User's Manual

Version 1.0

Control Board

Model Number IP-06049

Intel® Pentium® M Embedded SBC with Ten 64-bit GbE ports, Four 10/100LAN &SSD

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Table of Contents

Chapter 1. General Information

1.1 Introduction

THE IP-06049 embedded control board based on Intel® architecture with E7501+ICH3+P64H2 chipset supporting the Pentium® M processor with 400/533MHz FSB. The DDR 200/266 RAM (PC2100 registered) with ECC for enhanced data integrity up to 8GB. It also integrates SafeXcel®-184x high performance security co-processor onboard that designed for the VPN appliance market and optimized for IPSec. The IP-06049 provides fourteen Ethernet ports including eight GbE SFP pots, two GbE copper ports and four10/100BASE-T LAN ports for multiple Ethernet port markets and performance requirements. SFP is a new trend for networking application, the flexibility of GbE SFP port allow user to choose either fiber or copper module according to their requirement.

Other features include a CompactFlash socket, right angle 64-bit PCI-X 100MHz slot for future expansion capabilities, one IDE connector, two USB ports, two Serial port, one Parallel port, digital I/O, watchdog timer and hardware system monitoring for 1U chassis applications to give the customer a complete solution.

1.2 Specifications

General Functions	
CPU	Intel® Pentium® M processor (400/533MHz FSB) up to 2.26GHz
BIOS	Award® 512kB Flash BIOS
Chipset	Intel® E7501 + ICH3 + P64H2
I/O Chipset	Winbond® 83627HG
System Memory	Onboard four 184-pin DDR DIMM sockets (PC2100 ECC registered) socket at 266MHz supports up to 8GB
LAN	Ten GbE ports utilizing five of the Intel® 82546GB dual Ethernet controller; four 10/100Base-T Ethernet ports utilizing the Intel® 82551QM Ethernet controller
Storage	One CompactFlash™ type II socket, one IDE connector
Connectors	GbE: 8 SFP & 2 Copper interface 10/100 E: 4 RJ-45 ports Console: 1 port (COM 1 RJ-45) Internal header: 1 x Dual USB 1 x RS-232 (COM 2) 1 x Printer port Power connector: +12V
Digital I/O	4 x digital input, 4 x digital output

Expansion Slot	1 x 64-bit PCI-X 100MHz slot
Watchdog Timer	Can generate a system reset, supports software selectable timeout interval.
System Monitoring	Winbond ® W83627HG supports temperature, fan speed and voltages monitoring
Other Features	SafeXcel® - 1840 high performance security co-processor (optional)
OS Compatibility	MS DOS 6.22, Windows 2000/XP, Red Hat Linux 8.0/9.0, Linux Fedora Core 1/ Core 2
Power Supply	Standard ATX power supply Min. power requirements: 6.5A@+5V, 0.2A@-5V, 8.5A@+3.3V, 0.04A@5VSB, 1.75A@+12V, 0.17A@-12V
Mechanical	275mm (L) x 275mm(W) (11"L x 11"W)
Environmental	Operating Temperature: 32° ~ 140°F (0° ~ 60°C) Relative Humidity: 95%

1.3 Ordering Information

IP-60490	WIN control board with Pentium M 400MHz, Intel E7501 chipset, ten Gigabit (10/100/1000) and Four 10/100 LAN, SafeXcel 184x co-processor, CompactFlash™ socket, PCI-X slot, IDE Connector, two serial ports
IP-6049A	WIN PM 400/533MHz w/o CPU, ten 64-bit GbE ports, four 10/100 LAN, w/o SafeXcel-1840 co-processor
Platform Versions of IP-60490	
PL-1025A	1U Rack-Mount Intel Pentium M Network Platform, -Eight SFP GbE and two Copper GbE ports (Intel 82546GB), -Four 10/100BASE-T Copper Ethernet (Intel 82551QM), -SafeXcel 1840 security co-processor, -One 2.5"HDD drive bay(optional), -One Console
PL-1025B	1U Rack-Mount Intel Pentium M Network Platform, -Eight SFP GbE and two Copper GbE ports (Intel 82546GB), -Four 10/100BASE-T Copper Ethernet (Intel 82551QM), -W/O SafeXcel 1840 security co-processor, -One 2.5"HDD drive bay(optional), -One Console
Included Parts (Ships with Product)	
IP-60490	1 x IP-60490 SBC
CD	1 x CD: Manual, Quick installation guide, Utility driver or via FTP download
CB-ICOM00-00	1 x COM port cable
CB-IUSB08-00	1 x USB cable
CB-ILP01-00	1 x Parallel port cable

1.4 Packaging

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

IP-06049 Low Power Embedded SBC

Quick Setup

Cables: Please refer to Appendix B Optional Cables

CD-ROM which contains the following folders:

- Manual
- System Driver
- Ethernet Driver
- Tools

If any of these items are missing or damaged, please contact your dealer from whom you purchased the board at once. Save the shipping materials and carton in the event you want to ship or store the board in the future. After you unpack the board, inspect it to assure an intact shipment. Do not apply power to the board if it appears to have been damaged.

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

Precautions

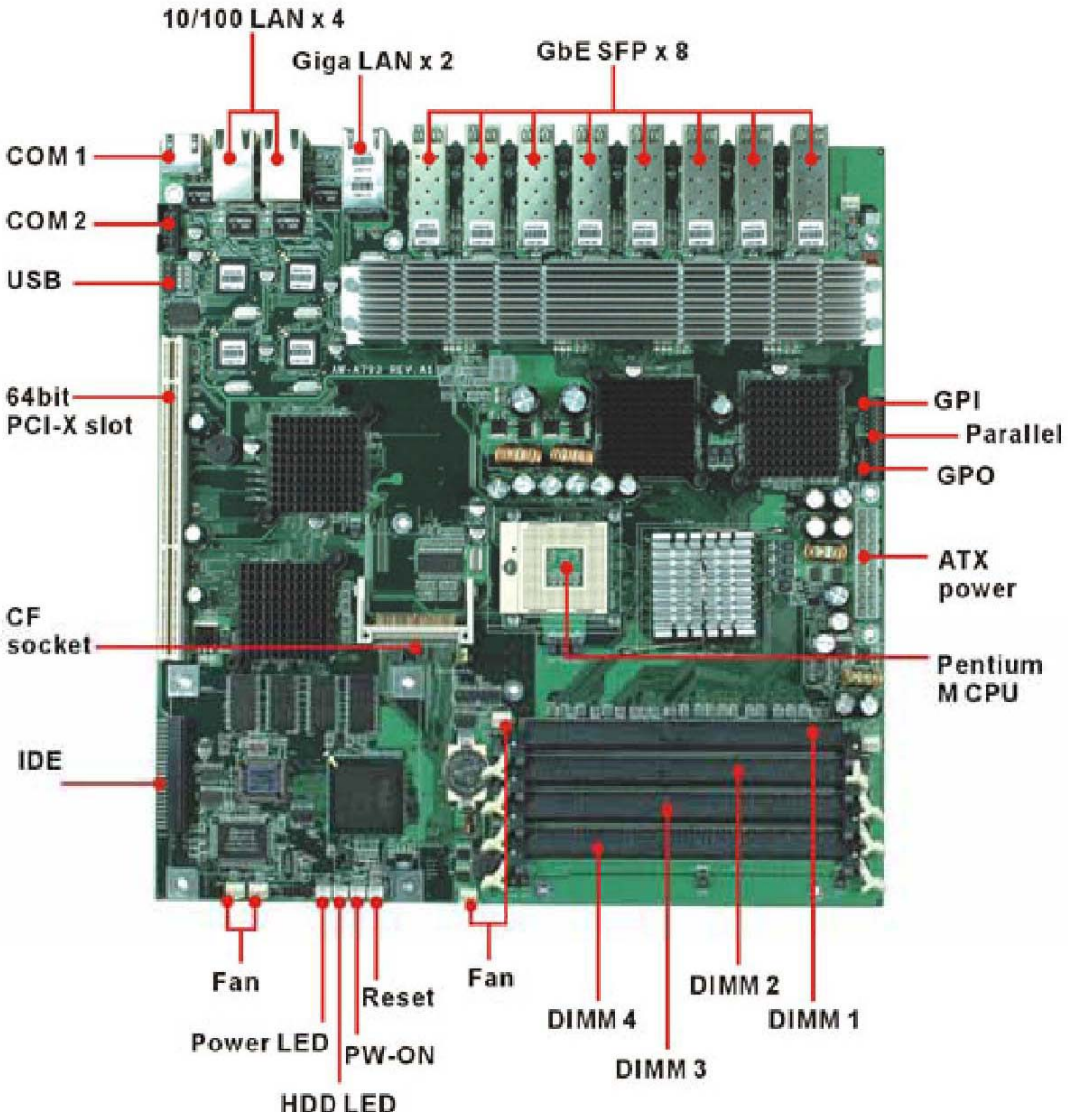
Please make sure you properly ground yourself before handling the IP-06049 board or other system components. Electrostatic discharge can be easily damage the IP06049 board.

Do not remove the anti-static packing until you are ready to install the IP-06049 board.

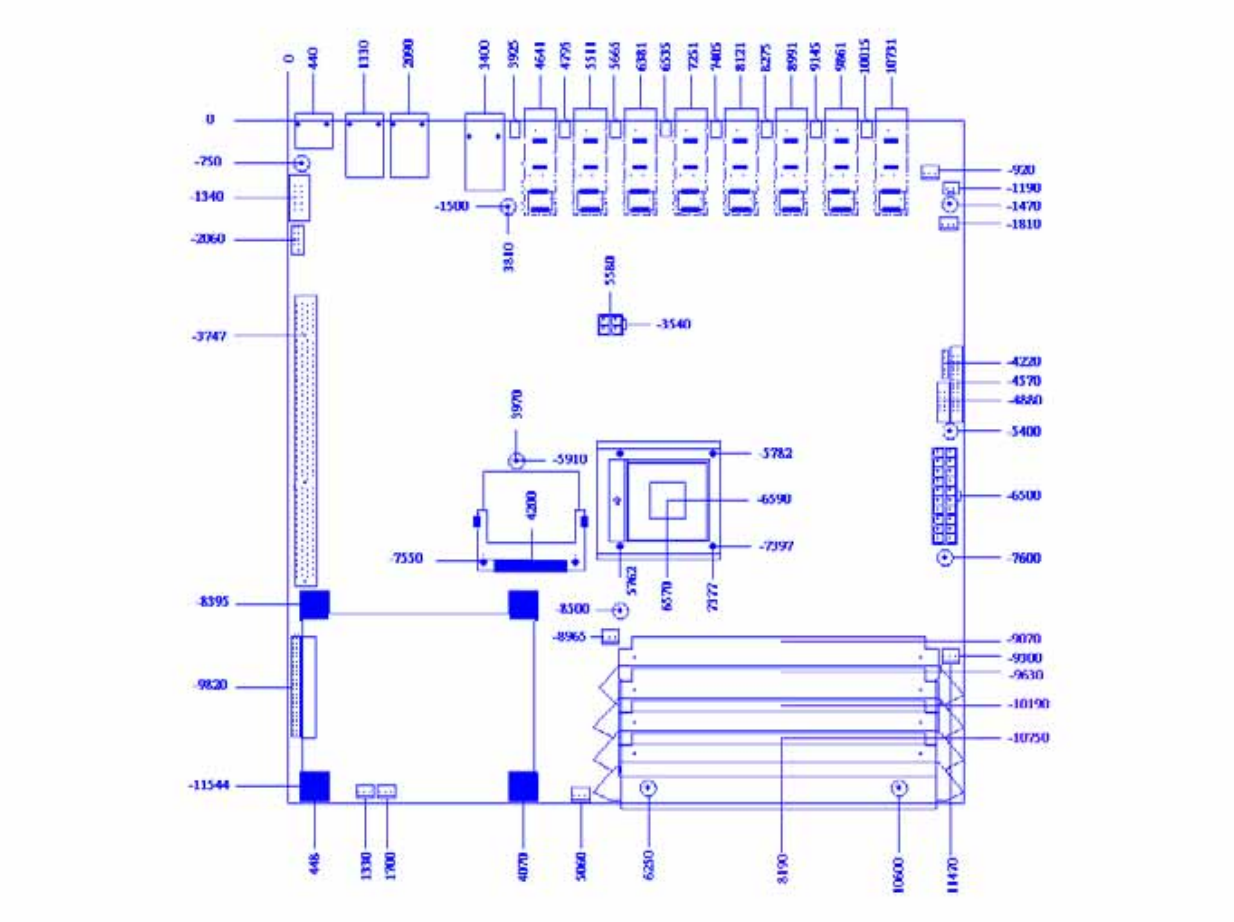
Ground yourself before removing any system component from it protective anti-static packaging. To ground yourself, grasp the expansion slot covers or other unpainted parts of the computer chassis.

Handle the IP-06049 board by its edges and avoid touching its component.

