characters. Press <Enter> after entering the password. At the Next Prompt, confirm the new password by typing it and pressing <Enter> again.



Save & Exit Setup



Exit Without Saving



Appendix A: Programming the Watchdog Timer

The IP-60690 & MB-73140 provide a watchdog timer that resets the CPU or generates an interrupt if processing comes to a stop. This function ensures greater system reliability in industrial standalone and unmanned environments. In order to enable the watchdog timer, you have to output the value of the watchdog timer interval to the controller. The value range is from 01H to FFH, and the related time watchdog timer interval is 1sec to 255sec.

Data	Timer interval
00	Disabled
01	1 sec
02	2 sec
*	*
*	*
FF	255sec

For example:

- o 2e,87
- o 2e,87
- o 2e,07 //point to logical device number reg.
- o 2f,08 //select logical device 8
- o 2e,30 //configuration register(CR30)
- o 2f,1 //open watchdog
- o 2e,f6 //configuration register(CRF6)
- o 2f,XX

Note: "XX" timer value

Appendix B: System Resource Interrupt Controller

IRQ	Assignment
IRQ0	System Timer Output
IRQ1	Keyboard
IRQ2	Cascade
IRQ3	Com2
IRQ4	Com1
IRQ5	USB
IRQ6	FDD
IRQ7	Parallel Port
IRQ8	RealTime Clock
IRQ9	ACP2
IRQ10	Audio
IRQ11	Onboard Lan
IRQ12	PS/2 Mouse
IRQ13	Math Co-processor
IRQ14	Primary IDE Controller
IRQ15	PCI device, USB



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