HS-6237/HS-6637

**Socket 370 Celeron/Coppermine
Industrial Single Board Computer**

• CRT/Panel • LAN • PC/104 • IrDA •
• USB • DOC • WDT • H/W Monitor •
• PCI-ISA/ISA Bus Industrial Single Board computer •

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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 handle the HS-6237/HS-6637 to ensure harmlessly discharge 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 COMPONENTS WITHOUT ALL NECESSARY ANTI-STATIC PROTECTION.*

Chapter 1

General Description
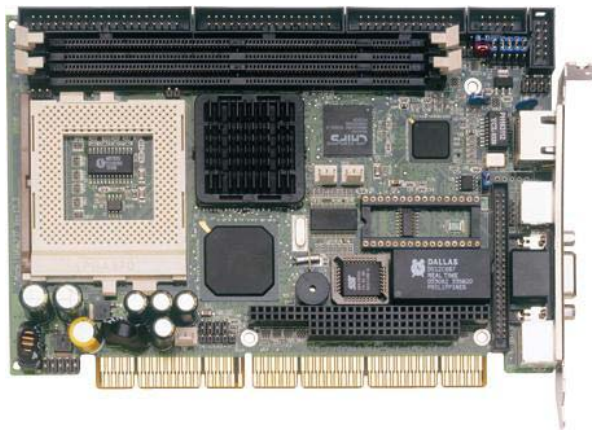
The HS-6237/HS-6637 is a Intel® BX chipset-based board designed for PCI-ISA/ISA Bus Celeron™/Coppermine™ compatibility. These features combine and make the HS-6237/ HS-6637 an ideal all-in-one industrial single board computer. Additional features include an enhanced I/O with CRT/Panel and LAN interface.

The onboard ATA/33 for mode 3 to IDE drive interface architecture supports a maximum data transfer rate of 33.3 MB/sec to a single IDE drive connection. Designed with the Intel® 82443BX/82371EB core logic chipset, the board supports all Celeron™/Coppermine™ CPU series operating at 500MHz to 850MHz. The C&T 69000 CRT/Panel display controller offers an on-chip 2MB memory that supports up to 1280 x 1024 x 256 colors display resolution.

For suitable installation into any size system with 8/16/32-bit ISA and/or PCI slots operation, the board's advanced PCI-ISA bus add-on feature allows user to easily obtain both ISA's 16-bit and PCI's 32-bit full set signals from a half size PCI-ISA slot. System memory is also sufficient with the two DIMM sockets that can support up to 512MB.

Additional onboard connectors include an advanced USB and IrDA ports providing faster data transmission, a DOS-compatible DiskOnChip™ socket with a maximum capacity of 288MB, and one external RJ-45 connector for 10/100 Based Ethernet use.

To ensure the reliability in an unmanned or standalone system, the Watchdog Timer (WDT) onboard HS-6237/HS-6637 is designed with pure hardware that does not need the arithmetical functions of a real-time clock chip. If any program causes unexpected halts to the system, the onboard Watchdog Timer (WDT) will automatically reset the CPU or generate an interrupt to resolve such condition.

1.1 Major Features
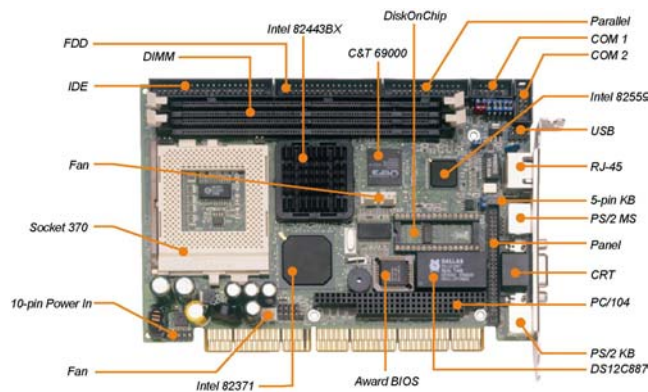
The HS-6237/HS-6637 comes with the following features:

➢ Socket 370 for Intel® Celeron™/Coppermine™ 500MHz~850MHz

➢ Two DIMM sockets with a max. capacity of 512MB

➢ Intel® 82443BX/82371EB system chipset

➢ Winbond W83977 super I/O chipset

➢ C&T 69000 CRT/Panel display controller

➢ Intel® 82559ER 10/100 Based LAN

➢ Two COM, two USB connectors

➢ PC/104 Bus connector

➢ DiskOnChip socket supporting memory sizes of up to 288MB

➢ Supports Hardware Monitor function

1.2 Specifications

- **CPU:** Socket 370 for Intel® Celeron™/Coppermine™ 500~850MHz CPU (100MHz FSB)
- **Bus Interface:** HS-6237 is PCI-ISA Bus, HS-6637 is ISA Bus
- **Memory:** Two DIMM sockets supporting up to 512MB
- **Chipset:** Intel® 82443BX/82371EB
- **I/O Chipset:** Winbond W83977
- **VGA:** C&T 69000 with 2MB memory supporting CRT/Panel displays up to 1280 x 1024 at 256 colors
- **LAN:** Intel® 82559ER 10/100 Based LAN
- **IDE:** Two IDE disk drives supporting ATA/33 and with a transfer rate up to 33MB/sec.
- **FDD:** Supports up to two floppy disk drives
- **Parallel:** One enhanced bi-directional parallel port supporting SPP/EPP/ECP
- **Serial Port:** 16C550 UART-compatible RS-232 x 2 serial ports with 16-byte FIFO
- **PC/104:** PC/104 connector for 16-bit ISA Bus
- **IrDA:** One TX/RX IrDA header
- **USB:** Two USB connectors
- **Keyboard:** PS/2 6-pin Mini DIN or 5-pin connector
- **Mouse:** PS/2 6-pin Mini DIN
- **DiskOnChip™:** DiskOnChip™ socket supporting memory sizes of up to 288MB
- **BIOS:** Award PnP Flash BIOS
- **Watchdog Timer:** Sets 1/2/10/20/110/220 seconds activity trigger with Reset or NMI
- **CMOS:** DS12C887 or equivalent device
- **Power Connectors:** One 10-pin +5V/+12V power connector
- **Power Consumption:** +5V/5A, +12V/120mA
- **Operating Temperature:** 0~60°C
- **Hardware Monitor:** Winbond W83783S
- **Board Size:** 18.6 x 12.2 cm

1.3 Board Dimensions
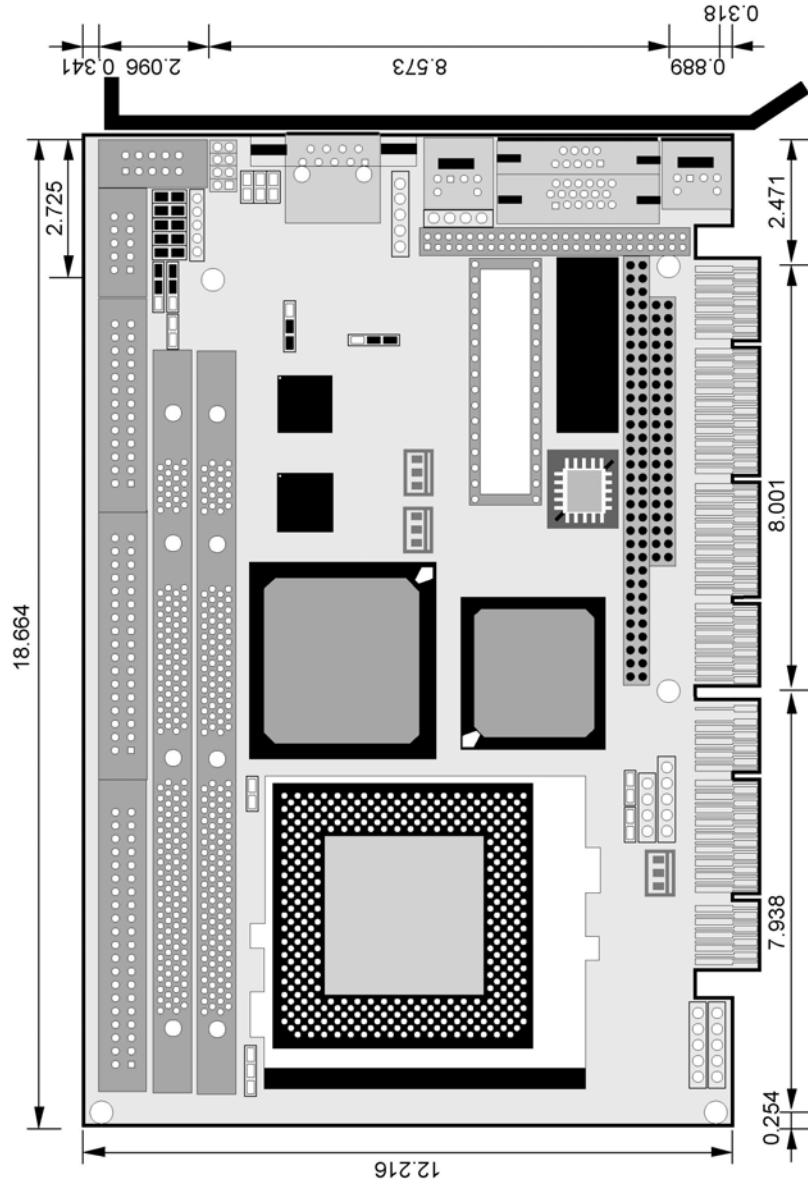
Chapter 2

Unpacking

2.1 Opening the Delivery Package

The HS-6237/HS-6637 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. Examine all integrated circuits, particularly the BIOS, processor, memory modules, ROM-Disk, and keyboard controller chip to ensure that they are firmly seated. The HS-6237/HS-6637 delivery package contains the following items:

