

**NuIPC**  
**cPCI-3700**  
3U CompactPCI All-in-one  
Socket 370 CPU Module  
**User' s Guide**



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# 1

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## Introduction

This manual is designed to give you information on the cPCI-3700 CPU module. The topics covered in this chapter are as follows:

- ◆ Checklist
- ◆ Description
- ◆ Features
- ◆ Specifications

## Checklist

---

Please check that your package is complete and contains the items below. If you discover damaged or missing items, please contact your dealer.

- The cPCI-3700 module
- This User's Manual
- 1 Diskette containing Intel PCI IDE Driver and Flash Memory Utility
- 2 Diskettes containing C&T 69000 VGA Driver
- 1 Diskette containing System Monitor utility
- 1 ADLink All-in-one CD

## Description

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The cPCI-3700 is a Socket-370 processor board for 3U CompactPCI form factor. The board is based on the Intel 440BX chipset and is fully designed for harsh industrial environment. It features a Socket-370 processor connector that is compatible with Intel Celeron processors.

## Features

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- CPU Speed 300~533MHz, Intel Celeron processors
- Bus Speed 66MHz
- Intel 440BX AGPset
- Up to 128 SDRAM system memory, ECC function supported
- C&T 69000 VGA chipset for LCD & CRT displays
- Two RS-232 serial ports, one is on the front I/O, the another is on the J2 rear I/O
- 16 level programmable watchdog timer, from 0-30 seconds
- High speed bi-directional SPP/ECP/EPP parallel port
- Hardware Monitoring



# Specifications

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- **Processor Socket:** Socket 370 connector
- **Processor:** Intel Celeron 300~533MHz
- **Bus Speed:** 66MHz
- **Chipset:** Intel 440BX AGPset with PCI EIDE and RTC built-in
- **Secondary Cache:** CPU integrated
- **Memory Socket:**
  - One SO-DIMM socket
  - Max. 128MB SDRAM
  - Memory type: SDRAM (Synchronous DRAM)
- **BIOS:** Award BIOS, PnP support
  - FLASH EEPROM (256KB) for BIOS update
  - Power management
- **DMI BIOS Support:**

Desktop Management Interface (DMI) allows users to download system hardware-level information such as CPU type, CPU speed, internal / external frequencies and memory size.
- **Multi I/O:** Winbond W83977TF
- **Parallel Port:** One high-speed parallel port, SPP/EPP/ECP mode
- **Serial Port:** Two 16550 UART compatible ports configurable as RS232, COM1 at front panel and COM2 at rear I/O
- **Enhanced IDE:** Bus Mastering EIDE, one internal EIDE interfaces, support ultra DMA/33 IDE hard disk. A 2.5" inch hard disk is default installed. To install DOM is possible.
- **FDD:** One floppy drives is default installed (360KB, 720KB, 1.2MB, 1.44MB). In two-slot width version of cPCI-3700, no FDD space is available.
- **CRT/LCD:** C&T 69000 chipset
  - Embedded 2MB SDRAM display memory
  - Simultaneous CRT & LCD display
  - 1280x1024x8bpp colors CRT resolution

- Up to 1280x1024x8bpp colors resolution for color active matrix TFT panels (12, 18, and 24bit analog) or (12+12), (18+18) double pixel/CLK interface
- **USB Interface:** Two USB pin-header connectors, compliant with USB Specification Rev. 1.0
- **DiskOnChip:** The SSD interface supports M-Systems DiskOnChip flash disk supports system boot and storage capacity from 2MB to 144MB.
- **Watchdog Timer:** 16-level, programmable
  - I/O port 0443H to enable watchdog.
  - I/O port 0441H to disable watchdog.
  - Time-out timing select 0/2/4/6/8/10/12/14/16/18/20/22/24/26/28/30 seconds (+/-20%).
- **Green Function:** Power management via BIOS, activated through mouse/keyboard movement
- **Keyboard and Mouse Connectors:** PS/2 type mini-DIN that supports PC/AT; supports a 5-pin external keyboard connector
- **Environmental and Mechanical:**
  - **Temperature:** 0°C to 60°C
  - **Humidity:** 5% to 95%
  - **PCB Layer:** 8 layers
  - **Dimensions:** 100mm x 160mm (3.94" x 6.3") for PCB
  - **Full Dimensions:** 128mm x 160mm x 60 mm (3-slot)

## Intelligence

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- **Temperature Monitoring and Alert:** A sensor for the CPU temperature on the cPCI-3700 monitors the CPU temperature and alerts the user through the speaker or buzzer when temperature exceeds the safe heat level.
- **Year 2000 Compliant BIOS:** The onboard Award BIOS is Year 2000 Compliant and will pass software applications that have the tendency to invoke INT1AH function 04H such as year2000.exe utility released by NSTL.

