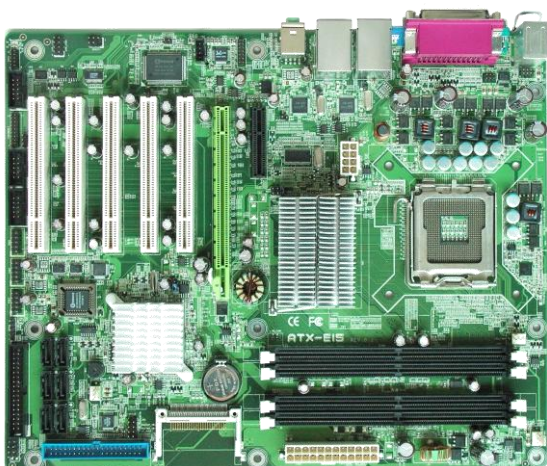


# ATX-E15

Intel® Core™2 Quad Q35 EATX Main-Board



## User's Manual

Version 1.0

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# Introduction

This manual is designed to give you information on the ATX-E15 Single Board Computer card. The topics covered in this manual are as follows:

- ✓ **Features**
- ✓ **Specification**
- ✓ **Jumper setting and Connectors**
- ✓ **BIOS Setup**
- ✓ **Appendix**

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# Chapter 1

## Features & Specifications

FEATURES .....3  
SPECIFICATIONS.....4

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## **Features**

- Support Intel® Core 2 Quad, Core 2 Duo, Pentium-D, Pentium 4, Celeron D processor in LGA775 package with FSB 800/1066/1333MHz.
- Four DDR2 1.8V DIMM sockets support up to 8GB system memory in Dual Channel Mode. System memory speed can be DDR2 800 or 667MHz.
- Six SATA ports support up to 6 SATA 3Gbps devices. Support RAID0, RAID 1, RAID 5, and RAID10.
- Dual GbE LAN design maximized the communication bandwidth for both internet and intranet connection. Root Boot and Wake Up on LAN supported.
- Multiple I/O functions: 10 x USB2.0, 4x COM ports, 6x SATA, IRDA, 1x PIDE, 1x CF, 1x LPT.
- High-Definition Audio Codec support Line-out, Line-in and Microphone, CD-IN, SPDIF and surrounding sounds.
- Five standard 32-bits 5V PCI slots for PCI add-on cards.
- One PCI-Express x16 slot for high-end graphics add-on card.
- One PCI-Express x4 slot for high-end Storage RAID Cards or Multiple-ports LAN Cards.

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# Specifications

- **Processor Support:**

- Intel® Core 2 Quad, Core 2 Duo, Pentium-D, Pentium 4, Celeron D processor .
- Support Front Side Bus speed 800MHz, 1066MHz and 1333MHz.
- LGA775 socket

- **Major Chipset:**

- Intel Q35 and ICH9DO chipset.
- RealTek RTL8111C LAN chip.
- Winbond 83627HF Super I/O.
- ALC888 AC97 Audio chip.

- **System Memory:**

- Four DDR2 DIMM 240pins Sockets support DDR2 667/800 unregistered non-ECC Memory up to 8.0 GB.
- Dual channel mode operation supported.

- **Video Controller:**

- Intel Q35 Integrated GMA3100 Graphic Engine. Support DVMT 4.0 for memory allocation up to 256MB.
- One 15-Pins D-Sub Female connector on Rear plane for CRT displays.

- **Super I/O:**

- Winbond 83627HF LPC I/F Super I/O chip.
- Four Serial ports as COM1~COM4. COM2 is RS232/422/485 selectable by jumpers
- COM1 is D-Sub 9-pins male on rear panel. Pin9 are powered with either +5V or +12V by jumper.
- COM2~COM4 are pin-header (2x5 pin-header/ 2.54mm pitch) for internal connections.
- One Floppy connector supports up to floppy drives.
- One Parallel port supports SPP/ECP/EPP mode. (25-Pins D-Sub Female on Rear).
- One IrDA port; (5-pins pin-header with +5V powered).
- Six USB2.0 ports for internal or front panel connection. ( 2x5 pin-header/ 2.54mm pitch).
- Four USB2.0 ports integrated with RJ45 connector on rear panel.
- One PS2 Keyboard and one PS2 mouse connector on rear panel.

- 
- **USB Interface:**
    - Ten USB 2.0 ports compliant with USB Specification Rev. 2.0 and support USB Hot-Plug function.
    - Four ports on rear panel with type-A connector for external USB devices.
    - Six ports in two 2x5/2.54mm box header for internal USB devices connection.
    - Support Legacy USB devices and Boot from USB devices like USB-HDD, USB-Floppy and USB-CDROM.
    - All USB ports support USB type keyboard and mouse.
  - **SATA and PIDE:**
    - One USB bridged PIDE controller support up to UltraDMA mode 5 or ATA100 speed. It is for 2<sup>nd</sup> storage for DVD player, CF cards and Backup HDD.
    - One standard 40-pins Box header to support 3.5" HDD, DVD Player or DOM Flash Disk.
    - One Compact Flash-II socket shared with PIDE Channel. One jumper to select as Master or Slave device.
    - Six SATA ports support up to 6 SATA devices. Support RAID0, RAID 1, RAID 5, and RAID10. SATA RAID BIOS is integrated in System BIOS.
  - **Gigabit and 10/100M Ethernet:**
    - Two Realtek RT8111C chips on board for dual GbE LAN support.
    - Support Wake-on-LAN.
    - Remote Boot Agent is supported with PXE or RTL protocol.
  - **Audio:**
    - RealTek ALC888 High-Definition Audio chip on-board.
    - Three Audio-Jack on rear panel for Audio Line-Out, Line-In and Microphone.
    - One 14-pins pin-header to provide internal audio device connection or surrounding speaker connection.
    - One CD-IN to support DVD player audio input.
    - One SPDIF interface to support SPDIF digital audio input and output.
  - **PCI and PCI-Express Expansion Slot:**
    - Five 5V 32-bits PCI slots for PCI 32-bits 5V/3V Add-on Cards.
    - One PCI-Express x16 slot for high-end graphics add-on card.
    - One PCI-Express x4 slot for high-end Storage RAID Cards or Multiple-ports LAN Cards.
  - **Hardware Monitor:**
    - 83627HF integrated hardware monitor chip to monitor

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Voltages, temperatures and FAN speed.

- Temperature Monitor: One sensor close to CPU socket for CPU temperature detection. One sensor close to 83627HF chip for board temperature detection.
- One CPU FAN for CPU cooler, one SYS FAN for chassis FAN, One Power FAN for PSU FAN. All FAN speeds are monitored.
- **Watchdog Timer:**
  - The WatchDog timer can be disable/enable through BIOS setup.
  - The timeout interval 1~255 seconds can be programmed through I/O address 842h/843h. The timeout event will generate the RESET.
- **CMOS:**
  - On-board RTC with 242 bytes of Battery-back CMOS RAM.
  - One 3-pins Jumper to clear CMOS data.
- **BIOS:**
  - Phoenix-Award Standard PnP BIOS 6.2.
  - 8Mbit FlashROM with BootBlock for Fail-safe.
  - Enhanced ACPI and DMI2.0 compliant.
  - BIOS utility for field update.
  - VBIOS and LAN remote Boot Agent integrated.
- **Power Connector:**
  - Support both AT mode and ATX mode operation. Selectable by jumper.
  - One Standard ATX 24-pins power connector for system power
  - One ATX-12V 8-pins connector for CPU power input.
- **Cooling:**
  - One CPU cooling FAN connector nearby CPU socket.
  - Two System cooling FAN connectors on board for Chassis and PSU cooling.
- **Digital Input and Output:**
  - Support 8-bits Digital I/O.
  - Software programmable to configure as 4-IN/4-OUT or 8-IN or 8-OUT.
- **Others:**
  - One Buzzer (9mm) on-board for beep message.
- **Operating Temperature:**
  - 0~60°C Operation Range.
  - -40C to 70C storage.
  - Relative Humidity: 5~95%, non-condensing.

- 
- **Dimensions:**
    - 9.6”(L) x 12” (W); or 244mm (L) x 305mm (W).
    - Standard Full-Size ATX form factor.

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# Chapter 2

## Jumper setting & Connectors

|                                     |    |
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| 2.2 CONNECTORS ON THE ATX-E15 ..... | 15 |

## **2.1 Jumpers on the ATX-E15**

The jumpers on the ATX-E15 allow you to configure your Single Board Computer card according to the needs of your applications.

If you have doubts about the best jumper configuration for your needs, contact your dealer or sales representative.

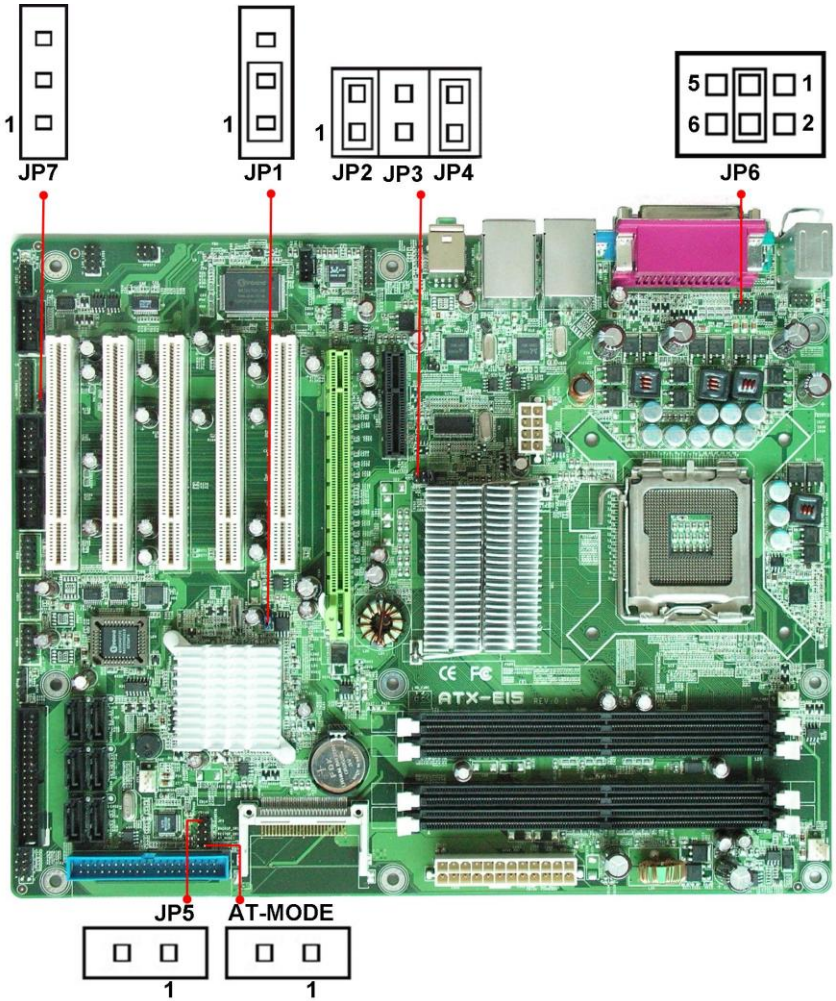
The following table lists the jumpers on ATX-E15 and their respective functions.