◆ **HS-6237/HS-6637 Board x 1**
◆ **IDE flat cable with bracket x 1**
◆ **FDD flat cable x 1**
◆ **Printer cable with bracket x 1**
◆ **Two RS-232 COM Port cable with bracket x 1**
◆ **8-pin USB port split type cable with bracket x 1**
◆ **PS/2 to standard type keyboard transfer cable x 1**
◆ **Utility CD Disk x 1**
◆ **User's Manual x 1**
◆ **Jumper Bag 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-6237/HS-6637. This chapter also contains information related to jumper settings of switch, watchdog timer, and the DiskOnChip™ address selection 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.

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.

3.2 Board Layout
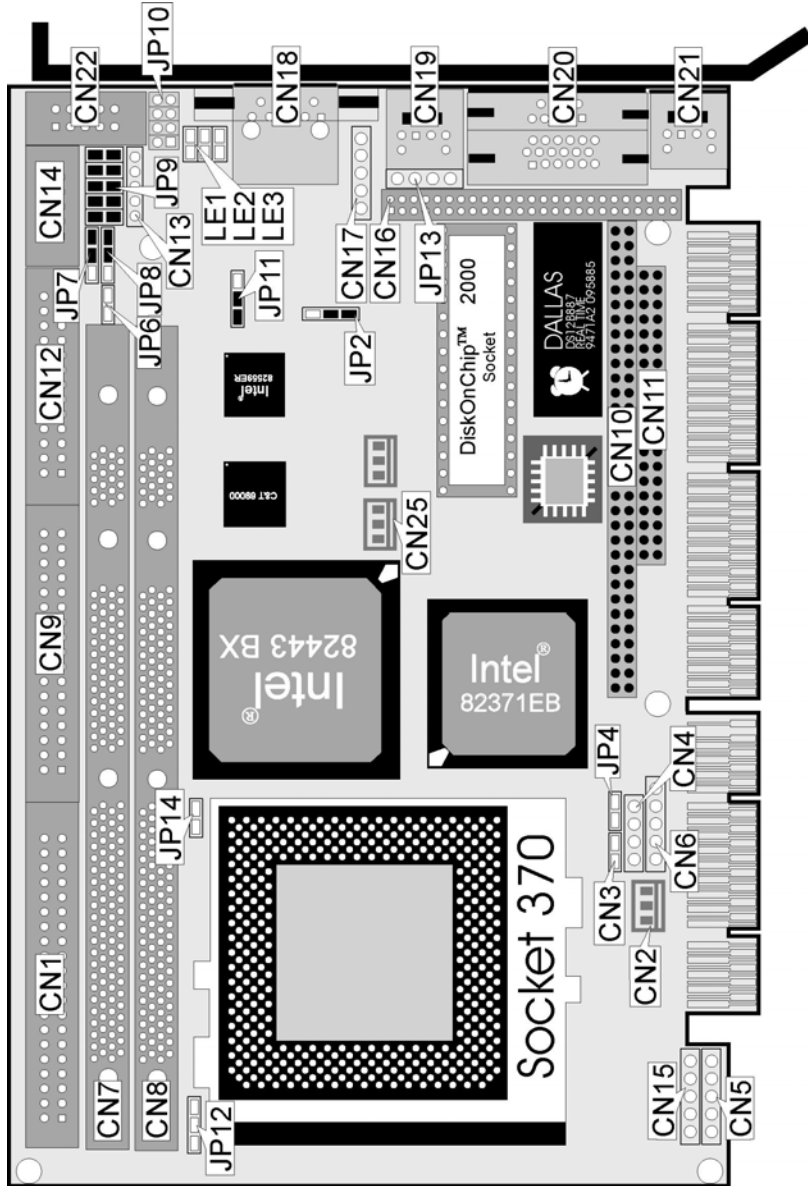
3.3   Jumper List

Jumper	Definition	Setting	Page
JP2	VGA Enabled/Disabled Select by Hardware: *Enabled*	Short 1-2	10
JP7	Watchdog Timer Active Type Setting: *Reset System*	Short 2-3	22
JP8	Panel Voltage Select: *+3.3V*	Short 2-3	10
JP9(1-4)	DiskOnChip Address Select: *D000*	Short 1-2, 3-4	10
JP9(5-10)	Watchdog Timer Out Period Select: *1sec.*	Short 5-6, 7-8, 9-10	22
JP11	LAN Enabled/Disabled by Hardware: *Enabled*	Open	18

3.4   Connector List

Connector	Definition	Page
CN1	IDE Connector	14
CN2 / CN25 / CN26	Fan Power Connector	19
CN3	HDD LED	21
CN4	Speaker Connector	22
CN5 / CN15	5-pin Power Connector	19
CN6	Keylock Connector	21
CN7 / CN8	168-pin DIMM Sockets	10
CN9	Floppy Connector	15
CN10 / CN11	PC/104 64-pin/40-pin Connector	24
CN12	Parallel Connector	17
CN13	IrDA Connector	18
CN14 / CN22	COM1/COM2 Connector (5x2 Header)	16
CN16	50-pin Panel Connector	10
CN17	5-pin Keyboard Connector	20
CN18	RJ-45 Connector	18
CN19	PS/2 6-pin Mini Din Mouse Connector	21
CN20	15-pin CRT Connector	10
CN21	PS/2 6-pin Mini Din Keyboard Connector	20
CN23 / CN24	COM1/COM2 Connector (DB9)	16
JP4	Reset Connector	21
JP10	USB Connector	19
JP12	I^{2}C Connector	10
JP14	Thermal Input Connector	22

3.5   Configuring the CPU

The HS-6237/HS-6637 offers the convenience in CPU installation with its auto-detect feature. After installing a new microprocessor onboard, the HS-6237/HS-6637 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.

3.6   System Memory

The HS-6237/HS-6637 provides two DIMM sockets at locations *CN7* and *CN8*. The maximum capacity of the onboard memory is 512MB.

3.7   DiskOnChip™ Address Setting

The DiskOnChip™ function allows the system to boot or operate without a FDD or a HDD. DiskOnChip™ modules may be formatted as drive C or A. With DiskOnChip™, user may also execute DOS commands such as FORMAT, SYS, COPY, XCOPY, DISCOPY and DISKCOMP etc.

The U9 location onboard the HS-6237/HS-6637 is the DiskOnChip™ module socket. *JP9 (1-4)* assigns the starting memory address of the installed module. If you have another memory device that has a similar memory capacity with that of the DOC in your system, please set both at different memory address mapping to avoid the mapping area conflicts. Failing to do so will not make the HS-6237/HS-6637 and the additional memory device function properly.

● **JP9(1-4): DiskOnChip™ Address Select**

Address	PINS 1-2	PINS 3-4
D000 (default)	Short	Short
D800	Open	Short

3.8   VGA Controller

The HS-6237/HS-6637 has an onboard jumper that selects the working voltage of the flat panel connected to the system. *JP8* offers two voltage settings for the user.

● **JP8: Panel Voltage Select**

Options	Settings
+5V	Short 1-2
+3.3V (default)	Short 2-3

WARNING: **Please contact the supplier of your panel and make sure of the correct voltage it uses. Incorrect settings on JP8 may cause internal damage to your panel.**

The HS-6237/HS-6637 has a built-in C&T 69000 CRT/Panel display controller. The controller uses 2MB memory to support resolutions up to 1280 x 1024 at 256 colors. *JP2* selects the operating mode of the VGA.

● **JP2: VGA Enabled/Disabled Select by Hardware**

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

The HS-6237/HS-6637 provides two connection methods of a VGA device. *CN20* offers a single standard CRT connector (DB15) while *CN16* is the 50-pin panel connector onboard reserved for flat panel installation.

