

HS-7239/HS-7239M

**Pentium® M/ Celeron® M
PCI-ISA Bus Industrial
Single Board Computer**

- CompactFlash • DDR •
- DVI-I/CRT/LVDS Panel • LAN • Audio •
ATA/33/66/100 • RS-232/422/485 •
- 4 COM • USB2.0 • WDT • H/W Monitor •
- PCI-ISA Bus Industrial Single Board computer •

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Table of Contents

Chapter 1	General Description	1
1.1	Major Features	2
1.2	Specifications	3
1.3	Board Dimensions.....	4
Chapter 2	Unpacking.....	5
2.1	Opening the Delivery Package.....	5
2.2	Inspection.....	5
Chapter 3	Hardware Installation	7
3.1	Before Installation	7
3.2	Board Layout	8
3.3	Jumper List	9
3.4	Connector List	9
3.5	Configuring the CPU	10
3.6	System Memory	10
3.7	VGA Controller.....	11
3.8	PCI E-IDE Drive Connector	12
3.9	Floppy Disk Drive Connector	15
3.10	Serial Port Connectors.....	16
3.11	Parallel Connector	17
3.12	Ethernet Connector	18
3.13	USB Connector	18
3.14	CMOS Data Clear	18
3.15	Power and Fan Connectors.....	19
3.16	Keyboard/Mouse Connector	19
3.17	System Front Panel Connectors.....	20
3.18	Watchdog Timer.....	20
3.19	Audio Connectors	21
3.20	CompactFlash™ Connector	22

Chapter 4	Award BIOS Setup	23
4.1	Starting Setup	23
4.2	Using Setup.....	24
4.3	Main Menu	25
4.4	Standard CMOS Features	26
4.5	Advanced BIOS Features	27
4.6	Advanced Chipset Features	28
4.7	Integrated Peripherals.....	29
4.8	Power Management Setup.....	31
4.9	PnP/PCI Configurations	32
4.10	PC Health Status.....	33
4.11	Frequency/Voltage Control	33
4.12	Load Fail-Safe Defaults.....	34
4.13	Load Optimized Defaults	35
4.14	Set Supervisor/User Password	35
4.15	Save & Exit Setup	37
4.16	Exit Without Saving.....	38
Chapter 5	Software Utilities	39
5.1	IDE Driver Installation	40
5.2	VGA Driver Installation.....	44
5.3	LAN Driver Installation.....	53
5.4	Audio Driver Installation	66
5.5	USB2.0 Driver Installation.....	68

Safety Instructions

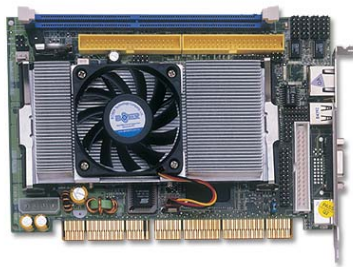
Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:

- Do not remove boards or integrated circuits from their anti-static packaging until you are ready to install them.
- Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This helps to discharge any static electricity on your body.
- Wear a wrist-grounding strap, available from most electronic component stores, when handling boards and components. Fasten the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please wear and connect the strap before handling the HS-7239 to protect yourself from the discharge of any static electricity through the strap.
- Please use an anti-static pad when putting down any components or parts or tools outside the computer. You may also use an anti-static bag instead of the pad. Please inquire from your local supplier for additional assistance in finding the necessary anti-static gadgets.

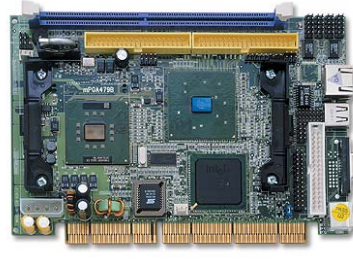
NOTE: *DO NOT TOUCH THE BOARD OR ANY OTHER SENSITIVE COMPONENT WITHOUT ALL NECESSARY ANTI-STATIC PROTECTION.*

Chapter 1

General Description



HS-7239



HS-7239M

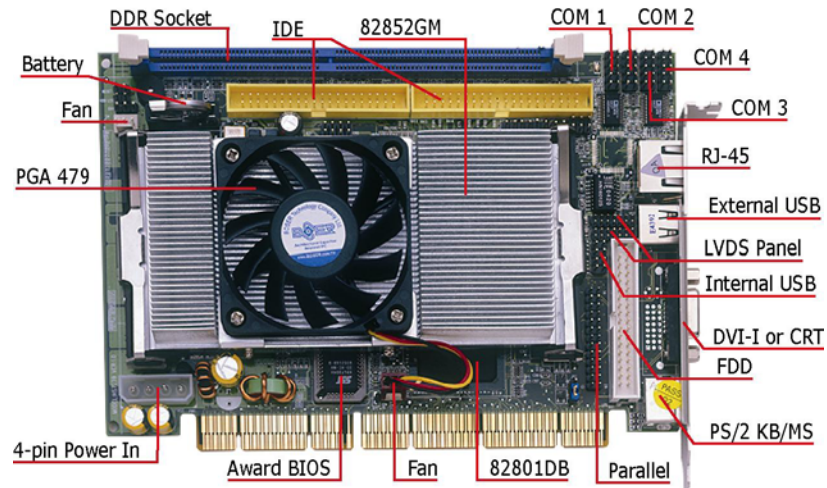
The HS-7239/HS-7239M is an Intel® 82852GM/82801DB chipset-based board designed for PCI-ISA Bus PGA 479 Intel® Pentium® M 1.2~1.7GHz CPU/Mobile Celeron® M 600MHz low power embedded CPU compatibility. The combination of these features makes the HS-7239/HS-7239M an ideal all-in-one industrial single board computer. Additional features include an enhanced I/O with DVI-I/CRT/LVDS Panel, LAN, audio, 4 COM and USB2.0 port interface.

Its onboard ATA/33/66/100 connected to IDE drive interface architecture allows the HS-7239/HS-7239M to support data transfers of 33, 66 or 100MB/sec. for each IDE drive connection. Designed with the Intel® 82852GM/82801DB core logic chipset, the board supports all PGA 479 Pentium® M 1.2~1.7GHz CPU/Mobile Celeron® M 600MHz low power embedded CPU. The display controller is Intel® 82852GM supporting DVI-I/CRT display up to 1600 x 1200. It also provides 24-bit single channel or 48-bit dual channel LVDS Panel display interface.

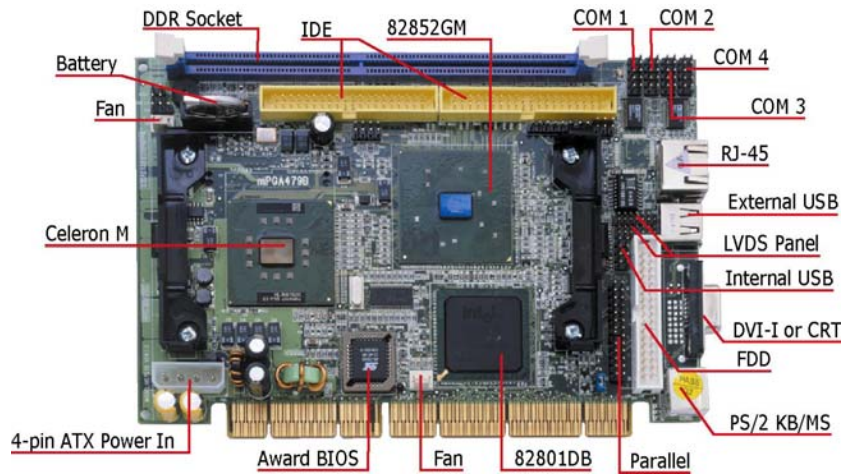
System memory is also sufficient with the one DDR socket that can support up to 1GB. It also provides one IDE interface Type II CompactFlash card adapter connector.

Additional onboard connectors include two internal and one external USB2.0 connectors providing faster data transmission, and one external RJ-45 connector for use of one 10/100 Base-TX Ethernet interfaces.

1.1 Major Features



HS-7239



HS-7239M

The HS-7239/HS-7239M comes with the following features:

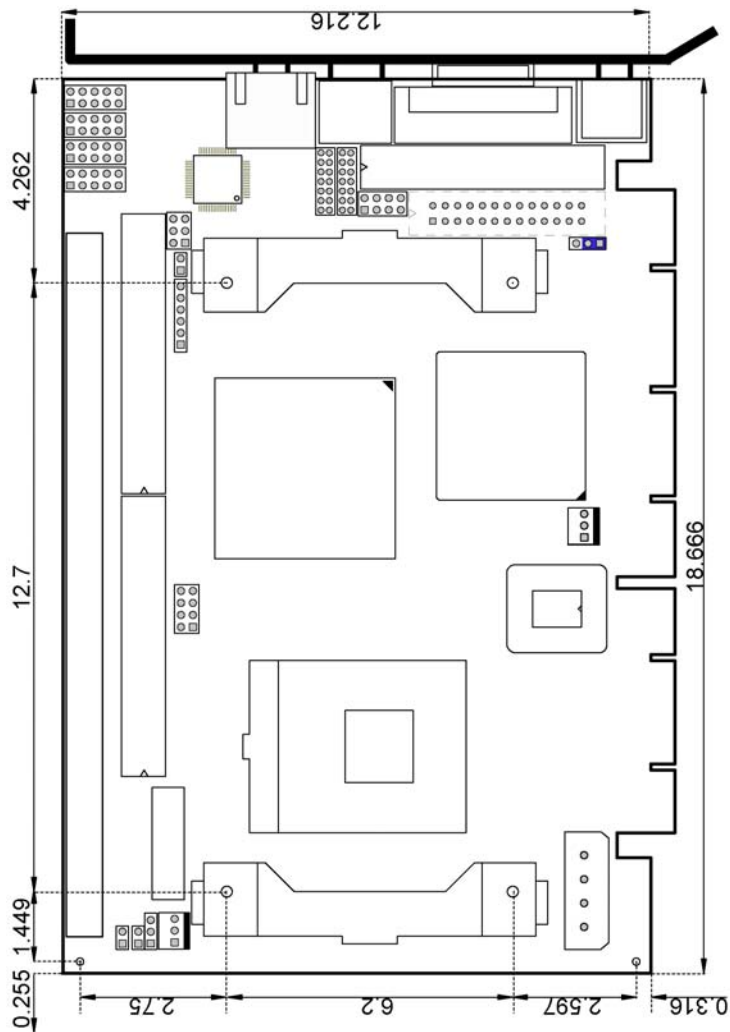
- HS-7239 provides PGA 479 for Intel® Pentium® M 1.2~1.7GHz CPU
HS-7239M provides Intel® Mobile Celeron® M 600MHz low power embedded CPU
- One DDR socket with a max. capacity of 1GB
- Intel® 82852GM/82801DB system chipset
- Winbond W83627HF super I/O chipset
- Intel® 82852GM display controller
- Intel® 82562 LAN controller
- AC97 3D audio controller
- Fast PCI ATA/33/66/100 IDE controller
- CompactFlash card adapter, four COM, three USB2.0 ports
- Hardware Monitor function
- LVDS Panel display interface (optional)

1.2 Specifications

- **CPU:**
HS-7239 provides PGA 479 for Intel® Pentium® M 1.2~1.7GHz CPU
HS-7239M provides Intel® Mobile Celeron® M 600MHz low power embedded CPU
- **Bus Interface:** PCI-ISA Bus (no 3.3V output through goldfinger)
- **Memory:** One DDR socket supporting up to 1GB
- **Chipset:** Intel® 82852GM/82801DB
- **I/O Chipset:** Winbond W83627HF
- **CompactFlash:** One, Type II IDE interface adapter
- **VGA:** Intel® 82852GM for CRT display or CHRONTEL 7301 for DVI-I display, supporting up to 1600 x 1200 (DVI-I and CRT connector is optional)
- **LVDS Panel:** Supports 24-bit single channel or 48-bit dual channel LVDS Panel interface (optional)
- **LAN:** Intel® 82562 10/100 Based LAN
- **Audio:** AC97 3D audio controller
- **IDE:** Four IDE disk drives supporting ATA/33/66/100 with transfer rates of up to 33/66/100MB/sec.
- **FDD:** Supports up to two floppy disk drives
- **Parallel:** One enhanced bi-directional parallel port supporting SPP/ECP/EPP
- **Serial Port:** 16C550 UART-compatible RS-232/422/485 x 1 and RS-232 x 3 serial ports with 16-byte FIFO
- **USB:** Three USB2.0 ports, two internal and one external
- **Keyboard/Mouse:** PS/2 6-pin Mini DIN
- **BIOS:** Award PnP Flash BIOS

- **Watchdog Timer:** Software programmable time-out intervals from 1~256 sec.
- **CMOS:** Battery backup
- **Power Connector:** One 4-pin power connector
- **Temperature:** 0~+60°C (operating); -20~+80°C (storage)
- **Hardware Monitor:** Winbond W83627HF
- **Board Size:** 18.6(L) x 12.2(W) cm

1.3 Board Dimensions



Chapter 2

Unpacking

2.1 Opening the Delivery Package

The HS-7239/HS-7239M is packed in an anti-static bag. The board has components that are easily damaged by static electricity. Do not remove the anti-static wrapping until proper precautions have been taken. Safety Instructions in front of this manual describe anti-static precautions and procedures.

