PCM-9375

3.5" SBC w/AMD LX800, VGA, LCD, LAN, USB2.0 and SSD

User Manual

Acknowledgements

For more information on this and other products, please visit our website at: **http://www.emacinc.com**

For technical support and service, please visit our support website at: **http://www.emacinc.com/support**

This manual is for the PCM-9375.

Part No. 2006937510 1st Edition

Printed in Taiwan Mar. 2006

Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 PCM-9375 SBC
- 1 Utility CD (Optional - DSK-002)
- 1 mini jumper pack p/n: 9689000002
- 1 Audio cable p/n: 1700160160
- 1 IDE 44 pin cable p/n: 1701440351
- 1 USB 2 port Cable p/n: 1703100121
- 1 Parallel port cable p/n: 1700001977
- 1 Keyboard/Mouse cable p/n: 1700060202
- 1 x COM2/3/4 cable p/n: 1700001971
- 1 x LAN cable p/n: 1701100202

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Model No. List	Description
PCM-9375E-J0A1E	3.5" SBC w/AMD LX800, VGA, LVDS, LAN, USB
PCM-9375F-J0A1E	3.5" SBC w/AMD LX800, VGA, TTL, LAN, USB

Additional Information and Assistance

1.Visit the our web site at **www.emacinc.com** where you can find the latest information about the product.
2.Contact your distributor, sales representative, or our customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
•Product name and serial number
•Description of your peripheral attachments
•Description of your software (operating system, version, application software, etc.)
•A complete description of the problem
•The exact wording of any error messages

FCC

This device complies with the requirements in part 15 of the FCC rules: Operation is subject to the following two conditions:

1.This device may not cause harmful interference, and

2.This device must accept any interference received, including interference that may cause undesired operation

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this device in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense. The user is advised that any equipment changes or modifications not expressly approved by the party responsible for compliance would void the compliance to FCC regulations and therefore, the user's authority to operate the equipment.

Caution!

Achtung!

There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions

Contents

CHAPTER 1

General Information

This chapter gives background information on the PCM-9375.

Sections include:

- Introduction
- Features
- Specifications
- Board layout and dimensions

Chapter 1 Introduction

1.1 Introduction

The PCM-9375 is a fanless, best cost and performance 3.5" SBC (Single Board Computing) gears to satisfy the needs of various industry computing equipment, communication, gaming and medical application that require flat panel support, the digital display using TTL or LVDS interface and two Ethernet ports.

To represents the perfect choice for those who wants superior performance for various low-power embedded application, PCM-9375 uses AMD LX-800 processor in conjunction with flexible system memory of DDR333 by one SODIMM socket.

With this processor, clocked at 500 MHz, the PCM-9375 provide a convenient connector layout easy assembly, multiple I/O enrich the board's connectivity of data and communication, includes two 10/100Mbps Ethernet, four USB (Universal Serial Bus) 2.0 and four serial ports for easier extending the system integration.

1.2 Features

- AMD low power LX800 500MHz Processor
- Supports DDR memory
- Supports 24-bit TFT LCD interface
- Supports 18-bit LVDS LCD display (optional)
- Supports Dual 100Base-T Fast Ethernet
- Support Four USB2.0 ports
- Support Four COM ports
- With PC/104 expansion interface
- Coast line (external connector layout) same as PCM-5820

1.3 Specifications

1.3.1 Standard 3.5" Biscuit SBC Functions

- **CPU:** AMD Geode® LX800 processor, up to 500 MHz
- **System Memory:** 1 x SODIMM socket, support Double Data Rate (DDR) SDRAM, Max 512 MB, accept 128/256/512 MB, DDR333 SDRAM
- **2nd Cache Memory:** 128 KB on the processor
- **System Chipset:** AMD Geode LX800
- **BIOS:** AWARD 2Mbit Flash BIOS
- **Watchdog timer:** 255 levels timer interval
- **Expansion Interface:** PC/104
- **Battery:** Lithium 3V/196 mAH
- **Power management:** APM 1.2, ACPI supported
- **Enhanced IDE interface:** One channels supports up to two EIDE devices. BIOS auto-detect, PIO Mode 3 or Mode 4, supports UDMA 33/66 mode
- **Serial ports:** Four serial ports, 4 ports for RS-232 (COM1: DB9 connector on the front site, COM2, 3, 4: by box header), 1 port for RS-422/485 (CN18: by box header with auto-flow controller). COM2, 3, 4 is with a Hirose connector 40 pin
- **Parallel port:** One parallel port, supports SPP/EPP mode
- **Keyboard/mouse connector:** Supports one standard PC/AT keyboard and a PS/2 mouse
- **Audio:** Support AC97 Audio stereo sound
- **USB:** Four USB 2.0 compliant universal serial bus ports
- Solid State Disk (SSD) Supports one 50-pin socket for CFC type I (type II optional)

1.3.2 VGA/LVDS Interface

- **Chipset:** AMD Geode LX800
- **Memory Size:** Optimized Shared Memory Architecture, support 64MB frame buffer using system memory
- **Resolution:** CRT resolution: up to 1600 x 1200 x 16 bpp at 100 Hz and up to 1024 x 768 x 32 bpp at 60 Hz for TFT LCD
- **LCD Interface:** Supports up to 24-bit TFT LCD (TTL signal) (PCM-9375F)
- **LVDS Interface:** Supports one channel 18-bit LVDS Interface (PCM-9375E)
- **Dual Simultaneous Display:** CRT + LCD, CRT + LVDS

1.3.3 Ethernet Interface

- **Chipset supports:** 2 x 10/100Mbps - Realtek RTL8100
  2 x 10/100Mbps - Intel 82551ER (Optional)
- **Interface:** 1 x RJ-45 connector, and 1 x internal box header
- **Connector:** One RJ-45 connector, and one internal box header
- Standard IEEE 802.3 z/ab (1000BASE-T) or IEEE 802.3u (100 BASE-T) protocol compatible
- Built-in boot ROM (RTL8100)

1.3.4 Audio Function

- **Audio controller:** Realtek ACL202 chipset, supports AC97 3D Audio stereo sound
- **Audio interface:** Microphone in, Line in, Line out, Speak out

1.3.5 OS support

- This board supports Win XP, Win CE and Win XPe.
- For further information about OS support in your PCM-9375, visit the following web resource website: www.emacinc.com or please contact technical support center

1.3.6 Mechanical and Environmental

- **Dimensions:** 145 x 102 mm (5.9"x 4.2")
  Mechanical Drawing (dxf file) is available.
- **Power Supply Type:** AT/ATX
- **Power Requirement:** +5 V ± 5%, +12 V ± 5% (Optional), +5 V standy for ATX mode or support single +5 V power only
- **Power Consumption:**
  (Geode LX800, 256 MB DDR333)
  Max: +5 V @ 1.2 A, +12 V @ 0.23 A
  Typical: +5 V @ 0.6 A, +12 V @ 0.03A
- **Operating temperature:** 0 ~ 60°C (32 ~ 140°F)
- **Operating Humidity:** 10% ~ 90% relative humidity, non-condensing
- **Weight:** 0.85 kg (reference weight of total package)

1.4 Board layout: dimensions

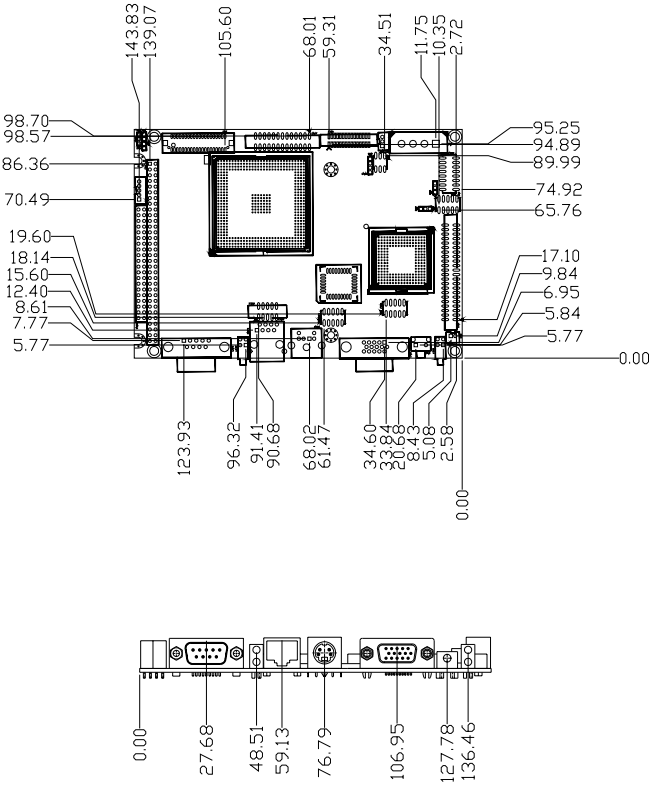


Figure 1.1: Board layout: Dimensions (Component Side)

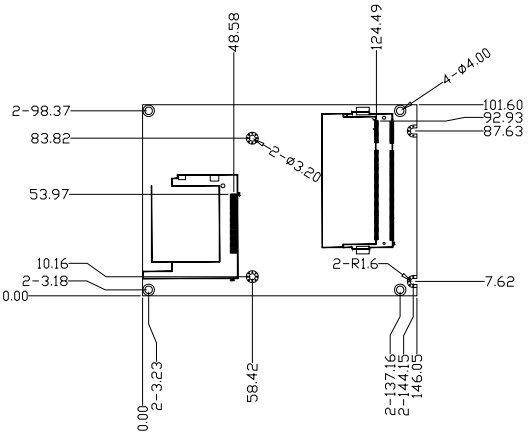


Figure 1.2: Board layout: Dimensions (Solder Side)

CHAPTER 2

Installation

This chapter explains the setup procedures of the PCM-9375 hardware, including instructions on setting jumpers and connecting peripherals, switches and indicators. Be sure to read all safety precautions before you begin the installation procedure.

Chapter 2 Installation

2.1 Jumpers

The PCM-9375 has a number of jumpers that allow you to configure your system to suit your application. The table below lists the functions of the various jumpers.

Table 2.1: Jumpers

Label	Function
J2	Clear CMOS
J3	COM2 Setting
J4	Audio Power

2.1.1 Clear CMOS (J2)

Table 2.2: Clear CMOS (J2)

Setting	Function
1-2*	BAT
2-3	Clear CMOS

*: default

2.1.2 COM2 Setting (J3)

Table 2.3: COM2 Setting (J3)

Setting	Function
1-2*	RS-232
3-4	RS-485
5-6	RS-422

*: default

2.1.3 Audio Power (J4)

Table 2.4: Audio Power (J4)

Setting	Function
1-2*	With + 12 v
2-3	Without + 12 V

*: default

2.2 Connectors

On-board connectors link the PCM-9375 to external devices such as hard disk drives, a keyboard, or floppy drives. The table below lists the function of each of the board's connectors.

