HS-7238S

Pentium® 4 PCI-ISA Bus
Industrial Single Board Computer

• 533MHz FSB • Mini PCI • DDR •
• CRT/LVDS Panel • Dual LAN •
• Wireless LAN • Audio • ATA/33/66/100 •
• USB2.0 • WDT • H/W Monitor •
• PCI-ISA Bus Industrial Single Board computer •

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Edition 1.2, March 30, 2006

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 9
3.6 System Memory 10
3.7 VGA Controller 11
3.8 PCI E-IDE Drive Connector 11
3.9 Floppy Disk Drive Connector 14
3.10 Serial Port Connectors 15
3.11 Parallel Connector 16
3.12 Ethernet Connector 17
3.13 USB Connector 17
3.14 CMOS Data Clear 18
3.15 Power and Fan Connectors 18
3.16 Keyboard/Mouse Connector 19
3.17 System Front Panel Connectors 20
3.18 External Speaker 21
3.19 Watchdog Timer 21
3.20 Audio Connectors 22
3.21 Mini PCI Connector 23

Chapter 4 Award BIOS Setup……..25
4.1 Starting Setup 25
4.2 Using Setup..... 26
4.3 Main Menu 27
4.4 Standard CMOS Features 28
4.5 Advanced BIOS Features 29
4.6 Advanced Chipset Features 30
4.7 Integrated Peripherals..... 31
4.8 Power Management Setup..... 32
4.9 PnP/PCI Configurations..... 33
4.10 PC Health Status..... 34
4.11 Frequency/Voltage Control..... 34
4.12 Load Fail-Safe Defaults..... 35
4.13 Load Optimized Defaults 36
4.14 Set Supervisor/User Password..... 37
4.15 Save & Exit Setup 38
4.16 Exit Without Saving..... 39

Chapter 5 Software Utilities…….41
5.1 IDE Driver Installation 41
5.2 VGA Driver Installation..... 48
5.3 LAN Driver Installation..... 57
5.4 Audio Driver Installation..... 69
5.5 USB2.0 Driver Installation..... 71

Safety Instructions

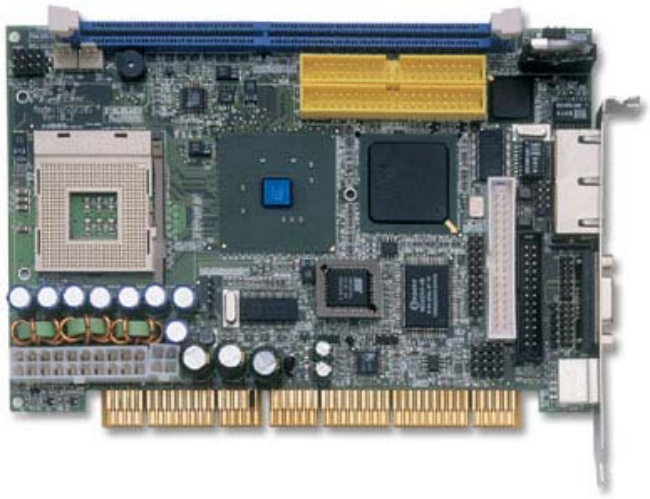
Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:

- 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-7238S 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



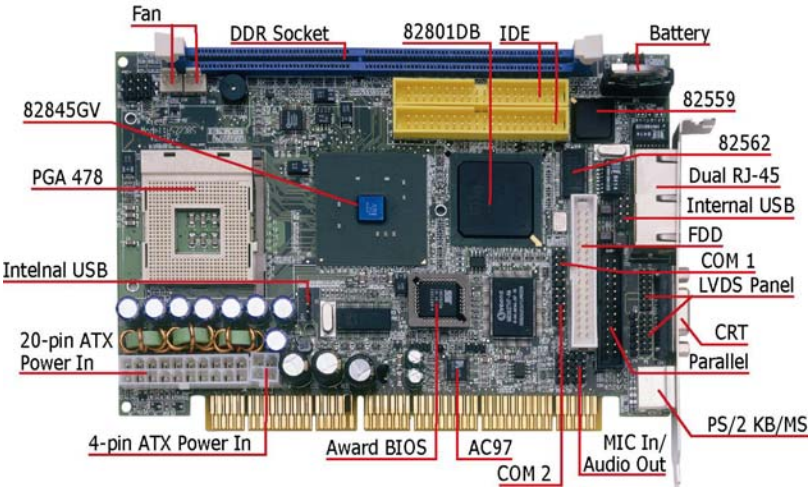
The HS-7238S is an Intel® 82845GV/82801DB chipset-based board designed for PCI-ISA Bus PGA 478 Intel® Pentium® 4 up to 2.8GHz CPU compatibility. The combination of these features makes the HS-7238S an ideal all-in-one industrial single board computer. Additional features include an enhanced I/O with CRT/LVDS Panel, dual LAN, wireless LAN, audio, and USB2.0 port interface.

Its onboard ATA/33/66/100 connected to IDE drive interface architecture allows the HS-7238S to support data transfers of 33, 66 or 100MB/sec. for each IDE drive connection. Designed with the Intel® 82845GV/82801DB core logic chipset, the board supports all PGA 478 Pentium® 4 CPU series operating up to 2.8GHz. The display controller is Intel 82845GV with 1MB or 8MB (default) memory supporting CRT display up to 1920 x 1200 at 32-bit colors. It also provides LVDS Panel display interface.

System memory is also sufficient with the one DDR socket that can support up to 512MB.

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

1.1 Major Features



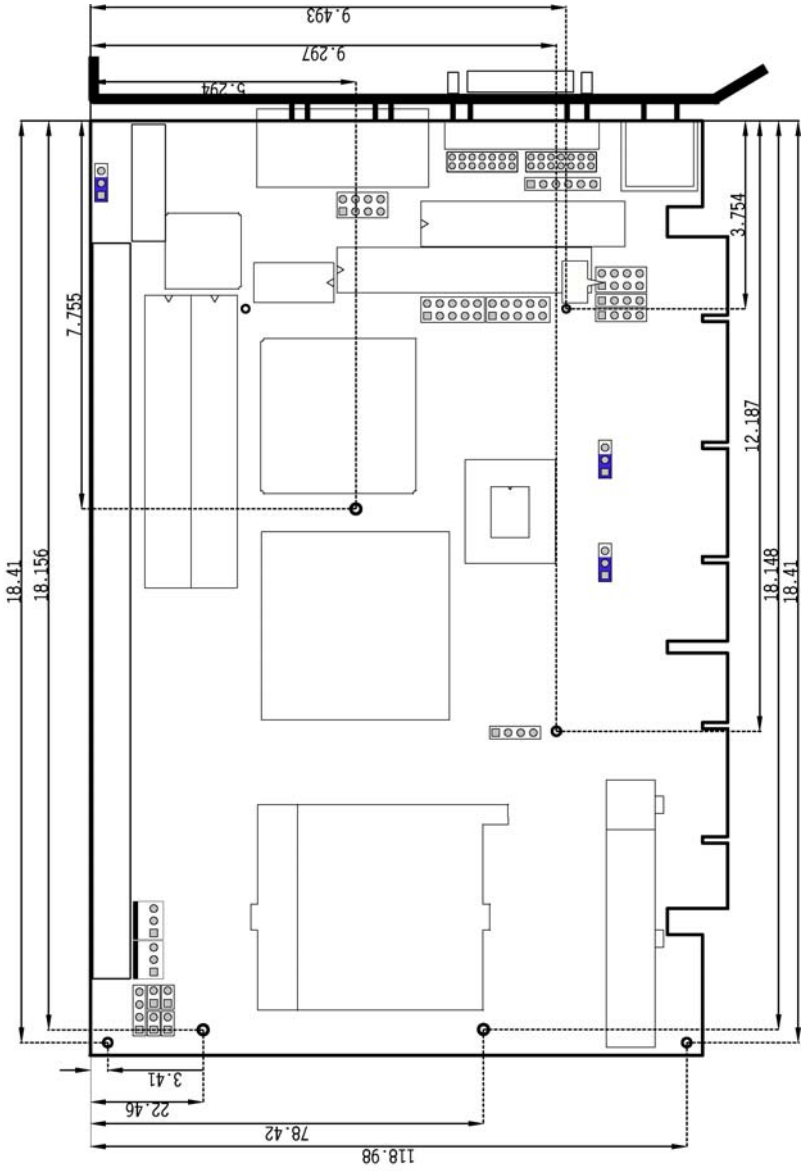
The HS-7238S comes with the following features:

- PGA 478 for Intel® Pentium® 4 CPU up to 2.8GHz
- Supports 400/533MHz FSB
- One DDR socket with a max. capacity of 512MB
- Intel 82845GV/82801DB system chipset
- Winbond W83627, ITE IT8888 super I/O chipset
- Intel® 82845GV display controller
- Intel® 82559 and 82562 LAN controller
- AC97 3D audio controller
- Fast PCI ATA/33/66/100 IDE controller
- Two COM, three USB2.0 ports
- Hardware Monitor function
- LVDS Panel display interface (optional)
- Wireless LAN module (optional)

1.2 Specifications

- **CPU:** PGA 478 for Intel® Pentium® 4 (Notherwood/0.13micron/512KB L2 cache) CPU up to 2.8GHz
- **Bus Interface:** PCI-ISA Bus (no 3.3V output through gold-finger)
- **Front Side Bus**: Supports 400/533MHz FSB
- **Memory:** One DDR socket supporting up to 512MB
- **Chipset:** Intel® 82845GV/82801DB
- **I/O Chipset:** Winbond W83627, ITE IT8888
- **PCI Slot:** One, Type I mini PCI slot (optional)
- **VGA:** Intel® 82845GV with 1MB/8MB shared main memory supporting CRT display up to 1920 x 1200 at 32-bit colors
- **LVDS Panel:** Supports LVDS interface (optional)
- **LAN:** Intel® 82559 and 82562 10/100 Based LAN
- **Wireless LAN:** Supports wireless LAN module (optional)
- **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 x 2 serial ports with 16-byte FIFO
- **USB:** Three internal USB2.0 ports
- **Keyboard/Mouse:** PS/2 6-pin Mini DIN
- **BIOS:** Award PnP Flash BIOS
- **Watchdog Timer:** Software programmable time-out intervals from 1~256sec.
- **CMOS:** Battery backup
- **Power Connector:** One 4-pin and one 20-pin ATX power connectors
- **Temperature:** 0~60°C (operating)
- **Hardware Monitor:** Winbond W83627
- **Board Size:** 18.6(L) x 12.2(W) cm

1.3 Board Dimensions



Chapter 2

Unpacking

2.1 Opening the Delivery Package

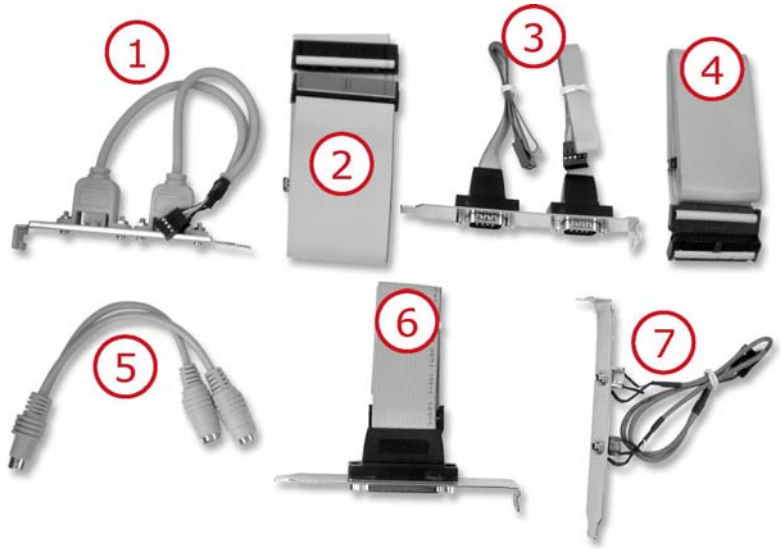
The HS-7238S is packed in an anti-static bag. The board has components that are easily damaged by static electricity. Do not remove the anti-static wrapping until proper precautions have been taken. Safety Instructions in front of this manual describe anti-static precautions and procedures.