2.2 Inspection

After unpacking the board, place it on a raised surface and carefully inspect the board for any damage that might have occurred during shipment. Ground the board and exercise extreme care to prevent damage to the board from static electricity.

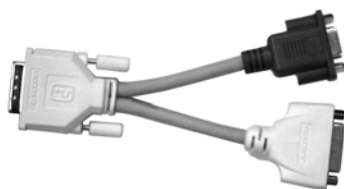
Integrated circuits will sometimes come out of their sockets during shipment. Make sure all integrated circuits, particularly the BIOS, processor, memory modules, ROM-Disk, and keyboard controller chip are firmly seated. The HS-7239/HS-7239M delivery package contains the following items:

- HS-7239/HS-7239M Board x 1
- Utility CD Disk x 1
- Cables Package x 1
- Cooling Fan & Heat Sink x 1
- Jumper Bag x 1
- User's Manual



Cables Package	
NO.	Description
1	Two USB flat cable with bracket x 1
2	ATA/100 IDE flat cable x 2
3	Floppy flat cable x 1
4	Parallel port flat cable with bracket x 1
5	Two COM flat cable with bracket x 2
6	MIC/Audio flat cable x 1
7	Keyboard/Mouse transfer cable x 1

If you want to use DVI-I device under WIN98 or WINNT, please purchase this cable separately.



Optional Cable	
Part NO.	Description
291-13010020	DVI-I to DVI+CRT cable

It is recommended that you keep all the parts of the delivery package intact and store them in a safe/dry place for any unforeseen event requiring the return shipment of the product. In case you discover any missing and/or damaged items from the list of items, please contact your dealer immediately.

Chapter 3

Hardware Installation

This chapter provides the information on how to install the hardware using the HS-7239/HS-7239M. This chapter also contains information related to jumper settings of switch, watchdog timer etc.

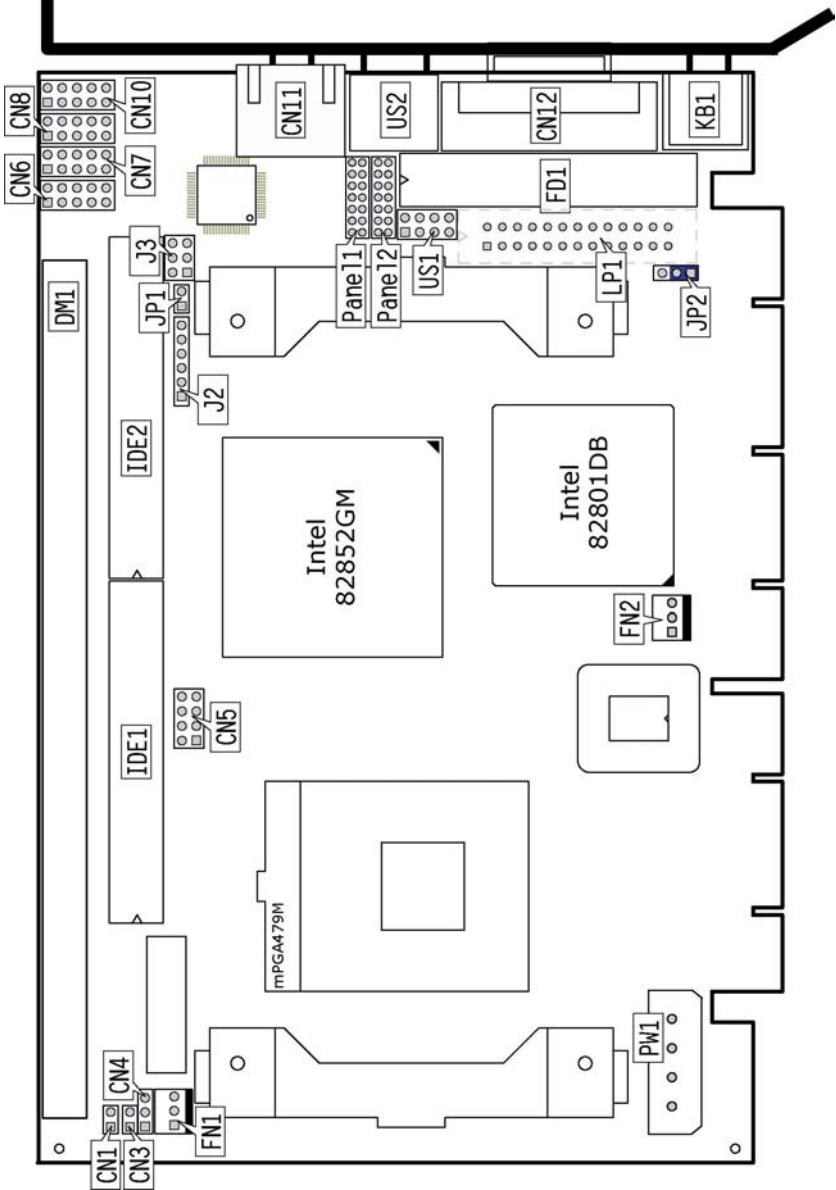
3.1 Before Installation

After confirming your package contents, you are now ready to install your hardware. The following are important reminders and steps to take before you begin with your installation process.

1. Make sure that all jumper settings match their default settings and CMOS setup correctly. Refer to the sections on this chapter for the default settings of each jumper. (Set JP2 1-2)
2. Go through the connections of all external devices and make sure that they are installed properly and configured correctly within the CMOS setup. Refer to the sections on this chapter for the detailed information on the connectors.
3. Keep the manual and diskette in good condition for future reference and use.

NOTE: *Since AD22 has been assigned for ISA bridge at HS-7239/HS-7239M, please make sure do not use this address for other PCI cards to avoid confliction. In order to get detailed information, please contact technical support engineer.*

3.2 Board Layout



3.3 Jumper List

Jumper	Default Setting	Setting	Page
JP1	COM 2 Use RS-232 or RS-422/485 Select: <i>RS-232</i>	Open	16
JP2	Clear CMOS: <i>Normal Operation</i>	1-2 Short	18

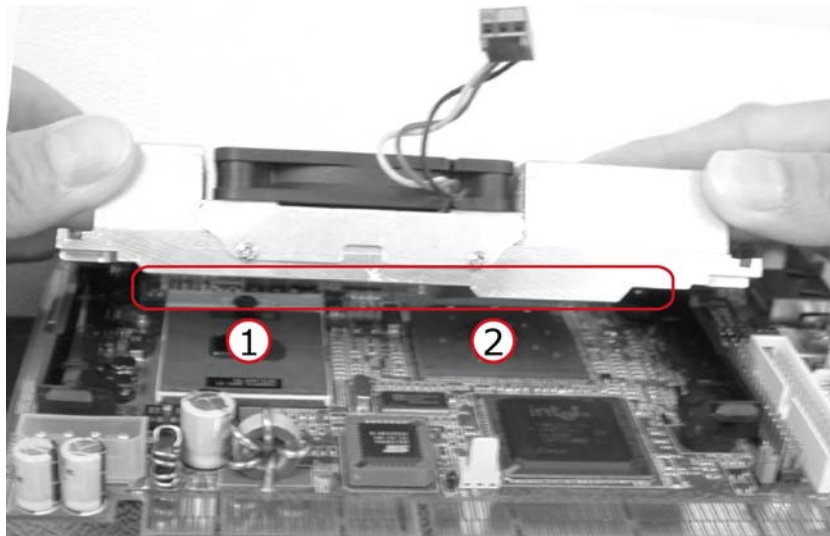
3.4 Connector List

Connector	Definition	Page
CN1	Reset Connector	20
CN3	HDD LED Connector	20
CN4	Power LED Connector	20
CN5	MIC In/Audio Out Connector	21
CN6 / CN7 / CN8 / CN10	COM 1~COM 4 Connector (5x2 header)	16
CN9	DVI-I Connector	11
CN11	RJ-45 Connector	18
CN12	15-pin CRT Connector	11
CN13	CompactFlash Connector	22
DM1	184-pin DIMM Socket	10
FD1	Floppy Connector	15
FN1 / FN2	Fan Power Connectors	19
IDE2 / IDE1	Primary/Secondary IDE Connector	13
J2	Inverter Power In Connector	11
J3	RS-422/485 Connector	16
KB1	PS/2 6-pin Mini DIN KB/MS Connector	19
LP1	Parallel Connector	17
Panel2/Panel1	24-bit/48-bit LVDS Panel Connector	11
PW1	4-pin Power In Connector	19
US1 / US2	Internal/External USB Connector	18

3.5 Configuring the CPU

The HS-7239/HS-7239M provides 400MHz FSB Intel® Pentium® M 1.2~1.7GHz CPU. It offers the convenience in CPU installation with its auto-detect feature. After installing a new microprocessor onboard, the HS-7239/HS-7239M automatically identifies the frequency and clock speed of the installed microprocessor chip, thereby eliminating the need for user to do additional CPU configuration or hardware settings related to it.

Heat Sink Installation



Please smear the heat sink paste over CPU and 82852GM uniformly. Then secure the heat sink as the picture above

3.6 System Memory

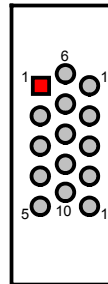
The HS-7239/HS-7239M provides one DDR socket at location *DM1*. The maximum capacity of the onboard memory is 1GB.

3.7 VGA Controller

The onboard Intel 82852GM supports DVI-I/CRT/LVDS Panel display up to 1600 x 1200. The HS-7239/HS-7239M provides three methods of connecting VGA device. *CN12* offers a single standard CRT connector (DB15), or *CN9* offers DVI-I connector, or *Panel2/Panel1* offer 24-bit/48-bit LVDS panel connectors.

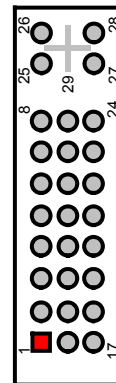
- **CN12: 15-pin CRT Connector (DB15)**

PIN	Description	PIN	Description
1	RED	2	GREEN
3	BLUE	4	N/C
5	GND	6	GND
7	GND	8	GND
9	N/C	10	GND
11	N/C	12	SDA
13	OHSYNC	14	OVSYNC
15	SCL		



- **CN9: DVI-I Connector**

PIN	Description	PIN	Description
1	TDC2J	2	TDC2
3	GND	4	N/C
5	N/C	6	DDCCLK
7	DDCDATA	8	OVSYNC
9	TDC1J	10	TDC1
11	GND	12	N/C
13	N/C	14	VCC5
15	GND	16	HPDET
17	TEC0-	18	TDC0
19	GND	20	N/C
21	N/C	22	GND
23	TLC	24	TLC1
25	RED	26	GREEN
27	BLUE	28	OHSYNC
29	GND		



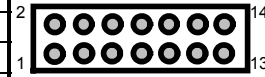
● **J2: Inverter Power In Connector**

PIN	Description
1	+12V
2	+12V
3	+5V
4	BackLight Enabled
5	LCD Enabled
6	GND



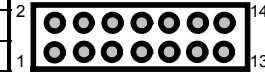
● **Panel2: 24-bit LVDS Panel Connector**

PIN	Description	PIN	Description
1	VCC3	2	VCC3
3	GND	4	GND
5	B0M	6	B0P
7	B1M	8	B1P
9	B2M	10	B2P
11	CLKBM	12	CLKBP
13	B3M	14	B3P



● **Panel1: 24-bit LVDS Panel Connector**

PIN	Description	PIN	Description
1	VCC3	2	VCC3
3	GND	4	GND
5	A0M	6	A0P
7	A1M	8	A1P
9	A2M	10	A2P
11	CLKAM	12	CLKAP
13	A3M	14	A3P



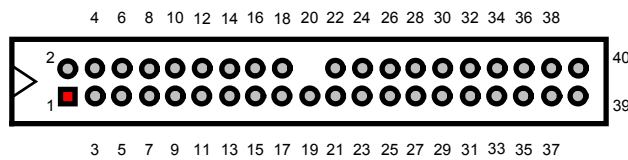
NOTE: *If using Panel2/Panel1 only, it just supports 24-bit LVDS Panel; If you want to use 48-bit LVDS Panel, please using Panel2 and Panel1 combinedly.*

3.8 PCI E-IDE Drive Connector

IDE2 and *IDE1* are standard 40-pin daisy-chain driver connector that serves the PCI E-IDE drive provisions onboard the HS-7239/HS-7239M. A maximum of four ATA/33/66/100 IDE drives can be connected to the HS-7239/HS-7239M via *IDE1* and *IDE2*.