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## Jumper Locations on the ATX-E15

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## JP1: Clear CMOS RAM Data

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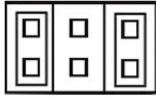
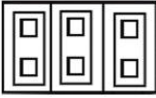
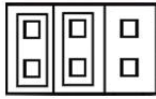
This 3-pin Jumper allows the user to disconnect the built-in 3V battery power to clear the information stored in the CMOS RAM. To clear the CMOS data:

- (1) Turn off the system power.
- (2) Remove Jumper cap from pin1&2.
- (3) Short the pin2 and pin3 for three seconds.
- (4) Put Jumper cap back to pin1 & 2.
- (5) Turn on your computer.
- (6) Hold Down <Delete> during boot up and enter BIOS setup to enter your preferences.

| Clear CMOS Content   | Normal Operation (default)   |
|--|--|
|  A diagram of a 3-pin jumper. It consists of three vertically aligned pins. The top two pins are connected by a horizontal line, representing a jumper cap. The bottom pin is unconnected. The number '1' is positioned to the right of the bottom pin. |  A diagram of a 3-pin jumper. It consists of three vertically aligned pins. The top pin is unconnected. The bottom two pins are connected by a horizontal line, representing a jumper cap. The number '1' is positioned to the right of the bottom pin. |

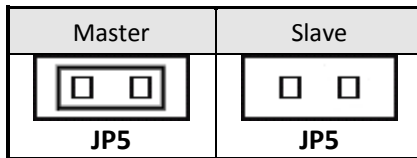
## JP2, JP3, JP4: Front Side Bus Selection

JP2 and JP3 and JP4 allow users to select the FSB speed. It can be 800 MHz, 1066 MHz or 1333 MHz. User should select the correct FSB speed to make their CPU run on correct speed and ensure the system runs stably.

| JP2~JP4   | Setting  | Speed       |
|---|--|-------------|
|  <p>1</p> <p>JP2 JP3 JP4</p> | JP2: Pin 1-2 short<br>JP4: Pin 1-2 short                       | 800MHz FSB  |
|  <p>1</p> <p>JP2 JP3 JP4</p> | JP2: Pin 1-2 short<br>JP3: Pin 1-2 short<br>JP4: Pin 1-2 short | 1066MHz FSB |
|  <p>1</p> <p>JP2 JP3 JP4</p> | JP2: Pin 1-2 short<br>JP3: Pin 1-2 short                       | 1333MHz FSB |

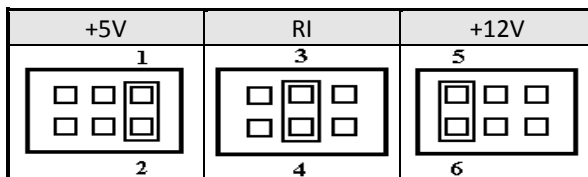
## JP5: CF Card Mode Selection

This Jumper is to select the CF works as Secondary Channel Master device or Slave device.



## JP6: COM1 Power Selection

JP6 can be used to select the COM1 supply power: +5V, Ring-IN or +12V.

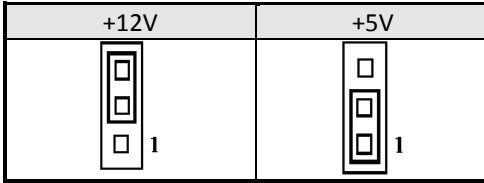


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### JP7: COM4 Power Selection

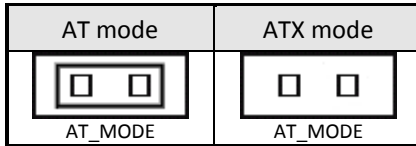
---

JP7 can be used to select the COM4 supply power: +5V or +12V.



### AT\_MODE: Power Supply Mode Selection

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## 2.2 Connectors on the ATX-E15

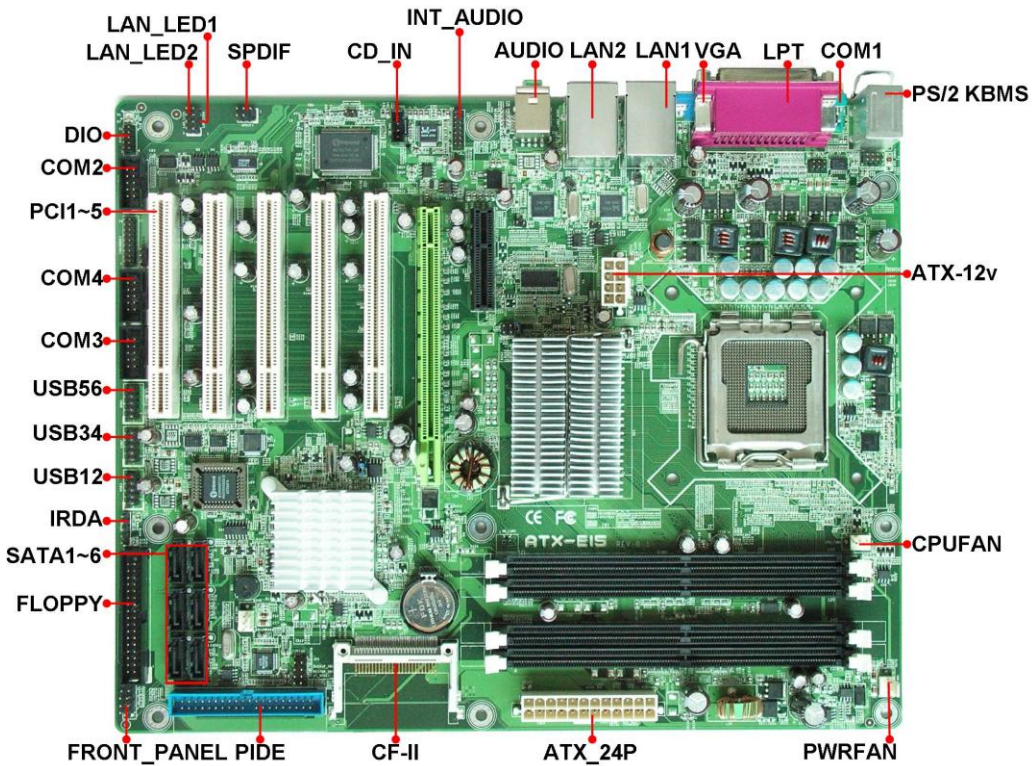
The connectors on the ATX-E15 allow you to connect external devices such as keyboard, floppy disk drives, hard disk drives, printers and etc. The following table lists the connectors on ATX-E15

|  |    |
|--|----|
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---

## Connector Locations on the ATX-E15

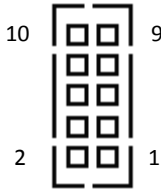
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## DIO Connector

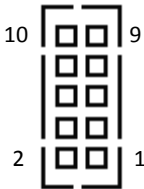
DIO ports support 8 digital I/O bits. Each bit can be configured as Input or output individually. All bits are 5V tolerant.



| Signal Name | Pin # | Pin # | Signal Name |
|-------------|-------|-------|-------------|
| DIO_7       | 10    | 9     | DIO_3       |
| DIO_6       | 8     | 7     | DIO_2       |
| DIO_5       | 6     | 5     | DIO_1       |
| DIO_4       | 4     | 3     | DIO_0       |
| +5V         | 2     | 1     | GND         |

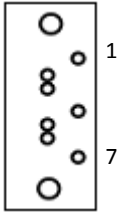
## USB12, USB34, USB56 Connectors

The following table shows the pin outs of the USB12, USB34, USB56 connectors.



| Signal Name | Pin # | Pin # | Signal Name |
|-------------|-------|-------|-------------|
| N.C.        | 10    | 9     | VCC         |
| GND         | 8     | 7     | USB-        |
| USB+        | 6     | 5     | USB+        |
| USB-        | 4     | 3     | GND         |
| VCC         | 2     | 1     | N.C.        |

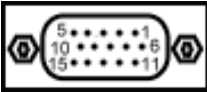
## SATA1~6 Connectors



| Pin # | Signal Name |
|-------|-------------|
| 1     | GND         |
| 2     | SATARX+     |
| 3     | SATARX-     |
| 4     | GND         |
| 5     | SATATX-     |
| 6     | SATATX+     |
| 7     | GND         |

## VGA Connector

The pin assignments of VGA CRT connector are as follows:



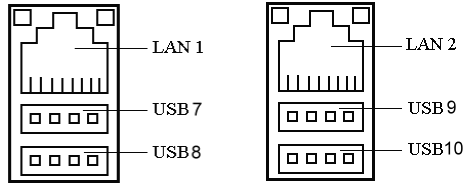
| Signal Name | Pin # | Pin # | Signal Name |
|-------------|-------|-------|-------------|
| Red         | 1     | 2     | Green       |
| Blue        | 3     | 4     | N.C.        |
| GND         | 5     | 6     | GND         |
| GND         | 7     | 8     | GND         |
| N.C.        | 9     | 10    | GND         |
| N.C.        | 11    | 12    | DDC_DATA    |
| HSYNC       | 13    | 14    | VSYNC       |
| DDC_CLK     | 15    |       |             |

---

## LANRJ45+USBx2 Connectors

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Below pictures show the location of LAN RJ45 ports and USB Type-A ports on the Combo RJ45+ USB connector.



Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker and etc., Have a standard USB interface. Also make sure your OS supports USB controller.

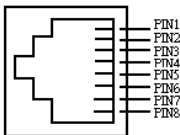
If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

---

## LAN- RJ45 Connectors

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This connector is for the 10/100/1000Mbps Ethernet capability. The figure below shows the pin out assignments of this connector and its corresponding input jack.



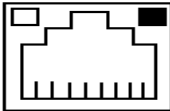
| Pin # | Signal Name |
|-------|-------------|
| 1     | MDI0+       |
| 2     | MDI0-       |
| 3     | MDI1+       |
| 4     | MDI1-       |
| 5     | MDI2+       |
| 6     | MDI2-       |
| 7     | MDI3+       |
| 8     | MDI3-       |

---

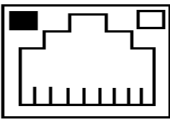
## LAN RJ45 LEDs

---

The LAN\_LEDs on top of RJ45 are to display the current network connection status. The green color LED on the right-hand side shows the link status and TX/RX activity. The Orange/Green Dual color LED on the left-hand side indicates the operation mode, i.e. 10Base-T, 100Base-T or 1000Base-T.



| LNK/ACT | STATUS        |
|---------|---------------|
| YELLOW  | Link          |
| OFF     | Disconnected  |
| FLASH   | Packets TX/RX |

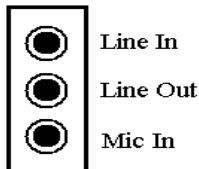


| SPEED  | MODE      |
|--------|-----------|
| ORANGE | 1000 Mbps |
| GREEN  | 100 Mbps  |
| OFF    | 10 Mbps   |

## AUDIO Connector

---

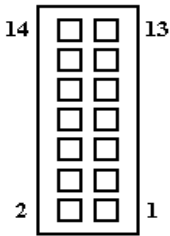
After install onboard audio driver, you may connect speaker to Lin Out jack, microphone to MIC In jack. Audio sources devices like CD-ROM, walkman and etc can be connected to Lin-In jack.



---

## INT\_AUDIO Connector

---



| Signal Name | Pin # | Pin # | Signal Name |
|-------------|-------|-------|-------------|
| SURR-OUT_R  | 14    | 13    | SURR-OUT_L  |
| CENTER-OUT  | 12    | 11    | LFE-OUT     |
| MICI-IN_R   | 10    | 9     | MICI-IN_L   |
| GND         | 8     | 7     | GND         |
| LINE-OUT_R  | 6     | 5     | LINE-OUT_L  |
| GND         | 4     | 3     | GND         |
| LINE-IN_R   | 2     | 1     | LINE-IN_L   |

## CD\_IN Connector

---

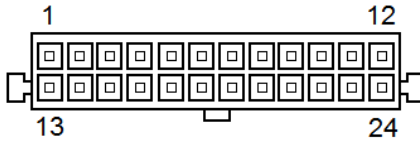
CD\_IN connector is designed for wire the CD\_ROM audio signals to the on-board Audio CODEC.



| Pin # | Signal Name |
|-------|-------------|
| 1     | CD_Left     |
| 2     | GND         |
| 3     | GND         |
| 4     | CD_Right    |

## ATX-24P Connector

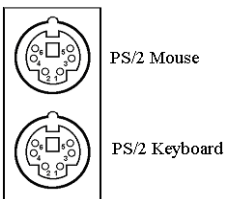
The ATX power connector supplies power to the whole Main board.



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

## PS/2 Keyboard & Mouse Connector

The following table describes the pin assignment of PS/2 Keyboard and Mouse connector.



