NuPRO-775 Series

Half Size Socket-370

Pure PCI Industrial SBC

User's Guide



Recycled Paper

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Product Model			
Environment to Use	OS : _____ Computer Brand : _____ M/B : CPU : Chipset : BIOS : Video Card : Network Interface Card : Other :		
Challenge Description			
Suggestions to ADLINK			

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1

Introduction

This manual is designed to give you information on the NuPRO-775 CPU board.

The topics covered in this chapter are as follows:

- Checklist
- Description
- Features
- Specifications
- Intelligence
- Layout of Key Components and Dimensions

1.1 Checklist

Please check that your package is complete and contains the items below. If you discover damaged or missing items, please contact your dealer.

- The NuPRO-775 Industrial Computer Main Board
- This User's Manual
- 1 IDE Ribbon Cable
- 1 Floppy Ribbon Connector
- 2 Serial Port Ribbon Cable and 1 Parallel Port Attached to a Mounting Bracket
- 1 Optional 2-port USB cable

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- 1 CD Containing hardware configuration file, VGA Driver, Intel 82559 LAN Driver and Hardware Monitor utility

1.2 Description

The NuPRO-775 is a Celeron/Pentium III Industrial Computer Main board based on the Intel i82810 chipset and is fully designed for harsh industrial environment. It features a Socket-370 processor connector that is compatible with Intel Celeron/Pentium III processors. This board accommodates up to 256MB SDRAM configuration.

The NuPRO-775 comes with Winbond's W83627HF Super I/O chip. The embedded hardware monitoring device that monitors system and CPU temperature, system voltages, and CPU and chassis fan speeds to prevent system crashes by warning the user of adverse conditions. NuPro775 also has a case-open indicator for security.

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1.3 Features

- Intel Celeron 300~533MHz, Pentium III 500E/550E, or later version processors
- Bus Speed 66/100MHz
- Intel i82810 chipset(built-in VGA controller)
- Up to 256MB SDRAM system memory
- Two 16550 UART compatible ports with RS-232 interface
- High speed bi-directional SPP/ECP/EPP parallel port
- Programmable watchdog timer
- Hardware Monitoring
- Modem ring-in
- 10/100 Base-T Ethernet interface
- Wake On LAN

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1.4 Specifications

- **Processor Socket:** Socket-370 connector
- **Processor:** Intel Celeron 300~533MHz, Pentium III 500E/550E, or later version
- **Bus Spee**d: 66/100MHz
- **Chipset:** Intel i82810
- **Secondary Cache: built in CPU**
- **Memory Sockets:**

  One 168-pin DIMM socket

  Max. 256MB SDRAM

  Memory type: PC-100 unbuffered DIMM
- **Integrated Graphics Controller:**

  3D Graphics Visual Enhancement

  24-bit 230 MHz RAMDAC

  DDC2B compliant

  Up to 1600x1200 in 8-bit color at 85Hz refresh
- **BIOS:** Award BIOS, PnP support

  Intel 82802AB Firmware Hub(512KB) for BIOS update

  Power management

  Y2K Compliant
- **DMI BIOS Support:**

  Desktop Management Interface (DMI) allows users to download system hardware-level information such as CPU type, CPU speed, internal/external frequencies and memory size.
- **Super I/O:** Winbond W83627HF
- **Parallel Port:**

  One high-speed parallel port, SPP/EPP/ECP mode

  ESD protection to 4KV

  Downstream device protection to 30V
- **Serial Port:**

  Two 16550 UART compatible ports with RS-232 interface

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ESD protection to 2KV

- **Enhanced IDE:** Bus Master IDE controller, two EIDE interfaces for up to four devices, support PIO Mode 3/4 or Ultra DMA/66 IDE Hard Disk and ATAPI CD-ROM.,LS120,ZIP
- **FDD Interface:** Two floppy drives (360KB, 720KB, 1.2MB, 1.44MB, 2.88MB)
- **CRT:**

  On-board VGA Controller

  Built-in AGP2X (3D hyper pipelined architecture)

  RAMDAC Latch-up protection

- **USB Interface:**

  Two USB pin-header connectors, compliant with USB Specification Rev. 1.1

  Individual over-current protection

- **Watchdog Timer: programmable**

  Programmable I/O port 2Eh and 2Fh to configure watchdog timer

  Time-out timing select 0~255 seconds/minutes

- **Green Function:** Power management via BIOS, activated through mouse/keyboard movement
- **PCI Bus Ethernet Interface:**

  Intel 82559 chipset

  PCI local bus Ethernet controller

  IEEE 802.3 10base-T and 100base-TX compatible physical longer support

  IEEE802.3u auto-negotiation support for automatic speed selection

  10/100Mbps operation in a single port PCI bus master architecture

  IEEE 802.3X (100base-TX Flow control support)

  Wake on Lan support

  Optional Alert on LAN II support

  Management communication support to reduce the total cost of ownership (TCO)

- **Keyboard and Mouse Connectors:** PS/2 type mini-DIN that supports PC/AT; supports a 5-pin external keyboard connector

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- **PCI Compliance:** Fully compliant to PCI rev. 2.1 standards
- **Power supply: ATX**
- **Environmental and Mechanical:**

  Power Consumption: +5V@10A(max), +3.3V@10A(max), +12V@0.6A, -12V@130mA, +5VSB@0.6A

  Temperature: 0°C to 70°C

  Humidity: 5% to 95%

  Dimensions: 185mm x 122mm

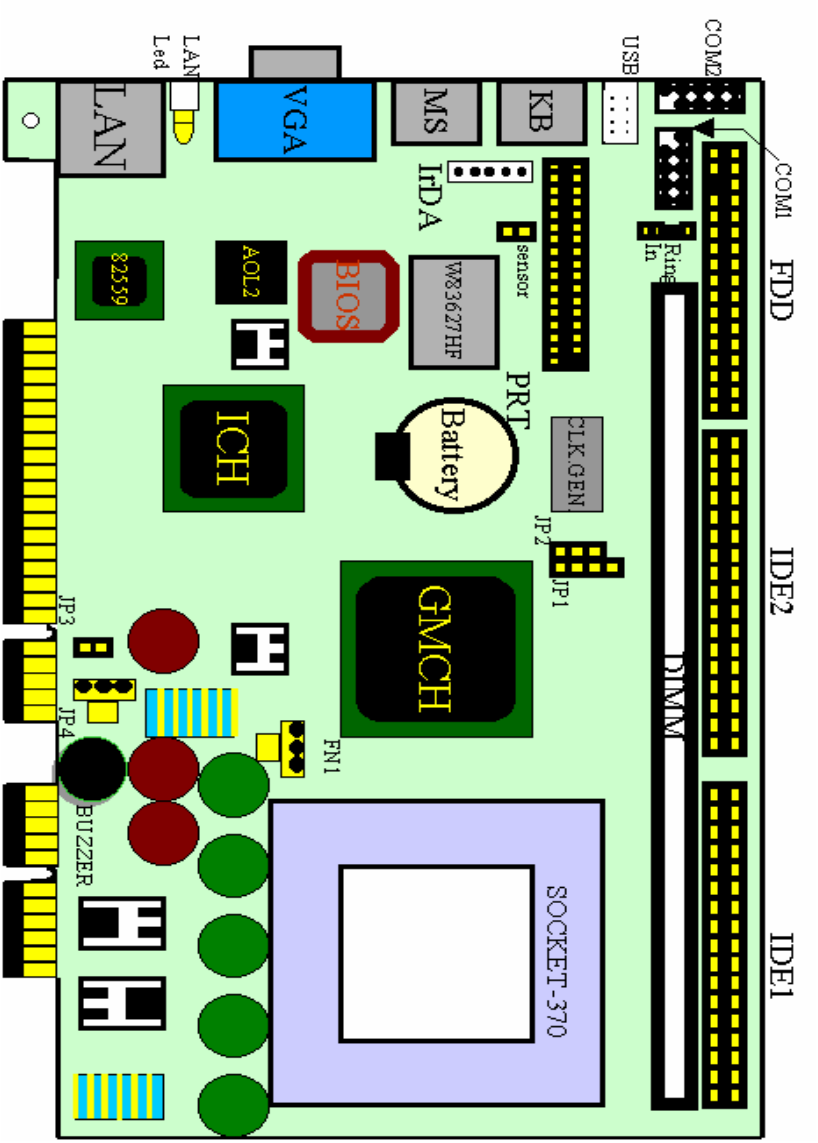
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1.5 Intelligence

- **System Health Monitoring:** A sensor for the CPU temperature on the NuPRO-775 monitors the CPU temperature, an external sensor for system temperature, case-opened indicator, fan-speed detection, system voltages monitoring
- **Windows 98 shut-off:** Allows shut-off control from within Windows 98 and through an ATX power supply.
- **Modem ring-in:** Allows system powering on through an external modem and through an ATX power supply.
- **Year 2000 Compliant BIOS:** The onboard Award BIOS is Year 2000 Compliant
- **Wake On LAN:** Through an ATX power supply and network connection, systems can be turned on from the power-off state.
- **Alert on LAN II :** Allows SOS hardware event alert, watchdog, and Advanced Power Management (APM) through Ethernet.

