HS-6037

Socket 370 Celeron™/Coppermine™

• Full Size • All in one • CRT/Panel • Dual LAN • SCSI • PC/104 •
• WDT • DOC • CTA • RS-232/422/485 • CTM • USB • IrDA
• PICMG Industrial Single Board Computer •

HS-6037LLV

Socket 370 Celeron™/Coppermine™

• Full Size • All in one • CRT/Panel • Dual LAN • PC/104 •
• WDT • DOC • CTA • RS-232/422/485 • CTM • USB • IrDA
PICMG Industrial Single Board Computer •

HS-6037LV

Socket 370 Celeron™/Coppermine™

• Full Size • All in one • CRT/Panel • LAN • PC/104 •
• WDT • DOC • CTA • RS-232/422/485 • CTM • USB • IrDA
PICMG Industrial Single Board Computer •

HS-6037V

Socket 370 Celeron™/Coppermine™

• Full Size • All in one • CRT/Panel • PC/104 •
• WDT • DOC • CTA • CTM • USB • IrDA
PICMG Industrial Single Board Computer •

Copyrights

Trademarks

User Manual edition 2.5, June 03, 2003

Contents

Chapter-1

General Information

The HS-6037 is a 100MHz bus Intel® BX chipset design PICMG bus Socket 370 for Celeron™/Coppermine™ (Coppermine™ just for PCB V2.1) Industrial Single Board (I.S.B.) CPU card with features combine together to make it an ideal all-in-one industrial single board computer, enhanced I/O effects with VGA, LAN and Ultra II SCSI interface.

With on board DMA33 of mode 4 to IDE drive interface architecture, the HS-6037 supports with maximum 33.3 MB/sec in data transfer rating to two IDE drive connection. Design with Intel®82443 BX core logic chipset supports all series Celeron™/Coppermine™ 300~850MHz CPU. On board Intel® 69000 VGA controller support up to 1280 x 1024 256 colors display resolution. And it also provides one internal 50pin connector for various type of the LCD Panel connection.

The advanced PICMG bus add-on connection of HS-6037 allows user could easily obtain both ISA's 16bit and PCI's 32bit full set signals from a full size PICMG slot for suitable plug into a any size system with 8/16/32-bit ISA and-or PCI slots operating. The HS-6037 provides with three 168pin DIMM sockets support up to 768MBytes of main system memory.

A single Flash chip holds the system BIOS, and you can easy update the Flash BIOS by the Utility Update. Advanced USB and IR ports also provide for faster and easily in data transmission. You can also use the DOS version of the "DiskOnChip™" socket by issuing commands from the DOS prompt without the necessity of other software supports up to 144MB.

The HS-6037 features include two Intel® 82559 10/100-Based LAN design on board. With one external RJ45 and two 10 pin header connector provides an easily for user's LAN application.

If a non-expect program cause halts, the onboard watchdog timer will automatically reset the CPU or generate an interrupt. The watchdog is designed with hardware only and doesn't need any arithmetical functions of a real-time clock chip. This ensures the reliability in an unmanned or standalone system.

1.1 Major Features

- ✓ Socket 370 for Intel® Celeron™/Coppermine™ 300~850MHz CPU
- ✓ Three DIMM sockets provides up to 768MB
- ✓ Fast PCI DMA33 controller support four IDE disk drives
- ✓ 100MHz system clock rate
- ✓ PnP I/O address & IRQ selection
- ✓ One RS-232 and one RS-232/422/485 serial ports include 16C550 UART with 16byte FIFO
- ✓ One enhanced bi-directional parallel port supports SPP/ECP/EPP
- ✓ On board PS/2 Keyboard and PS/2 Mouse connector
- ✓ On board Winbond W83977 super I/O chipset
- ✓ On board 69000 CRT/Panel display controller
- ✓ On board Dual Intel® 82559 100 Based LAN
- ✓ On board Symbios 53C895 Ultra II SCSI
- ✓ On board PCI Bridge
- ✓ DiskOnChip memory size up to 144MB
- ✓ PC/104 Bus connector
- ✓ ATX Power Function support
- ✓ CPU Temperature Alarm Function support
- ✓ CPU Temperature Monitor Function support

*It will be a Warning “beep” come out if the CPU’s temperature reached 60℃±5%. And it will stop as the CPU’s temperature going down below 60℃±5% again.

1.2 Specifications

- ✓ **CPU**：Socket 370 for Intel® Celeron™/Coppermine™ 300~850MHz CPU
- ✓ **Bus Interface**：PICMG Bus
- ✓ **Memory**：Three DIMM sockets provides up to 768MB
- ✓ **Chipset**：Intel® 82443BX
- ✓ **I/O Chipset**：Winbond W83977
- ✓ **PCI Bridge**：Intel® 21152 or equivalent device
- ✓ **VGA**：69000 with 2MB memory support CRT/Panel display up to 1280x1024x256 colors
- ✓ **IDE**：Four IDE disk drives support DMA33 transfer rate up to 33MB/sec
- ✓ **Floppy**：Support up to two floppy disk drives
- ✓ **Parallel Port**：Support SPP/ECP/EPP
- ✓ **Dual LAN**：Dual Intel® 82559 100 Based LAN
- ✓ **SCSI**：Symbios 53C895 Ultra II SCSI
- ✓ **Serial Port**：One RS-232 and one RS-232/422/485 serial ports include 16C550 UART with 16byte FIFO
- ✓ **PC/104**：PC/104 connector for 16bit ISA Bus
- ✓ **IR**：One IrDA TX/RX header
- ✓ **USB**：Support two USB ports
- ✓ **Keyboard**：PS/2 6pin Mini Din or 5pin header
- ✓ **Mouse**：PS/2 6pin Mini Din or 4pin header
- ✓ **DiskOnChip**：Socket for DiskOnChip and memory size up to 144MB
- ✓ **BIOS**：Award Y2K PnP Flash BIOS

- ✓ **Watch-Dog Timer**：Set 1, 2, 10, 20, 110, 220 seconds activity trigger with Reset or NMI
- ✓ **CMOS**：DS12C887 or equivalent device
- ✓ **DMA Channels**：7
- ✓ **Interrupt Levels**：15
- ✓ **Extra Power**：One 4pin +5V+12V connector
- ✓ **Power Voltage**：+5V, +12V, -12V
- ✓ **Maximum Power Consumption**：+5V@6.2A(800MHz), +12V@120mA, -12V@50mA
- ✓ **Operating Temperature**：0~60℃
- ✓ **CPU Temperature Alarm**：Beeping alarm when CPU's temperature over heating limited
- ✓ **CPU Temperature Monitor**：LM75 or equivalent device
- ✓ **Board Size**：13.26" (L) x 4.8"(W)

The HS-6037 provides with VGA CRT-LCD Interface, supports DMA33, WDT, DOC, DUAL LAN, Ultra Ⅱ SCSI, USB and IrDA.

The HS-6037LLV provides with VGA CRT-LCD Interface, supports DMA33, WDT, DOC, USB, DUAL LAN and IrDA. (A version without SCSI of HS-6037).

The HS-6037LV provides with VGA CRT-LCD Interface support DMA33, WDT, DOC, LAN, USB and IrDA. (A version without one LAN and SCSI of HS-6037).

The HS-6037V provides with VGA CRT-LCD Interface support DMA33, WDT, DOC, USB and IrDA. (A version without two LAN ,SCSI and RS-232/422/485 of HS-6037).

1.3 Delivery Package

The delivery package of HS-6037 includes all following items:

- ✓ One HS-6037 Industrial Single Board
- ✓ One Printer Ports Bracketed Flat Cable
- ✓ One com port Bracketed Flat Cable
- ✓ One IDE port Flat Cable
- ✓ One FDD port Flat Cable
- ✓ One PS/2 to Standard DIN type Keyboard Transfer Cable
- ✓ Two LAN Cable
- ✓ Utility CD
- ✓ User's Manual

Please contact with your dealer if any of these items are missing or damaged when purchasing. And please keep all parts of the delivery package with packing materials in case of you want to ship or store the product in feature.

Chapter-2

Hardware Installation

This chapter provides the information on how to install the hardware of HS-6037. At first, please follow up sections 1.3, 2.1 and 2.2 in check the delivery package and carefully unpacking. Following after, the jumpers setting of switch, watchdog timer and the DiskOnChip™ address selection etc.

2.1 Caution of Static Electricity

The HS-6037 has been well package with an anti-static bag in protect its sensitive computer components and circuitry from the damage of static electric discharge.

Note: DO NOT TOUCH THE BOARD OR ANY OTHER SENSITIVE COMPONENTS WITHOUT ALL NECESSARY ANTI-STATIC PROTECTION.

