HS-2606

ULV Intel® Celeron® processor Embedded Engine Board

- CompactFlash PCMCIA Mini PCI •
- CRT/Panel TV-Out LAN Audio •
- ATA/33/66/100 4 COM USB2.0 WDT •

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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 product 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 PROTECTIONS.

Chapter 1

General Description



The HS-2606 is a 100/133MHz FSB VIA CLE266/VT8235 chipset-based board designed for Mini PCI Local Bus ULV Intel® Celeron® processor 400/650MHz. These features combine and make the HS-2606 and ideal all-in-one industrial single board computer. Additional features include and enhanced I/O with CF, PCMCIA, CRT/Panel, audio, LAN TV-Out, 4 COM, and USB2.0 interfaces.

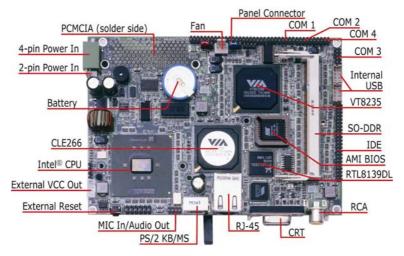
Its onboard ATA/33/66/100 to IDE drive interface architecture allows the HS-2606 to supports data transfers of 33, 66 or 100MB/sec. To one IDE drive connection. Designed with the VIA CLE266/VT8235 core logic chipset, the board supports VIA Eden 1GHz Embedded CPU. The VIA CLE266 integrated S3 3D supports CRT display up to 1400 x 1050 @ 60Hz, and panel display up to 1400 x 1050.

HS-2606 offers PCMCIA connector and CompactFlash reader in addition. +10~+30V wide range single DC power in can make HS-2606 suitable for all kinds of environments even more.

System memory is also sufficient with the one 200-pin SO-DDR socket that can supports up to 1GB.

Additional onboard connectors include 4 USB2.0 port providing faster data transmission. And one external RJ-45 connector for 10/100 Based Ethernet use.

1.1 Major Features



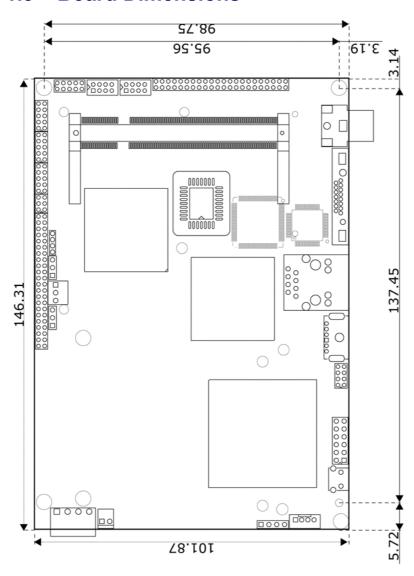
The HS-2606 comes with the following features:

- ➤ ULV Intel® Celeron® embedded 400/650MHz
- One SO-DDR socket with a max. capacity of 1GB
- ➤ VIA CLE266/VT8235 chipset
- ➤ Winbond W83697UF super I/O chipset
- > VIA CLE266 graphics controller
- RealTek RTL8139DL Ethernet controller
- AC97 3D audio controller
- Fast PCI ATA/33/66/100 IDE controller
- > CF, PCMCIA, 4 COM, 4 USB2.0
- > TV-Out function
- ➤ +10~+30V wide range single DC power in

1.2 Specifications

- CPU: ULV Intel® Celeron® processor 400/650MHzMemory: One SO-DDR socket supports up to 1GB
- Chipset: VIA CLE266/VT8235I/O Chipset: Winbond W83697UF
- CompactFlash: One, Type I/II IDE interface adapter
- PCMCIA: Two PC Card or CardBus slots
- PCI Slot: One, Type I mini PCI slot
- VGA: VIA CLE266 integrated S3 3D supports AGP Bus and Hardware MPEG-2
- TV-Out: Supports PAL or NTSC TV system
- Ethernet: RealTek RTL8139DL 10/100 Based LAN
- Audio: AC97 3D audio controller
- IDE: One 2.0-pitch 44-pin IDE connector
- Serial Port: 16C550 UART-compatible RS-232 x 4 serial ports with 16-byte FIFO
- USB: 4 internal USB2.0 ports
- Keyboard/Mouse: PS/2 6-pin Mini DIN
- BIOS: AMI PnP Flash BIOS
- Watchdog Timer: Software programmable time-out intervals from 1~255 sec.
- CMOS: Battery backup
- Power In: +7~+26V wide range single DC power in
- Temperature: 0~+60°C (operating)Dimensions: 14.5(L) x 10.2(W) cm

1.3 Board Dimensions



Chapter 2

Unpacking

2.1 Opening the Delivery Package

The HS-2606 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. Saftey 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-2606 delivery package contains the following items:

- HS-2606 Board x 1
- Utility CD Disk x 1
- Cables Package x 1
- Jumper Bag x 1
- User's Manual



Cables Package	
NO.	Description
1	4-pin power cable x 1
2	MIC/Audio cable x 1
3	8-pin USB split type cable x 1
4	PS/2 KB/MS transfer cable x 1
5	RS-232 cable x 4
6	IDE flat cable x 1