1.4 Board Layout

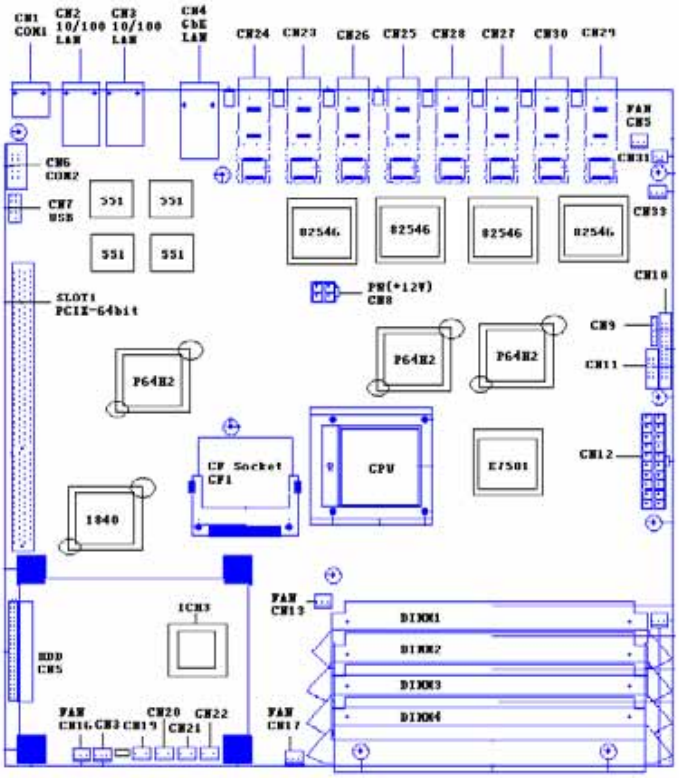


1.5 Board Dimensions



Chapter 2. Connectors/Switch Location and Configuration

2.1 Connectors/Jumpers Location and Define



Connector	Define
CN1	COM1 RJ45 Connector
CN2	Dual LAN (10/100) Connector
CN3	Dual LAN (10/100) Connector
CN4	Dual LAN Gigabit Connector
CN5	FAN Connector
CN6	COM2 Box Header
CN7	USB Pin Header
CN8	+12V Power Connector

CN9	GPI Pin Header
CN10	Parallel Box Header
CN11	GPO Pin Header
CN12	ATX Power Connector
CN13	FAN Connector
CN14	FAN Connector
CN15	IDE (2mm) 44 Pin 90 degree
CN16	FAN Connector
CN17	FAN Connector
CN19	Power LED Pin Header
CN20	HDD LED Pin Header
CN21	PS-ON Pin Header
CN22	Reset Pin Header
CN23	SFP Connector
CN24	SFP Connector
CN25	SFP Connector
CN26	SFP Connector
CN27	SFP Connector
CN28	SFP Connector
CN29	SFP Connector
CN30	SFP Connector
CN31	LCM back light Connector
CN32	FAN Connector
JP2	PS-On/Always On Select
JP3	Clear CMOS
JP4	CPU Frequency Select

2.2. Installing Processors

The IP-06049 onboard built-in socket 479 for Intel® Pentium® M Processors. After installing the processor, you should proceed to installing the heat-sink or cooler.

2.2.1 Installing CPU:

(1) The CPU has marks with a triangle; make sure the triangle has the same position with CPU socket; then press down lightly until the processor engages with the socket.

(2) Tie the screw of CPU socket beginning from right side. Refer to picture below.

(3) The CPU socket has a lock sign; push the tappet to lock location

2.2.2 Remove CPU

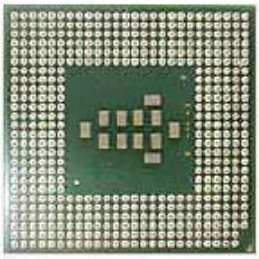
(1) First push the tappet to unlock location.
(2) Then untie the screw beginning from left side, refer to picture below.
(3) Now you can remove the CPU from socket.

2.2.3 How to recognize CPU

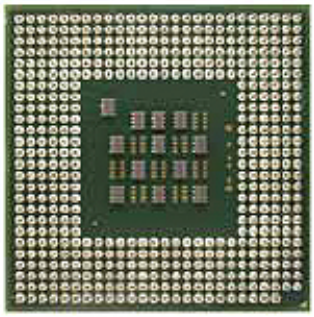
Before you install CPU make sure the CPU is the Pentium M processor. You can see the difference from CPU code and the pin out at backside.

(1) Pentium M CPU (Socket 479)
(2) PIII CPU – (uFCPGA Package)
(3) Pentium 4 CPU (Socket 478)

(2) PIII CPU – (uFCPGA Package)



(3) Pentium 4 CPU (Socket 478)



2.3 Installing Memory

To insert a DIMM Memory:

The AW-A793 supports two 184-pin DDR sockets, memory up to 8GB. Please make sure to insert DDR with registered.

To Insert a DIMM Memory: Please align the module with the socket key and press down until the levers at each end of the socket snap close up.

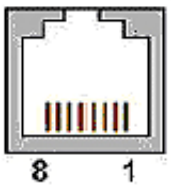
There is only one direction for installing a module in the socket. Do not attempt to force the module into the socket incorrectly.

To Remove a DIMM Memory: To remove a DIMM, press down on the levers at both end of the module until the module pops out.

There is only one direction for installing a module in the socket. Do not attempt to force the module into the socket incorrectly.

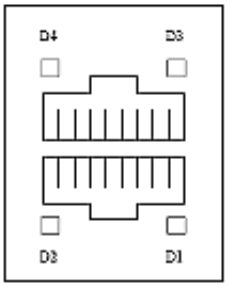
2.4 Connector and Jumper Settings

CN1: COM1 RJ45 Connector



Pin	Define
1	CTS#
2	DTR#
3	TXD#
4	NC
5	NC
6	RXD#
7	PSR#
8	RTS#

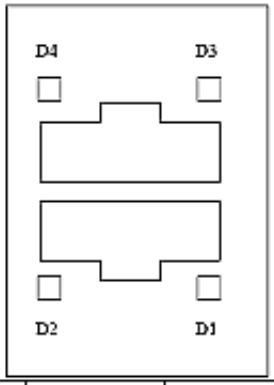
CN2/3: Dual LAN (10/100) Connector



Pin	Define	Pin	Define
1	TD0+	9	TD1+
2	TD0-	10	TD1-
3	RD0+	11	RD1+
4	NC	12	NC
5	NC	13	NC
6	RD0-	14	RD1-
7	NC	15	NC
8	NC	16	NC
LED			
D1	Link/Activity	D3	Link/Activity

	LED		LED
Link	Green	Link	Green
Activity	Blinking	Activity	Blinking
D2	Speed LED	D4	Speed LED
10	D2M	10	D2M
100	Yellow	100	Yellow

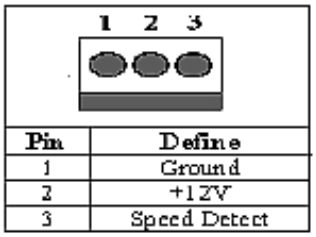
CN4: Dual LAN Gigabit Connector



Pin	Define	Pin	Define
13	DIA-	21	DIB-
6	DIA+	15	DIB+
5	D2A-	16	D2B-
11	D2A+	23	D2B+
10	D3A-	24	D3B-
3	D3A+	18	D3B+
2	D4A-	19	D4B-
8	D4A+	26	D4B+

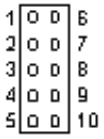
LED			
D1	Speed LED	D3	Speed LED
10	DIM	10	DIM
100	Green	100	Green
1000	Yellow	1000	Yellow
D2	Link/Activity LED	D4	Link/Activity
Link	Green	Link	Green
Activity	Blinking	Activity	Blinking

CN5/13/14/16/17/32: FAN Connector



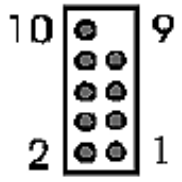
Pin	Define
1	Ground
2	+12V
3	Speed Detect

CN6: COM2 Box Header



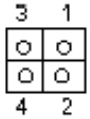
Pin	Define	Pin	Define
1	DCD#	6	DSR#
2	RXD#	7	RTS#
3	TXD#	8	CTS#
4	DTR#	9	RI#2
5	Ground	10	NC

CN7: USB Pin Header



Pin	Define	Pin	Define
1	+5V	2	+5V
3	DATA 0-	4	DATA 1-
5	DATA 0+	6	DATA 1+
7	GND	8	GND
9	NC	10	GND

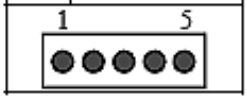
CN8: +12V Power Connector



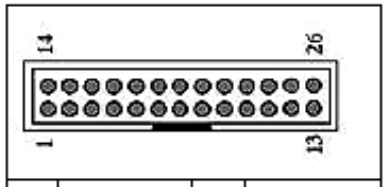
Pin	Define
1	Ground
2	Ground
3	+12V
4	+12V

CN9: GPI Pin Header

Pin	Assignment
1	GPI0
2	GPI1
3	GPI2
4	GPI3
5	Ground

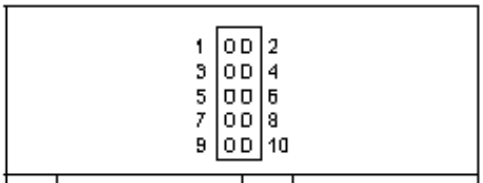


CN10: Parallel Box Header



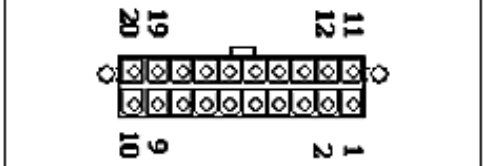
Pin	Define	Pin	Define
1	STROBE	14	AUTOFD
2	PD0	15	ERR
3	PD1	16	INT
4	PD2	17	SLCTIN
5	PD3	18	Ground
6	PD4	19	Ground
7	PD5	20	Ground
8	PD6	21	Ground
9	PD7	22	Ground
10	ACK*	23	Ground
11	BUSY	24	Ground
12	PE	25	Ground
13	SLCT	26	Ground

CN11: GPO Pin Header



Pin	Define	Pin	Define
1	GPO4-	2	GPO4+
3	GPO5-	4	GPO5+
5	GPO6-	6	GPO6+
7	GPO7-	8	GPO7+
9	Ground	10	VCC

CN12: ATX Power Connector



Pin	Define	Pin	Define
11	+3.3V	1	+3.3V
12	-12V	2	+3.3V
13	Ground	3	Ground
14	PS_ON*	4	+5V
15	Ground	5	Ground
16	Ground	6	+5V
17	Ground	7	Ground
18	-5V	8	POWER GOOD
19	+5V	9	5VSB
20	+5V	10	+12V

CN15: IDE (2mm) 44 Pin 90 degree

Pin	Define	Pin	Define
1	RESET*	2	Ground
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	Ground	20	NC
21	DREQ*	22	Ground
23	DIOW*	24	Ground
25	DIOR*	26	Ground
27	IOCHRDY	28	Ground
29	DACK*	30	Ground
31	IRQ14	32	NC
33	A1	34	DETECT
35	A0	36	A2
37	HD SELECT 0*	38	HD SELECT 0*
39	ACTIVE*	40	Ground
41	+5V	42	+5V
43	Ground	44	NC

CN19: Power LED Pin Header

Pin	Define
1	VCC
2	GND

CN20: HDD LED Pin Header

Pin	Define
1	IDE ACT#
2	VCC 3

CN21: PS-ON Pin Header

Pin	Define
1	PAN SWIN
2	5V STBY

CN22: Reset Pin Header

Pin	Define
1	Reset #
2	GND

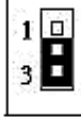
CN23/24/25/26/27/28/29/30: SFP Connector

Pin	Define
1	GND
2	MC
3	TX-Disable
4	NC
5	NC
6	NC
7	NC
8	LOS
9	GND
10	GND
11	GND
12	RX-
13	RX+
14	GND
15	VCC3
16	VCC3
17	GND
18	TX+
19	TX-
20	GND

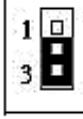
CN31: LCM back light Connector

Pin	Define
1	VCC
2	GPO

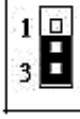
JP2: PS-On/Always On Select

Pin		Setting
	1-2	PS-ON
	2-3	Always on (Default)

JP3: Clear CMOS

Pin		Setting
	1-2	Hold Data (Default)
	2-3	Clear CMOS

JP4: CPU Frequency Select

Pin		Setting
	1-2	400MHZ (Default)
	2-3	533MHZ

Chapter 3. BIOS Setup

The ROM chip of your IP-06049 board is configured with a customized Basic Input/Output System (BIOS) from Phoenix-Award BIOS. The BIOS is a set of permanently recorded program routines that give the system its fundamental operational characteristics. It also tests the computer and determines how the computer reacts to instructions that are part of programs.

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

for: Date and time

Memory capacity of the main board
Type of display adapter installed
Number and type of disk drives

The CMOS memory is maintained by battery installed on the IP-06049 board. By using the battery, all memory in CMOS can be retained when the system power switch is turned off. The system BIOS also supports easy way to reload the CMOS data when you replace the battery of the battery power lose.