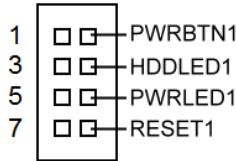
| Pin # | Signal Name          |
|-------|----------------------|
| 1     | Keyboard/Mouse data  |
| 2     | NC                   |
| 3     | GND                  |
| 4     | 5V                   |
| 5     | Keyboard/Mouse clock |
| 6     | GND                  |

---

## FRONT\_PANEL Connector

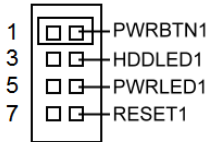
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The front panel of the case has a control panel, which provides light indication of the computer activities and switches to change the computer status.



➤ **PWRBTN1 (ATX Power ON/OFF Button)**

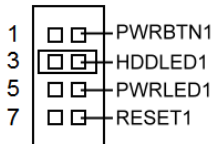
This 2-pin connector acts as the “Power Supply On/Off Switch” on the ATX-E15 main board. When pressed, the switch will force the Main board to power on. When pressed again, it will force the main board to power off.



| PWRBTN<br>Pin # | Signal Name |
|-----------------|-------------|
| 1               | 5VSB        |
| 2               | PWRBTN      |

➤ **HDDLED1 (IDE Hard Disk LED Connector)**

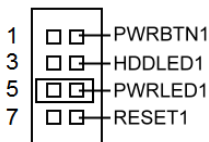
This connector connects to the hard drive activity LED on control panel. This LED will flash when the HDD is being accessed.



| HDDLED<br>Pin # | Signal Name |
|-----------------|-------------|
| 3               | VCC         |
| 4               | HDDLED      |

➤ **PWRLED1 (Power-On LED)**

This connector allows users to connect to Front Panel Power indicator.

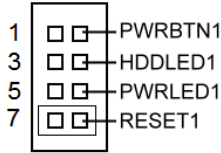


| PWR LED<br>Pin # | Signal Name |
|------------------|-------------|
| 5                | PWRLED      |
| 6                | Ground      |

---

## ➤ RESET1

The reset switch allows the user to reset the system without turning the main power switch off and then on. Orientation is not required when making a connection to this header.



| RESET1<br>Pin # | Signal Name |
|-----------------|-------------|
| 7               | SYS_RST     |
| 8               | Ground      |

---

## System FAN Connector

This is a 3-pin header for the system fan.



| Pin # | Signal Name |
|-------|-------------|
| 1     | Ground      |
| 2     | +12V        |
| 3     | SYSPWM      |

---

## CPU FAN Connector

This is a 3-pin header for the CPU fan.



| Pin # | Signal Name |
|-------|-------------|
| 1     | Ground      |
| 2     | +12V        |
| 3     | CPUPWM      |

---

## PWR FAN Connector

This is a 3-pin header for the PWR fan.

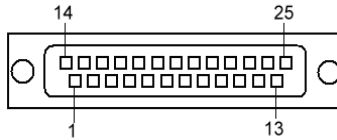


| Pin # | Signal Name |
|-------|-------------|
| 1     | Ground      |
| 2     | +12V        |
| 3     | PWRPWM      |



## LPT Port

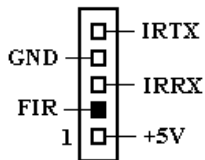
The LPT parallel port is a standard DSUB 25-pins Female connector . It can be configured as EPP or ECP or SPP mode.



| Signal Name | Pin # | Pin # | Signal Name |
|-------------|-------|-------|-------------|
| Strobe      | 1     | 14    | AUTOFD      |
| DATA0       | 2     | 15    | ERROR       |
| DATA1       | 3     | 16    | INIT        |
| DATA2       | 4     | 17    | SLIN        |
| DATA3       | 5     | 18    | GND         |
| DATA4       | 6     | 19    | GND         |
| DATA5       | 7     | 20    | GND         |
| DATA6       | 8     | 21    | GND         |
| DATA7       | 9     | 22    | GND         |
| ACK         | 10    | 23    | GND         |
| BUSY        | 11    | 24    | GND         |
| PE          | 12    | 25    | GND         |
| SLCT        | 13    |       |             |

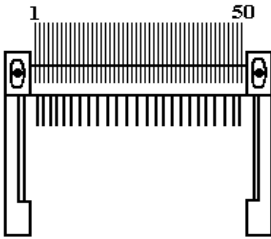
## IRDA Connector

This connector is used for an IRDA connector for wireless communication.



| IrDA Pin # | Signal Name |
|------------|-------------|
| 1          | +5V         |
| 2          | FIR         |
| 3          | IR-RX       |
| 4          | Ground      |
| 5          | IR-TX       |

## CF-II Connector



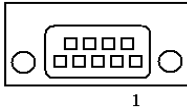
| Signal Name | Pin # | Pin # | Signal Name |
|-------------|-------|-------|-------------|
| GND         | 1     | 2     | PDD3        |
| PDD4        | 3     | 4     | PDD5        |
| PDD6        | 5     | 6     | PDD7        |
| PCS1-       | 7     | 8     | GND         |
| GND         | 9     | 10    | GND         |
| GND         | 11    | 12    | GND         |
| VCC         | 13    | 14    | GND         |
| GND         | 15    | 16    | GND         |
| GND         | 17    | 18    | PDA2        |
| PDA1        | 19    | 20    | PDA0        |
| PDD0        | 21    | 22    | PDD1        |
| PDD2        | 23    | 24    | N.C.        |
| N.C.        | 25    | 26    | N.C.        |
| PDD11       | 27    | 28    | PDD12       |
| PDD13       | 29    | 30    | PDD14       |
| PDD15       | 31    | 32    | PCS3-       |
| N.C.        | 33    | 34    | PDIOR-      |
| PDIOW-      | 35    | 36    | VCC         |
| IRQ14       | 37    | 38    | VCC         |
| MST#_SLV    | 39    | 40    | N.C.        |
| PST1-       | 41    | 42    | PIORDY      |
| PDDREQ      | 43    | 44    | PDDACK-     |
| CF_LED-     | 45    | 46    | N.C.        |
| PDD8        | 47    | 48    | PDD9        |
| PDD10       | 49    | 50    | GND         |

---

## COM1 Serial Port

---

COM1, a 9-pin D-Sub male connector, is the onboard COM1 serial port of the E15. The following table shows its pin assignments.

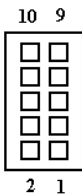


| Pin # | Signal Name              |
|-------|--------------------------|
| 1     | DCD, Data carrier detect |
| 2     | RXD, Receive data        |
| 3     | TXD, Transmit data       |
| 4     | DTR, Data terminal ready |
| 5     | GND, ground              |
| 6     | DSR, Data set ready      |
| 7     | RTS, Request to send     |
| 8     | CTS, Clear to send       |
| 9     | +5V, Ring-IN or +12V     |

## COM2 Serial Port

---

COM2, a 10-pins box-header connector, is the onboard COM2 serial port of the PISA-E3. The following table shows its pin assignments.



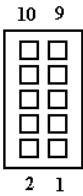
| Pin # | RS232 Mode Signal Name   | RS422/RS485 Mode Signal Name |
|-------|--------------------------|------------------------------|
| 1     | DCD, Data carrier detect | TX- (422/485)                |
| 2     | RXD, Receive data        | TX+ (422/485)                |
| 3     | TXD, Transmit data       | RX+ (422)                    |
| 4     | DTR, Data terminal ready | RX- (422)                    |
| 5     | GND, ground              | GND                          |
| 6     | DSR, Data set ready      | N.C.                         |
| 7     | RTS, Request to send     | N.C.                         |
| 8     | CTS, Clear to send       | N.C.                         |
| 9     | +5V, Ring-IN or +12V     | N.C.                         |
| 10    | N.C.                     | N.C.                         |

---

## COM3 Serial Port

---

COM3, a 10-pins header connector, is the onboard COM3 serial port of the E15. The following table shows its pin assignments.

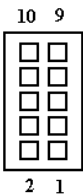


| Pin # | RS232 Mode<br>Signal Name |
|-------|---------------------------|
| 1     | DCD, Data carrier detect  |
| 2     | RXD, Receive data         |
| 3     | TXD, Transmit data        |
| 4     | DTR, Data terminal ready  |
| 5     | GND, ground               |
| 6     | DSR, Data set ready       |
| 7     | RTS, Request to send      |
| 8     | CTS, Clear to send        |
| 9     | Ring-IN                   |
| 10    | N.C.                      |

## COM4 Serial Port

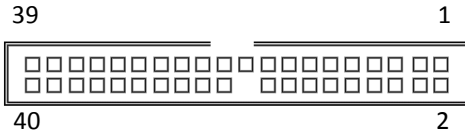
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COM4, a 10-pins header connector, is the onboard COM4 serial port of the E15. The following table shows its pin assignments.



| Pin # | RS232 Mode<br>Signal Name |
|-------|---------------------------|
| 1     | DCD, Data carrier detect  |
| 2     | RXD, Receive data         |
| 3     | TXD, Transmit data        |
| 4     | DTR, Data terminal ready  |
| 5     | GND, ground               |
| 6     | DSR, Data set ready       |
| 7     | RTS, Request to send      |
| 8     | CTS, Clear to send        |
| 9     | +5V, Ring-IN or +12V      |
| 10    | N.C.                      |

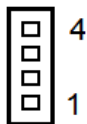
## PIDE Connector



| Signal Name   | Pin # | Pin # | Signal Name   |
|---------------|-------|-------|---------------|
| Reset IDE     | 1     | 2     | Ground        |
| Host data 7   | 3     | 4     | Host data 8   |
| Host data 6   | 5     | 6     | Host data 9   |
| Host data 5   | 7     | 8     | Host data 10  |
| Host data 4   | 9     | 10    | Host data 11  |
| Host data 3   | 11    | 12    | Host data 12  |
| Host data 2   | 13    | 14    | Host data 13  |
| Host data 1   | 15    | 16    | Host data 14  |
| Host data 0   | 17    | 18    | Host data 15  |
| Ground        | 19    | 20    | Key           |
| DRQ           | 21    | 22    | Ground        |
| Host IOW      | 23    | 24    | Ground        |
| Host IOR      | 25    | 26    | Ground        |
| IOCHRDY       | 27    | 28    | Host PU 0     |
| DACK          | 29    | 30    | Ground        |
| IRQ14         | 31    | 32    | No connect    |
| Address 1     | 33    | 34    | P66DET        |
| Address 0     | 35    | 36    | Address 2     |
| Chip select 1 | 37    | 38    | Chip select 3 |
| Activity LED  | 39    |       |               |

## LAN\_LED1 Connector

The 4-pins LAN\_LED1 connector designed for LAN1 port is for applications need to display LAN1 port status on front panel or the places administrators are easy to access.



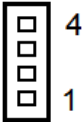
| Pin # | Signal Name |
|-------|-------------|
| 1     | 1_ACTLED    |
| 2     | 1_PULUP     |
| 3     | 1_LINK1000  |
| 4     | 1_LINK100   |

---

## LAN\_LED2 Connector

---

The 4-pins LAN\_LED2 connector designed for LAN2 port is for applications need to display LAN2 port status on front panel or the places administrators are easy to access.



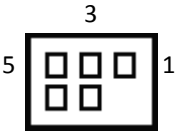
| Pin # | Signal Name |
|-------|-------------|
| 1     | 2_ACTLED    |
| 2     | 2_PULUP     |
| 3     | 2_LINK1000  |
| 4     | 2_LINK100   |

---

## SPDIF Connector

---

SPDIF connector is for S/PDIF audio module that allows digital instead of analog sound input or output.



| Signal Name | Pin | Pin | Signal Name |
|-------------|-----|-----|-------------|
| VCC         | 1   | 2   | NC          |
| SPDIFO      | 3   | 4   | SPDIFI      |
| GND         | 5   | 6   | GND         |

---

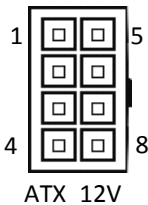
## ATX\_12V Power Connector

---

The ATX\_12V power connector mainly supplies power to the CPU.