You should follow the steps as following to protect the board in against the static electric discharge whenever you handle the board:

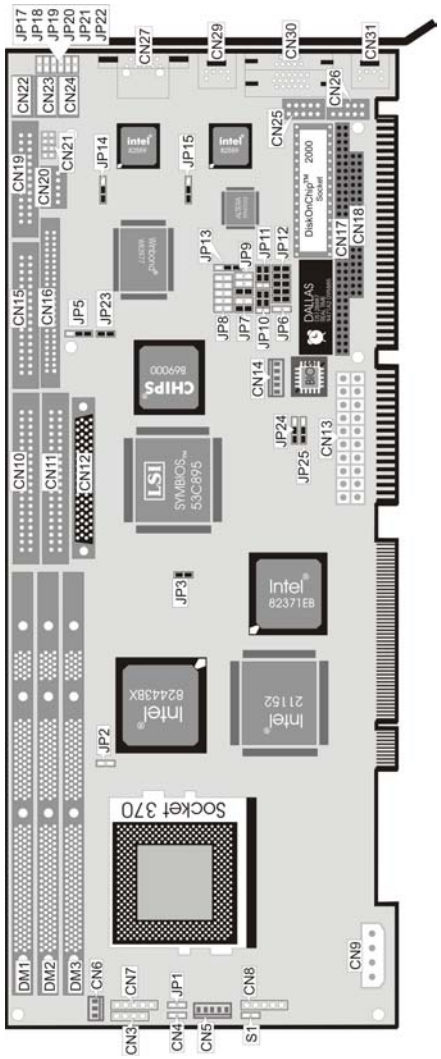
1. Please use a grounding wrist strap on whoever needs to handle the HS-6037. Well clip the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please put on and connect the strap before handle the HS-6037 for harmlessly discharge any static electricity through the strap.
2. Please use anti-static pad for put any components or parts or tools on the pad whenever you work on them outside the computer. You may also in use the anti-static bag instead the pad. Please ask from your local supplier in help up your necessary parts on anti-static requirement.

2.2 Caution on Unpacking and Before Installation

First of all, please follow with all necessary steps of section 2.1 in protection the HS-6037 from electricity discharge. With refer to section 1.3, please check the delivery package again with following steps:

1. Unpacking the HS-6037, keep well storage of all packing material, manual and diskette etc. if has.
2. Is there any components lose or drop from the board? DO NOT INSTALL IF HAPPENED.
3. Is there any visual damaged of the board? DO NOT INSTALL IF HAPPENED.
4. Well check from your optional parts (i.e. CPU, SRAM, DRAM, ROM-Disk etc.) for completed setting all necessary jumpers setting to jumper pin-set and CMOS setup correctly. Please also reference to all information of jumpers setting in this manual.
5. Well check from your external devices (i.e. Add-On-Card, Driver Type etc.) for completed add-in or connection and CMOS setup correctly. Please also reference to all information of connector connection in this manual.
6. Please keep all necessary manual and diskette in a good condition for your necessary re-installation if you change your Operating System or whatever needs.

2.3 HS-6037's Layout



2.4 Quick Listing of Jumpers

2.5 Quick Listing of Connectors

2.6 Jumper Setting Description

A jumper pin-set is **ON** as a shorted circuit with a plastic cap inserted over two pins. A jumper pin-set is **OFF** as a open circuit with a plastic cap inserted over one or no pin(s) between pins. The below figure 2.2 shows the examples of different jumper pin-set setting as **ON** or **OFF** in this manual.

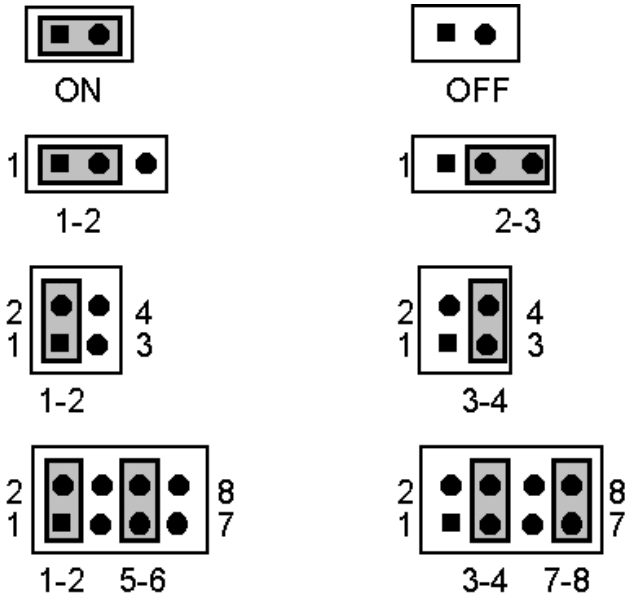


Figure 2.2

All jumper pin-set already has its default setting with the plastic cap inserted as ON, or without the plastic cap inserted as OFF. The default setting may reference in this manual with a " * " symbol in front of the selected item.

2.7 Setting the Bus Clock Frequency

The HS-6037 provides all necessary by jumper setting in using Bus Clock frequency as the system bus clocking with JP3 setting as following:

- **Bus Clock Frequency Setting of JP3 ：**

Bus Clock Frequency	JP3
***66MHz**	**ON**
100MHz	OFF

PS：Pentium® III FC-PGA Coppermine™ Processor 100MHz FSB, please set JP3 off.

2.8 Setting the RTC Configuration

The HS-6037 provides a setting for the selection of the RTC Clear Jumper by JP6 setting as following:

- **CMOS Setting of JP6：(DS12B887 only)**

CMOS Clear Jumper	JP6
Normal	*** OFF**
Clear CMOS	ON

2.9 System Memory DRAM

The HS-6037 provides a wide SDRAM memory by three DIMM sockets (DIM1, DIM2, DIM3) request the access time should meet PC100 standard. The maximum capacity of the on board memory is 768MBytes.

2.10 Setting the Flat Panel Voltage

The HS-6037 provides a setting for the selection of the working voltage of individual flat panel by JP5 setting as following:

- **Flat Panel Voltage Selecting of JP5：**

Panel's Working Voltage	JP5
5.0 V	1-2
*** 3.3 V**	**2-3**

Please contact with your flat panel supplier for make sure a correct Panel's Working Voltage. Any mistake will cause defect to your flat panel.

2.11 Watch-Dog Timer

There are three access cycles of Watch-Dog Timer as Enable, Refresh and Disable. The Enable cycle should proceed by READ PORT 443H. The Disable cycle should proceed by READ PORT 045H. A continue Enable cycle after a first Enable cycle means Refresh.

Once if the Enable cycle activity, a Refresh cycle is request before the time-out period for restart counting the WDT Timer's period. Otherwise, it will assume that the program operation is abnormal when the time counting over the period preset of WDT Timer. A System Reset signal to start again or a NMI cycle to the CPU comes if over.

The JP13 is using for select the active function of watch-dog timer in disable the watch-dog timer, or presetting the watch-dog timer activity at the reset trigger, or presetting the watch-dog timer activity at the NMI trigger.

- **JP13 : WDT Active Type Setting**

JP13	DESCRIPTION
***2-3**	**System Reset**
1-2	Active NMI
OFF	Disable Watch-Dog Timer

The WDT is disabled after the system Power On. The WDT can be enabled by a Enable cycle with reading the control port (443H), a Refresh cycle with reading the control port (443H) and a Disable cycle by reading the WDT disable control port (045H). After a Enable cycle of WDT, user must constantly proceed a Refresh cycle to WDT before its period setting comes ending of every 1, 2, 10, 20, 110 or 220 seconds which pre-setting by JP12. If the Refresh cycle does not active before WDT period cycle, the on board WDT architecture will issue a Reset or NMI cycle to the system.

- **JP12(5-10) : Select WDT Preiod**

PERIOD	5-6	7-8	9-10
***1 sec**	**ON**	**ON**	**ON**
2 sec	OFF	ON	ON
10 sec	ON	OFF	ON
20 sec	OFF	OFF	ON
110 sec	ON	ON	OFF
220 sec	OFF	ON	OFF

The Watch-Dog Timer is controlled by two I/O ports.

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

The following sample programs showing how to Enable, Disable and Refresh the WDT：

```
WDT_EN_RF       EQU     0443H
WDT_DIS         EQU     0045H
WT_Enable       PUSH    AX              ; keep AX DX
                PUSH    DX
                MOV     DX,WDT_EN_RF    ; enable the watch-dog timer
                IN      AL,DX
                POP     DX              ; get back AX, DX
                POP     AX
                RET
WT_Rresh        PUSH    AX              ; keep AX, DX
                PUSH    DX
                MOV     DX,WDT_ET_RF    ; refresh the watch-dog
timer
                IN      AL,DX
                POP     DX              ; get back AX, DX
                POP     AX
                RET
WT_DISABLE      PUSH    AX
                PUSH    DX
                MOV     DX,WDT_DIS      ; disable the watch-dog
timer
                IN      AL,DX
                POP     DX              ; get back AX, DX
                POP     AX
                RET
```

2.12 SCSI Controller

The HS-6037 provides SYMBIOS™ Ultra II SCSI Controller transferred rate up to 80 Mbytes/Sec, and can drive up to 15 set SCSI HDD. A JP25 is using for select the enable or disable function of SCSI control.