3.1 Quick Setup

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

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

3.2 Entering the CMOS Setup Program

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

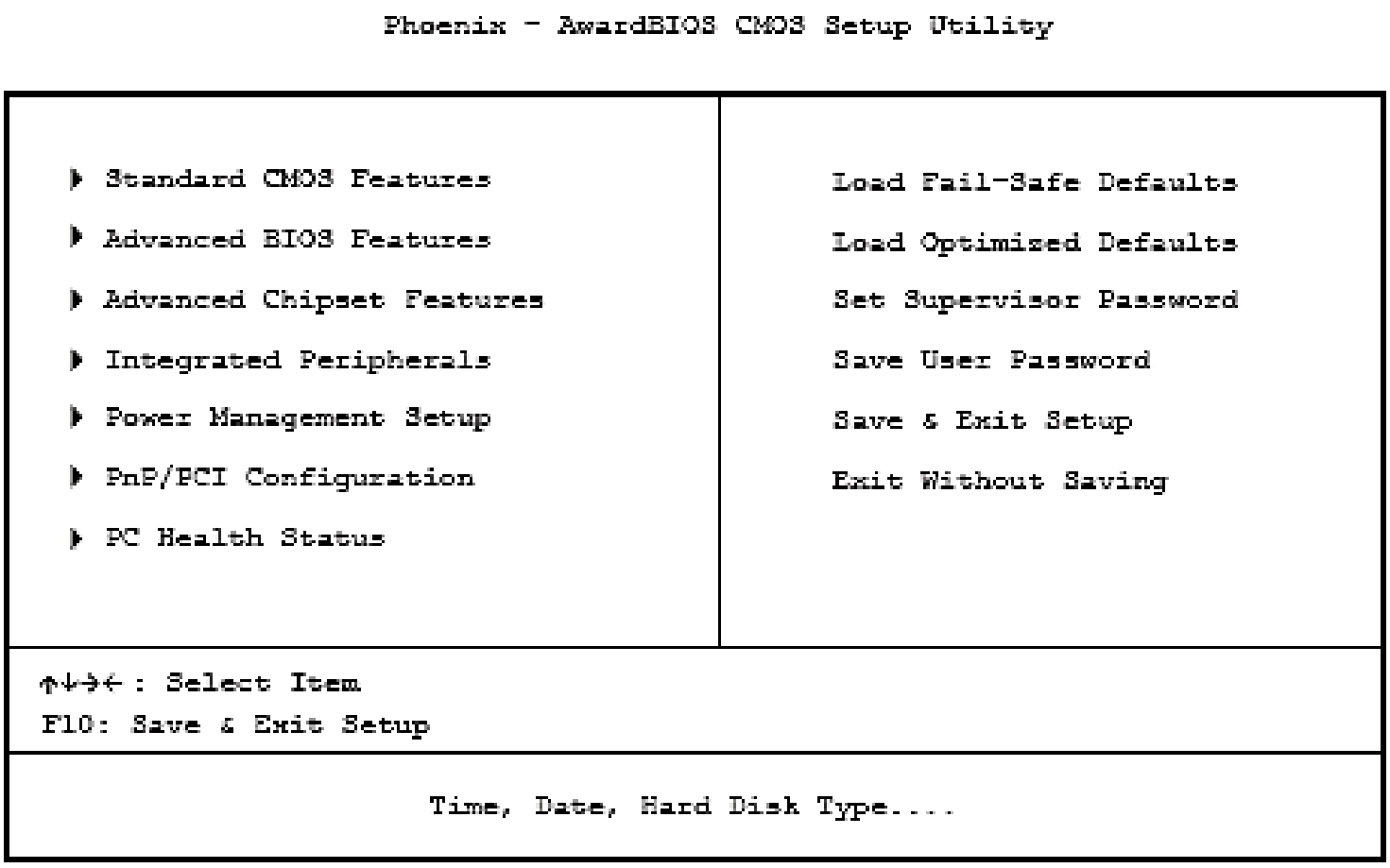
- Received an error code at startup
- Install another disk drive
- Use your system after not having used it for a long time
- Find the original setup missing
- Replace the battery
- Change to a different type of CPU

Run the Phoenix-Award Flash program to update the system BIOS

Run the CMOS Setup program after you turn on the system. On-screen instructions explain how to use the program

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

1 Turn on or reboot the system. After the BIOS performs a series of diagnostic checks, the following message appears: "Press DEL to enter SETUP" 2 Press the <DEL> key to enter CMOS Setup program. The main menu appears:



3. Choose a setup option with the arrow keys and press <Enter>. See the following sections for a brief description of each setup option.

In the main menu, press F10 ("Save & Exit Setup) to save your changes and reboot the system. Choosing "EXIT WITHOUT SAVING" ignores your changes and exits the program.

Pressing <ESC> anywhere in the program returns you to the main menu.

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

STANDARD CMOS FEATURES:
Configure the date & time, hard disk drive type, floppy disk drive type, primary display type and more

ADVANCED BIOS FEATURES:
Configure advanced system options such as enabling/disabling cache memory and shadow RAM

ADVANCED CHIPSET FEATURES:
Configure advanced chipset register options such DRAM timing

INTEGRATED PERIPHERALS:
Configure onboard I/O functions

POWER MANAGEMENT SETUP:
Configure power management features such as timer selects

PNP/PCI CONFIGURATION:
Configure Plug & Play IRQ assignments and PCI slots

PC HEALTH STATUS:
Configure the CPU speed and, if the optional Winbond W83627HF system monitor IC is installed, view system information

LOAD FAIL-SAFE DEFAULT:
Loads BIOS default values. Use this option as diagnostic aid if your system behaves erratically

LOAD OPTIMIZED DEFAULTS:
Loads optimized BIOS settings

SET SUPERVISORS & USER PASSWORD:

Configure the system so that a password is required when the system boots or you attempt to enter the CMOS setup program. When you log in with this password, you will be able to enter the COS Setup main menu, but you can not enter other menus in the CMOS Setup program.

SAVE & EXIT SETUP:

Save changes of values to CMOS and exit the CMOS setup program

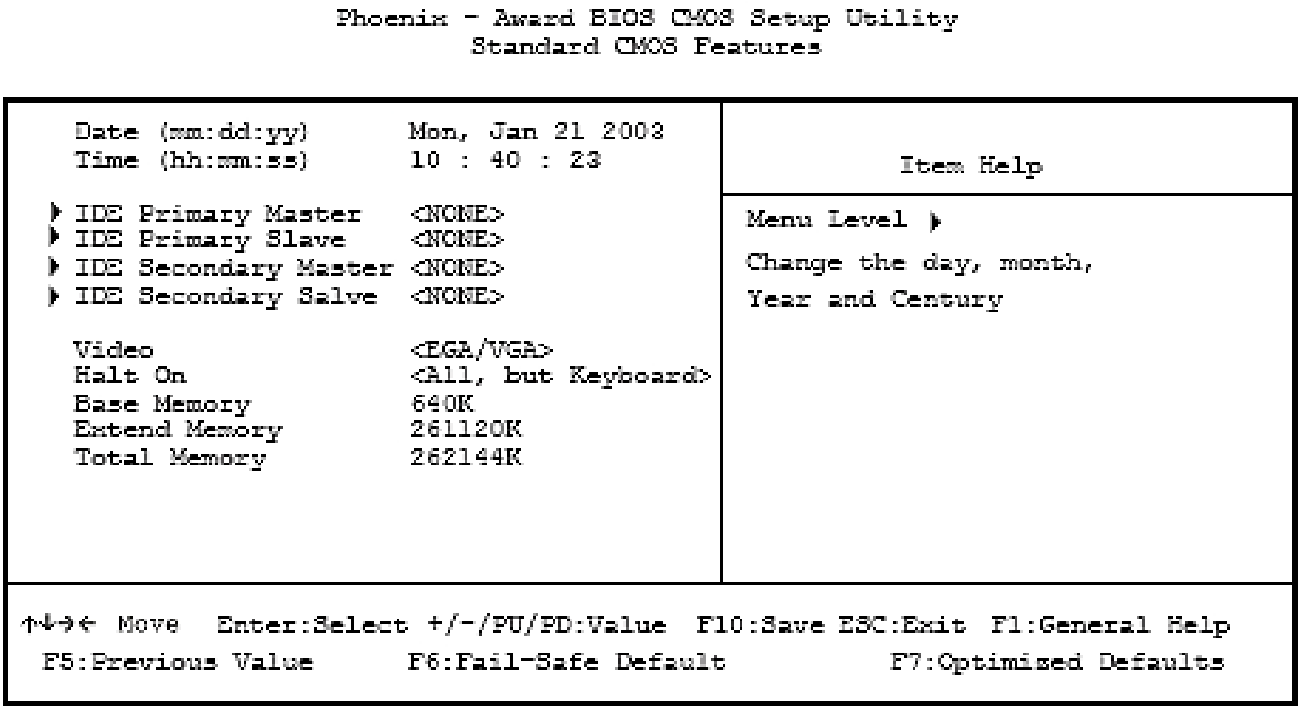
EXIT WITHOUT SAVING:

Abandon all CMOS changes and exit the CMOS setup program

Standard CMOS Features Setup

Use the Standard CMOS Setup option as follows:

⇩1. Choose “Standard CMOS Features” from the main menu. The following screen appears:



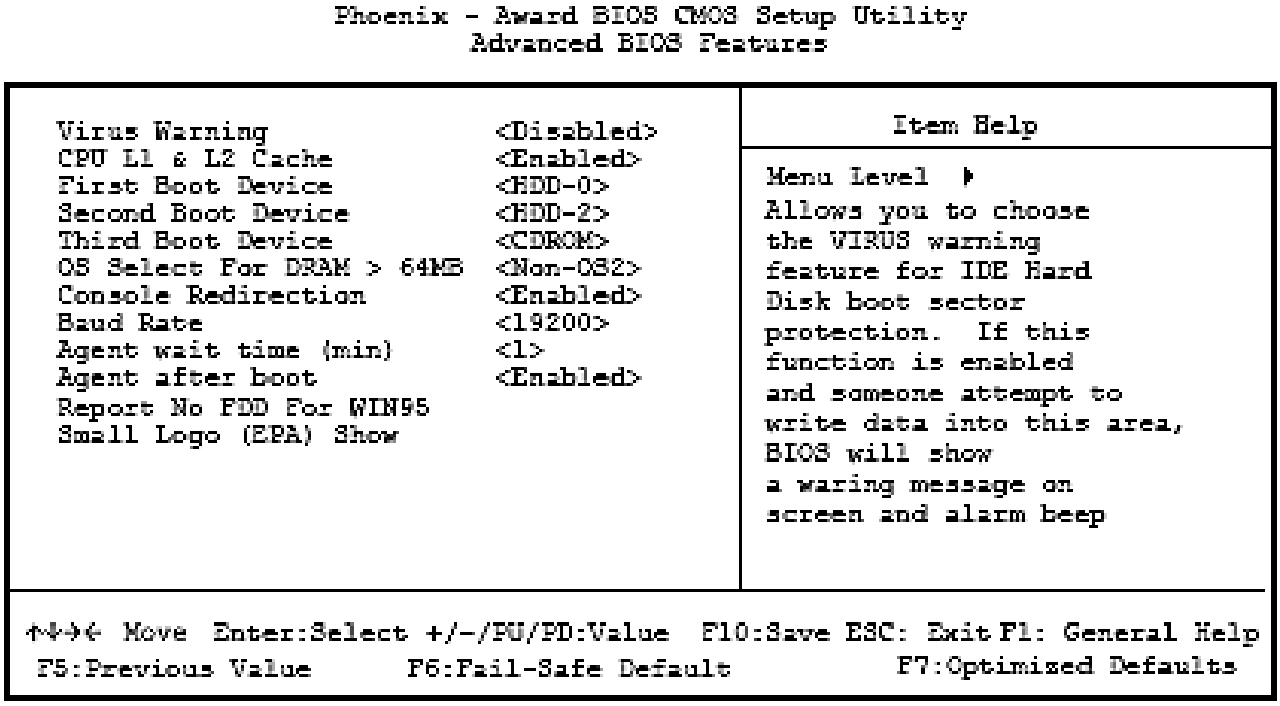
1 Use the arrow keys to move between fields. Modify the selected field using the PgUP/PgDN/+/- keys. Some fields let you enter numeric values directly. 2 After you have finished with the Standard CMOS Features program, press the <ESC> key to return to the main menu.

Option	**Description**
Date (mm:dd:yy)	Type the current date
Time (hour:min:sec)	Type the current time (24-hour clock)
Hard Disks	Choose from “Auto”, “User”, or “None” If your drive is not one of the predefined types, choose “User” and enter the following drive specifications: Cylinders, heads, Wpcom, L-Zone, sectors, and mode Consult the documentation received with the drive for the values that will give you optimum performance.
Video	Choose: EGA/VGA CGA 40 CGA 80 Mono
Halt On	Controls whether the system stops in case of an error detected during power up. Choose: All Errors No Errors All, But Keyboard (Default) All, But Diskette All, But Disk/Key

Advanced BIOS Features Setup

⇩**Use the Advanced BIOS Features Setup option as follows:**

1. Choose “Advanced BIOS Features Setup” from the main menu. The following screen appears:

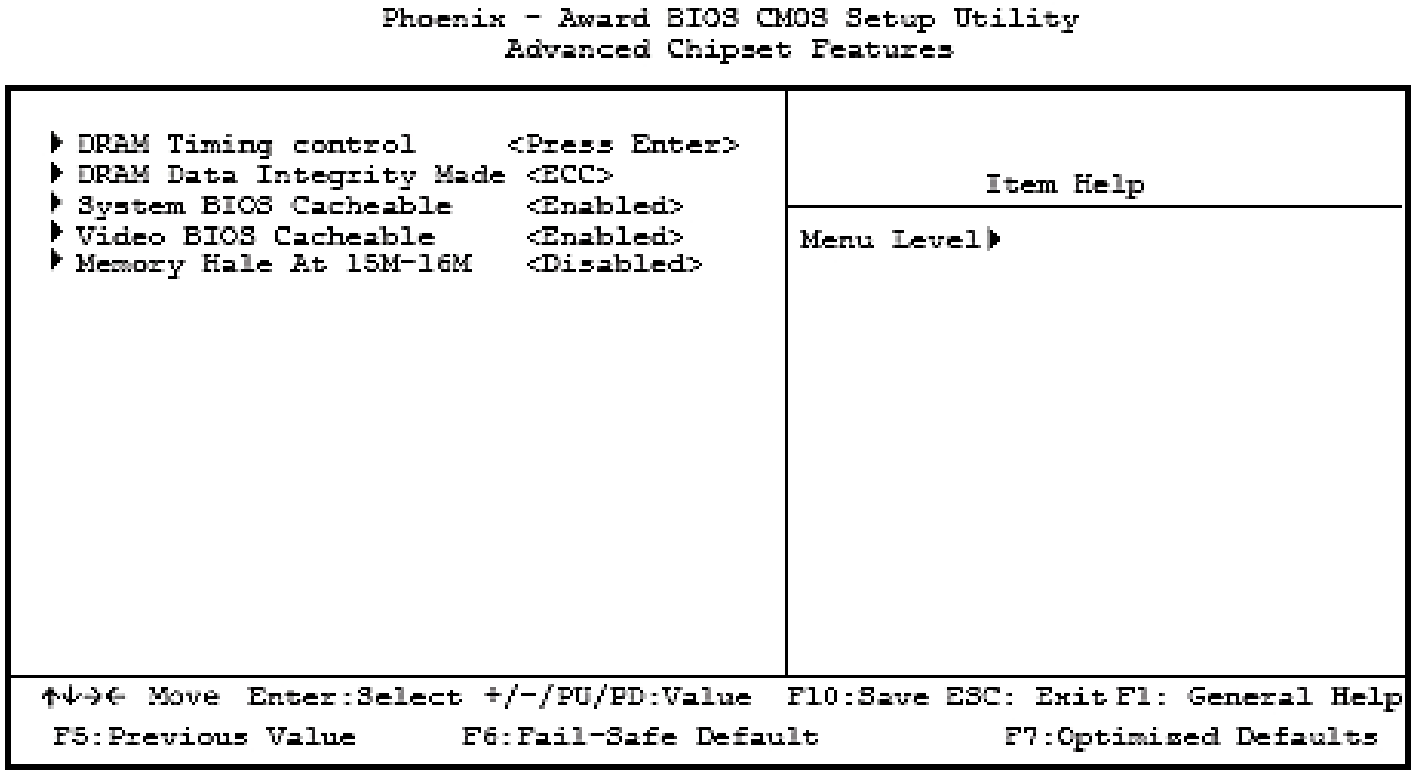


2. Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUP/PgDN keys. Press the <F1> “Help” key for information on the available options:

Option	**Description**
Virus Warning	When enabled, any attempt to write to the boot sector and partition table will halt the system and cause a warning message to appear. If this happens, you can use an anti-virus utility on a virus-free, bootable floppy disk to reboot and clean your system. The default setting is Disabled.
CPU L1 & L2 Cache	Choose Enable/Disable of the CPU internal Cache.
First/Second/Third Boot Device	The BIOS attempts to load the operating system from the devices in the sequence selected in these items. Choose: HDD-0, LS-120, USB FDD…..
Boot Other Device	Enable other device bootable not selected above.
OS Select for DRAM > 64MB	Set to OS/2 if your system is using OS/2 and has a memory size of more than 64MB
Console Redirection	Choose enabled to allowing agent which connect to this board to administrate this computer
Baud Rate	The data transfer rate (bit per second) to agent. Choose 9600/19200/38400/57600/115200 item.
Agent wait time(min)	Agent negotiate time, choose 1/2/4/8 min.
Agent after boot	Choose enabled to enable agent administrate this board after boot.