Caution!

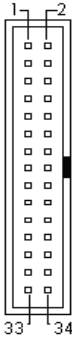
If the ATX\_12V power connector is not connected, the system will not start.



| Pin # | Signal Name |
|-------|-------------|
| 1     | GND         |
| 2     | GND         |
| 3     | GND         |
| 4     | GND         |
| 5     | +12V        |
| 6     | +12V        |
| 7     | +12V        |
| 8     | +12V        |

## Floppy Drive Connector

Floppy connector is a 34-pin header and will support up to 2.88MB floppy drives.



| Signal Name | Pin # | Pin # | Signal Name     |
|-------------|-------|-------|-----------------|
| Ground      | 1     | 2     | RM/LC           |
| Ground      | 3     | 4     | No connect      |
| Ground      | 5     | 6     | No connect      |
| Ground      | 7     | 8     | Index           |
| Ground      | 9     | 10    | Motor enable 0  |
| Ground      | 11    | 12    | Drive select 1  |
| Ground      | 13    | 14    | Drive select 0  |
| Ground      | 15    | 16    | Motor enable 1  |
| Ground      | 17    | 18    | Direction       |
| Ground      | 19    | 20    | Step            |
| Ground      | 21    | 22    | Write data      |
| Ground      | 23    | 24    | Write gate      |
| Ground      | 25    | 26    | Track 00        |
| Ground      | 27    | 28    | Write protect   |
| Ground      | 29    | 30    | Read data       |
| Ground      | 31    | 32    | Side 1 select   |
| Ground      | 33    | 34    | Diskette change |

---

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---

# Chapter 3 BIOS Setup

This chapter describes the different settings available in the Award BIOS that comes with the ATX-E15 CPU card. The topics covered in this chapter are as follows:

|   |    |
|---|----|
| 3.1 MAIN MENU .....                     | 35 |
| 3.2 STANDARD CMOS FEATURES .....        | 37 |
| 3.3 ADVANCED BIOS FEATURES .....        | 43 |
| 3.4 ADVANCED CHIPSET FEATURES.....      | 50 |
| 3.5 INTEGRATED PERIPHERALS.....         | 54 |
| 3.6 POWER MANAGEMENT SETUP .....        | 63 |
| 3.7 PNP/PCI CONFIGURATION.....          | 68 |
| 3.8 PC HEALTH STATUS .....              | 72 |
| 3.9 LOAD FAIL-SAFE DEFAULTS.....        | 74 |
| 3.10 LOAD OPTIMIZED DEFAULTS .....      | 74 |
| 3.11 SET SUPERVISOR/ USER PASSWORD..... | 75 |
| 3.12 SAVE & EXIT SETUP .....            | 77 |
| 3.13 EXIT WITHOUT SAVING .....          | 77 |

---

## **BIOS Introduction**

---

This manual describes AMI's Setup program, which is built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

## **Starting Setup**

---

The following pages are meant to give you a better insight into the options you have to setup your system. Many options depend on the choice of type of memory, memory speed, peripherals and the programs that you will be running. The effective of these settings are related to system performance that can destabilize operation. We urge you to proceed with caution.

When the system is powered on, use the bios set program when you start up your system, reconfiguring your system, or press "Delete" promptly to run setup. This section will explain how to configure your system using this utility. And this change will be recognized and record them in the CMOS RAM of the SPI chip.

When you start up the computer, the system provides you the opportunity to set the program. Press the "del" during the P.O.S.T (Power-on Self-Test) to enter the program setting. And the POST will continue with the test routines. And the firmware chip will store the setup utility on the board. However, if you want to enter the setup after the POST, you can press Ctrl + Alt + Del simultaneously or turn off the power then back on.



---

### ➤ **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**

---

Use this menu to set up the PnP/PCI configuration.

### ➤ **PC Health Status**

---

Use this menu to display the CPU temperature, FAN speed and voltages.

### ➤ **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 that are factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

### ➤ **Set Supervisor/ User Password**

---

Use this menu to set User and Supervisor Passwords.

### ➤ **Save & Exit Setup**

---

Save CMOS value changes to CMOS and exit setup.

### ➤ **Exit Without Saving**

---

Abandon all CMOS value changes and exit setup.

## 3.2 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

| Phoenix-Award BIOS CMOS Setup Utility<br>Standard CMOS Features   |                      |   |
|---|----------------------|---|
| Date (mm :dd: yy)   | Mon, Apr 28 2008     | Item Help<br><br>Menu Level ►<br><br>Change the day, month, year, and century |
| Time (hh: mm: ss)   | 15 : 35 : 35         |   |
| ▶ IDE Channel 0 Master  | [None]               |   |
| ▶ IDE Channel 0 Slave   | [None]               |   |
| ▶ IDE Channel 1 Master  | [None]               |   |
| ▶ IDE Channel 1 Slave   | [None]               |   |
| ▶ IDE Channel 2 Master  | [None]               |   |
| ▶ IDE Channel 3 Master  | [None]               |   |
| Drive A   | [1.44 M, 3.5 in.]    |   |
| Drive B   | [None]               |   |
| Video   | [EGA/VGA]            |   |
| Halt On   | [All , But Disk/Key] |   |
| Base Memory   | 639K                 |   |
| Extend Memory   | 1037312K             |   |
| Total Memory  | 1038336K             |   |
| ↑ ↓ ← → : Move    Enter: Select    +/-/PU/PD: Value    F10:Save    Esc: Exit<br>F1:General Help    F5:Previous Value    F6:Fail-Safe Defaults    F7:Optimized Default |                      |   |

(Figure 2)

This table shows the selections that you can make on the Standard CMOS Menu.

| Item                 | Options  | Description   |
|----------------------|--|---|
| Date                 | Month DD YYYY  | Set the system date.<br>Note that the 'Day' automatically changes when you set the date |
| Time                 | HH : MM : SS   | Set the system time   |
| IDE Channel 0 Master | Options are in its sub menu  | Press <Enter> to enter the sub menu of detailed options                                 |
| IDE Channel 0 Slave  | Options are in its sub menu  | Press <Enter> to enter the sub menu of detailed options                                 |
| IDE Channel 1 Master | Options are in its sub menu  | Press <Enter> to enter the sub menu of detailed options                                 |
| IDE Channel 1 Slave  | Options are in its sub menu  | Press <Enter> to enter the sub menu of detailed options                                 |
| IDE Channel 2 Master | Options are in its sub menu  | Press <Enter> to enter the sub menu of detailed options                                 |
| IDE Channel 3 Master | Options are in its sub menu  | Press <Enter> to enter the sub menu of detailed options                                 |
| Drive A<br>Drive B   | None<br>360K, 5.25 in<br>1.2M, 5.25 in<br>720K, 3.5 in<br>1.44M, 3.5 in<br>2.88M, 3.5 in | Select the type of floppy disk drive installed in your system                           |
| Video                | EGA/VGA<br>CGA 40<br>CGA 80<br>MONO  | Select the default video device   |
| Halt On              | All Errors<br>No Errors<br>All, but Keyboard<br>All, but Diskette<br>All, but Disk/Key   | Select the situation in which you want the BIOS to stop the POST process and notify you |
| Base Memory          | N/A  | Displays the amount of conventional memory detected during boot up                      |
| Extended Memory      | N/A  | Displays the amount of extended memory detected during boot up                          |
| Total Memory         | N/A  | Displays the total memory available in the system                                       |

## ➤ IDE Channel 0, 1 Master/ Slave

The IDE adapters control the hard disk drive. Use a separate sub menu to configure each hard disk drive. Figure 3 shows the IDE Channel 0 / Channel 1 master sub menu.

| Phoenix-Award BIOS CMOS Setup Utility<br>IDE Channel 0 Master   |                  |   |
|---|------------------|---|
| IDE HDD Auto-Detection  | [Press Enter]    | Item Help   |
| IDE Channel 0 Master<br>Access Mode   | [Auto]<br>[Auto] | Menu Level ▶  |
| Capacity  | 0 MB             | To auto-detect the HDD's<br>size, head...on this<br>channel |
| Cylinder  | 0                |   |
| Head  | 0                |   |
| Precomp   | 0                |   |
| Landing Zone  | 0                |   |
| Sector  | 0                |   |
| ↑ ↓ ← → : Move    Enter: Select    +/-/PU/PD: Value    F10:Save    Esc: Exit    F1:General Help<br>F5:Previous Value    F6:Fail-Safe Defaults    F7:Optimized Default |                  |   |

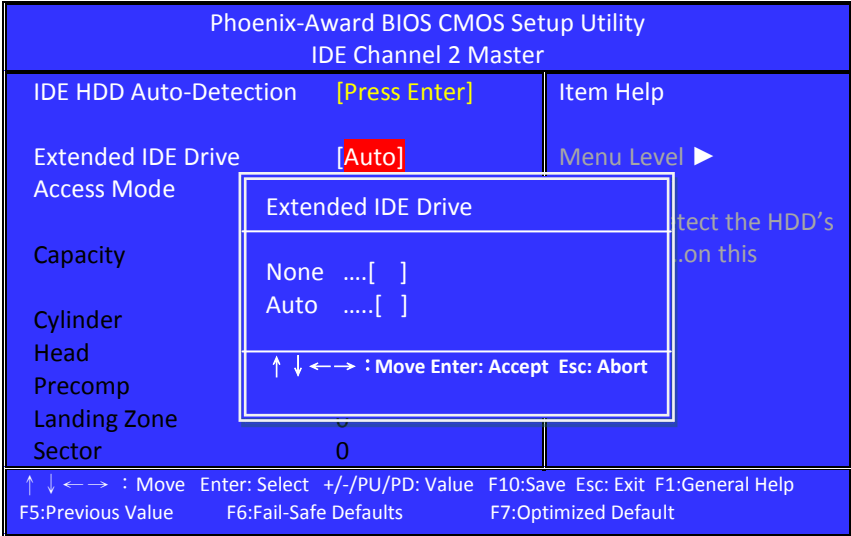
**(Figure 3)**

---

## ➤ IDE Channel 2, 3 Master

---

Figure 4 shows the IDE Channel 2 / Channel 3 master sub menu.



(Figure 4)

### Extended IDE Drive

---

The choice: None, Auto (**default**)



Use the legend keys to navigate through this menu and exit to the main menu. Use the Table listed below to configure the hard disk.

| Item  | Options                           | Description  |
|---|-----------------------------------|--|
| IDE HDD<br>Auto-detection   | Press Enter                       | Press Enter to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.  |
| IDE Channel 0 Master  | None<br>Auto<br>Manual            | Selecting 'manual' lets you set the remaining fields on this screen. Selects the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc.<br>Note: PRECOMP=65535 means NONE! |
| Access Mode   | CHS<br>LBA<br>Large<br>Auto       | Choose the access mode for this hard disk  |
| Capacity  | Auto Display your disk drive size | Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.  |
| The following options are selectable only if the 'IDE Channel 0 Master' item is set to 'Manual' |                                   |  |
| Cylinder  | Min = 0<br>Max = 65535            | Set the number of cylinders for this hard disk.  |
| Head  | Min = 0<br>Max = 255              | Set the number of read/write heads   |
| Precomp   | Min = 0<br>Max = 65535            | **** Warning: Setting a value of 65535 means no hard disk  |
| Landing zone  | Min = 0<br>Max = 65535            | ****   |
| Sector  | Min = 0<br>Max = 255              | Number of sectors per track  |

---

## Drive A/B

---

These fields identify the types of floppy disk drive A or drive B that has been installed in the computer. The available specifications are:

|      |          |          |         |         |         |
|------|----------|----------|---------|---------|---------|
| None | 360K     | 1.2M     | 720K    | 1.44M   | 2.88M   |
|      | 5.25 in. | 5.25 in. | 3.5 in. | 3.5 in. | 3.5 in. |

**(default)**

## Video

---

This field selects the type of video display card installed in your system.