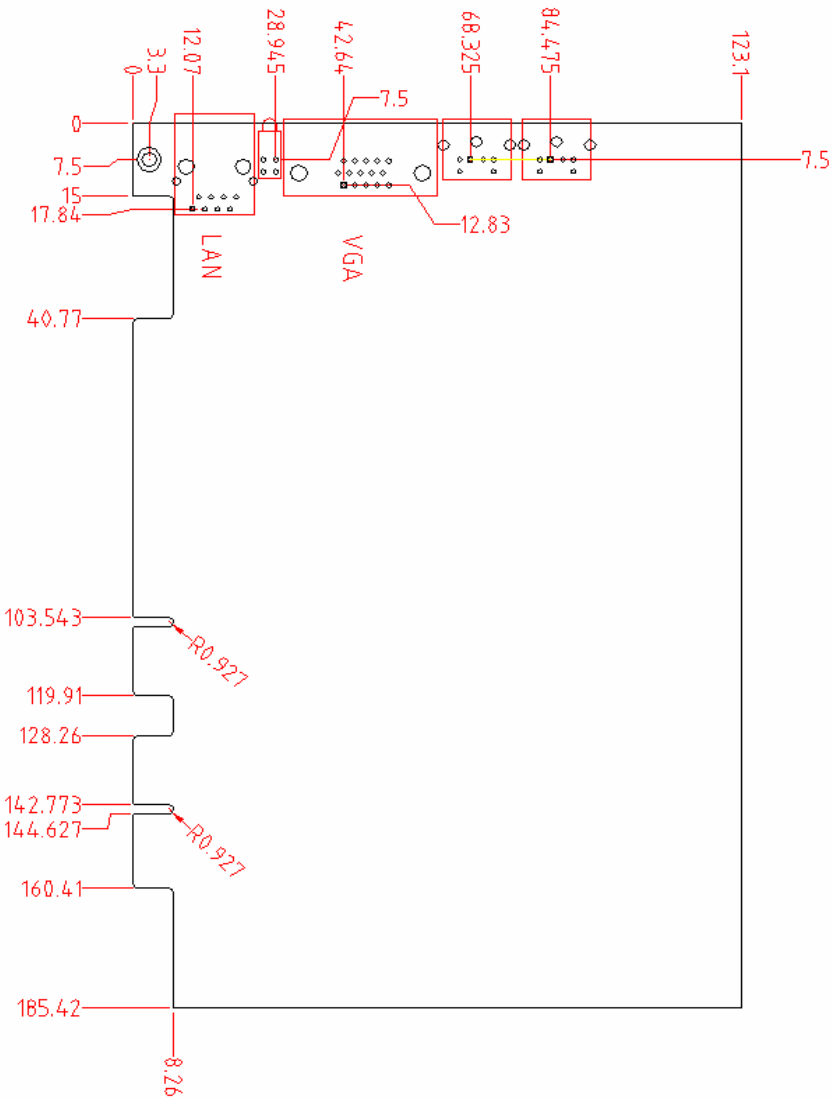
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Figure 1 Layout of key components:



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Figure 2 NuPRO-775 Mechanical Drawing



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2

Installations

This chapter provides information on how to use the jumpers and connectors on the NuPRO-775 in order to set up a workable system. The topics covered are:

- CPU Installation
- Memory Installation
- Jumpers on the NuPRO-775
- Connectors on the NuPRO-775
- Watchdog timer configration

2.1 CPU Installation

The NuPRO-775 industrial computer Main board supports a Socket-370 processor socket for Intel Celeron, Pentium III processors.

Before inserting the CPU, make sure the notch on the corner of the CPU corresponds with the notch on the inside of the socket.

After you have installed the processor into place, check if the jumpers for the CPU type and speed are correct.

Note: Ensure that the CPU heat sink and the CPU top surface are in total contact to avoid CPU overheating problem that would cause your system to hang or be unstable.

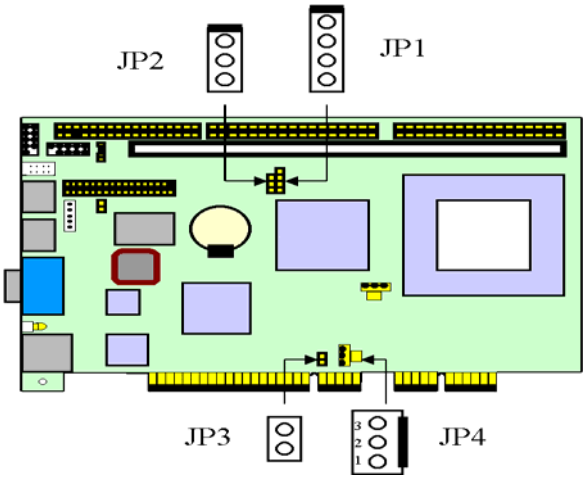
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2.2 Memory Installation

The NuPRO-775 industrial computer main board supports one 168-pin DIMM socket for a maximum total memory of 256 MB. The memory modules can come in sizes of 16MB, 32MB, 64MB, 128MB, and 256MB SDRAM.

2.3 Jumpers on the NuPRO-775

The jumpers on the NuPRO-775 allow you to configure your main board 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 figure and table below show the correct setting to match the CPU frequency.



CPU Frequency	SDRAM Frequency	JP1	JP2
66	100	1-2	2-3
100	100	2-3	2-3
66/100 auto	100	3-4	2-3
Reserved for future			1-2

- **JP3: Power button**
- **JP4: Standby power connector**

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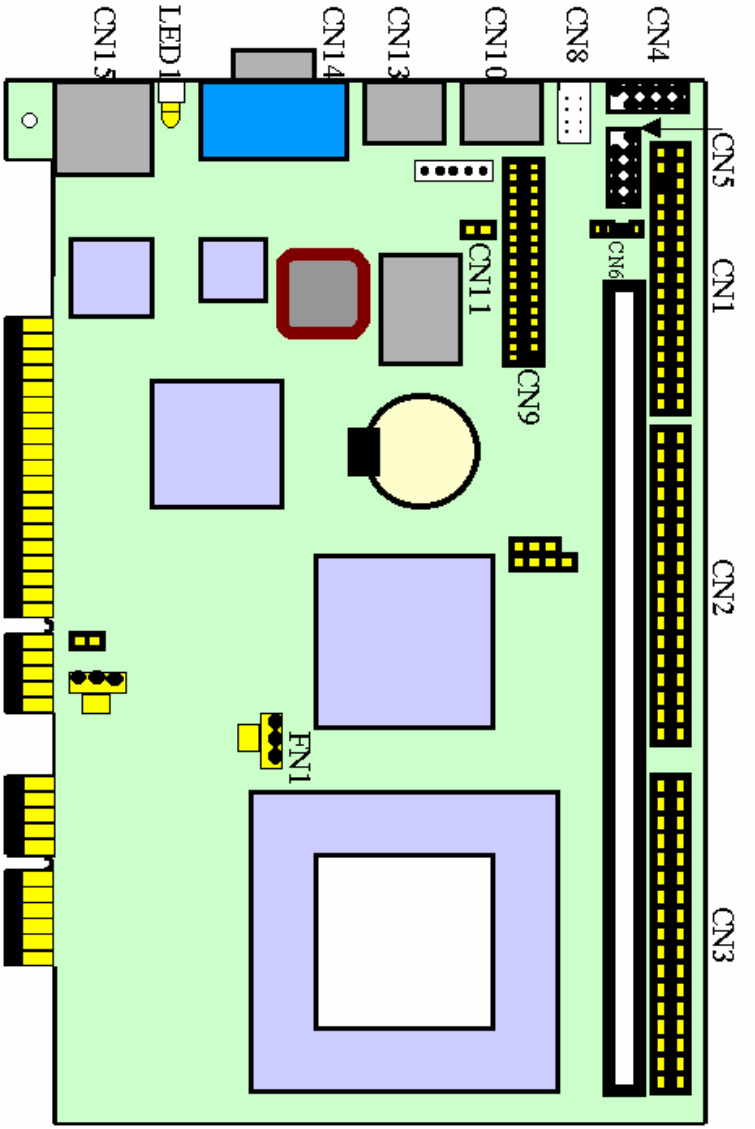
2.4 Connectors on the NuPRO-775

The connectors on the NuPRO-775 allow you to connect external devices such as keyboard, floppy disk drives, hard disk drives, printers, etc. The following tables list the connectors on NuPRO-775 and their respective functions.

CN1: Floppy Drive Connector *14*
CN2, CN3: EIDE Connectors *15*
CN2: Secondary IDE Connecto: *16*
CN4, CN5: Serial Port (CN5 : COM1, CN4 : COM2) *17*
CN9: Parallel Port Connector *18*
CN13: PS/2 Mouse Connector *19*
CN14: VGA CRT Connector *19*
CN15: RJ45 Connector *19*
FN1: CPU Fan Power Connector *20*
LED1: LAN Activity Indicators *20*

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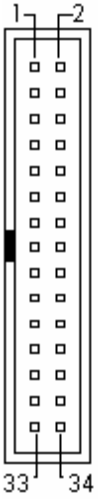
Figure 3 Connector location on the NuPRO-775



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CN1: Floppy Drive Connector

CN1 is a 34-pin header and will support up to 2.88MB floppy drives.

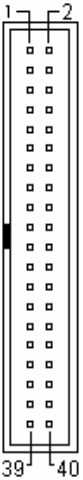


Signal Name	Pin#	Pin#	Signal Name
Ground	1	2	Drive density selection
Ground	3	4	No connect
Ground	5	6	Drive density selection
Ground	7	8	Index
Ground	9	10	Motor enable 0
Ground	11	12	Drive select 1
Ground	13	14	Drive select 0
Ground	15	16	Motor enable 1
Ground	17	18	Direction
Ground	19	20	Step
Ground	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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CN2, CN3: EIDE Connectors

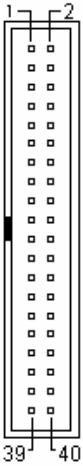
CN3: Primary IDE Connector



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	
DRQ0	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host ALE
DACK0	29	30	Ground
IRQ14	31	32	No connect
Address 1	33	34	No connect
Address 0	35	36	Address 2
Chip select 0	37	38	Chip select 1
Activity	39	40	Ground

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CN2: Secondary IDE Connecto:

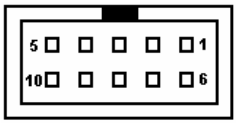


Signal Name	Pin #	Pin #	Signal Name
Reset IDE	1	2	Ground
Host data 7	3	4	Host data 8
Host data 6	5	6	Host data 9
Host data 5	7	8	Host data 10
Host data 4	9	10	Host data 11
Host data 3	11	12	Host data 12
Host data 2	13	14	Host data 13
Host data 1	15	16	Host data 14
Host data 0	17	18	Host data 15
Ground	19	20	+5V
DRQ1	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host ALE
DACK1	29	30	Ground
IRQ15	31	32	No connect
Address 0	35	36	Address 2
Chip select 0	37	38	Chip select 1
Activity	39	40	Ground

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CN4, CN5: Serial Port (CN5 : COM1, CN4 : COM2)

A 10-pin header connector, is an onboard serial port of the NuPRO-775. The following table shows the pin assignments of this connector.



