

HS-2601

Celeron™/Coppermine™ VGA LAN

- CRT/Panel • SODIMM • LAN • PC/104 • Mini PCI •
 - Flash Disk • IrDA • USB • Single +5V •
- Embedded35 Industrial Single Board Computer •

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Chapter-1

General Information

The HS-2601 is a 100MHz Bus Intel® BX chipset design 3.5" Embedded Celeron™/Coppermine™ board with features combine together to make it an ideal all-in-one industrial single board computer, enhanced I/O effects with LAN and VGA interface.

With on board DMA33 of mode 3/4 to IDE drive interface architecture, the HS-2601 supports with maximum 33.3 MB/sec in data transfer rating to 2 pieces IDE drive connection. Design with Intel® 82443 BX core logic chipset supports all series Celeron™/Coppermine™ operating. Intel® 69000 VGA chipset supports up to 1280 x 1024 256 colors display resolution. And it also provides one internal 50-pin connector for various type of the LCD Panel connection.

The HS-2601 provides with one SODIMM socket support up to 256MB 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.

The HS-2601 features include one Intel® 82559 100 Based LAN design on board. With one external RJ-45 connector provides an easily for user's LAN application.

1.1 Major Features

- ✓ Socket 370 for Intel® Celeron™/Coppermine™ 266~700 MHz Processors
- ✓ Intel® 82443 BX chipset
- ✓ Provide Flash Disk on board
- ✓ One piece SODIMM socket supports DRAM up to 256MB
- ✓ Fast PCI DMA33 controller supports two IDE drives include large hard disks, CD-ROM and tape backup etc
- ✓ PnP I/O address & IRQ selection
- ✓ On board Intel® 82559 100 Based LAN
- ✓ Two high speeds RS-232 serial ports with 16C550 UART 16byte FIFO
- ✓ One enhanced bi-directional parallel port supports SPP/EPP/ECP
- ✓ On board PS/2 Keyboard/Mouse connector or 6-pin header
- ✓ On board Intel® 69000 VGA controller
- ✓ On board one 50-pin for various types LCD Panel connection
- ✓ On board two USB ports and one IrDA port
- ✓ Award PnP Y2K Flash BIOS
- ✓ Single +5V Power
- ✓ Provide Mini PCI connector
- ✓ Provide PC/104 connector

1.2 Specifications

- ✧ **CPU:** Socket 370 for Intel® Celeron™/Coppermine™ 266-700 MHz
- ✧ **Bus Interface:** Mini PCI Local Bus
- ✧ **Chipset:** Intel® 82443 BX with 100MHz Bus facility
- ✧ **Flash Disk :** 8~64MB (Option)
- ✧ **Data Bus:** 64bit
- ✧ **Processing Ability:** 64bit
- ✧ **VGA Controller:** Intel® 69000 chipset with 2MB memory supports CRT/Panel up to 1280x1024 256 colors. Provides internal 50-pin LCD connector
- ✧ **LAN:** Intel® 82559 100 Based LAN provides 100 Based ability
- ✧ **IDE:** Two IDE drives supports mode 3/4 with DMA33 function provide data transfer rate up to 33MB/Sec
- ✧ **Memory:** One piece SODIMM socket provide up to 256MB
- ✧ **Floppy:** Supports up to two floppy disk drives
- ✧ **Parallel Port:** One bi-directional parallel port, supports SPP/ECP/EPP
- ✧ **Serial Port:** Two RS-232 serial ports include 16C550 UART with 16byte FIFO
- ✧ **BIOS:** Award PnP Y2K Flash BIOS
- ✧ **DMA Channels:** 7
- ✧ **Interrupt Levels:** 15
- ✧ **Keyboard/Mouse:** 6-pin Mini Din connector or 6-pin header
- ✧ **USB:** Supports 2 USB ports
- ✧ **IR Interface:** Supports one IrDA TX/RX header

-
- ✧ **Extra Power Connector:** Provides one 4-pin +5V/+12V power in connector.
 - ✧ **Max. Power Requirement:** +5V @5A(300MHz)
 - ✧ **Operating Temperature:** 0-60°C
 - ✧ **Board Size:** 103mm x 146mm

1.3 Delivery Package

The delivery package of HS-2601 includes all following items:

- One HS-2601 Industrial Single Board
- One Printer Ports Flat Cable
- One COM port Flat Cable
- One IDE port Flat Cable
- One FDD port Flat Cable
- One PS/2 Keyboard/Mouse Transfer Cable
- Utility Diskette
- 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-2601. 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 selection.