Table 2.5: Connectors

Label	Function
CN1	Stand-by Power Input
CN2	Power Input
CN3	Reset Button
CN4	TFT LCD
CN5	Inverter Power
CN6	SMBus
CN7	DDR-SODIMM
CN8	ATX Power Button
CN9	GPIO
CN10	CF
CN11	IDE
CN12	CRT
CN13	USB1/2
CN14	Keyboard/Mouse
CN15	USB3/4
CN16	COM2/3/4
CN17	Print Port
CN18	RS-422/485
CN19	COM1
CN20	PC/104
CN21	ISA -5 V & -12 V Input
CN22	Audio
CN23	LAN1
CN24	LAN2

2.3 Locating Connectors

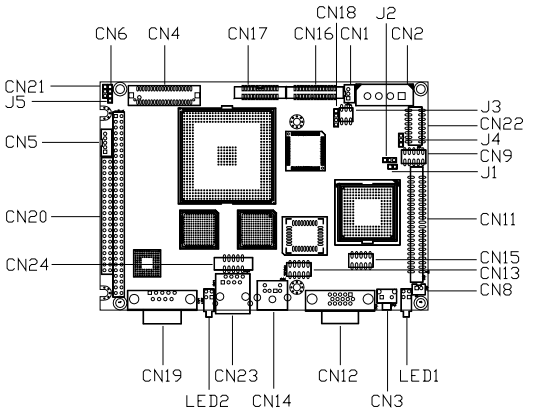


Figure 2.1: Connectors (component side)

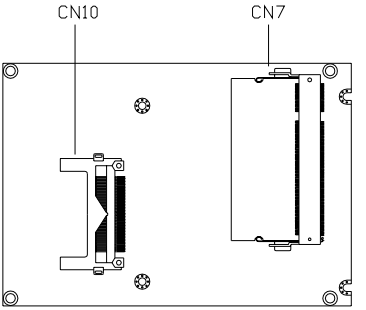
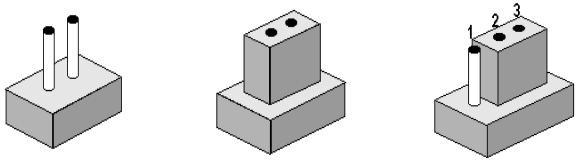


Figure 2.2: Connectors (solder side)

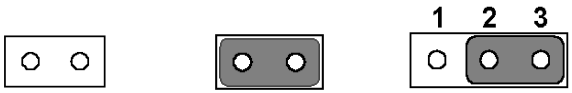
2.4 Setting Jumpers

You may configure your card to match the needs of your application by setting jumpers. A jumper is a metal bridge used to close an electric circuit. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper, you connect the pins with the clip. To “open” a jumper, you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2 and 3. In this case you would connect either pins 1 and 2, or 2 and 3.



open closed closed 2-3

The jumper settings are schematically depicted in this manual as follows:.



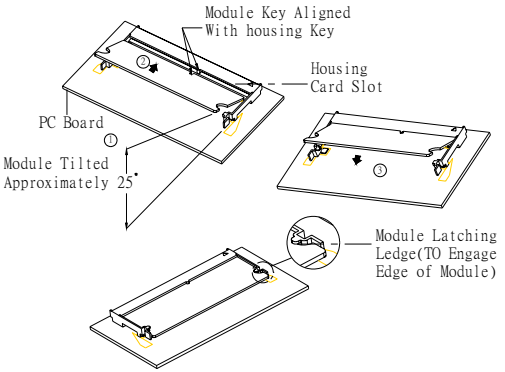
open closed closed 2-3

A pair of needle-nose pliers may be helpful when working with jumpers.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

Generally, you simply need a standard cable to make most connections.

2.5 Installing SO-DIMM



The procedures for installing SODIMMs are described below. Please follow these steps carefully. You can install SDRAM memory modules using 200-pin SODIMMs (Small Outline Dual In-line Memory Modules).

1. Ensure that all power supplies to the system are switched off.

2. Tilt the SODIMM card approximately 25^{o} above the board, and move it in the direction of the housing card slot. Make sure that the key in the module and the key in the housing are aligned.

3. Push the module into the socket until the module bottoms. There should be a slight insertion force to engage the module into the contacts.

2.6 IDE, CDROM hard drive connector (CN11)

The board provides 1 IDE channels which you can attach up to two Enhanced Integrated Device Electronics hard disk drives or CDROM to the board's internal controller. Its IDE controller uses a PCI interface. This advanced IDE controller supports faster data transfer, PIO mode 3, mode 4 and up to UDMA33.

2.6.1 Connecting the hard drive

Connecting drives is done in a daisy-chain fashion. This package includes One 44PIN IDE cable that can connect to 1.8" and 2.5" drives.

1. Connect one end of the cable to Hard Drive connector. Make sure that the red (or blue) wire corresponds to pin 1 on the connector, which is labeled on the board (on the right side).
2. Plug the other end of the cable into the Enhanced IDE hard drive, with pin 1 on the cable corresponding to pin 1 on the hard drive. (See your hard drive's documentation for the location of the connector.)

If desired, connect a second drive as described above.

Unlike floppy drives, IDE hard drives can connect to either end of the cable. If you install two drives, you will need to set one as the master and one as the slave by using jumpers on the drives. If you install only one drive, set it as the master.

2.7 Solid State Disk

The board provides a CompactFlash™ card type I socket and type II for optional kit.

2.7.1 CompactFlash (CN10)

The CompactFlash card shares a secondary IDE channel which can be enabled/disabled via the BIOS settings.

2.8 Parallel port connector (CN17)

Normally, the parallel port is used to connect the card to a printer. The board includes a multi-mode (ECP/EPP) parallel port accessed via CN17 and a 26-pin flat-cable connector. You will need an adapter cable if you use a traditional DB-25 connector. The adapter cable has a 26-pin connector on one end, and a DB-25 connector on the other.

The parallel port is designated as LPT1, and can be disabled or changed to LPT2 or LPT3 in the system BIOS setup.

The parallel port interrupt channel is designated to be IRQ7.

You can select ECP/EPP DMA channel via BIOS setup.

2.9 Keyboard and PS/2 mouse connector (CN14)

The board provides a keyboard connector that supports both a keyboard and a PS/2 style mouse. In most cases, especially in embedded applications, a keyboard is not used. If the keyboard is not present, the standard PC/AT BIOS will report an error or fail during power-on self-test (POST) after a reset. The PCM-board's BIOS standard setup menu allows you to select "All, But Keyboard" under the "Halt On" selection. This allows no-keyboard operation in embedded system applications, without the system halting under POST.

2.10 Power & HDD LED Connector (LED1, CN3)

2.10.1 Power & HDD LED Connector(LED1)

The HDD LED indicator for hard disk access is an active low signal (24 mA sink rate). Power supply activity LED indicator.

2.10.2 Power Reset button (CN3)

Momentarily pressing the reset button will activate a reset. The switch should be rated for 10 mA, 5 V.

2.11 Power connectors (CN2)

2.11.1 Main power connector, +5 V, +12 V (CN2)

Supplies main power to the PCM-9375 (+5 V), and to devices that require +12 V.

2.11.2 ATX Feature connector (CN1, CN8)

The PCM-9375 can support ATX power supply by CN1 connector as well as J1 jumper setting. Also, an advanced power bottom (CN8) is supported if any ATX power supply is used, optional cable (P/N: 1703200201) can be used for ATX feature conjecturer.

Note.: Be sure that the ATX power supply can take at least a 10 mA load on the 5 V standby lead (5VSB). If not, you may have difficulty powering up your system.

2.12 Audio interfaces (CN22)

2.12.1 Audio connector (CN22)

The board provides all major audio signals on a 10-pin cable connector, These audio signals include Microphone in (mono), Line in (stereo) and Line out (stereo).

2.13 COM port connector (CN16,CN19)

The board provides four serial RS-232 ports (CN19: COM1) in one DB-9 connector and one Hirose 40 pin connector (CN16: COM2/3/4) with auto-flow control. It provides connections for serial devices (a mouse, etc.) or a communication network. You can find the pin assignments for the COM port connector in Appendix C.

2.13.1 Serial Port RS-422/485 (CN18, J3)

Serial port can be configured to operate in RS-422 and RS-485 mode.

This is done via using connector CN18 and setting jumper J3.

Table 2.6: Serial Port RS-422/485 (J3)

Setting	Function
1-2	RS-232
3-4	RS-485
5-6	RS-422

2.14 VGA/LCD/LVDS interface connections

The board's PCI SVGA interface can drive conventional CRT displays and is capable of driving a wide range of flat panel displays.

2.14.1 CRT display connector (CN12)

The CRT display connector is a 15-pin D-SUB connector used for conventional CRT displays.

2.14.2 TTL TFT LCD connector (CN4)

For PCM-9375F series, CN4 consists of a 40-pin connector which can support up to 24-bit LCD panel. It is Hirose's product no. DF13A-40DP-1.25 V

2.14.3 LVDS LCD panel connector (CN4)

Four PCM-9375E series, the board supports 1 channel 18-bit LVDS LCD panel displays.

2.15 Ethernet configuration

The board is equipped with two high performance 32-bit PCI-bus Ethernet interface which is fully compliant with IEEE 802.3U 10/100Mbps standards. It is supported by all major network operating systems.

2.15.1 100Base-T connector (CN23, CN24)

100Base-T connections are made via one RJ-45 connector and one internal 10-pin box header.

2.15.2 Network boot (Depends on Ethernet Controller)

The Network Boot feature can be utilized by incorporating the Boot ROM image files for the appropriate network operating system. The Boot ROM BIOS files are included in the system BIOS, which is on the utility CD disc.

2.16 Watchdog timer configuration

An on-board watchdog timer reduces the chance of disruptions which EMP (electro-magnetic pulse) interference can cause. This is an invaluable protective device for standalone or unmanned applications. Setup involves one jumper and running the control software (refer to Appendix A).

2.17 USB connectors (CN13,CN15)

The board provides up to four USB (Universal Serial Bus) ports. This gives complete Plug and Play. The USB interfaces comply with USB specification Rev. 2.0 which supports 480Mbps transfer rate, and are fuse protected.

The USB interface is accessed through two 5 x 2-pin flat-cable connectors. You will need an adapter cable if you use a standard USB connector. The adapter cable has a 5 x 2-pin connector on one end and a USB connector on the other.

The USB interfaces can be disable in the system BIOS setup.

2.18 GPIO (General Purpose Input Output) (CN9)

The board supports 8-bit GPIO through GPIO connector. The 8 digital in- and out-puts can be programmed to read or control devices, with input or out- put defined. The default setting is 8 bits input.

CHAPTER 3

Award BIOS Setup

Chapter 3 Award BIOS Setup

3.1 Introduction

Award's BIOS ROM has a built-in setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed memory (CMOS RAM) so that it retains the setup information when the power is turned off.

3.1.1 CMOS RAM Auto-backup and Restore

The CMOS RAM is powered by an onboard button cell battery. When you finish BIOS setup, the data in CMOS RAM will be automatically backed up to Flash ROM. If operation in harsh industrial environment cause a soft error, BIOS will recheck the data in CMOS RAM and automatically restore the original data in Flash ROM to CMOS RAM for booting.

Note: If you intend to change the CMOS setting without restoring the previous backup, you have to click on "DEL" within two seconds of the "CMOS checksum error..." display screen message appearing. Then enter the "Setup" screen to modify the data. If the "CMOS checksum error..."message appears again and again, please check to see if you need to replace the battery in your system.

3.2 Entering Setup

Turn on the computer and check for the “patch code”. If there is a number assigned to the patch code, it means that the BIOS supports your CPU.