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

Chapter 3

Hardware Installation

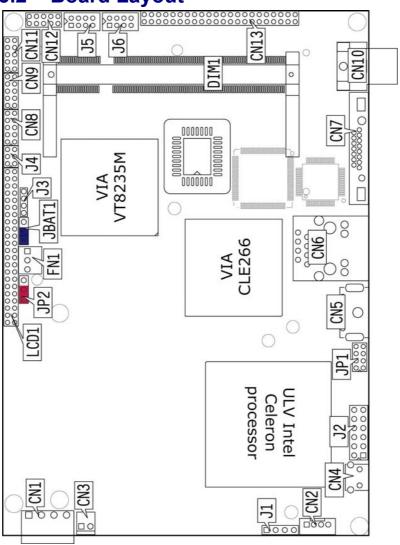
This chapter provides the information on how to install the hardware using the HS-2606. This chapter also contains information related to jumper settings of switch, and watchdog timer selection etc.

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	Default Setting	Setting	Page
JBAT1	Clear CMOS: Normal Operation	Short 1-2	10
JP2	Panel Voltage Select: +3.3V	Short 1-2	12

3.4 Connector List

Connector	Definition	Page
CN1	4-pin Power In Connector	10
CN2	External VCC Out Connector	10
CN3	2-pin ATX Power In Connector	10
CN4	External Reset Button	10
CN5	PS/2 6-pin Mini DIN KB/MS Connector	18
CN6	RJ-45 Connector	14
CN7	15-pin CRT Connector	12
CN8/CN9/CN12/CN11	COM 1~COM 4 Connector (5x2 header)	17
CN10	TV-Out Connector	14
CN13	IDE Connector	16
CN14	CompactFlash Connector	20
DIM1	SO-DDR Socket	10
FN1	Fan Power In Connector	10
J1	Line In Connector	15
J2	System Front Panel Control	11
J3	GPIO Connector	19
J5/J6	USB Connector	17
JP1	MIC In/Audio Out Connector	15
LCD1	44-pin Panel Connector	12
U32	PCMCIA Connector	20
PC1	Mini PCI Connector	20

3.5 Configuring the CPU

The HS-2606 v2.0 embedded with a ULV Intel® Celeron® processor 400/650MHz. User don't need to adjust the frequently and check speed of Intel® processor.

3.6 System Memory

The HS-2606 provides one 200-pin SO-DDR socket at locations *DIM1*. The maximum capacity of the onboard memory is 1GB.

3.7 CMOS Data Clear

The HS-2606 has a Clear CMOS jumper on JBAT1.

• JBAT1: Clear CMOS

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

IMPORTANT: Before you turn on the power of your system, please set JBAT1 to Short 1-2 for normal operation.

3.8 Power and Fan Connectors

HS-2606 provides one 4-pin power connector at *CN1*. And one 2-pin ATX power in at *CN3*.

+10~+30V wide range single DC power in can make HS-2606 suitable for all kinds of environments even more.

• CN1: 4-pin DC Power In Connector

PIN	Description
1	+7~+26V
2	GND
3	GND
4	+7~+26V



• CN2: External VCC Out Connector

PIN	Description
1	VCC
2	GND
3	GND
4	VCC

• CN3: 2-pin ATX Power In Control

PIN	Description
1	PS_ON
2	5VSB



• CN4: External Reset Button

PIN	Description
1	RST_SW
2	GND
3	GND
4	GND

• FN1: Fan Power In Connector

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

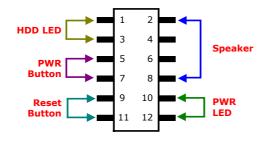


3.9 System Front Panel Control

• J2: System Front Panel Control

PIN	Description	PIN Description	
1	330 Ω Pull +5V	2	Speaker
3	HDD LED	4	N/C
5	PW Button	6	GND
7	GND	8	330Ω Pull +5V
9	Reset Switch	10	330 Ω Pull +5V
11	GND	12	PW_LED

Connector J2 Orientation



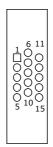
3.10 VGA Controller

The HS-2606 provides two connection methods of a VGA device. *CN7* offers a single standard CRT connector while *LCD1* is the 44-pin panel connector. VIA CLE266 VGA chipset shared main memory 8/16/32MB, and provides high quality DVD video playback. HS-2606 also provides Hardware MPEG-2.

CRT resolution is up to 1400 x 1050 @60Hz, Panel resolution is up to 1400 x 1050. And LCD at 32bpp is not supported with SXGA + Panel.

• CN7: 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	SDA
13	HSYNC	14	VSYNC
15	SCL		



• LCD1: 44-pin Panel Connector

PIN	Description	PIN	Description	
1	N/C	2	N/C	
3	GND	4	GND	
5	V_{LCD}	6	ENAVDD	
7	ENPVEE	8	GND	
9	GFPD0	10	GFPD1	1000 2
11	GFPD2	12	GFPD3	00
13	GFPD4	14	GFPD5	00
15	GFPD6	16	GFPD7	00
17	GFPD8	18	GFPD9	00
19	GFPD10	20	20 GFPD11	
21	GFPD12	22	22 GFPD13	
23	GFPD14	24 GFPD15		00
25	GFPD16	26 GFPD17		00
27	GFPD18	28	28 GFPD19	
29	GFPD20	30	GFPD21	00
31	GFPD22	32	GFPD23	00
33	N/C	34	34 N/C	
35	SHFLCK	36	36 GFPVS	
37	GFPDEN	38	38 GHPHS	
39	GND	40	40 FPBKLP	
41	N/C	42	42 N/C	
43	N/C	44	44 N/C	

NOTE: Please set the proper voltage of your panel use JP2 before proceeding on installing it.