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	RI, Ring indicator
10	NC

CN6: Modem Ring-in Connector

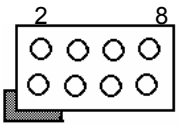
The following table shows the pin outs of the Modem Ring-in connector



Pin #	Signal Name
1	+5VSB
2	No use
3	Ring In
4	Ground

CN8: USB Connectors

The following table shows the pin outs of the USB connectors.

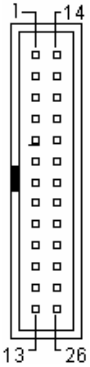


Pin #	Pin #	Signal Name
1	2	Vcc
3	4	USB0-,USB1-
5	6	USB0+,
7	8	Ground

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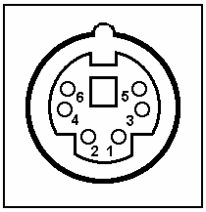
CN9: Parallel Port Connector

The following table describes the pin out assignments of this connector.



Signal Name	Pin #	Pin #	Signal Name
Line printer strobe	1	14	AutoFeed
PD0, parallel data 0	2	15	Error
PD1, parallel data 1	3	16	Initialize
PD2, parallel data 2	4	17	Select
PD3, parallel data 3	5	18	Ground
PD4, parallel data 4	6	19	Ground
PD5, parallel data 5	7	20	Ground
PD6, parallel data 6	8	21	Ground
PD7, parallel data 7	9	22	Ground
ACK, acknowledge	10	23	Ground
Busy	11	24	Ground
Paper empty	12	25	Ground
Select	13	N/A	N/A

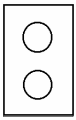
CN10: PS/2 Keyboard Connector



Pin #	Signal Name
1	Keyboard data
2	N.C.
3	GND
4	5V
5	Keyboard clock
6	N.C.

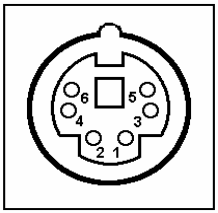
CN11: System temperature detection

Connect a cable to thermal sensor



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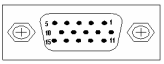
CN13: PS/2 Mouse Connector



Pin #	Signal Name
1	Mouse data
2	N.C.
3	N.C.
4	5V
5	Mouse Clock
6	N.C.

CN14: VGA CRT Connector

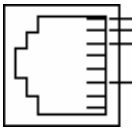
The pin assignments of the CN14 VGA CRT connector are as follows:



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	N.C.
HSYNC	13	14	VSYNC
NC	15		

CN15: RJ45 Connector

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



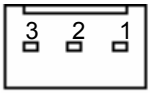
TD+(pin#1)
TD-(pin#2)
RD+(pin#3)

RD-(pin#6)

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FN1: CPU Fan Power Connector

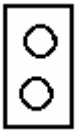
FN1 is a 3-pin header for the CPU fan. The fan must be a 12V fan.



Pin #	Signal Name
1	Ground
2	+12V
3	Rotation

LED1: LAN Activity Indicators

A and B are Green LED indicators located at the bracket side of the CPU board that shows LAN activity and the transfer rate in progress. Refer to the following table for the functions of each LED status.



A (up)

B (down)

A(Speed status)	Function
OFF	10Mbps transfer rate
ON	100Mbps transfer rate

B(Link status)	Function
ON	Link
OFF	Link off
Blinking	Data transfer in Progress

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2.5 Watchdog Timer Configuration

The function of the watchdog timer is to reset the system automatically. It contains a one-second/minute resolution down counter, CRF6 of logical device 8, and two Watchdog control registers, CRF5 and CRF7 of logical device 8. We can uses compatible PNP protocol to access configuration registers for setting up watchdog timer configuration.

To program configuration registers, the following configuration sequence must be followed:

Enter the extended function mode by writing 87h to the location 2Eh twice.

Configure the configuration registers

Exit the extended function mode by writing 0AAh to the location 2Eh.

The following example is written in Intel 8086 assembly language. It will reset the system in 15 seconds. We can use both keyboard interrupt and mouse interrupt to cause the watchdog to reload and start to count down from the value of CRF6.

```
.model small

.code
.startup
begin:
                ;--------------------------------------------------------------------
                ; Enter the extend function mode, interrupt double-write
                ;--------------------------------------------------------------------
                mov    dx,2eh
                mov    al,87h
                out    dx,al
                out    dx,al

                mov    dx,2eh
                mov    al,2bh                  ;CR2B,  bit4-> 0 = WDTO
                                               ;       bit4-> 1 = GP24
                out    dx,al
                mov    dx,2fh
                mov    al,0c0h
                out    dx,al

                mov    dx,2eh
                mov    al,07h
                out    dx,al
                mov    dx,2fh
                mov    al,08h                  ;device 8
                out    dx,al
```


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```
mov     dx,2eh
mov     al,30h
out     dx,al
mov     dx,2fh
mov     al,01h       ;enable device 8
out     dx,al

mov     dx,2eh
mov     al,07h
out     dx,al
mov     dx,2fh
mov     al,08h       ;device 8
out     dx,al

mov     dx,2eh
mov     al,0f7h
out     dx,al        ;device 8,CRF7
mov     dx,2fh
mov     al,0c0h
out     dx,al

mov     dx,2eh
mov     al,07h
out     dx,al
mov     dx,2fh
mov     al,08h
out     dx,al        ;device 8

mov     dx,2eh
mov     al,0f5h      ;device 8, CRF5
out     dx,al
mov     dx,2fh
mov     al,00h        ;bit3 -> 0 = second
;bit3 -> 1 = minute
out     dx,al

mov     dx,2eh
mov     al,07h
out     dx,al
mov     dx,2fh
mov     al,08h
out     dx,al        ;device 8

mov     dx,2eh
mov     al,0f6h      ;device 8, CRF6
out     dx,al
mov     dx,2fh
mov     al,0fh
out     dx,al

;------------------------------
; Exit extend function mode
;------------------------------
```


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```
        mov     dx,2eh
        mov     al,0aah
        out     dx,al

.exit
end
```

ADLINK provides the watchdog programs and subroutines for easy use under DOS, Windows 95/98/2000, and Windows NT, please browse ADLINK CD for detailed information.

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3

BIOS Configuration

This chapter describes the different settings available in the Award BIOS. The topics covered in this chapter are as follows:

Standard CMOS Features *26*
Advanced BIOS Features *31*
Advanced Chipset Features *35*
Integrated Peripherals *37*
Power Management Setup *40*
PNP/PCI Configurations *45*
PC Health Status *47*
Frequency/Voltage Control *48*
Load Fail-Safe Defaults *49*
Load Optimized Defaults *49*
Set Supervisor / User Password *50*
Save & Exit Setup *51*
Exit Without Saving *51*

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3.1 BIOS Introduction

The Award BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel Celeron and Pentium III processors. The BIOS provides critical low-level support for standard devices such as disk drives, serial ports, and parallel ports. It also adds virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

3.2 BIOS Setup

The Award BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the Award BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:

Press <DEL> to Enter Setup

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

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► **Standard CMOS Features**	► Frequency/Voltage Control
► Advanced BIOS Features	Load Fail-Safe Defaults
► Advanced Chipset Features	Load Optimized Defaults
► Integrated Peripherals	Set Supervisor Password
► Power Management Setup	Set User Password
► PnP/PCI Configurations	Save & Exit Setup
► PC Health Status	Exit Without Saving
Esc : Quit F9 : Menu in BIOS F10 : Save & Exit Setup	↑ ↓ → ← : Select Item
Time, Date, Hard Disk Type…	

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The section below the setup items of the Main Menu displays the control keys for this menu. Another section at the bottom of the Main Menu just below the control keys section displays information on the currently highlighted item in the list.

Note: After making and saving system changes with Setup, you find that your computer cannot boot, the Award BIOS supports an override to the CMOS settings that resets your system to its default.
We strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your system manufacturer to provide the absolute maximum performance and reliability.

Standard CMOS Features

"Standard CMOS Features" choice allows you to record some basic hardware configurations in your computer system and set the system clock and error handling. If the motherboard is already installed in a working system, you will not need to select this option. You will need to run the Standard CMOS option, however, if you change your system hardware configurations, the onboard battery fails, or the configuration stored in the CMOS memory was lost or damaged.

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Standard CMOS Features

Date (mm : dd : yy)	Mon, Jan 1 2000	Item Help
Time (hh : mm : ss)	16 : 34 : 3	
		Menu Level ►
► IDE Primary Master	Press Enter None	
► IDE Primary Slave	Press Enter None	
► IDE Secondary Master	Press Enter None	
► IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Base Memory	640K	
Extended Memory	64448K	
Total Memory	65536K	

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

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At the bottom of the menu are the control keys for use on this menu. If you need any help in each item field, you can press the <F1> key. It will display the relevant information to help you. The item help at the right-hand side of the menu can give the description about the item. The memory display at the lower left-hand side of the menu is read-only. It will adjust automatically according to the memory changed. The following describes each item of this menu.

Date

The date format is:

Day	Sun to Sat (read only)
Month	1 to 12
Date	1 to 31
Year	1994 to 2079

To set the date, highlight the “Date” field and use the PageUp/ PageDown or +/- keys to set the current time.

Time

The time format is:

Hour	00 to 23
Minute	00 to 59
Second	00 to 59

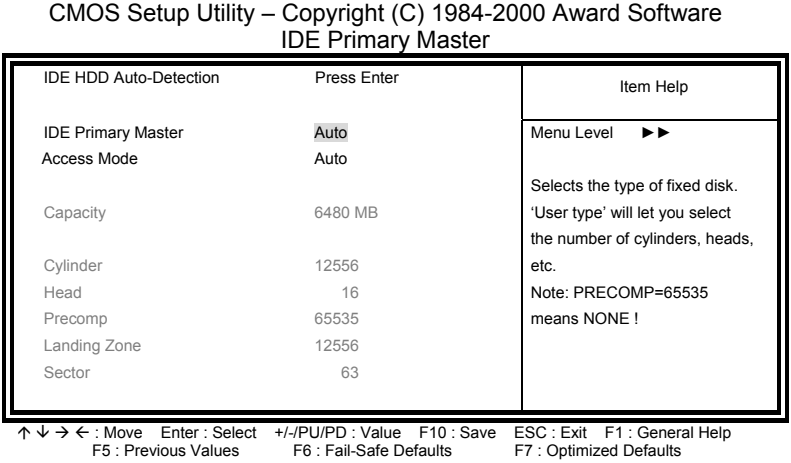
To set the time, highlight the “Time” field and use the <PgUp>/ <PgDn> or +/- keys to set the current time.