- **JP25 : SCSI Enable/Disable Select**

JP25	DESCRIPTION
1-2	Enable
* 2-3	Disable

2.13 VGA Controller

The HS-6037 has built in a 69000 VGA Controller with 2 MB memory, support resolutions up to 1280 x 1024 x 256 colors, reserved internal 50pin Panel connector.

- **JP24 : VGA Enable/Disable Select**

JP24	DESCRIPTION
1-2	**Enable**
2-3	Disable

2.14 DiskOnChip™ Address Setting

The HS-6037 provides a U17 socket for install the DiskOnChip™ module.

A JP12 may select the starting memory address of the DiskOnChip™ (D.O.C.) for avoid the mapping area with any other memory devices. If you have another extra memory devices in the system with the same memory, neither the HS-6037 nor the extra memory devices will function normally. Please setting both at different memory address mapping.

- **JP12(1-4) : DiskOnChip™ Address Select**

Memory Address Mapping	1-2	3-4
*D000	ON	ON
D800	ON	OFF
E000	OFF	ON

*) : default setting

The D.O.C. function allows the system in using without FDD nor HDD. The D.O.C. may formatting as driver C: or driver A: User may also easily uses the DOS's commands such as FORMAT, SYS, COPY, XCOPY, DISCOPY and DISKCOMP etc. This is means that the D.O.C. may uses as driver-A if the system without FDD-A for ambient application. Please contact with your supplier for different size D.O.C. module.

Chapter-3

Connection

This chapter gives all necessary information of the peripheral's connections, switches and indicators.

3.1 Power and FAN Connectors

The HS-6037 provides one 4pin DC Power connector as following CN9 pin information. And also provides one 3pin fan out connector as following CN6 pin information.

- **CN9 : 4pin Power Connector**

PIN NO.	DESCRIPTION
1	+12V
2	GND
3	GND
4	VCC

- **CN6 : 3pin FAN Connector**

PIN NO.	DESCRIPTION
1	GND
2	+12V
3	N.C.

3.2 IDE's LED, Key-Lock and Reset Button

The HS-6037 has one LED (D1) indicates out power on status. And the following provides the pin information for IDE's LED indicator, Keylock and Reset Button connections from CN4, CN7 and JP1.

- **CN4 : IDE LED Connector**

PIN NO.	DESCRIPTION
1	HDD Active#
2	+5V

- **CN7 : Power LED & Keylock**

PIN NO.	DESCRIPTION
1	Power LED Anode
2	N/C
3	GND
4	Keylock
5	GND

- **JP1 : Reset Button**

PIN NO.	DESCRIPTION
1	GND
2	External Reset

3.3 External Speaker

The HS-6037 has an on board buzzer (BZ1). And it also provides the CN3 in allows user to connecting to the external speaker.

- **CN3 : Speaker Connector**

PIN NO.	DESCRIPTION
1	SPEAKER SIGNAL
2	NC
3	GROUND
4	+5V

3.4 PCI E-IDE Drive Connector

Two standard 40pin header daisy-chain driver connector provides as CN10 and CN11 with following pin assignment. Total four IDE (Integrated Device Electronics) drivers may connect.

- **CN10: Primary IDE Connector**

PIN NO.	DESCRIPTION	PIN NO.	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	N/C	22	GND
23	IOW#	24	GND
25	IOR#	26	GND
27	N/C	28	BALE - DEFAULT
29	N/C	30	GROUND# -DEFAULT
31	INTERRUPT	32	IOCS16#-DEFAULT
33	SA1	34	N/C
35	SA0	36	SA2
37	HDC CS0	38	HDC CS1#
39	HDD ACTIVE	40	GND

- **CN11: Secondary IDE Connector**

PIN NO.	DESCRIPTION	PIN NO.	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	N/C	22	GND
23	IOW#	24	GND
25	IOR#	26	GND
27	N/C	28	BALE - DEFAULT
29	N/C	30	GROUND# -DEFAULT
31	INTERRUPT	32	IOCS16#-DEFAULT
33	SA1	34	N/C
35	SA0	36	SA2
37	HDC CS0	38	HDC CS1#
39	HDD ACTIVE	40	GND

3.5 Parallel Port Connector

A standard 26pin flat cable driver connector provides as CN19 with following pin assignment for connection to parallel printer.

- **CN19: Parallel Port Connector**

PIN NO.	DESCRIPTION	PIN NO.	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

3.6 The Floppy Disk Drive Connector

A standard 34pin header daisy-chain driver connector provides as CN15 with following pin assignment. Total two FDD drivers may connect.

- **CN15 : FDD Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	REDUCE WRITE
3	GND	4	N/C
5	GND	6	N/C
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	WRITE DATA#
23	GND	24	WRITE DATA#
25	GND	26	TRACK 0#
27	GND	28	WRITE PROTECT#
29	GND	30	READ DATA#
31	GND	32	SIDE 1 SELECT
33	GND	34	DISK CHANGE#

3.7 Serial Ports Connectors

The HS-6037 offers two high speed NS16C550 compatible UART with Read/Receive 16 byte FIFO serial ports with two internal 10pin header. The HS-6037P which is with two external DB9 connectors without VGA nor LAN on board. All pin-assignment are listing at below:

- **CN32/33 : COM1/COM2 Serial Connector (DB9)**

PIN NO.	DESCRIPTION
1	DATA CARRIER DETECT (DCD)
2	RECEIVE DATA (RXD)
3	TRANSMIT DATA (TXD)
4	DATA TERMINAL READY (DTR)
5	GND (GND)
6	DATA SET READY (DSR)
7	REQUEST TO SEND (RTS)
8	CLEAR TO SEND (CTS)
9	RING INDICATOR (RI)

- **CN22/23 : COM1/COM2 Serial Connector (5x2 Header)**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DCD	2	DSR
3	RXD	4	RTX
5	TXD	6	CTX
7	DTR	8	RI
9	GND	10	N/C

The HS-6037 also provides one RS-422/485 port, the CN20 for use as an RS-422/485. Please reference to the following for setting JP7, JP9, JP10 and JP11 at enable or disable the RS-422/485 function.

- **JP10/JP11 : RS-232/422/485 Select**

Jumper	RS232	RS-422/485
JP10	3-5, 4-6 ON	1-3 ,2-4 ON
JP11	3-5, 4-6 ON	1-3, 2-4 ON

- **CN20 : RS-422/485 Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	-TX	2	+TX
3	+RX	4	-RX
5	GND	6	-RTS
7	+RTS	8	+CTS
9	-CTS	10	N/C

- **JP7 : Receiver Enable Control**

JP7	DESCRIPTION
1-2 ON	Always Enable
3-4 ON	Enable by writing the REG : 2 EFH BIT1=1
***1-2 OFF**	**Always Disable**

- **JP9 : Transceiver Enable Control**

JP9	DESCRIPTION
1-2 ON	Always Enable
3-4 ON	Enable by ”-RTS” signal
5-6 ON	Enable by writing the REG : 2 EFH BIT0=1
***ALL OFF**	**Always Disable**

3.8 Keyboard/Mouse Connectors

The HS-6037 offers two possibilities for keyboard connections to external PS/2 type keyboard at CN31, or an internal 5pin header at CN5.

- **CN5: 5pin Keyboard Connector**

PIN NO.	DESCRIPTION
1	KEYBOARD CLOCK
2	KEYBOARD DATA
3	N/C
4	GND
5	+5V

- **CN31 : PS/2 6pin Mini Din Keyboard Connector**

PIN NO.	DESCRIPTION
1	KEYBOARD DATA
2	N/C
3	GND
4	+5V
5	KEYBOARD CLOCK
6	N/C

The HS-6037 provides an external PS/2 mouse connector at CN29 and Internal 4pin mouse connector at CN28 with following pin information.

- **CN29 : PS/2 6pin Mini Din Mouse Connector**

PIN NO.	DESCRIPTION
1	DATA
2	N/C
3	GND
4	+5V
5	CLK
6	N/C

- **CN28 : 4pin Mouse Connector**

PIN NO.	DESCRIPTION
1	CLK
2	DATA
3	VCC
4	GND

3.9 VGA Controller

The HS-6037 provides three possible connectives of VGA connections. One standard DB15 external VGA connector as following CN30 pin information. Another header is 5X2 internal VGA connector. Others internal 50pin header for LCD Panel connection as following CN16 pin information.

- **CN16 : 50pin Internal LCD Panel Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+12V	2	+12V
3	GND	4	GND
5	3.3V / 5V Note-1	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	FP
37	M	38	LP
39	GND	40	FPBACK
41	P26	42	P27
43	P28	44	P29
45	P30	46	P31
47	P32	48	P33
49	P34	50	P35

Note-1: Please setting the voltage correctly of individual panel by JP5.