If there is no number assigned to the patch code, please contact our applications engineer to obtain an up-to-date patch code file. This will ensure that your CPU’s system status is valid. After ensuring that you have a number assigned to the patch code, press <Del> to allow you to enter the setup.

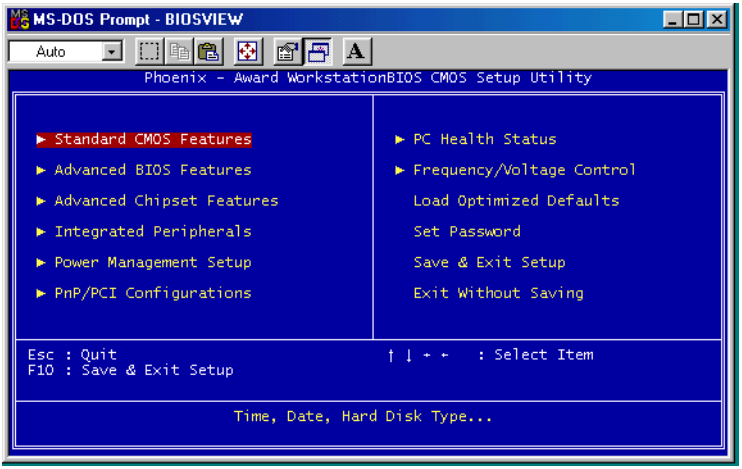


Figure 3.1: Award BIOS Setup initial screen

3.3 Standard CMOS Setup

Choose the “Standard CMOS Features” option from the “Initial Setup Screen” menu, and the screen below will be displayed. This menu allows users to configure system components such as date, time, hard disk drive, Video, Halt On, display, and memory.

3.4 Advanced BIOS Features

The “Advanced BIOS Features” screen appears when choosing the “Advanced BIOS Features” item from the “Initial Setup Screen” menu. It allows the user to configure the board according to his particular requirements. Below are some major items that are provided in the Advanced BIOS Features screen. A quick booting function is provided for your convenience. Simply enable the Quick Booting item to save yourself valuable time.

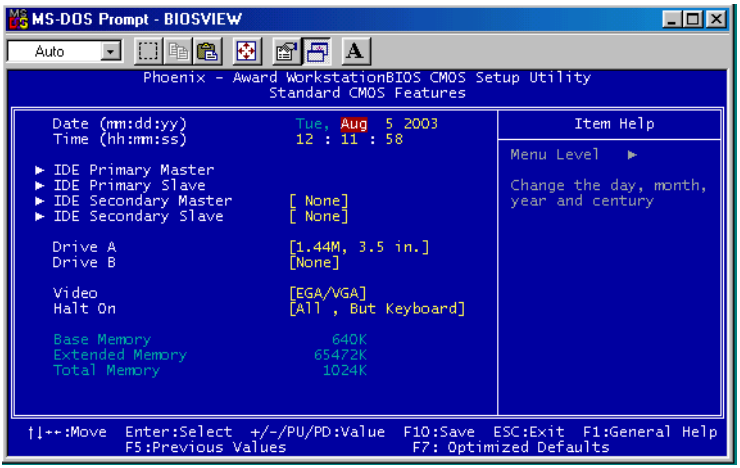


Figure 3.2: Advanced BIOS features screen

3.4.1 Virus Warning

If enabled, a warning message and alarm beep activates if someone attempts to write here. The commands are “Enabled” or “Disabled.”

3.4.2 CPU Internal Cache

3.4.3 First/Second/Third/Other Boot Device

The BIOS tries to load the OS with the devices in the sequence selected.

Choices are: HDD, CDROM, LAN, Disabled.

3.4.4 Boot Up NumLock Status

This feature selects the "power on" state for NumLock. The commands are "Enabled" or "Disabled."

3.4.5 Gate A20 Option

Normal: A pin in keyboard controller controls GateA20

Fast (Default): Chipest controls GateA20.

3.4.6 Typematic Rate Setting

The typematic rate is the rate key strokes repeat as determined by the keyboard controller. The commands are "Enabled" or "Disabled." Enabling allows the typematic rate and delay to be selected.

3.4.7 Typematic Rate (Chars/Sec)

BIOS accepts the following input values (characters/second) for typematic rate: 6, 8, 10, 12, 15, 20, 24, 30.

3.4.8 Typematic Delay (msec)

Typematic delay is the time interval between the appearance of two consecutive characters, when holding down a key. The input values for this category are: 250, 500, 750, 1000 (msec).

3.4.9 Security Option

This setting determines whether the system will boot up if the

password is denied. Access to Setup is always limited.

System The system will not boot, and access to Setup will be denied if the correct password is not entered at the prompt.

Setup The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

Note: To disable security, select "PASSWORD SETTING" in the main menu. At this point, you will be asked to enter a password. Simply press <Enter> to disable security. When security is disabled, the system will boot, and you can enter Setup freely.

3.4.10 OS Select for DRAM

3.4.11 Video BIOS Shadow

3.5 Integrated Peripherals

3.5.1 IDE Master/Slave PIO/UDMA Mode,

IDE Primary (Secondary) Master/Slave PIO/UDMA Mode (Auto) Each channel (Primary and Secondary) has both a master and a slave, making four IDE devices possible. Because each IDE device may have a different Mode timing (0, 1, 2, 3, 4), it is necessary for these to be independent. The default setting "Auto" will allow autodetection to ensure optimal performance.

3.5.2 USB Controller

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals. The choices: Enabled, Disabled.

3.5.3 USB Keyboard/Mouse Support

Select Enabled if user plan to use an USB keyboard. The choice: Enabled, Disable.

3.5.4 AC97 Audio

Select Disable if you do not want to use AC-97 audio. Option is Auto, Disable.

3.5.5 Init Display First

This item allows you to choose which one to activate first, PCI Slot or on-chip VGA. The choices: PCI Slot, Onboard.

3.5.6 Onboard LAN Control

Option is Enable and Disable. Select Disable if user does not want to use onboard LAN controller1

3.5.7 IDE HDD Block Mode

You can enable the Primary IDE channel and/or the Secondary IDE channel. Any channel not enabled is disabled. This field is for systems with only SCSI drives.

3.5.8 Onboard Serial Port

For settings reference the Appendix for the serial resource allocation,

and Disabled for the on-board serial connector

3.5.9 UART Mode Select

This item allows you to select UART mode. The choices: IrDA, ASKIR, Normal.

3.5.10 RxD, TxD Active

This item allows you to determine the active of RxD, TxD. The Choices: “Hi, Hi,” “Lo, Lo,” “Lo, Hi,” “Hi, Lo.”

3.5.11 UR2 Duplex Mode

This item allows you to select the IR half/full duplex function. The choices: Half, Full.

3.5.12 Onboard Parallel Port

This field sets the address of the on-board parallel port connector. You can select either 3BCH/IRQ7, 378H/IRQ7, 278H/IRQ5 or Disabled. If you install an I/O card with a parallel port, make sure there is no conflict in the address assignments. The CPU card can support up to three parallel ports, as long as there are no conflicts for each port.

3.5.13 Parallel Port Mode

This field allows you to set the operation mode of the parallel port. The setting “Normal” allows normal speed operation, but in one direction only. “EPP” allows bidirectional parallel port operation at maximum speed. “ECP” allows the parallel port to operate in bi-directional mode and at a speed faster than the maximum data transfer rate. “ECP + EPP” allows normal speed operation in a two-way mode.

3.5.14 EPP Mode Select

This field allows you to select EPP port type 1.7 or 1.9. The choices:

EPP1.7, 1.9.

3.5.15 ECP Mode Use DMA

This selection is available only if you select “ECP” or “ECP + EPP” in the Parallel Port Mode field. In ECP Mode Use DMA, you can select DMA channel 1, DMA channel 3, or Disable. Leave this field on the default setting.

3.6 Power Management Setup

The power management setup controls the CPU card's "green" features to save power. The following screen shows the manufacturer's defaults:

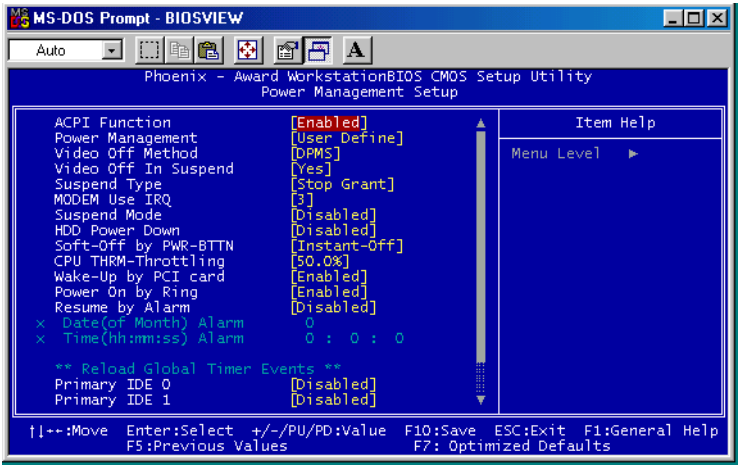


Figure 3.3: Power management setup screen

3.6.1 Power-Supply Type

Choose AT or ATX power supply

3.6.2 ACPI function

The choice: Enabled, Disabled.

3.6.3 Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. HDD Power Down
2. Suspend Mode

There are four selections for Power Management, three of which have fixed mode settings

Min. Power Saving	Minimum power management., Suspend Mode = 1 hr., and HDD Power Down = 15 min.
Max. Power Saving	Maximum power management., Suspend Mode = 1 min., and HDD Power Down = 1 min.
User Defined (Default)	Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

3.6.4 Video Off In Suspend

When system is in suspend, video will turn off.

3.6.5 Modem Use IRQ

This determines the IRQ in which the MODEM can use.The choices: 3, 4, 5, 7, 9, 10, 11, NA.

3.6.6 HDD Power Down

You can choose to turn the HDD off after one of the time intervals listed, or when the system is in "suspend" mode. If the HDD is in a power saving mode, any access to it will wake it up.

3.6.7 Soft-Off by PWR-BTTN

If you choose "Instant-Off", then pushing the ATX soft power switch button once will switch the system to "system off" power mode. You can choose "Delay 4 sec." If you do, then pushing the button for more than 4 seconds will turn off the system, whereas pushing the button momentarily (for less than 4 seconds) will switch the system to "suspend" mode.

3.6.8 CPU THRM-Throttling

This field allows you to select the CPU THRM-Throttling rate. The choices: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, 87.5%.

3.6.9 PowerOn By LAN

This item allows you to wake up the system via LAN from the remote-host. The choices: Enabled, Disabled.

3.6.10 PowerOn By Modem

When Enabled, an input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state. The choices: Enabled, Disabled.

3.6.11 PowerOn By Alarm

When Enabled, your can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode. The choices: Enabled, Disabled.

3.6.12 Primary IDE 0 (1) and Secondary IDE 0 (1)

When Enabled, the system will resume from suspend mode if Primary IDE 0 (1) or Secondary IDE 0 (1) is active. The choice: Enabled, Disabled.

3.6.13 FDD, COM, LPT PORT

When Enabled, the system will resume from suspend mode if FDD, COM port, or LPT port is active. The choice: Enabled, Disabled.

3.6.14 PCI PIRQ [A-D]#

When Enabled, the system will resume from suspend mode if interrupt occurs. The choice: Enabled, Disabled.