You can choose the following video display cards:

EGA/VGA: For EGA, VGA, SEGA, SVGA or PGA monitor adapters.

**(default)**

CGA 40: Power up in 40 column mode.

CGA 80: Power up in 80 column mode.

MONO: For Hercules or MDA adapters.

## Halt On

---

This field determines whether the system will halt if an error is detected during power up.

|                   |   |
|-------------------|---|
| All errors        | Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.                       |
| No errors         | The system boot will not be halted for any error that may be detected.  |
| All, But Keyboard | The system boot will not be halted for a keyboard error; it will stop for all other errors                        |
| All, But Diskette | The system boot will not be halted for a disk error; it will stop for all other errors.                           |
| All, But Disk/Key | The system boot will not be halted for a keyboard or disk error; it will stop for all others.<br><b>(default)</b> |

### 3.3 Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

| Phoenix-Award BIOS CMOS Setup Utility  |               |              |
|--|---------------|--------------|
| Advanced BIOS Features   |               |              |
| ▶ CPU Features   | [Press Enter] | Item Help    |
| ▶ Hard Disk Boot Priority  | [Press Enter] | Menu Level ▶ |
| Virus Warning  | [Disabled]    |              |
| CPU L3 Cache   | [Enabled]     |              |
| Quick Power On Self Test   | [Enabled]     |              |
| First Boot Device  | [Hard Disk]   |              |
| Second Boot Device   | [CDROM]       |              |
| Third Boot Device  | [LS120]       |              |
| Boot Other Device  | [Enabled]     |              |
| Swap Floppy Drive  | [Disabled]    |              |
| Boot Up Floppy Seek  | [Enabled]     |              |
| Boot UP Num Lock Status  | [Off]         |              |
| Gate A20 Option  | [Fast]        |              |
| Typematic Rate Setting   | [Disabled]    |              |
| x Typematic Rate (Chars/Sec)   | 6             |              |
| x Typematic Delay (Msec)   | 250           |              |
| Security Option  | [Setup]       |              |
| APIC Mode  | [Enabled]     |              |
| MPS Version Control For OS   | [1.4]         |              |
| OS Select For DRAM > 64MB  | [Non-OS2]     |              |
| Report No FDD For WIN 95   | [No]          |              |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |               |              |

(Figure 5)

---

## ➤CPU Feature

---

| Phoenix-Award BIOS CMOS Setup Utility  |               |              |
|--|---------------|--------------|
| CPU Feature  |               |              |
| PPM Mode   | [Native Mode] | Item Help    |
| Limit CPUID Max Val  | [Disabled]    | Menu Level ▶ |
| C1E Function   | [Auto]        |              |
| Execute Disabled Bit   | [Enabled]     |              |
| Virtualization Technology  | [Enabled]     |              |
| Core Multi-Processing  | [Enabled]     |              |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |               |              |

(Figure 6)

### PPM Mode

The choice: Native Mode (**default**), SMM Mode.

### Limit CPUID Max Val

The choice: Enabled, Disabled (**default**).

### C1E Function

The choice: Auto (**default**), Disabled.

### Execute Disabled Bit

The choice: Enabled, Disabled (**default**).

### Virtualization Technology

The choice: Enabled (**default**), Disabled.

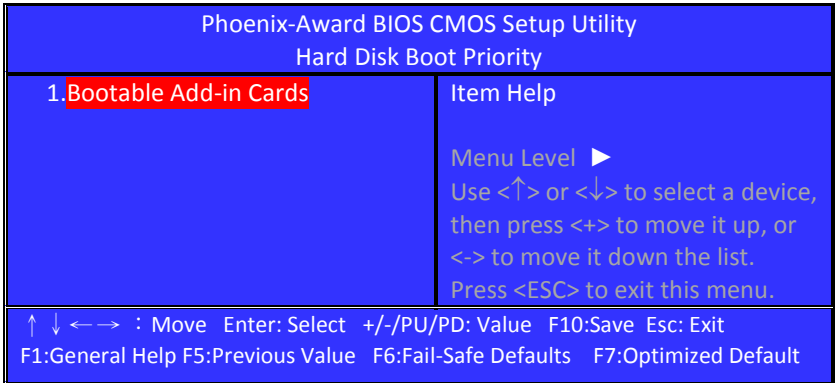
### Core Multi-Processing

The choice: Enabled (**default**), Disabled.

---

## ➤ Hard Disk Boot Priority

---



(Figure 7)

### Bootable Add-in Cards

---

This is for setting the priority of the hard disk boot order when the "Hard Disk" option is selected in the "[First/Second/Third] Boot Device" menu item.

---

## Virus Warning

---

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection.

If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

|          |   |
|----------|---|
| Enabled  | Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table. |
| Disabled | No warning message will appear when anything attempts to access the boot sector or hard disk partition table.<br><b>(default)</b>                                   |

---

## CPU L3 Cache

---

This field is used to enable or disable the CPU's L3 cache.

The choice: Enabled **(default)**, Disabled.

---

## Quick Power On Self Test

---

Allows the system to skip certain tests while booting.

This will decrease the time needed to boot the system.

|          |                                    |
|----------|------------------------------------|
| Enabled  | Enable quick POST <b>(default)</b> |
| Disabled | Normal POST                        |

---

## First/Second/Third Boot Device

---

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

The Choice: Floppy, LS120, Hard-Disk, ZIP100, CDROM, Disabled, USB-FDD, USB-ZIP, USB-CDROM, Legacy LAN.

| Item               | Default   |
|--------------------|-----------|
| First Boot Device  | Hard-Disk |
| Second Boot Device | CDROM     |
| Third Boot Device  | LS120     |

---

## Boot Other Device

---

When enabled, BIOS will try to load the operating system from other device when it failed to load from the three devices above.  
The choice: Enabled (**default**), Disabled.

## Swap Floppy Drive

---

If the system has two floppy drives, choose "Enabled" to assign physical drive B to logical drive A and vice-versa.  
The choice: Enabled, Disabled (**default**).

## Boot Up Floppy Seek

---

Selection of the command 'Disabled' will speed the boot up.  
Selection of 'Enabled' Searches disk drives during boot up.  
The choice: Enabled (**default**), Disabled

## Boot Up Num Lock Status

---

Selects power on state for Num Lock.  
The choice: On, Off (**default**).

## Gate A20 Option

---

The choice:  
Normal: A pin in the keyboard controller controls GateA20.  
Fast (**default**): Lets chipset control GateA20.

## Typematic Rate Setting

---

Keystrokes repeat at a rate determined by the keyboard controller.  
When enabled, the typematic rate and typematic delay can be selected.  
The choice: Enabled, Disabled (**default**).

**If Typematic Rate Setting is [Enabled], can choice Rate and Delay:**

---

## Typematic Rate (Chars/Sec)

---

Sets the number of times a second to repeat a keystroke when you hold the key down.

The choice: 6 (**default**), 8, 10, 12, 15, 20, 24, 30.

| Typematic Rate (Chars/Sec)       |                                    |
|----------------------------------|------------------------------------|
| 6                                | ..... [ <input type="checkbox"/> ] |
| 8                                | ..... [ ]                          |
| 10                               | ..... [ ]                          |
| 12                               | ..... [ ]                          |
| 15                               | ..... [ ]                          |
| 20                               | ..... [ ]                          |
| 24                               | ..... [ ]                          |
| 30                               | ..... [ ]                          |
| ↑↓: Move Enter: Accept ESC:Abort |                                    |

## Typematic Delay (Msec)

---

Sets the delay time after the key is held down before it begins to repeat the keystroke.

The choice: 250 (**default**), 500, 750, and 1000.

| Typematic Delay (Msec)           |                                    |
|----------------------------------|------------------------------------|
| 250                              | ..... [ <input type="checkbox"/> ] |
| 500                              | ..... [ ]                          |
| 750                              | ..... [ ]                          |
| 1000                             | ..... [ ]                          |
| ↑↓: Move Enter: Accept ESC:Abort |                                    |



---

## Security Option

---

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 the prompt. <b>(default)</b> |

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

## APIC Mode

---

This setting allows to enable the APIC mode.  
The choice: Enabled **(default)**, Disabled.

## MPS Version Control For OS

---

The BIOS supports version 1.1 and 1.4 of the Intel multiprocessor specification.  
Select version supported by the operation system running on this computer.  
The choice: 1.1, 1.4 **(default)**.

## OS Select For DRAM > 64MB

---

Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on the system.  
The choice: Non-OS2 **(default)**, OS2.

## Report No FDD For WIN 95

---

The choice: No **(default)**, Yes.

## 3.4 Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

| Phoenix-Award BIOS CMOS Setup Utility<br>Advanced Chipset Features   |               |              |  |
|--|---------------|--------------|--|
| DRAM Timing Selectable   | [By SPD]      | Item Help    |  |
| x CAS Latency Time   | [Auto]        | Menu Level ▶ |  |
| x Dram RAS# to CAS# Delay  | [Auto]        |              |  |
| x DRAM RAS# Precharge  | [Auto]        |              |  |
| x Precharge dealy (tRAS)   | [Auto]        |              |  |
| x System Memory Frequency  | [Auto]        |              |  |
| System BIOS Cacheable  | [Enabled]     |              |  |
| Memory Hole At 15M-16M   | [Disabled]    |              |  |
| ▶ PCI Express Root Port Func   | [Press Enter] |              |  |
| **VGA Setting**  |               |              |  |
| PEG/Onchip VGA Control   | [Auto]        |              |  |
| On-Chip Frame Buffer Size  | [ 8MB]        |              |  |
| DVMT Mode  | [DVMT]        |              |  |
| DVMT / FIXED Memory Size   | [128MB]       |              |  |
| LAN1 Chip Control  | [Enabled]     |              |  |
| LAN2 Chip Control  | [Enabled]     |              |  |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General<br>Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |               |              |  |

(Figure 8)

---

## DRAM Timing Selectable

---

The choice: Manual, By SPD **(default)**.

**If DRAM Timing Selectable is [Manual], can choice these Items:**

- ▶ CAS Latency Time
- ▶ Dram RAS# to CAS# Delay
- ▶ DRAM RAS# Precharge
- ▶ Precharge dealy (tRAS)
- ▶ System Memory Frequency

---

## CAS Latency Time

---

This controls the latency between DDR RAM read command and the time that the data actually becomes available.

Leave this on the default setting.

The choice: 5, 4, 3, 6, Auto **(default)**.

---

## DRAM RAS# to CAS# Delay

---

In order to improve performance, certain space in memory is reserved for PISA cards.

This memory must be mapped into the memory space below 16MB.

The choice: 2, 3, 4, 5, 6, Auto **(default)**.

---

## DRAM RAS# Precharge

---

This controls the idle clocks after issuing a precharge command to DRAM.

Leave this on the default setting.

The choice: Auto **(default)**, 2, 3,4,5,6.

---

## Precharge dealy (tRAS)

---

The choice: Auto **(default)**, 4,5,6,7,8,9,10,11,12,13,14,15.

---

## System Memory Frequency

---

The choice: Auto **(default)**, 533MHz, 667MHz.

---

## System BIOS Cacheable

---

The choice: Enabled **(default)**, Disabled.

---

## Memory Hole At 15M-16M

---

Enabling this feature reserves 15 MB to 16 MB memory address space for ISA expansion cards that specifically require this setting. This makes memory from 15 MB and up unavailable to the system. Expansion cards can only access memory up to 16 MB.  
The choice: Enabled, Disabled **(default)**

## ➤ PCI Express Root Port Func

---

The choice: [Press Enter].

| Phoenix-Award BIOS CMOS Setup Utility |         |
|---------------------------------------|---------|
| PCI Express Root Port Func            |         |
| PCI Express Port 1                    | [Auto]  |
| PCI Express Port 2                    | [Auto]  |
| PCI Express Port 3                    | [Auto]  |
| PCI Express Port 4                    | [Auto]  |
| PCI Express Port 5                    | [Auto]  |
| PCI-E Compliancy Mode                 | [v1.0a] |
| Item Help                             |         |
| Menu Level ▶                          |         |

↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General  
Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default

---

### PCI Express Port 1, 2, 3, 4, 5

The choice: Auto **(default)**, Enabled, Disabled.