2.1 Caution of Static Electricity

The HS-2601 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:

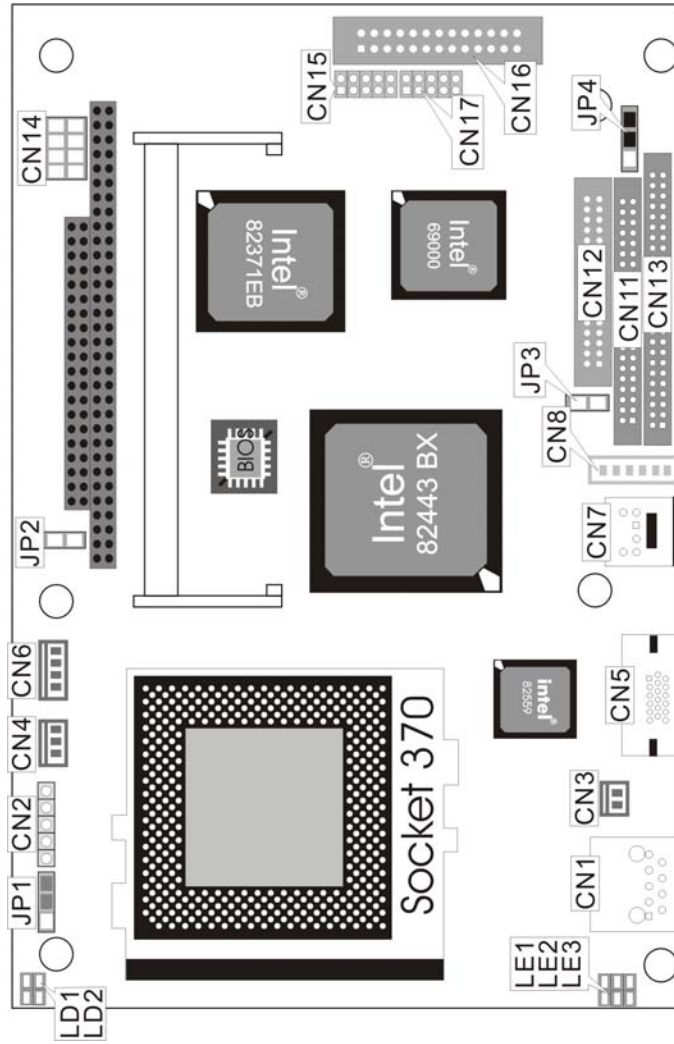
1. Please use a grounding wrist strap on whoever needs to handle the HS-2601. Well clip the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please put on and connect the strap before handle the HS-2601 for harmlessly discharge any static electricity through the 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-2601 from electricity discharge. With refer to section 1.3, please check the delivery package again with following steps:

1. Unpacking the HS-2601, 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-2601's Layout



2.4 Quick Listing of Jumpers

JP1	— FAN Voltage Select
JP2	— CPU Clock Select
JP3	— Reset
JP4	— LCD Voltage Select

2.5 Quick Listing of Connectors

CN1: LAN Connector
CN2: IR Connector
CN3: 2-pin 5V Power In
CN4: FAN Connector
CN5: CRT Connector
CN6: 4-pin EXT Power In
CN7: Keyboard/Mouse 6-pin Header
CN8: PS/2 6-pin Mini Din Keyboard/Mouse
CN9: PC/104 40-pin Connector
CN10: PC/104 64-pin Connector
CN11: IDE Connector
CN12: FDD Connector
CN13: LCD Panel Connector
CN14: USB Ports
CN15: COM2 (5x2 header)
CN16: Parallel Connector
CN17: COM1 (5x2 header)

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.

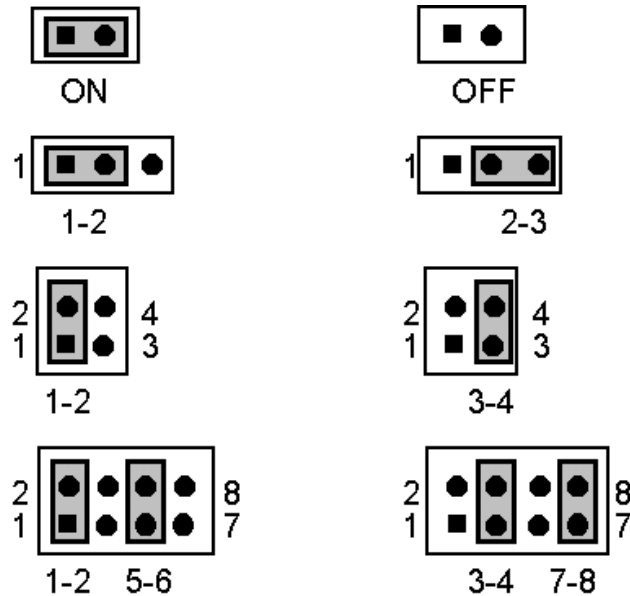


Figure 2.2

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-2601 provides all necessary by jumper setting in using Bus-Clock frequency as the system bus clocking with JP2 setting as following:

- **Bus-Clock Frequency Setting of JP2 :**

Bus-Clock Frequency	JP2
*66MHz	ON
100MHz	OFF

2.8 System Memory DRAM

The HS-2601 provides a single size SDRAM memory by one piece SODIMM socket request the access time should meet PC-100 standard. The maximum capacity of the on board memory is 256MB.

2.9 Setting the Flat Panel Voltage

The HS-2601 provides a setting for the selection of the working voltage of individual flat panel by JP4 setting as following:

- **Flat Panel Voltage Selecting of JP4:**

Panel's Working Voltage	JP4
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.

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-2601 provides one 2-pin DC-Power connector as following CN3 pin information. And also provides 4-pin EXT Power connector as following CN6 pin information. FAN Connector as following CN4 pin information.