3.7 PnP/PCI Configurations

3.7.1 PnP OS Installed

Select Yes if you are using a plug and play capable operating system. Select No if you need the BIOS to configure non-boot device

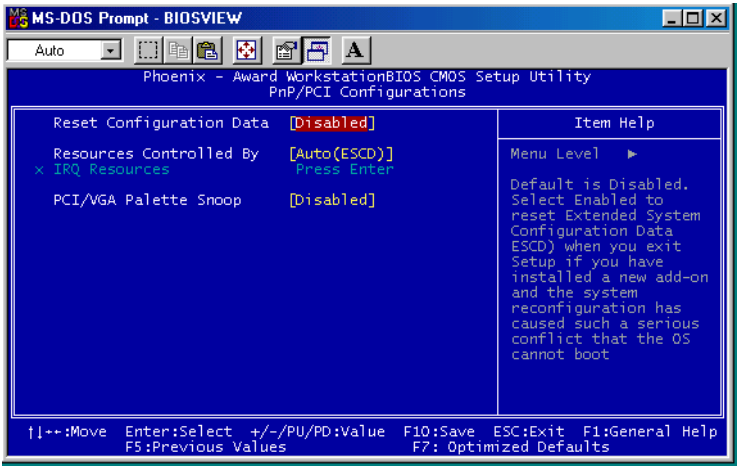


Figure 3.4: PnP/PCI configurations screen

3.7.2 Reset Configuration Data

Default is Disable. Select Enable to reset Extended System Configuration Data (ESCD) if you have installed a new add-on and system econfiguration has caused such a conflict that OS cannot boot.

3.7.3 Resources controlled by:

The commands here are "Auto" or "Manual." Choosing "manual" requires you to choose resources from each following sub-menu. "Auto" automatically configures all of the boot and Plug and Play devices but you must be using Windows 95 or above.

3.7.4 PCI/VGA Palette Snoop

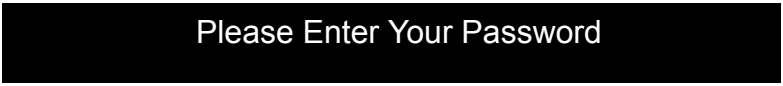
This is left at "Disabled."

3.8 Password Setting

To change the password:

1. Choose the "Set Password" option from the "Initial Setup Screen" menu and press <Enter>.

   The screen will display the following message:



   Press <Enter>.

2. If the CMOS is good or if this option has been used to change the default password, the user is asked for the password stored in the CMOS. The screen will display the following message:

   Enter the current password and press <Enter>.

3. After pressing <Enter> (ROM password) or the current password (user-defined), you can change the password stored in the CMOS. The password must be no longer than eight (8) characters.

Remember, to enable the password setting feature, you must first select either “Setup” or “System” from the “Advanced BIOS Features” menu.

3.9 Save & Exit Setup

If you select this and press <Enter>, the values entered in the setup utilities will be recorded in the CMOS memory of the chipset. The microprocessor will check this every time you turn your system on and compare this to what it finds as it checks the system. This record is required for the system to operate.

3.10 Exit Without Saving

Selecting this option and pressing <Enter> lets you exit the setup program without recording any new values or changing old ones.

CHAPTER 4

PCI SVGA/LCD Setup

This chapter details the software configuration information. It shows you how to configure the card to match your application requirements. The AWARD System BIOS is covered in Chapter 4.

Sections include:

- Installation of SVGA drivers

  -for Window XP
- Connections for standard LCDs
- Further information

Chapter 4 PCI SVGA/LCD Setup

4.1 Introduction

The board has an onboard AMD Geode LX800 chipset for its AGP/ SVGA controller. It supports TFT LCD displays and conventional analog CRT monitors with 64MB frame buffer shared with system memory. The VGA controller can drive CRT displays with resolutions up to 1600 x 1200 x 16 bpp at 100 Hz and up to 1024 x 768 x 32 bpp at 60 Hz for TFT LCD.

4.1.1 Display type

The board can be set in one of three configurations: on a CRT, on a flat panel display, or on both dual simultaneous display. The system is initially set to dual display mode. If you want to enable the CRT display only or the flat panel display only, please contact Intel Corporation or our sales representative for detailed information.

4.1.2 Dual Simultaneous Display

The board uses a AMD LX800 controller that is capable of providing multiple views and simultaneous display with mixed video and graphics on a flat panel and CRT.

The Dual display can be set up by CMOS setting.

4.1.3 CMOS setting for panel type

The board system BIOS and custom drivers are located in a 512 Kbyte, Flash ROM device. A single Flash chip holds the system BIOS, VGA BIOS and network Boot ROM image. The display can be configured via CMOS settings. This method minimized the number of chips and different type of LCD panels, please choose "panel type" from the "Advanced Chipset Features" menu in CMOS setting.

4.2 Connections to Two Standard LCDs

Connector Table of 12.1" TTL Sharp LQ121S1DG31 800 x 600 5/3.3V (18 Bit) for PCM-9375 AMD Geode LX.

4.2.1 AMD Geode LX

Table 4.1: Connections to Sharp LQ121S1DG31 / PCM-9375

Sharp LQ121S1DG31		**PCM-9375**	
DF9MA-41P-1V		**DF-13 4OP-1.25V**	
Pin	**Function**	**Pin**	**Function**
1	GND	3	GND
2	CK	35	DOTCLK
3	GND	4	GND
4	Hsync	38	HS
5	Vsync	36	VS
6	GND		
7	GND		
8	GND	8	GND
9	R0	27	D18
10	R1	28	D19
11	R2	29	D20
12	GND		
13	R3	30	D21
14	R4	31	D22
15	R5	32	D23
16	GND		
17	GND		
18	GND		
19	G0	19	D10
20	G1	20	D11
21	G2	21	D12
22	GND		
23	G3	22	D13
24	G4	23	D14
25	G5	24	D15
26	GND	33	GND

Table 4.1: Connections to Sharp LQ121S1DG31 / PCM-9375			
27	GND		
28	GND	33	GND
29	B0	11	D2
30	B1	12	D3
31	B2	13	D4
32	GND	34	GND
33	B3	14	D5
34	B4	15	D6
35	B5	16	D7
36	GND	34	GND
37	ENAB	37	DE
38	NC		
39	VCC	5	+3.3 V
40	VCC	6	+3.3 V
41	NC		

* The polarity of both synchronous signals are negative.

4.3 Installation of the SVGA Driver

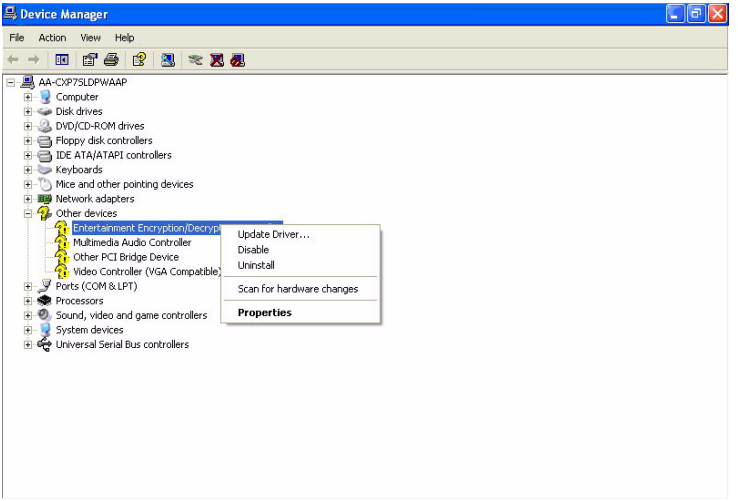
Complete the following steps to install the SVGA driver. Follow the procedures in the flow chart that apply to the operating system that you are using within your board.

Notes: *1. The windows illustrations in this chapter are intended as examples only. Please follow the listed steps, and pay attention to the instructions which appear on your screen.*

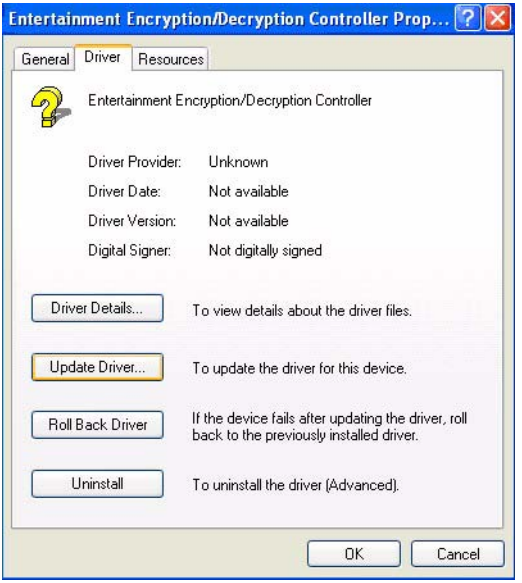
2. For convenience, the CD-ROM drive is designated as "D" throughout this chapter.

4.3.1 Installation chipset AES driver

1. Open device manager, right click on entertainment.....then, click on properties



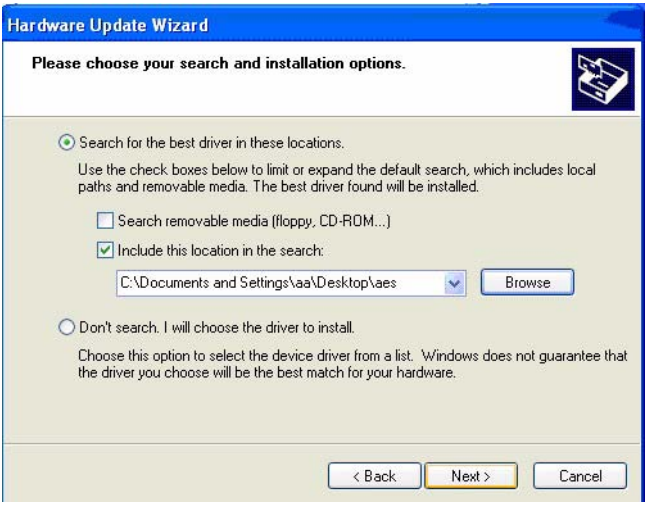
2. Go to driver page and click on update driver.



3. Click on install from specify folder and click on next.

4.Click on browse and select target folder, then, click OK.

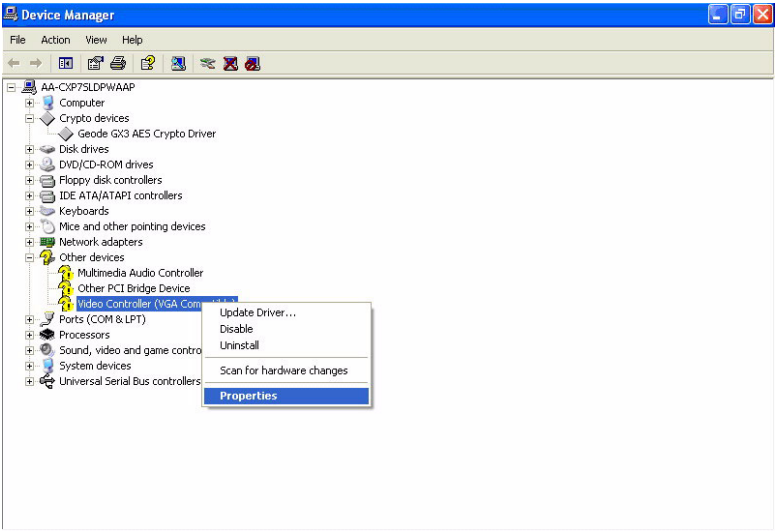
5.Click on next.