● **CN20: 15-pin CRT Connector**

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	DDCDATA
13	HSYNC	14	VSYNC
15	DDCK		
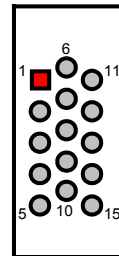
● **CN16: 50-pin Panel Connector**

PIN	Description	PIN	Description
1	+12V	2	+12V
3	GND	4	GND
5	3.3V / 5V Note	6	ENAVDD
7	ENAVEE	8	GND
9	P0	10	P1
11	P2	12	P3
13	P4	14	P5
15	P6	16	P7
17	P8	18	P9
19	P10	20	P11
21	P12	22	P13
23	P14	24	P15
25	P16	26	P17
27	P18	28	P19
29	P20	30	P21
31	P22	32	P23
33	P24	34	P25
35	SHFCLK	36	FLM
37	M	38	LP
39	GND	40	ENABKL
41	P26	42	P27
43	P28	44	P29
45	P30	46	P31
47	P32	48	P33
49	P34	50	P35
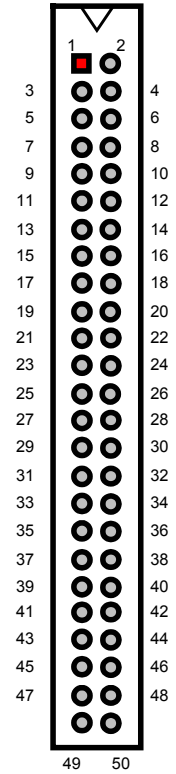
NOTE: *Please set the proper voltage of your panel using JP8 before proceeding on installing it.*

An Inter-IC connector, on *JP12* onboard, also offers the flexibility of installing an I^2C digital signal-based device.

● **JP12: I^2C Connector**

PIN	Description
1	SMBDATA
2	SMBCLK
3	GND

3.8.1 Flat Panel Display Interface

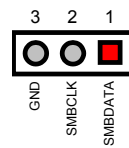| HS-6237		Mono			Color									
HS-6637		SS	DD		TFT				STN-HR	STN-SS		STN-DD		
PIN#	Name	8-bit	8-bit	16-bit	9/12/16-bit	18-bit	18/24-bit	36-bit	18/24-bit	8-bit (4bP)	16-bit (4bP)	8-bit (4bP)	16-bit (4bP)	24-bit
9	P0	D0	UD3	UD7	B0		B0	FB0	FB0	R1	R1	UR1	UR0	UR0
10	P1	D1	UD2	UD6	B1		B1	FB1	FB1	B1	G1	UG1	UG0	UG0
11	P2	D2	UD1	UD5	B2	B0	B2	FB2	FB2	G2	B1	UB1	UB0	UB0
12	P3	D3	UD0	UD4	B3	B1	B3	FB3	FB3	R3	R2	UR2	UR1	LR0
13	P4	D4	LD3	UD3	B4	B2	B4	FB4	SB0	B3	G2	LR1	UR0	LG0
14	P5	D5	LD2	UD2	G0	B3	B5	FB5	SB1	G4	B2	LG1	LG0	LB0
15	P6	D6	LD1	UD1	G1	B4	B6	SB0	SB2	R5	R3	LB1	LB0	UR1
16	P7	D7	LD0	UD0	G2	B5	B7	SB1	SB3	B5	G3	LR2	LR1	UG1
17	P8			LD7	G3		G0	SB2	FG0		B3		UG1	UB1
18	P9			LD6	G4		G1	SB3	FG1		R4		UB1	LR1
19	P10			LD5	G5	G0	G2	SB4	FG2		G4		UR2	LG1
20	P11			LD4	R0	G1	G3	SB5	FG3		B4		UG2	LB1
21	P12			LD3	R1	G2	G4	FG0	SG0		R5		LG1	UR2
22	P13			LD2	R2	G3	G5	FG1	SG1		G5		LB1	UG2
23	P14			LD1	R3	G4	G6	FG2	SG2		B5		LR2	UB2
24	P15			LD0	R4	G5	G7	FG3	SG3		R6		LG2	LR2
25	P16						R0	FG4	FR0					LG2
26	P17						R1	FG5	FR1					LB2
27	P18					R0	R2	SG0	FR2					UR3
28	P19					R1	R3	SG1	FR3					UG3
29	P20					R2	R4	SG2	SR0					UB3
30	P21					R3	R5	SG3	SR1					UR3
31	P22					R4	R6	SG4	SR2					LG3
32	P23					R5	R7	SG5	SR3					LB3
33	P24								FR0					
34	P25								FR1					
41	P26								FR2					
42	P27								FR3					
43	P28								FR4					
44	P29								FR5					
45	P30								SR0					
46	P31								SR1					
47	P32								SR2					
48	P33								SR3					
49	P34								SR4					
50	P35								SR5					
35	SHFCLK: Pixel clock .Shift Clock													
36	FLM.VSYNC: First line marker													
37	M: Panel AC driver control													
38	LP,DE,HSYNC: Latch pulse													
40	ENABKL: Power sequencing control for enabling the backlight.(high active)													

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3.9　PCI E-IDE Drive Connector

CN1 is a standard 40-pin connector daisy-chain driver connector serves the PCI E-IDE drive provisions onboard the HS-6237/HS-6637. A maximum of two IDE drives can connect to the HS-6237/HS-6637 via *CN1*.

● **CN1: IDE Connector**

| PIN	Description	PIN	Description
1	RESET	2	GND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	GND	20	N/C
21	RPDDREQ#	22	GND
23	RPDIOW#	24	GND
25	RPDIOR#	26	GND
27	PIORDY	28	PRIPD1#
29	RPDACK#	30	GND
31	IRQ14	32	N/C
33	RPDA1#	34	PATA66
35	RPDA0#	36	RPDA2#
37	RPCS1#	38	RPCS3#
39	HDD ACTIVE	40	GND
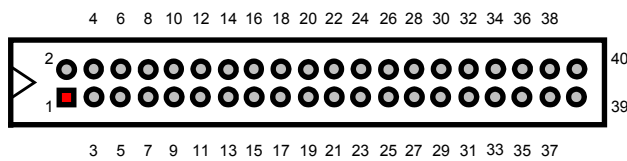
3.10 Floppy Disk Drive Connector

The HS-6237/HS-6637 uses a standard 34-pin header connector, *CN9*, for floppy disk drive connection. A total of two FDD drives may be connected to *CN9* at any given time.

● **CN9: Floppy Connector**

PIN	Description	PIN	Description
1	GND	2	RWC-
3	GND	4	N/C
5	GND	6	DS1-
7	GND	8	Index#
9	GND	10	Motor Enable A#
11	GND	12	Drive Select B#
13	GND	14	Drive Select A#
15	GND	16	Motor Enable B#
17	GND	18	Direction#
19	GND	20	Step#
21	GND	22	WD-
23	GND	24	WE-
25	GND	26	Track 0#
27	GND	28	WP-
29	N/C	30	RDATA-
31	GND	32	HEAD-
33	N/C	34	DSKCHG-
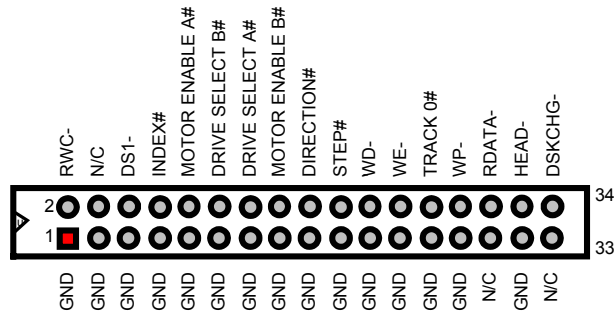
3.11 Serial Port Connectors

The HS-6237/HS-6637 offers two NS16C550 compatible UARTs with Read/Receive 16byte FIFO serial ports and two internal 10-pin headers.

● **CN23, CN24: COM1/COM2 Connector (DB9)**

PIN	Description
1	DCD
2	SIN
3	SOUT
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

● **CN14, CN22: COM1/COM2 Connector (5x2 Header)**

PIN	Description	PIN	Description
1	DCD	2	DSR
3	SIN	4	RTS
5	SOUT	6	CTS
7	DTR	8	RI
9	GND	10	N/C
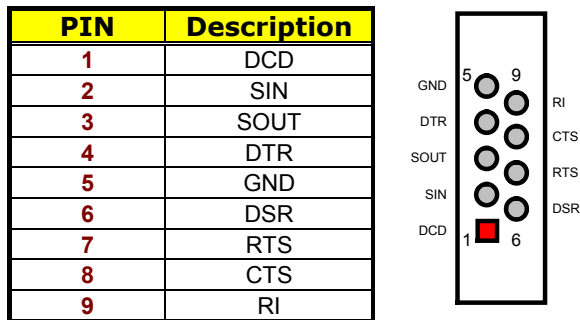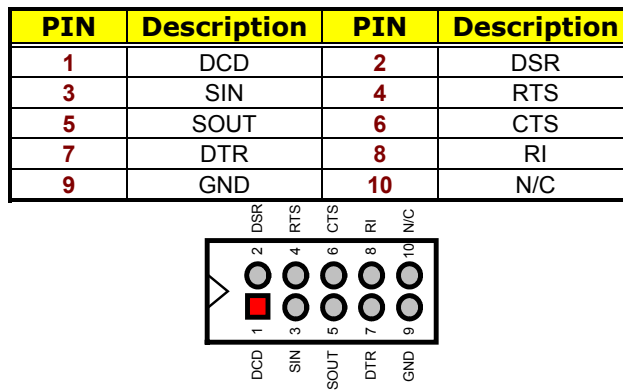
3.12 Parallel Connector

*CN12* is a standard 26-pin flat cable connector deigned to accommodate parallel port connection onboard the HS-6237/HS-6637.