- **CN3 : 2-Pin Power In Connector**

PIN NO.	Description
1	VCC(+5V)
2	GND

- **CN4 : FAN Out Connector**

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

- **CN6 : 4-Pin EXT Power Connector**

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

3.2 Reset Button

The HS-2601 has one Reset Button connection from JP3.

- **JP3 : Reset Button**

PIN NO.	Description
1	Ground
2	External Reset

3.3 Flash Disk

HS-2601 also offer Flash Disk function. Capacity from 8MB to 64MB. HS-2601's standard is equip with 16MB Flash Disk. But, Boser can up grate the Flash Disk capacity base on customer's request. Boser's Flash Disk is using IDE interface as IDE HDD, Tthere for no device drive necessary.

3.4 PCI E-IDE Drive Connector

One standard 44-pin header daisy-chain driver connector provides as CN11 with following pin assignment. Total two IDE (Integrated Device Electronics) drivers may connect.

- **CN11: IDE Interface Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RESET	2	GROUND
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	GROUND	20	N/C
21	N/C	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
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	GROUND
41	VCC	42	VCC
43	GROUND	44	VCC

3.5 Parallel Port Connector

A standard 26-pin flat cable driver connector provides as CN16 with following pin assignment for connection to parallel printer.

- **CN16: 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	GROUND
19	GROUND	20	GROUND
21	GROUND	22	GROUND
23	GROUND	24	GROUND
25	GROUND	26	GROUND

3.6 The Floppy Disk Drive Connector

A standard 34-pin header daisy-chain driver connector provides as CN12 with following pin assignment. Total two FDD drivers may connect.

• **CN12 : FDD CONNECTOR**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GROUND	2	REDUCE WRITE
3	GROUND	4	N/C
5	GROUND	6	DISK SELECT 1
7	GROUND	8	INDEX#
9	GROUND	10	MOTOR ENABLE A#
11	GROUND	12	DRIVE SELECT B#
13	GROUND	14	DRIVE SELECT A#
15	GROUND	16	MOTOR ENABLE B#
17	GROUND	18	DIRECTION#
19	GROUND	20	STEP#
21	GROUND	22	WRITE DATA#
23	GROUND	24	WRITE DATA#
25	GROUND	26	TRACK 0#
27	GROUND	28	WRITE PROTECT#
29	N/C	30	READ DATA#
31	GROUND	32	SIDE 1 SELECT
33	N/C	34	DISK CHANGE#

3.7 Serial Ports Connectors

The HS-2601 offers two high speeds NS16C550 compatible UART with Read/Receive 16 byte FIFO serial ports with two internal 10-pin header.

- **CN15/17 : Serial Port 10-pin Header (COM2/COM1)**

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	NC

3.8 Keyboard/Mouse Connectors

The HS-2601 offers two possibilities for Keyboard/Mouse connections to external PS/2 type at CN8, or an internal 6-pin header at CN7.

- **CN7: 6-pin Header Keyboard/Mouse Connector**

PIN NO.	Description
1	KEYBOARD CLOCK
2	MOUSE DATA
3	GROUND
4	VCC
5	KEYBOARD DATA
6	MOUSE CLOCK

- **CN8 : 6-pin Mini Din Keyboard/Mouse Connector**

PIN NO.	Description
1	KEYBOARD CLOCK
2	KEYBOARD DATA
3	MOUSE DATA
4	GROUND
5	VCC
6	MOUSE CLOCK

3.9 VGA CRT and LCD Connectors

The HS-2601 provides two possible connectives of VGA connections. One standard DB-15 external VGA connector as following CN5 pin information. Another internal 50-pin header for LCD Panel connection as following CN13 pin information.

- **CN13 : 50-pin Internal LCD Panel Connector**

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+12V	2	+12V
3	Ground	4	Ground
5	3.3V / 5V ^{Note-1}	6	ENAVDD
7	ENAVEE	8	Ground
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	Ground	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 JP4.

Flat Panel Display Interface (continued)

HS-2601		Mon o	Mono	Mono	Color	Color	Color	Color	Color	Color	Color	Color	Color	
		SS	DD	DD	TFT	TFT	TFT	TFT	STN- HR	STN- SS	STN- SS	STN- DD	STN-D D	STN-D D
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: Panel AC driver control													
38	LP,DE,HSYNC: Latch pulse													
40	ENABKL: Power sequencing control for enabling the backlight.(high active)													

- **CN5 : 15-pin DB15 Female VGA connector**

PIN NO.	Description	PIN NO.	Description
1	RED	2	GREEN
3	BLUE	4	NC
5	GROUND	6	GROUND
7	GROUND	8	GROUND
9	NC	10	GROUND
11	NC	12	DDC DATA
13	HSYNC	14	VSYNC
15	DDC CLK		

3.10 IR Connector

The HS-2601 provides a 5-pin internal IR communication connector as following CN2 pin information.

- **CN2 : 5-pin IR Connector**

PIN NO.	Description
1	Vcc
2	FIRRX
3	IRRX
4	GROUND
5	IRTX

3.11 USB Ports Connector

The HS-2601 provides two internal 8-pin USB ports connectors. Please refer to the following detail pin information.

- **CN14: 8-pin Header USB Connector**

PIN NO.	CN14	PIN NO.	CN14
1	Vcc	2	Vcc
3	BD0-	4	BD1-
5	BD0+	6	BD1+
7	GROUND	8	GROUND

3.12 LAN Interface Connector

The HS-2601 provides one external RJ-45 100 based LAN interface connector. Please refer to the following detail of pin information.