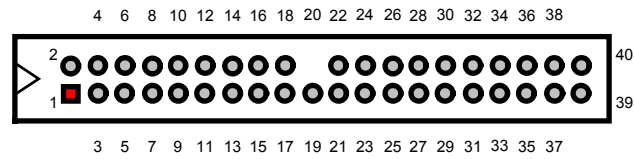
- **IDE2: Primary IDE Connector**

PIN	Description	PIN	Description
1	RESET	2	GND
3	PDATA 7	4	PDATA 8
5	PDATA 6	6	PDATA 9
7	PDATA 5	8	PDATA 10
9	PDATA 4	10	PDATA 11
11	PDATA 3	12	PDATA 12
13	PDATA 2	14	PDATA 13
15	PDATA 1	16	PDATA 14
17	PDATA 0	18	PDATA 15
19	GND	20	N/C
21	PDREQ	22	GND
23	PIOW#	24	GND
25	PIOR#	26	GND
27	PIORDY	28	PD1-
29	PDACK-	30	GND
31	Interrupt	32	N/C
33	PDA1-	34	PATA66
35	PDA0-	36	PDA2-
37	PCS1-	38	PCS3-
39	HDD Active	40	GND



- **IDE1: Secondary IDE Connector**

PIN	Description	PIN	Description
1	RESET	2	GND
3	SDATA 7	4	SDATA 8
5	SDATA 6	6	SDATA 9
7	SDATA 5	8	SDATA 10
9	SDATA 4	10	SDATA 11
11	SDATA 3	12	SDATA 12
13	SDATA 2	14	SDATA 13
15	SDATA 1	16	SDATA 14
17	SDATA 0	18	SDATA 15
19	GND	20	N/C
21	SDREQ	22	GND
23	SIOW#	24	GND
25	SIOR#	26	GND
27	SIORDY	28	SD1-
29	SDACK-	30	GND
31	Interrupt	32	N/C
33	SDA1-	34	SATA66
35	SDA0-	36	SDA2
37	SCS1-	38	SCS3-
39	HDD Active	40	GND

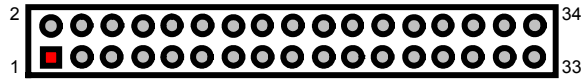


3.9 Floppy Disk Drive Connector

The HS-7239/HS-7239M uses a standard 34-pin header connector, *FD1*, for floppy disk drive connection. A total of two FDD drives may be connected to *FD1* at any given time.

- **FD1: FDD Connector**

PIN	Description	PIN	Description
1	GND	2	DRV DEN0
3	GND	4	N/C
5	GND	6	DRV DEN1
7	GND	8	INDEX#
9	GND	10	MTR0#
11	GND	12	DS1#
13	GND	14	DS0#
15	GND	16	MTR1#
17	GND	18	DIR#
19	GND	20	STEP#
21	GND	22	WDATA#
23	GND	24	WGATE#
25	GND	26	TRAK00#
27	GND	28	WRTPRT#
29	N/C	30	RDATA#
31	GND	32	HDSSEL#
33	N/C	34	DSKCHG#

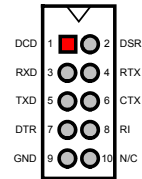


3.10 Serial Port Connectors

The HS-7239/HS-7239M offers two NS16C550 compatible UARTs with Read/Receive 16-byte FIFO serial ports and four internal 10-pin headers.

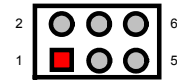
- **CN6~8/CN10: COM1~COM4 Connector (5x2 header)**

PIN	Description	PIN	Description
1	DCD	2	DSR
3	RXD	4	RTX
5	TXD	6	CTX
7	DTR	8	RI
9	GND	10	N/C



- **J3: RS-422/485 Connector (3x2 header)**

PIN	Description	PIN	Description
1	TX-	2	TX+
3	RX+	4	RX-
5	GND	6	VCC



- **JP1: COM2 Use RS-232 or RS-422/485 Select**

Options	Setting
RS-232 (default)	Open
RS-422/485	Short

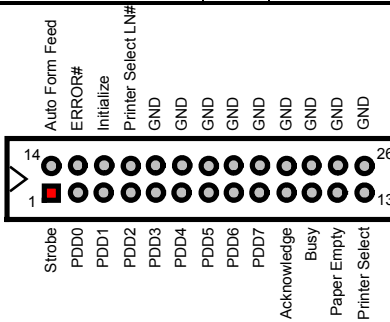


3.11 Parallel Connector

LP1 is a standard 26-pin flat cable connector designed to accommodate parallel port connection onboard the HS-7239/HS-7239M.

- LP1: Parallel Connector

PIN	Description	PIN	Description
1	Strobe	14	Auto Form Feed
2	DATA 0	15	ERROR#
3	DATA 1	16	Initialize
4	DATA 2	17	Printer Select LN#
5	DATA 3	18	GND
6	DATA 4	19	GND
7	DATA 5	20	GND
8	DATA 6	21	GND
9	DATA 7	22	GND
10	Acknowledge	23	GND
11	Busy	24	GND
12	Paper Empty	25	GND
13	Printer Select	26	GND

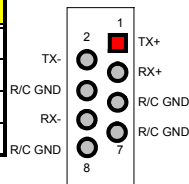


3.12 Ethernet Connector

The HS-7239/HS-7239M provides one 10/100 Base-TX LAN interface connector. Please refer to the following for its pin information.

- **CN11: RJ-45 Connector**

PIN	Description	PIN	Description
1	TX+	2	TX-
3	RX+	4	R/C GND
5	R/C GND	6	RX-
7	R/C GND	8	R/C GND

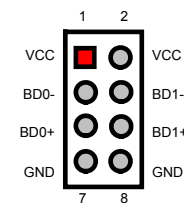


3.13 USB Connector

The HS-7239/HS-7239M provides one 8-pin internal connector at location *US1* and one 4-pin external connector, at locations *US2*, for three USB2.0 connections to the HS-7239/HS-7239M.

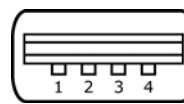
- **US1: Internal USB2.0 Connector**

PIN	Description	PIN	Description
1	VCC	2	VCC
3	BD0-	4	BD1-
5	BD0+	6	BD1+
7	GND	8	GND



- **US2: External USB2.0 Connector**

PIN	Description	PIN	Description
1	VCC	2	BD0-
3	BD0+	4	GND




3.14 CMOS Data Clear

The HS-7239/HS-7239M has a Clear CMOS jumper on *JP2*.

- **JP2: Clear CMOS**

Options	Settings
Normal Operation (default)	Short 1-2
Clear CMOS	Short 2-3



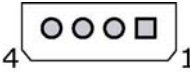
IMPORTANT: Before you turn on the power of your system, please set *JP2* to short 1-2 for normal operation.

3.15 Power and Fan Connectors

HS-7239/HS-7239M provides one 4-pin power in connector at *PW1*.

- **PW1: 4-pin Power In Connector**

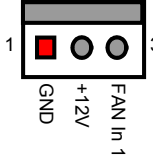
PIN	Description
1	VCC
2	GND
3	GND
4	+12V



FN1 and *FN2* onboard HS-7239/HS-7239M are 3-pin fan power connectors.

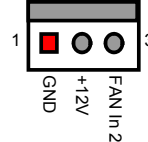
- **FN1: Fan Power Connector**

PIN	Description
1	GND
2	+12V
3	Fan In 1



- **FN2: Fan Power Connector**

PIN	Description
1	GND
2	+12V
3	Fan In 2

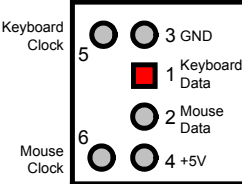


3.16 Keyboard/Mouse Connector

The HS-7239/HS-7239M offers one possibility for keyboard/mouse connection. The connections are done via *KB1* for an external PS/2 type keyboard/mouse connection.

- **KB1: PS/2 6-pin Mini DIN Keyboard/Mouse Connector**

PIN	Description
1	Keyboard Data
2	Mouse Data
3	GND
4	+5V
5	Keyboard Clock
6	Mouse Clock




3.17 System Front Panel Connectors

The HS-7239/HS-7239M has one LED at location *CN3* that indicates the system front panel status. This visual feature of the HDD LED may also be connected to an external HDD LED via connector *CN8*. At location *CN1* is Reset button connector.

- **CN1: Reset Button Connector**

PIN	Description
1	GND
2	Reset




- **CN3: HDD LED Connector**

PIN	Description
1	VCC
2	HDD LED



- **CN4: Power LED Connector**

PIN	Description
1	150Ω Pull +5V
2	Suspend LED



3.18 Watchdog Timer

Once the Enable cycle is active, a Refresh cycle is requested before the time-out period. This restarts counting of the WDT period. When the time counting goes over the period preset of WDT, it will assume that the program operation is abnormal. A System Reset signal will re-start when such error happens.

The following sample programs show how to Enable, Disable and Refresh the Watchdog Timer:

```

-----
; Enter the WDT function mode, interruptible double-write
-----
MOV    DX, 2EH
MOV    AL, 87H
OUT    DX, AL
OUT    DX, AL
MOV    DX, 2EH
MOV    AL, 07H
OUT    DX, AL
MOV    DX, 2FH
MOV    AL, 08H
OUT    DX, AL
MOV    DX, 2EH
MOV    AL, F5H

```

```

OUT    DX, AL          ; select CRF0
MOV    DX, 2FH
MOV    AL, 80H
OUT    DX, AL
MOV    DX, 2EH
MOV    AL, F7H
OUT    DX, AL
MOV    DX, 2FH

MOV    AL, 00H
OUT    DX, AL
MOV    DX, 2EH
MOV    AL, F6H
OUT    DX, AL
MOV    DX, 2FH
MOV    AL, 00H        ; * 00H=Disabled
OUT    DX, AL

;-----
; Exit extended function mode
;-----

MOV    DX, 2EH
MOV    AL, AAH
OUT    DX, AL

```

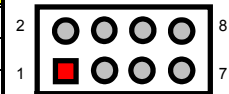
User can also use AL, 00H's defined time for reset purposes, e.g.00H for Disable, 01H = 1sec, 02H = 2sec to FFH = 255sec.

3.19 Audio Connectors

The HS-7239/HS-7239M has an onboard AC97 3D audio interface. The following tables list the pin assignments of the MIC In/Line Out connectors.

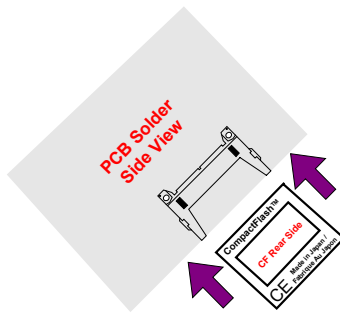
● **CN5: MIC In/Line Out Connector**

PIN	Description	PIN	Description
1	AOUT_L	2	AOUT_R
3	GND	4	GND
5	MIC In	6	N/C
7	GND	8	GND



3.20 CompactFlash™ Connector

The HS-7239/HS-7239M also offers an optional CompactFlash™ connector which is IDE interface located at the solder side of the board. The designated *CN13* connector, once soldered with an adapter, can hold CompactFlash™ cards of various sizes. Please turn off the power before inserting the CF card. Inserting a CompactFlash™ card into the adapter is not a difficult task. The socket and card are both keyed and there is only one direction for the card to be completely inserted. Refer to the diagram below for the traditional way of inserting the card.



Chapter 4

Award BIOS Setup

The HS-7239/HS-7239M uses Award BIOS for the system configuration. The Award BIOS setup program is designed to provide the maximum flexibility in configuring the system by offering various options that could be selected for end-user requirements. This chapter is written to assist you in the proper usage of these features.

4.1 Starting Setup

The Award BIOS is immediately activated when you first power on the computer. The BIOS reads the system information contained in the CMOS and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:

1. By pressing immediately after switching the system on, or
2. By pressing the key when the following message appears briefly at the bottom of the screen during the POST (Power On Self Test).

Press DEL to enter SETUP.

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to...

PRESS F1 TO CONTINUE, DEL TO ENTER SETUP

4.2 Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the <PageUp> and <PageDown> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate the Setup program using the keyboard.

Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item in the left hand
Right arrow	Move to the item in the right hand
Esc key	Main Menu -- Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
(Shift)F2 key	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F3 key	Calendar, only for Status Page Setup Menu
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6 key	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
F7 key	Load the default
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

4.2.1 Getting Help

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

4.3 Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to enter the sub-menu.

Phoenix – AwardBIOS CMOS Setup Utility

▶ 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 ↑↓→← : Select Item	
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

NOTE: *A brief description of the highlighted choice appears at the bottom of the screen.*

4.4 Standard CMOS Features

The Standard Setup is used for the basic hardware system configuration. The main function is for Data/Time and Floppy/Hard Disk Drive settings. Please refer to the following screen for the setup. When the IDE hard disk drive you are using is larger than 528MB, you must set the HDD mode to **LBA** mode. Please use the IDE Setup Utility in BIOS SETUP to install the HDD correctly.

Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features

		Item Help
Date (mm:dd:yy)	Mon, Aug 9 2004	Menu Level ► Change the day, month, year and century
Time (hh:mm:ss)	10 : 32 : 57	
► IDE Primary Master	[Auto]	
► IDE Primary Slave	[Auto]	
► IDE Secondary Master	[Auto]	
► IDE Secondary Slave	[Auto]	
Drive A	[1.44M, 3.5in.]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	252928K	
Total Memory	253952K	
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

4.5 Advanced BIOS Features

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

Phoenix – AwardBIOS CMOS Setup Utility Advanced CMOS Features

▶CPU Feature	[Press Enter]	Item Help
▶Hard Disk Boot Priority	[Press Enter]	Menu Level ▶
Virus Warning	[Disabled]	
CPU L1 Cache	[Enabled]	
CPU L2 Cache	[Enabled]	
Quick Power On Self Test	[Enabled]	
First Boot Device	[Floppy]	
Second Boot Device	[Hard Disk]	
Third Boot Device	[LS120]	
Boot Other Device	[Enabled]	
Boot Up Floppy Seek	[Enabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
OS Select For DRAM > 64MB	[Non-OS2]	
↑↓→←: Select Item +/~/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

Phoenix – AwardBIOS CMOS Setup Utility CPU Feature

Thermal Management	[Thermal Monitor 1]	Item Help
TM2 Bus Ratio	[0 X]	Menu Level ▶
TM2 Bus VID	[0.700V]	Thermal Monitor 1 (On die throttling)
		Thermal Monitor 2 Ratio & VID transition)
↑↓→←: Select Item +/~/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

Phoenix – AwardBIOS CMOS Setup Utility Hard Disk Boot Priority

1. Pri.Master :		Item Help
2. Pri.Slave :		Menu Level ▶
3. Sec.Master :		
4. Sec.Slave :		
5. USBHDD0 :		
6. USBHDD1 :		
7. USBHDD2 :		
8. Bootable Add-in Cards		
↑↓→←: Select Item +/~/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

4.6 Advanced Chipset Features

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

Phoenix – AwardBIOS CMOS Setup Utility Advanced Chipset Features

DRAM Timing Selectable	[By SPD]	Item Help
CAS Latency Time	[2.5]	Menu Level ▶
Active to Precharge Delay	[7]	
DRAM RAS# to CAS# Delay	[3]	
DRAM RAS# Precharge	[3]	
DRAM Data Integrity Mode	[Non-ECC]	
MGM Core Frequency	[Auto Max 266MHz]	
System BIOS Cacheable	[Enabled]	
Video BIOS Cacheable	[Enabled]	
Memory Hole At 15M-16M	[Disabled]	
Delayed Transaction	[Enabled]	
Delay Prior to Thermal	[16 Min]	
AGP Aperture Size (MB)	[64]	
** ON-chip VGA Setting **		
On-chip VGA	[Enabled]	
On-chip Frame Buffer size	[32MB]	
Boot Display	[VBIOS Default]	
Panel Number	[2]	
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

4.7 Integrated Peripherals

The IDE hard drive controllers can support up to two separate hard drives. These drives have a master/slave relationship that is determined by the cabling configuration used to attach them to the controller. Your system supports two IDE controllers--a primary and a secondary--so you can install up to four separate hard disks.

PIO means Programmed Input/Output. Rather than having the BIOS issue a series of commands to affect the transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves. This is much simpler and more efficient (also faster).

Phoenix – AwardBIOS CMOS Setup Utility
Integrated Peripherals

		Item Help
▶OnChip IDE Device	[Press Enter]	
▶Onboard Device	[Press Enter]	Menu Level ▶
▶SuperIO Device	[Press Enter]	
Onboard Lan Boot ROM	[Disabled]	
Onboard Serial Port 3	[3E8]	
Serial Port 3 Use IRQ	[IRQ10]	
Onboard Serial Port 4	[2E8]	
Serial Port 4 Use IRQ	[IRQ11]	
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

Phoenix – AwardBIOS CMOS Setup Utility
OnChip IDE Device

		Item Help
On-Chip Primary PCI IDE	[Enabled]	
IDE Primary Master PIO	[Auto]	Menu Level ▶
IDE Primary Slave PIO	[Auto]	
IDE Primary Master UDMA	[Auto]	
IDE Primary Slave UDMA	[Auto]	
On-Chip Secondary PCI IDE	[Enabled]	
IDE Secondary Master PIO	[Auto]	
IDE Secondary Slave PIO	[Auto]	
IDE Secondary Master UDMA	[Auto]	
IDE Secondary Slave UDMA	[Auto]	
IDE HDD Block Mode	[Enabled]	
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

Phoenix – AwardBIOS CMOS Setup Utility
Onboard Device

USB Controller [Enabled] USB 2.0 Controller [Enabled] USB Keyboard Support [Disabled] USB Mouse Support [Disabled] AC97 Audio [Auto] Init Display First [PCI Slot]	Item Help Menu Level ►
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults	

Phoenix – AwardBIOS CMOS Setup Utility
SuperIO Device

Onboard FDC Controller [Enabled] Onboard Serial Port 1 [3F8/IRQ4] Onboard Serial Port 2 [2F8/IRQ3] UART Mode Select [Normal] Rx/D, Tx/D Active [Hi, Lo] IR Transmission Delay [Enabled] UR2 Duplex Mode [Half] Use IR Pins [IR-Rx2Tx2] Onboard Parallel Port [378/IRQ7] Parallel Port Mode [SPP] EPP Mode Select [EPP1.7] ECP Mode Use DMA [3]	Item Help Menu Level ►
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults	

4.8 Power Management Setup

The Power Management Setup allows user to configure the system for saving energy in a most effective way while operating in a manner consistent with his own style of computer use.

Phoenix – AwardBIOS CMOS Setup Utility
Power Management Setup

Power Management	[User Define]	Item Help
Video Off Method	[DPMS]	Menu Level ▶
Video Off In Suspend	[Yes]	
Suspend Type	[Stop Grant]	
Suspend Mode	[Disabled]	
HDD Power Down	[Disabled]	
CPU THRM-Throttling	[50.0%]	
** 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]	
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

4.9 PnP/PCI Configurations

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

Phoenix – AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

Reset Configuration Data	[Disabled]	Item Help
Resources Controlled By X IRQ Resources	[Auto(ESCD)] Press Enter	Menu Level ►
PCI/VGA Palette Snoop	[Disabled]	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
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

4.10 PC Health Status

Phoenix – AwardBIOS CMOS Setup Utility
PC Health Status

CPU Warning Temperature	[Disabled]	Item Help
Current SYSTEM Temperature		Menu Level ▶
Current CPUFAN Speed		
VCORE		
+3.3V		
+5V		
+12V		
VBAT(V)		
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

4.11 Frequency/Voltage Control

Phoenix – AwardBIOS CMOS Setup Utility
Frequency/Voltage Control

Auto Detect PCI Clk	[Enabled]	Item Help
Spread Specturm	[Disabled]	Menu Level ▶
↑↓→←: Select Item +/-/PU/PD: Value F10: Save ESC: Quit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

4.12 Load Fail-Safe Defaults

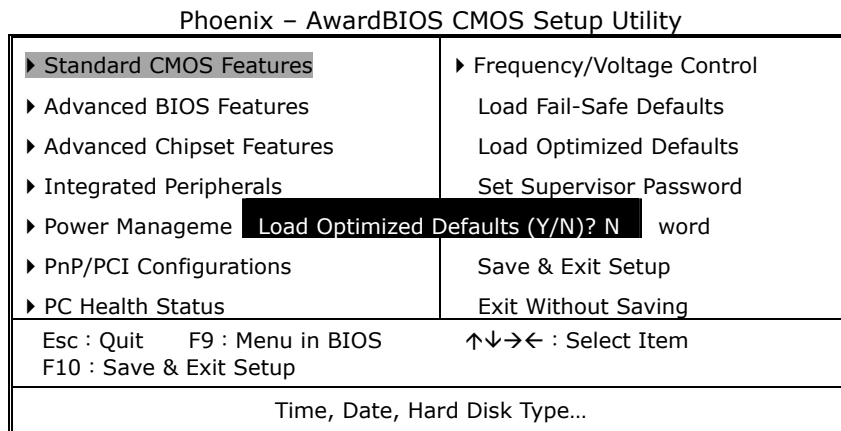
When you press <Enter> on this item you will get a confirmation dialog box with a message shown below. This option allows you to load/restore the BIOS default values permanently stored in the BIOS ROM. Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

Phoenix – AwardBIOS CMOS Setup Utility

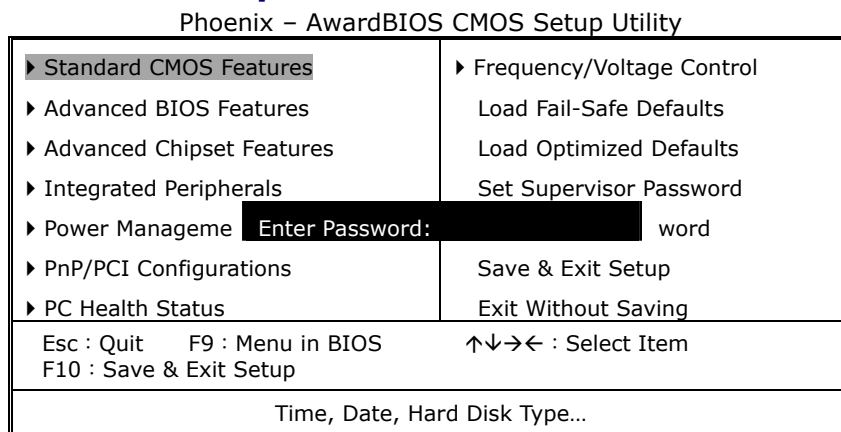
▶ Standard CMOS Features	▶ Frequency/Voltage Control
▶ Advanced BIOS Features	Load Fail-Safe Defaults
▶ Advanced Chipset Features	Load Optimized Defaults
▶ Integrated Peripherals	Set Supervisor Password
▶ Power Management	Load Fail-Safe Defaults (Y/N)? N word
▶ PnP/PCI Configurations	Save & Exit Setup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

4.13 Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to the figure below. This option allows you to load/restore the default values to your system configuration, optimizing and enabling all high performance features. Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.



4.14 Set Supervisor/User Password



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

- **supervisor password:** can enter and change the options of the setup menus.
- **user password:** just can only enter but do not have the right to change the options of the setup menus.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

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

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

PASSWORD DISABLED.

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

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

You determine when the password is required within the BIOS Features Setup Menu and its Security option (see Section 3). If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

4.15 Save & Exit Setup

Press <Enter> on this item for confirmation:

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

Phoenix – AwardBIOS CMOS Setup Utility

▶ 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 Managemen SAVE to CMOS and EXIT (Y/N)? N word	
▶ PnP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
Esc : Quit F9 : Menu in BIOS ↑↓→← : Select Item	
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

4.16 Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)?

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

Phoenix – AwardBIOS CMOS Setup Utility

▶ 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 Manageme Quit without Saving (Y/N)? N word	
▶ PnP/PCI Configurations	Save & Exit Setup
▶ PC Health Status	Exit Without Saving
Esc : Quit F9 : Menu in BIOS ↑↓→← : Select Item	
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

Chapter 5

Software Utilities

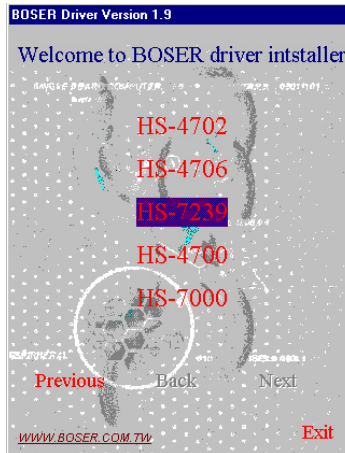
This chapter contains the detailed information of IDE, VGA, LAN, audio and USB2.0 driver installation procedures. The utility disk that comes with the delivery package contains an auto-run program that invokes the installation programs for the IDE, VGA, LAN and Audio drivers. The following sections describe the installation procedures of each driver based on Win 95/98, Win 2000 and Win NT operating systems. It is recommended that you install the drivers matching the sections listed in this chapter.