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-7238S delivery package contains the following items:

- HS-7238S 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	Two COM flat cable with bracket x 2
4	Floppy flat cable x 1
5	Keyboard/Mouse transfer cable x 1
6	Parallel port flat cable with bracket x 1
7	MIC/Audio flat cable x 1

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-7238S. This chapter also contains information related to jumper settings of switch, watchdog timer etc.

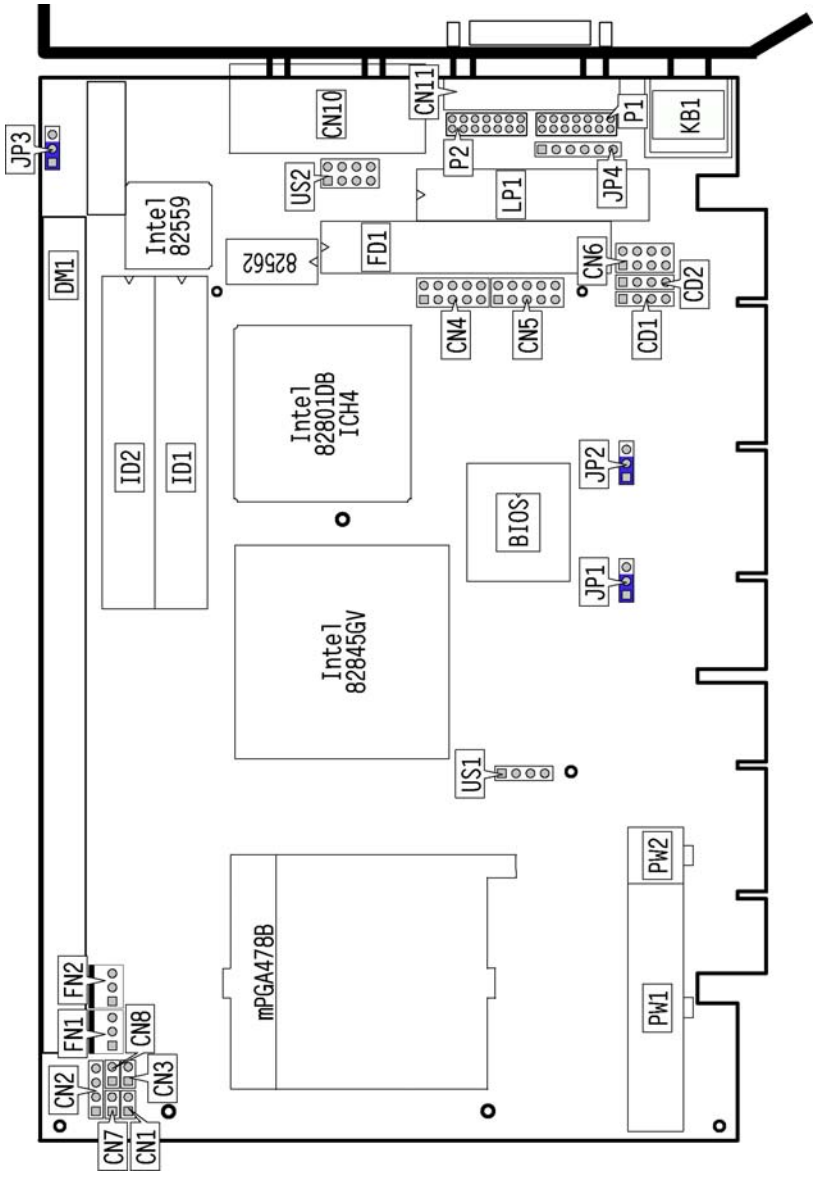
3.1 Before Installation

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.
4. Make sure your power supply is using for P4 only. One of 4-pin connectors is for +12V lead which should connect to PW2 connector of HS-7238S.

NOTE: *Since AD22 has been assigned for ISA bridge at HS-7238S, 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	Clock Speed Select: *Auto Detect*	1-2 Short	9
JP2	Clear CMOS: *Normal Operation*	1-2 Short	18
JP3	Intel 82559 Enabled/Disabled Select: *Enabled*	1-2 Short	17

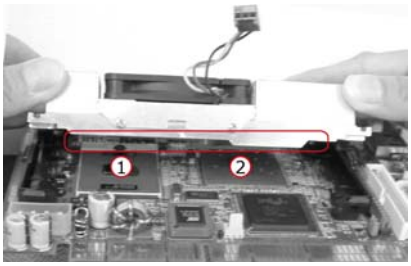
3.4 Connector List

Connector	Definition	Page
CD1	CD Analog Input Connector	22
CD2	Line In Connector	22
CN1	Reset Connector	20
CN2	Speaker Connector	21
CN3	SUSLED Connector	20
CN5 / CN4	COM1/COM2 Connector (5x2 header)	15
CN6	MIC In/Line Out Connector	22
CN7	2-pin ATX Power ON/OFF Switch	18
CN8	HDD LED Connector	20
CN10	Dual RJ-45 Connector	17
CN11	CRT Connector	11
DM1	184-pin DDR Socket	10
FD1	Floppy Connector	14
FN1 / FN2	Fan Power Connectors	18
ID2 / ID1	Primary/Secondary IDE Connectors	12
JP4	Inverter Power In Connector	11
KB1	PS/2 6-pin Mini DIN KB/MS Connector	19
LP1	Parallel Connector	16
P1 / P2	24-bit LVDS Panel Connectors	11
PW1 / PW2	20-pin/4-pin ATX Power Connectors	18
US1	Internal 4-pin USB2.0 Connectors	17
US2	Internal 8-pin USB2.0 Connectors	17
US3	External 4-pin USB2.0 Connectors	17
PC1	Mini PCI Connector	23

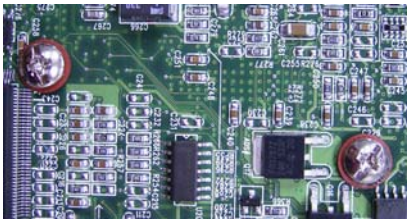
3.5 Configuring the CPU

The HS-7238S offers the convenience in CPU installation with its auto-detect feature. After installing a new microprocessor onboard, the HS-7238S 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



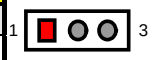
Please smear the heat sink paste over CPU and 82852GM uniformly. Then secure the heat sink as the picture above



When lock the screw, please DO NOT too tight to locking, if too tight the PCB will be curved, it may cause the board damage.

- **JP1: Clock Speed Select**

Options	Settings
Auto Detect (default)	Short 1-2
100MHz FSB	Short 2-3
133MHz FSB	Open



3.6 System Memory

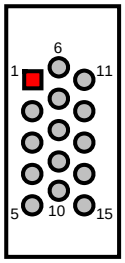
The HS-7238S provides one 184-pin DDR socket at location *DM1*. The maximum capacity of the onboard memory is 512MB.

3.7 VGA Controller

The onboard Intel 82845GV with 1MB or 8MB memory supports CRT display up to 1920 x 1200 x 32-bit at 60Hz. The HS-7238S provides two methods of connecting VGA device. *CN11* offers a single standard CRT connector (DB15), or *P1/P2* offer LVDS Panel connectors.

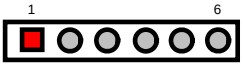
- **CN11: 15-pin CRT Connector (DB15)**

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	DDCDTA
13	OHSYNC	14	OVSYNC
15	DDCK		



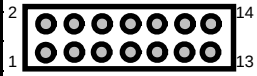
- **JP4: Inverter Power In Connector**

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



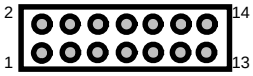
- **P2: 24-bit LVDS Panel Connector**

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



- **P1: 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



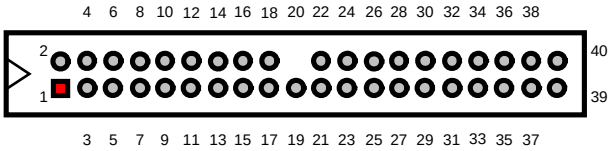
NOTE: *If using P2/P1 only, it just supports 24-bit LVDS Panel; If you want to use 48-bit LVDS Panel, please using P2 and P1 combinedly.*

3.8 PCI E-IDE Drive Connector

ID2 and *ID1* are standard 40-pin daisy-chain driver connector that serves the PCI E-IDE drive provisions onboard the HS-7238S. A maximum of four ATA/33/66/100 IDE drives can be connected to the HS-7238S via *ID2* and *ID1*.

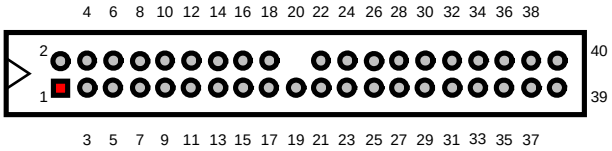
- **ID2: Primary IDE Connector**

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	PR1PD1-
29	PDDACK-	30	GND
31	Interrupt	32	N/C
33	PDA1	34	PATA66
35	PDA0	36	PDA2
37	PDCS1-	38	PDCS3-
39	HDD Active	40	GND



- **ID1: 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	SDDACK-	30	GND
31	Interrupt	32	N/C
33	SDA1	34	PATA66
35	SDA0	36	SDA2
37	SCS1-	38	SDS3-
39	HDD Active	40	GND

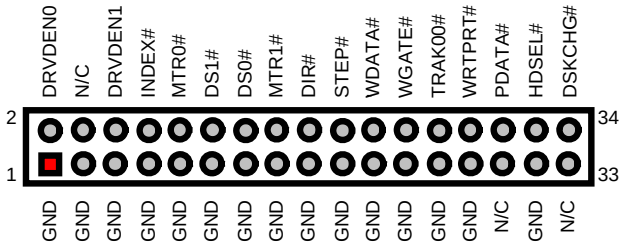


3.9 Floppy Disk Drive Connector

The HS-7238S 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	DRVDEN0
3	GND	4	N/C
5	GND	6	DRVDEN1
7	GND	8	INDEX#
9	GND	10	MTRA#
11	GND	12	DSB#
13	GND	14	DSA#
15	GND	16	MTRB#
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	HDSEL#
33	N/C	34	DSKCHG#

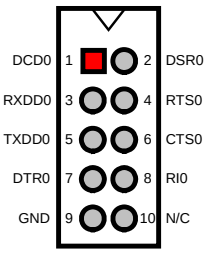


3.10 Serial Port Connectors

The HS-7238S offers one NS16C550 compatible UARTs with Read/Receive 16-byte FIFO serial ports and two internal 10-pin headers.