# 2

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## Installations

This chapter provides information on how to use the jumpers and connectors on the cPCI-3700 in order to set up a workable system. The topics covered are:

- 2.1 CPU Installation..... 錯誤! 尚未定義書籤。
- 2.2 Memory Installation..... 錯誤! 尚未定義書籤。
- 2.3 Jumpers on the cPCI-3700 ..... 錯誤! 尚未定義書籤。
- 2.4 Connectors on the cPCI-3700 ..... 錯誤! 尚未定義書籤。
- 2.5 Watchdog Timer Configuration..... 錯誤! 尚未定義書籤。

## 2.1 CPU Installation

---

The cPCI-3700 Processor Board supports a Socket 370 connector processor socket for Intel Celeron processors. The CPU is default shipped with cPCI-3700. For those OEM version of cPCI-3700, please follow up the following note to install the CPU.

The Socket 370 connector uses a standard PGA socket connector. To install the CPU, insert it to the socket by aligning the notch of the Socket 370 CPU with the one of the PGA socket.

After you have installed the processor into place, check if the jumper setting for the CPU speed is correct.

- NOTE:**
1. *Ensure that the CPU heat sink and the CPU top surface are in tightly contact to avoid CPU overheating problem that would cause your system to hang or be unstable.*
  2. *The CPU heat sink and fan should be installed tightly too. The FAN connector 3-pin type. It is recommend to come with speed sensor.*

## 2.2 Memory Installation

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The cPCI-3700 Industrial CPU Card supports one SO-DIMM socket for a maximum total memory of 128MB. The memory type must be SDRAM. The memory is default installed, and the size is upon request. The memory module can come in size of 16MB, 32MB, 64MB, or 128MB SDRAM.

The default memory size installed is 64MB.

## 2.3 Jumpers on the cPCI-3700

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The jumpers on the cPCI-3700 allow you to configure your CPU card according to the needs of your applications. If you have doubts about the best jumper configuration for your needs, contact your dealer or sales representative. The following table lists the connectors on cPCI-3700 and their respective functions.

JP5: Clear CMOS Content.....7  
 JP6: DiskOnChip BIOS Expansion Address Select .....7  
 DSW1 (1-8): CPU Frequency Selector.....8

**NOTE:** Jumper J19 is for manufacturer testing use only.



### JP5: Clear CMOS Content

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JP5	Setting	Function
	Pin 2-3 Short/Closed	Clear CMOS Content
	Pin 1-2 Short/Closed	Normal Operation

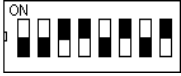






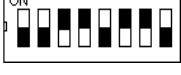
### JP6: DiskOnChip BIOS Expansion Address Select

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JP6	Address
	D0000-D7FFF
	D8000-DFFFF (default)

## DSW1 (1-8): CPU Frequency Selector

The table below shows the correct setting to match the CPU frequency.

CPU Type	CPU Frequency	DSW1(1-8)
Celeron 66MHz Host Clock CPU	4.5x 66MHz 300MHz	 off off on on off off on on
	5x 66MHz 333MHz	 off off on on off on on on
	5.5x 66MHz 366MHz	 off off off on off off on on
	6x 66MHz 400MHz	 off off on on on on off off
	6.5x 66MHz 433MHz	 off off on on on on off off
	7x 66MHz 466MHz	 off off on on on on off off
	7.5x 66MHz 500MHz	 off off on on on on off off
	8x 66MHz 533MHz	 off off on on off on on off