The HS-2606 has an onboard jumper that selects the working voltage of the flat panel connected to the system. Jumper JP2 offers two voltages setting for the user.

• JP2: Panel Voltage Select

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



3.11 TV-Out Connector

The HS-2606 can supports TV-Out function which input could be up to 800 x 600 graphics resolutions. World Wide Video standards are supported including NTSC-M (North America, Taiwan), NTSC-J (Japan), PAL-B, D, G, H, I (Europe Asia), PAL-M (Brazil), PAL-N (Uruguay, Paraguay) and PAL-NC (Argentina).

• CN10: RCA Connector (for TV-Out function)

PIN	Description
1	TVCVB
2	GND
3	GND
4	GND

3.12 Ethernet Connector

The HS-2606 provides two external RJ-45 interface connectors. Please refer to the following for its pin information.

• CN6: RJ-45 Connector

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



3.13 Audio Connectors

The HS-2606 has an onboard AC97 3D audio controller. The following tables list the pin assignments of the Line In/Audio Out connector.

• JP1: MIC In/Audio Out Connector

PIN	Description	PIN	Description
1	AOUTL	2	AOUTR
3	GND	4	GND
5	MIC IN	6	N/C
7	GND	8	GND

• J1: Line In Connector

PIN	Description	PIN	Description
1	LINE R	2	GND
3	GND	4	LINE L



3.14 PCI E-IDE Drive Connector

CN13 is a standard 44-pin 2.0-pitch connector daisy-chain driver connector serves the PCI E-IDE drive provisions onboard the HS-2606. A maximum of two ATA/33/66/100 IDE drives can be connected to the HS-2606 via *CN11*.

• CN13: 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	PDREQ	22	GND
23	IOW#	24	GND
25	IOR#	26	GND
27	PIORDY	28	GND
29	RPDACK-	30	GND
31	Interrupt	32	N/C
33	RPDA1-	34	PATA66
35	RPDA0-	36	RPDA2-
37	RPCS1-	38	RPCS3-
39	HDD Active	40	GND
41	VCC	42	VCC
43	GND	44	N/C

3.15 Serial Port Connectors

The HS-2606 offers NS16C550 compatible UARTs with Read/Receive 16-byte FIFO serial ports and internal 10-pin headers.

• CN8/CN9/CN12/CN11: COM 1~COM 4 Connector (5x2 Header)

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



3.16 USB Connector

The HS-2606 provides two 8-pin connectors, at location J4 and J5, for four USB2.0 ports to the HS-2606.

• J5/J6: USB2.0 Connector

PIN	Description	PIN	Description
1	VCC	2	VCC
3	BD2-/ BD0-	4	BD3-/BD1-
5	BD2+/ BD0+	6	BD3+/BD1+
7	GND	8	GND

3.17 Keyboard/Mouse Connectors

The HS-2606 offers two possibilities for keyboard/mouse connections. The connections are via *CN3* for an external PS/2 type keyboard/mouse OR *CN13* for 6-pin header.

• CN5: PS/2 6-pin Mini DIN KB/MS Connector

PIN	Description	
1	Keyboard Data	
2	Mouse Data	6/25
3	GND	4(0000000000000000000000000000000000000
4	+5V	2
5	Keyboard Clock	
6	Mouse Clock	

3.18 Watchdog Timer

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

The following sample programs show how to enable, disable and refresh the watchdog timer:

```
;Enter the WDT function mode, interruptible double-write
               DX, 4EH
AL, 87H
DX, AL
DX, AL
MOV
MOV
OUT
;Configuration logical device 8, configuration register CRF30
                DX, 4EH
               DX, 4EH
AL, 07H
DX, AL
DX, 4FH
AL, 08H
DX, 4EH
AL, 30H
DX, AL
DX, 4FH
AL, 01H
DX, AL
MOV
OUT
                                ;point to Logical Device Number Reg.
MOV
MOV
OUT
MOV
                                ;select logical device 8
MOV
OUT
                                ;select CRF30
MOV
MOV
OUT
                                ;update CRF30 with value 01H
MOVDX, 4EH
               AL, F3H
DX, AL
DX, 4FH
AL, 00H
DX, AL
DX, 4EH
AL, F4H
MOV
MOV
MOV
MOV
OUT
                                ;select CRF3 (select WDTO count mode)
                                ;update CRF3 with value 00H (bit 2:0=second; 1=minute)
MOV
MOV
               DX, AL
DX, 4FH
AL, 05H
DX, AL
OUT
MOV
                                ;select CRF4 (WDTO Time-out value)
MOV
OUT
                                ;update CRF4 with value 05H
Bit[7:0] = 00 Time-out Disabled
01 Time-out occurs after 1 second/minute
                                02 Time-out occurs after 2 second/minute
                                ff Time-out occurs after 255 second/minute
```