---

### PCI-E Compliancy Mode

The choice: v1.0a **(default)**, v1.0.

---

### PEG/Onchip VGA Control

The choice: Onchip VGA, PEG Port, Auto **(default)**.

---

### On-Chip Frame Buffer Size

User can select frame buffer size.  
The choice: 1MB, 8MB **(default)**.

---

### DVMT Mode

This field shows the current DVMT mode.  
The choice: FIXED, DVMT **(default)**, BOTH.

---

## DVMT / FIXED Memory Size

---

This field is used to select the graphics memory size used by DVMT/  
Fixed mode.

The choice: 64MB, 128MB (**default**), 224MB.

## LAN1 Chip Control

---

The choice: Enabled (**default**), Disabled.

## LAN2 Chip Control

---

The choice: Enabled (**default**), Disabled.

## 3.5 Integrated Peripherals

| Phoenix-Award BIOS CMOS Setup Utility  |               |              |
|--|---------------|--------------|
| Integrated Peripherals   |               |              |
| ▶ On Chip IDE Device   | [Press Enter] | Item Help    |
| ▶ Super IO Device  | [Press Enter] |              |
| Onboard Serial Port 3  | [3E8]         | Menu Level ▶ |
| Serial Port 3 Use IRQ  | [IRQ3]        |              |
| Onboard Serial Port 4  | [2E8]         |              |
| Serial Port 4 Use IRQ  | [IRQ4]        |              |
| Watch Dog Timer Select   | [Disabled]    |              |
| ▶ USB Device Setting   | [Press Enter] |              |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |               |              |

### ▶ On Chip IDE Device

| Phoenix-Award BIOS CMOS Setup Utility  |            |                                 |
|--|------------|---------------------------------|
| On Chip IDE Device   |            |                                 |
| IDE HDD Block Mode   | [Enabled]  | Item Help                       |
| IDE DMA transfer access  | [Enabled]  |                                 |
| IDE Primary Master PIO   | [Auto]     | Menu Level ▶                    |
| IDE Primary Slave PIO  | [Auto]     |                                 |
| IDE Primary Master UDMA  | [Auto]     | If your IDE hard drive supports |
| IDE Primary Slave UDMA   | [Auto]     | block mode select               |
| On-Chip Secondary PCI IDE  | [Enabled]  | Enabled for                     |
| IDE Secondary Master PIO   | [Auto]     | automatic                       |
| IDE Secondary Slave PIO  | [Auto]     | detection of the                |
| IDE Secondary Master UDMA  | [Auto]     | optimal number                  |
| IDE Secondary Slave UDMA   | [Auto]     | of lock                         |
| SATA Mode  | [IDE]      | read/writes per                 |
| LEGACY Mode Support  | [Disabled] | sector the drive                |
|  |            | can support                     |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help F5:Previous<br>Value F6:Fail-Safe Defaults F7:Optimized Default |            |                                 |

---

### IDE HDD Block Mode

---

Block mode is also called block transfer, multiple commands, or multiple sectors read / write.

If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read /write per sector where the drive can support.

The choice: Enabled (**default**), Disabled.

### IDE DMA transfer access

---

The choice: Enabled (**default**), Disabled.

### IDE Primary/Secondary, Master/Slave PIO

---

The choice: Auto (**default**), Mode0, Mode1, Mode2, Mode3, Mode4.



Caution: Do not use the wrong setting or you will have drive errors.

PIO means Programmed Input/output.

Rather than have the BIOS issue a series of commands to effect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves.

Your system supports five modes, 0 (default) to 4, which primarily differ in timing.

When Auto is selected, the BIOS will select the best available mode after checking your drive.

|          |   |
|----------|---|
| Auto     | The BIOS will automatically set the system according to your hard disk drive's timing ( <b>default</b> ). |
| Mode 0-4 | You can select a mode that matches your hard disk drive's timing.   |

### IDE Primary/Secondary, Master/ Slave UDMA

---

The choice: Disabled, Auto (**default**).

---

## On-Chip Secondary PCI IDE

---

These fields allow you to enable or disable the primary and secondary IDE controller.

Select disabled if you want to add a different hard drive controller.

The choice: Enabled (**default**), Disabled.

## SATA Mode

---

Controls the SATA controller's operating mode.

The choice: IDE (**default**), RAID, AHCI.

## LEGACY Mode Support

---

The choice: Enabled, Disabled (**default**).

## ➤ Super IO Device

---

| Phoenix-Award BIOS CMOS Setup Utility |            |              |
|---------------------------------------|------------|--------------|
| Super IO Device                       |            |              |
| Onboard FDC Controller                | [Enabled]  | Item Help    |
| Onboard Serial Port 1                 | [3F8/IRQ4] |              |
| Onboard Serial Port 2                 | [2F8/IRQ3] | Menu Level ▶ |
| UART Mode Select                      | [Normal]   |              |
| x RxD , TxD Active                    | Hi, Lo     |              |
| x IR Transmission Delay               | Enabled    |              |
| x UR2 Duplex Mode                     | Half       |              |
| Onboard Parallel Port                 | [378/IRQ7] |              |
| Parallel Port Mode                    | [SPP]      |              |
| x EPP Mode Select                     | EPP1.7     |              |
| x ECP Mode Use DMA                    | 3          |              |
| PWRON After PWR-Fail                  | [Off]      |              |

↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit  
F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default

## Onboard FDC Controller

---

The choice: Enabled (**default**), Disabled.

## Onboard Serial Port 1

---

Select an address and corresponding interrupt for the first serial ports.

The choice: Disable, 3F8/IRQ4 (**default**), 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.



---

## Onboard Serial Port 2

---

Select an address and corresponding interrupt for the second serial ports.

The choice: Disable, 3F8/IRQ4, 2F8/IRQ3 (**default**), 3E8/IRQ4, 2E8/IRQ3, Auto.

## UART Mode Select

---

This item allows you to select which mode for the Onboard Serial Port 2.

The choice: IrDA, ASKIR, Normal (**default**).

**If UART Mode Select is IrDA and ASKIR will show:**

| Phoenix-Award BIOS CMOS Setup Utility  |            |                               |
|--|------------|-------------------------------|
| Super IO Device  |            |                               |
| Onboard FDC Controller   | [Enabled]  | Item Help<br><br>Menu Level ▶ |
| Onboard Serial Port 1  | [3F8/IRQ4] |                               |
| Onboard Serial Port 2  | [2F8/IRQ3] |                               |
| UART Mode Select   | [IrDA]     |                               |
| RxD , TxD Active   | [Hi, Lo]   |                               |
| IR Transmission Delay  | [Enabled]  |                               |
| UR2 Duplex Mode  | [Half]     |                               |
| Onboard Parallel Port  | [378/IRQ7] |                               |
| Parallel Port Mode   | [SPP]      |                               |
| x EPP Mode Select  | EPP1.7     |                               |
| x ECP Mode Use DMA   | 3          |                               |
| PWRON After PWR-Fail   | [Off]      |                               |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |            |                               |

---

## RxD, TxD Active

---

The choice:

| UART Mode Select                  |          |
|-----------------------------------|----------|
| Hi, Hi                            | .....[ ] |
| Hi, Lo                            | .....[ ] |
| Lo, Hi                            | .....[ ] |
| Lo, Lo                            | .....[ ] |
| ↑↓: Move Enter: Accept ESC: Abort |          |

---

## IR Transmission Delay

---

The choice: Disabled, Enabled **(default)**.

## UR2 Duplex Mode

---

The choice: Full, Half **(default)**.

## Onboard Parallel Port

---

This item allows you to determine onboard parallel port controller I/O address setting.

The choice: 378/IRQ7 **(default)**, 278/IRQ5, 3BC/IRQ7, Disabled.

## Parallel Port Mode

---

The choice: SPP **(default)**, EPP, ECP, ECP+EPP, Normal.

|     |  |
|-----|--|
| SPP | Sets the parallel port to function as a Standard Parallel Port. This is the default (and slowest) option.  |
| EPP | Sets the parallel port to Enhanced Parallel Port mode. Sometimes also called "Bi-directional"              |
| ECP | Sets the parallel port up as an Enhanced Capabilities Port. This setting requires the use of a DMA channel |

**If Parallel Port Mode Select is [SPP] and [Normal] will show:**

| Phoenix-Award BIOS CMOS Setup Utility  |            |                           |
|--|------------|---------------------------|
| Super IO Device  |            |                           |
| Onboard Serial Port 1  | [3F8/IRQ4] | Item Help<br>Menu Level ► |
| Onboard Serial Port 2  | [2F8/IRQ3] |                           |
| UART Mode Select   | [IrDA]     |                           |
| RxD , TxD Active   | [Hi, Lo]   |                           |
| IR Transmission Delay  | [Enabled]  |                           |
| UR2 Duplex Mode  | [Half]     |                           |
| Onboard Parallel Port  | [378/IRQ7] |                           |
| Parallel Port Mode   | [SPP]      |                           |
| x EPP Mode Select  | EPP1.7     |                           |
| x ECP Mode Use DMA   | 3          |                           |
| PWRON After PWR-Fail   | [Off]      |                           |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |            |                           |

**If Parallel Port Mode Select is [EPP] will show:**

| Phoenix-Award BIOS CMOS Setup Utility  |            |                               |
|--|------------|-------------------------------|
| Super IO Device  |            |                               |
| Onboard Serial Port 1  | [3F8/IRQ4] | Item Help<br><br>Menu Level ► |
| Onboard Serial Port 2  | [2F8/IRQ3] |                               |
| UART Mode Select   | [IrDA]     |                               |
| RxD , TxD Active   | [Hi, Lo]   |                               |
| IR Transmission Delay  | [Enabled]  |                               |
| UR2 Duplex Mode  | [Half]     |                               |
| Onboard Parallel Port  | [378/IRQ7] |                               |
| Parallel Port Mode   | [EPP]      |                               |
| EPP Mode Select  | [1.7]      |                               |
| x ECP Mode Use DMA   | 3          |                               |
| PWRON After PWR-Fail   | [Off]      |                               |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |            |                               |

**EPP Mode Select**

Select EPP port type 1.7 or 1.9.

The choice: 1.7 (**default**), 1.9.

**If Parallel Port Mode Select is [ECP] will show:**

| Phoenix-Award BIOS CMOS Setup Utility  |            |                               |
|--|------------|-------------------------------|
| Super IO Device  |            |                               |
| Onboard Serial Port 1  | [3F8/IRQ4] | Item Help<br><br>Menu Level ► |
| Onboard Serial Port 2  | [2F8/IRQ3] |                               |
| UART Mode Select   | [IrDA]     |                               |
| RxD , TxD Active   | [Hi, Lo]   |                               |
| IR Transmission Delay  | [Enabled]  |                               |
| UR2 Duplex Mode  | [Half]     |                               |
| Onboard Parallel Port  | [378/IRQ7] |                               |
| Parallel Port Mode   | [ECP]      |                               |
| x EPP Mode Select  | 1.7        |                               |
| ECP Mode Use DMA   | [3]        |                               |
| PWRON After PWR-Fail   | [Off]      |                               |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |            |                               |

---

## ECP Mode Use DMA

---

If your system supports ECP parallel port mode and you have the port set to use ECP, you must use this setting to assign a DMA channel for use by the port.

The choice: DMA1, DMA3 **(default)**.

**If Parallel Port Mode Select is [ECP+EPP] will show:**

| Phoenix-Award BIOS CMOS Setup Utility  |                  |                           |
|--|------------------|---------------------------|
| Super IO Device  |                  |                           |
| Onboard Serial Port 1  | [3F8/IRQ4]       | Item Help<br>Menu Level ▶ |
| Onboard Serial Port 2  | [2F8/IRQ3]       |                           |
| UART Mode Select   | [IrDA]           |                           |
| RxD , TxD Active   | [Hi, Lo]         |                           |
| IR Transmission Delay  | [Enabled]        |                           |
| UR2 Duplex Mode  | [Half]           |                           |
| Onboard Parallel Port  | [378/IRQ7]       |                           |
| Parallel Port Mode   | <b>[ECP+EPP]</b> |                           |
| EPP Mode Select  | [1.7]            |                           |
| ECP Mode Use DMA   | [3]              |                           |
| PWRON After PWR-Fail   | [Off]            |                           |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |                  |                           |

---

## EPP Mode Select

---

Select EPP port type 1.7 or 1.9.