## 2.4 Connectors on the cPCI-3700

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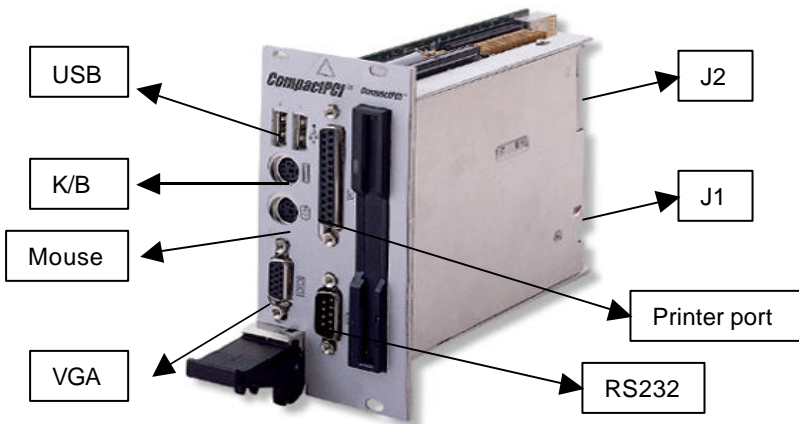
The connectors on the cPCI-3700 allows you to connect external devices such as keyboard, floppy disk drives, hard disk drives, printers, etc. The following table lists the connectors on cPCI-3700 and their respective functions.

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2.4.9: EIDE Connector.....	14
2.4.10: CPU Fan Power Connector .....	14
2.4.11: Floppy Drive Connector .....	14

### 2.4.1 The cPCI-3700 Processor Board

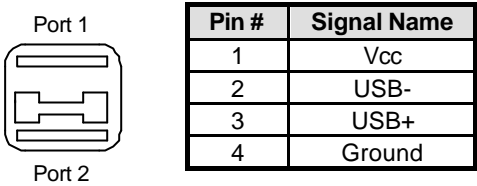
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Below shows a picture of the cPCI-3700 processor board and a drawing of cPCI-3700 board showing the external connectors including USB, mouse, keyboard, parallel port, COM port and VGA connector.



## 2.4.2 USB Connectors

The following table shows the pin outs of the USB connectors.



## 2.4.3 Parallel Port Connector



The following table describes the pin out assignments of this connector.

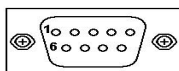
Signal Name	Pin #	Pin #	Signal Name
Line printer strobe	1	14	AutoFeed
PD0, parallel data 0	2	15	Error
PD1, parallel data 1	3	16	Initialize
PD2, parallel data 2	4	17	Select
PD3, parallel data 3	5	18	Ground
PD4, parallel data 4	6	19	Ground
PD5, parallel data 5	7	20	Ground
PD6, parallel data 6	8	21	Ground
PD7, parallel data 7	9	22	Ground
ACK, acknowledge	10	23	Ground
Busy	11	24	Ground
Paper empty	12	25	Ground
Select	13	N/A	N/A



## 2.4.4 COM1 Serial Ports

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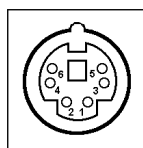
The onboard serial port on the cPCI-3700 board is a DB-9 connector which is COM1.



Pin #	Signal Name
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	RI, Ring indicator

## 2.4.5 PS/2 Keyboard Connector

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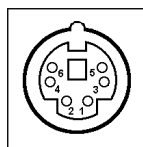


J2

Pin #	Signal Name
1	Keyboard data
2	N.C.
3	GND
4	5V
5	Keyboard clock
6	N.C.

## 2.4.6 PS/2 Mouse Connector

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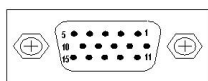
J3

Pin #	Signal Name
1	Mouse data
2	N.C.
3	N.C.
4	5V
5	Mouse Clock
6	N.C.



## 2.4.7 VGA CRT Connector

The pin assignments of the J4 VGA CRT connector are as follows:

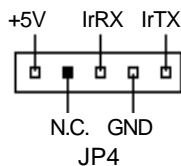


J4

Signal Name	Pin	Pin	Signal Name
Red	1	2	Green
Blue	3	4	N.C.
GND	5	6	GND
GND	7	8	GND
N.C.	9	10	GND
N.C.	11	12	N.C.
HSYNC	13	14	VSYNC
NC	15		

## 2.4.8 JP4: IrDA Connector

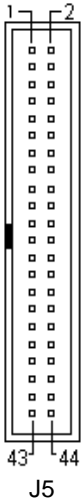
This connector is used for an IrDA connector for wireless communication. This connector is an internal connector.