3.19 GPIO Function

The HS-2606 offers four general purpose I/O ports with the following capabilities:

- I2C/SMB Support
- Thermal Detect
- Notebook Lid Open/close Detect
- Battery Low Detect
- J3: GPIO Connector

PIN	Description	PIN	Description
1	GPIO8	2	GPIO9
3	GPIO10	4	GPIO11



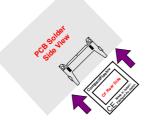
3.20 Mini PCI Slot

HS-2606 supports a mini PCI connector at location *PC1*. The peripheral component with standard Typel mini PCI can be used. For particular requirement, please refer to "BOSER Mini PCI Series" product on website or contact with us.

3.21 CompactFlash™ Connector

The HS-2606 also offers a Type I/II CompactFlashTM connector which is IDE interface located at the solder side of the board (beneath the SO-DIMM connector). The designated CN14 connector, once soldered with an adapter, can hold CompactFlashTM cards of various sizes. Please turn off the power before inserting the CF card.

Inserting a CompactFlash™ card into the adapter is not a difficult task. The socket and card are both keyed and there is only one direction for the card to be completely inserted. Refer to the diagram on the following page for the traditional way of inserting the card.



3.22 PCMCIA Connector

HS-2606 built-in two CardBus/PCMCIA interface connector at location *U32*.

Chapter 4

AMI BIOS Setup

The HS-2606 uses AMI BIOS for the system configuration. The AMI 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 AMI BIOS is immediately activated when you first power on the computer. The BIOS reads the system information contained in the CMOS and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

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

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

Press DEL to enter SETUP.

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will 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, and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

↑	Move to previous item
↓	Move to next item
←	Move to previous item
\rightarrow	Move to previous item
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	Decrease the numeric value or make changes
PgDn key	Increase the numeric value or make changes
+ key	Increase the numeric value or make changes
- key	Decrease the numeric value or make changes
F1 key	Reserved
F2 key	Change color from total 8 colors. F2 to select color forward
F3 key	F2 to select color backward
F4 key	Reserved
F5 key	Reserved
F6 key	Reserved
F7 key	Reserved
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

4.3 Main Menu

Once you enter the AMI 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.

AMIBIOS HIFLEX SETUP UTILITY – VERSION x.xx (C)2001 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup
Advanced CMOS Setup
Advanced Chipset Setup
Power Management Setup
PCI / Plug and Play Setup
Peripheral Setup
Hardware Monitor Setup
Auto-Detect Hard Disks
Change User Password
Change Supervisor Password
Auto Configuration with Optimal Settings
Auto Configuration with Fail Safe Settings
Save Settings and Exit
Exit Without Saving

ESC:Exit $\uparrow \downarrow$:Sel F2/F3: Color F10: Save & Exit

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 capacity of the IDE hard disk drive 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.

AMIBIOS SETUP – STANDARD CMOS SETUP (C)2001 American Megatrends, Inc. All Rights Reserved				
Date (mm/dd/yyyy) : Thu Apr 17, 2003 Tim (hh/mm/ss) : 19:04:12 e	Base Memory : Extd Memory :	639KB 55MB		
Type Size Cyln Head WPcom Sec Pri Master : Auto Pri Slave : Auto Sec Master : Auto Sec Slave : Auto	LBA Blk PIO Mode Mode Mode	32Bit Mode ON ON ON		
Boot Sector Virus Protection : Disabled				
Month: Jan - Dec Day: 01 - 31 Year: 1980 - 2099	ESC:Exit ↑↓: PgUp/PgDn:Modif F1:Help F2/F3	y		

4.5 Advanced CMOS 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.

AMIBIOS SETUP – ADVANCED CMOS SETUP (C)2001 American Megatrends, Inc. All Rights Reserved			
Quick Boot	Enabled	A	Available Options:
1st Boot Device	Disabled		
2nd Boot Device	Disabled		
3rd Boot Device	Disabled		
Try Other Boot Devices	Yes		
S.M.A.R.T. for Hard Disks	Disabled		
BootUp Num-Lock	On		
PS/2 Mouse Support	Enabled		
Primary Display	VGA/EGA		
Password Check	Setup		
Ask HDD Password on Every boot	Yes		
Boot To OS/2	No		
CPU MicroCode Updation	Enabled		
CPU Serial Number	Disabled		
L1 Cache	Enabled		
L2 Cache	Enabled		
System BIOS Cacheable	Enabled		
C000,32k Shadow	Cached		
C800,16k Shadow	Disabled		
CC00,16k Shadow	Disabled		
D000,16k Shadow	Disabled		
D400,16k Shadow	Disabled		ESC:Exit ↑↓:Sel
D800,16k Shadow	Disabled		PgUp/PgDn:Modify
DC00,16k Shadow	Disabled	•	F1:Help F2/F3:Color