● **CN12: Parallel Connector**

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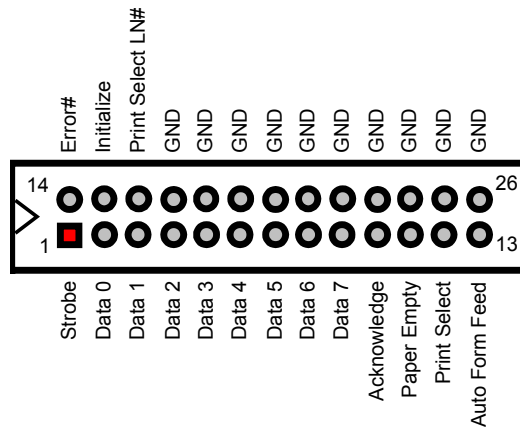
3.13 Ethernet Connector

The HS-6237/HS-6637 provides one external RJ-45 10/100 Based LAN interface connector. Please refer to the following detail of pin information.

● **CN18: RJ-45 Connector**

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

```
        5
           9
N/C  ○   ○  GND
N/C  ○   ○  N/C
RX+  ○   ○  N/C
TX-  ○   ○  RX-
TX+  ■   ○
   1     6
```
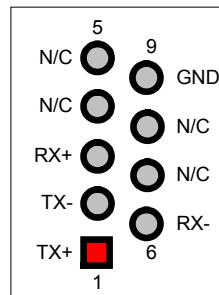
Aside from the RJ-45 provision onboard the HS-6237/HS-6637, the board also features three LED indicators, LE1, LE2 and LE3 that display the running conditions of the LAN.

■ LE1:   10T speed running
■ LE2:   100T speed running
■ LE3:   LAN active

● **JP11: LAN Enabled/Disabled by Hardware**

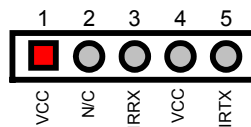| Options	Settings
Disabled	Short
Enabled (default)	Open

3.14 IrDA Connector

CN13 is a 5-pin internal IR communication connector for connection of an IrDA device.

● **CN13: IrDA Connector**

PIN	Description
1	VCC
2	FIRRX
3	IRRX
4	GND
5	IRTX

```
  1   2   3   4   5
 ■  ○  ○  ○  ○
VCC N/C IRRX VCC IRTX
```
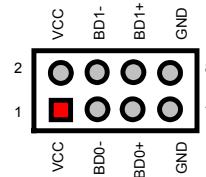
3.15 USB Connector

The HS-6237/HS-6637 provides one 8-pin connector for USB0 and USB1 port connections at location *JP10*.

● **JP10: USB Connector**

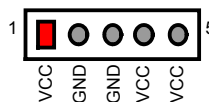| PIN	Description	PIN	Description
1	VCC	2	VCC
3	BD0-	4	BD1-
5	BD0+	6	BD1+
7	GND	8	GND

3.16 Power and Fan Connectors

HS-6237/HS-6637 provides two 5-pin power connectors at *CN5 and CN15.* If you need to use the board on a non-backplane system, power supply connections to both *CN5* and *CN15* is a must. If a backplane is attached to the HS-6237/HS-6637, power supply connection to only *CN15* is possible provided that you do not use a CPU with high clock rating. To guarantee worry-free power installation, we highly recommend you to always connect power signals to both *CN5* and *CN15*

● **CN5: 5-pin Power Connector**

PIN	Description	PIN	Description
1	VCC	2	GND
3	GND	4	VCC
5	VCC		

● **CN15: 5-pin Power Connector**

PIN	Description	PIN	Description
1	VCC	2	GND
3	GND	4	+12V
5	-12V		
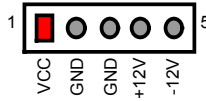
Connector *CN2, CN25* and *CN26* onboard HS-6237/HS-6637 are 3-pin fan power connectors.

● **CN2, CN25, CN26: Fan1~Fan3 Power Connector (v3.x only)**

PIN	Description
1	GND
2	+12V
3	Fan1/Fan2/Fan3

3.17 Keyboard Connectors

The HS-6237/HS-6637 offers two possibilities for keyboard connections. The connections are via *CN21* for an external PS/2 type keyboard or via *CN17* for an internal 5-pin cable converter to an AT keyboard.

● **CN17: 5-pin Keyboard Connector**

PIN	Description
1	Keyboard Clock
2	Keyboard Data
3	N/C
4	GND
5	+5V

● **CN21: PS/2 6-pin Mini DIN Keyboard Connector**

PIN	Description
1	Keyboard Data
2	N/C
3	GND
4	+5V
5	Keyboard Clock
6	N/C

3.18 PS/2 Mouse Connector

CN19 is a 6-pin mini DIN connector for connections to an external PS/2 mouse connector.

● **CN19: PS/2 6-pin Mini Din Mouse Connector**

PIN	Description
1	MS Data
2	N/C
3	GND
4	+5V
5	MS CLK
6	N/C
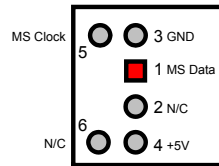
3.19 System Front Panel Connectors

The HS-6237/HS-6637 has one LED at location *D1* that indicates the power-on status. This visual feature of the IDE LED may also be connected to an external IDE LED via connector *CN3*.

● **CN3: HDD LED**

PIN	Description
1	+5V
2	HDD ACTIVE
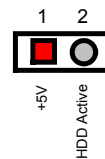
CN6 and *JP4* are the Keylock and Reset Button connectors onboard.

● **CN6: Power LED & Keylock Connector**

PIN	Description
1	Power LED Anode
2	N/C
3	GND
4	Keylock
5	GND

● **JP4: Reset Connector**

PIN	Description
1	GND
2	External Reset
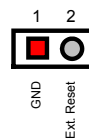
3.20 External Speaker

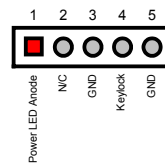Aside from the buzzer at location *BZ1* onboard, *t*he HS-6237/HS-6637 also offers a connector (*CN4*) for an external speaker connection. The table below lists the pin assignments of *CN4*.

● **CN4: Speaker Connector**

PIN	Description
1	Speaker Signal
2	N/C
3	GND
4	+5V

3.21 Thermal Input Connector

In relevance to the Hardware Monitoring feature provided by the onboard Winbond W83783S, the board allows the installation of a thermal sensor via connector *JP14*. The thermal connector monitors and displays the current system temperature from the Chipset Features Setup screen on your BIOS utility program. The value displayed are read-only figures and may not be altered.
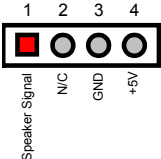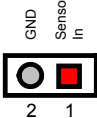
● **JP14: Thermal Input Connector**

PIN	Description
1	Sensor In
2	GND

3.22 Watchdog Timer

There are three access cycles of Watchdog Timer as Enable, Refresh and Disable are the three access cycles of Watchdog Timer. The Enable cycle proceeds via READ PORT 443H whereas the Disable cycle proceeds via READ PORT 045H. A continued Enable cycle after a first Enable cycle means Refresh.

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 to re-start or a NMI cycle to the CPU transpires when such error happens. Jumper *JP7* is used to select the function of Watchdog Timer.

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- **JP7：Watchdog Timer Active Type Setting**

Options	Settings
Active NMI	Short 1-2
System Reset (default)	Short 2-3
Disabled Watchdog Timer	Open

- **JP9 (5-10): WDT Timeout Period Select**

Period	PINS 5-6	PINS 7-8	PINS 9-10
1 sec (default)	Short	Short	Short
2 sec	Open	Short	Short
10 sec	Short	Open	Short
20 sec	Open	Open	Short
110 sec	Short	Short	Open
220 sec	Open	Short	Open

The Watchdog Timer is disabled after the system Power-On. It can be enabled via an Enable cycle and reading the control port (443H), or via a Refresh cycle and reading the control port (443H), or via a Disable cycle and reading the disable control port (045H).