- **CN1 : RJ-45 LAN Connector**

PIN NO.	CN1
1	TX+
2	TX-
3	RX+
4	N/C
5	N/C
6	RX-
7	N/C
8	N/C
9	Ground

LED: There are three LED indicators provide the running conditions of the LAN with LE1, LE2 and LE3:

Pin No.	Description	Pin No.	Description
1	LILED	2	3V
3	ACTLED	4	3V
5	SPEDLED	6	5V

LE1: LINK LED
LE2: ACTIVE LED
LE3: SPEED LED

3.13 Mini PCI Connector

HS-2601 support Mini PCI interface which is very popular in Notebook Computer's expansion like Modem, Video, LAN and etc. Mini PCI's definition is as following.

• **U5 : Mini PCI Connector Pin Information**

PIN NO.	U5	PIN NO.	U5
1	INTB#	2	5V
3	3.3V	4	INTA#
5	RESERVED	6	RESERVED
7	GND	8	3.3VAUX
9	CLK	10	RST#
11	GND	12	3.3V
13	REQ#	14	GNT#
15	3.3V	16	GND
17	AD[31]	18	PME#
19	AD[29]	20	RESERVED
21	GND	22	AD[30]
23	AD[27]	24	3.3V
25	AD[25]	26	AD[28]
27	RESERVED	28	AD[26]
29	C/BE[3]#	30	AD[24]
31	AD[23]	32	IDSEL
33	GND	34	GND
35	AD[21]	36	AD[22]
37	AD[19]	38	AD[20]
39	GND	40	PAR
41	AD[17]	42	AD[18]
43	C/BE[2]#	44	AD[16]
45	IRDY#	46	GND
47	3.3V	48	FRAME#
49	CLKRUN#	50	TRDY#
51	SERR#	52	STOP#
53	GND	54	3.3V
55	PERR#	56	DEVSEL#
57	C/BE[1]#	58	GND
59	AD[14]	60	AD[15]
61	GND	62	AD[13]
63	AD[12]	64	AD[11]

65	AD[10]	66	GND
67	GND	68	AD[9]
69	AD[8]	70	C/BE[0]#
71	AD[7]	72	3.3V
73	3.3V	74	AD[6]
75	AD[5]	76	AD[4]
77	RESERVED	78	AD[2]
79	AD[3]	80	AD[0]
81	5V	82	RESERVED_WIP2
83	AD[1]	84	RESERVED_WIP2
85	GND	86	GND
87	AC_SYNC	88	M66EN
89	AC_SDATA_IN	90	AC_SDATA_OUT
91	AC_BIT_CLK	92	AC_CODEC_IDO#
93	AC_CODEC_ID1#	94	AC_RESET#
95	MOD_AUDIO_MON	96	RESERVED
97	AUDIO_GND	98	GND
99	SYS_AUDIO_OUT	100	SYS_AUDIO_IN

3.14PC/104 Bus Connection

The HS-2601's PC/104 expansion bus provides you to connect all kind of PC/104 modules. The PC/104 bus has been already become the industrial embedded 16bit PC standard bus. You can easily install over thousands type of PC/104 modules from hundreds of venders in the world. The detailed pin assignment of the PC/104 expansion bus connectors CN9 and CN10 are specified as following tables:

Note : *The PC/104 connector allows to directly plug-in Stack-thru PC/104 modules without the PC/104 mounting kit.*

• **CN9&CN10 : PC/104 Expansion Bus**

(CN10 = 64-pin female connector; CN9 = 40-pin female connector.)

Pin No.	CN10 Row A	Pin No.	CN10 Row B
1	IOCHECK*	33	0V
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	NOW*
9	SD0	41	+12V
10	IOCHRDY	42	(KEY)
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	OSC
31	SA0	63	0V
32	0V	64	0V

Pin No.	CN9 Row D	Pin No.	CN9 Row C
1	0V	21	0V
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	0V	39	SD15
20	0V	40	(KEY)

Chapter-4

AWARD BIOS Setup

The HS-2601 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 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 (2A69KD2I)

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
PhP/PCI CONFIGURATION	SAVE & EXIT SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	(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.

Data (mm:dd:yy) : Fri, Dec 19 1998									
Time (hh:mm:ss) : 00:00:00									
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
Primary Master	: Auto (	0Mb)	0	0	0	0	0	Auto	
Primary Slave	: Auto (	0Mb)	0	0	0	0	0	Auto	
Secondary Master	: Auto (	0Mb)	0	0	0	0	0	Auto	
Secondary Slave	: Auto (	0Mb)	0	0	0	0	0	Auto	
Drive A	: 1.44M , 3.5in.								
Drive B	: None								
LCD&CRT	: Auto								
Halt On		: All, But Keyboard	Base		Memory	: 640K			
			Extended		Memory	: 64512K			
			Other		Memory	: 384K			
			Total		Memory	: 65535K			
ESC : Quit		↑↓→← : Select Item			PU/PD/ + / - : Modify				
F1 : Help		(Shift) F2: Change Color							