IDE Primary/Secondary Master/Slave

The onboard PCI IDE connectors provide Primary and Secondary channels for connecting up to four IDE hard disks or other IDE devices. Each channel can support up to two hard disks; the first is the “Master” and the second is the “Slave”.

Award CMOS setup utility provides a sub-menu to enter the specifications for a hard disk drive.

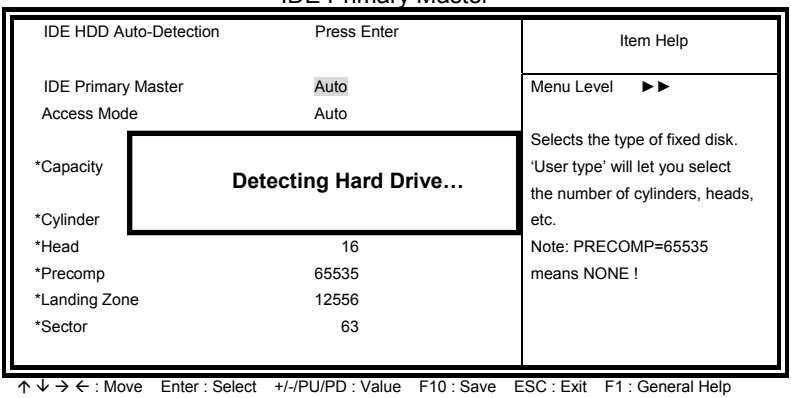
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The following describes each item of this menu.

IDE HDD Auto-Detection

This item is used to detect the type of hard drive. It will assign the cylinder, head, precomp, landing zone, and sector to the hard drive.



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IDE Primary/Secondary Master/Slave

Auto <Default>	Bios will auto detect the hard disk type.
Manual	User can assigns the type of hard disk when the access mode is normal.
None	Selects this selection when there is no hard disk in the system.

Access Mode

Auto <Default>	Auto-detect the HDD mode
Normal	HD < 528MB
Large	For MS-DOS only
LBA	HD > 528MB and supports Logical Block Addressing

If your hard disk drive type is not matched or listed, you can use normal access mode to define your own drive type manually. If you select normal access mode, related information is asked to be entered to the following items.

Cylinder	Number of cylinders
Head	Number of read/write heads
Precomp	Write precompensation
Landing Zone	Landing zone
Sector	Number of sectors

Note: The specifications of your drive must match with the drive table. The hard disk will not work properly if you enter incorrect information in these fields.

The ***Capacity*** items automatically adjust according to the configuration.

Drive A / Drive 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	No floppy drive be installed
360KB 5.25 in.	5.25 inch floppy drive, 360KB capacity
1.2MB 5.25 in.	5.25 in. floppy drive, 1.2MB capacity
720KB 3.5 in.	3.5 in. floppy drive, 720KB capacity
1.44MB 3.5 in.<Default>	3.5 in. floppy drive, 1.44MB capacity
2.88MB 3.5 in.	3.5 in. floppy drive, 2.88MB capacity

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Video

This field selects the type of video display card installed in your system. You can choose the following video display cards.

EGA/VGA <Default>	For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
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.

No Errors	The system boot will not be halted for any error that may be detected.
All Errors <Default>	Whenever the BIOS detect a non-fatal error, the system will stop and you will be prompted.
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.

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Advanced BIOS Features

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

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Advanced BIOS Features

Virus Warning	Disabled	Item Help
CPU Internal Cache	Enabled	
External Cache	Enabled	Menu Level ►
CPU L2 Cache ECC Checking	Enabled	
Quick Power On Self Test	Disabled	Allows you to choose the VIRUS
First Boot Device	Floppy	warning feature for IDE Hard
Second Boot Device	HDD-0	Disk boot sector protection.
Third Boot Device	LS120	If this function is enabled and
Boot Other Device	Enabled	someone attempt to write data
Swap Floppy Drive	Disabled	into this area, BIOS will show
Boot Up Floppy Seek	Enabled	a warning message on screen
Boot Up NumLock Status	On	and alarm beep
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
Typematic Rate (Chars/Sec)	6	
Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64MB	Non-OS2	
HDD S.M.A.R.T Capability	Disabled	
Report No FDD For WIN 95	No	

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

Virus Warning

Enabled	This item protects the boot sector and partition table of your hard disk against accidental modifications. If an attempt is made, the BIOS will halt the system and display a warning message. If this occurs, you can either allow the operation to continue or run an anti-virus program to locate and remove the problem.
Disabled <Default>	No warning message appears

Note: Many disk diagnostic programs, which attempt to access the boot sector table, can cause the virus warning. If you will run such a program, disable the Virus Warning feature.

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CPU Internal Cache / External Cache

Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type on up contain internal cache memory, and most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU. These items allow you to enable (speed up memory access) or disable the cache function.

Enabled <Default>	Open CPU Internal Cache / External Cache
Disabled	Close CPU Internal Cache / External Cache

CPU L2 Cache ECC Checking

This option enables the level 2 cache memory ECC (error check correction). The default of this item is ***Enabled*.**

Quick Power On Self-Test

When enabled, this field speeds up the Power On Self Test (POST) after the system is turned on. If it is set to *Enabled*, BIOS will skip some items.

Enabled	Enable quick POST
Disabled <Default>	Normal POST

First/Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in the following items. The settings are:

Disabled	Floppy	LS120
HDD-0	SCSI	CDROM
HDD-1	HDD-2	HDD-3
ZIP100	LAN	

Swap Floppy Drive

This item allows you to determine whether to enable Swap Floppy Drive or not.

Enabled	The BIOS swaps floppy drive assignments so that Drive A becomes Drive B, and Drive B becomes Drive A.
Disabled <Default>	Disable the BIOS to swap floppy drive

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Boot Up Floppy Seek

Enabled <Default>	The BIOS will seek whether or not the floppy drive installed has 40 or 80 tracks. 360K type has 40 tracks while 760K, 1.2M and 1.44M all have 80 tracks
Disabled	BIOS will not search the type of floppy disk drive by track number

Boot Up NumLock Status

On <Default>	Keypad is number keys
Off	Keypad is arrow keys

Gate A20 Option

This field allows you to select how Gate A20 is worked. Gate A20 is a device used to address memory above 1 MB.

Fast <Default>	The A20 signal controlled by chipset specific method
Normal	The A20 signal controlled by keyboard controller or chipset hardware

Typematic Rate Setting

Enabled	Enable typematic rate and typematic delay programming
Disabled <Default>	Disable typematic rate and typematic delay programming. The system BIOS will use default value of these 2 items And the default controlled by keyboard

Typematic Rate (Chars/Sec)

When the typematic rate is enabled, the system registers repeated keystrokes speeds. You can select speed range from 6 to 30 characters per second. By default, this item is set to ***6.***

Typematic Delay (Msec)

When the typematic rate is enabled, this item allows you to set the time interval for displaying the first and second characters. By default, this item is set to ***250msec.***

Security Option

This field allows you to limit access to the System and Setup.

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Setup <Default>	the system always boots up and prompts for the Supervisor Password only when the Setup utility is called up
System	the system prompts for the User Password every time you boot up

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

OS Select for DRAM > 64MB

This option allows the system to access greater than 64MB of DRAM memory when used with OS/2 that depends on certain BIOS calls to access memory. The default setting is *Non-OS/2*.

HDD S.M.A.R.T. Capability

This item allows the hard drive to use the S.M.A.R.T capability. The default is *Disabled*.

Report No FDD For WIN 95

Whether report no FDD for Win 95 or not. The default is *No*.

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Advanced Chipset Features

This Setup menu controls the configuration of the chipset.

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Advanced Chipset Features

SDRAM CAS Latency Time	3	Item Help
SDRAM Cycle Time Tras/Trc	6/8	
SDRAM RAS-to-CAS Delay	3	Menu Level ►
SDRAM RAS Precharge Time	3	
System BIOS Cacheable	Disabled	
Video BIOS Cacheable	Disabled	
Memory Hole At 15M-16M	Disabled	
CPU Latency Timer	Disabled	
Delayed Transaction	Enabled	
On-Chip Video Window Size	64MB	

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

SDRAM CAS Latency Time

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. The default is ***2*.**

SDRAM Cycle Time Tras/Trc

Select the number of SCLKs for an access cycle. The default setting is ***6/8*.**

SDRAM RAS-to-CAS Delay

This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. This field applies only when synchronous DRAM is installed in the system. The default is ***3*.**

SDRAM RAS Precharge Time

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain data. The default is ***3*.**

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System BIOS Cacheable

When this function is enabled, the BIOS ROM's addresses at F0000H-FFFFFH will be duplicated into the SRAM. It will work with the cache controller that is enabled.

Enabled	BIOS access cached
Disabled <Default>	BIOS access not cached

Video BIOS Cacheable

As with caching the system BIOS above, enabling the Video BIOS cache will cause access to Video BIOS addressed at C0000H to C7FFFH to be cached, the cache controller is also enabled.

Enabled	Video BIOS access cached
Disabled <Default>	Video BIOS access not cached

Memory Hole at 15MB - 16MB

In order to improve performance, certain space in memory can be reserved for ISA cards. This field allows you to reserve 15MB to 16MB memory address space to ISA expansion cards. This makes memory from 15MB and up unavailable to the system. Expansion cards can only access memory up to 16MB. By default, this field is set to ***Disabled***.

CPU Latency Timer

When *Disabled*, a "deferrable" CPU cycle will be deferred immediately after the chipset receives another ADS#. The default is *Disabled*.