JP4

Pin #	Signal Name
1	+5V
2	No connect
3	IrRX
4	Ground
5	IrTX

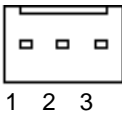
## 2.4.9 EIDE Connector



Signal Name	Pin #	Pin #	Signal Name
Reset IDE	1	2	Ground
Host data 7	3	4	Host data 8
Host data 6	5	6	Host data 9
Host data 5	7	8	Host data 10
Host data 4	9	10	Host data 11
Host data 3	11	12	Host data 12
Host data 2	13	14	Host data 13
Host data 1	15	16	Host data 14
Host data 0	17	18	Host data 15
Ground	19	20	Key
DRQ0	21	22	Ground
Host IOW	23	24	Ground
Host IOR	25	26	Ground
IOCHRDY	27	28	Host ALE
DACK0	29	30	Ground
IRQ14	31	32	No connect
Address 1	33	34	No connect
Address 0	35	36	Address 2
Chip select 0	37	38	Chip select 1
Activity	39	40	Ground
+5V	41	42	+5V
Ground	43	44	No connect

## 2.4.10 J6:CPU Fan Power Connector

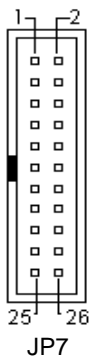
J6 is a 3-pin header for the CPU fan power. The fan must be a 12V fan.



Pin #	Signal Name
1	Rotation
2	+12V
3	Ground

## 2.4.11 Floppy Drive Connector

JP7 is a 26-pin header and will support up to 2.88MB floppy drives.



Signal Name	Pin #	Pin #	Signal Name
+5V	1	2	Index
+5V	3	4	No connect
+5V	5	6	No connect
Ground	7	8	Diskette change
Ground	9	10	Motor enable 0
Ground	11	12	Direction
Ground	13	14	Step
Ground	15	16	Write data
Ground	17	18	Write Gate
Ground	19	20	Track 00
Ground	21	22	Write protect
Ground	23	24	Read data
Ground	25	26	Side 1 select

## 2.4.12 CompactPCI Connector' s Pin Definitions

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	A	B	C	D	E
1	PCICLK2	GND	REQ#1	GNT#2	REQ#2
2	PCICLK3	PCICLK4		GNT#2	REQ#3
3	PCICLK5	GND	GNT#3	PREQ#4	PGNT#4
4	VCC	PD12	PD18	GND	PD1
5	PD0	GND	VCC	PD6	PD3
6	PD2	PD16	PD22	GND	PD5
7	PD4	GND	VCC	PD8	PD19
8	PD7	PD14	PD20	GND	PD21
9	PD9	GND		PD10	PD23
10	PD11	PD13	PD15	GND	PD30
11	PD24	GND	VCC	PD17	PD32
12	PD26	PD25	PD27	GND	PD34
13	PD28	GND	VCC	PD29	PD35
14	PD31	PD33	ENP VDD	GND	ENBLT
15	ENPVEE	GND		PREQ#5	PGNT#5
16	DE	LP	ATX power-on	GND	RLSDB#
17	FLM	GND	PCIRST#	PREQ#6	PGNT#6
18		ASCLK	FAN_SNS2	GND	RXB
19	GND	GND		SCLK	TXB
20	PCICLK6	GND		GND	DTRB
21	PCICLK7	GND		CTSB#	DSRB
22				RIB#	RTSB

## 2.5 Watchdog Timer Configuration

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The function of the watchdog timer is to reset the system automatically and is defined at I/O port 0443H. To enable the watchdog timer and allow the system to reset, write I/O port 0443H. To disable the timer, write I/O port 0441H for the system to stop the watchdog function. The timer has a tolerance of 20% for its intervals.

The following describes how the timer should be programmed.

### Enabling Watchdog:

```
MOV AX, 000FH (Choose the values from 0)
MOV DX, 0443H
OUT DX, AX
```

### Disabling Watchdog

```
MOV AX, 00FH (Any value is fine.)
MOV DX, 0441H
OUT DX, AX
```

**WATCHDOG TIMER CONTROL TABLE**

Level	Value	Time/sec	Level	Value	Time/sec
1	F	0	9	7	16
2	E	2	10	6	18
3	D	4	11	5	20
4	C	6	12	4	22
5	B	8	13	3	24
6	A	10	14	2	26
7	9	12	15	1	28
8	8	14	16	0	30





# 3

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## BIOS Configuration

This chapter describes the different settings available in the Award BIOS that comes with the cPCI-3700 CPU card.

### BIOS Introduction

---

The Award BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel Pentium II processors. The BIOS provides critical low-level support for standard devices such as disk drives, serial ports, and parallel ports. It also adds virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

### BIOS Setup

---

The Award BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn on the computer, the Award BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power On Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system Off and back On again. The following message will appear on the screen:

Press <DEL> to Enter Setup

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select from various setup functions and exit choices.