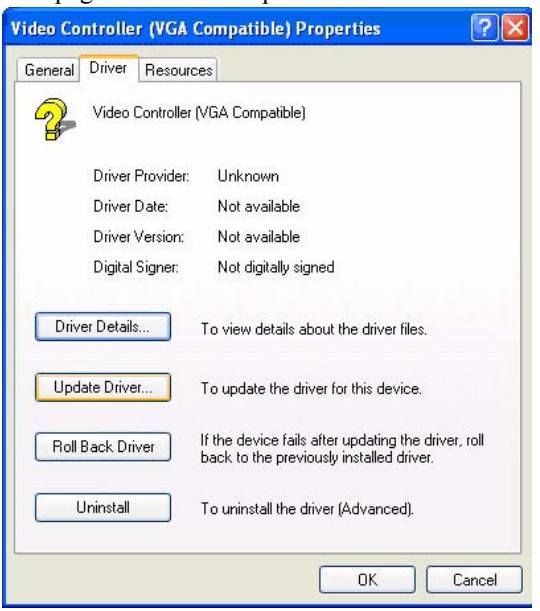
6.Click on finish.

4.3.2 Installation of VGA driver

1. Right click on video, and click " Properties".



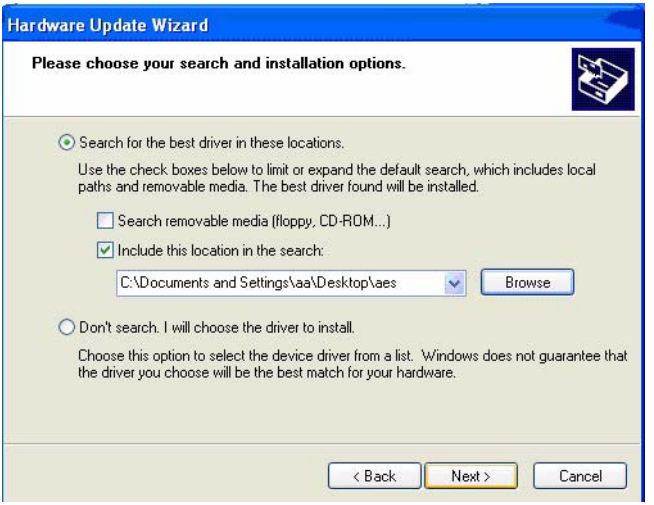
2. Go to driver page and click on update driver.



3. Click on install from specify folder and click on next.

4. Click on browse and select target folder, then click OK.

5. Click on next, then click on finish.



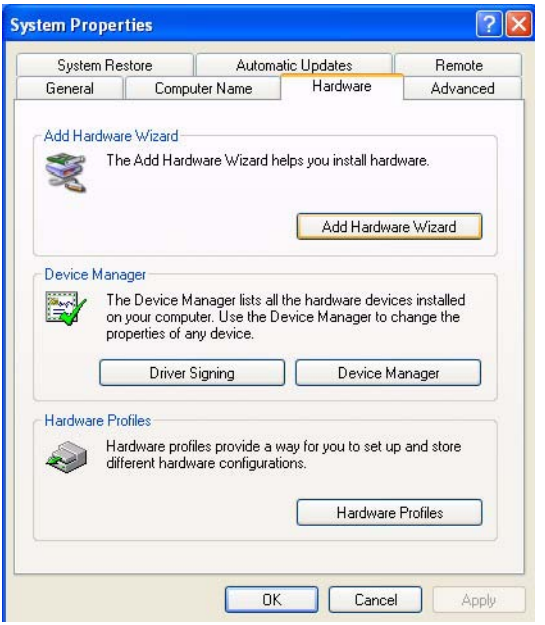
6. Then click on continue anyway.

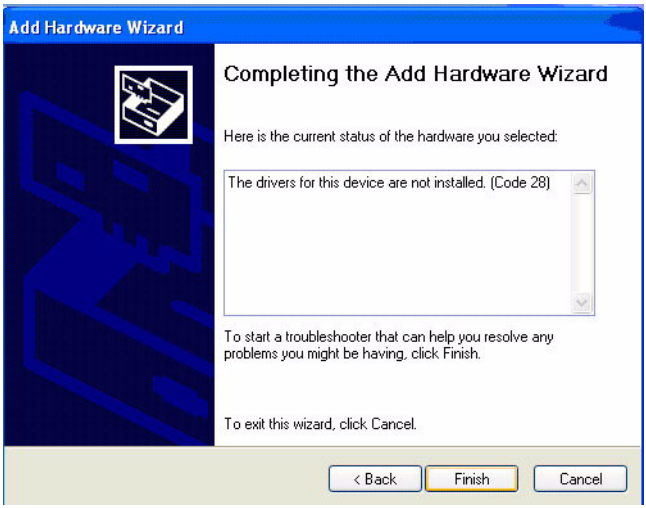
7. Click on finish.

4.3.3 PCI Bridge

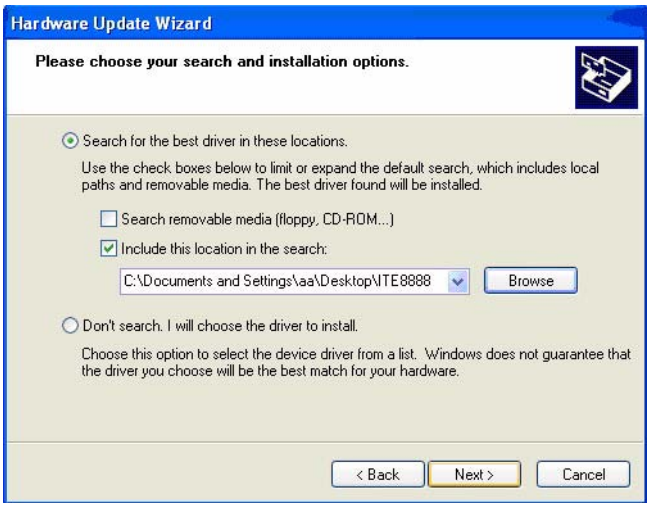
The system may detect PCI bridge automatically. If the question mark is shown on device manager, please install the driver as bellow:

1. Click “Add Hardware Wizard” and add new hardware wizard

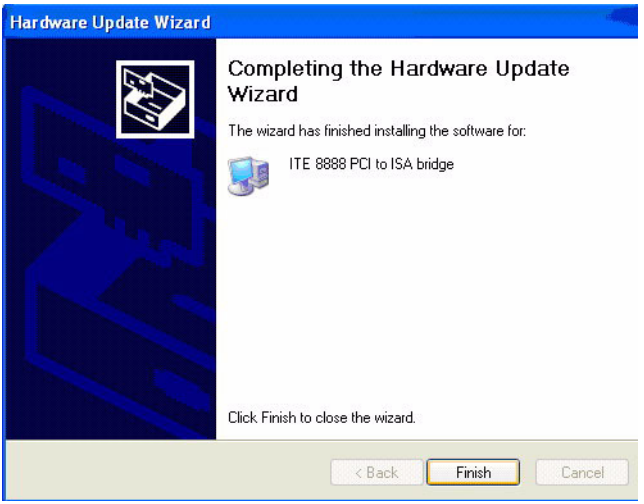




2. Search the right directory of PCI bridge for IT8888G driver.



3. Installation finished.



4.4 Further Information

For further information about the AGP/VGA installation in your PCM-9375, including driver updates, troubleshooting guides and FAQ lists, visit the following web resources:

Intel website: *www.intel.com*

EMAC website: *www.emacinc.com*

CHAPTER 5

Audio Setup

The board is equipped with an audio interface that records and plays back CD-quality audio. This chapter provides instructions for installing the software drivers included on the audio driver diskettes.

Chapter 5 Audio Setup

5.1 Introduction

The board's on-board audio interface provides high-quality stereo sound by using the AMD LX800 audio controller. The audio interface can record, compress, and play back voice, sound, and music with built-in mixer control.

5.2 Driver installation

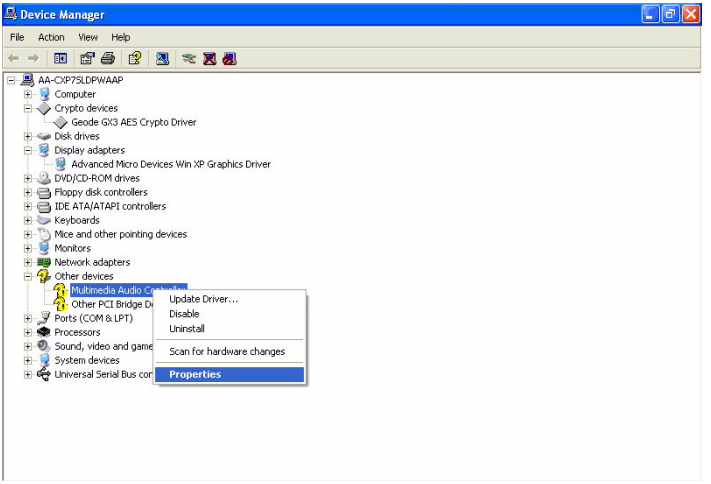
5.2.1 Before you begin

Please read the instructions in this chapter carefully before you attempt installation. The audio drivers for the board are located on the audio driver CD. Run the supplied SETUP program to install the drivers; don't copy the files manually.

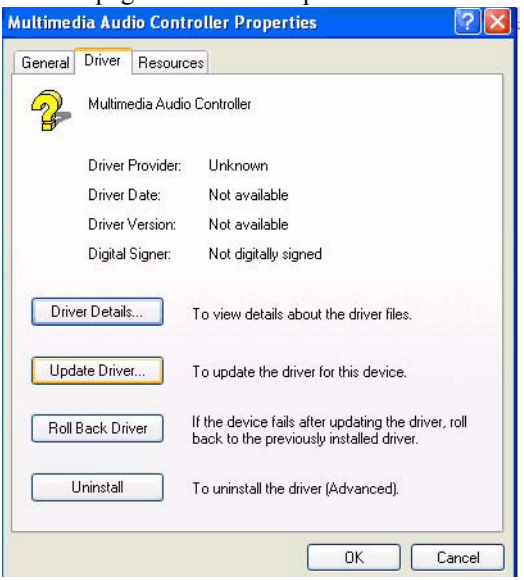
Note: *The files on the software installation diskette are compressed. Do not attempt to install the drivers by copying the files manually. You must use the supplied SETUP program to install the drivers.*

5.2.2 Windows XP drivers

1. Open device manage, right click on audio and click on properity.



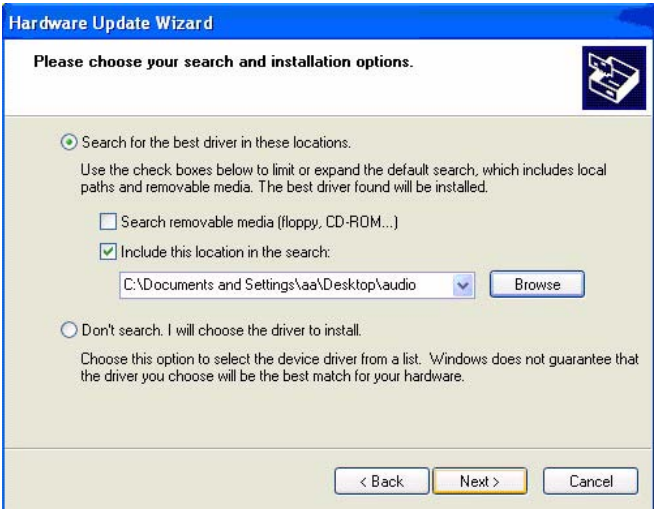
2. Go to driver page and click on update driver.