Delayed Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.1. The default setting is *Enabled*.

On-Chip Video Window Size

Select the on-chip video window size for VGA driver use. The default is *64MB*.

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This option sets your hard disk configuration, mode and port.

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Integrated Peripherals

On-Chip Primary PCI IDE	Enabled	Item Help
On-Chip Secondary PCI IDE	Enabled	
IDE Primary Master PIO	Auto	Menu Level ►
IDE Primary Slave PIO	Auto	
IDE Secondary Master PIO	Auto	
IDE Secondary Slave PIO	Auto	
IDE Primary Master UDMA	Auto	
IDE Primary Slave UDMA	Auto	
IDE Secondary Master UDMA	Auto	
IDE Secondary Slave UDMA	Auto	
USB Controller	Enabled	
USB Keyboard Support	Disabled	
Init Display First	PCI Slot	
IDE HDD Block Mode	Enabled	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2E8/IRQ3	
UART Mode Select		
RxD , TxD Active	Hi,Lo	
IR Transmission Delay	Enabled	
UR2 Duplex Mode	Half	
Use IR Pins	IR-Rx2	
Onboard Parallel Port		
Parallel Port Mode		
EPP Mode Select	Epp1.7	
ECP Mode Use DMA	3	

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

On-Chip Primary/Secondary PCI IDE

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select *Enabled* to activate each channel separately.

IDE Primary/Secondary Master/Slave PIO

These fields allow your system hard disk controller to work faster. Rather than have the BIOS issue a series of commands that transfer to or from the disk drive, PIO (Programmed Input/Output) allows the BIOS to communicate with the controller and CPU directly.

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The system supports five modes, numbered from 0 (default) to 4, which primarily differ in timing. When Auto is selected, the BIOS will select the best available mode.

Auto<Default>	Auto select which mode that BIOS communicates with the controller and CPU
Mode0~Mode4	User define the PIO mode

IDE Primary/Secondary Master/Slave UDMA

These fields allow your system to improve disk I/O throughput to 33Mb/sec with the Ultra DMA/33 feature. The options are *Auto<Default>* and *Disabled*.

USB Controller

Select *Enabled* if your system contains a Universal Serial Bus(USB) controller and you have USB peripherals. The default is ***Enabled***.

USB Keyboard Support

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

Init Display First

This item allows you to decide to activate whether PCI Slot or on-chip VGA first. The default is ***PCI Slot***.

IDE HDD Block Mode

This field allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive.

Enabled	IDE controller uses block mode
Disabled<Default>	IDE controller uses standard mode

Onboard FDC Controller

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

Onboard Serial Port 1/2

These fields allow you to select the onboard serial ports and their addresses. The default values for these ports are:

Serial Port 1	3F8/IRQ4
Serial Port 2	2F8/IRQ3

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UART Mode Select

This field determines the UART mode in your computer. The settings are *Normal, IrDA and ASKIR*. The default value is *Normal*.

Onboard Parallel Port

These fields allow you to select the onboard parallel ports and their addresses. The default value for this port is *378H/IRQ7*.

Parallel Port Mode

To operate the onboard parallel port as Standard Parallel Port only, choose "SPP". To operate the onboard parallel port in the EPP modes simultaneously, choose "EPP". By choosing "ECP", the onboard parallel port will operate in ECP mode only. Choosing "ECP+EPP" will allow the onboard parallel port to support both the ECP and EPP modes simultaneously.

The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear "ECP Mode Use DMA". At this time, the user can choose between DMA channels *3* or *1*.

The onboard parallel port is EPP Spec. compliant, so after the user chooses the onboard parallel port with the EPP function, the following message will be displayed on the screen: "EPP Mode Select". At this time either *EPP 1.7* spec. or *EPP 1.9* spec. can be chosen.

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Power Management Setup

The Power Management Setup allows you to save energy of your system effectively. It will shut down the hard disk and turn off video display after a period of inactivity.

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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	
Wake-Up by PCI card	Disabled	
Power On by Ring	Enabled	
Intruder# Detection	Disabled	
CPU Thermal-Throttling	50.0%	
Resume by Alarm	Enabled	
Date(of Month) Alarm	0	
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 Help
F5 : Previous Values F6 : Fail-Safe Defaults F7 : Optimized Defaults

ACPI function

ACPI stands for Advanced Configuration Power Interface. The default setting of this field is ***Enabled***.

Power Management

This field allows you to select the type of power saving management modes. There are four selections for Power Management.

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Disabled	No power management.
User Define <Default>	Each of the ranges is from 1 min. to 1hr. Except for HDD Power Down which ranges from 1 min. to 15 min.
Min Saving	Minimum power management
Max Saving	Maximum power management.

Note: In order to enable the CPU overheat protection feature, the Power Management field should not be set to disabled.

Video Off Method

This field defines the Video Off features. There are three options.

V/H SYNC + Blank	This selection will cause the system to turn off the Vertical and horizontal synchronization ports and Write blanks to the video buffer
DPMS	Allows the BIOS to control the video display card if it supports the DPMS feature
Blank Screen <Default>	This option only writes blanks to the video buffer

Video Off In Suspend

This determines the manner in which the monitor is blanked. The default is ***No***.

Suspend Type

Select the Suspend Type.

PWRON Suspend	Use the power button to decide whether the system is in suspend or not.
Stop Grant <Default>	When the system is idle, it will be in suspend mode.

Modem Use IRQ

This field names the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. By default, the IRQ is set to ***3***.

Suspend Mode

When enabled, and after the set time of system inactivity, all devices except the CPU will be shut off.

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Disabled <Default>	Don't Enter the Suspend mode
1 Hour	After 1 hour of system inactivity, enter Suspend mode
40 min	After 40 min of system inactivity, enter Suspend mode
30 min	After 30 min of system inactivity, enter Suspend mode
20 min	After 20 min of system inactivity, enter Suspend mode
12 min	After 12 min of system inactivity, enter Suspend mode
8 min	After 8 min of system inactivity, enter Suspend mode
4 min	After 4 min of system inactivity, enter Suspend mode
2 min	After 2 min of system inactivity, enter Suspend mode
1 min	After 1 min of system inactivity, enter Suspend mode

HDD Power Down

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

Disabled <Default>	Don't Enter the HDD power down mode
1 min ~ 15 min	After the set time of system inactivity, HDD power down

Soft-Off by PWR-BTTN

This field defines the power-off mode when using an ATX power supply. There are two modes :

Instant-Off <Default>	The mode allows powering off immediately upon pressing the power button
Delay 4 Sec	The system powers off when the power button is pressed for more than four seconds or places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity.

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Wake-Up by PCI card/Power On by Ring

Enabled <Default>	Wake up the system from modem or lan
Disabled	Disable the modem or lan to wake up the system

Intruder# Detection

This item is used to detect the system's case is opened or not. If the case is opened, the system will be shutdown. The default is *Disabled*.

CPU Thermal-Throttling

When the system enters Doze mode, the CPU clock runs only part of the time. You may select the percent of time that the clock runs.

87.5%	87.5% time that the CPU clock runs
75.0%	75.0% time that the CPU clock runs
62.5%	62.5% time that the CPU clock runs
50.0% <Default>	50.0% time that the CPU clock runs
37.5%	37.5% time that the CPU clock runs
25.0%	25.0% time that the CPU clock runs
12.5%	12.5% time that the CPU clock runs

Resume by Alarm

This function is for setting date and time for your computer to boot up. During Disabled, you cannot use this function. During Enabled, choose the Date and Time Alarm:

Date (of Month) Alarm	You can choose which month the system will boot up. Set to 0, to boot every day.
Time (hh:mm:ss) Alarm	You can choose what hour, minute and second the system will boot up.

Reload Global Timer Events

This section determines the reloading of the 'timers' after entering the Full On You can enable or disable the monitoring of IRQ 8 (Real Time Clock) so it does not awaken the system from Suspend mode.

PM Events

The VGA, LPT & COM, HDD & FDD, DMA /master, PWR-On by Modem/LAN, RTC Alarm Resume and Primary INTR section are I/O events which can prevent the system from entering a power saving mode or can awaken the system from such a mode. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it

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interrupts itself and performs the service. If activity is detected from any enabled IRQ channels, the system wakes up from suspended mode.

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PNP/PCI Configurations

This option configures the PCI bus system. All PCI bus systems on the system use INT#, thus all installed PCI cards must be set to this value.

CMOS Setup Utility – Copyright (C) 1984-2000 Award Software
PnP/PCI Configurations

Reset Configuration Data	Enabled	Item Help
Resources Controlled By	Auto(ESCD)	Menu Level ►
IRQ Resources	Press Enter	
Memory Resources	Press Enter	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
PCI/VGA Palette Snoop	Disabled	

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

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operation system can not boot. The default value is *Disabled*.

Resources Controlled by

This PnP BIOS can configure all of the boot and compatible devices automatically. However, this capability needs you to use a PnP operating system such as Windows 95/98. If you set this field to “manual” choose specific resources by going into each of the sub menu that follows this field.

Auto (ESCD) <Default>	PnP BIOS configure all compatible devices automatically
Manual	User can assign IRQ & DMA to the devices

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

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Memory Resources

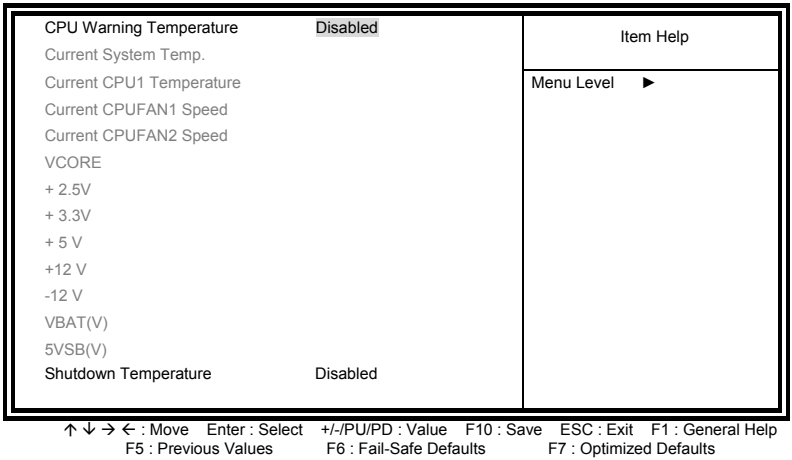
This sub menu can let you control the memory resource.