Advanced Chipset Features Setup

⇩**Use the Advanced Chipset Features Setup option as follows:**



1. Choose “Advanced Chipset Features Setup” from the main menu. The following screen appears;

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

Option	**Description**
DRAM Timing Control	DRAM timing Configure < By SPD> X – CAS Latency Time 2 X – Active to Precharge Delay 5 X-DRAM RAS # to CAS# Delay 2 X – DRAM RAS# Precharge 2
DRAM Data Integrity Mode	Choose ECC or Non –ECC
System BIOS Cacheable	Choose Enabled or Disabled. When enabled, caching of the system BIOS at F0000h-FFFFFh, enhancing system performance. However, if any program writes to this memory area, a system error may result.
Video BIOS Cacheable	Choose Enabled or Disabled. When Enable this

option to allow caching of the Video BIOS.

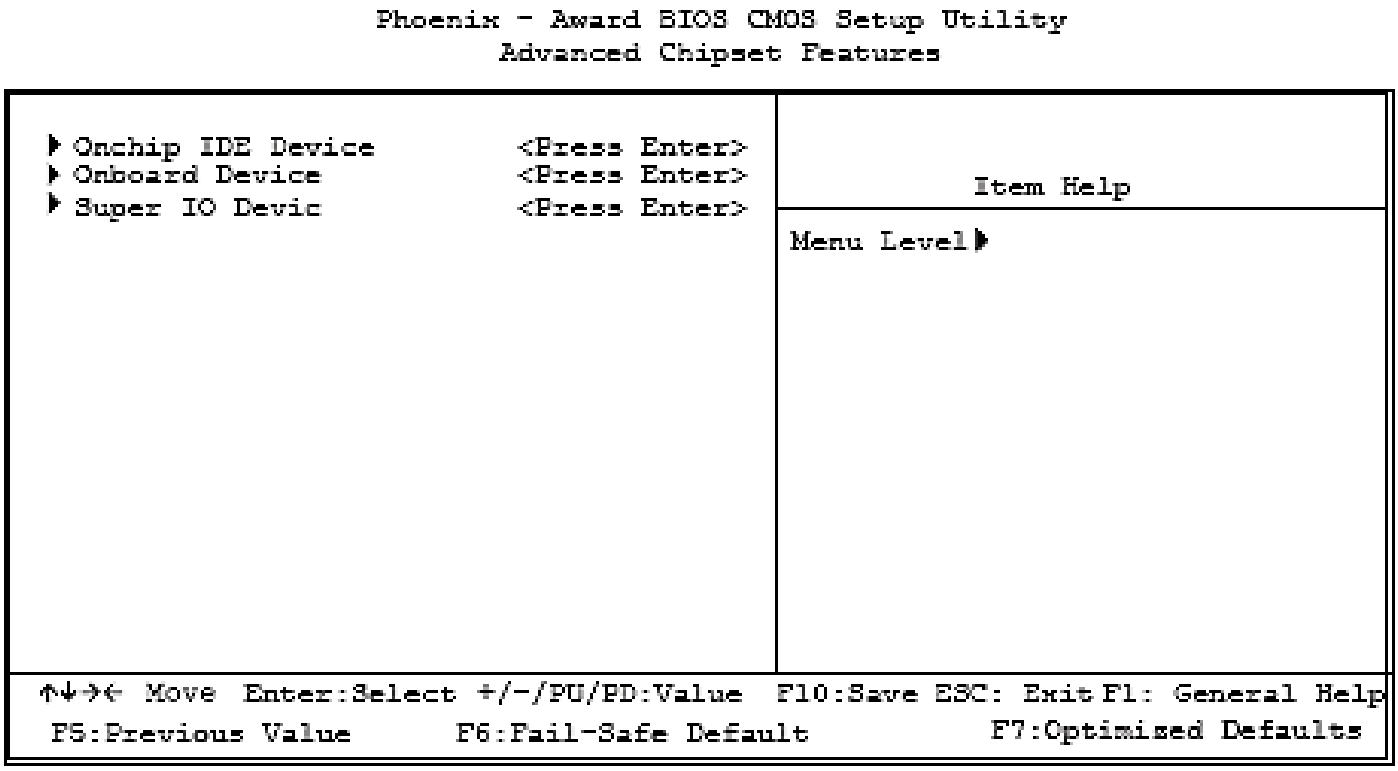
Memory Hole At 15M-16M

Choose Enabled or Disabled. You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it can not be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirement.

Integrated Peripherals

⇩**Use the Integrated Peripherals Setup option as follows:**

1. Choose “Integrated Peripherals Setup” from the main menu. The following screen appears:



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

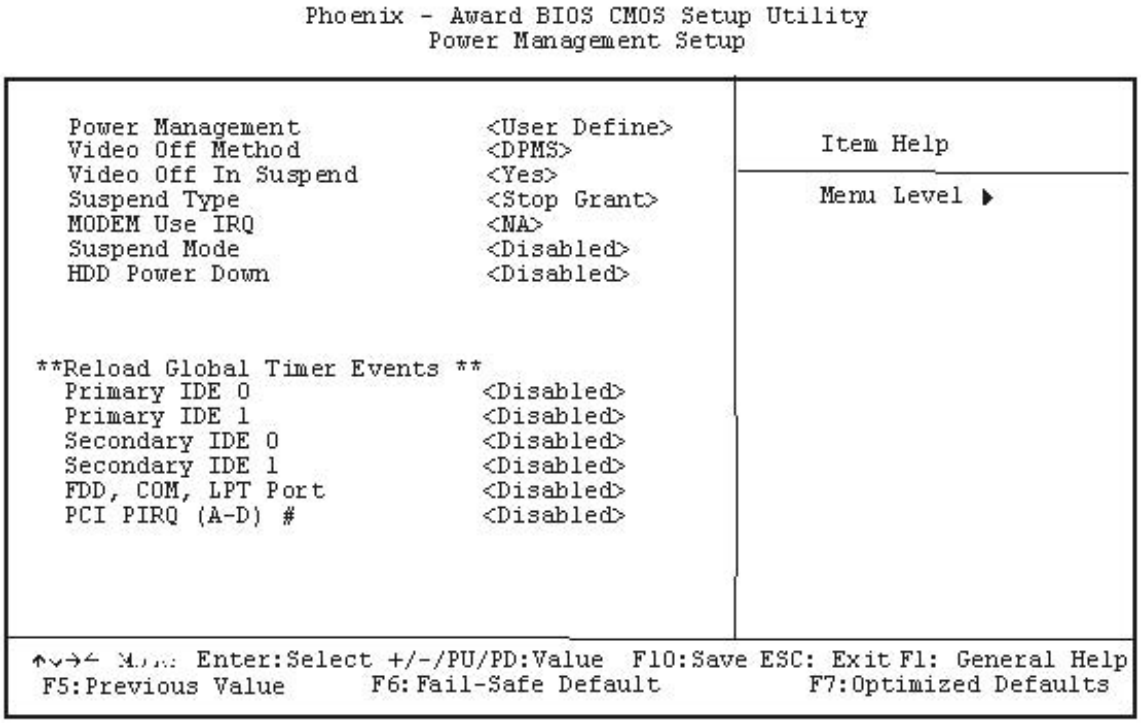
Option	**Description**
Onchip IDE Device	IDE HDD Block Mode <Enabled> Onchip Primary PCI IDE <Enabled> IDE Primary Master PIO <Auto> IDE Primary Master UDMA <Auto> IDE Primary Slave UDMA <Auto> Onchip Secondary PCI IDE <Enabled> IDE Secondary Master PIO <Auto> IDE Secondary Slave PIO <Auto> IDE Secondary Master UDMA <Auto>
Onboard Device	USB Controller <Enabled> USB Keyboard <Disabled> USB Mouse Support <Disabled> BIOS Protected <Enabled>
Super IO Device	Onboard Serial Port1 <3F8/IRQ4> Onboard Serial Port 2 <2F8/IRQ3> Onboard Parallel Port <378/IRQ7> EPP Mode Select EPP 1.7 ECP Mode USE DMA 3

Power Management Setup

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

⇩**Use the Power Management Setup option as follows:**

1. Choose "Power Management Setup" from the main menu. The following screen appears.



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

Option	**Description**
Power Management	Choose Disable, User Define, Min Saving or Max. Saving. “User Define” – Lets you specify when the HDD and system will shut down “Min Saving” Predefine timer value of 4-12 min. “Max Saving” – Predefine timer value of 1 minute
Video Off Method	Choose V/H SYNC+Blank, DPMS, Blank Screen When power management blanks the screen and turns off vertical and horizontal scanning. The DPMS (Display Power Management System) setting allows the BIOS to control the video card if it has the DPMS features. If you don’t have a Green monitor, use the Blank Screen option
Video Off In Suspend	Choose the video off condition: NA/Suspend/Doze
Suspend Type	Choose “Stop Grant” or “Power on Suspend”
MODEM Use IRQ	Choose the IRQ used by the modem. Default: Disabled
Suspend Mode	Sets the time for Suspend mode or disables it
HDD Power Down	Sets the time for the HDD power down mode or disables it
Reload Global Timer Events	Choose Enable or Disable 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>

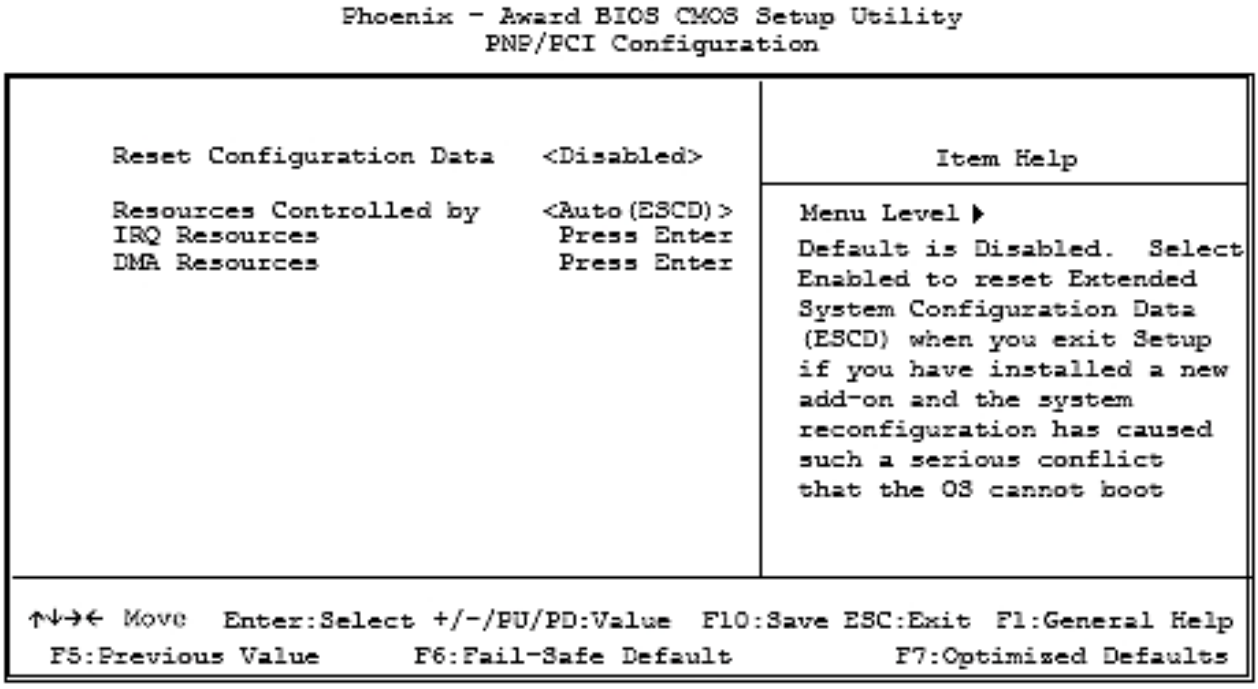
3. After you have finished with the Power Management Setup, press the <ESC> key to return to the main menu.