Flat Panel Display Interface

HS-6037		Mono			Color									
		SS	DD	DD	TFT	TFT	TFT	TFT	STN-HR	STN-SS	STN-SS	STN-DD	STN-DD	STN-DD
PIN #	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	UD3	UD3	B4	B2	B4	FB4	SB0	B3	G2	LR1	UR0	LG0
14	P5	D5	UD2	UD2	G0	B3	B5	FB5	SB1	G4	B2	LG1	LG0	LB0
15	P6	D6	UD1	UD1	G1	B4	B6	SB0	SB2	R5	R3	LB1	LB0	UR1
16	P7	D7	UD0	UD0	G2	B5	B7	SB1	SB3	B5	G3	LR2	LR1	UG1
17	P8			UD7	G3		G0	SB2	FG0		B3		UG1	UB1
18	P9			UD6	G4		G1	SB3	FG1		R4		UB1	LR1
19	P10			UD5	G5	G0	G2	SB4	FG2		G4		UR2	LG1
20	P11			UD4	R0	G1	G3	SB5	FG3		B4		UG2	LB1
21	P12			UD3	R1	G2	G4	FG0	SG0		R5		LG1	UR2
22	P13			UD2	R2	G3	G5	FG1	SG1		G5		LB1	UG2
23	P14			UD1	R3	G4	G6	FG2	SG2		B5		LR2	UB2
24	P15			UD0	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, DE: Panel AC driver control													
38	LP, HSYNC: Latch pulse													
40	ENABKL: Power sequencing control for enabling the back-light.(high active)													

- **CN26 : 10pin VGA Connector (5x2 Header)**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RED	2	GND
3	GREEN	4	GND
5	BLUE	6	GND
7	HSYNC	8	GND
9	VSYNC	10	GND

- **CN30 : 15pin VGA connector (DB15)**

PIN NO.	DESCRIPTION	PIN NO.	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	N/C
13	HSYNC	14	VSYNC
15	N/C		

3.10 IR Connector

The HS-6037 provides a 5pin internal IR communication connector as following CN8 pin information.

- **CN8 : 5pin IR Connector**

PIN NO.	DESCRIPTION
1	VCC
2	FIRRX
3	IRRX
4	GND
5	IRTX

3.11 USB Connector

The HS-6037 provides two 8pin USB ports. Please refer to the following detail pin information.

- **CN21: 8pin USB Connector**

PIN NO.	CN21	PIN NO.	CN21
1	VCC	2	VCC
3	BD0-	4	BD1-
5	BD0+	6	BD1+
7	GND	8	GND

3.13 LAN Interface Connector

The HS-6037 provides one external (RJ45) and two internal (Header 5x2) 10/100-based LAN interface connector. Please refer to the following detail of pin information.

- **CN27 : LAN1 RJ-45 Connector**

PIN NO.	CN22
1	TX+
2	TX-
3	RX+
4	N/C
5	N/C
6	RX-
7	N/C
8	N/C
9	GND

LAN1: There are three LED indicators provide the running conditions of the LAN with JP17, JP18 and JP19:

JP17: LINK LED
JP18: ACTIVE LED
JP19: SPEED LED

CN24/CN25: LAN1/LAN2 10pin Connector (5x2 Header)

PIN NO.	CN24/CN25
1	VCC
2	LINK
3	RX+
4	RX-
5	ACT
6	GND
7	SPEED
8	GND
9	TX+
10	TX-

LAN2: There are three LED indicators provide the running conditions of the LAN with JP20, JP21 and JP22

JP20: LINK LED
JP21: ACTIVE LED
JP22: SPEED LED

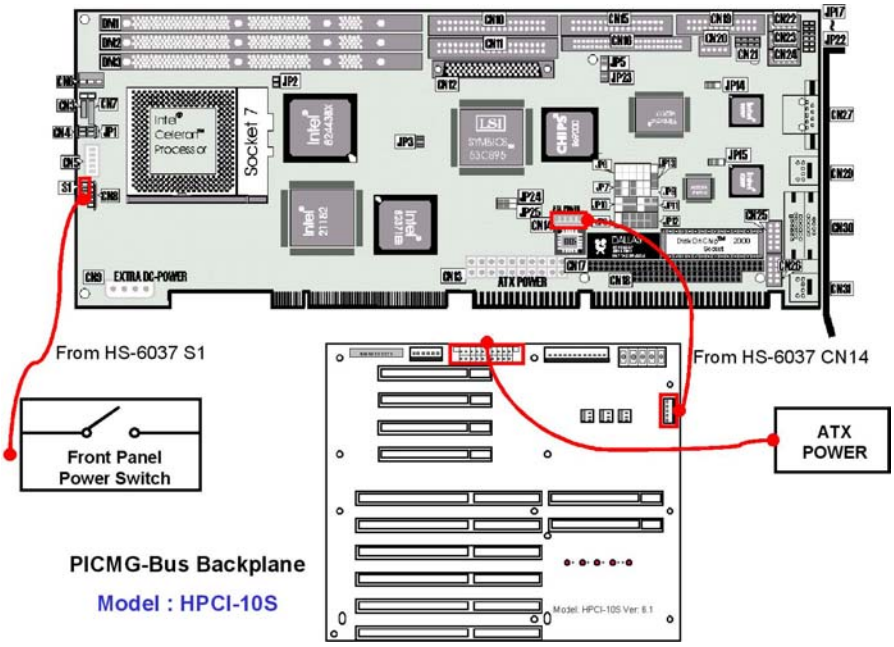
3.13 Ultra Ⅱ SCSI Interface Connector

This HS-6037 provides two internal Ultra Ⅱ SCSI connector for all kinds of user application and easy connection, one 68pin female D Sub connector for 16bits Ultra Ⅱ SCSI port. Please reference to the following for detail pin assignment.

Pin	CN12	Pin	CN12
1	+SD12	35	-SD12
2	+SD13	36	-SD13
3	+SD14	37	-SD14
4	+SD15	38	-SD15
5	+SDP1	39	-SDP1
6	+SD0	40	-SD0
7	+SD1	41	-SD1
8	+SD2	42	-SD2
9	+SD3	43	-SD3
10	+SD4	44	-SD4
11	+SD5	45	-SD5
12	+SD6	46	-SD6
13	+SD7	47	-SD7
14	+SDP0	48	-SDP0
15	GND	49	GND
16	DIFFSEN	50	N/C
17	TPW-EX	51	TPW-EX
18	TPW-EX	52	TPW-EX
19	N/C.	53	N/C.
20	GND	54	GND
21	+SATN	55	-SATN
22	GND	56	GND
23	+SBSY	57	-SBSY
24	+SACK	58	-SACK
25	+SRST	59	-SRST
26	+SMSG	60	-SMSG
27	+SSEL	61	-SSEL
28	+SCD	62	-SCD
29	+SREQ	63	-SREQ
30	+SIO	64	-SIO
31	+SD8	65	-SD8
32	+SD9	66	-SD9
33	+SD10	67	-SD10
34	+SD11	68	-SD11

3.14 ATX Power Controller Connector

The HS-6037 support ATX Power function by CN14. The connector of CN14 can control the 5 pin ATX Power via the extension cable from the Backplane (from the version 6.1).



Chapter-4

AWARD BIOS Setup

The HS-6037 uses the 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 which could be selected for end-user requirements. This chapter is written to assist you in the proper usage of these features.

To access AWARD PCI/ISA BIOS Setup program, press <Del> key. The Main Menu will be displayed at this time.

4.1 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.

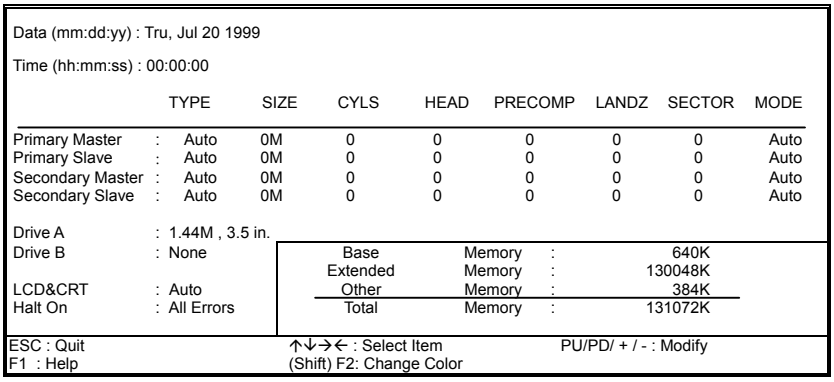
ROM PCI/ISA BIOS (xxxxxxxx)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

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 that a brief description of each highlighted selection appears at the bottom of the screen.

4.2 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, please set the HDD mode to **LBA** mode. Please use the IDE Setup Utility in BIOS SETUP to install the HDD correctly.



4.3 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.

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
		D4000-D7FFF	Shadow	:	Disabled
Quick Power On Self Test	: Disabled	D8000-DBFFF	Shadow	:	Disabled
Boot Sequence	: A,C,SCSI	DC000-DFFFF	Shadow	:	Disabled
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				
PCI/VGA Palette Snoop	: Disabled	ESC	: Quit	↑↓→←: Select Item	
OS Select For DRAM > 64MB	: Non-OS2	F1	: Help	PU/PD/+/-: Modify	
Report No FDD For WIN 95	: Yes	F5	: Old Values	(Shift) F2 : Color	
		G6	: Load BIOS Defaults		
		G7	: Load Setup Defaults		

4.4 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.