The choice: 1.7 **(default)**, 1.9.

---

## ECP Mode Use DMA

---

If your system supports ECP parallel port mode and you have the port set to use ECP, you must use this setting to assign a DMA channel for use by the port.

The choice: DMA1, DMA3 **(default)**.

---

## PWRON After PWR-Fail

---

When power fails, you can select power ON or Off or Former status.

The choice: Off **(default)**, On, Former-Sts.

---

### Onboard Serial Port 3

---

This is used to select an I/O address for the onboard serial port 3.  
The choice: Disabled, 3F8, 2F8, 3E8 **(default)**, 2E8.

### Serial Port 3 Use IRQ

---

This is used to select an IRQ for the onboard serial port 3.  
The choice: IRQ3 **(default)**, IRQ4, IRQ5, IRQ7, IRQ10, IRQ11.

### Onboard Serial Port 4

---

This is used to select an I/O address for the onboard serial port 4.  
The choice: Disabled, 3F8, 2F8, 3E8, 2E8 **(default)**.

### Serial Port 4 Use IRQ

---

This is used to select an IRQ for the onboard serial port 4.  
The choice: IRQ3, IRQ4 **(default)**, IRQ5, IRQ7, IRQ10, IRQ11.

### Watch Dog Timer Select

---

The choice: Disabled **(default)**, Enable.

### ➤ USB Device Setting

---

| Phoenix-Award BIOS CMOS Setup Utility  |              |       |
|--|--------------|-------|
| USB Device Setting   |              |       |
| USB 1.0 Controller   | [Enabled]    | Item  |
| USB 2.0 Controller   | [Enabled]    | Help  |
| USB Operation Mode   | [High Speed] |       |
| USB Keyboard Function  | [Enabled]    | Menu  |
| USB Mouse Function   | [Enabled]    | Level |
| USB Storage Function   | [Enabled]    | ▶     |
| ***USB Mass Storage Device Boot Setting***   |              |       |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help<br>F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |              |       |

---

### USB 1.0 Controller

---

This entry is for disable/enable USB1.0 controller only. The BIOS itself may/may not have high speed USB support.

If the BIOS has high speed USB support built in, the support will be automatically turn on when high speed device were attached.

The choice: Enabled (**default**), Disabled.

### USB 2.0 Controller

---

This entry is for disable/enable USB2.0 controller only. The BIOS itself may/may not have high speed USB support.

If the BIOS has high speed USB support built in, the support will be automatically turn on when high speed device were attached.

The choice: Enabled (**default**), Disabled.

### USB Operation Mode

---

The choice: Full/Low Speed, High Speed (**default**).

### USB Keyboard Function

---

The choice: Enabled (**default**), Disabled.

### USB Mouse Function

---

The choice: Enabled (**default**), Disabled.

### USB Storage Function

---

The choice: Enabled (**default**), Disabled.

### SanDisk Cruzer Crossfire0.

---

The choice: Auto (**default**), FDD mode, HDD mode.

## 3.6 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

| Phoenix-Award BIOS CMOS Setup Utility  |               |              |
|--|---------------|--------------|
| Power Management Setup   |               |              |
| ACPI Function  | [Enabled]     | Item Help    |
| Power Management   | [User Define] |              |
| Video Off Method   | [DPMS]        | Menu Level ▶ |
| Video Off In Suspend   | [Yes]         |              |
| Suspend Type   | [Stop Grant]  |              |
| MODEM Use IRQ  | [3]           |              |
| Suspend Mode   | [Disabled]    |              |
| HDD Power Down   | [Disabled]    |              |
| Soft-Off by PWR-BTTN   | [Instant-Off] |              |
| CPU THRM-Throttling  | [50.0%]       |              |
| Wake-Up by PCI card  | [Enabled]     |              |
| Power On by Ring   | [Enabled]     |              |
| Resume by Alarm  | [Disabled]    |              |
| x Data(of Month)Alarm  | 0             |              |
| x Time(hh: mm: ss)Alarm  | 0 : 0 : 0     |              |
| **Reload Global Timer Events**   |               |              |
| Primary IDE 0  | [Disabled]    |              |
| Primary IDE 1  | [Disabled]    |              |
| Secondary IDE 0  | [Disabled]    |              |
| Secondary IDE 1  | [Disabled]    |              |
| FDD , COM , LPT Port   | [Disabled]    |              |
| PCI PIRQ[A-D]#   | [Disabled]    |              |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General<br>Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |               |              |

### ACPI Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).

The choice: Enabled (**default**), Disabled.

---

## Power Management

---

The choice: User Define (**default**), Min Saving, Max Saving.

|             |  |
|-------------|--|
| Max Saving  | Maximum power savings. Only Available for SL CPUs. Inactivity period is 1 minute in each mode. |
| User Define | Set each mode individually. Select time-out periods in the section for each mode, below.       |
| Min Saving  | Minimum power savings. Inactivity period is 1 hour in each mode (except the hard drive).       |

---

## Video off Method

---

This determines the manner in which the monitor is blanked. This specifies the power saving state that the VGA video subsystem enters after the specified period of display inactivity has expired. The choice: Blank Screen, V/H SYNC+ Blank, DPMS (**default**).

|                  |  |
|------------------|--|
| Blank Screen     | The BIOS will only black the screen when the system gets into power management mode and writes blanks to the video buffer. |
| V/H SYNC + Blank | Writes blanks to the video buffer, and turns off the vertical and horizontal scanning.                                     |
| DPMS             | Allows the BIOS to control the video display card if it supports the DPMS feature ( <b>default</b> ).                      |

---

## Video Off In Suspend

---

This field is used to activate the video off feature when the system enters the Suspend mode. The choice: No, Yes (**default**).

---

## Suspend Type

---

The choice: Stop Grant (**default**),PwrOn Suspend.

---

## MODEM Use IRQ

---

This field is used to set an IRQ channel for the modem installed in your system. The choice: NA, 3 (**default**), 4, 5, 7, 9, 10, 11.



---

## Suspend Mode

---

This field specifies the length of time of system inactivity while in full power on state before the computer enters suspend mode and motivates the enable 'Wake up Events in Doze & Standby' / 'PM Events'.

The choice: 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40Min, 1Hour, Disable **(default)**.

---

## HDD Power Down

---

When enable and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

The choice: 1Min, 2Min, 3Min, 4Min, 5Min, 6Min, 7Min, 8Min, 9Min, 10Min, 11Min, 12Min, 13Min, 14Min, 15Min, Disable **(default)**.

---

## Soft-Off by PWR-BTTN

---

This field defines the power off mode when using an ATX power supply.

The choice: Instant-Off, Delay 4 Sec.

|             |   |
|-------------|---|
| Instant-Off | Press power button then Power off instantly <b>.(default)</b>                               |
| Delay 4 Sec | Press power button 4 sec. to Power off. Enter suspend if button is pressed less than 4 sec. |

---

## CPU THRM-Throttling

---

This field allows you to select the CPU THRM-Throttling rate.

The choice: 75.0%, 50.0% **(default)**, 25.0%.

---

## Wake-Up by PCI card

---

Enable/Disable PCI PME wake up function.

The choice: Enabled **(default)**, Disabled.

---

## Power On by Ring

---

Enable/Disable Power on by Ring function.

The choice: Enabled **(default)**, Disabled.

---

## Resume by Alarm

---

You can set "Resume by Alarm" item to enabled and key in Date/time to power on system.  
The choice: Enabled, Disabled (**default**).

**If Resume by Alarm is [Enabled], can choice Date Alarm and Time Alarm:**

### Date (of Month) Alarm

---

Every day, 1~31.

| Date(of Moth)Alarm                        |
|---|
| Min= 0<br>Max= 31                         |
| Key in a DEC number: <input type="text"/> |
| ↑↓: Move Enter: Accept ESC:Abort          |

### Time (hh: mm: ss) Alarm

---

(0~23): (0~59): (0~59).

| Time (hh: mm: ss) Alarm                   |
|---|
| Min= 0<br>Max= 23                         |
| Key in a DEC number: <input type="text"/> |
| ↑↓: Move Enter: Accept ESC:Abort          |

### Primary/ Secondary IDE 0/1

---

When Enabled, the system will resume from suspend mode if Primary IDE 0 (1) or Secondary IDE 0 (1) is active.  
The choice: Enabled, Disabled (**default**).

---

### **FDD, COM, LPT Port**

---

When Enabled, the system will resume from suspend mode if FDD, COM port, or LPT port is active.

The choice: Enabled, Disabled **(default)**.

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

---

When Enabled, the system will resume from suspend mode if interrupt occurs.

The choice: Enabled, Disabled **(default)**.

## 3.7 PnP/PCI Configuration

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

| Phoenix-Award BIOS CMOS Setup Utility<br>PnP/PCI Configuration  |                             |              |
|---|-----------------------------|--------------|
| Init Display First  | [PCI Slot]                  | Item Help    |
| Reset Configuration Data  | [Disabled]                  | Menu Level ▶ |
| Resources Controlled By<br>x IRQ Resources  | [Auto(ESCD)]<br>Press Enter |              |
| PCI/VGA Palette Snoop   | [Disabled]                  |              |
| INT Pin 1 Assignment  | [Auto]                      |              |
| INT Pin 2 Assignment  | [Auto]                      |              |
| INT Pin 3 Assignment  | [Auto]                      |              |
| INT Pin 4 Assignment  | [Auto]                      |              |
| INT Pin 5 Assignment  | [Auto]                      |              |
| INT Pin 6 Assignment  | [Auto]                      |              |
| INT Pin 7 Assignment  | [Auto]                      |              |
| INT Pin 8 Assignment  | [Auto]                      |              |
| **PCI Express relative items**  |                             |              |
| Maximum Payload Size  | [128]                       |              |
| ↑ ↓ ← → : Move    Enter: Select    +/-/PU/PD: Value    F10:Save    Esc: Exit    F1:General Help<br>F5:Previous Value    F6:Fail-Safe Defaults    F7:Optimized Default |                             |              |

### Init Display First

This item allows you to choose which one to activate first, PCI Slot or onchip VGA.

The choice: PCI Slot (**default**), Onboard, PCIEx.

---

## Reset Configuration Data

---

Default is disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot.

The choice: Enabled, Disabled (**default**).

## Resources Controlled By

---

BIOS can automatically configure all the boot and Plug and Play compatible devices. If you choose Auto, you cannot select IRQ DMA and memory base address fields, since BIOS automatically assigns them.

The choice: Auto (ESCD) (**default**), Manual.