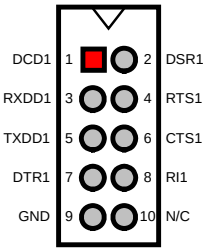
- **CN5: COM1 Connector (5x2 Header)**

PIN	Description	PIN	Description
1	DCD0	2	DSR0
3	RXDD0	4	RTS0
5	TXDD0	6	CTS0
7	DTR0	8	RI0
9	GND	10	N/C



- **CN4: COM2 Connector (5x2 Header)**

PIN	Description	PIN	Description
1	DCD1	2	DSR1
3	RXDD1	4	RTS1
5	TXDD1	6	CTS1
7	DTR1	8	RI1
9	GND	10	N/C

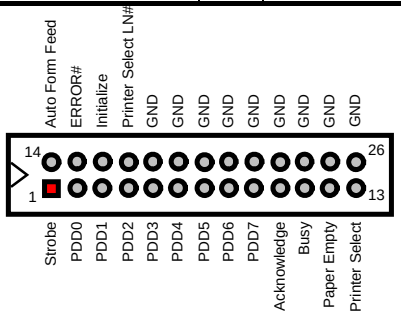


3.11 Parallel Connector

LP1 is a standard 26-pin flat cable connector designed to accommodate parallel port connection onboard the HS-7238S.

- **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

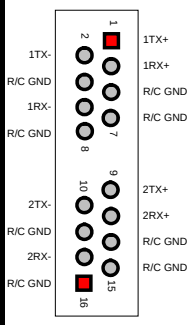


3.12 Ethernet Connector

The HS-7238S provides two 10/100 Base-TX LAN interface connectors. Please refer to the following for its pin information.

- **CN10: Dual RJ-45 Connector**

PIN	Description	PIN	Description
1	1TX+	2	1TX-
3	1RX+	4	R/C GND
5	R/C GND	6	1RX-
7	R/C GND	8	R/C GND
9	2TX+	10	2TX-
11	2RX+	12	R/C GND
13	R/C GND	14	2RX-
15	R/C GND	16	R/C GND
17	559 LILED	18	Power
19	559 ACTLED	20	Power
21	562 LILED	22	Power
23	562 ACTLED	24	Power



- **JP3: Intel 82559 Enabled/Disabled Select**

Options	Settings
Enabled (default)	Short 1-2
Disabled	Short 2-3

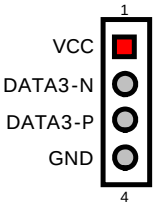


3.13 USB Connector

The HS-7238S provides three methods of connecting USB2.0 device. *US1* offers an internal 4-pin connector, *US2* offers an internal 8-pin connector, and *US3* is an external 4-pin connector.

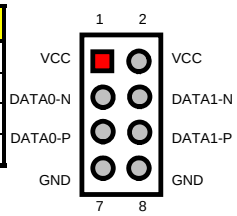
- **US1: Internal 4-pin USB2.0 Connector**

PIN	Description
1	VCC
2	DATA3-N
3	DATA3-P
4	GND



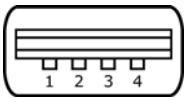
- **US2: Internal 8-pin USB2.0 Connector**

PIN	Description	PIN	Description
1	VCC	2	VCC
3	DATA0-N	4	DATA1-N
5	DATA0-P	6	DATA1-P
7	GND	8	GND



- **US3: External 4-pin USB2.0 Connector (optional)**

PIN	Description
1	VCC
2	DATA2-N
3	DATA3-P
4	GND

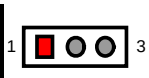


3.14 CMOS Data Clear

The HS-7238S 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

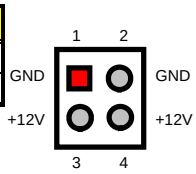
HS-7238S provides one 20-pin and one 4-pin ATX power connectors at *PW1* and *PW2.*

HS-7238S must use P4 power supply. One of 4-pin connectors is for +12V lead which should be connected to *PW2*.

20-pin ATX Power Connector can be connected to Backplane or to *PW1*.

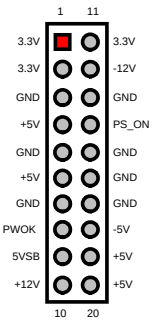
- **PW2: 4-pin ATX Power Connector**

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



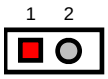
- **PW1: 20-pin ATX Power Connector**

PIN	Description	PIN	Description
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	PWOK	18	-5V
9	5Vsb	19	+5V
10	+12V	20	+5V



- **CN7: 2-pin ATX Power On/Off Switch**

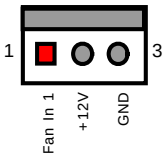
PIN	Description
1	Pull 220Ω to VCCSTBY
2	PANSWIN



FN1 and *FN2* onboard HS-7238S are 3-pin fan power connectors.

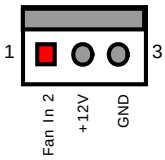
- **FN1: Fan Power Connector**

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



- **FN2: Fan Power Connector**

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

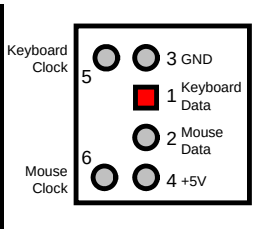


3.16 Keyboard/Mouse Connector

The HS-7238S 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-7238S 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*.

- **CN8: HDD LED Connector**

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



- **CN3: SUSLED Connector**

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



- **CN1: Reset Button Connector**

PIN	Description
1	GND
2	Reset

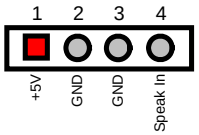


3.18 External Speaker

Aside from the buzzer at location *BZ1* onboard, the HS-7238S also offers a connector (*CN2*) for an external speaker connection. The table below lists the pin assignments of *CN2*.