PCI/VGA Palette Snoop

Some non-standard VGA display cards may not show colors properly. This field allows you to set whether MPEG ISA/VESA VGA Cards can work with PCI/VGA or not.

Enabled	PCI/VGA can work with MPEG ISA/VESA VGA card
Disabled <Default>	PCI/VGA can not work with MPEG ISA/VESA VGA card

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CPU Warning Temperature

This field sets the threshold temperature at which an alert is sounded through the system's speaker. The CPU temperature is monitored by the onboard thermal sensor to prevent the CPU from overheating.

Current System/CPU Temperature/Current CPU Fan Speed

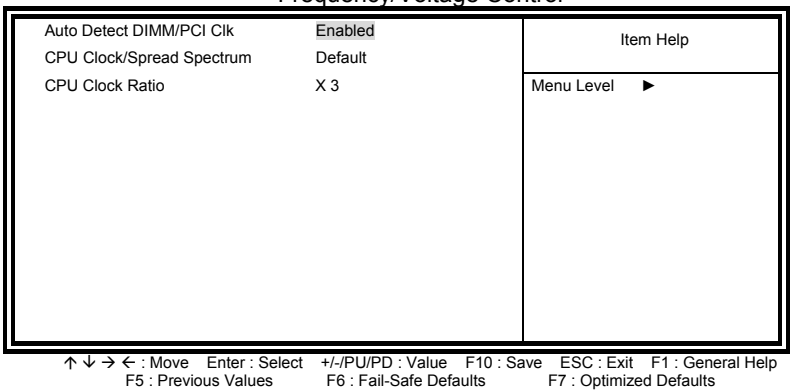
/VCORE/+2.5V/+3.3V/+5V/+12V/-12V/VBAT(V)/5VSB(V)

This will show the CPU/FAN/System voltage chart and FAN Speed.

Shutdown Temperature

This field allows you to set the temperature at which the system automatically shuts down once it is reached, in order to avoid damage to system components.

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Auto Detect DIMM/PCI Clk

This item allows you to enable/disable auto detect DIMM/PCI Clock. The default is *Enabled*.

CPU Clock/Spread Spectrum

This item allows you to set the CPU Clock/Spread Spectrum.

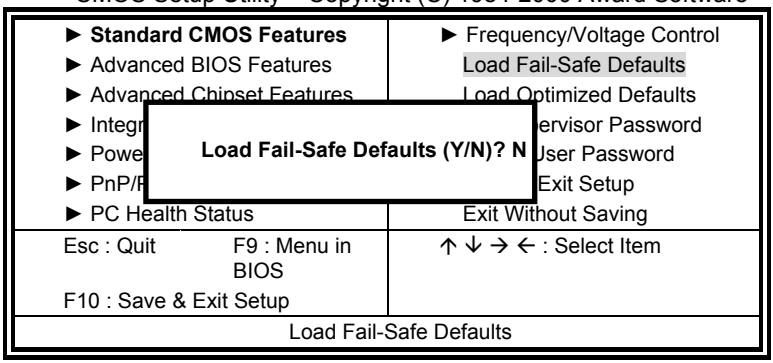
CPU Clock Ratio

This item allows you to select the CPU ratio.

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Load Fail-Safe Defaults

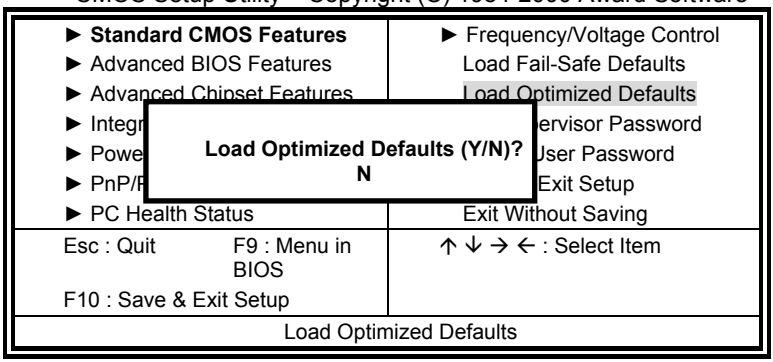
This option allows you to load the troubleshooting default values permanently stored in the BIOS ROM. These default settings are non-optimal and disable all high-performance features.



To load Fail-Safe defaults value to CMOS SRAM, enter “Y”. If not, enter “N”.

Load Optimized Defaults

This option allows you to load the default values to your system configuration. These default settings are optimal and enable all high performance features.



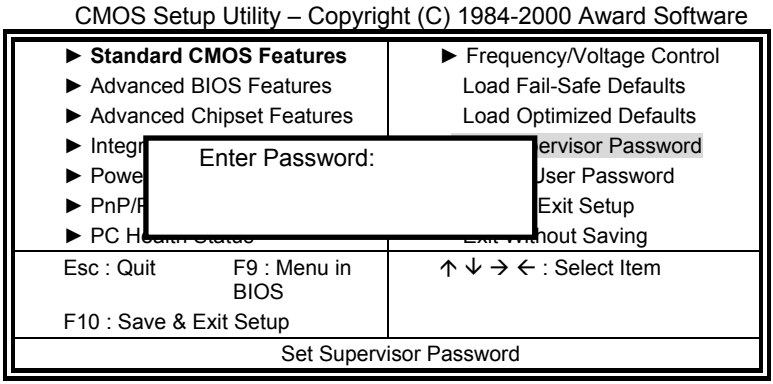
To load Optimized defaults value to CMOS SRAM, enter “Y”. If not, enter “N”.

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Set Supervisor / User Password

These two options set the system password. Supervisor Password sets a password that will be used to protect the system and Setup utility. User Password sets a password that will be used exclusively on the system. To specify a password, highlight the type you want and press <Enter>. The Enter Password: message prompts on the screen. Type the password, up to eight characters in length, and press <Enter>. The system confirms your password by asking you to type it again. After setting a password, the screen automatically returns to the main screen.

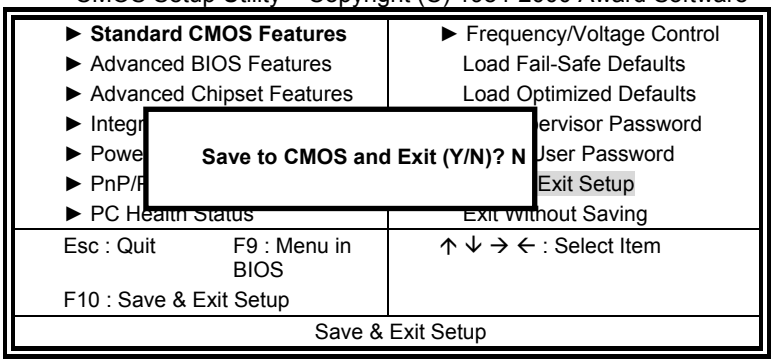
To disable a password, just press the <Enter> key when you are prompted to enter the password. A message will confirm the password to be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.



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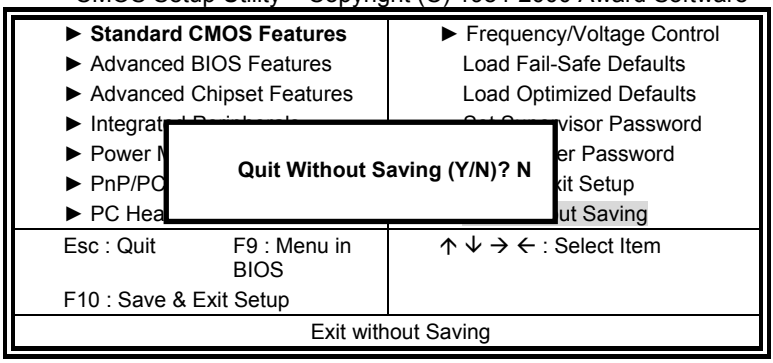
Save & Exit Setup

This option allows you to determine whether to accept the modifications or not. If you type “Y”, you will quit the setup utility and save all changes into the CMOS memory. If you type “N”, you will return to Setup utility.



Exit Without Saving

Select this option to exit the Setup utility without saving the changes you have made in this session. Typing “Y” will quit the Setup utility without saving the modifications. Typing “N” will return you to Setup utility.



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4

Intel 810 Chipset Hardware Configuration & Driver Installation

This chapter describes the installation procedure of Intel 810 chipset Device Driver for Windows 98/95.

It contains the following sections:

4.1 Hardware Configuration File Installation

This section describes system requirements of Intel 810 chipset Device Driver. This driver has been designed for and tested with Windows 98/95.

The system must contain a supported Intel processor and chipset configuration.

Ensure that a mouse is connected to the system.

One of the following versions of Windows 98/95 must be installed on the system prior to running utility program.

Windows 98 Second Edition 4.10.2222 (Original Release)

Windows 98 4.10.1998 (Original Release)

Windows 95 4.00.950c (OSR 2.5 with or without USB Supplement)

Windows 95 4.00.950b (OSR 2.1 with USB Supplement)

Windows 95 4.00.950b (OSR 2.1 with USB Supplement)

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Windows 95 4.00.950a (OSR1)

Windows 95 4.00.950 (Original Release)

This utility should only be used on desktop systems. The utility must not be executed on notebook or portable systems with or without dock.

Installing Hardware Configuration File

This subsection describes how to install the hardware configuration file on a system where Windows 98/95 is installed.

> **Note:** Record the location of the Windows 98/95 directory before installing the driver.

Check the System Requirements. Windows 98/95 must be fully installed and running on the system prior to running this software.

Close any running applications.

The files are stored in an integrated application setup program. This program is a Windows 98/95 program that allows the INF files to be installed.

Run SETUP.EXE.

Click 'Next' on Welcome Screen to read and agree to the license agreement. Click Yes if you agree to continue. NOTE: If you click 'No', the program will terminate.