PNP/PCI Configuration

This option is used to configure Plug and Play assignments and route PCI interrupts to designated ISA interrupts.

⇩**Use the PNP/PCI Configuration Setup option as follows:**

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

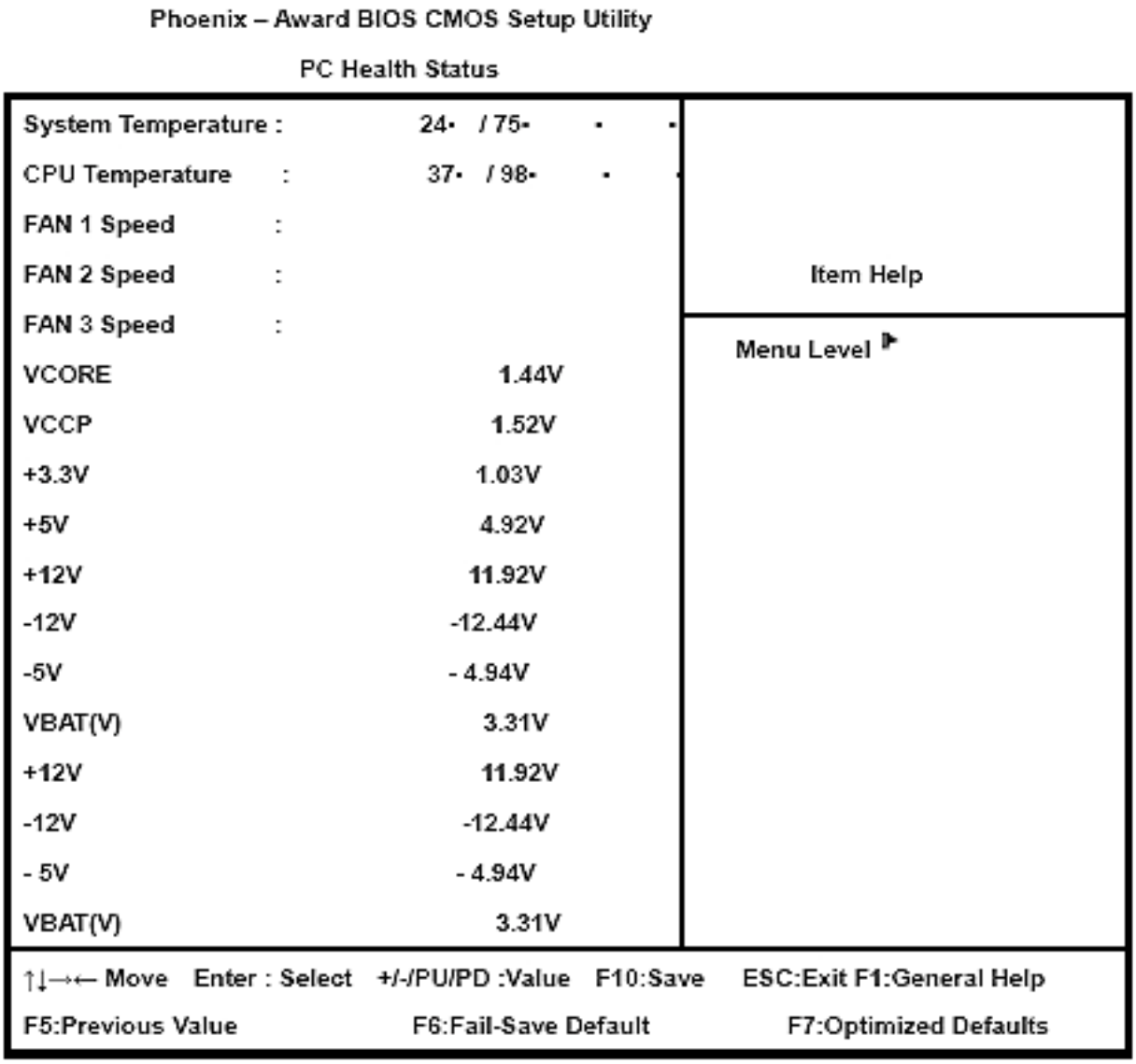


1. Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. For information on the various options, please press <F1> key. 2 Please press the <ESC> key to return the main menu after finishing with the PNP/PCI Configuration Setup.

Option	**Description**
Reset Configuration Data	Choose Enable or Disable “Enable” – PNP configuration data is reset in BIOS “Disable” – PNP configuration date is retained in BIOS
Resources Controlled By	Choose Auto or Manual. This option specifies whether resources are controlled by automatic or manual configuration
IRQ Resources	IRQ-3 Assigned to <PCI Device> 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>
DMA Resources	Assign DMA channel 0/1/3/5/6/7 to legacy ISA or auto by default “PCI/ISA”

PC Health Status Configuration Setup

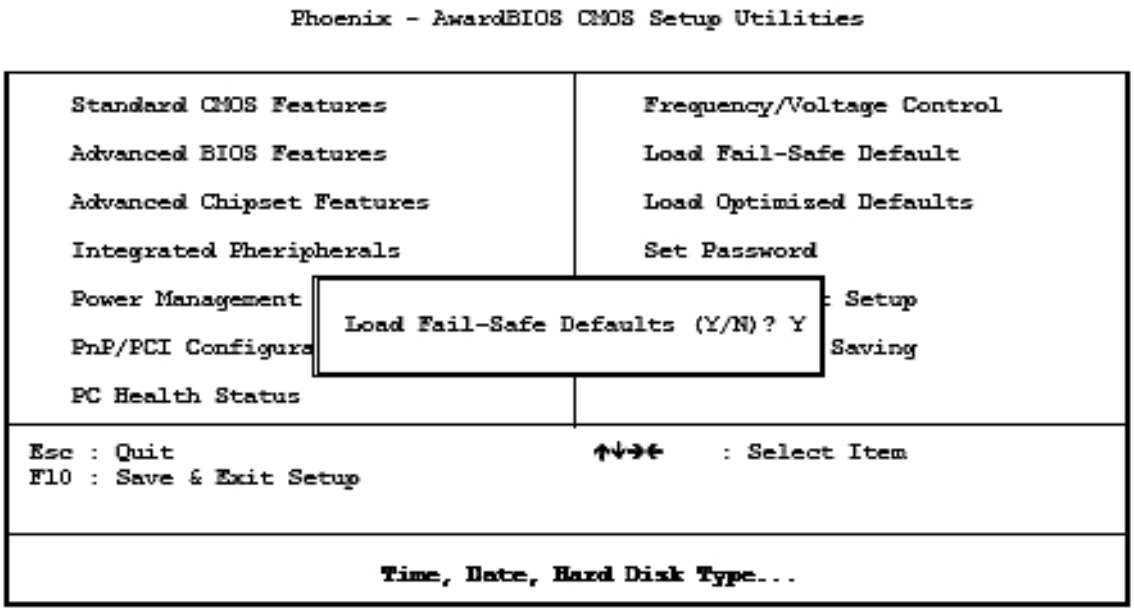
Choose “PC Health Status Configuration Setup” from the main menu, the following screen appears:



Load Fail-Safe Defaults

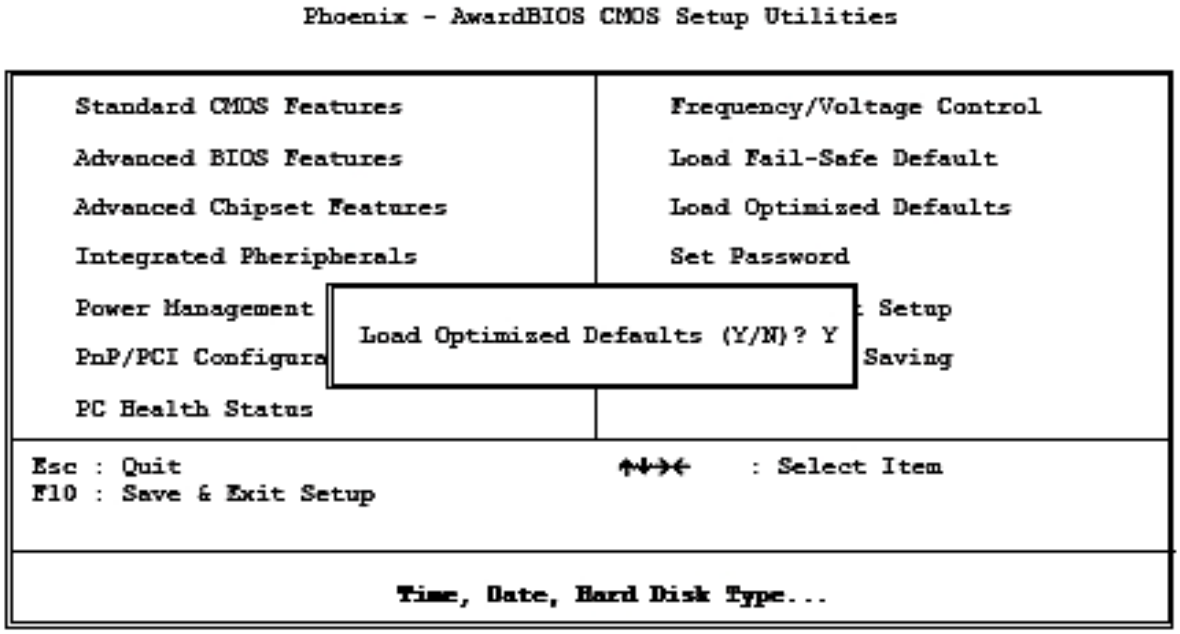
This option loads the troubleshooting default values permanently stored in the BIOS ROM.

This is useful if you are having problems with the main board and need to debug or troubleshoot the system. The loaded default settings do not affect the Standard CMOS Setup screen.



Load Optimized Defaults

This option loads optimized settings stored in the BIOS ROM. The auto-configured settings do not affect the Standard CMOS Setup screen.



To use this feature, highlight it on the main screen and press <Enter>. A line will appear on the screen asking if you want to load the Optimized Default Values. Press the <Y> key and then press <Enter> if you want to load the SETUP default.

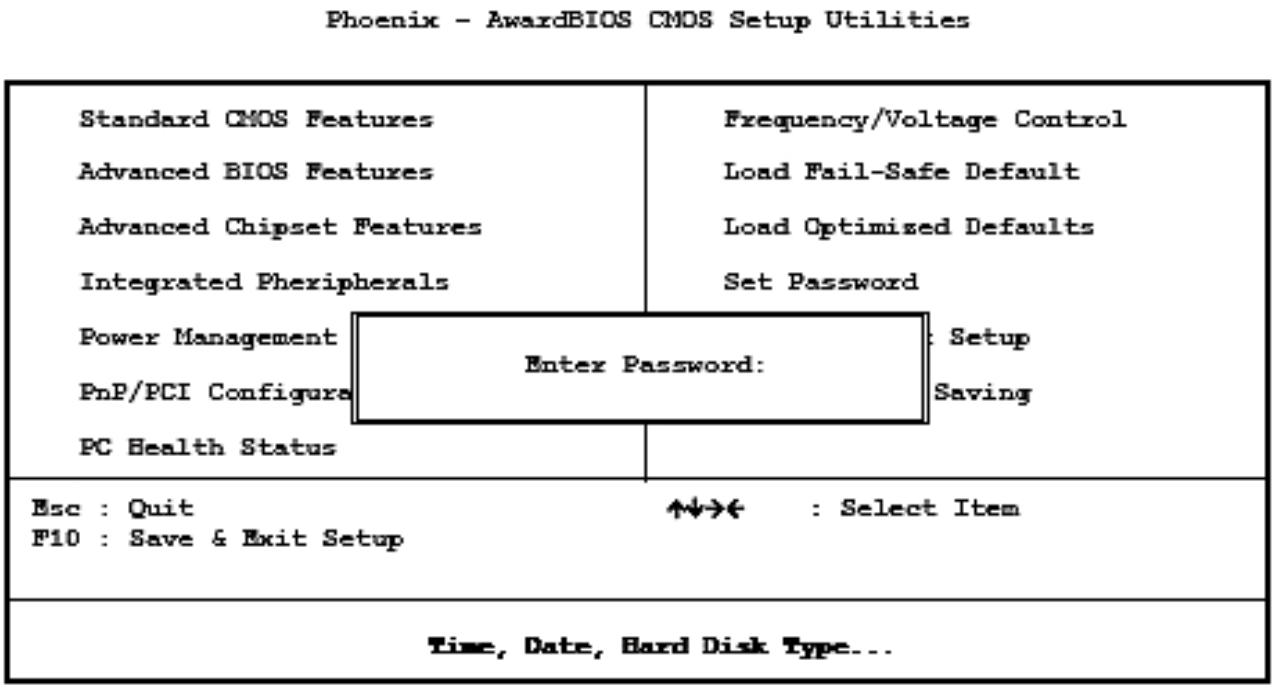
Supervisor/User Password

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

Utility main menu.

The password functions are disabled by default. You can use these options to enable a password function or, if a password function is already enabled, change the password. To change a password, first choose a password option from the main menu and enter the current password. Then type your new password at the prompt. The password is case sensitive and you can use up to 8 alphanumeric characters. Press <Enter> after entering the password. At the Next Prompt, confirm the new password by typing it and pressing

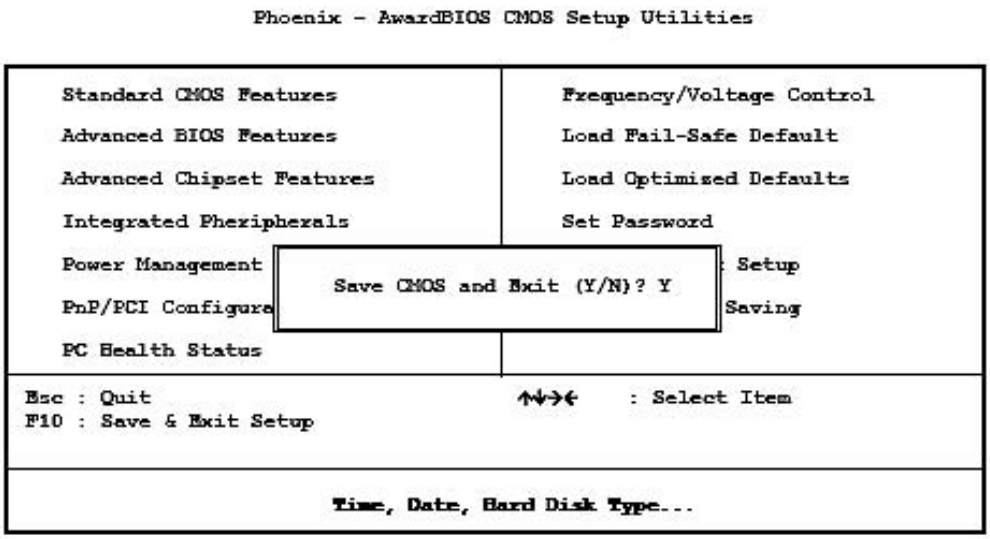
<Enter> again.