The drivers are located in the following directories of the utility disk:

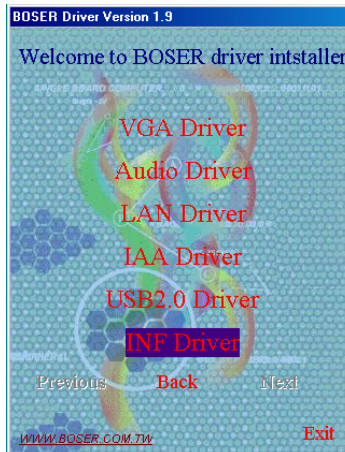
- **Chipset driver:** \INF
- **VGA driver:** \VGA\855GME
- **LAN driver:** \LAN\I82540
- **Audio driver:** \Audio\AC97_ALC201
- **USB2.0 driver:** \USB20

5.1 IDE Driver Installation

1. Insert Utility CD Disk to your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7239** button to launch the installation program.



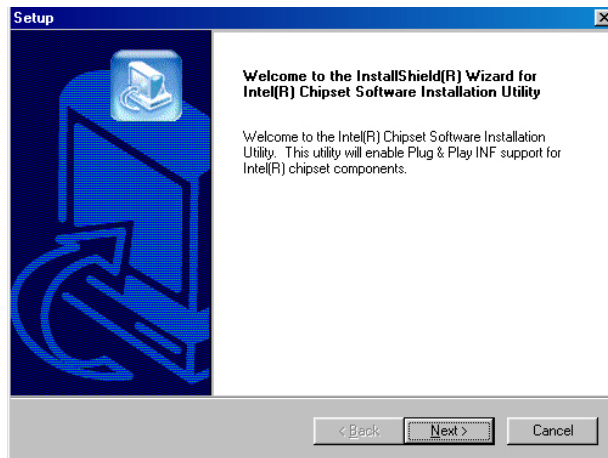
2. Click on the **INF Driver** button to continue.



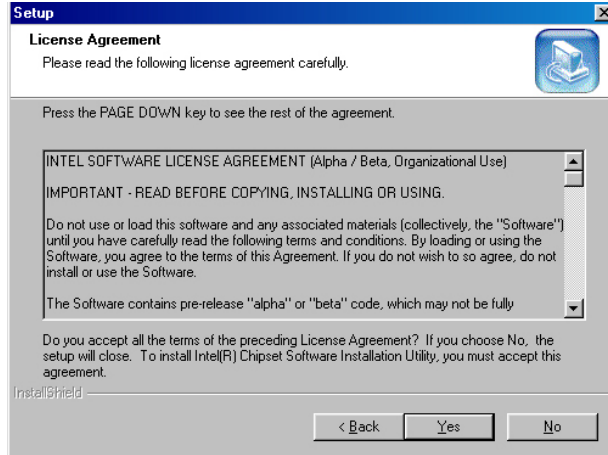
3. Click on the appropriate OS button to continue.



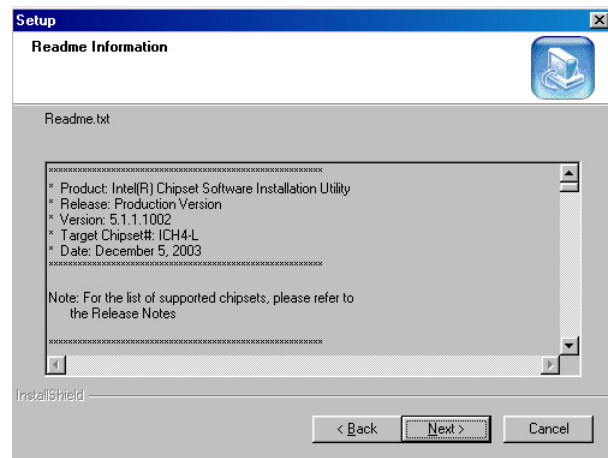
4. Immediately after clicking the IDE button in Step 1, the program launches the InstallShield Wizard that will assist you in the installation process. Click on the **Next >** button to proceed.



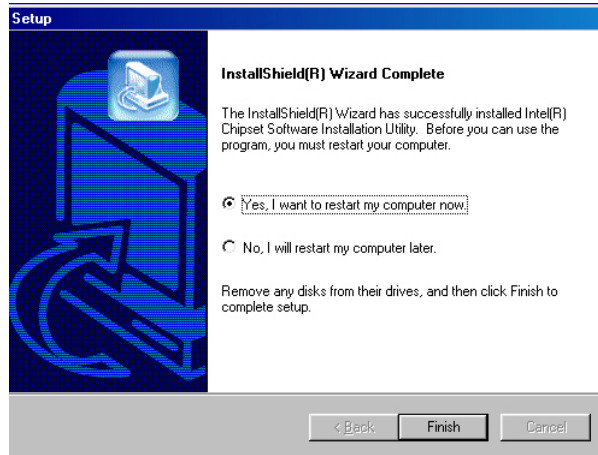
5. The Intel OEM Software License Agreement dialog box then appears on the screen. Choose **Yes** to proceed.



6. When the Readme Information dialog box pops up, just click on the **Next>** button to proceed.



7. Once the Install Shield Wizard finishes updating your system, it will prompt you to restart the computer. Tick on the **Yes, I want to restart my computer now** followed by a click on the **Finish** button to reboot. Only after your computer boots will the new settings take effect.



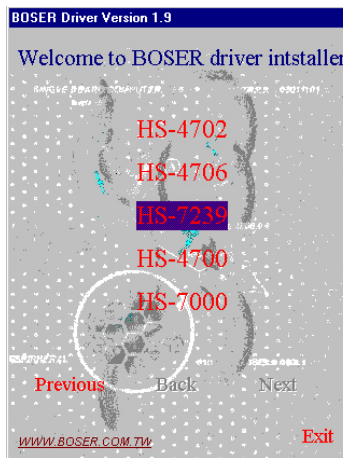
NOTE: *WIN98/2K/XP IDE driver installations are the same.*

5.2 VGA Driver Installation

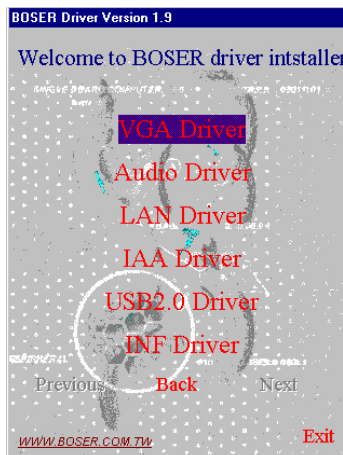
NOTE: You need to buy a Y-cable extraneously, if you use DVI-I under WIN98 or WINNT.

5.2.1 Win 98

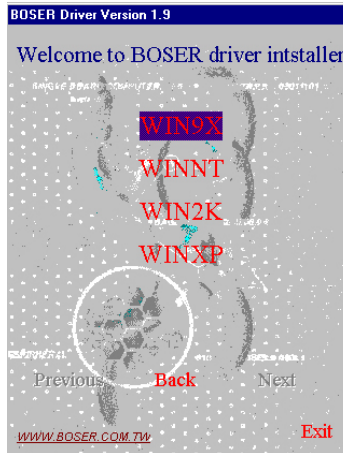
1. Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7239** button to launch the installation program.



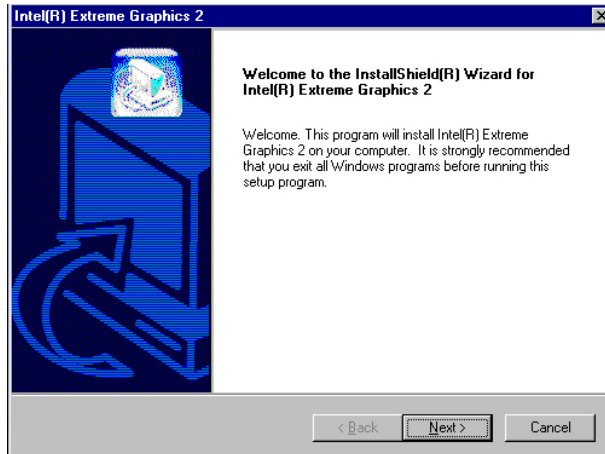
2. Click on the **VGA Driver** button to continue.



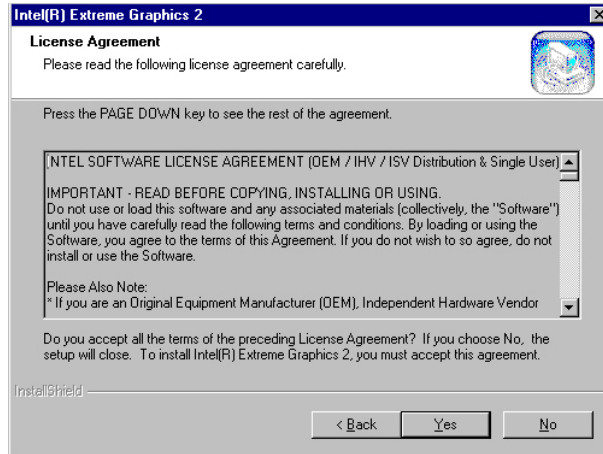
3. Click on the **WIN9X** button to continue.



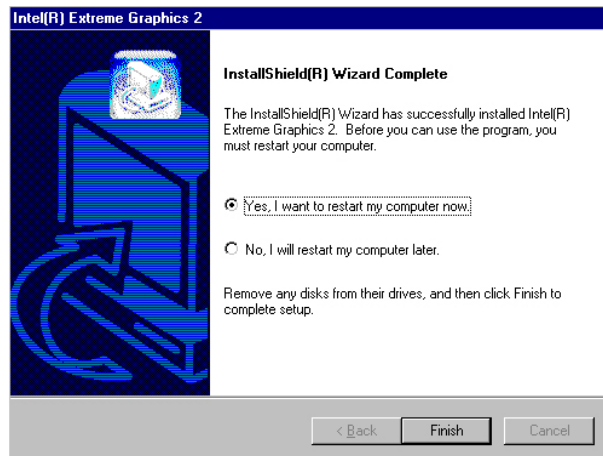
4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



5. The Intel OEM Software License Agreement dialog box then appears on the screen. Choose **Yes** to proceed.



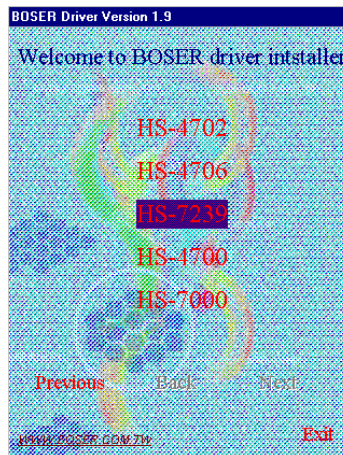
6. Once the setup program finishes copying files into your system, it will prompt you to restart the computer. Tick on the **Yes, I want to restart my computer now** followed by a click on the **Finish** button to reboot. Only after your computer boots will the new settings take effect.



5.2.2 Win NT

NOTE: Please make sure you have already installed *Service Pack 6.0*.

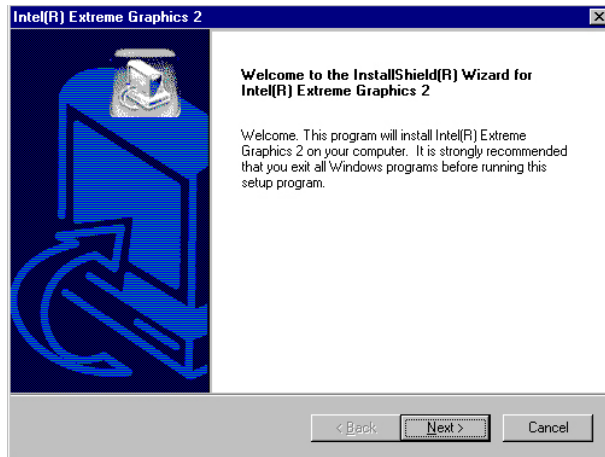
1. Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7239** button to launch the installation program.