After an Enable cycle of WDT, user must immediately execute a Refresh cycle to WDT before its period setting comes to an end every 1, 2, 10, 20, 110 or 220 seconds. If the Refresh cycle does not activate before WDT period cycle, the onboard WDT architecture will issue a Reset or NMI cycle to the system. There are three I/O ports that control the Watchdog Timer.

443H	I/O Read	The Enable cycle
443H	I/O Read	The Refresh cycle
045H	I/O Read	The Disable cycle

The following sample program shows how to Enable, Disable and Refresh the Watchdog Timer：

```
WDT_EN_RF       EQU         0433H
WDT_DIS         EQU         0045H

WT_Enable       PUSH        AX              ; keep AX DX
                PUSH        DX
                MOV         DX,WDT_EN_RF    ; enable the WDT
                IN          AL,DX
                POP         DX              ; get back AX, DX
                POP         AX
                RET

WT_Refresh      PUSH        AX              ; keep AX, DX
                PUSH        DX
                MOV         DX,WDT_ET_RF    ; refresh the WDT
```

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```
          IN        AL,DX
          POP       DX              ; get back AX, DX
          POP       AX
          RET

WT_DISABLE  PUSH      AX
          PUSH      DX
          MOV       DX,WDT_DIS      ; disable the WDT
          IN        AL,DX
          POP       DX              ; get back AX, DX
          POP       AX
          RET
```

3.23 PC/104 Connectors

The PC/104 expansion bus offers provisions to connect all types of PC/104 modules. With the PC/104 bus being known as the new generation of industrial embedded 16-bit PC standard bus, thousands of PC/104 modules from multiple venders can be easily installed onboard. The detailed pin assignment of the PC/104 expansion bus connectors *CN10* and *CN11* are listed on the following tables:

NOTE： *The PC/104 connector allows direct plugging or stack-through piling of PC/104 modules without requiring the PC/104 mounting kit.*

- **CN11: PC/104 40-pin Connector**

PIN	Description	PIN	Description
1	GND	21	GND
2	MEMCS16*	22	SBHE*
3	IOSC16*	23	LA23
4	IRQ10	24	LA22
5	IRQ11	25	LA21
6	IRQ12	26	LA20
7	IRQ15	27	LA19
8	IRQ14	28	LA18
9	DACK0*	29	LA17
10	DRQ0	30	MEMR*
11	DACK5*	31	MEMW*
12	DRQ5	32	SD8
13	DACK6*	33	SD9
14	DRQ6	34	SD10
15	DACK7*	35	SD11
16	DRQ7	36	SD12
17	+5V	37	SD13
18	MASTER*	38	SD14
19	GND	39	SD15
20	GND	40	N/C

Connector diagram rotated 90 degrees clockwise from original position
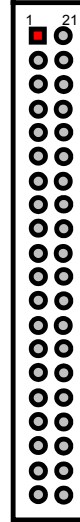
● **CN10: PC/104 64-pin Connector**

PIN	Description	PIN	Description
1	IOCHK*	33	GND
2	SD7	34	RESETDRV
3	SD6	35	+5V
4	SD5	36	IRQ9
5	SD4	37	-5V
6	SD3	38	DRQ2
7	SD2	39	-12V
8	SD1	40	ZEROWS#
9	SD0	41	+12V
10	IOCHRDY	42	GND
11	AEN	43	SMEMW*
12	SA19	44	SMEMR*
13	SA18	45	IOW*
14	SA17	46	IOR*
15	SA16	47	DACK3*
16	SA15	48	DRQ3
17	SA14	49	DACK1*
18	SA13	50	DRQ1
19	SA12	51	REFRESH*
20	SA11	52	SYSCLK
21	SA10	53	IRQ7
22	SA9	54	IRQ6
23	SA8	55	IRQ5
24	SA7	56	IRQ4
25	SA6	57	IRQ3
26	SA5	58	DACK2*
27	SA4	59	TC
28	SA3	60	BALE
29	SA2	61	+5V
30	SA1	62	OSC1
31	SA0	63	GND
62	GND	64	GND

Connector diagram rotated 90 degrees clockwise from original position
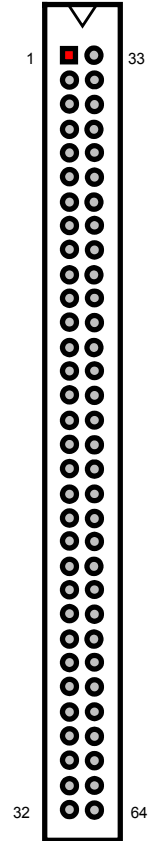
Chapter 4

Award BIOS Setup

The HS-6237/HS-6637 uses Award PCI/ISA 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 in 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.

ROM PCI/ISA BIOS (2A69KD2H)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANGEMENT SETUP	IDE HDD AUTO DETECTION
PCI CONFIGURATION SETUP	SAVE & EXIT SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc：Quit	↑↓→← ：Select Item
F10：Save & Exit	(Shift)F2：Change Color

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

4.4   Standard CMOS Setup

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.

```
                    ROM PCI/ISA BIOS (2A69KD2H)
                       STANDARD CMOS SETUP
                      AWARD SOFTWARE, INC.
```

		CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Data (mm:dd:yy) : Fri, Dec 19 1998							
Time (hh:mm:ss) : 00:00:00							
Driver C	: Auto (0Mb)	0	0	0	0	0	Auto
Driver D	: Auto (0Mb)	0	0	0	0	0	Auto
Drive A	: 1.44M , 3.5in.						
Drive B	: None			Base	Memory	:	640K
LCD&CRT	: Auto			Extended	Memory	:	15360K
				Other	Memory	:	384K
Halt On	: All Errors			Total	Memory	:	16384K

```
ESC : Quit                ↑↓→← : Select Item     PU/PD/ + / - : Modify
F1  : Help                (Shift) F2: Change Color
```

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4.5 BIOS Features Setup

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.

ROM PCI/ISA BIOS (2A69KD2H)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS	Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF	Shadow	: Disabled
External Cache	: Enabled	CC000-CFFF	Shadow	: Disabled
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF	Shadow	: Disabled
Processor Number Feature	: Enabled	D4000-D7FFF	Shadow	: Disabled
Quick Power On Self Test	: Disabled	D8000-DBFFF	Shadow	: Disabled
		DC000-DFFFF	Shadow	: Disabled
Boot Sequence	: A,C,SCSI			
Swap Floppy Drive	: Disabled			
Boot Up Floppy Seek	: Enabled			
Boot Up NumLock Status	: On			
Gate A20 Option	: Fast			
Typematic Rate Setting	: Disabled			
Typematic Rate (Chars/Sec)	: 6			
Typematic Delay (Msec)	: 250			
Security Option	: Setup			
PS/2 mouse function control	: Enabled	ESC	: Quit	↑↓→←: Select Item
PCI/VGA Palette Snoop	: Disabled	F1	: Help	PU/PD/+/-: Modify
OS Select For DRAM > 64MB	: Non-OS2	F5	: Old Values	(Shift) F2 : Color
		G6	: Load BIOS Defaults	
Report No FDD For WIN 95	: Yes	G7	: Load Setup Defaults	

4.6　Chipset Features Setup

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 and make any changes only if you discover that the data has been lost while using your system.