After you use this option to enable a password function, use the “Security Option” in “BIOS Feature Setup” to specify whether a password is required every time the system boots or only when an attempt is made to enter the CMOS Setup program.

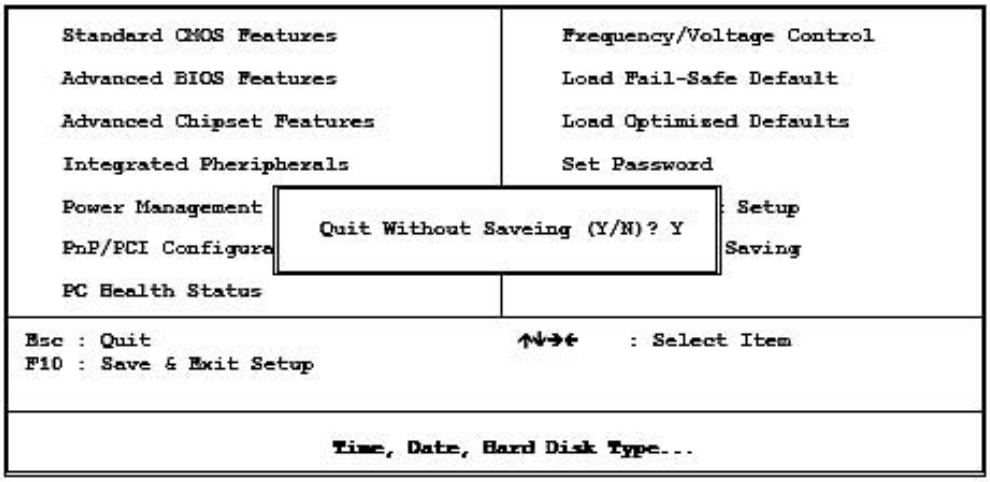
Save and Exit Setup

This function automatically saves all CMOS values before exiting Setup.



Exit Without Saving

Use this function to exit Setup without saving the CMOS value.



Chapter 4. Driver Utility

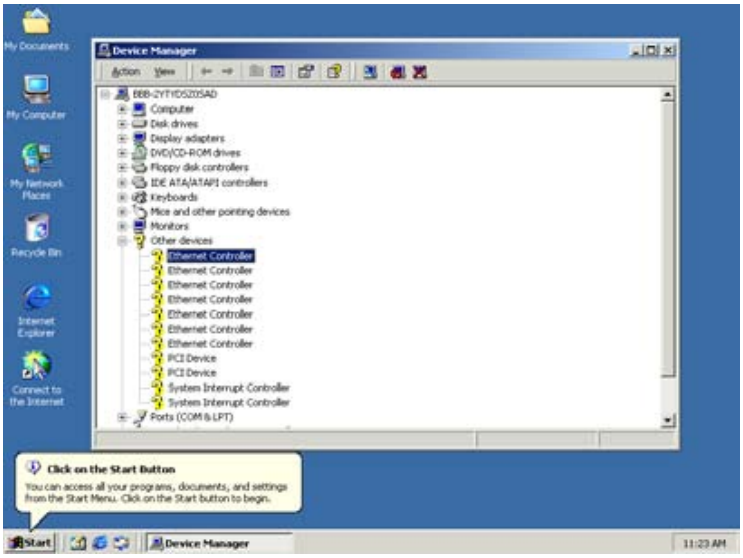
The system driver installation procedure must be performed first.

4.1 Ethernet Driver Installation

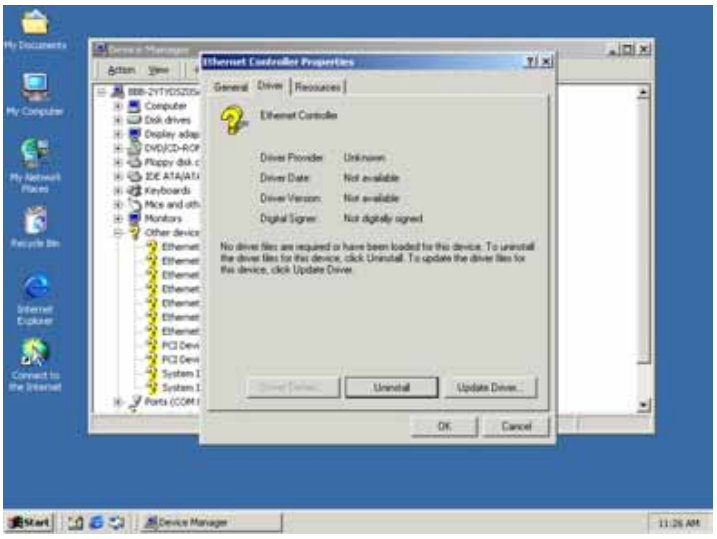
It AW-A793 supports three 10/100 Ethernet Controller by using Intel® 82551ER and 82546EB for optional Extension Fiber/Copper.