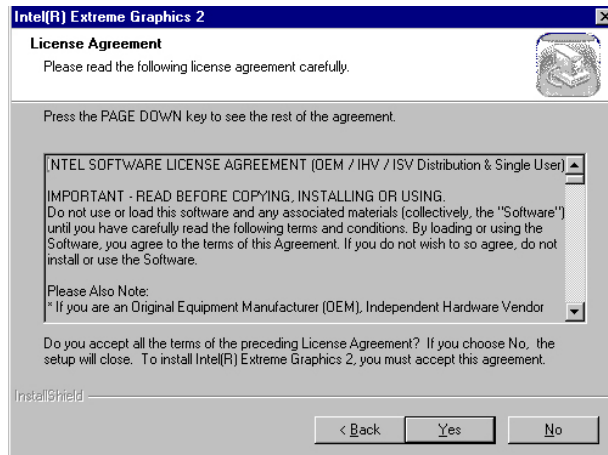
2. Click on the **VGA Driver** button to continue.
3. Click on the **WINNT** button to continue.



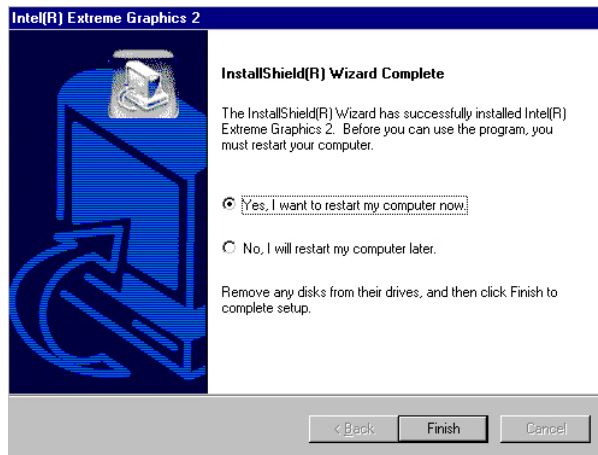
4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



5. The Intel OEM Software License Agreement dialog box then appears on the screen. Choose **Yes** to proceed.

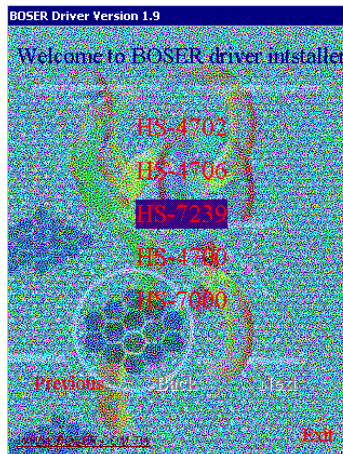


- Once the setup program finishes copying files into your system, it will prompt you to restart the computer. Tick on the **Yes, I want to restart my computer now** followed by a click on the **Finish** button to reboot. Only after your computer boots will the new settings take effect.

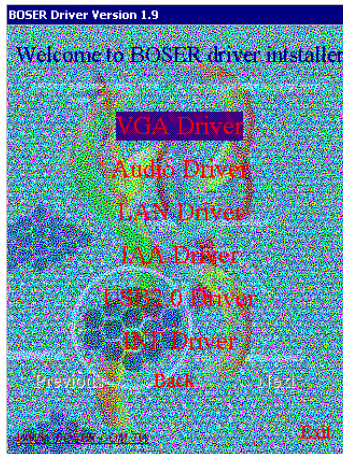


5.2.3 Win 2000

- Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7239** button to launch the installation program.



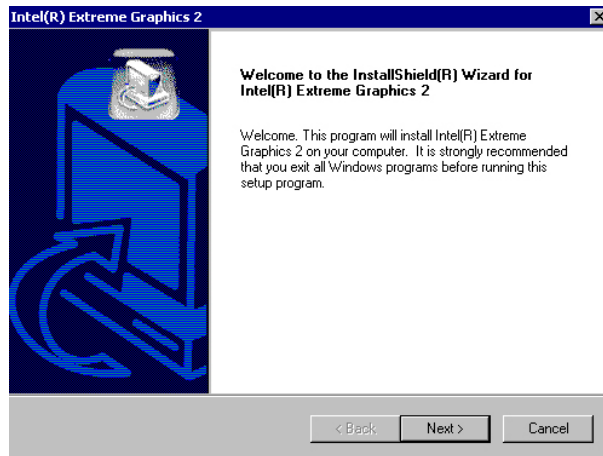
2. Click on the **VGA Driver** button to continue.



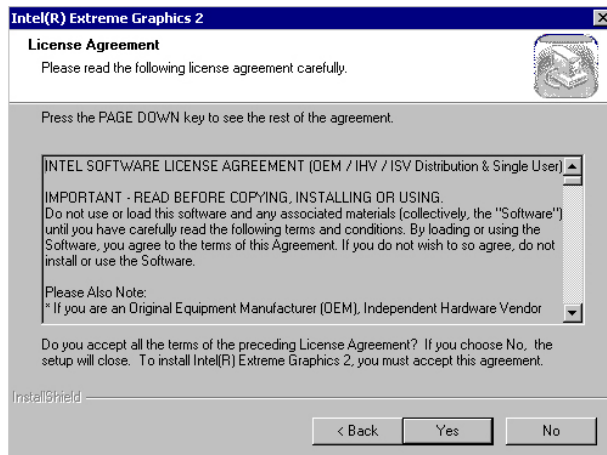
3. Click on the **WIN2K** button to continue.



- When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



- The Intel OEM Software License Agreement dialog box then appears on the screen. Choose **Yes** to proceed.



6. Once the setup program finishes copying files into your system, it will prompt you to restart the computer. Tick on the **Yes, I want to restart my computer now** followed by a click on the **Finish** button to reboot. Only after your computer boots will the new settings take effect.

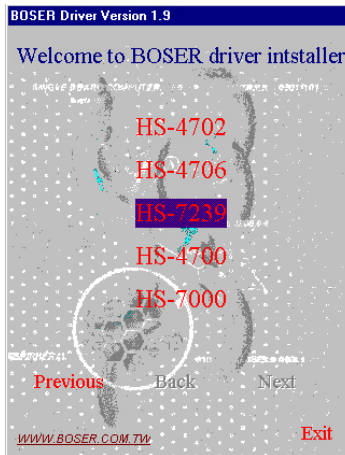


NOTE: *WINXP driver installation is the same as WIN2K.*

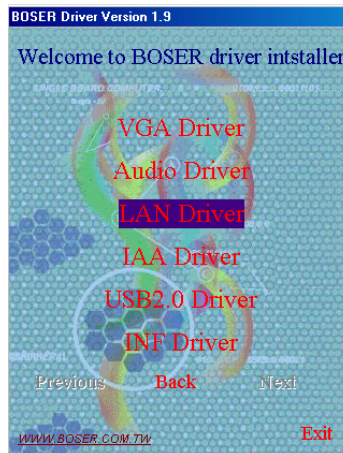
5.3 LAN Driver Installation

5.3.1 Win 98

1. Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7239** button to launch the installation program.



2. Click on the **LAN Driver** button to continue.



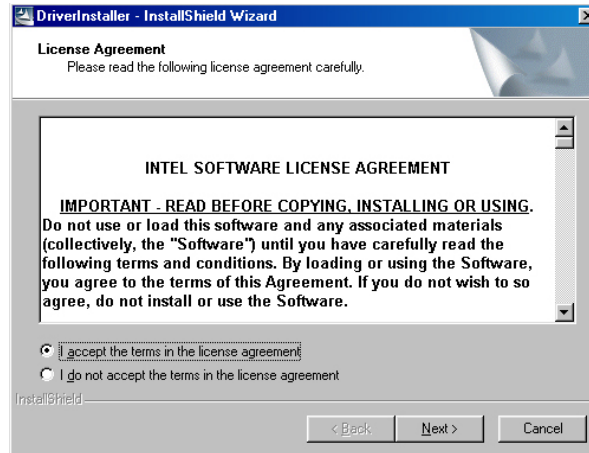
3. Click on the **WIN9X** button to continue.



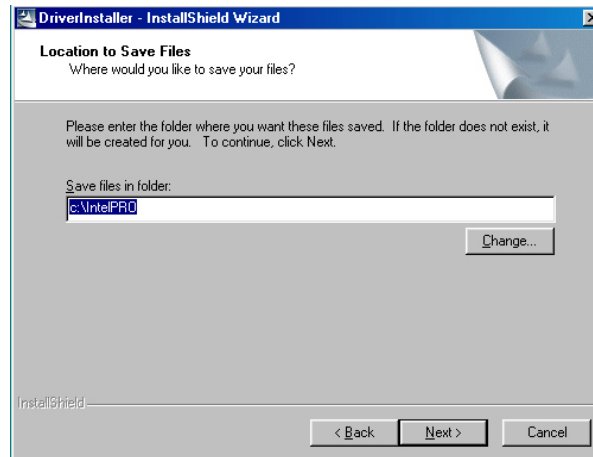
4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Install Base Driver** button to proceed.



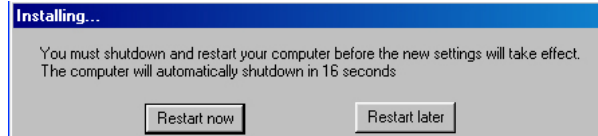
5. The Intel OEM Software License Agreement dialog box then appears on the screen. Choose **Accept** to proceed.



6. Choose the drivers install location. (ex: c:\IntelPRO)



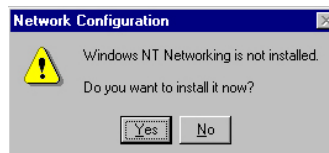
- Once the setup program finishes copying files into your system, it will prompt you to restart the computer. Tick on the **Restart now** to reboot. Only after your computer boots will the new settings take effect.



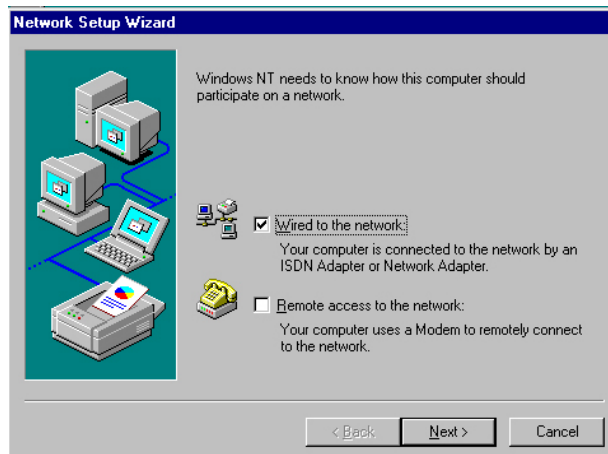
5.3.2 Win NT

NOTE: Please make sure you have already installed *Service Pack 6.0*.

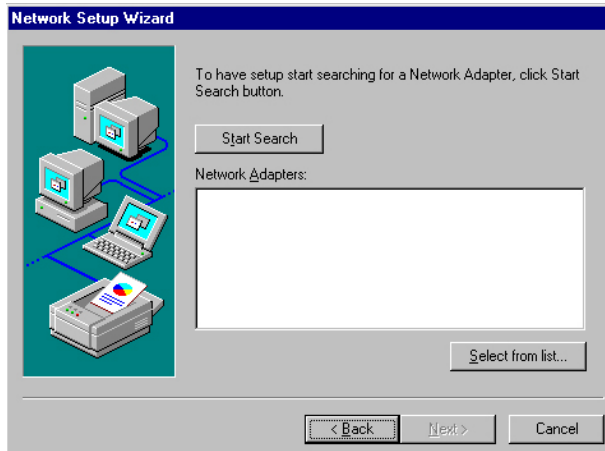
- The system automatically detects the absence of Windows NT Networking. Click on the **Yes** button to start installation.



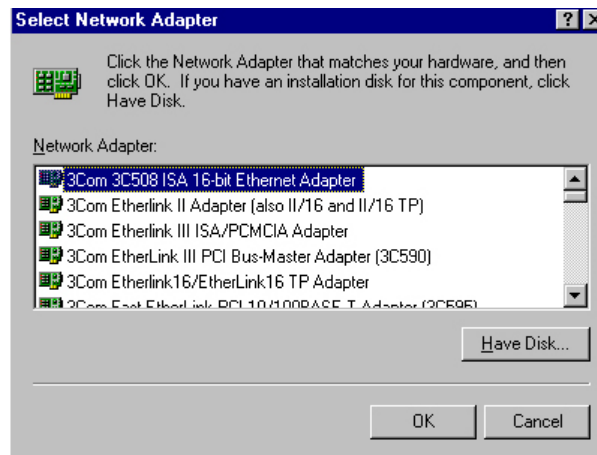
- Tick on the **Wired to the network** once the following screen appears. Click on the **Next>** to proceed.