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

<b>STANDARD CMOS SETUP</b>	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/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
Time, Date, Hard Disk Type	

The section below the setup items of the Main Menu displays the control keys for this menu. Another section at the bottom of the Main Menu just below the control keys section displays information on the currently highlighted item in the list.

**NOTE:** *After making and saving system changes with Setup, you find that your computer cannot boot, the Award BIOS supports an override to the CMOS settings that resets your system to its default.*

*We strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your system manufacturer to provide the absolute maximum performance and reliability.*

For the detail information of the BIOS setting, please refer the file "BIOS configuration .PDF" in the ADLink all-in-one CD.

# 4

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## Bus Master IDE Driver Installation

This chapter describes the installation procedure for Intel PIIX Bus Master IDE Drivers for Windows 95.

This chapter contains the following sections:

System Requirements .....	21
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### **System Requirements**

---

This section describes system requirements for the PIIX Bus Master IDE Device Driver for Windows 95\*. This driver has been designed for and tested with Windows 95 only. This driver will only install on systems with Windows 95.

1. The system must contain a supported Intel processor and chipset configuration.
2. Ensure that a mouse is connected to the system.
3. One of the following versions of Windows 95\* must be installed on the system prior to running utility program.

Windows 95\* 4.00.950 (Retail)

Windows 95\* 4.00.950a (OSR1)  
Windows 95\* 4.00.950b (OSR2 without USB Supplement)  
Windows 95\* 4.00.950b (OSR2.1 with USB Supplement)

4. It is assumed that the BIOS properly initialized the 82371xB IDE interface for Bus Master IDE operation.

## **Installing the Software**

---

This subsection describes how to install the software on a system where Windows 95 is installed.

**NOTE:** Record the location of the Windows 95\* directory before installing the driver.

1. Check the System Requirements. Windows 95\* must be fully installed and running on the system prior to running this software.
2. Close any running applications.
3. Remove references to installed real-mode IDE device drivers in the AUTOEXEC.BAT and CONFIG.SYS files (especially any drivers that control ATAPI CD-ROM and special IDE features). Use the Notepad utility to do this.

The driver files are stored in an integrated application setup program. This program is a Windows 95\* program that allows the driver files to be INSTALLED or DE-INSTALLED.

Execute the driver setup program.

Run **SETUP.EXE**

4. Click 'Next' on Welcome Screen to read and agree to the license agreement. View the text file and choose File\Exit to close Notepad and continue. NOTE: If you click **No**, program will terminate.
5. Click **Yes** if you agree to continue. NOTE: If you click 'No', the program will terminate.
6. Select **INSTALL**, to install the PIIX Bus Master IDE Device Driver when prompted to do so.

**NOTE:** If the driver is currently installed on the system, SETUP will ask you whether or not you want to continue. Follow the prompts on the screen to install the driver if desired.

7. Click 'OK' to restart the system when prompted to do so.
8. Follow the screen instructions and use default settings to complete the setup when Windows 95\* is re-started. Upon re-start, Windows 95\* will display that it has found an Intel PCI Bus Master IDE controller hardware and is installing hardware for it.

If a **New Hardware Found** dialog box is displayed requesting the location of the drivers, use the mouse to click on the scrollbar and click on the <Windows 95\* directory>\System\IOSubSys path:

For example:

Click on **C:\WINDOWS\SYSTEM\IOSUBSYS\**

Click **OK**.

9. Select **Yes**, when prompted to re-start Windows 95.

**NOTE:** After installation, the following driver and related files are stored as listed.

<Windows 95\* directory>\System\IOSubSys\IDEATAPI.MPD

<Windows 95\* directory>\System\IOSubSys\PIIXVSD.VXD

<Windows 95\* directory>\INF\IDEATAPI.INF



# 5

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## VGA Driver Installation

This chapter provides information on how to install the C&T 69000 VGA drivers that come in the two floppy diskettes with the package. Please follow the instructions set forth in this chapter carefully. Please note that there must be relevant software installed in your system before you could proceed to install the VGA drivers. It is recommended that you make a copy of the VGA driver diskette and put the backup copy in a safe place.

The following items are covered in this chapter:

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## Installing the Drivers for Windows 95

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The following section describes the normal display driver installation procedures for Windows 95. Use the following procedures when installing the display drivers for Windows 95.