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
Quick Power On Self Test	: Disabled	D4000-D7FFF	Shadow	: Disabled
Boot From LAN First	: Enabled	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	ESC	: Quit	↑↓→←: Select Item
PS/2 mouse function control	: Enabled	F1	: Help	PU/PD/+/-: Modify
PCI/VGA Palette Snoop	: Disabled	F5	: Old Values	(Shift) F2 : Color
OS Select For DRAM > 64MB	: Non-OS2	F6	: Load BIOS Defaults	
Report No FDD For WIN 95	: Yes	F7	: 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	Power-Supply Type	: Auto
EDO DRAM Speed Selection	: 60ns	Auto Detect DIMM/PCI Clk	: Enabled
EDO CAS# MA Wait State	: 2	Spread Spectrum	: Disabled
EDO RAS# Wait State	: 2	CPU Warning Temperature	: Disabled
SDRAM RAS-to-CAS Delay	: 3	Current CPU Temperature	: Disabled
SDRAM RAS Precharge Time	: 3	Current CPU Temperature	: 40°C/104°F
SDRAM CAS latency Time	: 3	Shutdown Temperature	: 60°C/140°F
SDRAM Precharge Control	: Enabled		
DRAM Date Integrity Mode	: Non-ECC		
System BIOS Cacheable	: Enabled		
Video BIOS Cacheable	: Enabled		
Video RAM Cacheable	: Enabled		
8 Bit I/O Recovery	: 3		
16 Bit I/O Recovery	: 2		
Memory Hole At 15M-16M	: Disabled		
Passive Release	: Enabled	ESC : Quit	↑↓→←: Select Item
Delayed Transation	: Disabled	F1 : Help	PU/PD/+/: Modify
AGP Aperture Size	: 64M	F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

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

*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 (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 (Large BIOS ONLY)
15	1024*600 TFT Color Panel (Large BIOS ONLY)

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 function	: Disabled		
Power Management	: User Define	** Reload Global Timer Events **	
PM Control by APM	: Yes	IRQ3 [3-7, 9-15], NMI	: Disabled
Video Off Method	: V/H Sync + Blank	Primary IDE0	: Disabled
Video Off After	: Standby	Primary IDE1	: Disabled
MODEM Use IRQ	: 3	Secondary IDE0	: Disabled
Doze Mode	: Disabled	Secondary IDE1	: Disabled
Standby Mode	: Disabled	Floppy Disk	: Disabled
Suspend Mode	: Disabled	Serial Port	: Enabled
HDD Power Down	: Disabled	Parallel Port	: Disabled
Throttle Duty Cycle	: 25.0%		
PCI/VGA Act-Monitor	: Disabled		
Soft-Off by PWR-BTTN	: Instant-Off		
CPU FAN Off In Suspend	: Disabled		
Power On by Ring	: Disabled		
Wake Up On LAM	: Enabled		
IRQ8 Break Suspend	: Enabled		
		ESC	: Quit ↑↓→←: Select Item
		F1	: Help PU/PD/+/-: Modify
		F5	: Old Values (Shift) F2 : Color
		F6	: Load BIOS Defaults
		F7	: Load Setup Defaults

4.7 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	: 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	