Auto Configuration	:	Enabled	Auto Detect DIMM/PCI Clk	:	Enabled
EDO DRAM Speed Selection	:	60ns	Spread Spectrum Modulated	:	Disabled
EDO CASx# MA Wait State	:	2	CPU Host Clock	:	72 MHz
EDO RASx# Wait State	:	2			
SDRAM RAS-to-CAS Delay	:	3			
SDRAM RAS Precharge Time	:	3			
SDRAM CAS latency Time	:	3			
SDRAM Precharge Control	:	Enabled			
DRAM Date Integrity Mode	:	Non-ECC			
System BIOS Cacheable	:	Disabled			
Video BIOS Cacheable	:	Disabled			
Video RAM Cacheable	:	Disabled			
8 Bit I/O Recovery	:	1			
16 Bit I/O Recovery	:	1			
Memory Hole At 15M-16M	:	Disabled			
Passive Release	:	Enabled	ESC : Quit	↑↓→←: Select Item	
Delayed Transation	:	Disabled	F1 : Help	PU/PD/+/-: Modify	
AGP Aperture Size	:	64	F5 : Old Values	(Shift) F2 : Color	
			F6 : Load BIOS Defaults		
			F7 : Load Setup Defaults		

4.5 Integrated Peripherals

The IDE hard drive controllers can support up to two separate hard drives. These drives have a master/slave relationship which 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).

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

*It allows the system BIOS to select one of sixteen LCD panel types upon power up.

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
9	800*600 TFT Color Panel
10	800*600 Dual Scan STN Color Panel
11	800*600 Dual Scan STN Color Panel
12	1024*768 TFT Color Panel
13	1280*1024 Dual Scan STN Color Panel
14	1024*600 Dual Scan STN Color Panel
15	1024*600 TFT Color Panel

4.6 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.

ACPI Management	:	Disabled	** Reload Global Timer Events **		
Power Management	:	User Define	IRQ3 [3-7, 9-15], NMI	:	Disabled
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			
Soft-off by PWR-BTTN	:	Instant-off			
Power On by Ring	:	Enabled			
Resume by Alarm	:	Disabled			
			ESC : Quit		↑↓→←: Select Item
			F1 : Help		PU/PD/+/-: Modify
IRQ8 Break Suspend	:	Disabled	F5 : Old Values		(Shift) F2 : Color
			F6 : Load BIOS Defaults		
			F7 : Load Setup Defaults		

4.7 PnP/PCI Configuration Setup

In this section, the PnP/PCI configuration setup allows you to configure the ISA and PCI devices installed in your system by manually or auto.

PnP OS Installed	: No	
Resources Controlled by	: Auto	
Reset Configuration Data	: Disabled	
		ESC : Quit ↑↓→←: Select Item F1 : Help PU/PD/+/-: Modify F5 : Old Values (Shift) F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults

Chapter-5

Software Utilities

This chapter provides the detailed information of VGA and LAN function. How to install the configuration is also included.

Section include:

- VGA DRIVER INSTALLATION
- NETWORK DRIVER INSTALLATION
- SCSI DRIVER INSTALLATION

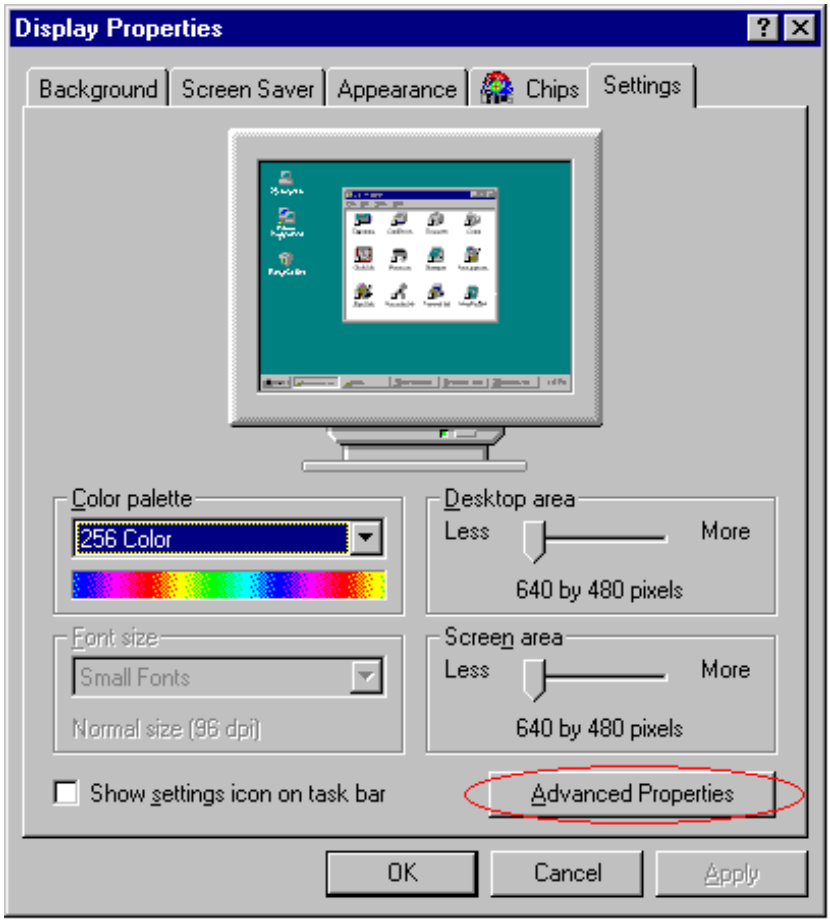
5.1 VGA DRIVER INSTALL FOR WIN95&98

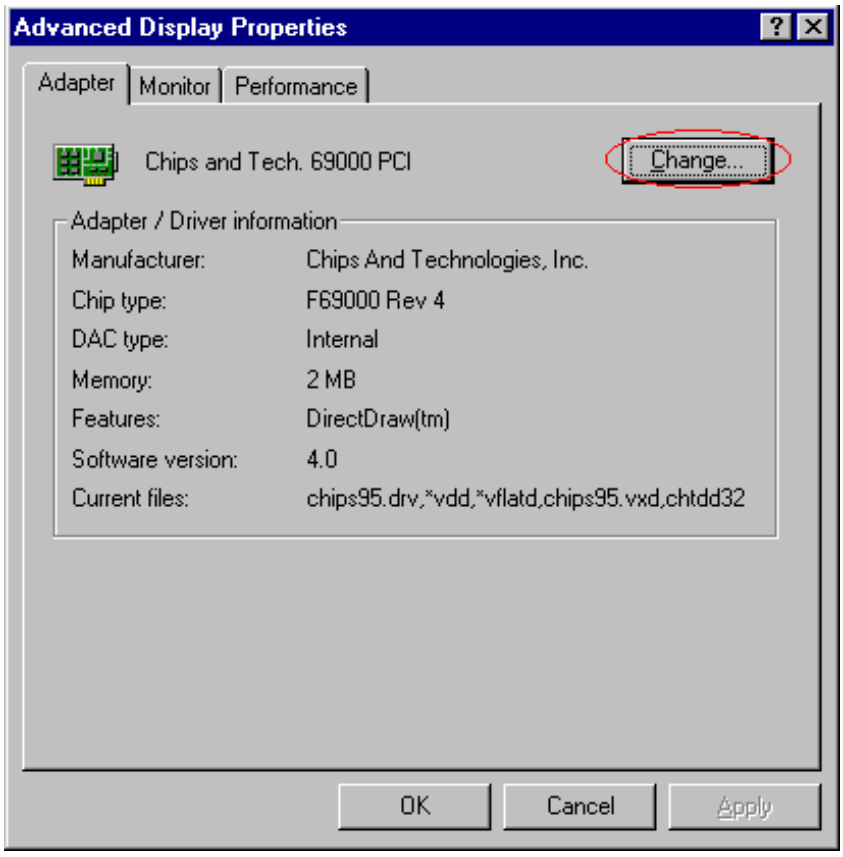
1. Click Start, then Setting, then Control Panel. Start the Display applet program.
2. Select the setting page, push the advanced properties button. Push the change button in the adapter area.
3. Continue to click “Next”. Select Display a list of all drivers in a specific location, So you can select the drivers you want. Click “Next”.
4. Select the Specify a location checkbox and click “Browse”.
5. Specify the path to the new driver and press the <ENTER> key.

   (if in driver A:, select a:\win95)
6. The Select device dialog box will appear.

   Select Chips and Tech. 69000 PCI
7. Continue choosing close until asked to restart machine.
8. 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.