3. Click on install from specify folder and click on next.

4. Click on browse and select target folder, then click OK.

5. Click on next.



6. Click on continue anyway.

7. Click on finish.

CHAPTER 6

Ethernet Interface

This chapter provides information on Ethernet configuration.

Sections include:

- Introduction
- Installation of Ethernet drivers for Windows XP
- Further information

Chapter 6 Ethernet Interface

6.1 Introduction

The board is equipped with a high performance 32-bit Ethernet chipset which is fully compliant with IEEE 802.3 100 Mbps CSMA/CD standards. It is supported by major network operating systems. With 100Base-T compatible. The network boot feature can be utilized by incorporating the boot ROM image files for the appropriate network operating system. The boot ROM BIOS files are combined with system BIOS, which can be enabled/disabled in the BIOS setup.

6.2 Installation of Ethernet driver

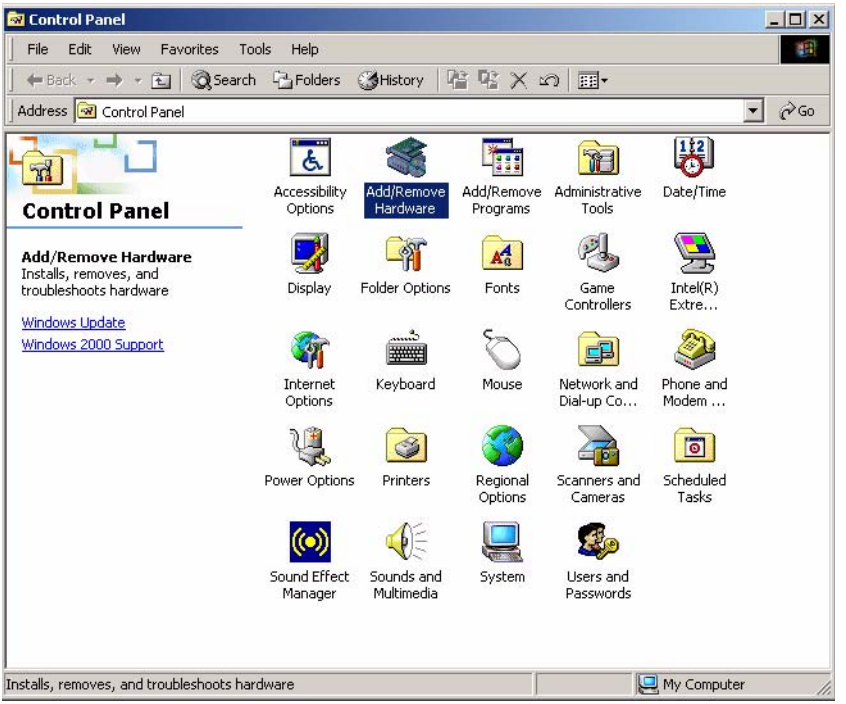
Before installing the Ethernet driver for Intel 82551ER chipset, note the procedures below. You must know which operating system you are using in your board, and then refer to the corresponding installation flow chart. Then just follow the steps described in the flow chart. You will quickly and successfully complete the installation, even if you are not familiar with instructions for MS-DOS or Windows.

Note: *The windows illustrations in this chapter are examples only. Follow the steps and pay attention to the instructions which appear on your screen.*

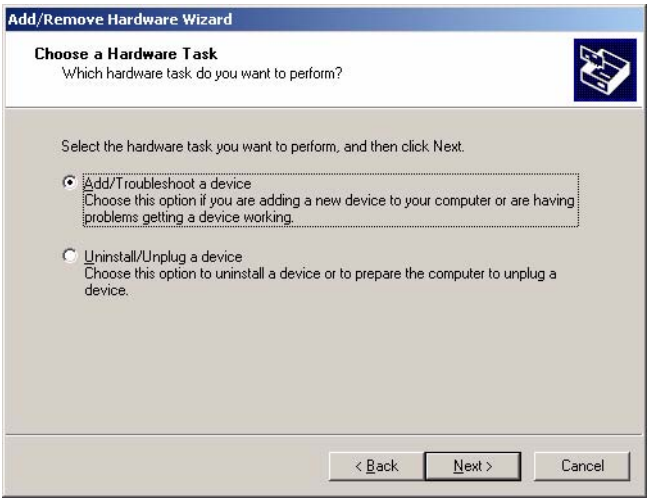
6.2.1 Installation for Windows XP

1. a. Select "Start", "Settings". "Control Panel".

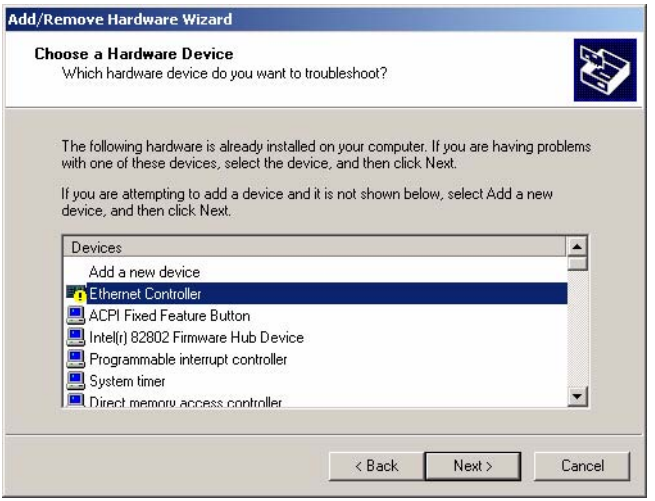
   b. Double click "Network".

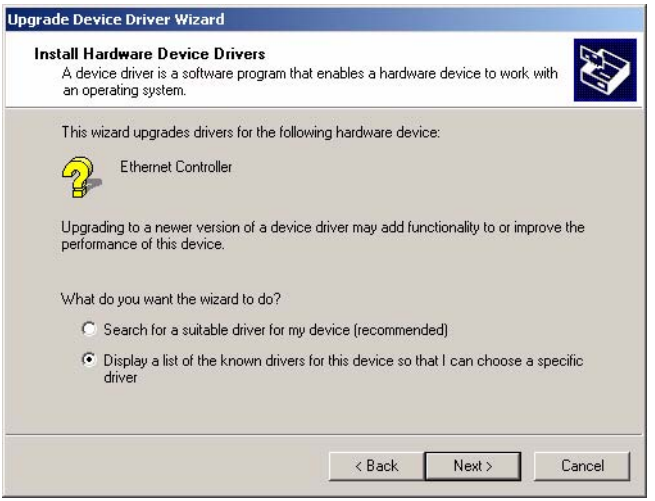


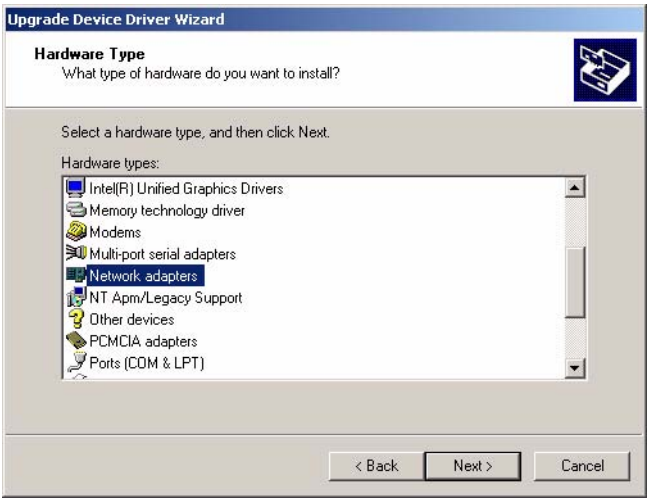
2. Click “Add new hardware wizard” and prepare to install network function



3. Choose Hardware Device “Ethernet Controller”



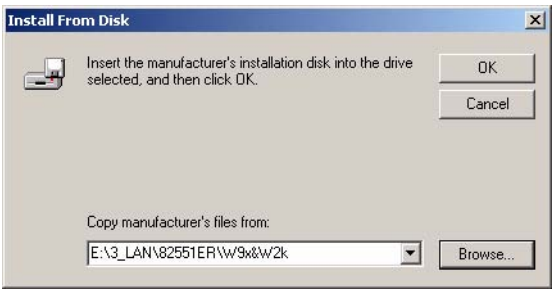




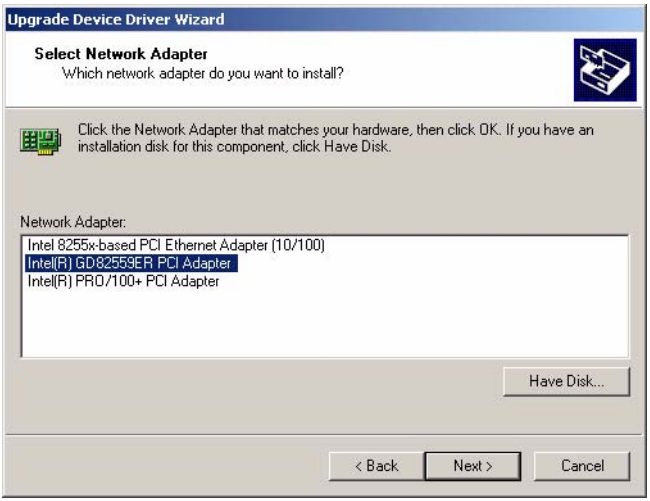
4. Insert the CD into D: drive

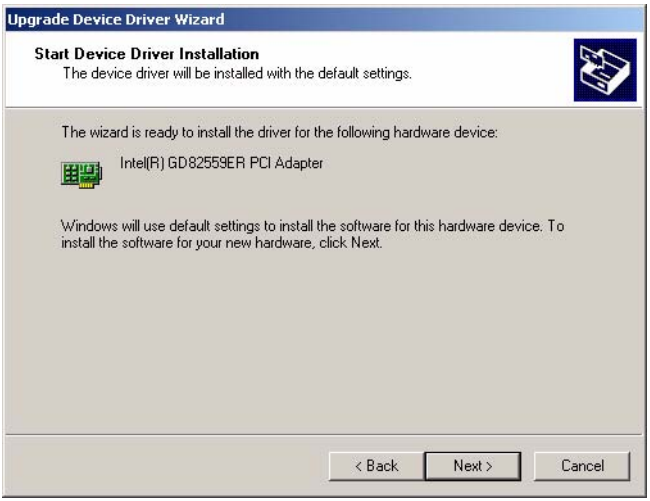
a. Fill in the Find the LAN chipset folder at the directory of PCM-9375 win2000 folder from CD ROM drive

b. Click “OK”.