4.6 Advanced Chipset 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.

AMIBIOS SETUP – ADVANCED CHIPSET SETUP (C)2001 American Megatrends, Inc. All Rights Reserved			
****** DRAM Timing ******		Available Options:	
Configure SDRAM Timing by SPD	Enabled	▶ Disabled	
DRAM Frequency	Auto	Enabled	
SDRAM CAS# Latency	2.5		
SDRAM Bank Interleave	Disabled		
SDRAM Command Rate	2T		
Memory Hole	Disabled		
Auto Prechrage for TLB/WB	Disabled		
Write Recovery time	2T		
AGP Mode	4x		
AGP Read Synchronization	Disabled		
AGP Fast Write	Disabled		
AGP Comp. Driving	Auto		
Manual AGP Comp. Driving	CB		
AGP Aperture Size	64MB		
AGP Master 1 W/S Write	Disabled		
AGP Master 1 W/S Read	Disabled		
Search for MDA Resources	Yes		
PCI Delay Transaction	Enabled		
USB Controller	4 USB Ports		
USB Device Legacy Support	All Device	ESC: Exit ↑↓: Sel	
V-Link Data 2X Support	Disabled	PgUp/PgDn: Modify F2/F3: Color	

4.7 Power Management Setup

AMIBIOS SETUP - PCI / PLUG AND PLAY SETUP (C)2001 American Megatrends, Inc. All Rights Reserved Available Options: S1/POS ACPI Standby State ▶ No USB Device Wakeup Function Enabled Yes Re-Call VGA BIOS at S3 Resuming Enabled Power Management / APM Enabled Video Power Down Mode Suspend Hard Disk Power Down Mode Stand By Standby Time Out (Minute) Disabled Suspend Time Out (Minute) Disabled Throttle Slow Clock Ratio 50%~56.25% Display Activity Ignore IRQ3 Monitor IRQ4 Monitor IRQ5 Ignore IRQ7 Monitor IRQ9 Ignore IRQ10 Ignore IRQ11 Ignore IRQ12 Ignore IRQ13 Ignore IRQ14 Monitor IRQ15 Ignore On / Off Power Button Function Restore on AC / Power Loss Last State Wake-Up Key Any Key Wake-Up Password N/A Resume On PS/2 Mouse Disabled Resume On RTC Alarm Disabled RTC Alarm Date 15 RTC Alarm Hour 12 ESC: Exit ↑↓: Sel PgUp/PgDn: Modify RTC Alarm Minute 30 RTC Alarm Second 30 ▼ F2/F3: Color

4.8 PCI / Plug and Play Setup

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, 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.

AMIBIOS SETUP – PCI / PLUG AND PLAY SETUP (C)2001 American Megatrends, Inc. All Rights Reserved				
Plug and Play Aware O/S	No	Available Options:		
Clear NVRAM	No	▶ No		
OnChip VGA Frame Buffer Size	16MB	Yes		
PCI Latency Timer (PCI Clocks)	32			
Primary Graphics Adapter	PCI			
Boot Device Select	CRT			
TV Type	NTSC			
TV Output Connector	Composite			
LCD Panel Type	00			
TV Layout	Default			
Dithering	Disabled			
PCI IDE Bus Master	Disabled			
OffBoard PCI IDE Card	Auto			
OffBoard PCI IDE Primary IRQ	Disabled			
OffBoard PCI IDE Secondary IRQ	Disabled			
DMA Channel 0	PnP			
DMA Channel 1	PnP			
DMA Channel 3	PnP			
DMA Channel 5	PnP			
DMA Channel 6	PnP			
DMA Channel 7	PnP			
IRQ3	PCI/PnP			
IRQ4	PCI/PnP			
IRQ5	PCI/PnP			
IRQ7	PCI/PnP			
IRQ9	PCI/PnP			
IRQ10	PCI/PnP			
IRQ11	PCI/PnP			
IRQ14	PCI/PnP	ESC: Exit ↑↓: Sel		
IRQ15	PCI/PnP	PgUp/PgDn: Modify		
		F2/F3: Color		

4.9 Peripheral Setup

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).

AMIBIOS SETUP - PERIPHERAL SETUP (C)2001 American Megatrends, Inc. All Rights Reserved			
OnBoard Serial Port 1 OnBoard Serial Port 2 Serial Port2 Mode IR Pin Select OnBoard Serial Port 3 Serial Port3 IRQ OnBoard Serial Port 4 Serial Port4 IRQ OnBoard IDE OnBoard AC'97 Audio	3F8/COM1 2F8/COM2 Normal IRRX/IRTX 3E8/COM3 10 2E8/COM4 11 Both Enabled	Available Options: • Auto Disabled Enabled	
		ESC: Exit ↑↓: Sel PgUp/PgDn: Modify F2/F3: Color	

4.10 Auto-Detect Hard Disks

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.

AMIBIOS HIFLEX SETUP UTILITY – VERSION x.xx (C)2001 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup Advanced CMOS Setup Advanced Chipset Setup Power Management Setup PCI / Plug and Play Setup Peripheral Setup Hardware Monitor Setup Auto-Detect Hard Disks

Change User Password
Change Supervisor Password
Auto Configuration with Optimal Settings
Auto Configuration with Fail Safe Settings
Save Settings and Exit
Exit Without Saving

4.11 Change Supervisor/User Password

AMIBIOS HIFLEX SETUP UTILITY - VERSION x.xx (C)2001 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup Advanced CMOS Setup Advanced Chipset Setup Power Management Setup

Enter new supervisor password: __

Change Supervisor Password
Auto Configuration with Optimal Settings
Auto Configuration with Fail Safe Settings
Save Settings and Exit
Exit Without Saving

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

- supervisor password: can enter and change the options of the setup
- 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.