Display Properties
Background
Screen Saver
Appearance
Chips
Settings
Color palette
256 Color
Desktop area
Less
More
640 by 480 pixels
Font size
Small Fonts
Normal size (96 dpi)
Screen area
Less
More
640 by 480 pixels
Show settings icon on task bar
Advanced Properties
OK
Cancel
Apply

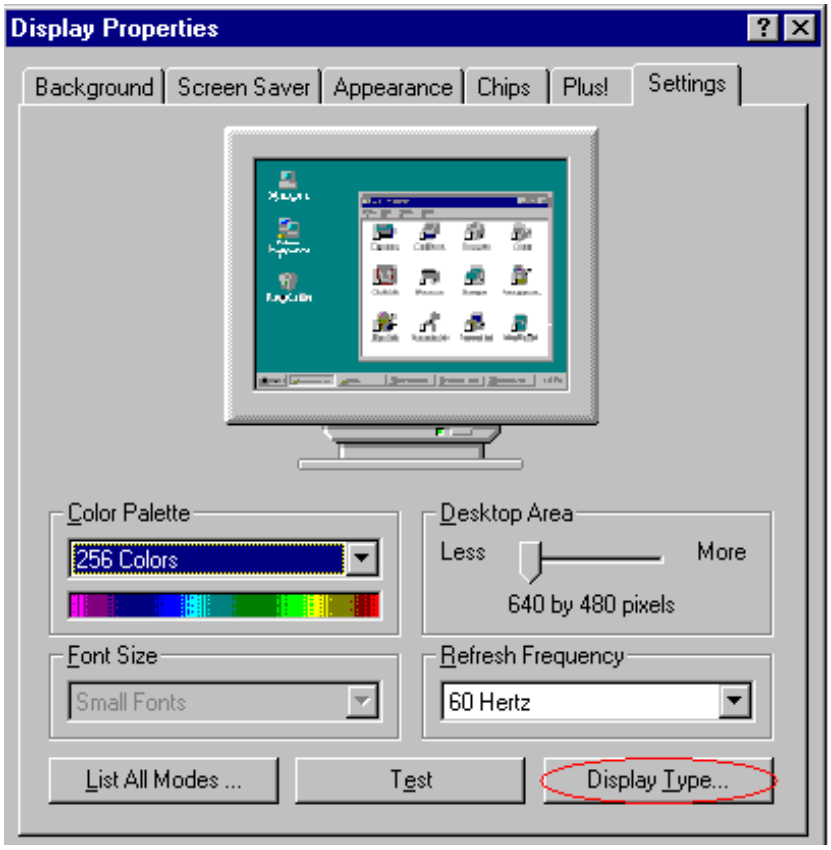

Advanced Display Properties
Adapter
Monitor
Performance
Chips and Tech. 69000 PCI
Change...
Adapter / Driver information
Manufacturer: Chips And Technologies, Inc.
Chip type: F69000 Rev 4
DAC type: Internal
Memory: 2 MB
Features: DirectDraw(tm)
Software version: 4.0
Current files: chips95.drv,*vdd,*vflatd,chips95.vxd,chtdd32
OK
Cancel
Apply

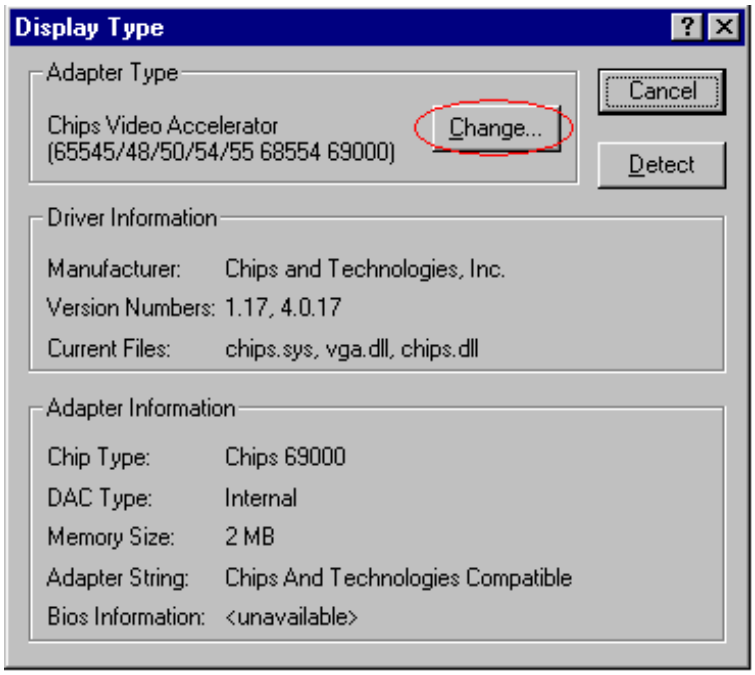
5.2 VGA DRIVER INSTALL FOR WIN NT4.0

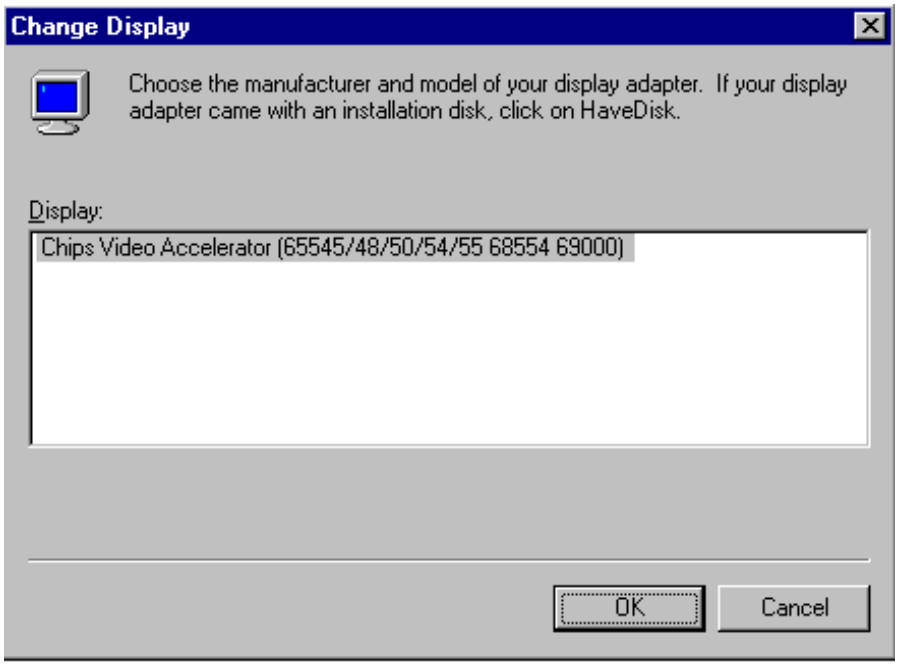
1. Click the Start button, then go to Setting and click on Control Panel. Click on Display icon to start the Display Properties Window.
2. Click on the Settings tab, and then click on Display Type.
3. In the Change Display Type window, click on “Have Disk”.
4. Specify the path to the new driver and press the <ENTER>key.

   (if in driver A:, type a:\nt40)

   Select Chips Video Accelerator (655545/48/50/54/55/68554 69000)
5. Click OK or press Enter
6. You will see warning panel about Third Party Drivers. Click on Yes to finish the installation.
7. Once the installation is completed, the system must shut down and restart for the new driver to take effect.
8. After restart, checking on the VGA driver, the properties of the driver should look similar to the following figure.


Display Properties
Background
Screen Saver
Appearance
Chips
Plus!
Settings
Color Palette
256 Colors
Desktop Area
Less
More
640 by 480 pixels
Font Size
Small Fonts
Refresh Frequency
60 Hertz
List All Modes ...
Test
Display Type...


Display Type
Adapter Type
Chips Video Accelerator
(65545/48/50/54/55 68554 69000)
Change...
Cancel
Detect
Driver Information
Manufacturer: Chips and Technologies, Inc.
Version Numbers: 1.17, 4.0.17
Current Files: chips.sys, vga.dll, chips.dll
Adapter Information
Chip Type: Chips 69000
DAC Type: Internal
Memory Size: 2 MB
Adapter String: Chips And Technologies Compatible
Bios Information: <unavailable>


Change Display
Choose the manufacturer and model of your display adapter. If your display adapter came with an installation disk, click on HaveDisk.
Display:
Chips Video Accelerator (65545/48/50/54/55 68554 69000)
OK
Cancel