- **CN2: Speaker Connector**

PIN	Description
1	+5V
2	GND
3	GND
4	Speak In



3.19 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
```

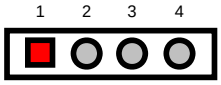
* User can also use AL, 00H's defined time for reset purposes, e.g.00H for Disable, 01H = 1sec, 02H = 2sec…..FFH = 255sec.

3.20 Audio Connectors

The HS-7238S has an onboard AC97 3D audio interface. The following tables list the pin assignments of the CD-ROM Analog Input, the Line In and the MIC In/Line Out connectors.

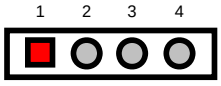
- **CD1: CD-ROM Analog Input Connector**

PIN	Description
1	CD_R
2	CD_REF
3	CD_REF
4	CD_L



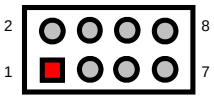
- **CD2: Line In Analog Input Connector**

PIN	Description
1	LINE_R
2	GND
3	GND
4	LINE_L



- **CN6: 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



3.21 Mini PCI Connector

HS-7238S supports a Mini PCI interface which is a very popular notebook computer expansion interface for Modem, Video, LAN, etc. The Mini PCI onboard HS-7238S is at location *PC1* with pin definitions listed on the table below.

- **PC1: Mini PCI Connector Pin Information**

PIN	Description	PIN	Description
1	INTB#	2	5V
3	3.3V	4	D#
5	RESERVED	6	RESERVED
7	GND	8	N.C.
9	CLK	10	RST#
11	GND	12	3.3V
13	REQ0	14	GNT0
15	3.3V	16	GND
17	AD[31]	18	PME#
19	AD[29]	20	GNT1
21	GND	22	AD[30]
23	AD[27]	24	3.3V
25	AD[25]	26	AD[28]
27	REQ1	28	AD[26]
29	C/BE[3]#	30	AD[24]
31	AD[23]	32	IDSEL
33	GND	34	GND
35	AD[21]	36	AD[22]
37	AD[19]	38	AD[20]
39	GND	40	PAR
41	AD[17]	42	AD[18]
43	C/BE[2]#	44	AD[16]
45	IRDY#	46	GND
47	3.3V	48	FRAME#
49	CLKRUN#	50	TRDY#
51	SERR#	52	STOP#
53	GND	54	3.3V
55	PERR#	56	DEVSEL#
57	C/BE[1]#	58	GND
59	AD[14]	60	AD[15]
61	GND	62	AD[13]
63	AD[12]	64	AD[11]
65	AD[10]	66	GND

. . . More on next page . . .

PIN	Description	PIN	Description
67	GND	68	AD[9]
69	AD[8]	70	C/BE[0]#
71	AD[7]	72	3.3V
73	3.3V	74	AD[6]
75	AD[5]	76	AD[4]
77	REQ2	78	AD[2]
79	AD[3]	80	AD[0]
81	5V	82	GNT2
83	AD[1]	84	GNT3
85	GND	86	GND
87	N/C	88	N/C
89	N/C	90	N/C
91	N/C	92	N/C
93	N/C	94	N/C
95	N/C	96	REQ3
97	N/C	98	GND
99	N/C	100	N/C



Mini PCI Socket pin orientation

Chapter 4

Award BIOS Setup

The HS-7238S 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 <Del> immediately after switching the system on, or
2. By pressing the <Del> 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.

CMOS Setup Utility – Copyright © 1984-2001 Award Software

▸ 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

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.

CMOS Setup Utility – Copyright © 1984-2001 Award Software
Standard CMOS Features

Date (mm:dd:yy)	Wed, Jul 11 2001	Item Help
Time (hh:mm:ss)	10 : 32 :57	Menu Level ▶
▶ IDE Primary Master	[Auto]	Change the day, month, year and century
▶ IDE Primary Slave	[Auto]	
▶ IDE Secondary Master	[Auto]	
▶ IDE Secondary Slave	[Auto]	
Drive A	[1.44M, 3.5in.]	
Drive B	[None]	
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.

CMOS Setup Utility—Copyright ©1984-2001 Award Software
Advanced BIOS Features

Virus Warning	Disabled	Item Help
CPU L1 & L2 Cache	Enabled	Menu Level ▶
Hyper-Threading Technology	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS120	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Enabled	
Boot Up Num Lock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
Typematic Rate (Chars/Sec)	6	
Typematic Delay (Msec)	250	
Security Option	Setup	
APIC Mode	Enabled	
MPS Version Control For OS	1.4	
OS Select For DRAM > 64MB	Non-OS2	