Chapter-5

Software Utilities

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

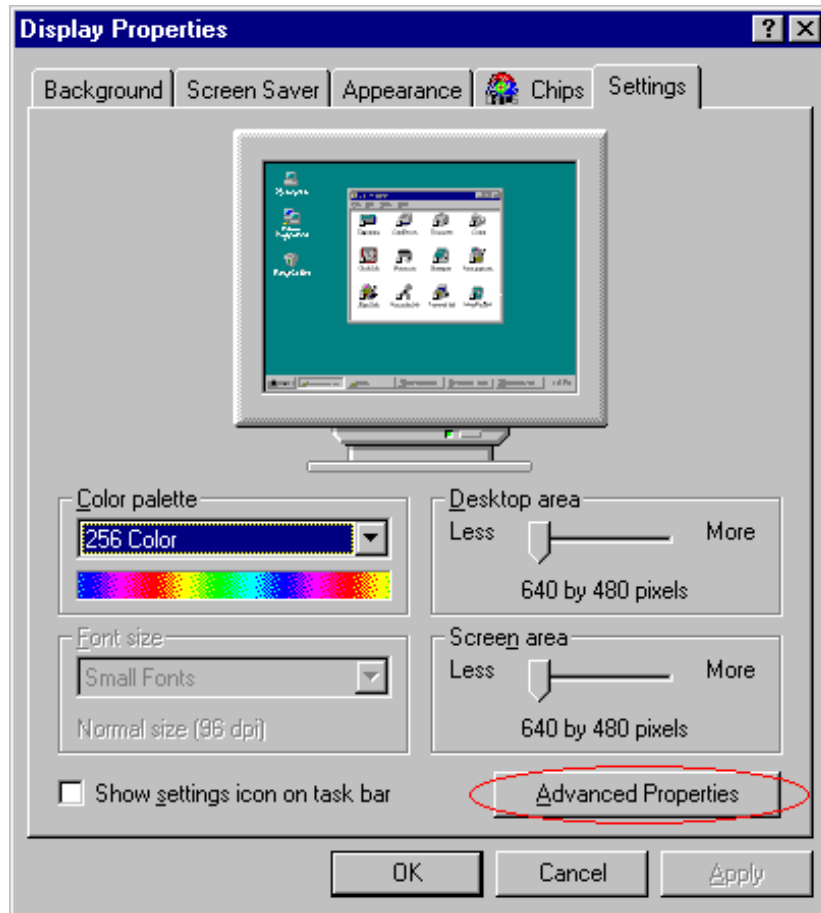
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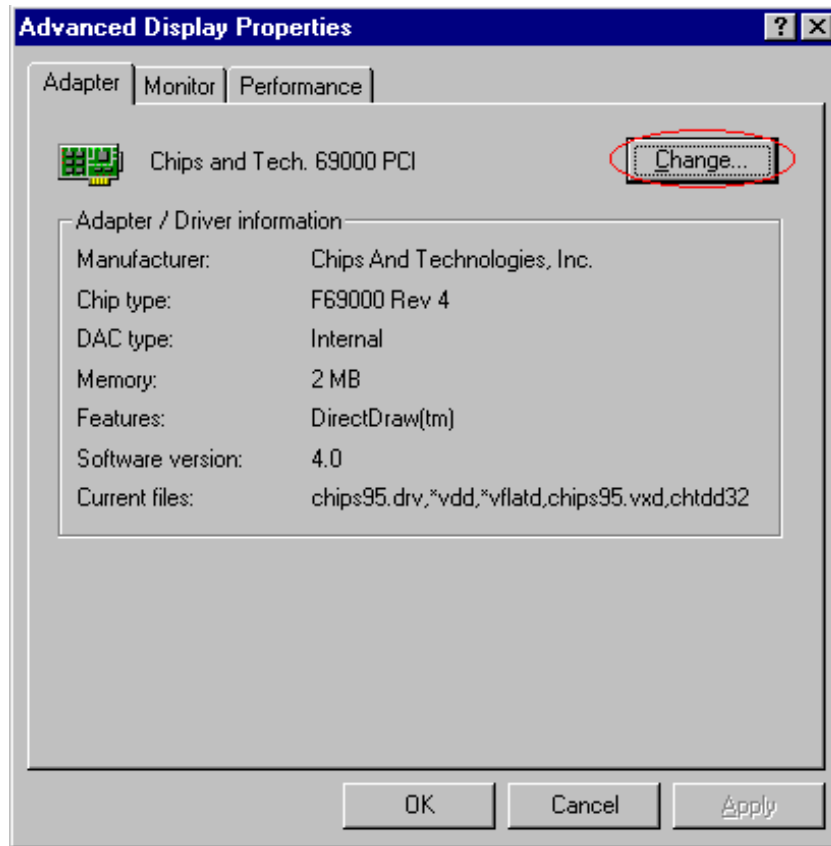
- VGA DRIVER INSTALLATION
- NETWORK DRIVER INSTALLATION

5.1 VGA DRIVER INSTALL FOR WIN95&98

1. Click Start, then Setting, then Control Panel.
2. Start the Display applet program.
3. Select the setting page, push the Advanced properties button.
4. Push the change button in the adapter area.
5. Continue to click "Next". Select
Display a list of all drivers in a specific location,
so you can select the drivers you want.
6. Click "Next".
7. Select the Specify a location checkbox and click "Browse".
8. Specify the path to the new driver and press the ,<ENTER> key.
(if in driver A:, select a:\win95)
9. The Select device dialog box will appear.
Select **Chips and Tech. 69000 PCI**
10. Continue choosing close 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.



