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Notice:

Owing to Microsoft' s certifying schedule is various to every
supplier, we might have some drivers not certified yet by
Microsoft. Therefore, it might happen under Windows XP that a
dialogue box (shown as below) pop out warning you this
software has not passed Windows Logo testing to verify its
compatibility with Windows XP. Please rest assured that our RD
department has already tested and verified these drivers. Just
click the "Continue Anyway" button and go ahead the
installation.

Table of Contents

Mainboard User's Manual

Chapter 1

Introduction

This mainboard has a **Socket-462** processor socket for the **AMD K7** type of processors. You can install any of these processors on this mainboard. This mainboard supports front-side bus speed of **266MHz**.

This mainboard integrates the **SiS740 Northbridge** and **SiS962/962L Southbridge** chipsets that support a **DDR** interface, **Ultra DMA 66/100/133** function and remarkably high system performance under all types of system operations.
This mainboard has a built-in **AC97 Codec**, providing a **CNR** (Communication and Networking Riser) slot and a built-in **10BaseT/100BaseTX Network Interface**. This mainboard also supports the optional built-in IEEE1394a function (**for SiS962 SB only**). There is an extended set of **MATX I/O Ports** including PS/2 keyboard and mouse ports, four back-panel USB2.0 ports, one parallel port, one VGA port and one serial port. Connecting the Extended USB Module to this mainboard can add two extra USB2.0 ports(onboard USB header USB1).

This mainboard has all features you need to develop a powerful multimedia workstation. The board is **Micro ATX size** and has power connectors for an **ATX** power supply.

Key Features

The key features of this mainboard include:

Socket-462 Processor Support

♦ Supports AMD **Athlon XP/Athlon/Duron** processors
♦ Supports 200/**266** MHz Front-Side Bus

Memory Support

♦ Three 184-pin DIMM sockets (DDR1 ~ DDR3) for DDR memory modules
♦ Maximum installed memory is 1.5GB

Expansion Slots

♦ One CNR (Communication and Networking Riser) slot
♦ Three 32-bit PCI slots for PCI 2.2-compliant bus interface

Onboard IDE channels

♦ Primary and Secondary PCI IDE channels
♦ Support for PIO (programmable input/output) modes
♦ Support for Multiword DMA modes
♦ Support for Bus Mastering and Ultra DMA **66/100/133** modes

Power Supply and Power Management

♦ ATX power supply connector
♦ Meets ACPI 1.0b and APM 1.2 requirements, keyboard power on/off
♦ Supports Suspend, Shutdown, Wake on LAN, Wake on Modem, Wake on Alarm, Interrupt Wake-up from Keyboard/Mouse

AC97 Audio Codec: CMI9738

- ◆ Compliant with AC' 97 2.2 specification
- ◆ Full-duplex Codec with independent and variable sampling rate
- ◆ Earphone Buffer Built-In, SNR up to 90db
- ◆ 4Ch DAC, support 4-channel speak-out
- ◆ Advanced power management support

Built-in Ethernet LAN

- ◆ Single chip **10Base-TX/100Base-T Physical Layer Solution**
- ◆ Dual Speed – 100/10 Mbps
- ◆ MII Interface to Ethernet Controller/Configuration & Status
- ◆ Auto Negotiation: 10/100, Full/Half Duplex
- ◆ Meet All Applicable IEEE802.3, 10Base-T and 100Base-TX Standards

Onboard I/O Ports

The mainboard has a full set of I/O ports and connectors:

- ◆ Two PS/2 ports for mouse and keyboard
- ◆ One serial ports
- ◆ One parallel port
- ◆ One VGA port
- ◆ Six USB ports (Four back-panel ports, onboard USB header providing two extra ports) –USB2.0
- ◆ Audio jacks for microphone, line-in and line-out

Hardware Monitoring

- ◆ Built-in Hardware Monitor circuit supports Thermal, Power and Fan Speed monitor

Onboard Flash ROM

- ◆ Supports Plug and Play configuration of peripheral devices and expansion cards

USB 2.0

- ◆ Compliant with Universal Serial Bus Specification Revision 2.0

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- ◆ Compliant with Intel's Enhanced Host Controller Interface Specification Revision 0.95
- ◆ Compliant with Universal Host Controller Interface Specification Revision 1.1
- ◆ PCI multi-function device consists of two **UHCI Host Controller** cores for full-/low-speed signaling and one **EHCI Host Controller** core for high-speed signaling
- ◆ Root hub consists 4 downstream facing ports with integrated physical layer transceivers shared by **UHCI** and **EHCI** Host Controller
- ◆ Support PCI-Bus Power Management Interface Specification release 1.1
- ◆ Legacy support for all downstream facing ports