Click 'Finish' to restart the system when prompted to do so.

8. Follow the screen instructions and use default settings to complete the setup when Windows 98/95 is re-started. Upon re-start, Windows 98/95 will display that it has found many hardware and is installing driver for them.

If a New Hardware Found dialog box is displayed requesting the location of the drivers, use the mouse to click on the scrollbar and click on the <Windows 98/95 directory>.

9. Select Yes, when prompted to re-start Windows 98/95.

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4.2 VGA Driver Installation

This section provides information on how to install the VGA driver that come in the Compact Disk with the package. Please follow the instructions set forth in this section carefully. Please note that there must be relevant software installed in your system before you could proceed to install the VGA driver.

Installing the Drivers for Windows 98/95

The following section describes the normal display driver installation procedures for Windows 98/95. Use the following procedures when installing the display drivers for Windows 98/95.

Unzip the driver file to a specific directory. It will create a subdirectory “Graphics” automatically, click on the subdirectory.

Run SETUP.EXE.

Click 'Next' on Welcome Screen to read and agree to the license agreement. Click **Yes** if you agree to continue. NOTE: If you click 'No', the program will terminate.

Click **Yes** to restart your computer and for the new settings to take effect.

Follow the screen instructions and use default settings to complete the setup when Windows 98/95 is re-started.

Installing the Drivers for Windows NT 4.0

IMPORTANT: You should install the Windows NT 4.0 Service Pack 4(version number: 4.00.1381) first before installing the VGA driver. If you don't have the Windows NT 4.0 Service Pack 4, please contact your software vendor or download it from Microsoft's web site.

The procedures below show you how to install the VGA driver for Windows NT 4.0.

Boot Windows NT 4.0.

Unzip the driver file to a specific directory. It will create a subdirectory “Graphics” automatically, click on the subdirectory.

Run SETUP.EXE.

Click 'Next' on Welcome Screen to read and agree to the license agreement. Click Yes if you agree to continue. NOTE: If you click 'No', the program will terminate.

Windows NT 4.0 will prompt you to restart computer. Click **Yes** for the new settings to take effect.

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Follow the screen instructions and use default settings to complete the setup when Windows NT 4.0 is re-started.

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5

LAN Driver Installation Guide

This chapter describes LAN features and driver installation of the onboard Intel 82559 Ethernet controller.

The following items are covered in this chapter:

5.1 Introduction

Intel 82559 is a 32-bit 10/100MBps Ethernet controller for PCI local bus-compliant PCs. It supports the bus mastering architecture, and Auto-negotiation feature which make it possible to combine one common type of Ethernet cabling – an RJ-45 connector for twisted-pair cabling that can be used for both 10Mbps and 100Mbps connection. Extensive driver support for commonly used network operating systems is also provided.

5.2 Features

Conforms to the Ethernet IEEE 802.3u standard

Compatible with PCI Local Bus Revision 2.1 specification

IEEE 802.3u Auto-Negotiation for automatic speed selection

Supports Full-Duplex/Half-Duplex Operation

Provides 32-bit bus mastering data transfer

Supports 10Mbps and 100Mbps operation in a single port

Supports remote wake-up (Magic Packet*) in APM and ACPI mode

* Requires ATX power supply with 5VSB, 720mA

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5.3 Software Drivers Support

NetWare ODI Drivers

Novell NetWare 3.x, 4.x, NetWare LAN WorkPlace TCP/IP, Novell LAN Analyzer for NetWare

Packet Drivers

FTP PC/TCP, NCSA TCP/IP

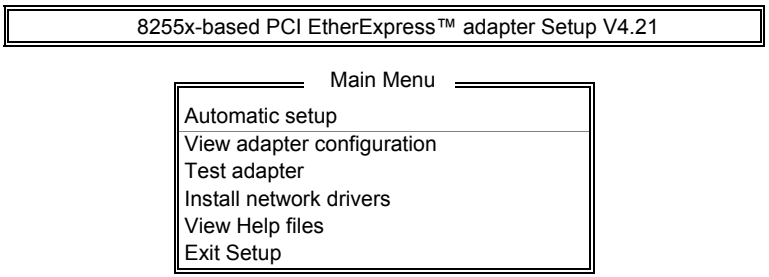
NDIS Drivers

Microsoft LAN Manager V2.x, Windows 3.x, Windows NT 4.0, Windows NT 3.51, Windows 98, Windows 95, SCO3, SCO5; IBM LAN Server 4.0 for DOS and OS/2, and Linux.

5.4 Running Diagnostics

The NuPRO-775 comes with 1 CD containing drivers and diagnostic software supporting the Intel 82559 Ethernet controller. Follow the steps below to use the *Setup Utility*.

Run the file SETUP.EXE and typing **D:\NUPRO\NuPRO775\LAN\82559\setup.exe** in the DOS prompt. Upon doing so, the system starts the *Setup Utility* and shows the following screen.

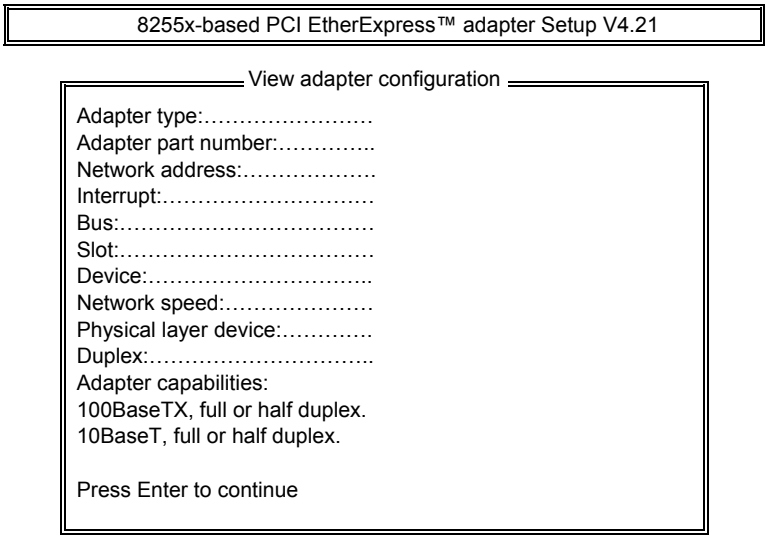


Choose AUTOMATIC SETUP to view the adapter's configuration, make sure it works properly, and install the software needed to connect to your network.

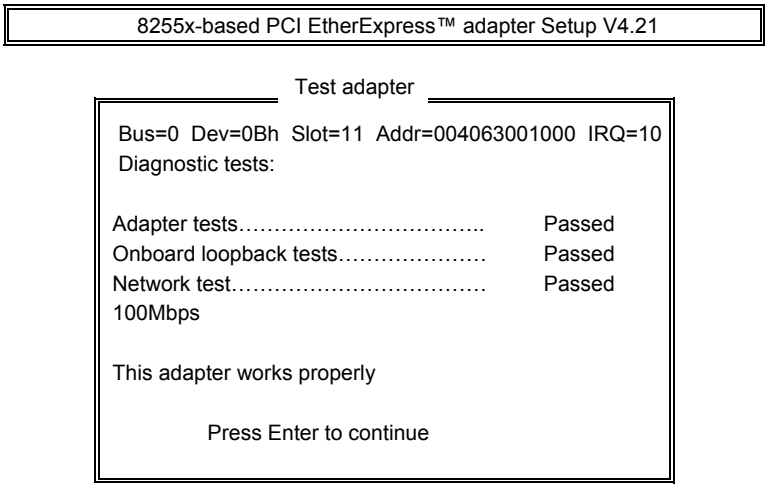
Help = F1 Exit = Esc Select = ↑↓ Action = ↵

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Selecting **View adapter configuration** will show the following.

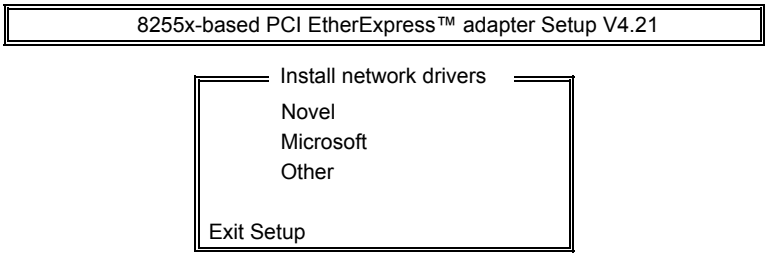


Selecting **Test adapter** will show the following screen.



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Selecting **Install network drivers** will show the following screen.

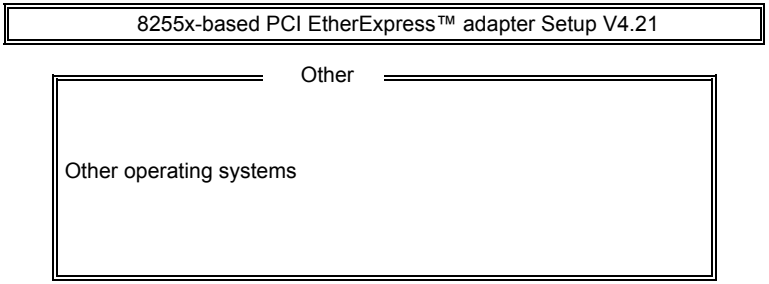


Each of the three items will show the operating procedures for you.

Choose OTHER if you use a network operating system from a manufacturer not on this list (such as Banyan or UNIX).

Help = F1 Press Enter to continue

Upon selecting **Others** under the **Install network drivers main menu** screen, the following screen will appear.

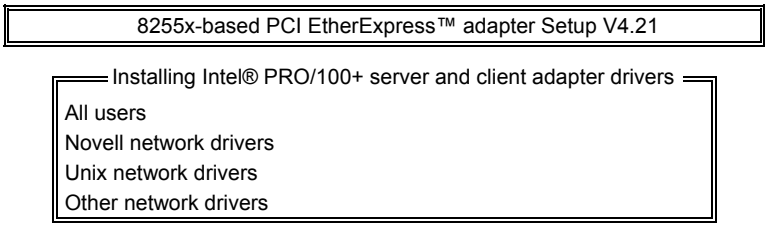


Choose OTHER if you use a network operating system from a manufacturer not on this list (such as Banyan or UNIX).