5.3 NETWORK DRIVER INSTALL FOR WIN98&95

Win98

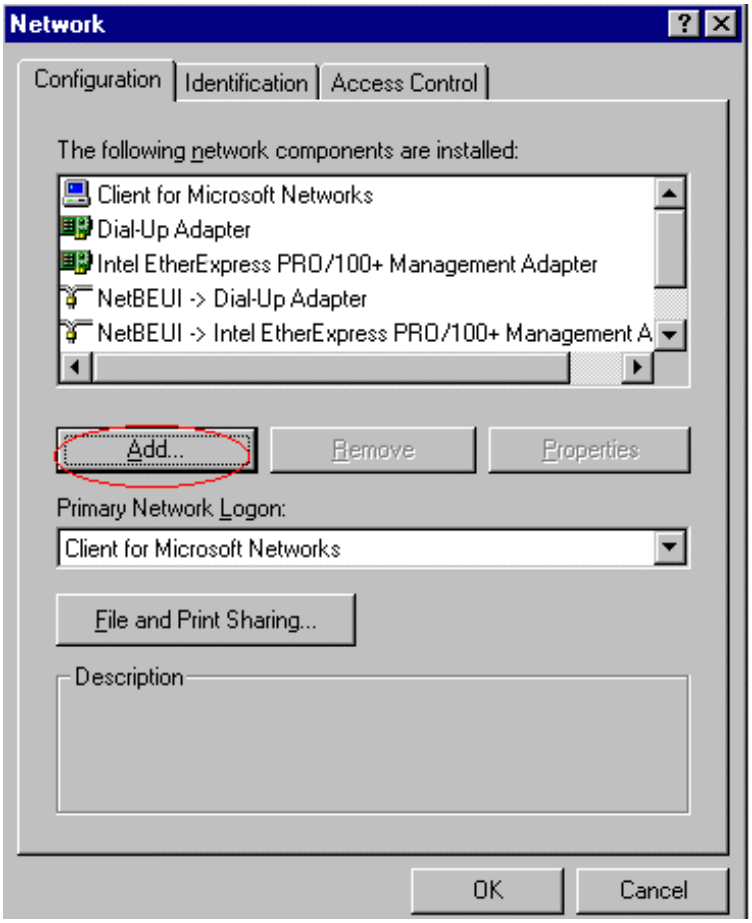
Windows 98 will detect the network driver automatically.

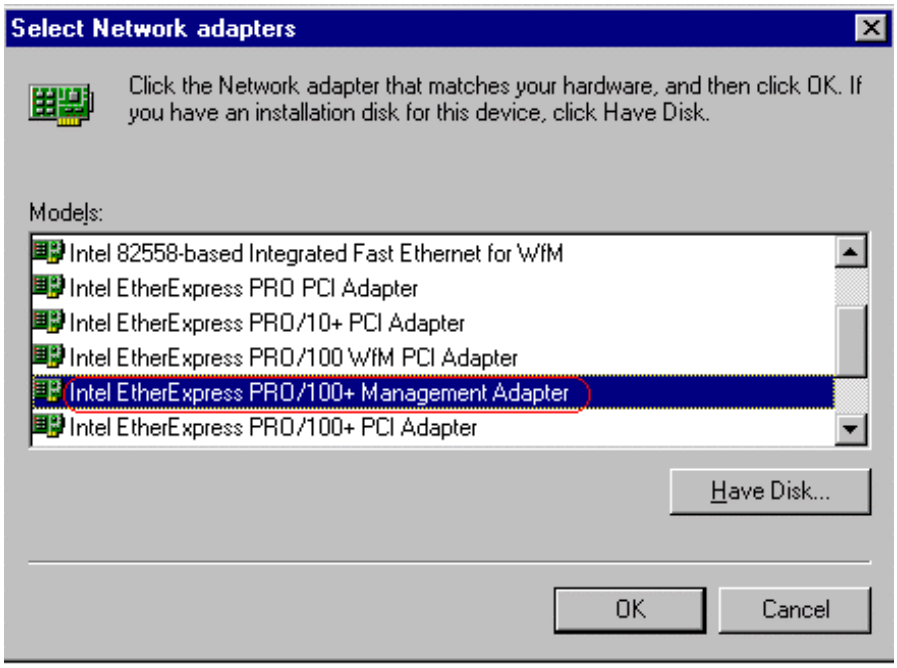
Win95

1. Click Start, then Setting, in the “Setting” select Control panel. Start the network applet program.
2. In the Network window, click “Add”.
3. In the Select Network Component Type, select Adapter then click “Add”.
4. When the Select Network Component Type, Select Adapter, then click “Add”.
5. Specify the path the new driver and press <ENTER> key.(If in driver a:, type a:\)

   (If you’re not sure exactly where the drivers are, choose the “Browse” button and find it)

   Select **Intel EtherExpress PRO/100+ Management Adapter**
6. Click OK.
7. Windows 95 will copy the network drivers to the proper directories on your system.
8. Continue choosing “OK”, util asked to restart your system.
9. After restart, checking on the network driver , the Properties of the driver should look similar to the following figure.


Network
Configuration
Identification
Access Control
The following network components are installed:
Client for Microsoft Networks
Dial-Up Adapter
Intel EtherExpress PRO/100+ Management Adapter
NetBEUI -> Dial-Up Adapter
NetBEUI -> Intel EtherExpress PRO/100+ Management A
Add...
Remove
Properties
Primary Network Logon:
Client for Microsoft Networks
File and Print Sharing...
Description
OK
Cancel

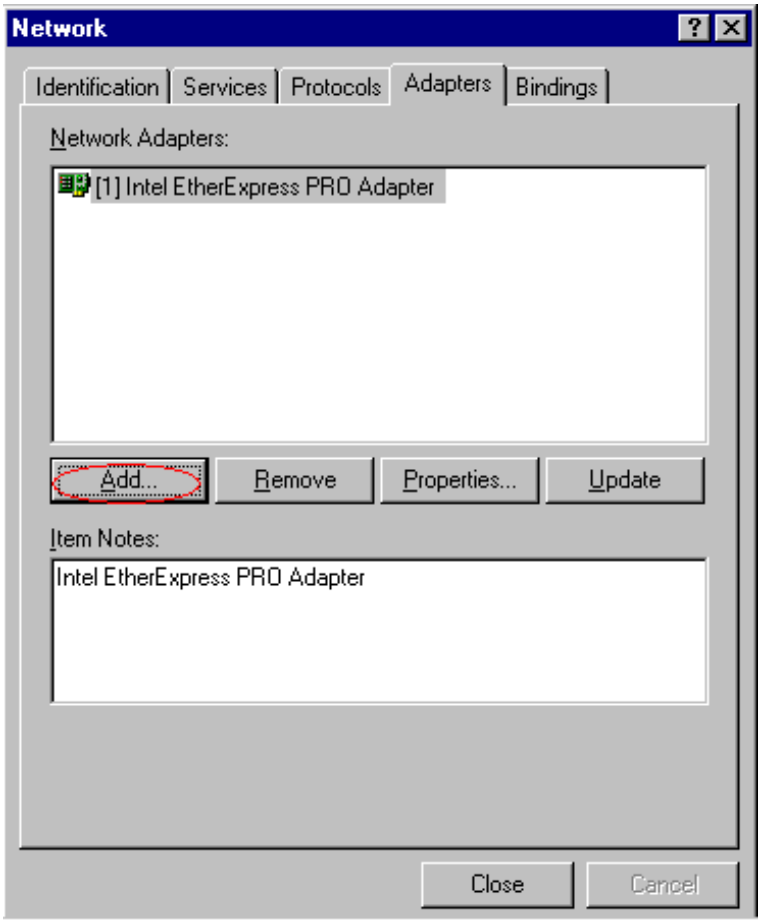

Select Network adapters
Click the Network adapter that matches your hardware, and then click OK. If you have an installation disk for this device, click Have Disk.
Models:
Intel 82558-based Integrated Fast Ethernet for WfM
Intel EtherExpress PRO PCI Adapter
Intel EtherExpress PRO/10+ PCI Adapter
Intel EtherExpress PRO/100 WfM PCI Adapter
Intel EtherExpress PRO/100+ Management Adapter
Intel EtherExpress PRO/100+ PCI Adapter
Have Disk...
OK
Cancel

5.4 NETWORK DRIVER INSTALL FOR WIN NT4.0

1. Click the Start button, then go to Setting and click on Control Panel. Click on the Network icon to start the Network Window.
2. Click on the Adapters tab, and then click “Add”.
3. In the Select Network Adapter window, click “Have Disk”.
4. This will bring up the Insert Disk window.
5. Supply the directory where the Windows NT driver files are located.

   (If in driver a: , type a:\)
6. The Select OEM Option window will show up.

   Select **Intel EtherExpress PRO Adapter**
7. Click OK to finish the installation.
8. Once the installation is completed, the system must be shut down and restarted for the new driver to take effect.
9. After restart, checking on the Network driver, the Properties of the driver should look similar to the following figure.