IEEE 1394a (Only for SiS962 SB)
- ◆ Fully supports provisions of IEEE1394a-1995 for high-performance serial bus and the P1394a draft 2.0 standard
- ◆ Provides three fully compliant cables ports at 100/200/400 Mbits/s and available with one, two or three ports
- ◆ Supports optional 1394a Annex J electrical isolation barrier at PHY-link interface
- ◆ Supports power-down feature to conserve energy in battery powered application
- ◆ Node power-class information signaling for system power management

- ◆ **PC-Cillin2000** provides automatic virus protection under Windows 98/ME/NT/2000/XP
- ◆ **MediaRing Talk** provides PC to PC or PC to Phone internet phone communication
- ◆ **Super Voice** is data, fax and voice communication software.
- ◆ **Recovery Genius 21st V5.0** provides the function to recover, reserve and transfer hard disk data.
- ◆ **CD Ghost** is the software stimulating a real CD-ROM to perform equivalent function.
- ◆ **Language Genius 21st** is the software to provide learning tools of language and singing.

- ♦ **PageABC** is the software to help you create your own home page.

Dimensions
- ♦ Micro ATX form factor (220mm x 244mm)

Package Contents

Your mainboard package ships with the following items:
- ❏ The mainboard
- ❏ This User's Guide
- ❏ 1 UDMA66/100 IDE cable
- ❏ 1 Floppy disk drive cable
- ❏ Support software on CD-ROM disk

Optional Accessories

You can purchase the following optional accessories for this mainboard.
- ❏ Extended USB module
- ❏ CNR v.90 56K Fax/Modem card

Static Electricity Precautions

Static electricity could damage components on this mainboard.
Take the following precautions while unpacking this mainboard
and installing it in a system.

1. Don't take this mainboard and components out of their original
   static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible.
   If you don't have a wrist strap, discharge static electricity by
   touching the bare metal of the system chassis.
3. Carefully hold this mainboard by its edges. Do not touch those
   components unless it is absolutely necessary. Put this
   mainboard on the top of static-protection package with
   component side facing up while installing.

Pre-Installation Inspection

1. Inspect this mainboard whether there are any damages to
   components and connectors on the board.
2. If you suspect this mainboard has been damaged, do not
   connect power to the system. Contact your mainboard vendor
   about those damages.

Chapter 2

Mainboard Installation

To install this mainboard in a system, please follow the instructions in this chapter:

❑ Identify the mainboard components
❑ Install a CPU
❑ Install one or more system memory modules
❑ Verify that all jumpers or switches are set correctly
❑ Install the mainboard in a system chassis (case)
❑ Connect any extension brackets or cables to connecting headers on the mainboard
❑ Install other devices and make the appropriate connections to the mainboard connecting headers.

Note:
1. Before installing this mainboard, make sure jumper JP1 is under Normal setting. See this chapter for information about locating JP1 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the mainboard.

Mainboard Components

This diagram below identifies major components on the mainboard.
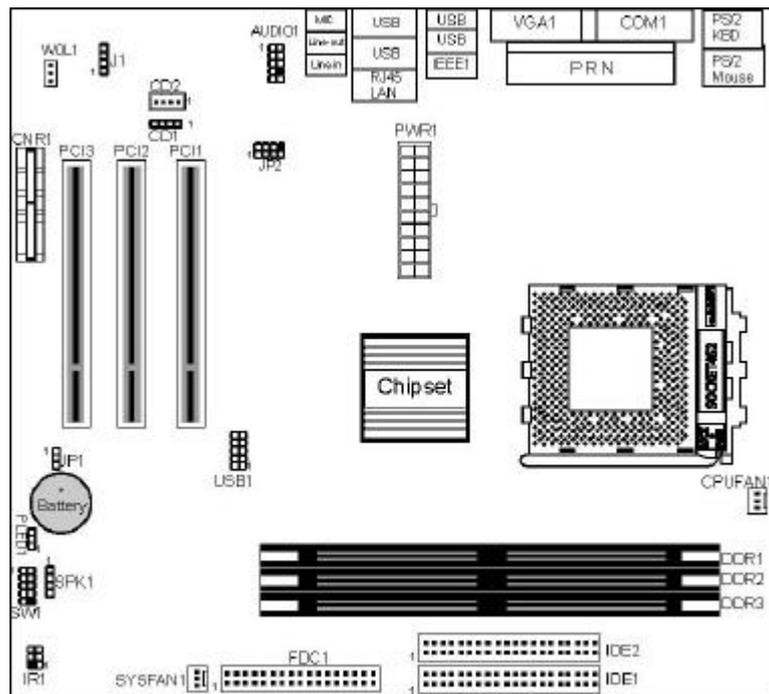
Note: Any jumpers on your mainboard that do not appear in the illustration above are for testing only.