4.12 Auto Configuration with Optimal Settings

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.

AMIBIOS HIFLEX SETUP UTILITY – VERSION x.xx (C)2001 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup Advanced CMOS Setup Advanced Chipset Setup Power Management Setup

Load high performance settings (Y/N)? N

Change Supervisor Password Auto Configuration with Optimal Settings Auto Configuration with Fail Safe Settings Save Settings and Exit Exit Without Saving

4.13 Auto Configuration with Fail Safe Settings

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.

AMIBIOS HIFLEX SETUP UTILITY - VERSION x.xx (C)2001 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup Advanced CMOS Setup Advanced Chipset Setup Power Management Setup

Load failsafe settings (Y/N) ? N

Change Supervisor Password
Auto Configuration with Optimal Settings
Auto Configuration with Fail Safe Settings
Save Settings and Exit
Exit Without Saving

Load failsafe configuration settings ESC:Exit $\uparrow \psi$:Sel F2/F3: Color F10: Save & Exit

4.14 Save Settings and Exit

Pressing <Enter> on this item asks for confirmation:

AMIBIOS HIFLEX SETUP UTILITY – VERSION x.xx (C)2001 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup Advanced CMOS Setup Advanced Chipset Setup Power Management Setup

Save current settings and exit (Y/N)? \underline{Y}

Change Supervisor Password
Auto Configuration with Optimal Settings
Auto Configuration with Fail Safe Settings
Save Settings and Exit
Exit Without Saving

Write the current setting to CMOS and exit ESC:Exit $\uparrow \downarrow$:Sel F2/F3: Color F10: Save & Exit

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 will be restarted again.

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.

AMIBIOS HIFLEX SETUP UTILITY – VERSION x.xx (C)2001 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup Advanced CMOS Setup Advanced Chipset Setup Power Management Setup

Quit without saving (Y/N)? N

Change Supervisor Password Auto Configuration with Optimal Settings Auto Configuration with Fail Safe Settings Save Settings and Exit Exit Without Saving

Abandon all Data & Exit Setup

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Chapter 5

Software Utilities

The chapter contains the detailed information of VGA, LAN, audio, and USB2.0 driver installation procedures.

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

◆ VGA Driver: \VGA\WIN98_ME or \VGA\XP_2K

◆ LAN Driver: \LAN◆ Audio Driver: \AC97

◆ USB2.0 Driver: \USB20\2K or \USB\XP

5.1 VGA Driver Installation

5.1.1 WIN95/98

 With the Utility CD Disk still in your CD-ROM drive, open the File Manager and then select the VGA driver folder.



2. Select the operation system of your computer to proceed with the installation process.



3. Click on the "Setup.exe" and to go setup.



 Once the Welcome screen appears on the screen, make sure to close applications that are running and then click the <u>Next></u> button.



5. When the display below appears on your screen, Setup is already ready to install and copy the related files onto your hard drive. Click on the Next button to proceed.



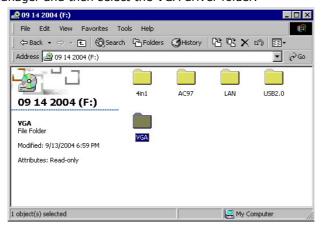
6. After the installation finishes, you will be prompted to restart your system. We recommend you to reboot your computer to allow the new settings to take effect. Click on the Finish button to reboot.



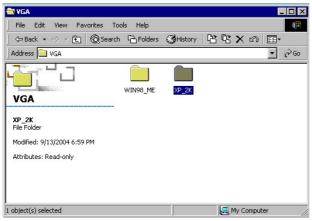
5.1.2 VGA Driver Installation for WIN2K/XP

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

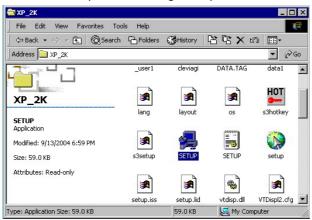
1. With the Utility CD Disk still in your CD ROM drive, open the File Manager and then select the VGA driver folder.



2. Select the operating system of your computer to proceed with the installation process.



3. Click on the "Setup.exe" and to go setup.



4. Once the Welcome screen appears on the screen, make sure to close applications that are running and then click the Next button.



5. When the display below appears on your screen, Setup is already ready to install and copy the related files onto your hard drive. Click on the Next button to proceed.



6. After the installation finishes, you will be prompted to restart your system. We recommend you to reboot your computer to allow the new settings to take effect. Click on the **Finish** button to reboot.

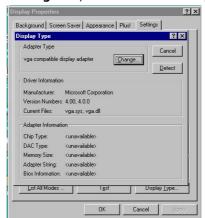


5.1.3 VGA Driver Installation for WIN NT4.0

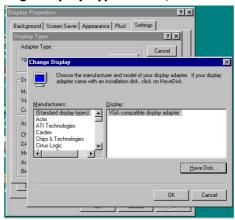
 Click the **Start** button on the lower left hand corner of your screen, then select **Setting**. Choose **Control Panel** and double-click on the **Display** icon to launch its **Display Properties** window.