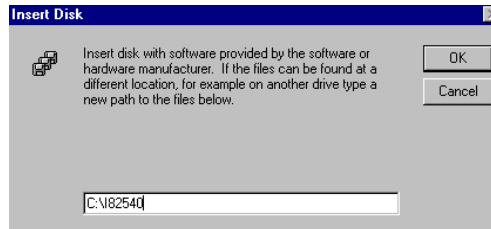
3. Click on the **Start Search** button for the program to locate the Network Adapter.



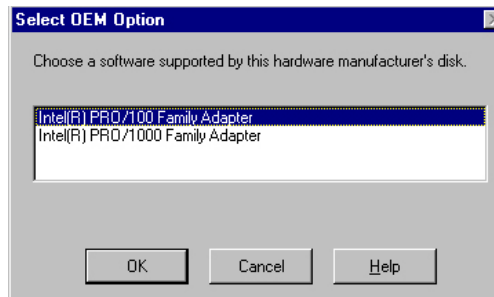
4. Once setup finishes the search, it will list a number of adapters for you to choose from. Press on the **Have Disk** button to assign the driver path location.



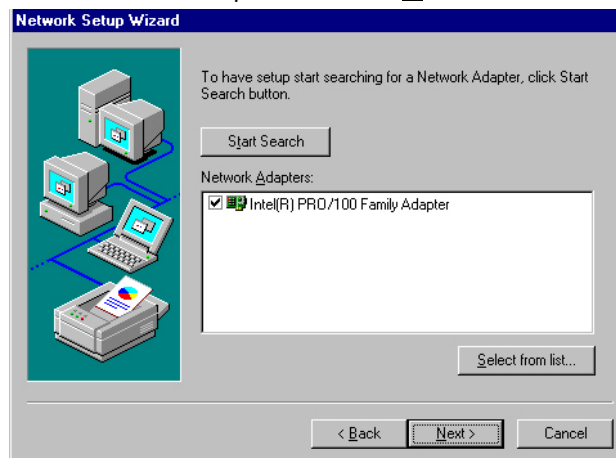
5. Setup now asks you for the location of the driver. When you have entered the new driver path, press on the **OK** button to continue.



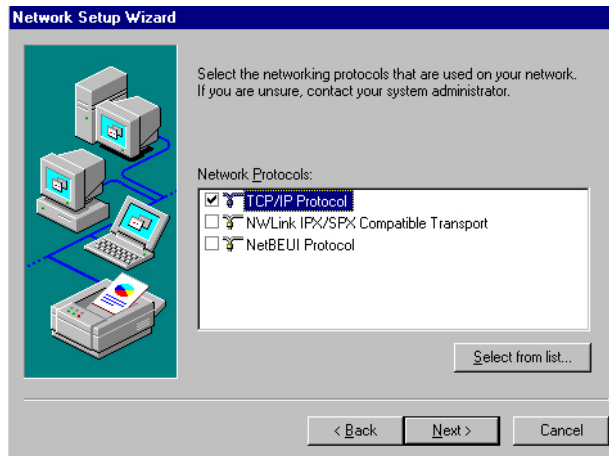
6. When Setup finds the information it needs about the new driver, it will display the device it found on the following screen. Please choose "**Intel(R) PRO/100 Family Adapter**". Press on the **OK** button to accept and proceed.



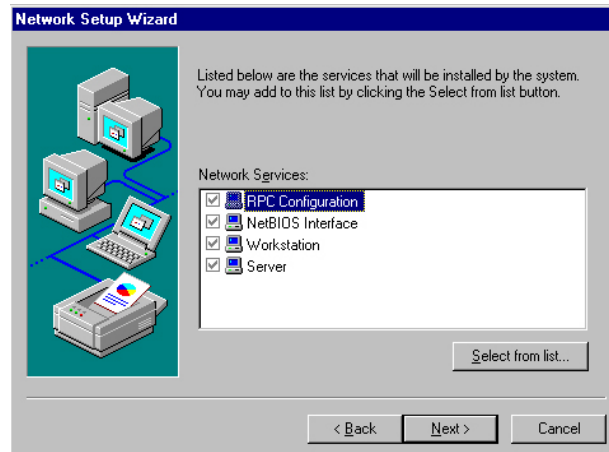
7. Setup then returns to Network Setup Wizard screen and displays your new Network Adapter. Click on **Next** to continue.



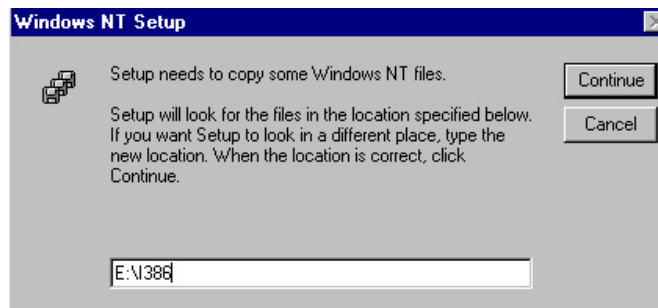
8. The Network Setup Wizard then allows you to set the Network Protocols on your network. Select the appropriate protocol and then click on Next to continue.



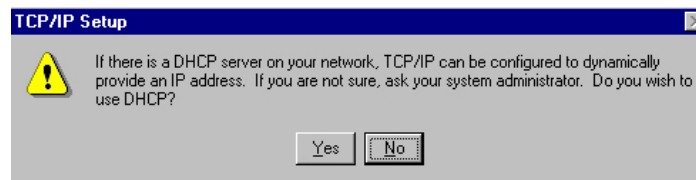
9. Before Setup starts installing the components found and the settings you made, it will give you the option to proceed or go back for changes from the following screen. Click on the **Next** button once you are sure of your devices.



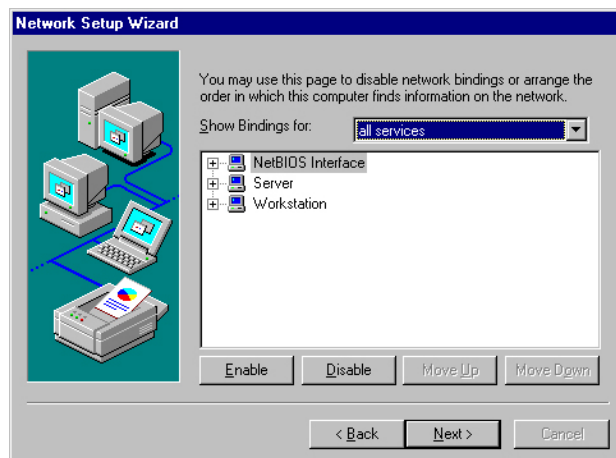
10. Windows NT Setup will then need to copy files necessary to update the system information. Specify the path then press **Continue**.



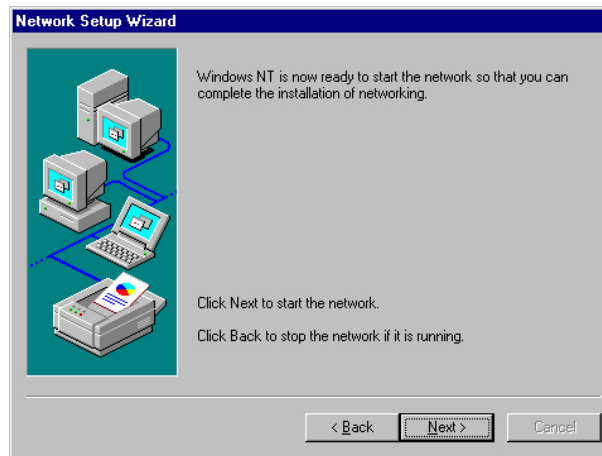
11. When Setup asks if you wish to change the TCP/IP settings of your system, select them appropriately. The default choice is **No**.



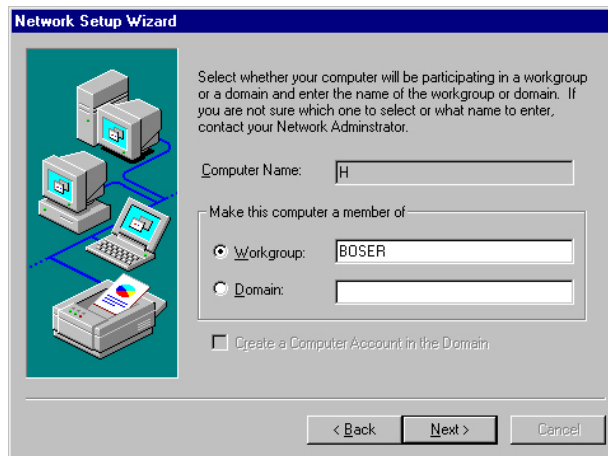
12. Setup then starts the Networking installation and copies the files.
13. When the screen below appears, click on **Next>** to continue.



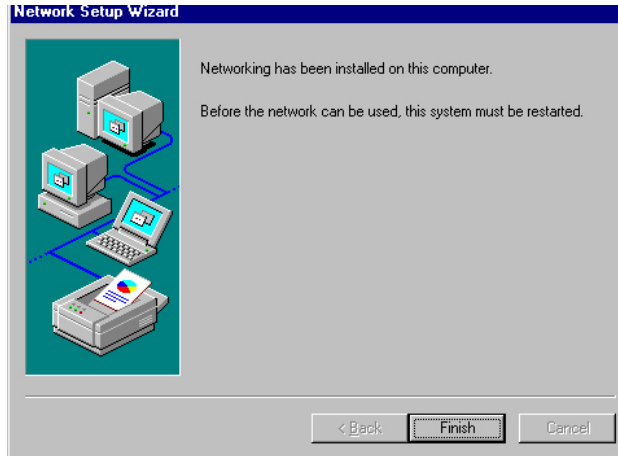
14. Setup then prompts you that it is ready to start the network. You may complete the installation thereafter. Click on **Next>** to continue.



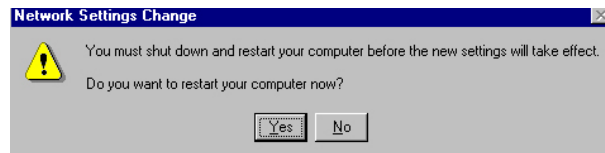
15. Assign the workgroup or domain setting of your computer. Click on Next to continue.



16. When the dialog box below appears, it means your driver is install completed. Click Finish button to proceed.

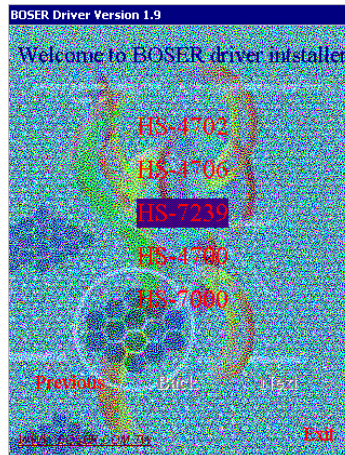


17. Click on the **Yes** button to restart your computer. The LAN driver installation for WIN NT4.0 is now complete.

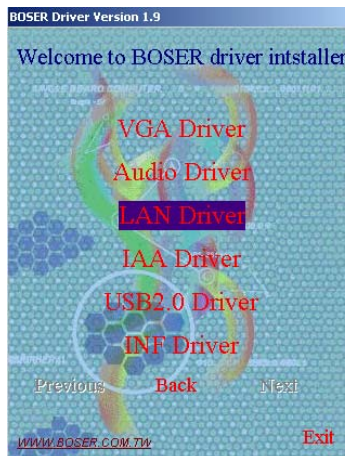


5.3.3 WIN2K

1. Insert utility CD disk into your CD ROM drive. The main menu will pop up as shown below. Select on the HS-7239 button to launch the installation program.



2. Click on the **LAN Driver** button to continue.



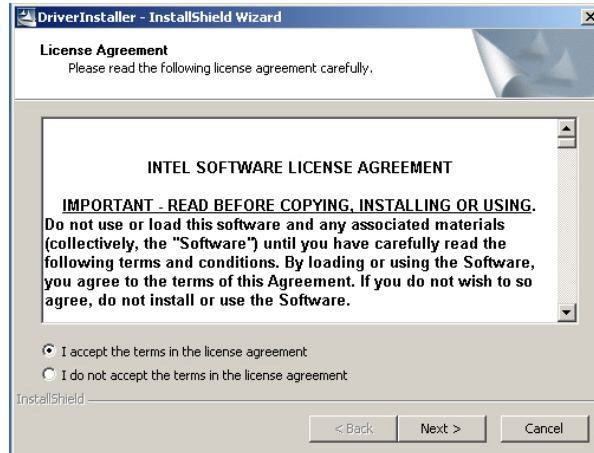
3. Click on the **WIN2K** button to continue.