5. Choose the "Intel(R) GD82559ER PCI Adapter" item
Click “Next”





6 a. Make sure the configurations of relative items are set correctly

b. Click “OK”

6.3 Further information

Intel website: **www.intel.com**
EMAC websites:**www.emacinc.com**

Appendix A

Pin Assignments

This appendix contains information of a detailed or specialized nature. It includes:

- Stand-by Power Input
- Power Input
- Reset Button
- TFT LCD
- Inverter Power
- ATX Power Button
- GPIO
- CF
- IDE
- CRT
- USB1/2, USB3/4
- COM2/3/4
- Print Port
- RS-422/485
- COM1
- ISA - 5 V & - 12 V
- Audio
- LAN1/LAN2

Appendix A Pin Assignments

A.1 Stand-by Power Input (CN1)

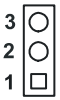


Table A.1: Stand-by Power Input (CN1)

Part Number 1655303020

Description Wafer Box 2.0mm 3P180D w/Lock

Pin	Pin Name	Signal Type
1	+5 VSB	PWR
2	GND	GND
3	PS	OUT

A.2 Power Input (CN2)

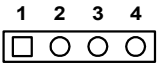


Table A.2: Power Input (CN2)

Part Number 1655204030

Description Housing 5.08mm 4P 180D Male w/o Lock

Pin	Pin Name	Signal Type
1	+12 V	PWR
2	GND	GND
3	GND	GND
4	+5 V	PWR

A.3 Reset Button (CN3)

Table A.3: Reset Button (CN3)

Part Number	**1601064400**
Description	**Push sw L=8.35mm Reset Button for MIC-2340**

Pin	Pin Name	Signal Type
1	RST	IN
2	GND	GND
3	GND	GND
4	GND	GND

A.4 TFT LCD (CN4)

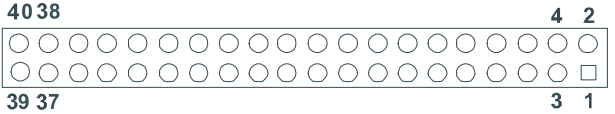


Table A.4: TFT LCD (CN4)

Part Number	**1653920200**
Description	***CONN. DF13-40DP-1.25 V**

Pin	Pin Name	Signal Type
1	+5 V	PWR
2	+5 V	PWR
3	GND	GND
4	GND	GND
5	+3.3 V	PWR
6	+3.3 V	PWR
7	TV-CLK	CLK48M
8	GND	GND
9	D0	I/O
10	D1	I/O
11	D2	I/O

Table A.4: TFT LCD (CN4)

Part Number	**1653920200**
Description	***CONN. DF13-40DP-1.25 V**

Pin	Pin Name	Signal Type
12	D3	I/O
13	D4	I/O
14	D5	I/O
15	D6	I/O
16	D7	I/O
17	D8	I/O
18	D9	I/O
19	D10	I/O
20	D11	I/O
21	D12	I/O
22	D13	I/O
23	D14	I/O
24	D15	I/O
25	D16	I/O
26	D17	I/O
27	D18	I/O
28	D19	I/O
29	D20	I/O
30	D21	I/O
31	D22	I/O
32	D23	I/O
33	GND	GND
34	GND	GND
35	DOTCLK	CLK
36	VS	OUT
37	DE	I/O
38	HS	OUT
39	RST	OUT

Table A.4: TFT LCD (CN4)

Part Number	**1653920200**	
Description	***CONN. DF13-40DP-1.25 V**	
Pin	**Pin Name**	**Signal Type**
40	FP	OUT

Table A.5: TFT 18-Bit/24-Bit

Pin Name	TFT 18-Bit	TFT 24-Bit
DRGB0		B0
DRGB1		B1
DRGB2	B0	B2
DRGB3	B1	B3
DRGB4	B2	B4
DRGB5	B3	B5
DRGB6	B4	B6
DRGB7	B5	B7
DRGB8		G0
DRGB9		G1
DRGB10	G0	G2
DRGB11	G1	G3
DRGB12	G2	G4
DRGB13	G3	G5
DRGB14	G4	G6
DRGB15	G5	G7
DRGB16		R0
DRGB17		R1
DRGB18	R0	R2
DRGB19	R1	R3
DRGB20	R2	R4
DRGB21	R3	R5
DRGB22	R4	R6
DRGB23	R5	R7
DOTCLK	CLK	CLK
HSYNC	HSYNC	HSYNC
VSYNC	VSYNC	VSYNC
LDEMOD	LDE	LDE
VDDEN	ENLVDD	ENLVDD

A.5 Inverter Power (CN5)

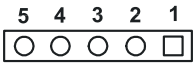


Table A.6: Inverter Power (CN5)

Part Number	**1655305020**
Description	**Wafer box 2.0mm 5P 180D Male w/Lock**

Pin	Pin Name	Signal Type
1	+5 V	PWR
2	GND	GND
3	ENABKL	OUT
4	VBR	OD
5	VCC	PWR

A.6 ATX Power Button (CN8)

Table A.7: ATX Power Button (CN8)

Part Number	**1655302020**
Description	**Wafer Box 2P 180D 2.0mmm Male w/Lock**

Pin	Pin Name	Signal Type
1	PWRBTN#	IN
2	GND	GND

A.7 GPIO (CN9)

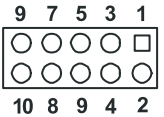


Table A.8: GPIO (CN9)

Part Number	**1653005261**
Description	**Pin Header SMD 5*2P 180D(M) 2.0mm**

Pin	Pin Name	Signal Type
1	+5 V	PWR
2	GPIO4	I/O
3	GPIO0	I/O
4	GPIO5	I/O
5	GPIO1	I/O
6	GPIO6	I/O
7	GPIO2	I/O
8	GPIO7	I/O
9	GPIO3	I/O
10	GND	GND

A.8 CF (CN10)

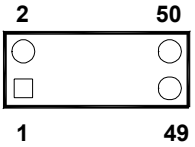


Table A.9: CF (CN10)

Part Number	**1653025211**
Description	**Header for CF Type I 50P 90D(M) Standoff 2.0mm**

Pin	Pin Name	Signal Type
1	GND	GND
2	D3	I/O
3	D4	I/O
4	D5	I/O
5	D6	I/O
6	D7	I/O
7	CS#1	OUT
8	A10	OUT
9	OE#	OUT
10	A9	OUT
11	A8	OUT
12	A7	OUT
13	+5 V	PWR
14	A6	IN
15	A5	IN
16	A4	IN
17	A3	IN
18	A2	IN
19	A1	IN
20	A0	IN
21	D0	I/O

Table A.9: CF (CN10)

Part Number **1653025211**

Description **Header for CF Type I 50P 90D(M) Standoff 2.0mm**

Pin	Pin Name	Signal Type
22	D1	I/O
23	D2	I/O
24	IOCS16#	IN
25	CF	IN
26	CF	IN
27	D11	I/O
28	D12	I/O
29	D13	I/O
30	D14	I/O
31	D15	I/O
32	CS#3	OUT
33	NC	
34	IOR#	OUT
35	IOW#	OUT
36	WE#	OUT
37	IRQ15	IN
38	+5 V	PWR
39	CF	OUT
40	NC	
41	RST#	OUT
42	IORDY	OUT
43	DREQ	OUT
44	DACK#	OUT
45	CF	I/O
46	CF	IN
47	D8	I/O
48	D9	I/O
49	D10	I/O

Table A.9: CF (CN10)

Part Number	**1653025211**	
Description	**Header for CF Type I 50P 90D(M) Standoff 2.0mm**	
Pin	**Pin Name**	**Signal Type**
50	GND	GND

A.9 IDE (CN11)

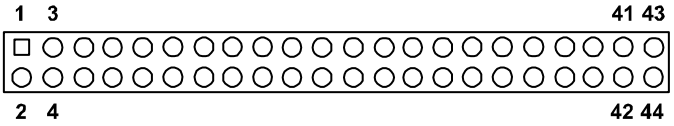


Table A.10: IDE (CN11)

Part Number	**1653222262**
Description	**Box Header SMD 22*2P 180D(M) 2.0mm IDIOT-Proof**

Pin	Pin Name	Signal Type
1	RST#	OUT
2	GND	GND
3	D7	I/O
4	D8	I/O
5	D6	I/O
6	D9	I/O
7	D5	I/O
8	D10	I/O
9	D4	I/O
10	D11	I/O
11	D3	I/O
12	D12	I/O
13	D2	I/O
14	D13	I/O
15	D1	I/O
16	D14	I/O
17	D0	I/O
18	D15	I/O
19	GND	GND
21	DREQ	OUT
22	GND	GND
23	IOW#	OUT
24	GND	GND

Table A.10: IDE (CN11)

Part Number	**1653222262**
Description	**Box Header SMD 22*2P 180D(M) 2.0mm IDIOT-Proof**

Pin	Pin Name	Signal Type
25	IOR#	OUT
26	GND	GND
27	IORDY	OUT
28	CSEL#	OUT
29	DACK#	OUT
30	GND	GND
31	IRO14	IN
32	NC	
33	A1	IN
34	D66DET#	IN
35	A0	IN
36	A2	IN
37	CS#1	OUT
38	CS#3	OUT
39	ASP#	OUT
40	GND	GND
41	+5 V	PWR
42	+5 V	PWR
43	GND	GND
44	NC	

A.10 CRT (CN12)

Table A.11: CRT (CN12)

Part Number	**1654515304**
Description	**D-SUB CONN. 15P 90D(F) DIP 5mm Blue**

Pin	Pin Name	Signal Type
1	R	OUT
2	G	OUT
3	B	OUT
4	NC	
5	GND	GND
6	GND	GND
7	GND	GND
8	GND	GND
9	+5 V	PWR
10	GND	GND
11	NC	
12	DDAT	OD I/O
13	HSYNC	OUT
14	VSYNC	OUT
15	DCLK	OD I/O
17	GND	GND

A.11 USB1/2 (CN13), USB3/4 (CN15)

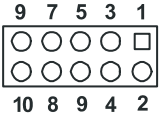


Table A.12: USB1/2 (CN13), USB3/4 (CN15)

Part Number	**1653005260**
Description	**Pin Header 5*2P 180D(M) 2.0mm SMD IDIOT-Proof**

Pin	Pin Name	Signal Type
1	+5 V	PWR
2	+5 V	PWR
3	P0-	I/O
4	P1-	I/O
5	P0+	I/O
6	P1+	I/O
7	GND	GND
8	GND	GND
9	GND	GND
10	NC	

A.12 COM2/3/4 (CN16)

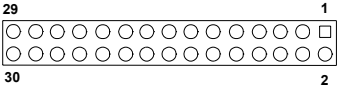


Table A.13: COM2/3/4 (CN16)

Part Number 1653000221

Pin	Pin Name	Signal Type
1	DCD#2	IN
2	DSR#2	IN
3	RXD#2	IN
4	RTS2	IN
5	TXD2	OUT
6	CTS#2	IN
7	DTR#2	I/O
8	RI#2	IN
9	GND	GND
10	GND	GND
11	DCD#3	IN
12	DSR#3	IN
13	RXD3	IN
14	RTS#3	I/O
15	TXD3	OUT
16	CTS#3	IN
17	DTR#3	I/O
18	RI#3	IN
19	GND	GND
20	GND	GND
21	DCD#4	IN
22	DSR#4	IN
23	RXD4	IN
24	RTS#4	I/O
25	TXD4	OUT