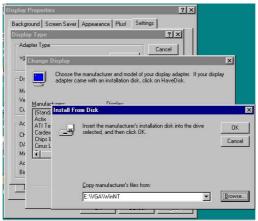
2. Click on the **Settings** tab, and then choose **Display Type**.



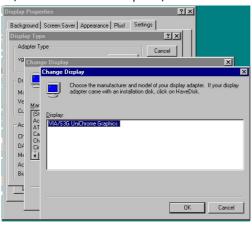
3. In the **Change Display Type** window, click on **Have Disk**.



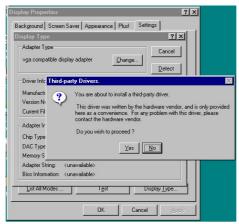
4. Specify the path of the new driver and then press on **Enter**. (If in driver E:, type E:\Vga\WinNT)



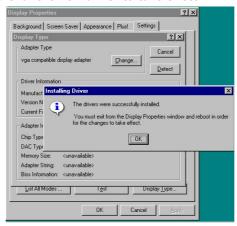
5. Select VIA/S3G UniChrome Graphics, then click OK or press Enter.



6. You will see warning panel about **Third Party Drivers**. Click on **Yes** to finish the installation.



7. Once the installation is completed, you must shut down the system and restart for the new driver to take effect.



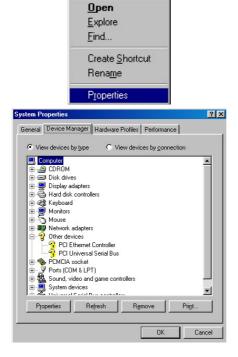
Press on the **OK** button as soon as you have located the path of your driver.



5.2 LAN Driver Installation

5.2.1 LAN Driver Installation for WIN95/98/2K

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



2. Select on PCI Ethernet Controller from Other devices list, right-click and then select on Properties.



3. The PCI Ethernet Controller Properties screen then appears, allowing you to reinstall the driver. Select Driver from the main menu to proceed.



- 4. The window then displays the current status of your LAN driver. Press on Update Driver button to continue.
- 5. The program will then launch the Update Device Driver Wizard window that will install your device driver. Click on the Next button to proceed to the next step.



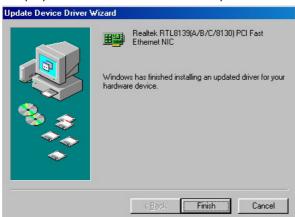
- 6. The Update Device Driver Wizard will then ask you to specify, by ticking, the path of the new driver. Tick on the open boxes where you require the program to search for the device driver then click on the Browse button to manually specify the path. (If in E:, type E:\HS-2606 Driver\LAN\/w/in98)
- 7. Update Device Driver Wizard will ask are you sure to updated driver, tick on update, and then press Next to continue.



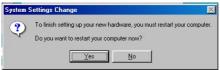
8. Once the program detects the device driver (*.inf) file from your specified location, it will automatically copy the files into your hard drive.



9. The program then copies the necessary files from your Windows installation disk to complete the driver setup process. Once the driver is completely installed, the following message appears on your display. Click on the Finish button to proceed.



10. Restart your computer to make the new system settings take effect. Click on the Yes button when the screen below appears and your LAN Driver for Win95 and Win98 are now completely installed.

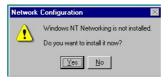


5.2.2 LAN Driver Installation for WIN NT4.0

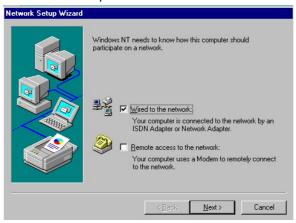
 With the Utility CD Disk still in your CD ROM drive, right click on Network Neighborhood icon from the Windows menu. Select on Properties.



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



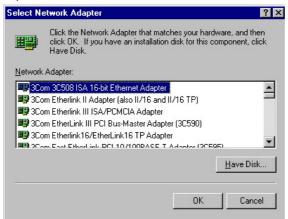
3. Tick on the "Wired to Network" once the following screen appears. Click on the Next to proceed.



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



5. 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.



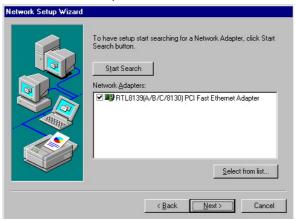
6. Setup now asks you for the location of the driver. When you have entered the new driver path, press on the OK button to continue.



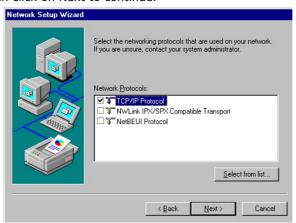
7. When Setup finds the information it needs about the new driver, it will display the device it found on the following screen. Press on the OK button to accept and proceed.



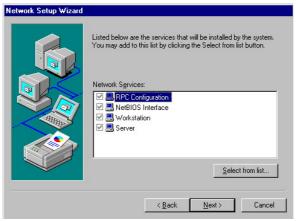
8. Setup then returns to Network Setup Wizard screen and displays your new Network Adapter. Click on Next to continue.