1. Click **Start**. Select **Settings**, then click the **Control Panel** icon.
2. Double click **Display**.
3. Click **Settings**.
4. Click **Advanced Properties**.
5. Click **Change**.
6. Click **Have Disk ....**
7. Insert the diskette/CD containing the **69000 VGA driver for Windows 95** to the floppy disk drive/CD-ROM drive, then type in **A:WIN95** (assuming drive A is your floppy disk drive) or type in **D:\VGA\IC&T\WIN95** (assuming drive D is your CD-ROM drive), and press **Enter**.
8. Select **Chips and Tech. 69000 PCI/AGP**, and then click **OK**. After the files are copied, click **Close**.
9. Click **Yes** to restart your computer and for the new settings to take effect.



## Installing the Drivers for Windows 98

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The following section describes the normal display driver installation procedures for Windows 98. Use the following procedures when installing the display drivers for Windows 98.

1. Click **Start**. Select **Settings**, and then click the **Control Panel** icon.
2. Double click **Display**.
3. Click **Settings**.
4. Click **Advanced...**
5. Click **Adapter**.
6. Click **Change...**
7. Click **Next**.
8. Select **Display a list of all the drivers in a specific location, so you can select the driver you want**.
9. Click "**Have Disk ...**".
10. Insert the diskette/CD containing the **C&T 69000 VGA driver for Windows 98** to the floppy disk drive/CD-ROM drive, then type in **A:\WIN98** (assuming drive A is your floppy disk drive) or type in **D:\VGA\C&TWIN98** (assuming drive D is your CD-ROM drive), and press **Enter**.
11. Select **Chips and Tech. 69000 PCI/AGP**", and click **OK**.
12. Click **Next**. After the files are copied, and click **Finish**.
13. Click **Close**.
14. Click **Close**.
15. Click **Yes** to restart your computer and for the new settings to take effect.

## **Installing the Drivers for Windows NT 4.0**

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**IMPORTANT:** You should install the Windows NT 4.0 Service Pack 3 first before installing the C&T 69000 VGA drivers. If you don't have the Windows NT 4.0 Service Pack 3, please contact your software vendor or download it from Microsoft's web site.

The procedures below show you how to install the C&T 69000 VGA drivers for Windows NT 4.0.

1. Boot Windows NT 4.0.
2. Double click the **My Computer** icon.
3. Double click the **Control Panel** icon.
4. Double click the **Display" icon.**
5. Click **Change Display Type.**
6. Click **Change.**
7. Click **Have Disk**, then insert the diskette/CD containing the **C&T 69000 VGA driver for Windows NT 4.0** to the floppy disk drive/CD-ROM drive, then type in **A:\WINNT40** (assuming drive A is your floppy disk drive) or type in **D:\VGA\C&TWINNT40** (assuming drive D is your CD-ROM drive), and press **Enter.**
8. Select **Chips Video Accelerator (65545/48/50/54/55 68554 69000)**, and then click **OK.**
9. Click **Yes** to copy the drivers from the floppy disk/CD to the hard disk.
10. When copying is done, click **OK.**
11. Click **Close.**
12. Click **OK.** Windows NT 4.0 will prompt you to restart computer. Click OK to change the Windows NT configuration

# 6

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## System Monitor Utility

This chapter introduces System Monitor Utility that comes with the package in conjunction with the onboard hardware monitoring IC. The sections below give the functions of the utility.

System Monitor is a software utility that oversees the general performance of systems, covering areas like system temperature, system voltage, CPU and system fan rotational speeds. If conditions become adverse, that is, when voltages are erratic or CPU temperature exceeds the safe limits, an alarm will be sounded; thereby preventing system crashing and ensuring overall stability.

When System Monitor is initiated, the icon below appears in the task bar in the Windows environment.