```
                 ROM PCI/ISA BIOS (2A69KD2H)
                  CHIPSET FEATURES SETUP
                   AWARD SOFTWARE, INC.
┌─────────────────────────────────────┬─────────────────────────────────────┐
│ Auto Configuration      : Enabled    │ Auto Detect DIMM/PCI Clk   : Enabled │
│ EDO DRAM Speed Selection : 60ns      │ Spread Spectrum            : Disabled│
│ EDO CASx# MA Wait State  : 2         │ CPU Host Clock (CPU/PCI)             │
│ EDO RASx# Wait State     : 2         │ CPU Warning Temperature              │
│ SDRAM RAS-to-CAS Delay   : 3         │ Current System Temp.                 │
│ SDRAM RAS Precharge Time : 3         │ Current CPU1 Temperature             │
│ SDRAM CAS Latency Time   : 3         │ Current CPUFAN1 Speed                │
│ SDRAM Precharge Control  : Enabled   │ Current CPUFAN2 Speed                │
│ DRAM Data Integrity Mode : Non-ECC   │ Current CPUFAN3 Speed                │
│ System BIOS Cacheable    : Enabled   │ Vcore   :          +3.3V   :         │
│ Video BIOS Cacheable     : Enabled   │ +5V     :          +12V    :         │
│ Video RAM Cacheable      : Enabled   │ -12V    :                  :         │
│ 8 Bit I/O Recovery       : 1         │ Shutdown Temperature       : Disabled│
│ 16 Bit I/O Recovery      : 1         │                                      │
│ Memory Hole At 15M-16M   : Disabled  │                                      │
│ Passive Release          : Enabled   │ ESC   : Quit        ↑↓→←: Select Item│
│ Delayed Transaction      : Disabled  │ F1    : Help       PU/PD/+/-: Modify  │
│ AGP Aperture Size        : 64M       │ F5    : Old Values  (Shift) F2 : Color│
│                                      │ F6    : Load BIOS Defaults            │
│                                      │ F7    : Load Setup Defaults           │
└─────────────────────────────────────┴─────────────────────────────────────┘
```

4.7 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.

ROM PCI/ISA BIOS (2A69KD2H)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

ACPI function	: Enabled	** Reload Global Timer Events **	
Power Management	: User Define	IRQ3 [3-7, 9-15], NMI	: Enabled
PM Control by APM	: Yes	Primary IDE0	: Disabled
Video Off Method	: V/H Sync + Blank	Primary IDE1	: Disabled
Video Off After	: Standby	Secondary IDE0	: Disabled
MODEM Use IRQ	: 3	Secondary IDE1	: Disabled
Doze Mode	: Disabled	Floppy Disk	: Disabled
Standby Mode	: Disabled	Serial Port	: Enabled
Suspend Mode	: Disabled	Parallel Port	: Disabled
HDD Power Down	: Disabled		
Throttle Duty Cycle	: 62.5%		
PCI/VGA Act-Monitor	: Disabled		
Power On by Ring	: Enabled		
IRQ8 Break Suspend	: Disabled		
		ESC : Quit	↑↓→←: Select Item
		F1 : Help	PU/PD/+/-: Modify
		F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

4.8 PCI Configuration Setup

This section describes configuring the PCI bus system. PCI, or **P**ersonal **C**omputer **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.

```
                    ROM PCI/ISA BIOS (2A69KD2H)
                     PCI CONFIGURATION SETUP
                       AWARD SOFTWARE, INC.

PnP OS Installed          :  Yes     Assign IRQ For VGA        :  Enabled
Resources Controlled by   :  Auto    SLOT 1  Use IRQ No        :  Auto
Reset Configuration Data  :  Disabled SLOT 2  Use IRQ No       :  Auto
                                     SLOT 3  Use IRQ No        :  Auto
                                     SLOT 4  Use IRQ No        :  Auto
                                     Assign IRQ For USB        :  Enabled