4.1.1. Intel 82546EB Ethernet

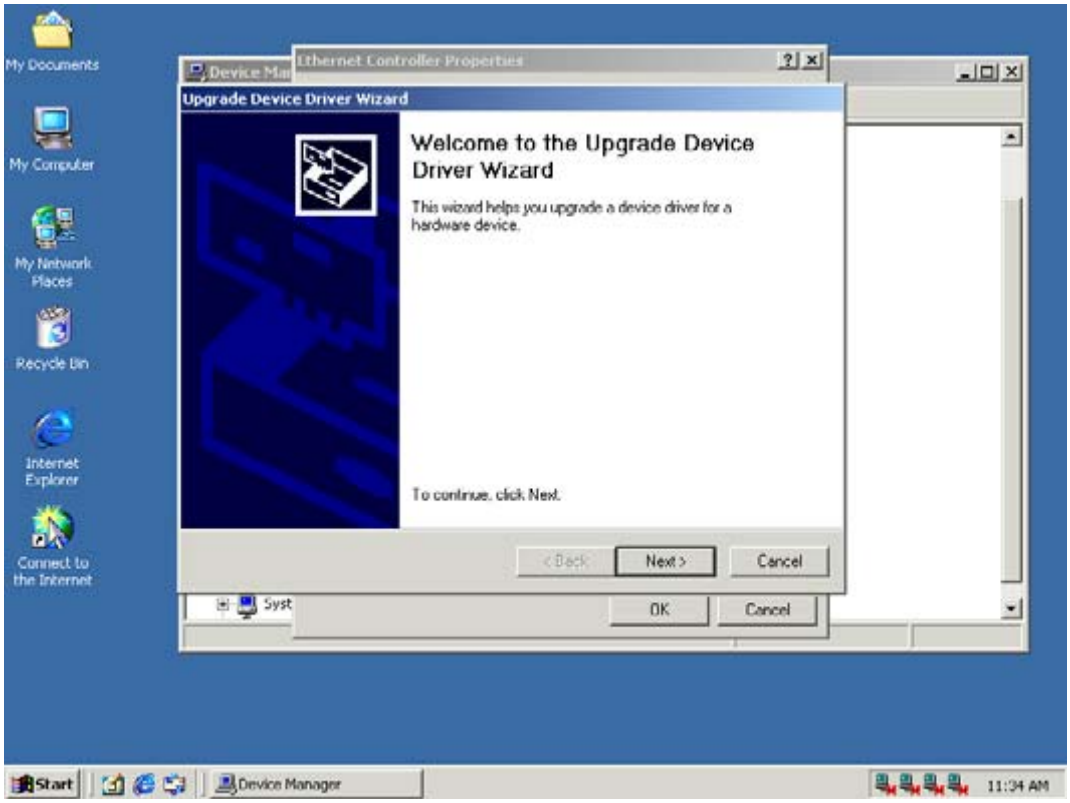
(1) Choose Ethernet Controller



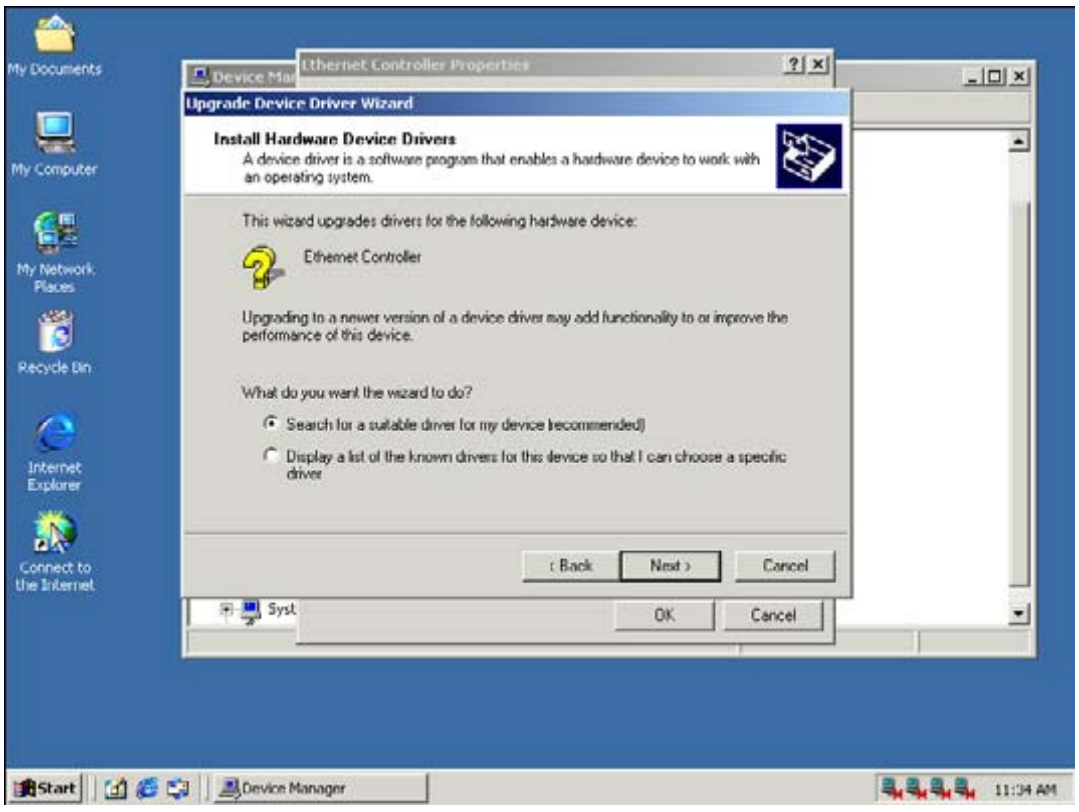
(2) Choose Driver



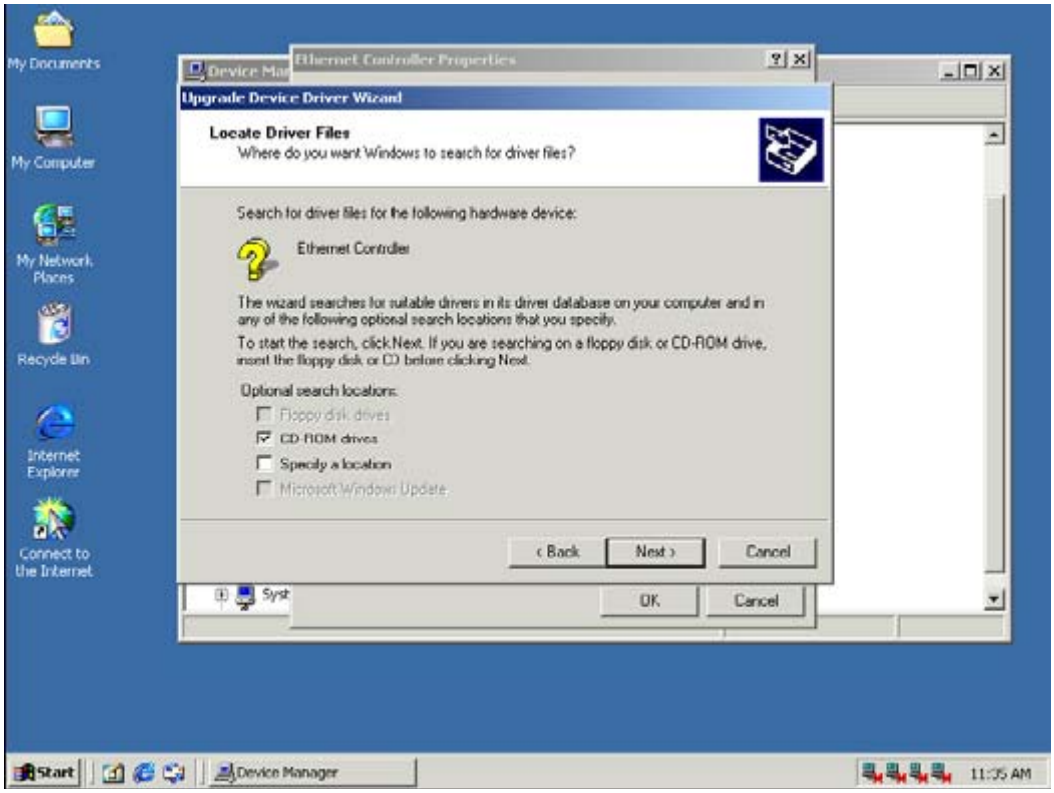
(3) Click Next



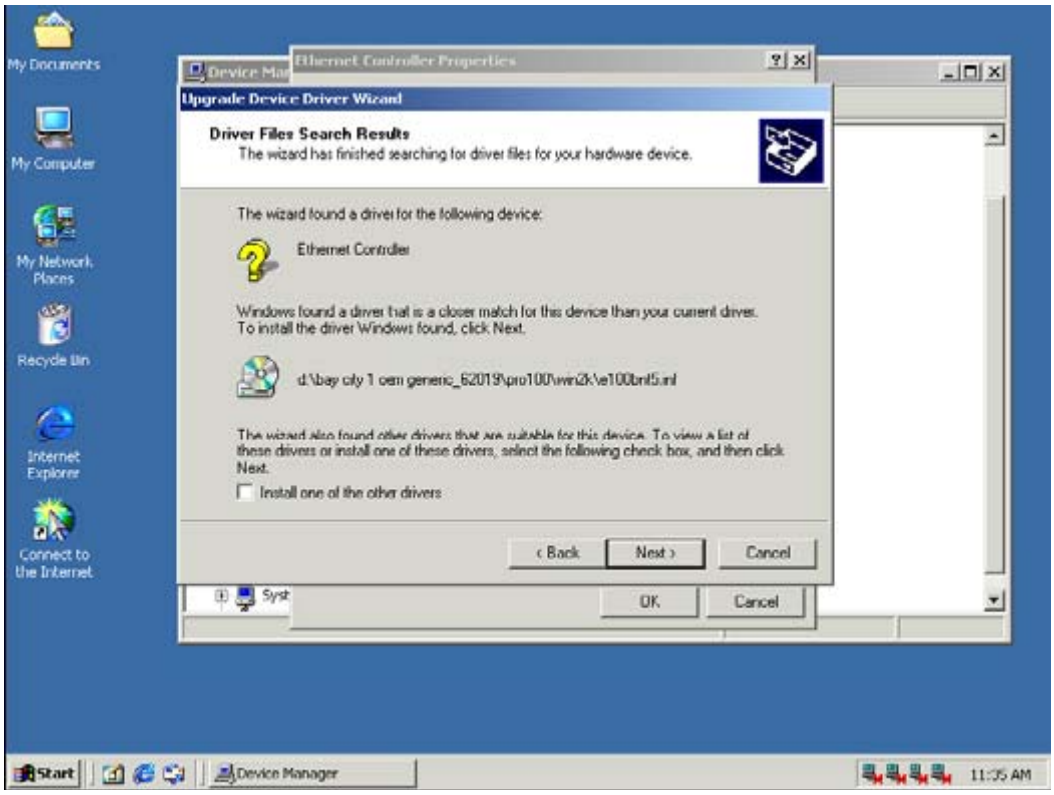
(4) Click Next



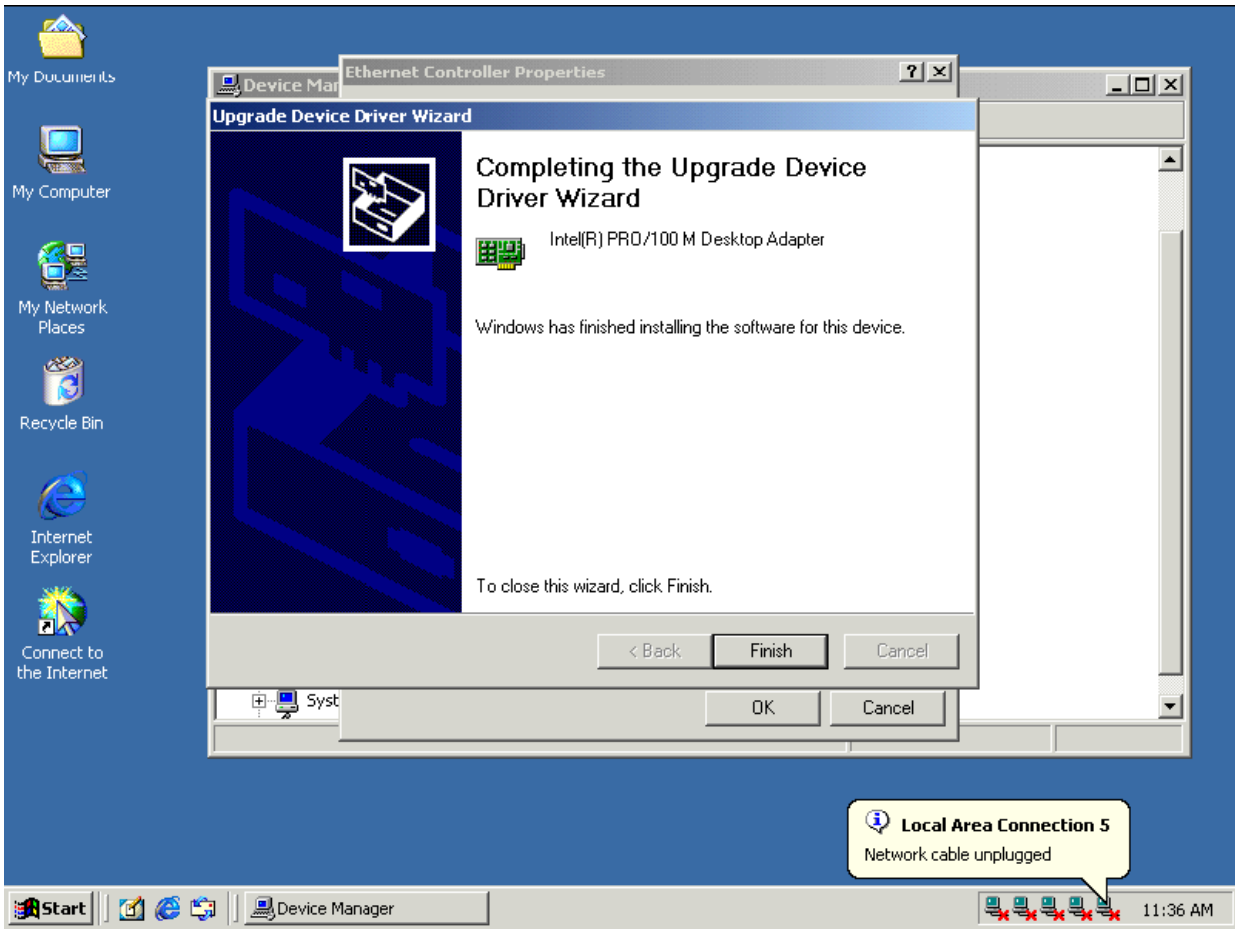
(5) Click Next


My Documents
My Computer
My Network Places
Recycle Bin
Internet Explorer
Connect to the Internet
Ethernet Controller Properties
Upgrade Device Driver Wizard
Locate Driver Files
Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
Ethernet Controller
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back
Next >
Cancel
OK
Cancel
Start
Device Manager
11:35 AM

(6) Click Next


My Documents
My Computer
My Network Places
Recycle Bin
Internet Explorer
Connect to the Internet
Ethernet Controller Properties
Upgrade Device Driver Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
Ethernet Controller
Windows found a driver that is a closer match for this device than your current driver.
To install the driver Windows found, click Next.
d:\bay city 1 oem generic_62019\pro100\win2k\e100bnt5.inf
The wizard also found other drivers that are suitable for this device. To view a list of these drivers or install one of these drivers, select the following check box, and then click Next.
Install one of the other drivers
< Back
Next >
Cancel
OK
Cancel
Start
Device Manager
11:35 AM

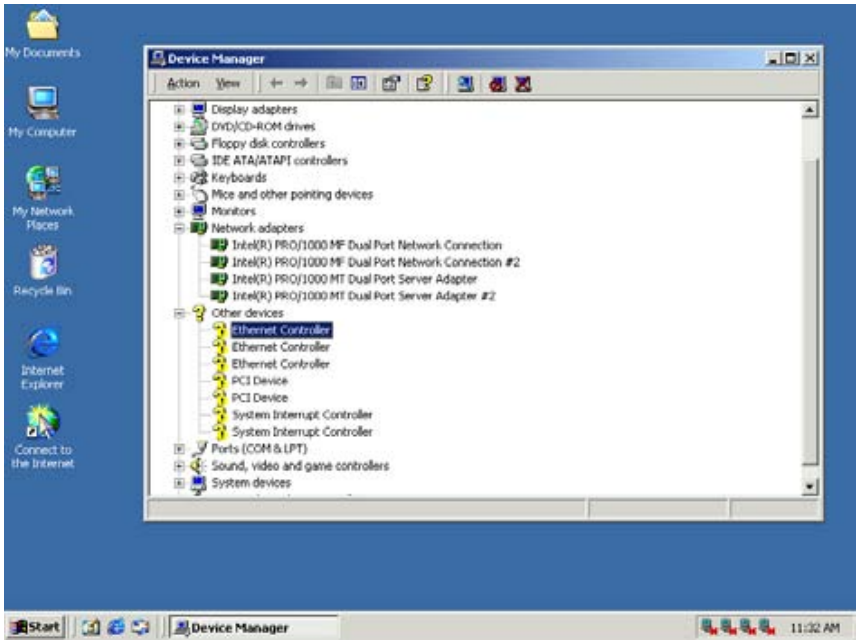
(7) Click Finish



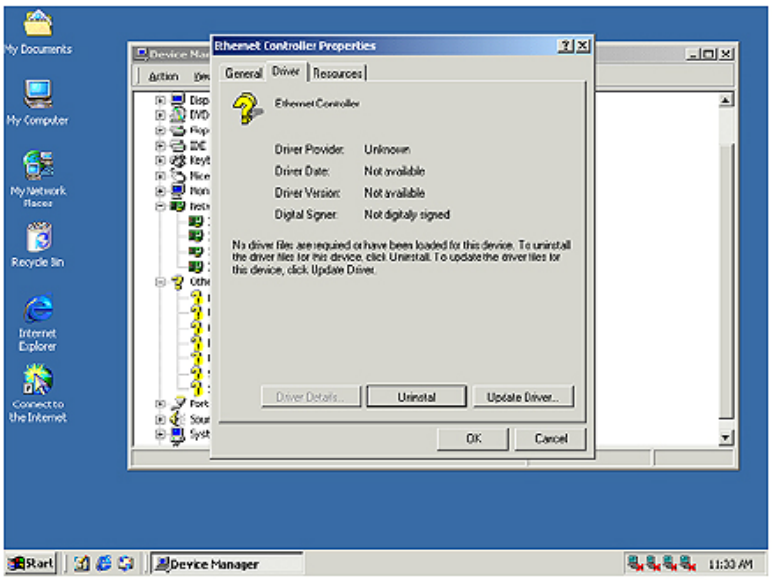
4.1.2 Intel® 82551 Ethernet Installation

Please install Ethernet drivers as follows:

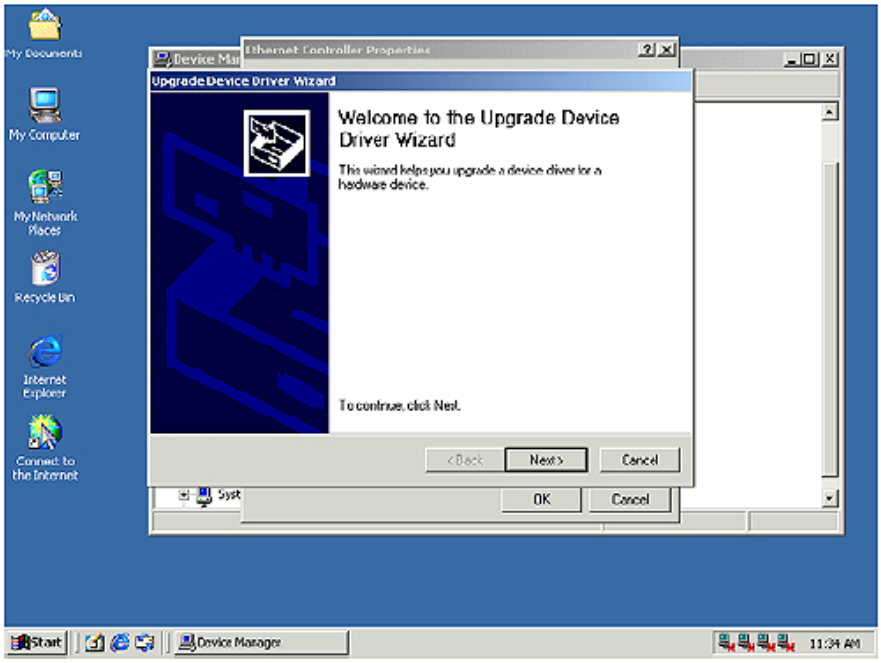
1. Insert theIP-06049 CD-ROM driver into the CD-ROM Drive
2. Select the Drivers/system file to click the Setup icon.
3. Choose Ethernet controller