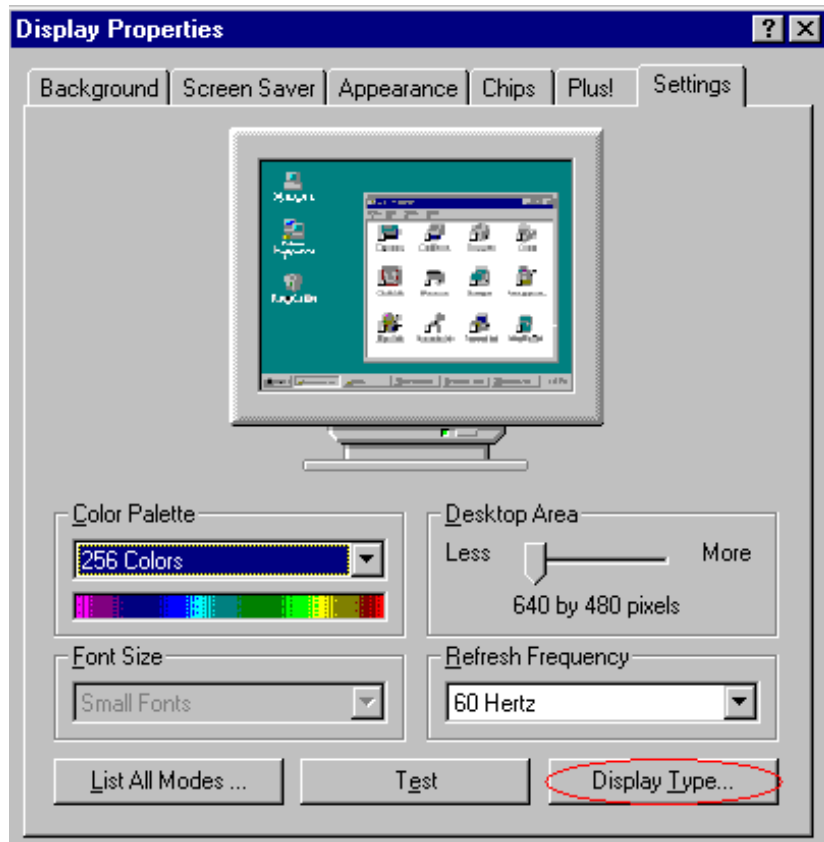


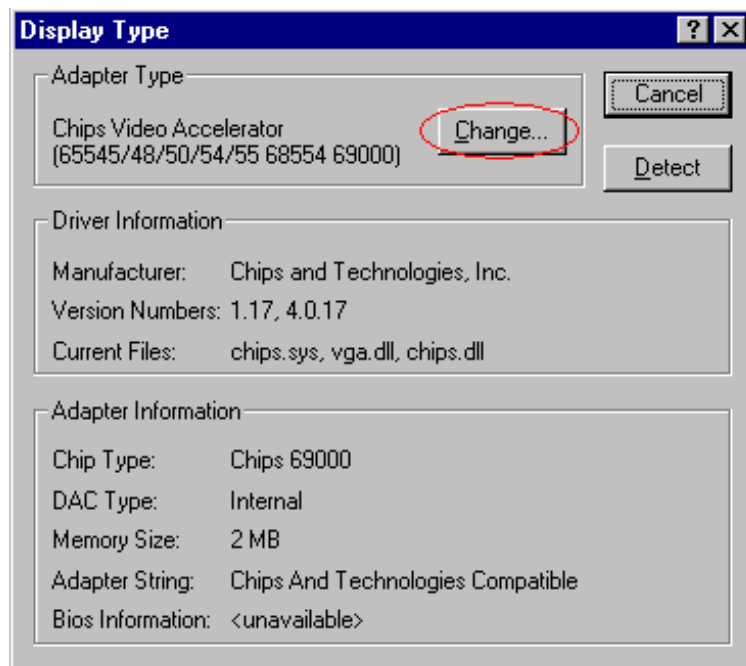
5.2 VGA DRIVER INSTALL FOR WIN NT4.0

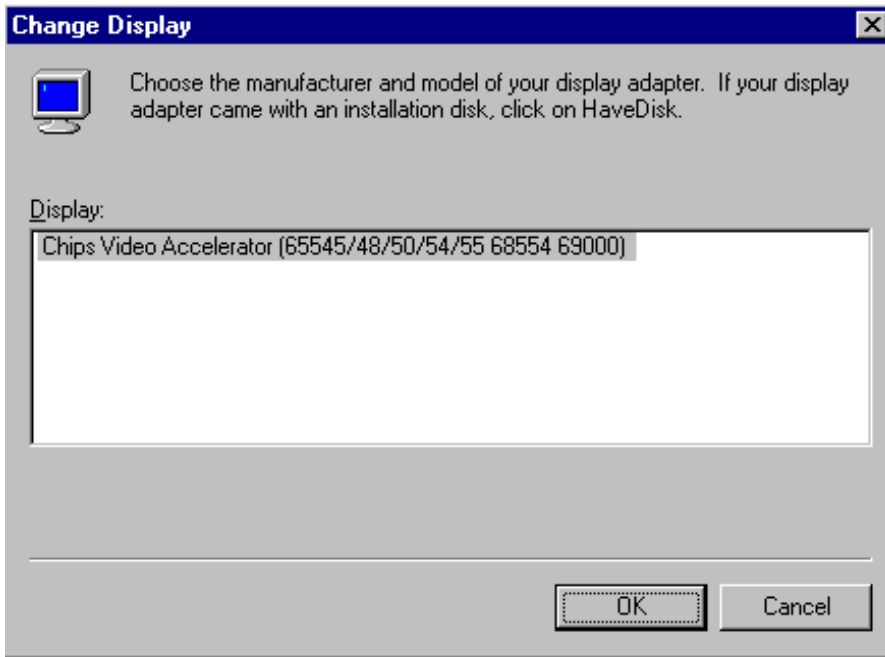
1. Click the Start button, then go to Settings and click on Control Panel.
2. Click on Display icon to start the Display Properties window.
3. Click on the Settings tab, and then click on Display Type.
4. In the Change Display Type window, click on "Have Disk".
5. Specify the path to the new driver and press the <ENTER>key.
(if in driver A:, type a:\nt40)

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

6. click OK or press Enter
7. You will then see warning panel about Third Party Drivers. Click on Yes to finish the install.
8. Once the installation is complete, the system must shut down and restart for the new driver to take effect.
9. After restart, checking on the VGA driver, the properties of the driver should look similar to the following figure.







5.3 NETWORK DRIVER INSTALL FOR WIN98&95

Win98

Windows 98 will detect the network driver automatically.