I/O Ports

The illustration below shows a side view of the built-in I/O ports on the mainboard.
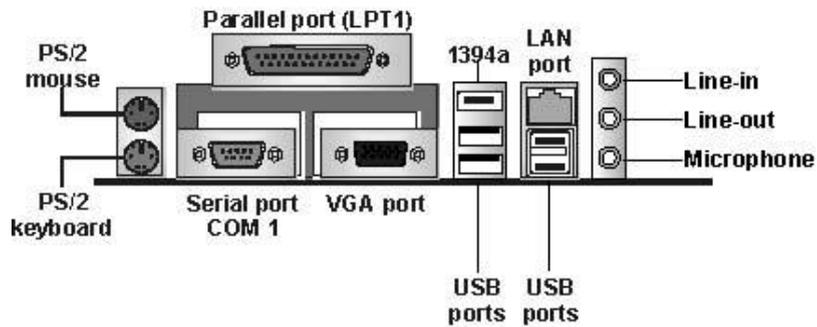
Install A CPU

This mainboard has a Socket-462 that supports AMD K7 processors.

To ensure reliability, ensure that your processor has a heatsink/cooling fan assembly.

Do not try to install a Socket-370/Socket-7 processor in the Socket-462. A Socket-370/Socket-7 processor such as the PPGA Celeron, FCPGA Pentium-III, Pentium-MMX, or the AMD K5/K6 does not fit in the Socket-462.

The following list indicates these processors are currently supported by this mainboard.

Athlon XP: 2600+ MHz; FSB: 266 MHz
Athlon: 650 MHz~1.4 GHz, FSB: 200 MHz, 266 MHz
Duron: 550 MHz~1.2 GHz and up, FSB: 200 MHz

Installing a Socket-462 Processor

Install a processor into the ZIF (Zero Insertion Force) Socket-462 on the mainboard.

1. Locate the Socket-462 and CPUFAN. Unlock the socket by pressing the locking lever slightly sideways, and then lift it to the upright position.

Socket-462

Pin-1 Corner

CPUFAN1
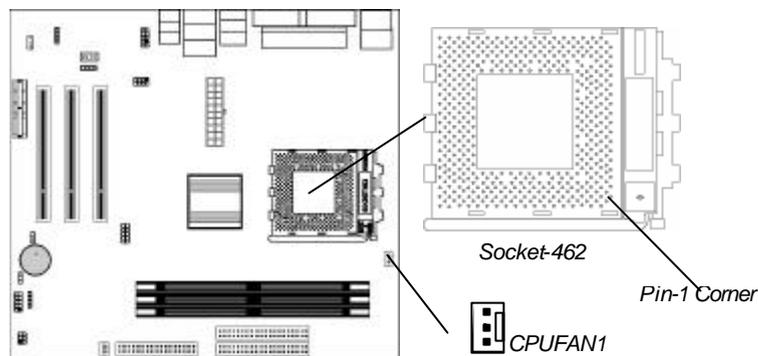
2. On the processor, identify the Pin-1 corner by its beveled edge.
3. On the Socket-462, identify the Pin-1 corner. The Pin-1 corner is at the end of the locking lever when locked.
4. Match the Pin-1 corner of CPU with the one of socket, and insert the processor into the socket. No force is required and the processor should drop into place freely.
5. Push down the locking lever and hook it under the latch on the edge of the socket. This secures the CPU in the socket.
6. All processors should be installed with a combination heatsink/cooling fan, connect the cable from the fan to the CPU fan power connector CPUFAN 1.