**If Resources Controlled By is [Manual], can choice IRQ Resource:**

| Phoenix-Award BIOS CMOS Setup Utility<br>PnP/PCI Configuration   |               |              |
|--|---------------|--------------|
| Init Display First   | [PCI Slot]    | Item Help    |
| Reset Configuration Data   | [Disabled]    |              |
| Resources Controlled By  | [Manual]      | Menu Level ▶ |
| ▶ IRQ Resources  | [Press Enter] |              |
| PCI/VGA Palette Snoop  | [Disabled]    |              |
| INT Pin 1 Assignment   | [Auto]        |              |
| INT Pin 2 Assignment   | [Auto]        |              |
| INT Pin 3 Assignment   | [Auto]        |              |
| INT Pin 4 Assignment   | [Auto]        |              |
| INT Pin 5 Assignment   | [Auto]        |              |
| INT Pin 6 Assignment   | [Auto]        |              |
| INT Pin 7 Assignment   | [Auto]        |              |
| INT Pin 8 Assignment   | [Auto]        |              |
| **PCI Express relative items**   |               |              |
| Maximum Payload Size   | [128]         |              |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help<br>F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |               |              |

---

## ➤IRQ Resource

---

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt. This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot.

| Phoenix-Award BIOS CMOS Setup Utility  |              |   |
|--|--------------|---|
| IRQ Resource   |              |   |
| IRQ-3 assigned to  | [PCI Device] | Item Help<br><br>Menu Level ►<br>Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture |
| IRQ-4 assigned to  | [PCI Device] |   |
| IRQ-5 assigned to  | [PCI Device] |   |
| IRQ-7 assigned to  | [PCI Device] |   |
| IRQ-9 assigned to  | [PCI Device] |   |
| IRQ-10 assigned to   | [PCI Device] |   |
| IRQ-11 assigned to   | [PCI Device] |   |
| IRQ-12 assigned to   | [PCI Device] |   |
| IRQ-14 assigned to   | [PCI Device] |   |
| IRQ-15 assigned to   | [PCI Device] |   |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit F1:General Help<br>F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |              |   |

---

### IRQ-3,4,5,7,9,10,11,12,14,15 assigned to

---

| IRQ-3 assigned to                |                                    |
|----------------------------------|------------------------------------|
| PCI Device                       | ..... [ <input type="checkbox"/> ] |
| Reserved                         | ..... [ <input type="checkbox"/> ] |
| ↑↓: Move Enter: Accept ESC:Abort |                                    |

The choice: PCI Device, Reserved.

---

### **PCI/VGA Palette Snoop**

---

This BIOS feature determines if your graphics card should allow VGA palette snooping by a fixed function display card.

The choice: Enabled, Disabled **(default)**.

### **INT Pin 1/2/3/4/5/6/7/8 Assignment**

---

The choice: Auto **(default)**, 3, 4, 5, 7, 9, 10, 11, 12, 14, 15.

### **Maximum Payload Size**

---

The choice: 128 **(default)**, 256, 512, 1024, 2048, 4096.

---

## 3.8 PC Health Status

This section helps you to get more information about your system including CPU temperature, FAN speed and voltages. It is recommended that you contact with your motherboard supplier to get proper value about your setting of the CPU temperature.

| Phoenix-Award BIOS CMOS Setup Utility<br>PC Health Status  |              |              |
|--|--------------|--------------|
| CPU Warning Temperature  | [Disabled]   | Item Help    |
| Current System Temp.   | 40°C / 107°F |              |
| Current CPU Temp.  | 40°C / 100°F | Menu Level ► |
| CPU FAN Speed  | 3308 RPM     |              |
| CHASSIS Fan Speed  | 0 RPM        |              |
| POWER Fan Speed  | 0 RPM        |              |
| Vcore  | 1.20V        |              |
| +1.5V  | 1.52V        |              |
| +3.3V  | 3.47V        |              |
| +5V  | 5.13V        |              |
| +12V   | 12.22V       |              |
| VBAT(V)  | 3.42V        |              |
| 5VSB(V)  | 5.09V        |              |
| Shutdown Temperature   | [Disabled]   |              |
| ↑ ↓ ← → : Move Enter: Select +/-/PU/PD: Value F10:Save Esc: Exit<br>F1:General Help F5:Previous Value F6:Fail-Safe Defaults F7:Optimized Default |              |              |

---

### CPU Warning Temperature

Select the CPU over-heated warning temperature.

The choice: Disabled (**default**), 50°C/122°F, 53°C/127°F, 56°C/133°F, 60°C/140°F, 63°C/145°F, 66°C/151°F, 70°C/158°F.

---

### Current System Temp

Show System Temperature.

---

### Current CPU Temp

Shows Board Temperature.



---

### **CPU FAN Speed**

---

Shows CPU Fan speed.

### **CHASSIS Fan Speed**

---

Shows CHASSIS Fan speed.

### **POWER Fan Speed**

---

Shows POWER Fan speed.

### **Shutdown Temperature**

---

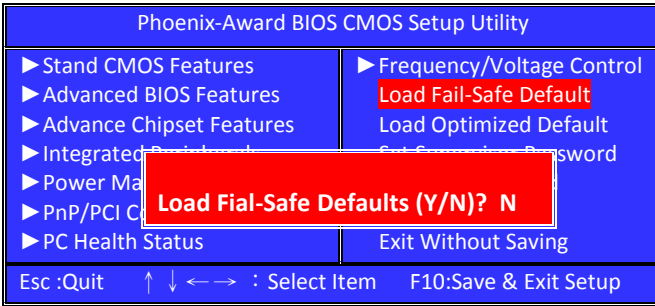
Select the CPU over-heated shutdown temperature.

The choice: Disabled (**default**), 60°C/140°F, 65°C/149°F, 70°C/158°F, 75°C/167°F.

---

## 3.9 Load Fail-Safe Defaults

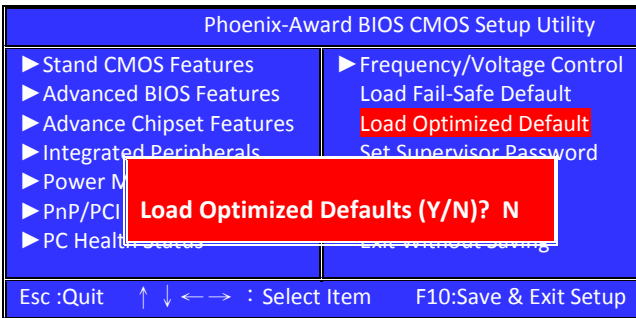
When you press <Enter> on this item you get a confirmation dialog box with a message similar to:



Pressing '**Y**' loads the BIOS default values for the most stable, minimal-performance system operations.

## 3.10 Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:



Pressing '**Y**' loads the default values that are factory settings for optimal performance system operations.

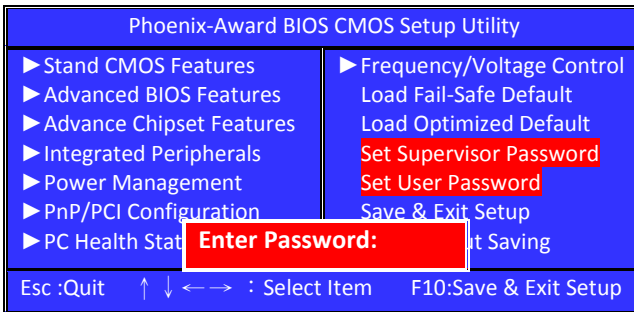
---

## 3.11 Set Supervisor/ User Password

You can set either supervisor or user password, or both of them. The differences between are:

**Supervisor password:** can enter and change the options of the setup menus.

**User password:** just can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

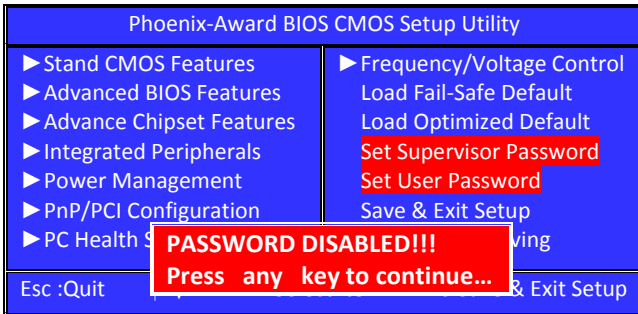


---

### ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.



### PASSWORD DISABLED:

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

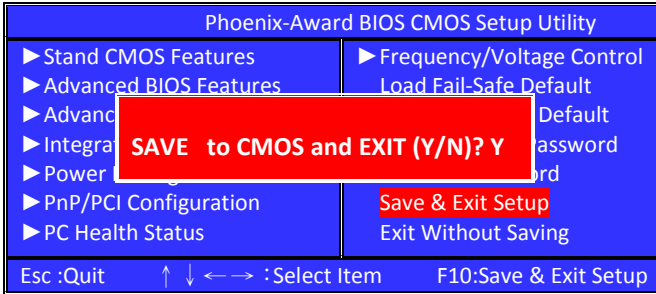
Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

---

## 3.12 Save & Exit Setup

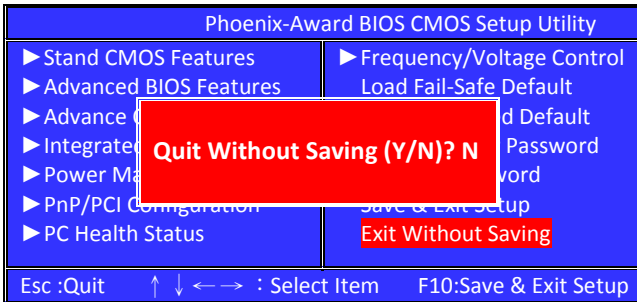
Pressing <Enter> on this item asks for confirmation:



Pressing “Y” stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

## 3.13 Exit Without Saving

Pressing <Enter> on this item asks for confirmation:



This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

---

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---

# CHAPTER 4 Appendix

|  |    |
|--|----|
| A. I/O PORT ADDRESS MAP .....          | 80 |
| B. INTERRUPT REQUEST LINES (IRQ) ..... | 81 |
| C. POST BEEP.....                      | 82 |

---

## A. I/O Port Address Map

Each peripheral device in the system is assigned a set of I/O port addresses which also becomes the identity of the device. There is a total of 1K port address space available. The following table lists the I/O port addresses used on the Industrial CPU Card.

| Address     | Device Description                 |
|-------------|------------------------------------|
| 000h - 01Fh | DMA Controller #1                  |
| 020h - 03Fh | Interrupt Controller #1            |
| 040h - 05Fh | Timer                              |
| 060h - 06Fh | Keyboard Controller                |
| 070h - 07Fh | Real Time Clock, NMI               |
| 080h - 09Fh | DMA Page Register                  |
| 0A0h - 0BFh | Interrupt Controller #2            |
| 0C0h - 0DFh | DMA Controller #2                  |
| 0F0h        | Clear Math Coprocessor Busy Signal |
| 0F1h        | Reset Math Coprocessor             |
| 1F0h - 1F7h | IDE Interface                      |
| 278 - 27F   | Parallel Port #2(LPT2)             |
| 2F8h - 2FFh | Serial Port #2(COM2)               |
| 2B0 - 2DF   | Graphics adapter Controller        |
| 378h - 3FFh | Parallel Port #1(LPT1)             |
| 360 - 36F   | Network Ports                      |
| 3B0 - 3BF   | Monochrome & Printer adapter       |
| 3C0 - 3CF   | EGA adapter                        |
| 3D0 - 3DF   | CGA adapter                        |
| 3F0h - 3F7h | Floppy Disk Controller             |
| 3F8h - 3FFh | Serial Port #1(COM1)               |



---

## ***B. Interrupt Request Lines (IRQ)***

There are a total of 15 IRQ lines available on the Industrial CPU Card. Peripheral devices use interrupt request lines to notify CPU for the service required. The following table shows the IRQ used by the devices on the Industrial CPU Card.

| <b>Level</b> | <b>Function</b>               |
|--------------|-------------------------------|
| IRQ0         | System Timer Output           |
| IRQ1         | Keyboard                      |
| IRQ2         | Interrupt Cascade             |
| IRQ3         | Serial Port #2                |
| IRQ4         | Serial Port #1                |
| IRQ5         | Reserved                      |
| IRQ6         | Floppy Disk Controller        |
| IRQ7         | Parallel Port #1              |
| IRQ8         | Real Time Clock               |
| IRQ9         | Software Redirected to Int0Ah |
| IRQ10        | Reserved                      |
| IRQ11        | Reserved                      |
| IRQ12        | PS/2 Mouse                    |
| IRQ13        | 80287                         |
| IRQ14        | Primary IDE                   |
| IRQ15        | Secondary IDE                 |

---

## ***C. POST Beep***

Currently there are two kinds of beep codes in BIOS. This code indicates that a **video error** has occurred and the BIOS cannot initialize the video screen to display any additional information. This beep code consists of a single long beep followed by two short beeps.

The other code indicates that your **DRAM error** has occurred. This beep code consists of a single long beep repeatedly.