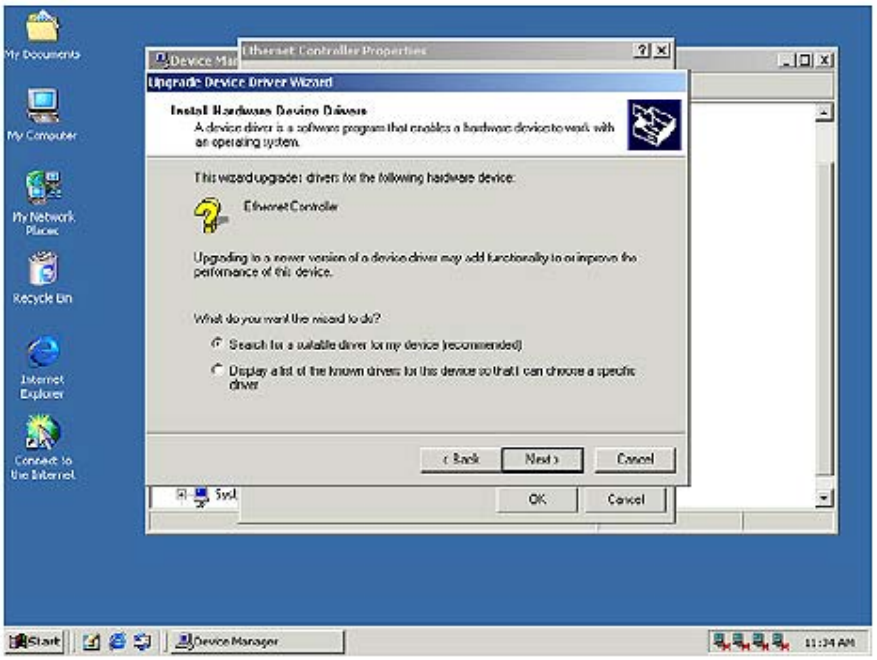
(2) Choose Driver



(3) Click Next

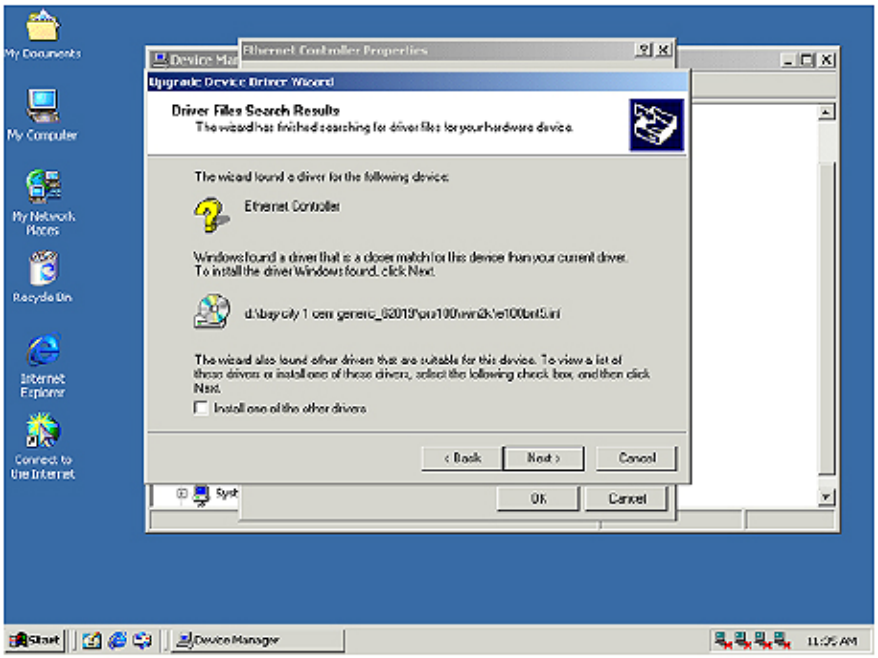


(4) Click Next

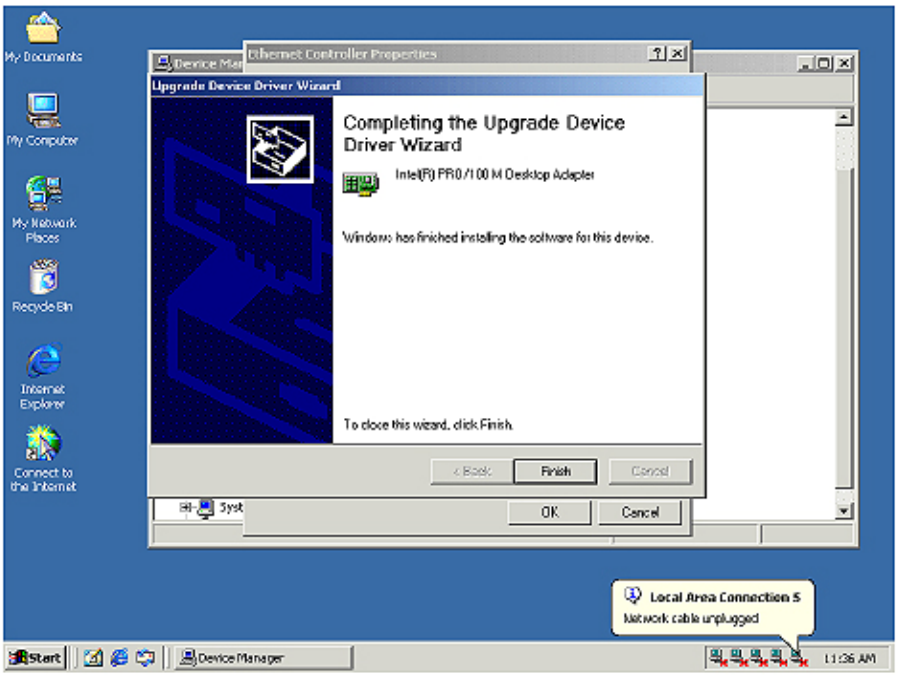


(5) Click Next

(6) Click Next

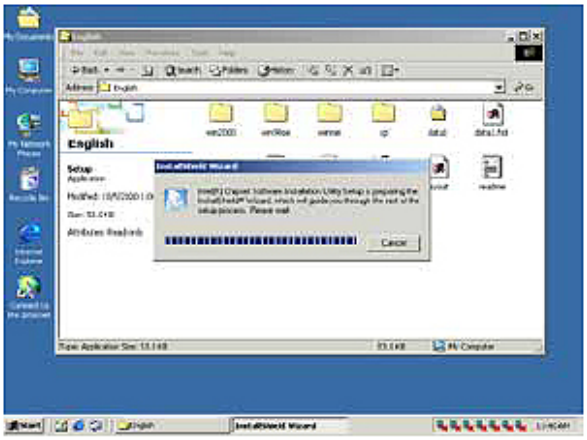


(7) Click Finish

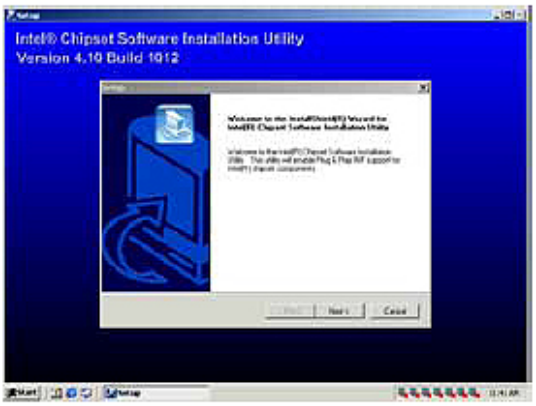


4.2 System Chipset Driver Installation

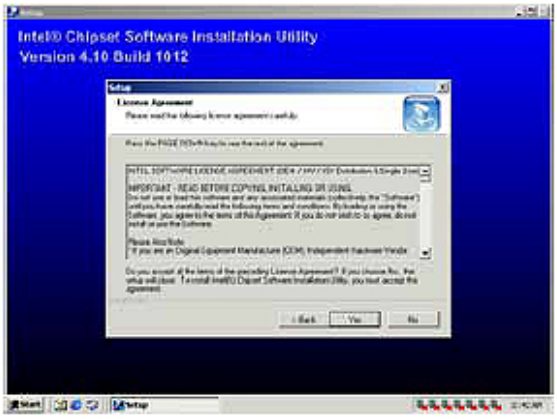
4.2.1 Install System Chipset Driver



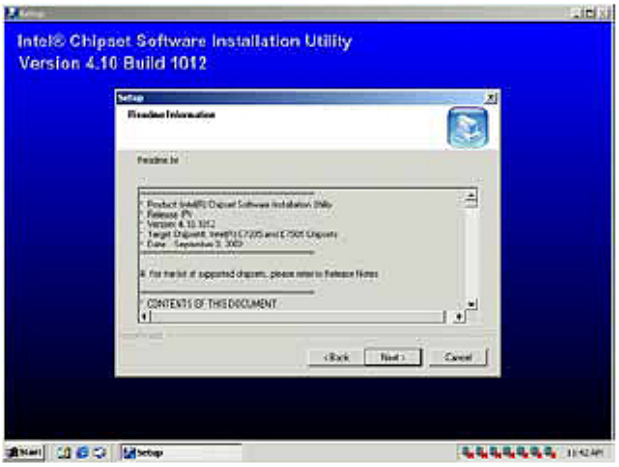
(1) Click Next



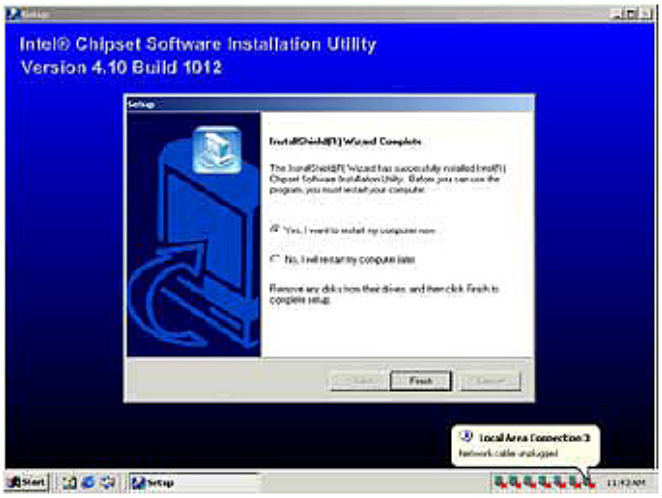
(2) Click Yes



(3) Click Next



(4) Click Finish



Installation process is completed and allowed the system to reboot.

Appendix A :System Resource

Interrupt Controller

The IP-06049 is a fully PC compatible control board, it consists of 16 ISA interrupt request lines and most of them already in used by other part of the board. Please make sure that the IRQs do not conflict if you would like to use extra add-on cards.

System IRQs are available to cards installed in the ISA expansion Bus first. Any remaining IRQs then may be assigned to this PCI Bus. You are able to use the Microsoft's Diagnostic (MSD.EXE) utility include in Windows director to see their map.

IRQ	Assignment
IRQ0	System Timer Output
IRQ1	Keyboard
IRQ2	Interrupt rerouting from IRQ8 through IRQ15
IRQ3	Serial Port 2
IRQ4	Serial Port 1
IRQ5	USB Controller
IRQ6	Floppy Disk Controller
IRQ7	Parallel Port 1
IRQ8	Real Time Clock
IRQ9	Ethernet Controller
IRQ10	Reserved
IRQ11	USB Controller
IRQ12	Mouse
IRQ13	Math Coprocessor
IRQ14	Primary IDE Controller
IRQ15	Secondary IDE Controller

DMA Channel Assignment

Channel 4 is by default used to cascade the two controllers

Channel	Assignment
DMA0	Available fir PCI and ISA Slot
DMA1	Available for PCI And ISA Slot
DMA2	Floppy Disk Controller
DMA3	Available for PCI and ISA Slot
DMA4	Cascade
DMA5	Available for PCI and ISA Slot
DMA6	Available for PCI and ISA Slot
DMA7	Available for PCI and ISA Slot

Memory Map

The following table indicates memory ofIP-06049. The address ranges specify the runtime code length.

Memory below 1MB (1Mb ~ 640KB)

Address Range	Type	Owner
A0000~AFFFF	ISA	VGA Adapter
B0000~BFFFF	ISA	VGA Adapter
C0000~C7FFF	ISA	Adapter ROM
F0000~FFFFF	ISA	System BIOS

Memory above 1MB (1MB ~ 142336KB)

Address Range	Type	Owner
F0000000~F7FFFFFF	PCI	PCI – PCI Bridge
F8000000~F82FFFFF	PCI	PCI – PCI Bridge

System Memory Map

Start High	Start Low	Size High	Size Low	Type
00000000	00000000	00000000	0009FC00	Available
00000000	000F0000	00000000	00010000	Reserved
00000000	FFC00000	00000000	00100000	Reserved
00000000	FEE00000	00000000	00001000	Reserved
00000000	FFB00000	00000000	00500000	Reserved
00000000	0009FC00	00000000	00000400	Reserved
00000000	00100000	00000000	3FF00000	Available

I/O Map

The addresses shown in the table are typical locations.

I/O Port	Assignment
0 ~ F	AT DMA Controller
20 ~ 21	AT Interrupt Controller
40 ~ 43	82C54 Compatible Programmable Timer
60	8042 Compatible keyboard Controller
61	AT Style Speaker
64	8042 Compatible keyboard Controller
70 ~ 71	Real Time Clock
81 ~ 83	AT DMA Controller
87	AT DMA Controller
89 ~ 8B	AT DMA Controller
8F ~ 91	AT DMA Controller
A0 ~ A1	AT Interrupt Controller
C0 ~ DF	AT DMA Controller
F0 ~ FF	Math Coprocessor
170 ~ 177	IDE Controller
1F0 ~ 1F7	IDE Controller
294 ~ 297	PCI Bus
2F8 ~ 2FF	Communication Port (COM2)
376	IDE Controller
378 ~ 37A	LPT1
3BB ~ 3B0	VGA Adapter
3C0 ~ 3DF	VGA Adapter
3F0 ~ 3F5	FDD Controller

3F6	IDE Controller
3F7	FDD Controller
3F8 ~ 3FF	Communication Port (COM1)
4D1 ~ 4D0	PCI Bus
778 ~ 77B	Parallel
CF8 ~ CFF	PCI Bus
4000 ~ 40BF	PCI Bus
A000 ~ BFFF	PCI Bus
C000 ~ CFFF	PCI Bus
D000~D01E	USB Controller
D400~D41E	USB Controller
F000~F00E	IDE Controller

Appendix B:

Standard Cable List

Part No.	Cable Description	AW-A793 Connector	Terminating Connector
46-ICOM00-00	COM Port Cable		
46-IUSB08-00	USB Cable		
46-ILP01-00	Parallel Port Cable		

CB-IUSB08-00

CB-ILP01-00

CB-ICOM00-00

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