Report on FDD for WIN95	NO	
Small Logo (EPA) Show	Enabled	

↑↓→←: 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.

CMOS Setup Utility—Copyright ©1984-2001 Award Software
Advanced Chipset Features

DRAM Timing Selectable	By SPD	Item Help
CAS Latency Time	1.5	Menu Level ▶
Active to Precharge Delay	7	
DRAM RAS# to CAS# Delay	3	
DRAM RAS# Precharge	3	
Turbo Mode	Disabled	
Memory Frequency For	Auto	
System BIOS Cacheable	Enabled	
Video BIOS Cacheable	Enabled	
Memory Hole At 15M-16M	Disabled	
Delayed Transaction	Enabled	
Delay Prior to Thermal	16Min	
AGP Aperture Size (MB)	64	
** ON-chip VGA Setting **		
On-chip VGA	Enabled	
On-chip Frame Buffer size	8MB	

↑↓→←: 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).

CMOS Setup Utility—Copyright ©1984-2001 Award Software
Integrated Peripherals

On-chip Primary PCI IDE	Enabled	Item Help
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	
USB Controller	Enabled	
USB2.0 Controller	Enabled	
USB Keyboard Support	Enabled	
USB Mouse Support	Enabled	
AC97 Audio	Auto	
Init Display First	Onboard/AGP	
IDE HDD Block Mode	Enabled	
POWER ON Function	BUTTON ONLY	
KB Power ON Password	Enter	
Hot Key Power ON	Ctrl-F1	
Onboard FDC Controller	Enabled	
Onboard Serial Port1	3F8/IRQ4	
Onboard Serial Port2	2F8/IRQ3	
UART Mode Select	Normal	
RxD, TxD 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	
POWER After PWR-Rail	Off	

↑↓→←: 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.

CMOS Setup Utility－Copyright ©1984-2001 Award Software
Power Management Setup

ACPI function	Enabled	Item Help
ACPI Suspend Type	S1(POS)	Menu Level ▶
Run VGABIOS if S3 Resume	Auto	
Power Management	User Define	
Video off Method	DPMS	
Video off In Suspend	Yes	
Suspend Type	Stop Grant	
MODEM Use IRQ	3	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
Soft-off by PWR-BTTN	Instant-Off	
CPU THRM-throttling	50.00%	
Wake-up by PCI card	Disabled	
Power On by Ring	Disabled	
USB KB Wake-up From S3	Disabled	
Resume by Alarm	Disabled	
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	

↑↓→←: 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.

CMOS Setup Utility—Copyright ©1984-2001 Award Software
PnP/PCI Configurations

PNP OS Installed	No	Item Help
Reset Configuration Date	Disabled	Menu Level ▶
Resources controlled By	Auto (ESCD)	
IRQ Resources	Press Enter	
DMA Resources	Press Enter	
IRQ-3 Assigned to	PCI Device	
IRQ4	PCI Device	
IRQ5	PCI Device	
IRQ7	PCI Device	
IRQ9	PCI Device	
IRQ10	PCI Device	
IRQ11	PCI Device	
IRQ12	PCI Device	
IRQ13	PCI Device	
IRQ14	PCI Device	
IRQ15	PCI Device	
PCI/VGA Palette Snoop	Disabled	

↑↓→←: 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

CMOS Setup Utility－Copyright ©1984-2001 Award Software
PC Health Status

CPU Warning Temperature	Disabled	Item Help
Current System Temp		Menu Level ▶
Current CPU Temperature		
Current CPU FAN Speed	XXXX RPM	
Current System FAN Speed	XXXX RPM	
Vcore		
+3.3V	3.37V	
+5V	5.08V	
+12V	12.09V	
-12V	-12.19V	
-5V	-5.04	
VBAT(V)	3.2V	
5VSB(V)	5.00V	
Shutdown Temperature	Disabled	

↑↓→←: 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

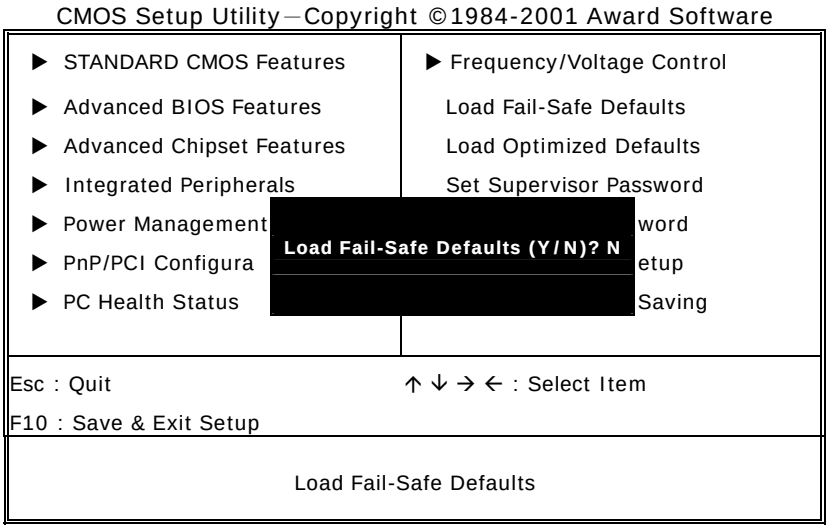
CMOS Setup Utility－Copyright ©1984-2001 Award Software
Frequency/Voltage Control

CPU Clock Ratio	[8x]	Item Help
Auto Detect PCI Clk	Enabled	Menu Level ▶
Spread Specturm	Disabled	

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

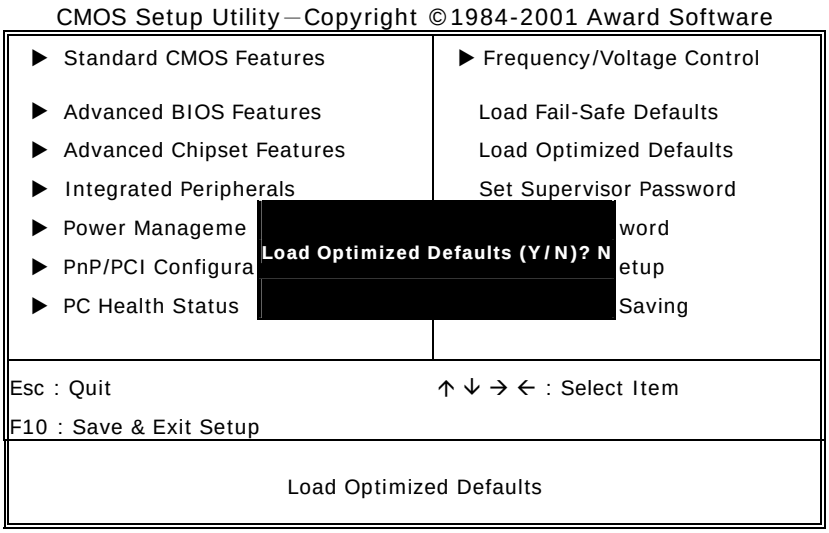
4.12 Load Fail-Safe Defaults