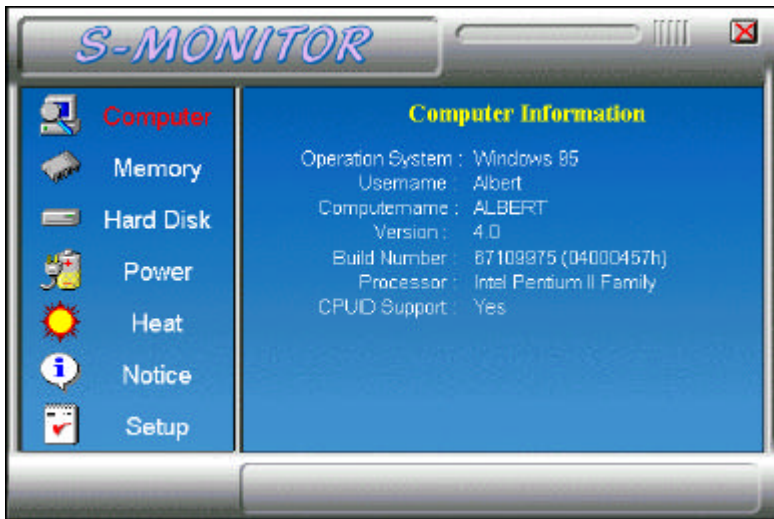
The following screen appears upon clicking on the System Monitor icon.



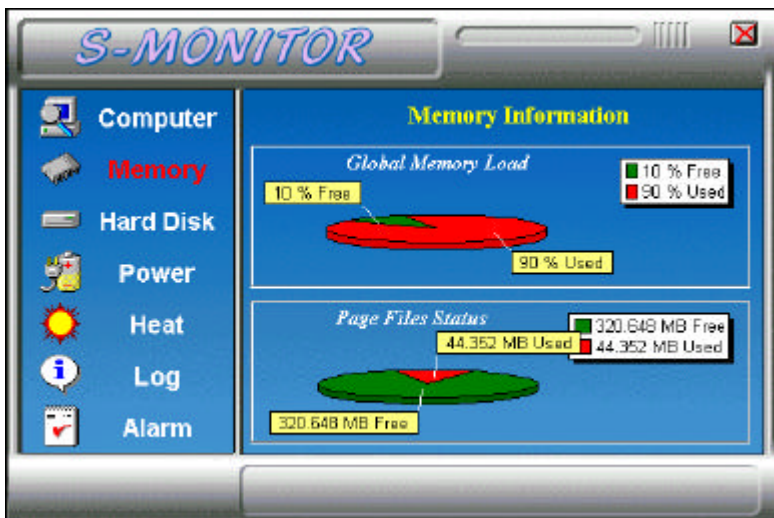
Clicking on the 'X' on the upper right corner would show you the latest company information or on any icon on the left side to display further information.

The following section describes the different functions of System Monitor.