Help = F1 Previous = Esc Select = ↑↓ Accept = ↵

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Selecting **View Help files** under the **Main menu** will show the following screen.



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6

Hardware Doctor Utility

This chapter introduces Hardware Doctor Utility that comes with the CPU board in conjunction with the onboard hardware monitoring function(embedded in Winbond's Super I/O chip W83627HF). The sections in the following pages describe the functions of the utility.

Hardware Doctor is a self-diagnostic system for PC and must be used with Winbond's W83781D/W83782D IC series products.

It will protect PC Hardware by monitoring several critical items including Power Supply Voltage, CPU Fan speed, and CPU & System temperature.

These items are important to the operation of system; errors may result in permanent hurt of PC. Once any item is out of its normal range, an obvious warning message will pop up and remind user to make a proper treatment.

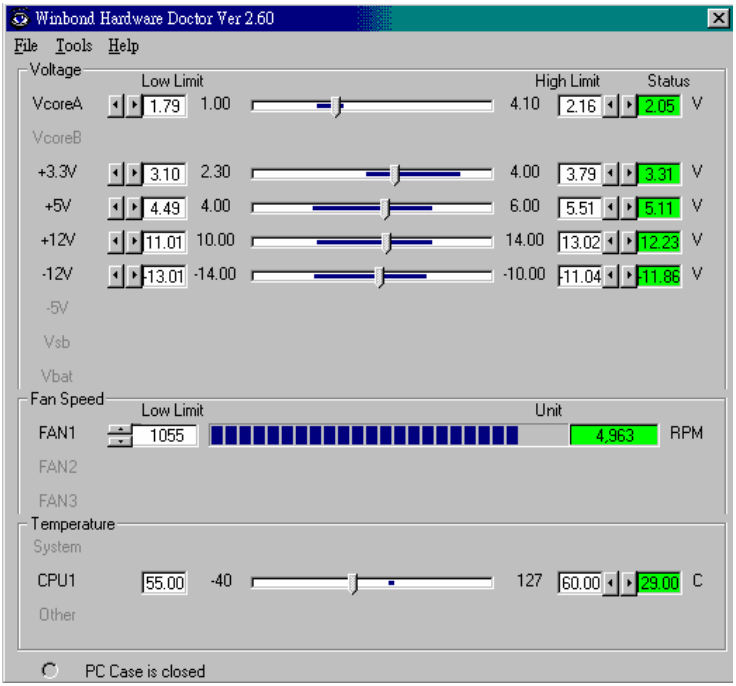
Note: Hardware Doctor currently supports English and Chinese under Windows 95,98 and Windows NT.

When Hardware Doctor is initiated, the icon below appears in the task bar in the Windows environment.



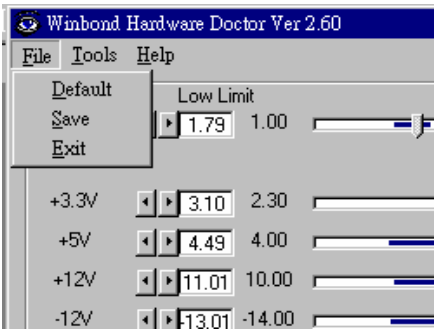
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The following screen appears upon clicking on the Hardware Doctor icon.



Clicking on the upper left corner button would show you the three items as following:

User can set all limits to default value by choosing the “default” item under “file” dialogue window.



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Set all Limits to Default

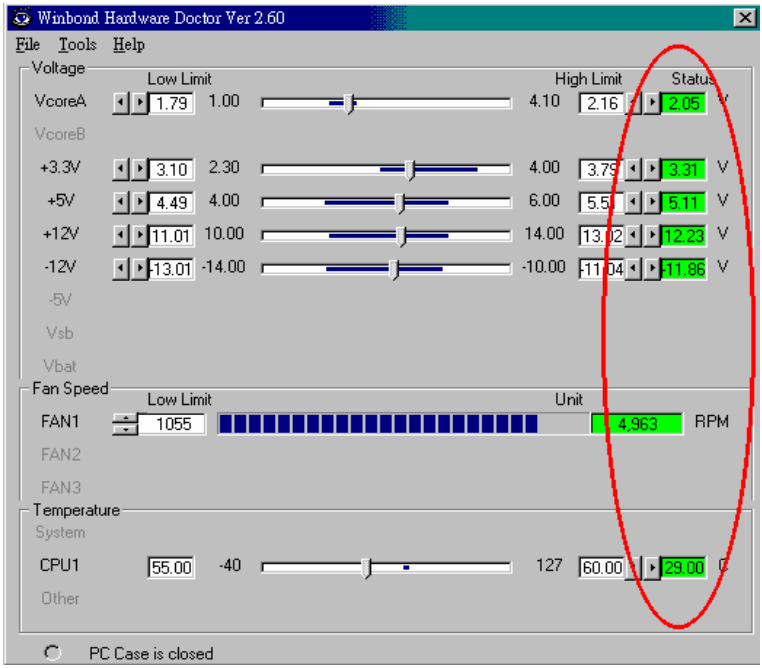
If users want to change CPU, please set all limits to default after replacing new CPU and the CPU working voltage Vcore will be load automatically. When Change another CPU, please see Default. Save the Setting Limits

Limit Adjustment

All limits by users can be modified and saved. When users execute this program next time, the limit will be the modified value.

Current Status

This column is the current status of the item. “Green” means this item is normal; “Red” means it is out of range and a warning message will pop up at this time.



Case Open

If your PC case has a sensor for this function, after marking this item, once the PC case is opened, the warning message will pop up and never disable unless you key in the correct password.

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Exit

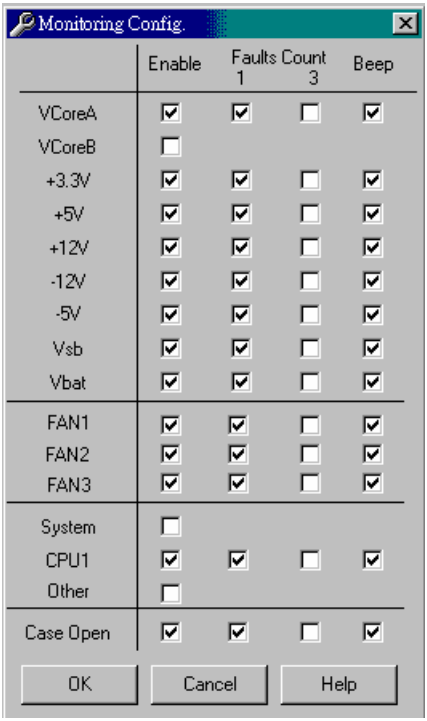
Choosing the “X” button on the right corner of the tool bar in Hardware Doctor main menu, the menu will be minimized on the working bar of Windows 98 and serves as a TSR program. Only choosing the "exit" item under the " file" will exit Hardware Doctor.

Configuration Setting

Press tool button and click configuration you can decide which item should be monitored or not.

User can decide the system to pop up the warning message when there is 1 fault detected or there are 3 consecutive faults detected.

In addition to pop up warning message, users can choose to activate a Beep tone if there is error detected. Beep tone will be continued until the error is treated.



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Fan Speed

The most popular PC system may only have one fan on the motherboard. When the fan is not connected or doesn't exist, the fan speed column will be indicated "Low speed". At this time, please disable the fan in the "configuration" page.

CPU fan is located in the motherboard to keep CPU in normal temperature. If this fan turns low speed or stops, the temperature will be raised and the

PC/CPU may be damaged or operate unstably.

Note: Only the fan with three output pins can be monitored!

Temperature

All temperature-monitoring items only permit users to change the high limit, and the low limit will be set automatically as the high limit minus 5 degree C.

Once the CPU/System temperature over the high limit, the warning message will pop up and status will turn "Red". The status will not recover to be " Green" until the temperature gets lower than the high limit minus 5 degree C. Currently we have one thermostat on board for CPU temperature. You can use another thermostat connect to CN11 (two pins connector) as system temperature sensor.

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Warranty Policy

Thank you for choosing ADLINK. To understand your rights and enjoy all the after-sales services we offer, please read the following carefully.

1. Before using ADLINK's products please read the user manual and follow the instructions exactly. When sending in damaged products for repair, please attach an RMA application form which can be downloaded from: http://rma.adlinktech.com/policy/.
2. All ADLINK products come with a limited two-year warranty, one year for products bought in China.
    - The warranty period starts on the day the product is shipped from ADLINK's factory.
    - Peripherals and third-party products not manufactured by ADLINK will be covered by the original manufacturers' warranty.
    - For products containing storage devices (hard drives, flash cards, etc.), please back up your data before sending them for repair. ADLINK is not responsible for any loss of data.
    - Please ensure the use of properly licensed software with our systems. ADLINK does not condone the use of pirated software and will not service systems using such software. ADLINK will not be held legally responsible for products shipped with unlicensed software installed by the user.
    - For general repairs, please do not include peripheral accessories. If peripherals need to be included, be certain to specify which items you sent on the RMA Request & Confirmation Form. ADLINK is not responsible for items not listed on the RMA Request & Confirmation Form.
3. Our repair service is not covered by ADLINK's guarantee in the following situations:
    - Damage caused by not following instructions in the User's Manual.
    - Damage caused by carelessness on the user's part during product transportation.
    - Damage caused by fire, earthquakes, floods, lightening, pollution, other acts of God, and/or incorrect usage of voltage transformers.
    - Damage caused by inappropriate storage environments such as with high temperatures, high humidity, or volatile chemicals.

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- Damage caused by leakage of battery fluid during or after change of batteries by customer/user.
- Damage from improper repair by unauthorized ADLINK technicians.
- Products with altered and/or damaged serial numbers are not entitled to our service.
- This warranty is not transferable or extendible.
- Other categories not protected under our warranty.

4. Customers are responsible for all fees necessary to transport damaged products to ADLINK.

For further questions, please e-mail our FAE staff: service@adlinktech.com

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