Table A.13: COM2/3/4 (CN16)

Part Number 1653000221

Pin	Pin Name	Signal Type
26	CTS#4	IN
27	DTR#4	I/O
28	RI#4	IN
29	GND	GND
30	GND	GND

A.13 Print Port (CN17)

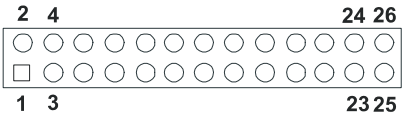


Table A.14: Print Port (CN17)

Part Number	**1653000272**
Description	**Box Header SMD 13*2P 180D(M) 2.0mm**

Pin	Pin Name	Signal Type
1	STB#	OUT
2	AFD#	OUT
3	PD0	I/O
4	ERR#	IN
5	PD1	I/O
6	INIT#	OUT
7	PD2	I/O
8	SLIN#	OUT
9	PD3	I/O
10	GND	GND
11	PD4	I/O
12	GND	GND
13	PD5	I/O
14	GND	GND
15	PD6	I/O
16	GND	GND
17	PD7	I/O
18	GND	GND
19	ACK#	IN
20	GND	GND
21	BUSY	IN
22	GND	GND
23	PE	IN

Table A.14: Print Port (CN17)

Part Number	**1653000272**
Description	**Box Header SMD 13*2P 180D(M) 2.0mm**

Pin	Pin Name	Signal Type
24	GND	GND
25	SLCT	IN
26	NC	

A.14 RS-422/485 (CN18)

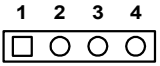


Table A.15: RS-422/485 (CN18)

Part Number	**1653004101**
Description	**Pin Header 4*1P 180D(M) SQUARE 2.0mm**

Pin	Pin Name	Signal Type
1	422-RXD-	IN
2	422-RXD+	IN
3	485-422-TXD+	OUT
4	485-422-TXD-	OUT

A.15 COM1 (CN19)

Table A.16: COM1 (CN19)

Part Number	**1654409108**
Description	**D-SUB CONN 9P 90D(M) DIP 5mm GRN 225A-09MSPBBB6**

Pin	Pin Name	Signal Type
1	DCD#	IN
2	RXD#	IN
3	TXD#	OUT
4	DTR#	I/O
5	GND	GND
6	DSR#	IN
7	RTS#	I/O
8	CTS#	IN
9	RI#	IN
10	GND	GND
11	GND	GND

A.16 ISA -5 V & -12 V Input (CN21)

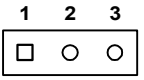


Table A.17: ISA -5 V & -12 V Input (CN21)

Part Number	**1653003101**
Description	**Pin Header 3*1P 180D(M) SQUARE 2.0mm**

Pin	Pin Name	Signal Type
1	-12 V	PWR
2	-5 V	PWR
3	GND	GND

A.17 Audio (CN22)

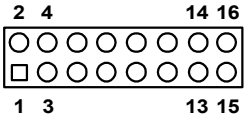


Table A.18: Audio (CN22)

Part Number	**1653008260**
Description	**Pin Header 8*2P 180D SMD Male SQUARE PIN 2.0mm**

Pin	Pin Name	Signal Type
1	SPK	OUT
2	SPK	OUT
3	SPK	OUT
4	SPK	OUT
5	LOUT	OUT
6	LOUT	OUT
7	GND	GND
8	GND	GND
9	LIN	IN
10	LIN	IN

Table A.18: Audio (CN22)

Part Number	**1653008260**
Description	**Pin Header 8*2P 180D SMD Male SQUARE PIN 2.0mm**

Pin	Pin Name	Signal Type
11	GND	GND
12	GND	GND
13	NC	
14	MIC2	IN
15	MIC1	IN
16	GND	GND

A.18 LAN1 (CN23)

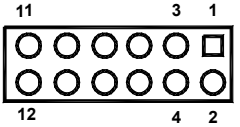


Table A.19: LAN1 (CN23)

Part Number	**1652508200**
Description	**Phone Jack RJ-45 8P 90D(F) DIP 677-088-D06**

Pin	Pin Name	Signal Type
1	LAN1-TX+	OUT
2	LAN1-TX-	OUT
3	LAN1-RX+	IN
4	LAN1-LCT	I/O
5	LAN1-LCT	I/O
6	LAN1-RX-	IN
7	LAN1-LCT	I/O
8	LAN1-LCT	I/O
11	GND	GND
12	GND	GND

A.19 LAN2 (CN24)

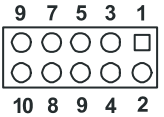


Table A.20: LAN2 (CN24)

Part Number	**1653205260**
Description	**Box Header SMD 5*2 180D (M) 2.0mm**

Pin	Pin Name	Signal Type
1	+3.3 V	PWR

Table A.20: LAN2 (CN24)

Part Number	**1653205260**	
Description	**Box Header SMD 5*2 180D (M) 2.0mm**	
Pin	**Pin Name**	**Signal Type**
2	LAN2-ACTLED	IN
3	LAN2-RX+	IN
4	LAN2-RX-	IN
5	LAN2-LILED	IN
6	LAN2-LCT	I/O
7	NC	
8	LAN2-LCT	I/O
9	LAN2-TX+	OUT
10	LAN2-TX-	OUT

Appendix B

System Assignments

This appendix contains information of a detailed nature. It includes:

- System I/O ports
- 1st MB memory map
- DMA channel assignments
- Interrupt assignments

Appendix B System Assignments

B.1 System I/O Ports

Table B.1: System I/O ports

Addr. range (Hex)	Device
000-01F	DMA controller
020-021	Interrupt controller 1, master
040-05F	8254 timer
060-06F	8042 (keyboard controller)
070-07F	Real-time clock, non-maskable interrupt (NMI) mask
080-09F	DMA page register
0A0-0BF	Interrupt controller 2
0C0-0DF	DMA controller
0F0	Clear math co-processor
0F1	Reset math co-processor
0F8-0FF	Math co-processor
1F0-1F8	Fixed disk
200-207	Reserved (Game I/O)
278-27F	Reserved (Parallel port 2,LTP3)
2E8-2EF	Reserved (Series port 4)
2F8-2FF	Serial port 2
300-31F	Prototype card
360-36F	Reserved
378-37F	Parallel printer port 1 (LPT 2)
380-38F	SDLC, bisynchronous 2
3A0-3AF	Bisynchronous 1
3B0-3BF	Monochrome display and printer adapter (LPT1)
3C0-3CF	Reserved
3D0-3DF	Color/graphics monitor adapter
3E8-3EF	Reserved (Series port 3)
3F0-3F7	Diskette controller
3F8-3FF	Serial port 1

* PNP audio I/O map range from 220 ~ 250H (16 bytes)
  MPU-401 select from 300 ~ 330H (2 bytes)

B.2 1st MB memory map

Table B.2: 1st MB memory map

Addr. range (Hex)	Device
F0000h - FFFFFh	System ROM
*CC000h - EFFFFh	Unused (reserved for Ethernet ROM)
C0000h - CBFFFh	Expansion ROM (for VGA BIOS)
B8000h - BFFFFh	CGA/EGA/VGA text
B0000h - B7FFFh	Unused
A0000h - AFFFFh	EGA/VGA graphics
00000h - 9FFFFh	Base memory

* If Ethernet boot ROM is disabled (Ethernet ROM occupies about 16 KB)

* E0000 - EFFFF is reserved for BIOS POST

B.3 DMA channel assignments

Table B.3: DMA channel assignments

Channel	Function
0	Available
1	Available (audio)
2	Floppy disk (8-bit transfer)
3	Available (parallel port)
4	Cascade for DMA controller 1
5	Available
6	Available
7	Available

* Audio DMA select 1, 3, or 5

** Parallel port DMA select 1 (LPT2) or 3 (LPT1)

B.4 Interrupt assignments

Table B.4: Interrupt assignments

Interrupt#	Interrupt source
IRQ 0	Interval timer
IRQ 1	Keyboard
IRQ 2	Interrupt from controller 2 (cascade)
IRQ 3	COM2
IRQ 4	COM1
IRQ 5	Reserved (COM4)
IRQ 6	FDD
IRQ 7	LPT1
IRQ 8	RTC
IRQ 9	Reserved (audio)
IRQ 10	Reserved (COM3)
IRQ 11	Reserved for watchdog timer
IRQ 12	PS/2 mouse
IRQ 13	INT from co-processor
IRQ 14	Primary IDE
IRQ 15	Secondary IDE for CFC

* Ethernet interface IRQ select: 9, 11, 15
* PNP audio IRQ select: 9, 11, 15
* PNP USB IRQ select: 9, 11, 15
* PNP ACPI IRQ select: 9, 11, 15

Appendix C

Mechanical Drawings

Appendix C Mechanical Drawings

C.1 Mechanical Drawings

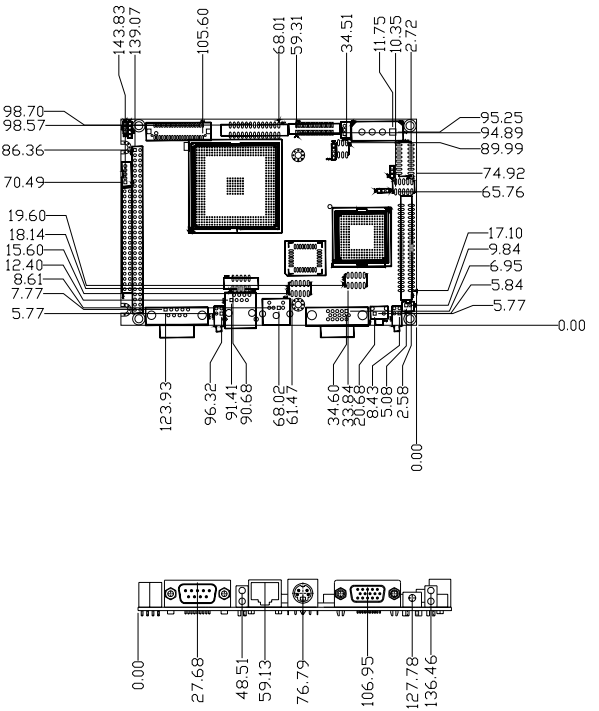


Figure C.1: PCM-9375 Mechanical Drawing (Component Side)

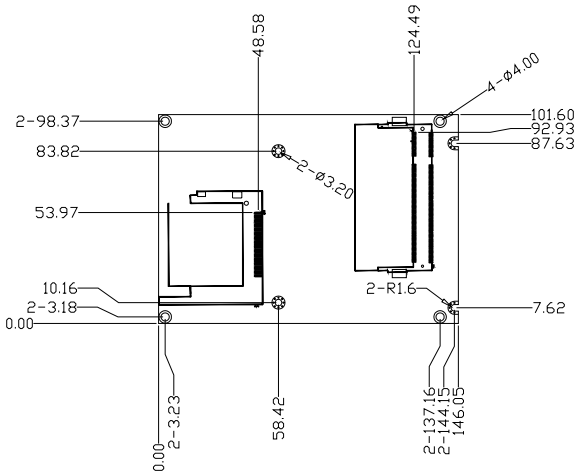


Figure C.2: PCM-9375 Mechanical Drawing (Solder Side)