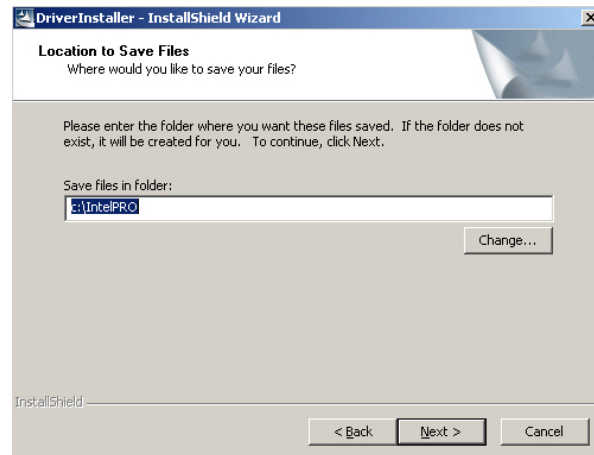
4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Install Base Driver** button to proceed.



5. The Intel OEM Software License Agreement dialog box then appears on the screen, Choose **Yes** to proceed.



6. Choose driver install location. (ex: c:\IntelPRO)



7. When setup is finished, please reboot your computer to complete.

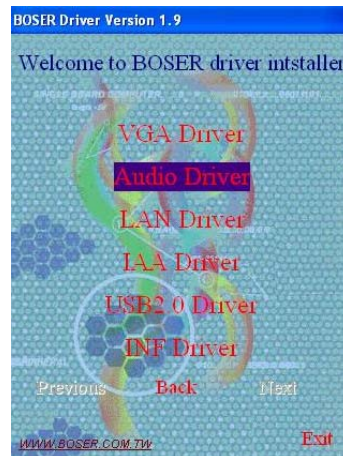
NOTE: WINXP driver installation is the same with WIN2K.

5.4 Audio Driver Installation

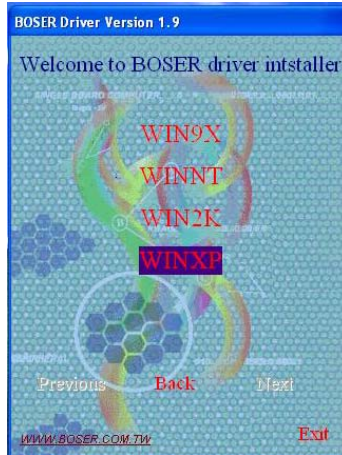
1. Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7239** button to launch the installation program.



2. Click on the **Audio Driver** button to continue.



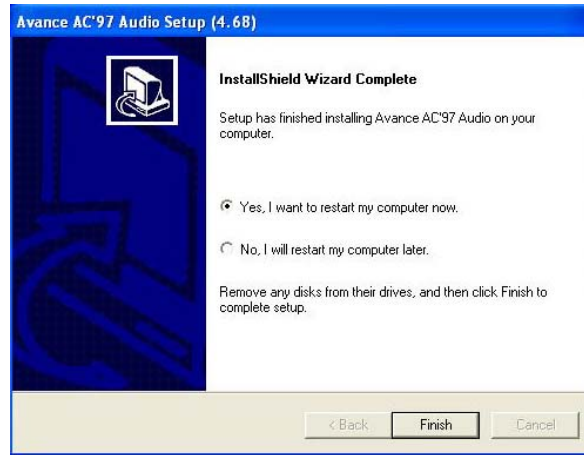
3. Choose on the OS button to continue.



4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



4. Once the InstallShield Wizard completes the operation and update of your AC'97 driver, it will ask you to remove disks from their drives, and prompt you to restart your system. Tick on the Yes, I want to restart my computer now. Afterwards, click on the **Finish** button to complete the installation process. The system changes you made will take effect after the system restarts.



NOTE: *WIN98/2K/NT audio driver installations are the same as WINXP.*

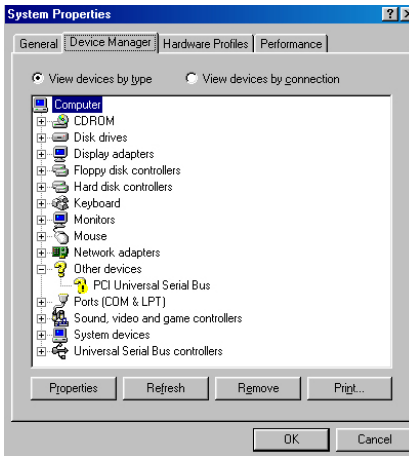
5.5 USB2.0 Driver Installation

5.5.1 Win 98

1. With the Utility CD Disk still in your CD ROM drive, right click on **"My Computer"** icon from the Windows menu. Select on System Properties and then proceed to the Device Manager from the main menu.



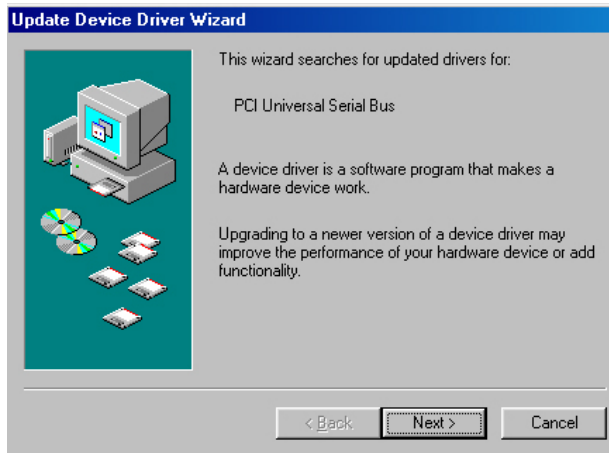
2. Select on Other Devices from the list of devices then double-click on PCI Universal Serial Bus.



3. The PCI Universal Serial Bus Properties screen then appears, allowing you to re-install the driver. Select Driver from the main menu to proceed.



4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



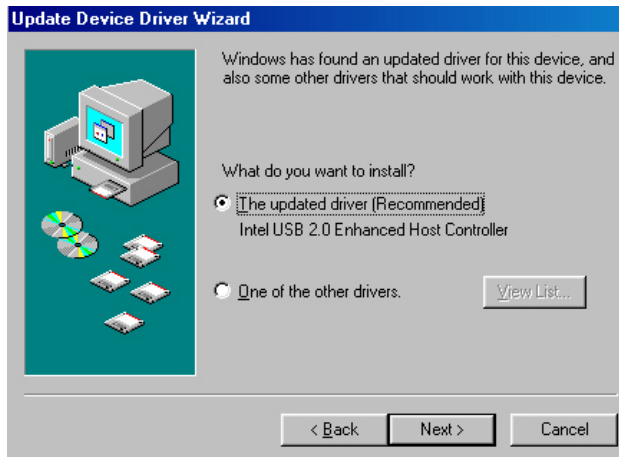
5. Tick on the "Search for a better driver" once the following screen appears. Click on the **Next** to proceed.



- Once the program returns to the Add New Hardware Wizard screen, your specified location will appear. Press on the **Next** button to continue



- When Setup finds the information it needs about the new driver, it will display the device it found on the following screen. Press on the **Next** button to accept and proceed.

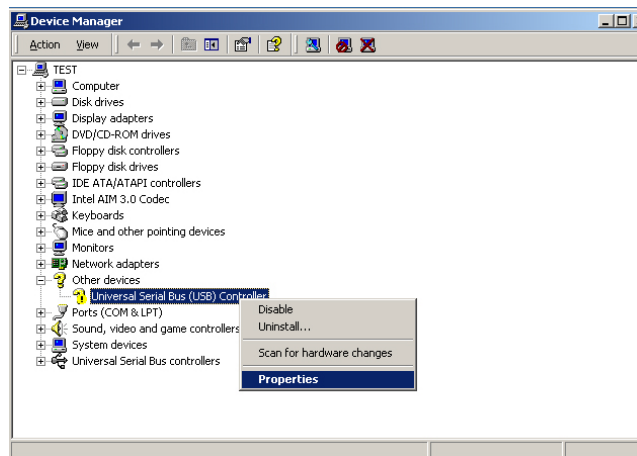


8. Once the InstallShield Wizard completes the operation and update of your USB2.0 driver. Click on the **Finish** button to complete the installation process.

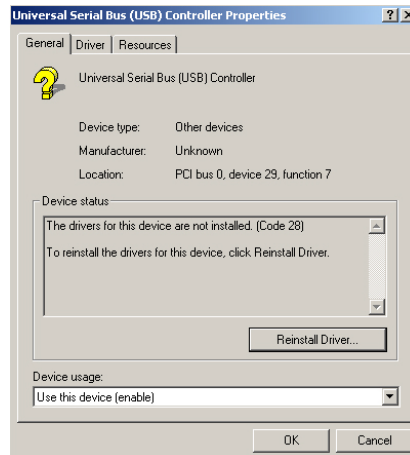


5.5.2 Win 2000

1. With the Utility CD Disk still in your CD ROM drive, right click on **"My Computer"** icon from the Windows menu. Select on System Properties and then proceed to the Device Manager from the main menu.
2. Select on Other Devices from the list of devices then double-click on PCI Universal Serial Bus.



3. The PCI Universal Serial Bus Properties screen then appears, allowing you to re-install the driver. Select Driver from the main menu to proceed.



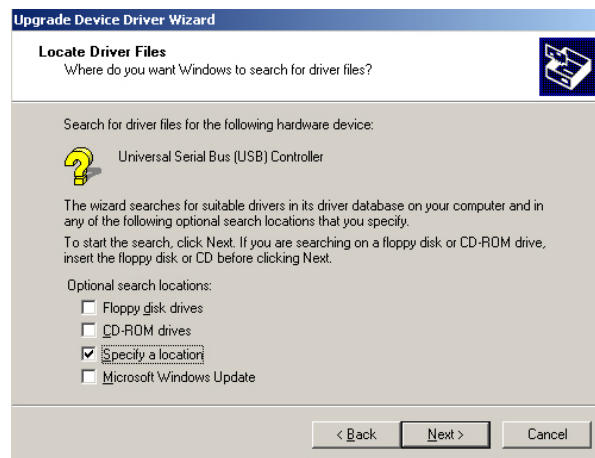
4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



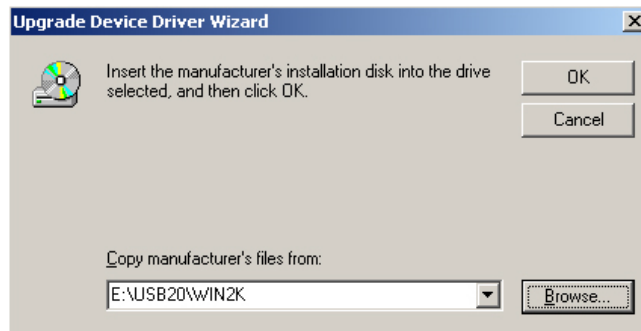
5. Tick on the "Search for a suitable driver" once the following screen appears. Click on the **Next** to proceed.



6. Once the program returns to the Add New Hardware Wizard screen, your specified location will appear. Press on the **Next** button to continue



7. Choose the driver disk location.



8. Once the InstallShield Wizard completes the operation and update of your USB2.0 driver. Click on the **Finish** button to complete the installation process.

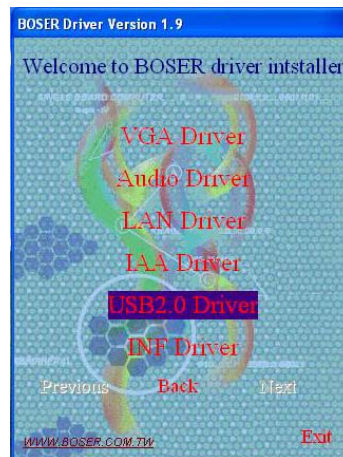


5.5.3 Win XP

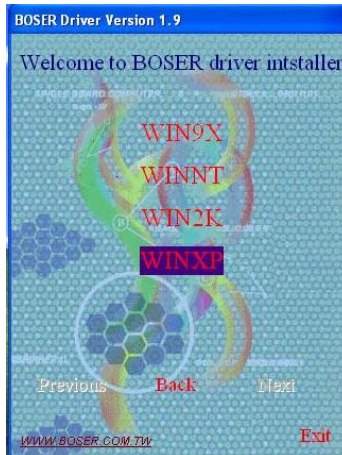
1. Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7239** button to launch the installation program.



2. Click on the **USB2.0 Driver** button to continue.



3. Click on the **WINXP** button to continue.



4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



5. Once the InstallShield Wizard completes the operation and update of your USB2.0 driver. Click on the **Finish** button to complete the installation process.