1. Computer - displays the operating working system version and processor type.

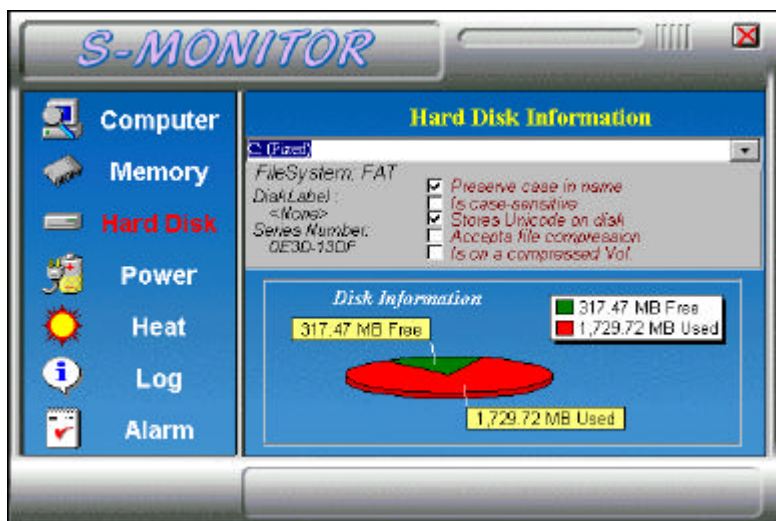


2. Memory - displays the current memory usage status.

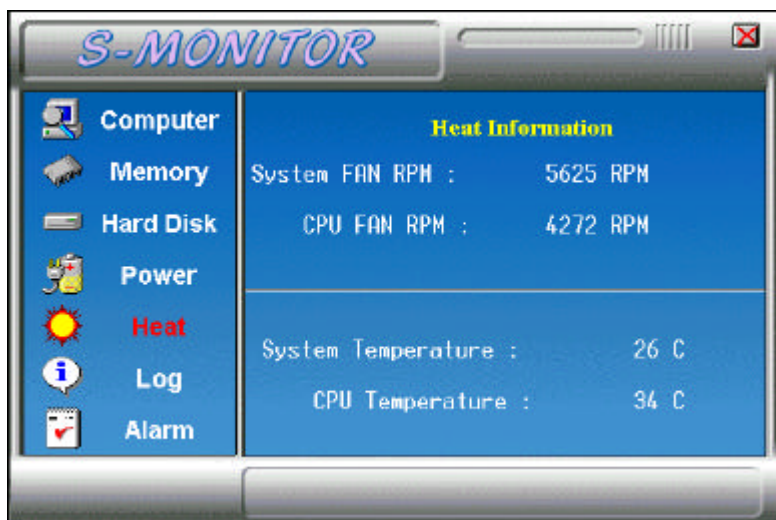




5. Hard Disk - displays the supported disk formats and disk space.



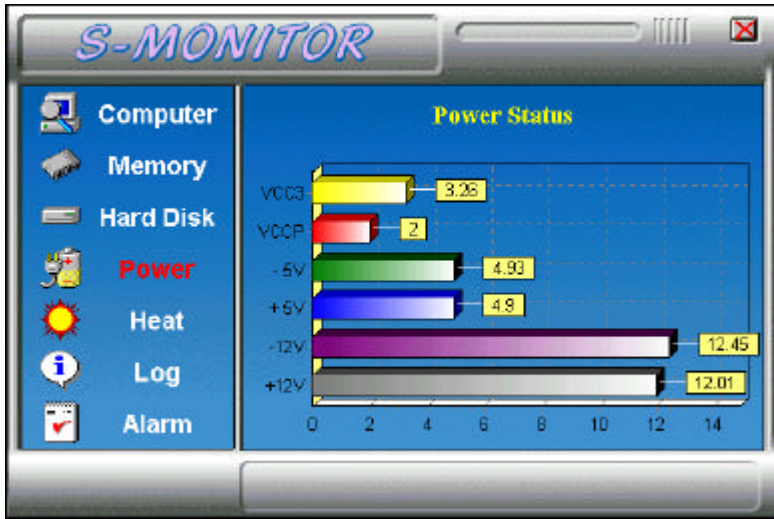
4. Heat - displays the current rotational speed of CPU and Chassis fans, as well as the system and CPU temperatures.







5. Power - displays the current voltage status.

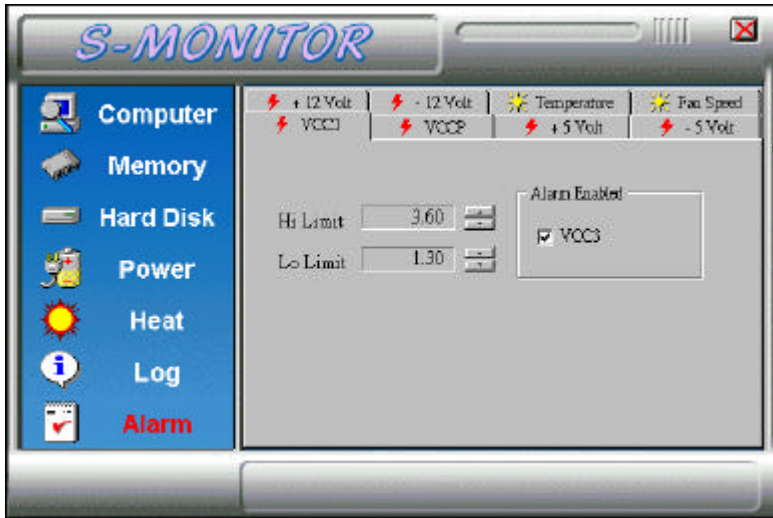


**NOTE:** For Pentium II processors, System Monitor detects the VCC3 and VCCP values. For Pentium-level processors, System Monitor detects the VCORE and VIO values.

6. Log - displays errors occurring after System Monitor is started.



7. Alarm - sets the values at which an alarm is sounded.



Voltage : the acceptable voltage range between the "Hi Limit" and "Lo Limit" value.

Temperature : temperature threshold.

Fan Rotation Speed

*NOTE: Intel has defined a margin of difference for the voltages as below:*

*12 Volts - 10% (10.8V ~ 13.2V)*

*5 Volts - 5% (4.75 ~ 5.25%)*

*Vio - 5% (Vio for P54C CPU is 3.5V. Vio for P55C is 3.3V.)*

*Vcore- 5%*

*\* VCC3 / VIO and VCCP / VCORE values vary according to the processors used. Please contact the CPU manufacturer for further information.*