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.

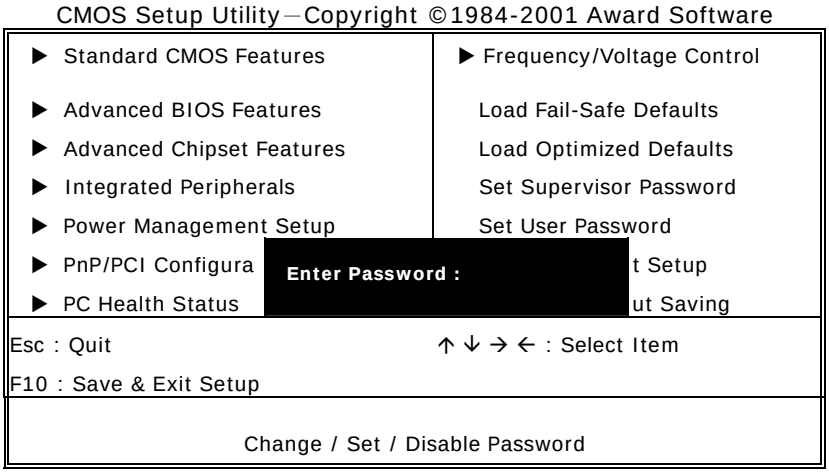


4.13 Load Optimized Defaults

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.

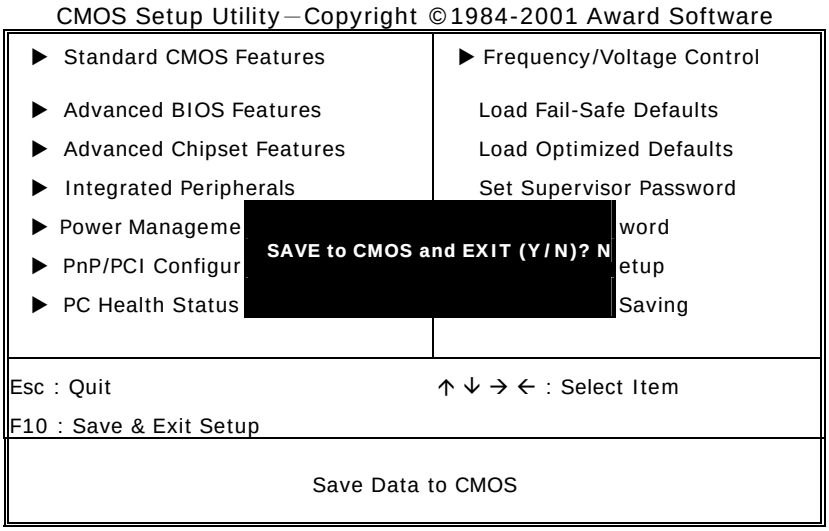
Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

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.

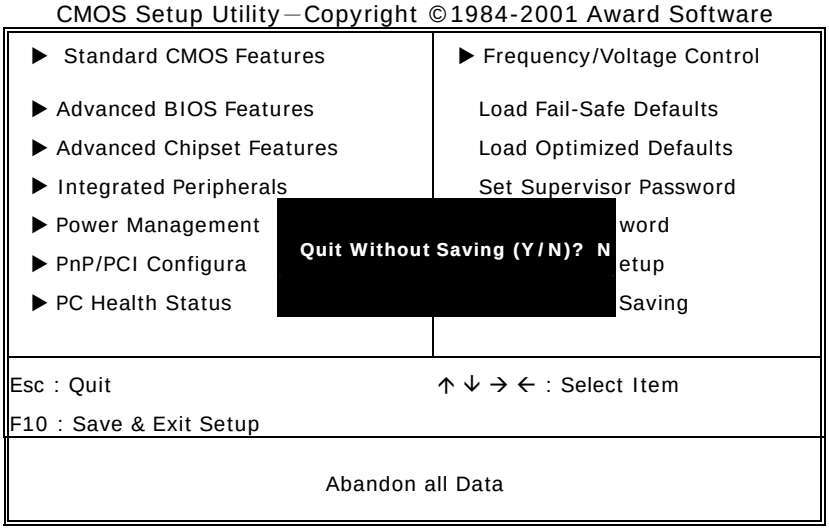


4.16 Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

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.



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Chapter 5

Software Utilities

This chapter contains the detailed information of IDE, VGA, LAN and Audio driver installation procedures. The utility disk that come 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.

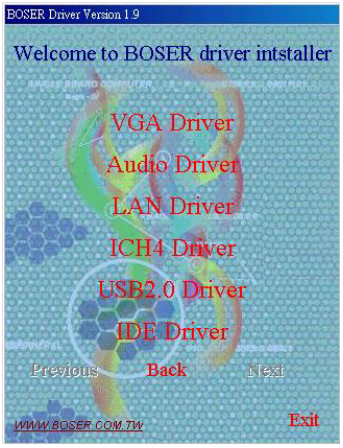
5.1 IDE Driver Installation

5.1.1 Installing Intel Chipset Software Utility

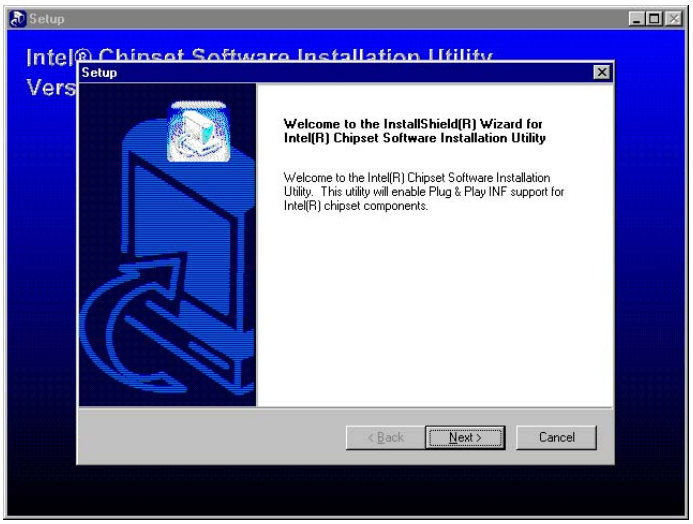
1. Insert Utility CD Disk to your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7238** button to launch the installation program.



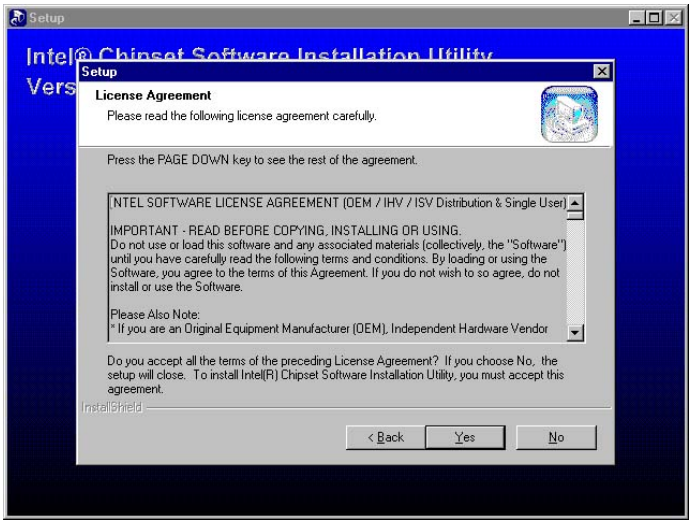
2. Click on the **ICH4 Driver** button to continue.



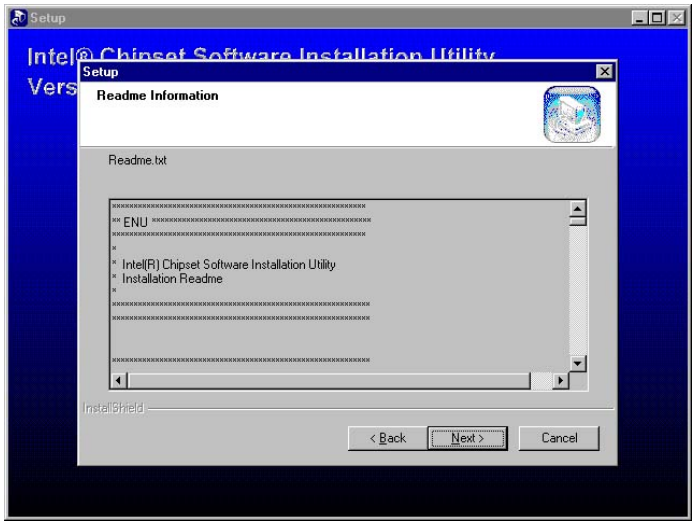
3. Immediately after clicking the IDE button in Step 1, the program launches the InstallShield Wizard that will assist you in the installation process. Click on the **Next >** button to proceed.



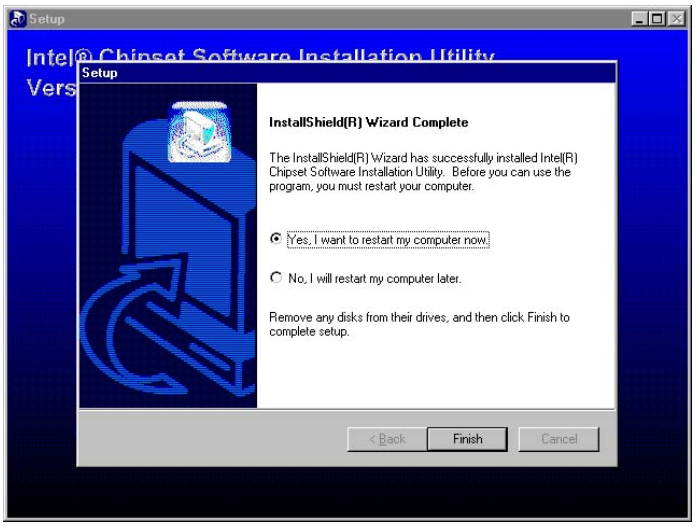
4. The Intel OEM Software License Agreement dialog box then appears on the screen. Choose **Yes** to proceed.



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



6. 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.

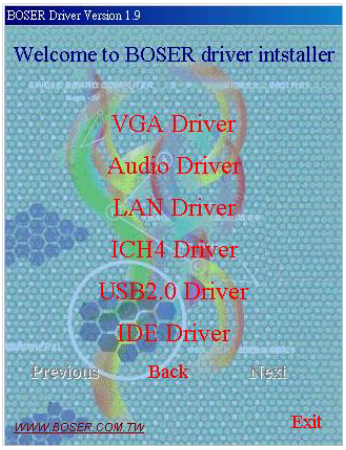


5.1.2 Installing Intel Application Accelerator

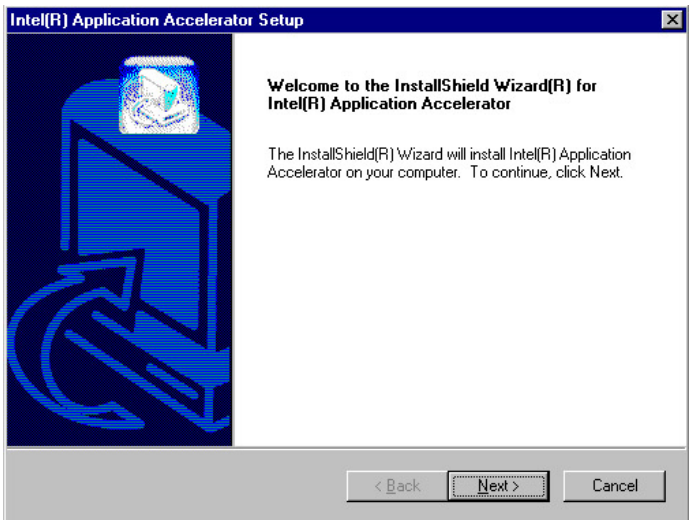
1. Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7238** button to launch the installation program.



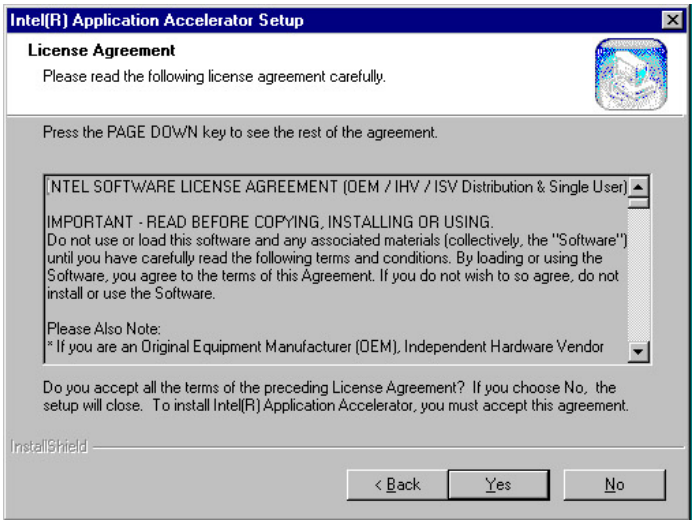
2. Click on the **IDE Driver** button to continue.



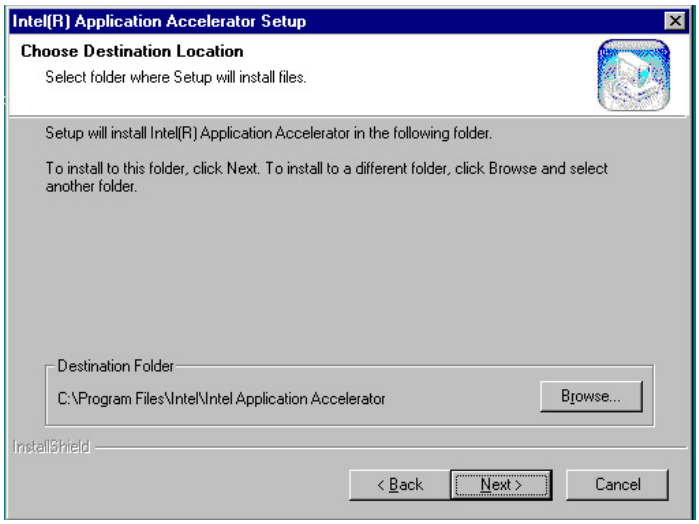
3. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



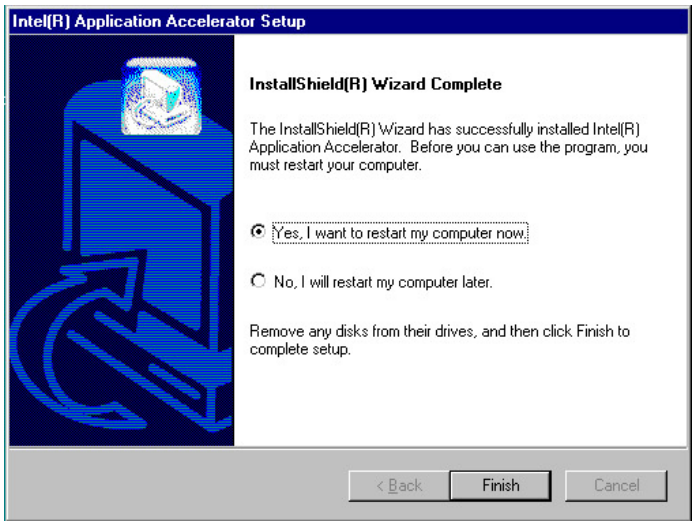
4. The Intel OEM Software License Agreement dialog box then appears on the screen. Choose **Yes** to proceed.



5. Setup will then prompt you to specify the path where you would like the Security driver installed. Select the **Next >** button after you have made your path/installation choice.



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.



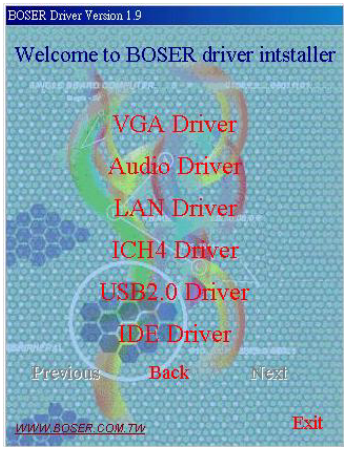
5.2 VGA Driver Installation

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-7238** button to launch the installation program.



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



3. Click on the **Windows 9x** 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.



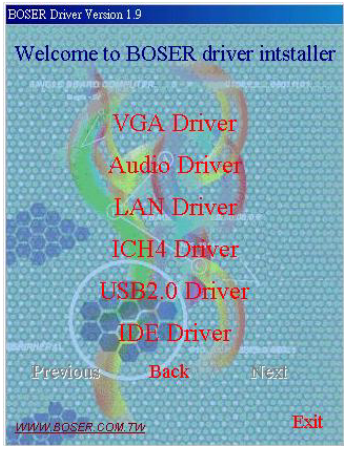
5.2.2 Win NT

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-7238** button to launch the installation program.



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



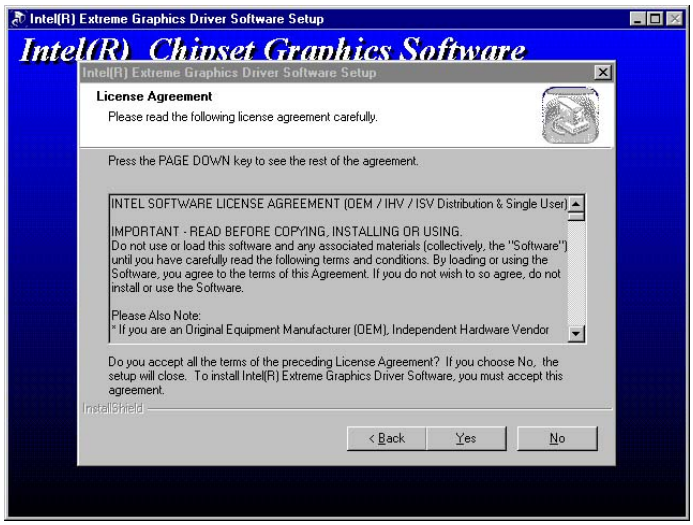
3. Click on the **Windows NT** button to continue.



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.



5.2.3 Win 2000

1. Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7238** button to launch the installation program.



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



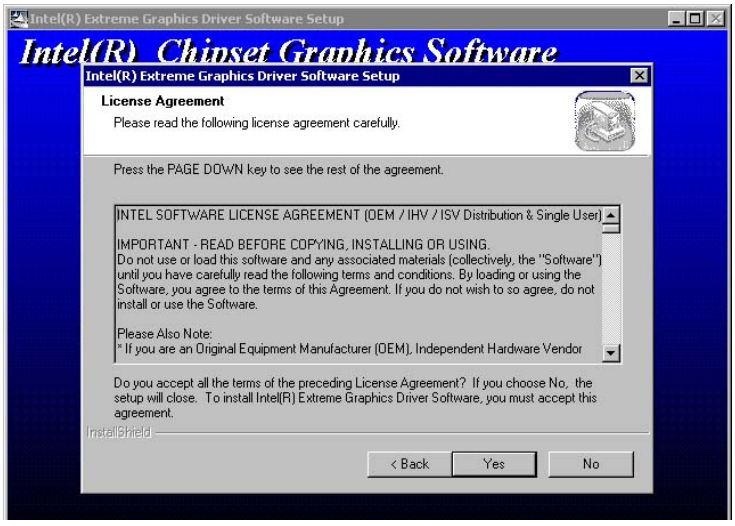
3. Click on the **Windows 2K** button to continue.