Win95

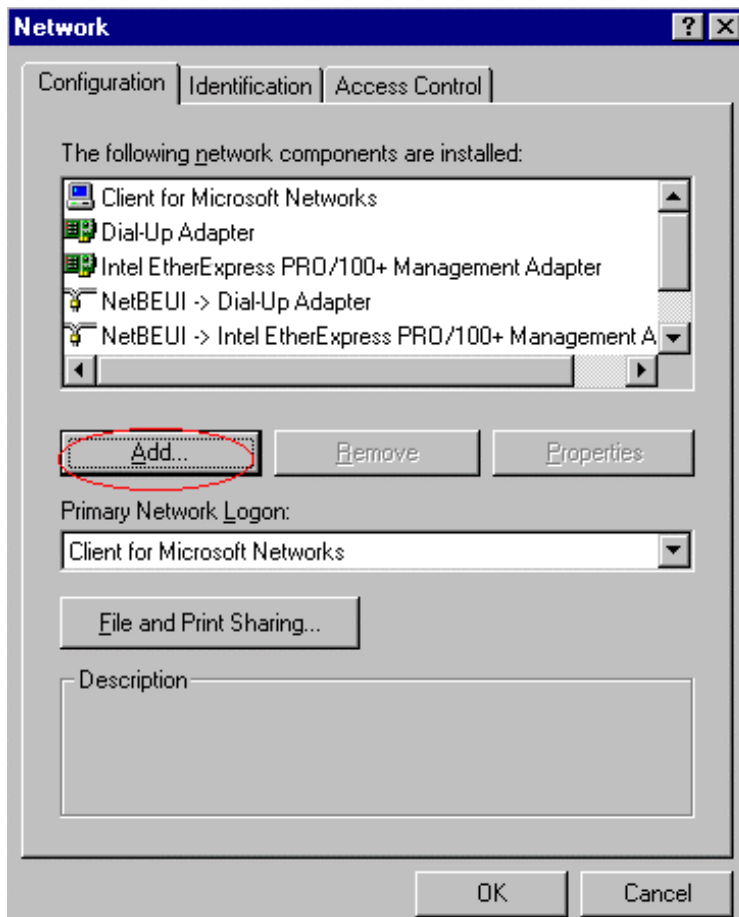
1. Click Start, then Settings, in the "Setting" select Control panel.
2. Start the network applet program.
3. In the Network window, click Add.
4. In the Select Network Component Type, select Adapter then click Add.
5. When the Select Network Component Type, Select Adapter, then click Add.
6. Specify the path the new driver and press <ENTER> key.

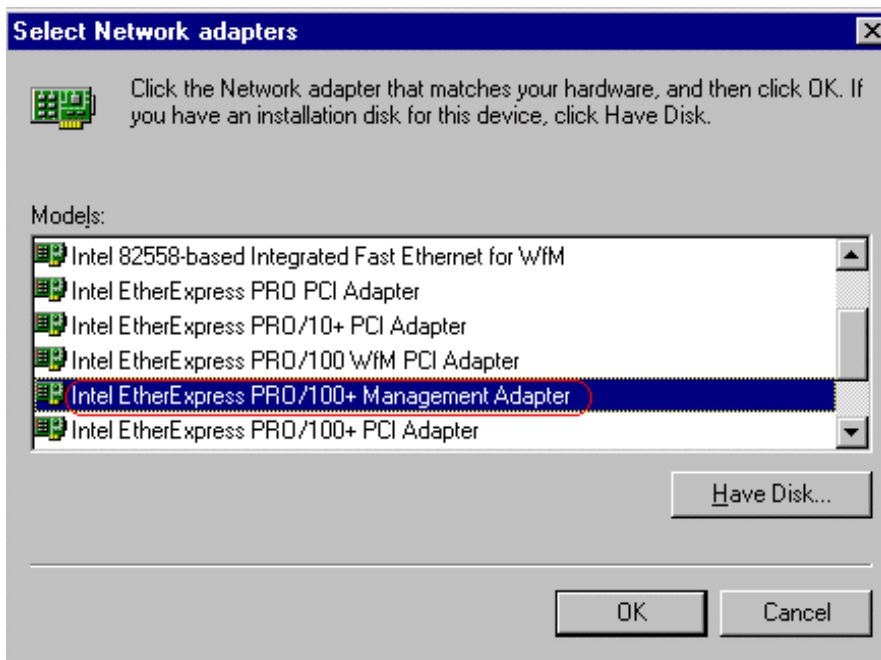
(If in driver a:, type a:\)

(If you're not sure exactly where the drivers are, choose the "Browse" button and find it)

Select Intel EtherExpress PRO/100+ Management Adapter

7. Click OK.
8. Windows 95 will copy the network drivers to the proper directories on your system.
9. Continue choosing "OK", until asked to restart your system.
10. After restart, checking on the network driver, the Properties of the driver should look similar to the following figure.





5.4 NETWORK DRIVER INSTALL FOR WIN NT4.0

1. Click the Start button, then go to Settings and click on Control Panel.
2. Click on the Network icon to start the Network window.
3. Click on the Adapters tab, and then click on Add.
4. In the Select Network Adapter window, click on Have Disk.
5. This will bring up the Insert Disk window.
6. Supply the directory where the Windows NT driver file are located.
(If in driver a:, type a:\)
7. The Select OEM Option window will show up.

Select Intel EtherExpress PRO Adapter

8. Click OK to finish the install.
9. Once the installation is complete, the system must be shut down and restarted for the new driver to take effect.
10. After restart, checking on the Network driver, the Properties of the driver should look similar figure.