                                     ESC   : Quit      ↑↓→←: Select Item
                                     F1    : Help      PU/PD/+/-: Modify
                                     F5    : Old Values  (Shift) F2 : Color
                                     F6    : Load BIOS Defaults
                                     F7    : Load Setup Defaults
```

4.9 Load BIOS 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.

ROM PCI/ISA BIOS (2A69KD2H)
LOAD BIOS DEFAULTS
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PCI CONFIGURATION S	ETUP
LOAD BIOS DEFAULTS	SAVING
LOAD SETUP DEFAULTS	

Load BIOS Defaults (Y/N)? N

Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color

Load BIOS Defaults except Standard CMOS Setup

4.10 Load Setup 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.

ROM PCI/ISA BIOS (2A69KD2H)
LOAD SETUP DEFAULTS
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PCI CONFIGURATION S	**Load SETUP Defaults (Y/N)? N**	ETUP
LOAD BIOS DEFAULTS		SAVING
LOAD SETUP DEFAULTS		

| Esc : Quit | ↑ ↓ → ← : Select Item |
| F10 : Save & Exit Setup | (Shift) F2 : Change Color |

Load BIOS Defaults except Standard CMOS Setup

4.11 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 them. This is much simpler and more efficient (also faster).

ROM PCI/ISA BIOS (2A69KD2H)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Enabled	LCD Panel Type : Panel 5	
IDE Primary Master PIO	: Auto		
IDE Primary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
On Chip Primary PCI IDE	: Enabled		
USB Keyboard Support	: Disabled		
Init Display First	: PCI Slot		
KBC input clock	: 8M		
Onboard FDC Controller	: Enabled		
Onboard Serial Port 1	: 3F8/IRQ4		
Onboard Serial Port 2	: 2F8/IRQ3		
UART Mode Select	: Normal		
		ESC : Quit ↑↓→←: Select Item	
		F1 : Help PU/PD/+/-: Modify	
Onboard Parallel Port	: 378/IRQ7	F5 : Old Values (Shift) F2 : Color	
Onboard Parallel Mode	: SPP	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Panel#	Panel Type
0	1024*768 Dual Scan STN Color Panel
1	128*1024 TFT Color Panel
2	640*480 Dual Scan STN Color Panel
3	800*600 Dual Scan STN Color Panel
4	640*480 Sharp TFT Color Panel
5	640*480 18-bit TFT Color Panel
6	1024*768 TFT Color Panel
7	800*600 TFT Color Panel
8	800*600 TFT Color Panel (Large BIOS ONLY)
9	800*600 TFT Color Panel (Large BIOS ONLY)
10	800*600 Dual Scan STN Color Panel (Large BIOS ONLY)
11	800*600 Dual Scan STN Color Panel (Large BIOS ONLY)
12	1024*768 TFT Color Panel (Large BIOS ONLY)
13	1280*1024 Dual Scan STN Color Panel (Large BIOS ONLY)
14	1024*600 Dual Scan STN Color Panel (Lange BIOS ONLY)
15	1024*600 TFT Color Panel (Lange BIOS ONLY)

4.12 Supervisor/User Password Setting

ROM PCI/ISA BIOS (2A69KD2H)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURA	**Enter Password :** ETUP
LOAD BIOS DEFAULT	SAVING
LOAD SETUP DEFAULTS	

Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color

Change / Set / Disable Password

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

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

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

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

ENTER PASSWORD:

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

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

PASSWORD DISABLED.

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

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

You determine when the password is required within the BIOS Features Setup Menu and its Security option (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.

4.13 IDE HDD Auto Detection

This option detects the parameters of an IDE hard disk drive, and automatically enters them into the Standard CMOS Setup screen.

Up to four IDE drives can be detected, with parameters for each appearing in sequence inside a box. To accept the displayed entries, press the "Y" key; to skip to the next drive, press the "N" key. If you accept the values, the parameters will appear listed beside the drive letter on the screen.

ROM PCI/ISA BIOS (2A69KD2H)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master:								

Select Primary Master Option (N=SKIP) : N

OPTIONS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
1 (Y)	0	0	0	0	0	0	0	NORMAL

NOTE: Some OSes (like SCO-UNIX) must use "NORMAL" for installation

4.14 Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

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

ROM PCI/ISA BIOS (2A69KD2H)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURA **SAVE to CMOS and EXIT (Y/N)? N** ETUP	
LOAD BIOS DEFAULT	SAVING
LOAD SETUP DEFAULTS	
Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color
Saves all Data & Exit Setup	

4.15 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 in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

ROM PCI/ISA BIOS (2A69KD2H)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURA **Quit Without Saving (Y/N)? N** ETUP	
LOAD BIOS DEFAULT	SAVING
LOAD SETUP DEFAULTS	

Esc : Quit	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	(Shift) F2 : Change Color

Abandon all Data & Exit Setup

Chapter 5

Software Utilities

This chapter contains the detailed information of IDE, VGA, Audio and LAN driver installation procedures.