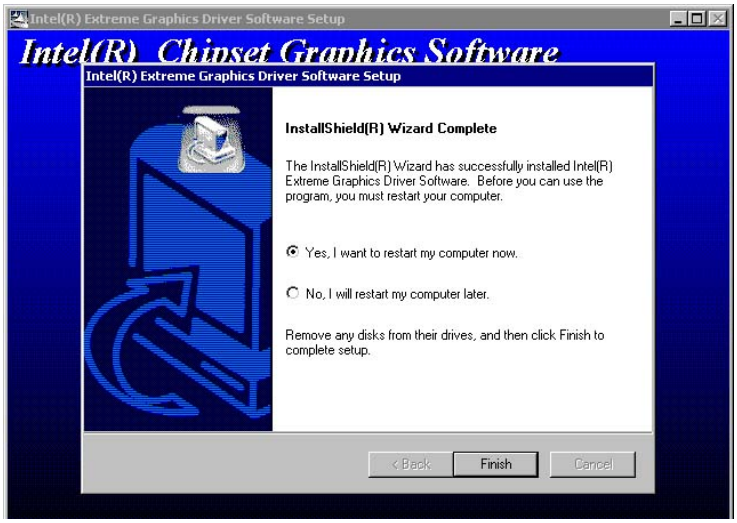
4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



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.



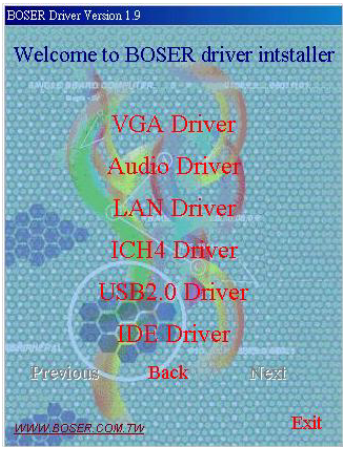
5.3 LAN Driver Installation

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-7238** button to launch the installation program.



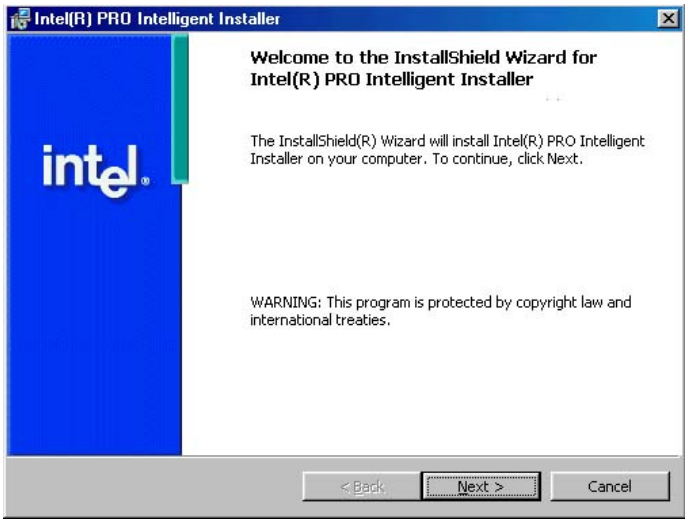
2. Click on the **LAN Driver** button to continue.



3. Click on the **Windows 9x** button to continue.



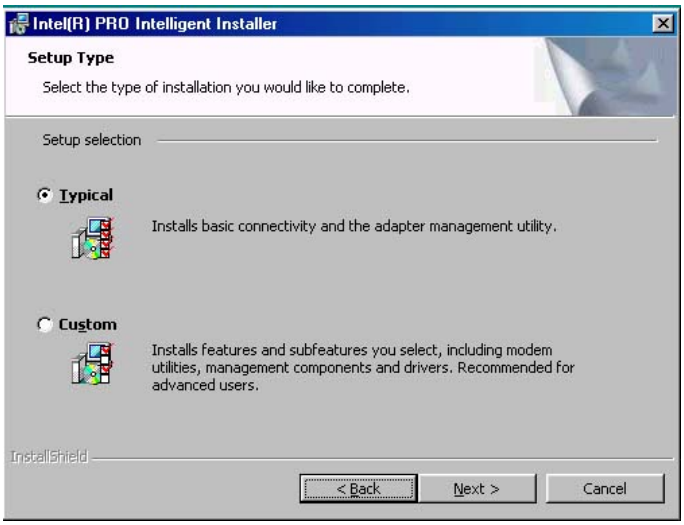
4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



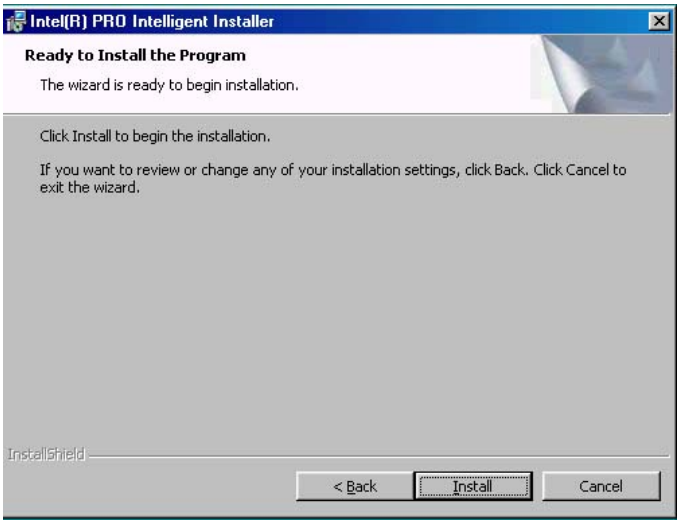
5. The Intel OEM Software License Agreement dialog box then appears on the screen. Choose **Accept** to proceed.



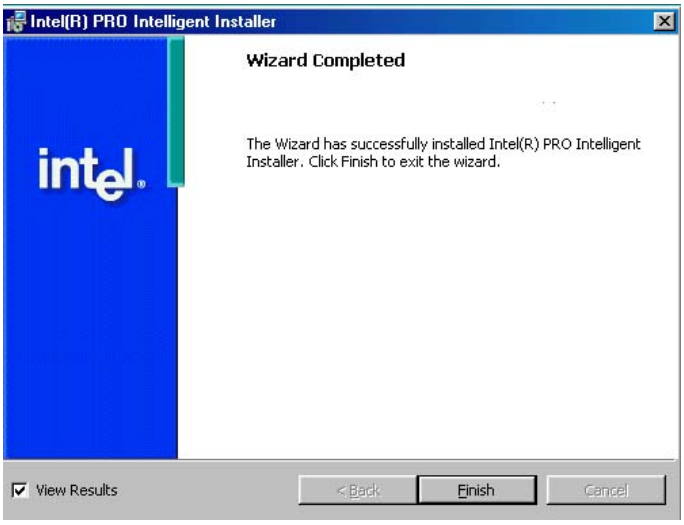
6. The Setup Type dialog box then appears on the screen. Choose **Typical** to proceed.



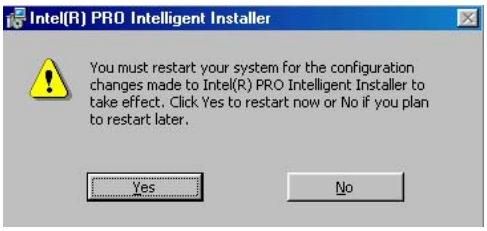
7. When the dialog box below appears, make sure you close all other Windows applications then click on the **Install** button to proceed.



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



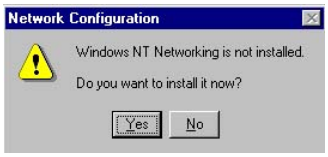
9. Once the setup program finishes copying files into your system, it will prompt you to restart the computer. Tick on the **Yes** to reboot. Only after your computer boots will the new settings take effect.



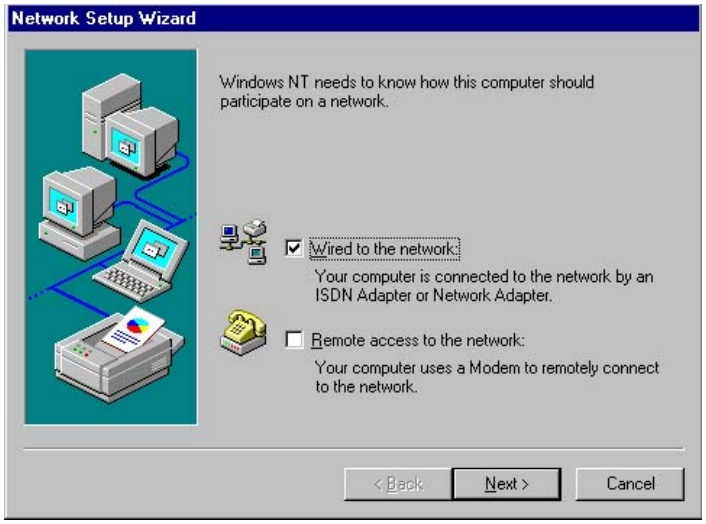
5.3.2 Win NT

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

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



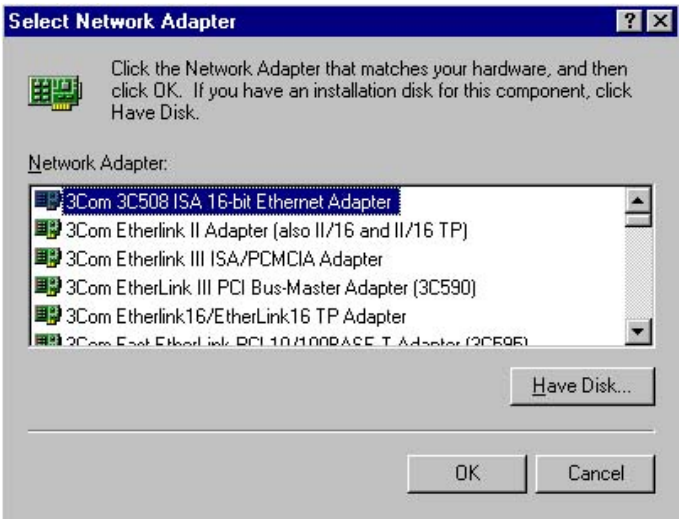
2. Tick on the **Wired to Network** once the following screen appears. Click on the Next to proceed.



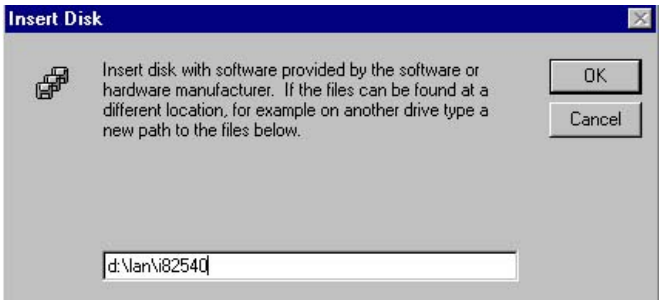
3. Click on the **Start Search** button for the program to locate the Network Adapter.



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.



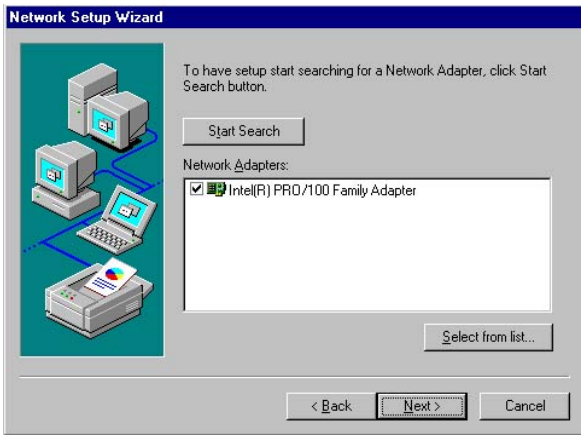
5. Setup now asks you for the location of the driver. When you have entered the new driver path, press on the **OK** button to continue.



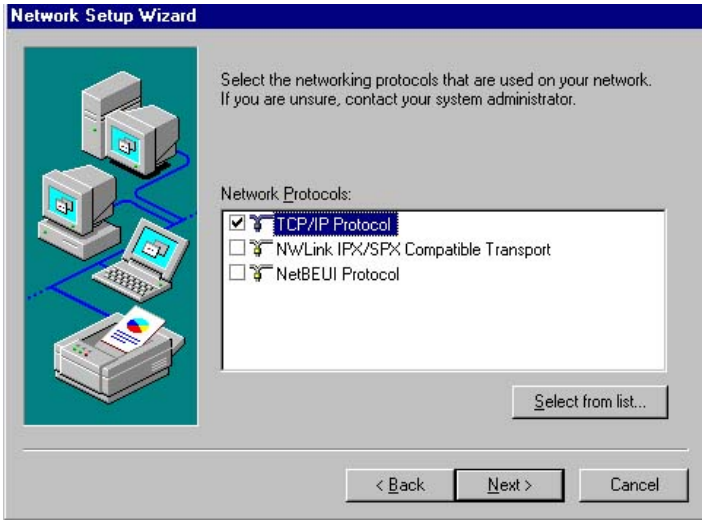
6. When Setup finds the information it needs about the new driver, it will display the device it found on the following screen. If using 82551 or 82562, please choose "**Intel(R) PRO/100 Family Adapter**". If using 82540EM, please choose "**Intel(R) PRO/1000 Family Adapter**". Press on the **OK** button to accept and proceed.



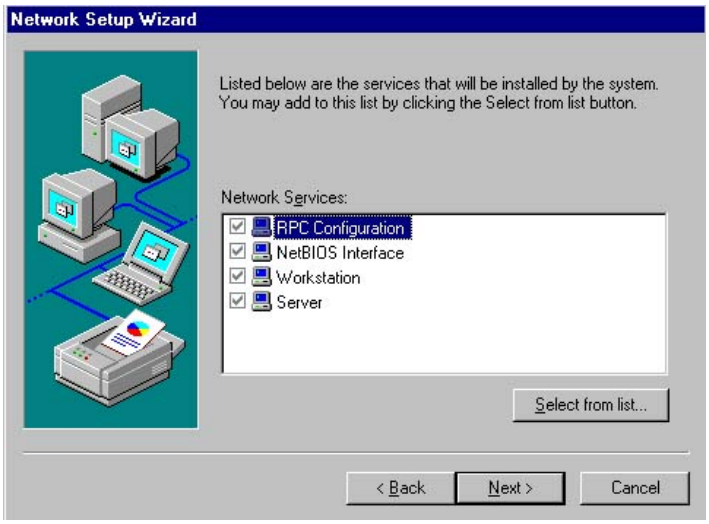
7. Setup then returns to Network Setup Wizard screen and displays your new Network Adapter. Click on **Next** to continue.



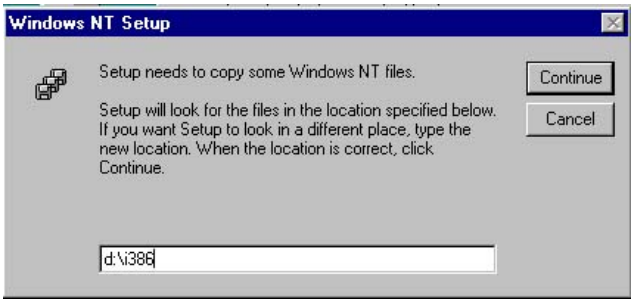
8. The Network Setup Wizard then allows you to set the Network Protocols on your network. Select the appropriate protocol and then click on Next to continue.



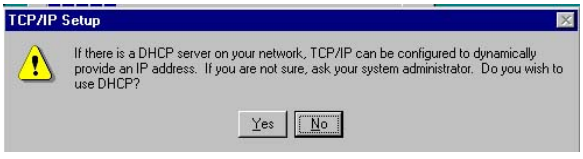
9. Before Setup starts installing the components found and the settings you made, it will give you the option to proceed or go back for changes from the following screen. Click on the **Next** button once you are sure of your devices.



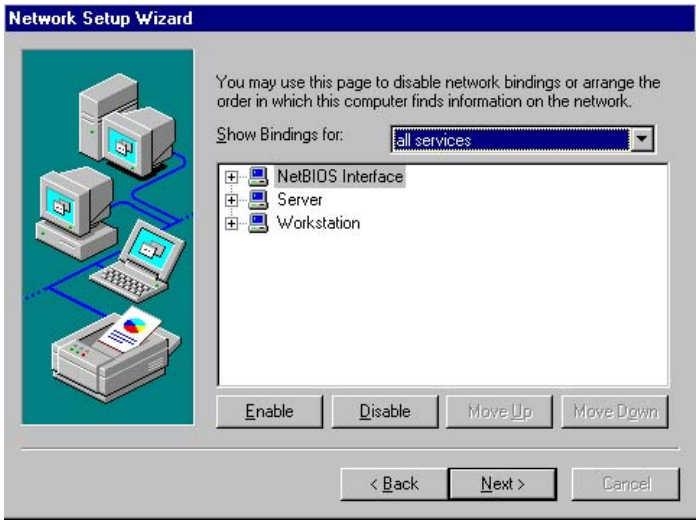
10. Windows NT Setup will then need to copy files necessary to update the system information. Specify the path then press **Continue**.



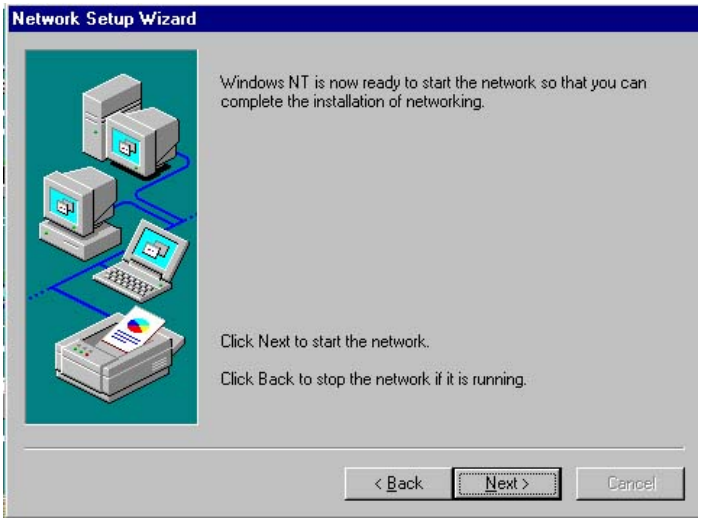
11. When Setup asks if you wish to change the TCP/IP settings of your system, select them appropriately. The default choice is **No**.



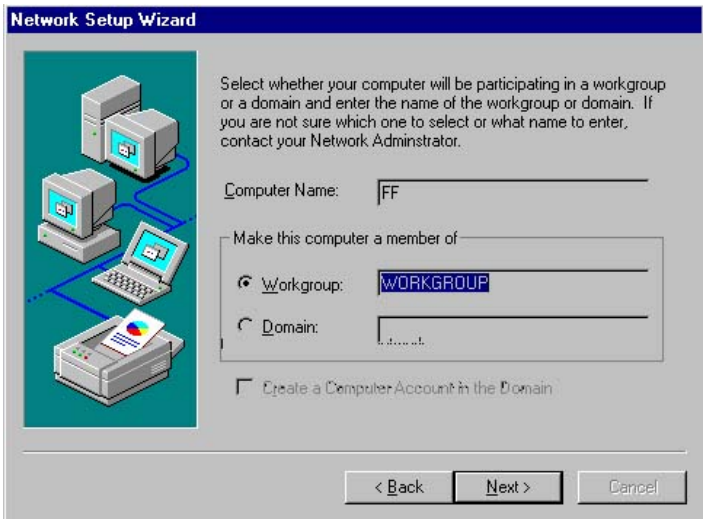