9. 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.



10. The Network Setup Wizard then allows you to set the Network Services on your Network, then click on Next to continue.



11. 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.



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



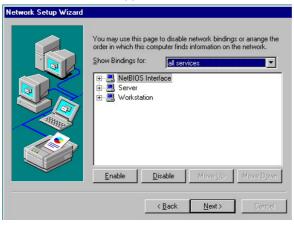
13. Once it finishes copying the files, Setup will now allow you to choose the Duplex Mode of your LAN controller. Press on the Continue button after making your selection.



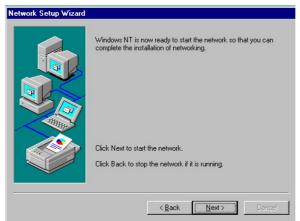
14. When Setup asks if you wish to change the TCP/IP settings of your system, select the appropriately. The default choice is No.



15. When the screen below appears, click on Next to continue.



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



17. Restart your computer. The LAN driver installation for WIN NT4.0 is now complete.

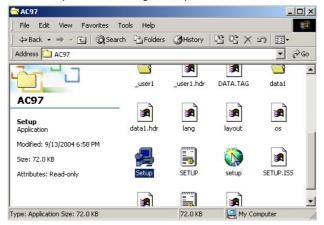
5.3 Audio Driver Installation

5.3.1 Audio Driver Installation for WIN98/2K/XP

 With the Utility CD Disk still in your CD ROM drive, open the File Manager and then select the driver folder. (If in E:, type E:\HS-2606 Driver\AC97)



2. Press "Setup.exe" and to go setup.



3. Once the Welcome screen appears on the screen, make sure to close applications that are running and then click the Next button.



4. The Select Components dialog box is now displayed. Select on Install driver and then click on Next.

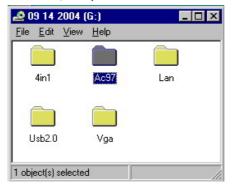


5. After the audio driver installation finishes, select the Finish button to complete the installation process.



5.3.2 Audio Driver Installation for WINNT

 With the Utility CD Disk still in your CD ROM drive, open the File Manager and then select the driver folder. (If in E:, type E:\HS-2606 Driver\AC97)



2. Press "Setup.exe" and to go setup.



3. Once the Welcome screen appears on the screen, make sure to close applications that are running and then click the Next button.



4. The Select Components dialog box is now displayed. Select on VT8233/VT8235 and then click on Next.



 After the audio driver installation finishes, select restart computer now, and click the Finish button to complete the installation process.



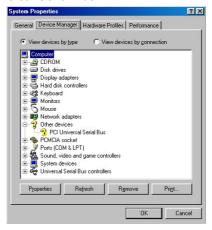
5.4 USB2.0 Driver Installation

5.4.1 Win 98

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



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



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



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



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



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



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



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



5.4.2 Win 2000

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



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



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



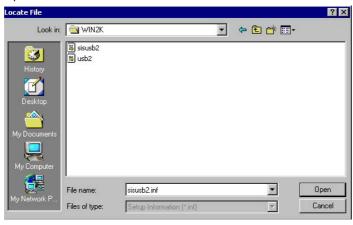
 Tick on the "Search for a suitable driver" once the following screen appears. Click on the <u>Next</u> to proceed.



 Once the program returns to the Add New Hardware Wizard screen, your specified location will appear. Press on the <u>Next</u> button to continue.



Choose sisusb2.inf and press on the **Open** button to accept and proceed.

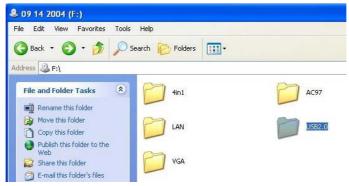


8. Once the InstallShield Wizard completes the operation and update of your USB2.0 driver. Click on the **Finish** button to complete the installation process.

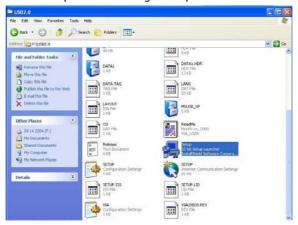


5.4.3 Win XP

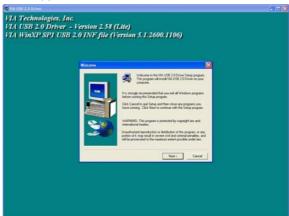
 With the Utility CD Disk still in your CD ROM drive, open the File Manager and then select the driver folder. (If in E:, type E:\HS-2606 Driver\USB2.0)



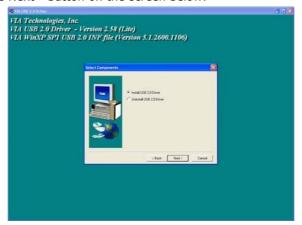
2. Click on "Setup.exe" and to go setup.



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



4. The programs starts to install the USB2.0 driver when you click the Next> button on the screen below.



5. Once the InstallShield Wizard completes the operation and update of your USB2.0 driver. Click on the $\underline{\mathbf{Y}}\mathbf{e}\mathbf{s}$ button to restart computer to complete the installation process.