5.1 VGA Driver Installation

5.1.1 Win95/98

1. Click **Start**, then **Setting**, then **Control Panel**.
2. Start the **Display** applet program.
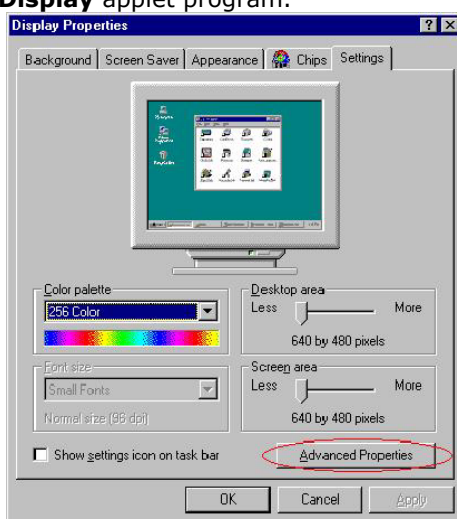
3. Select the setting page, click on the **Advanced** properties button.
4. Press the **Change** button in the adapter area.
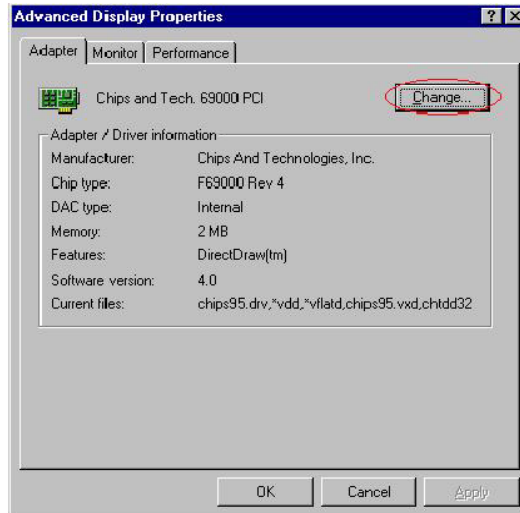
5. Click on **Next** to continue and then select

> **Display a list of all drivers in a specific location,**
> **so you can select the drivers you want.**

6. Click on **Next**.

7. Select the **Specify a location** checkbox then **Browse**.

8. Specify the path to the new driver and then press the <ENTER> key (if in driver A: select a:\win95).

9. Once completed, the **Select** device dialog box will appear. Choose on:

> **Chips and Tech. 69000 PCI**

10. Continue choosing until asked to restart machine.

11. After the system has restarted, you can go back into the display applet and select alternate screen resolutions and color depths.

NOTE: *Installation procedure for Windows 98 is similar to Windows95.*

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5.1.2 WIN NT

1. Click the Start button, then go to Settings and click on **Control Panel**.

2. Click on Display icon to start the Display Properties window.

3. Click on the Settings tab, and then click on **Display Type**.
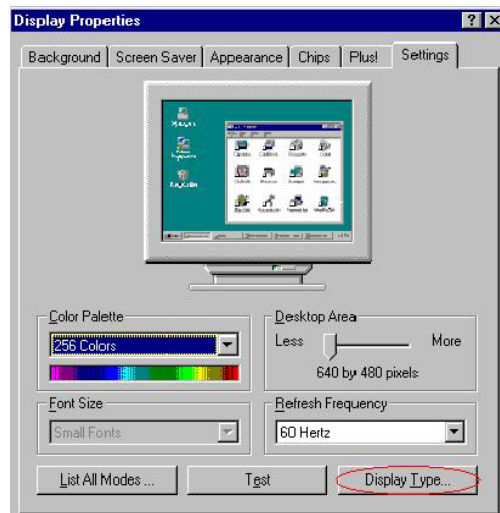
4. In the **Change Display Type** window, click on **Have Disk**.

5. Specify the path to the new driver and press the <ENTER>key (if in driver A:, type a:\nt40). Select

<div style="text-align:center">

Chips Video Accelerator
(655545/48/50/54/55/68554 69000)

</div>

6. Click OK or press Enter.

7. You will then see warning panel about Third Party Drivers. Click on Yes to complete installation.

8. Once the installation is complete, the system must be shut down and restarted for the new driver to take effect.

9. After restarting, check on the VGA driver and make sure the properties of the driver look similar to the following figure.

5.2 LAN Driver Installation

5.2.1 WIN95/98

1. Click **My Computer**, **Right Button**, select **Properties**.

2. Select **Other devices\PCI Ethernet Controller**, the click on **Properties**.
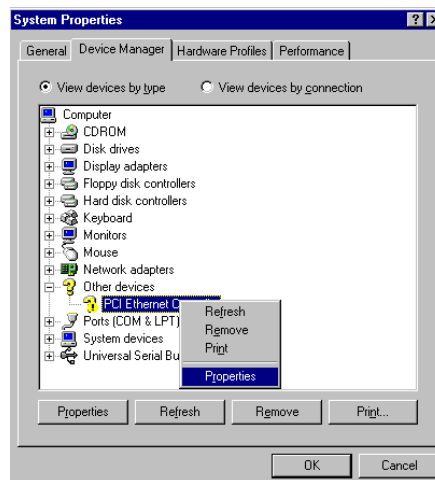
3. Click **Reinstall Driver** button.
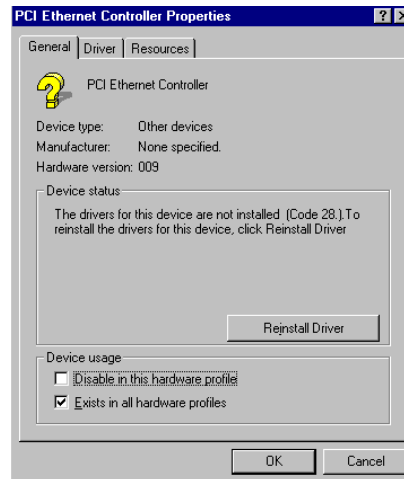
4. Before Setup starts installing the components found and the settings you made, it will give you the option to proceed or go back for changes from the following screen. Click on the **Next** button once you are sure of your devices.
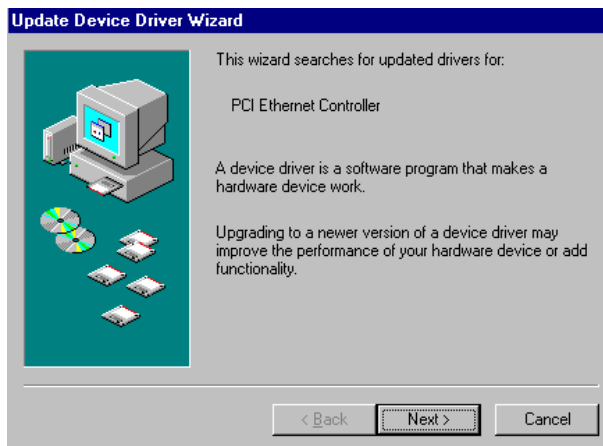
5. Click on **Next**

6. Select the **Specify a location** checkbox then **Browse**. Specify
    the path to the new driver and then press the <ENTER> key (if in
    drive A: select a:\win95).

7. Click on **Next** to install driver
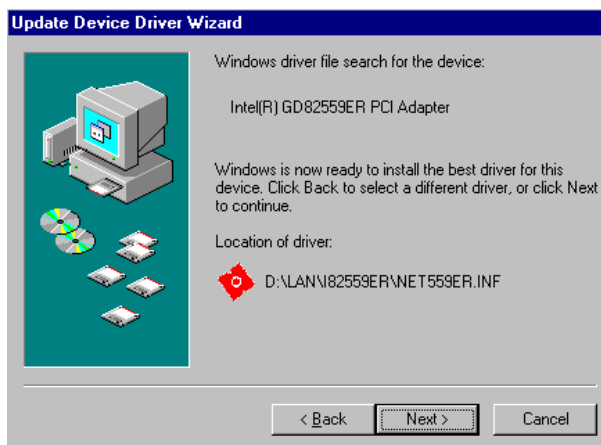
8. Click on **Finish** button to restart machine.
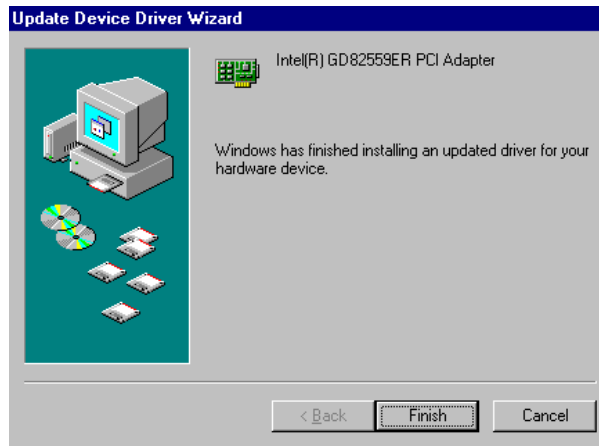
5.3.2 Win NT

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.
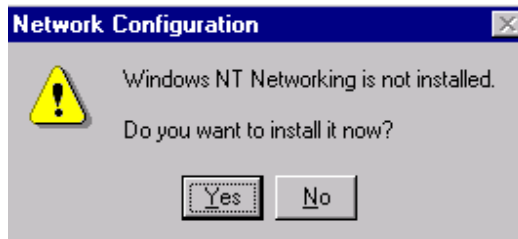
2. Tick on the **Wired to Network** once the following screen appears. Click on **Next >** to proceed.
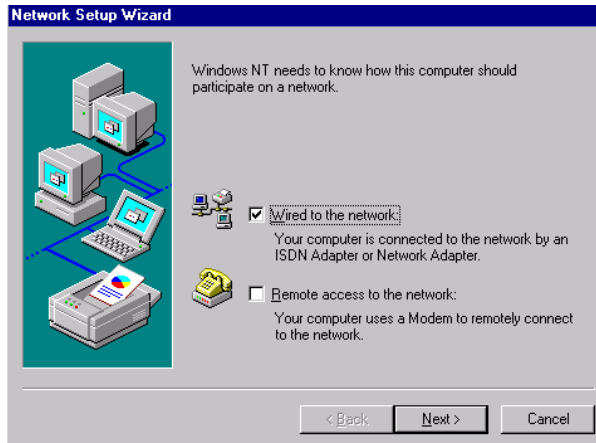
3. Click on the **Start Search** button for the program to locate the Network Adapter.

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.
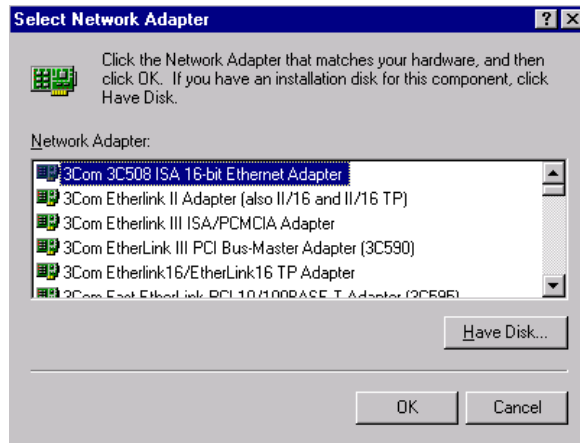
5. Setup now asks you for the location of the driver. When you have entered the new driver path, press on the **OK** button to continue.
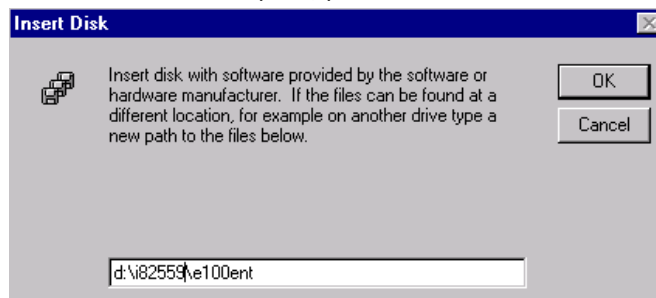
6. When Setup finds the information it needs about the new driver, it will display the device it found on the following screen. Please choose **"Intel(R) PRO/100 Family Adapter"**. Press on the **OK** button to accept and proceed.
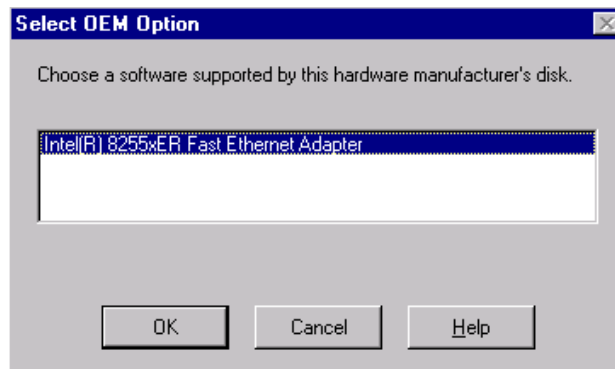
7. Setup then returns to Network Setup Wizard screen and displays your new Network Adapter. Click on **Next** to continue.
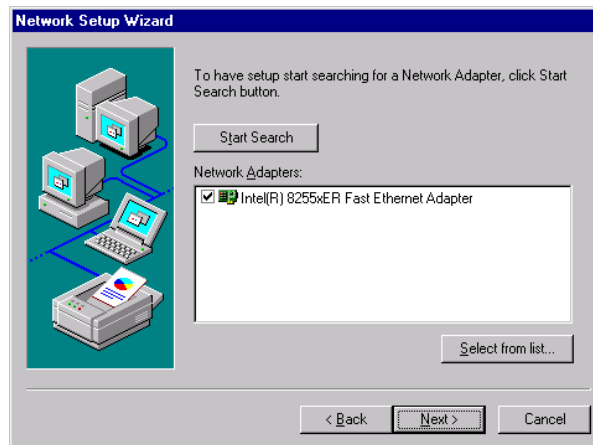
8. The Network Setup Wizard then allows you to set the Network Protocols on your network. Select the appropriate protocol and then click on **Next** to continue.

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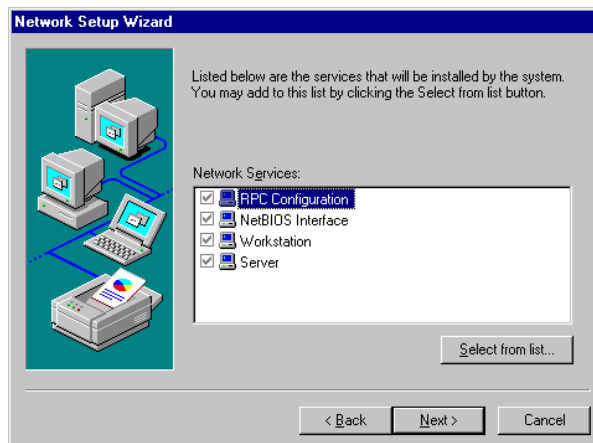
10. Windows NT Setup will then need to copy files necessary to update the system information. Specify the path and then press **Continue**.
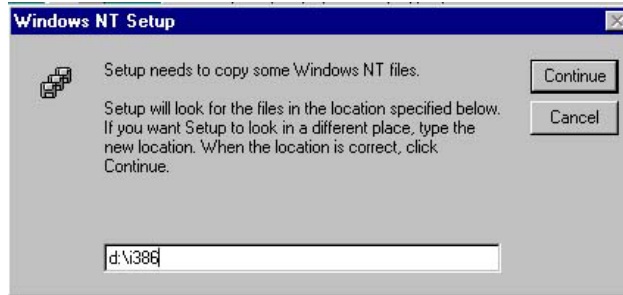

11. When Setup asks if you wish to change the TCP/IP settings of your system, select them appropriately. The default choice is **No**.
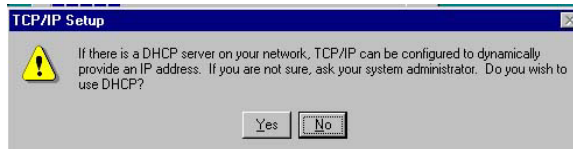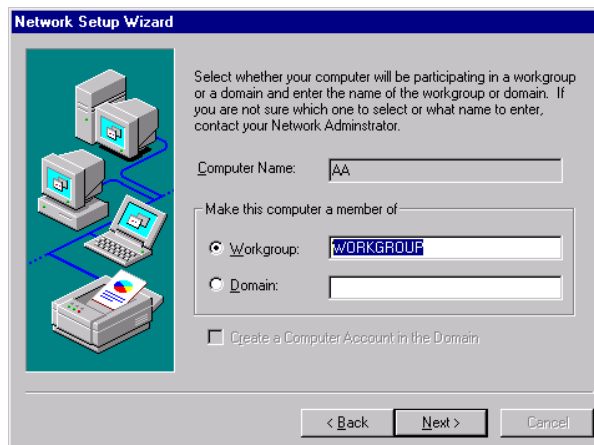

12. Setup then starts the Networking installation and copies the files.

13. When the screen below appears, click on **Next** to continue.
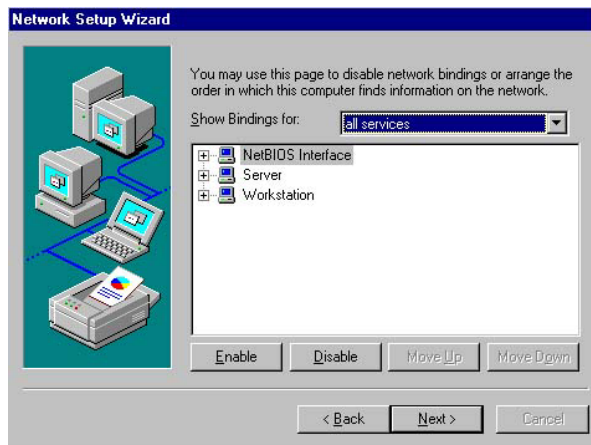
14. Setup then prompts you that it is ready to start the network. You may complete the installation thereafter. Click on **<u>Next</u>** to continue.
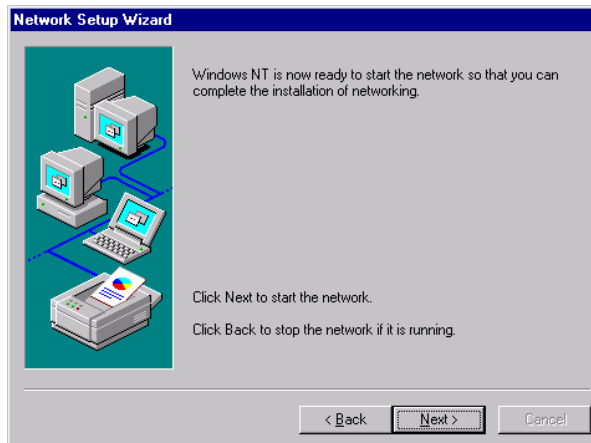
15. Assign the workgroup or domain setting of your computer. Click on Next to continue.

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