12. Setup then starts the Networking installation and copies the files.
13. When the screen below appears, click on **Next** to continue.



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



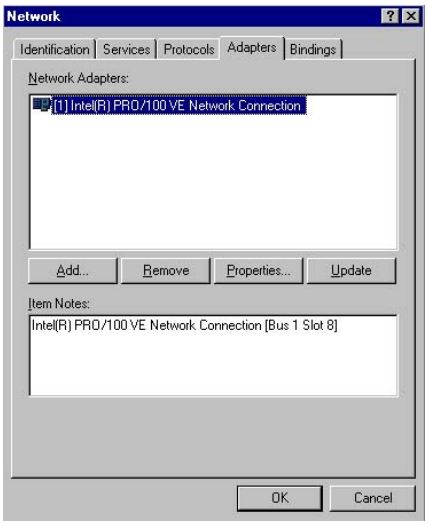
15. Assign the workgroup or domain setting of your computer. Click on Next to continue.



16. Click on the **Yes** button to restart your computer. The LAN1 driver installation for WIN NT4.0 is now complete.



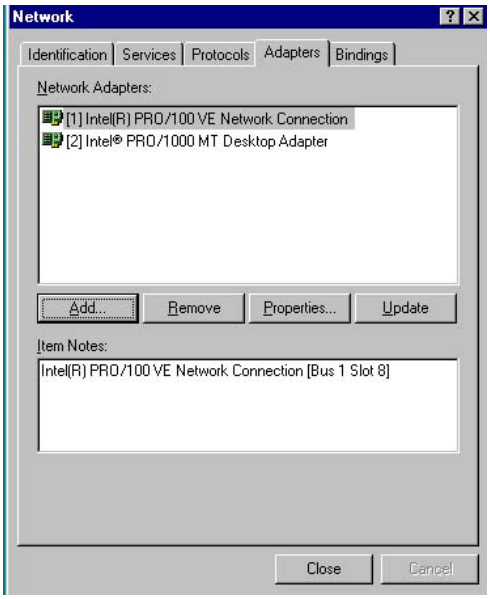
17. With the Utility CD Disk still in your CD ROM drive, we can install LAN2. Right click on "**Network Neighborhood**" icon from the desktop. Select on Properties and then proceed to the Network from the main menu. Click on **Add** to continue.



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



19. Click on the **Close** button. The LAN2 driver installation for WIN NT4.0 is now complete.

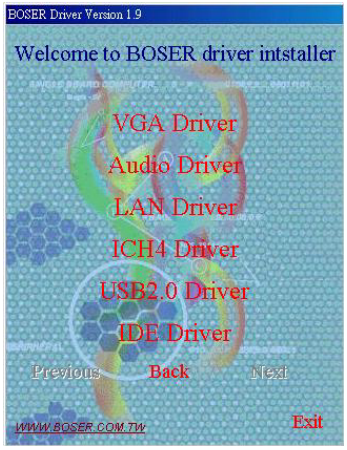


5.4 Audio Driver Installation

1. Insert Utility CD Disk into your CD ROM drive. The main menu will pop up as shown below. Select on the **HS-7238** button to launch the installation program.



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



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



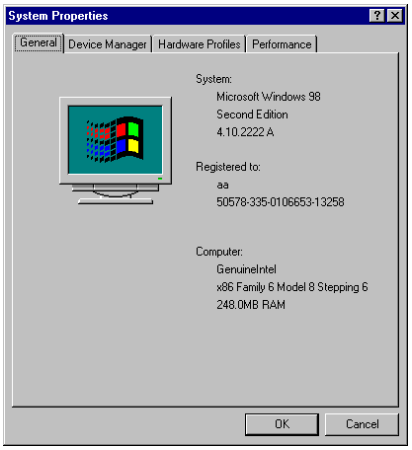
4. Once the InstallShield Wizard completes the operation and update of your AC'97 driver, it will ask you to remove disks from their drives, and prompt you to restart your system. Tick on the Yes, I want to restart my computer now. Afterwards, click on the **Finish** button to complete the installation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



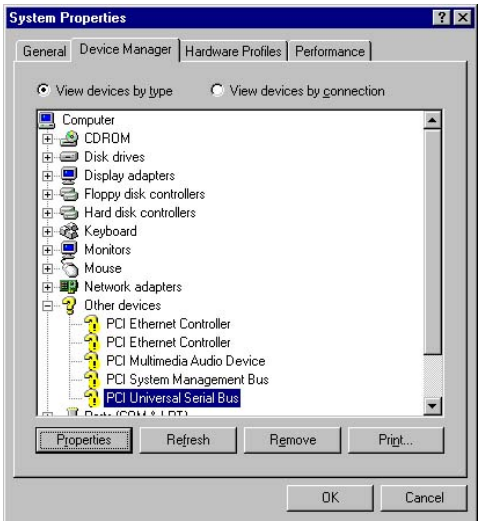
5.5 USB2.0 Driver Installation

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.



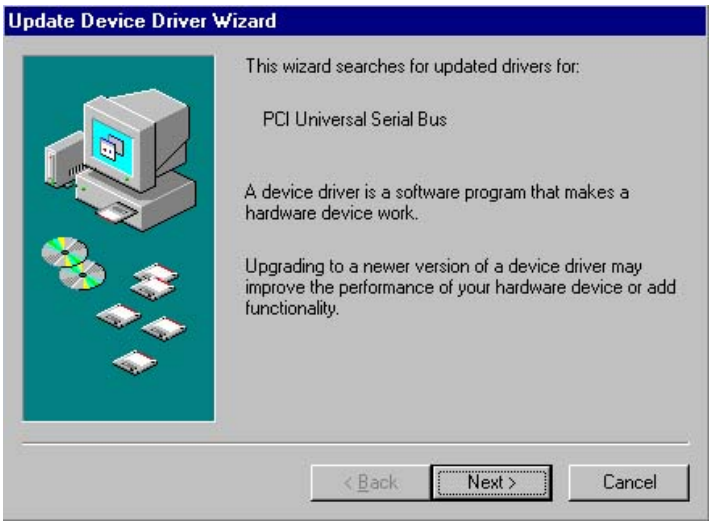
2. Select on Other Devices from the list of devices then double-click on PCI Universal Serial Bus.



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.



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. 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.

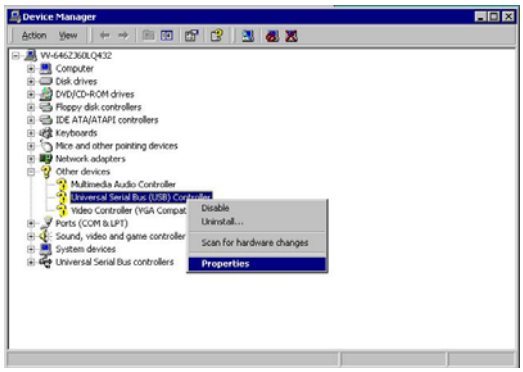


8. Once the InstallShield Wizard completes the operation and update of your USB2.0 driver. Click on the **Finish** button to complete the installation process.

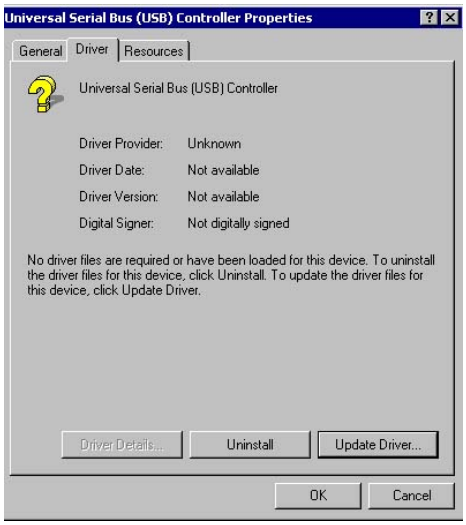


5.5.2 Win 2000

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.



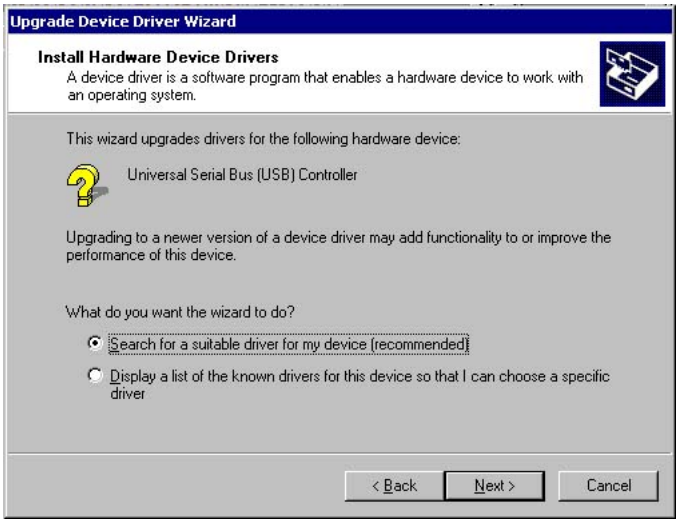
3. The PCI Universal Serial Bus Properties screen then appears, allowing you to re-install the driver. Select Driver from the main menu to proceed.



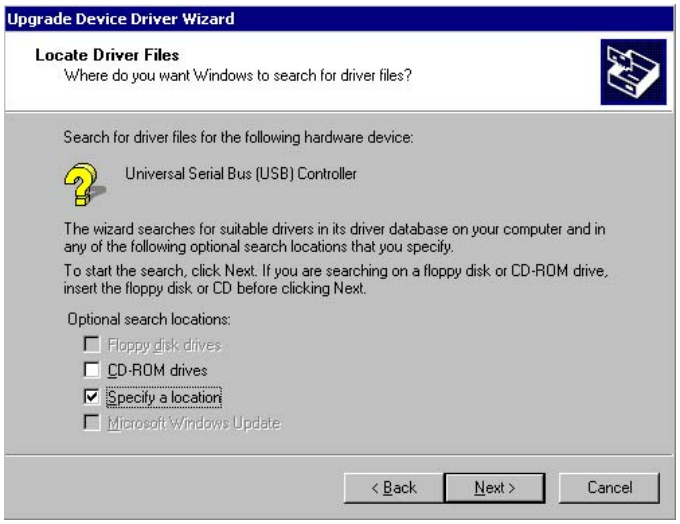
4. When the dialog box below appears, make sure you close all other Windows applications then click on the **Next >** button to proceed.



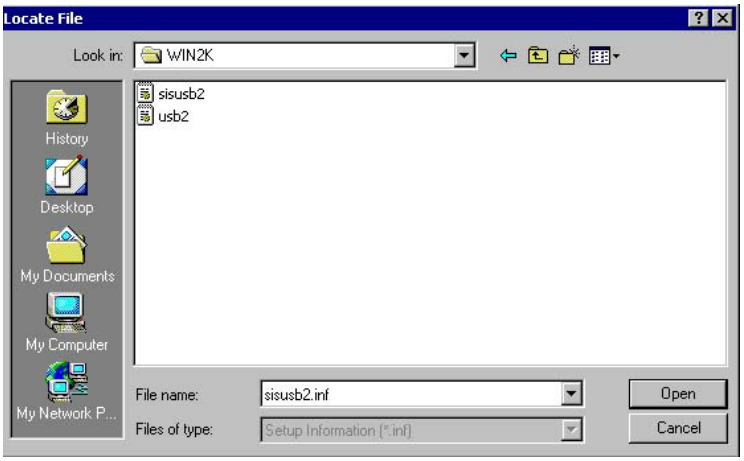
5. Tick on the “Search for a suitable driver” once the following screen appears. Click on the **Next** to proceed.



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 sisusb2.inf and press on the **Open** 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.



5.5.3 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-7238** button to launch the installation program.



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



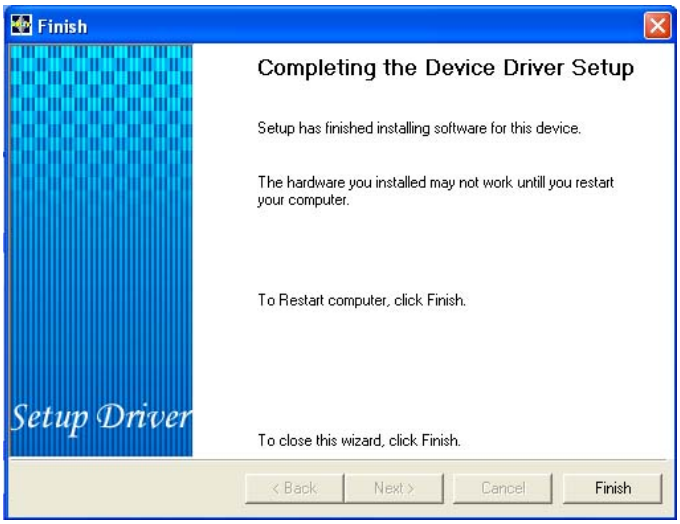
3. Click on the **Windows XP** button to continue.



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.



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