Network
Identification
Services
Protocols
Adapters
Bindings
Network Adapters:
[1] Intel EtherExpress PRO Adapter
Add...
Remove
Properties...
Update
Item Notes:
Intel EtherExpress PRO Adapter
Close
Cancel

5.5 ULTRA Ⅱ SCSI INSTALL FOR WIN95 & 98

WINDOWS 98

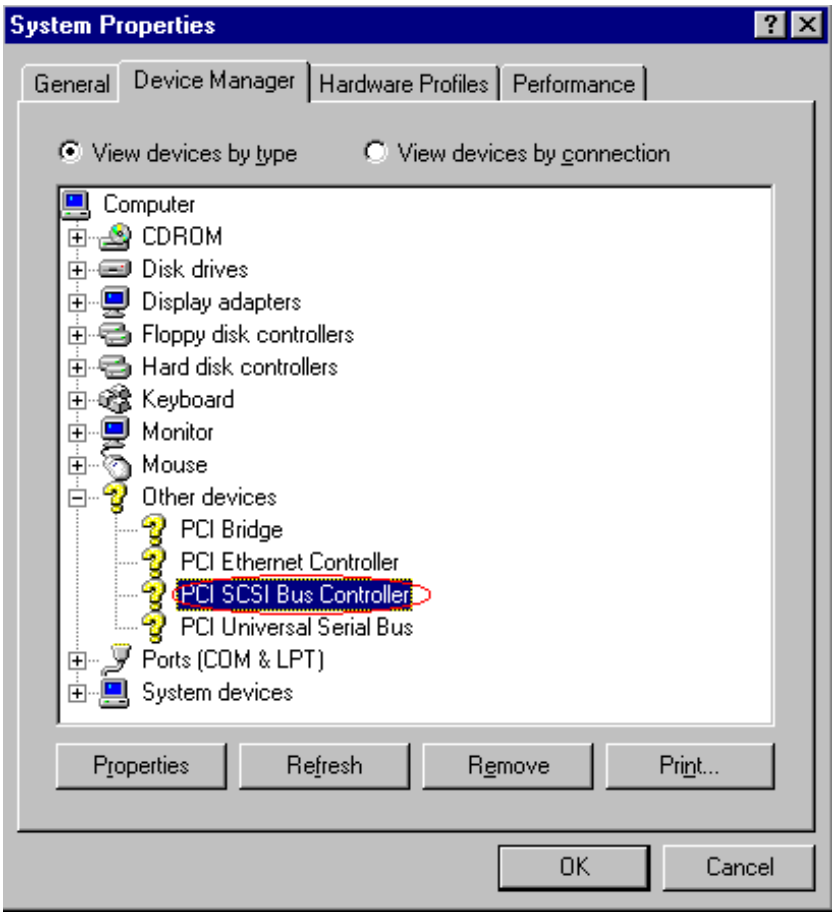
WINDOWS 98 will detect the SYMBIOS LOGIC 895 Ultra Ⅱ SCSI driver

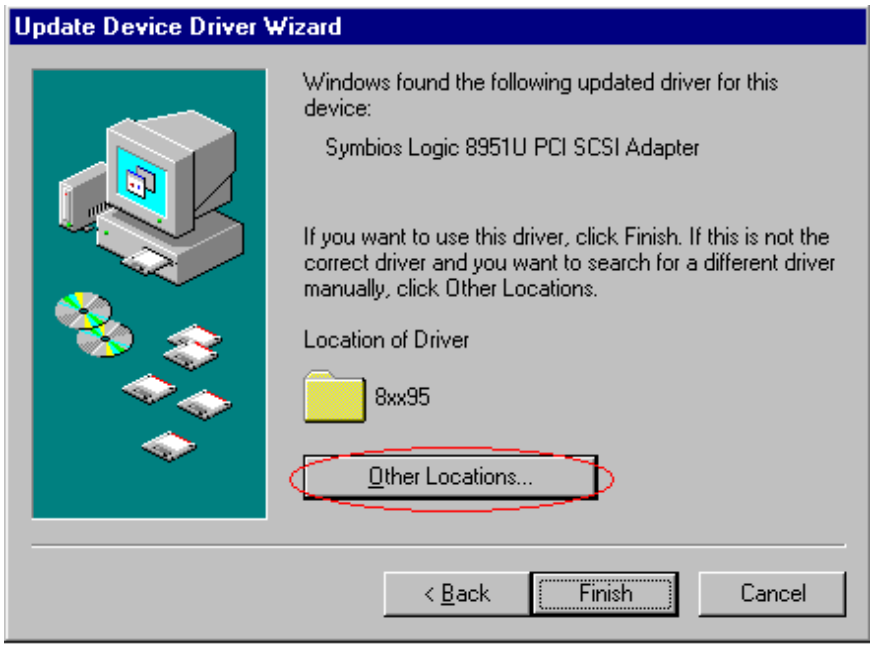
WINDOWS 95

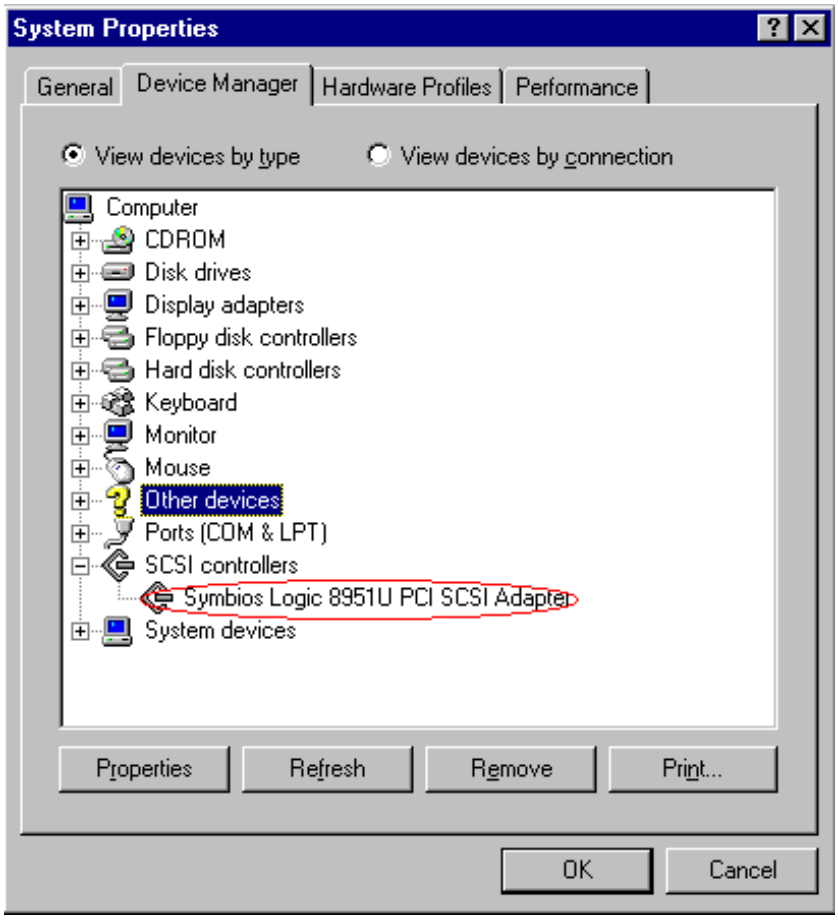
1. Click Start, then Setting, in the “Setting” select Control panel. Start the System applet program. Select Device Manager page.
2. In the “Other Device“ double click left button, select PCI SCSI Bus Controller, then click Properties.
3. In the PCI SCSI Bus Controller Window, select Driver page. Click Update Driver.
4. In Update Driver Wizard select YES, then click NEXT.
5. Specify the path to the new driver and press <ENTER>

   (If in driver a: , click Finish.)

   (If you want to search for a different driver manually, click “Other Location” and click “Browse”.)
6. Windows 95 will copy the SCSI drivers to the proper directories on your system.
7. Continue choosing “OK”, util asked to restart your system.
8. After restart, checking on the SCSI driver, the properties of the driver should look similar to the following figure.


System Properties
General
Device Manager
Hardware Profiles
Performance
View devices by type
View devices by connection
Computer
CDROM
Disk drives
Display adapters
Floppy disk controllers
Hard disk controllers
Keyboard
Monitor
Mouse
Other devices
PCI Bridge
PCI Ethernet Controller
PCI SCSI Bus Controller
PCI Universal Serial Bus
Ports (COM & LPT)
System devices
Properties
Refresh
Remove
Print...
OK
Cancel


Update Device Driver Wizard
Windows found the following updated driver for this device:
Symbios Logic 8951U PCI SCSI Adapter
If you want to use this driver, click Finish. If this is not the correct driver and you want to search for a different driver manually, click Other Locations.
Location of Driver
8xx95
Other Locations...
< Back
Finish
Cancel


System Properties
General
Device Manager
Hardware Profiles
Performance
View devices by type
View devices by connection
Computer
CDROM
Disk drives
Display adapters
Floppy disk controllers
Hard disk controllers
Keyboard
Monitor
Mouse
Other devices
Ports (COM & LPT)
SCSI controllers
Symbios Logic 8951U PCI SCSI Adapter
System devices
Properties
Refresh
Remove
Print...
OK
Cancel

5.6 ULTRA Ⅱ SCSI INSTALL FOR WINDOWS NT 4.0

1. Change Boot sequence in CMOS Setup Utility select CDROM.
2. Boot from CDROM (WINDOWS NT 4.0)
3. When WINDOWS NT SETUP start, press “F6”.
4. To specify additional SYMBIOS SCSI adapter, press “S”.
5. In square windows select “Other”.
6. Insert SCSI driver disk into Driver A: , press “ENTER“ when ready.
7. WINDOWS NT 4.0 will continue to setup until finish.