Install Memory

This mainboard accommodates three184-pin 2.5V unbuffered
Double Data Rate (DDR) SDRAM DIMM sockets. You must
install at least one memory module in order to work out the
mainboard.
When you install DDR200/DDR266 memory modules, the
memory bus can run up to 100/133 MHz.
The DDR SDRAM DIMMs can synchronously work with 100
MHz or operates over a 133 MHz system bus.
You must install at least one memory module in order to use the
mainboard. Each module can be installed with up to 1.5GB
memory capacity
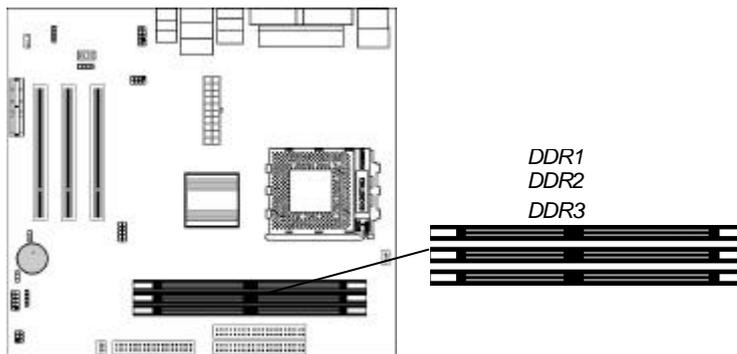
Installation Procedure
To install a module, please follow these steps:
   1. Push down the latches on each side of the DIMM socket.
   2. Align the memory module with the socket. The DIMM
      sockets are keyed with notches and the DIMMs are keyed
      with cutouts so that they can only be installed correctly.
   3. Check the cutouts on the DIMM module edge connector
      matching the notches in the DIMM socket.
   4. Install the DIMM module into the socket and press it firmly
      down until it is seated correctly. The socket latches are
      levered upwards and lock the edges of the DIMM.
   5. Install any remaining DIMM modules.

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Setting Jumper Switches

Jumpers are sets of pins that can be connected together with jumper caps. Jumper caps change the operating way of the mainboard by changing the electronic circuits. If a jumper cap connects two pins, these pins are SHORT; if it is removed, these pins are OPEN.
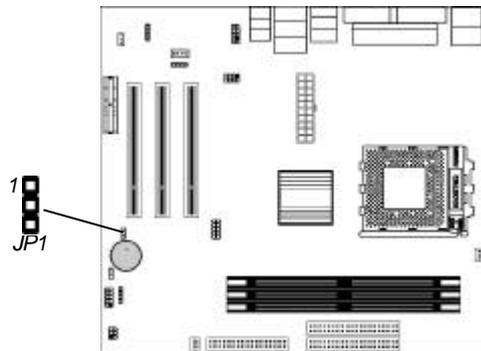
Jumper JP1: Clear CMOS Memory
This jumper can clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your mainboard from operating. To clear the CMOS memory, disconnect all the power cables from the mainboard and then move the jumper cap into the CLEAR setting for a few seconds.

Function	Jumper Setting
Clear CMOS Memory	Short Pins 1-2
Normal Operation	Short Pins 2-3

Install the Mainboard

Install the mainboard in a system chassis (case). The board is an Micro ATX size mainboard with a twin-tier of I/O ports. You can install this mainboard in an ATX case. Ensure that your case has an I/O cover plate that matches the ports on this mainboard.
Install the mainboard in a case. Follow the instructions provided by the case manufacturer using the hardware and internal mounting points on the chassis.
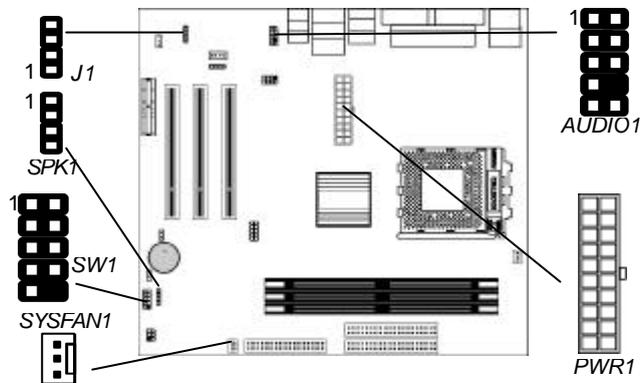
Connect the power connector from the power supply to the **PWR1** connector on the mainboard.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYSFAN1** fan power connector on the mainboard.

Connect the cable from the PC speaker to the **SPK1** header on the mainboard.

Pin	Signal	Pin	Signal
1	SPKR	2	NC
3	GND	4	+5V

Connect the case switches and indicator LEDs to the **SW1** header. Here is a list of SW1 header' s pin assignments:

Pin	Signal	Pin	Signal
1	HD_LED_P	2	FP PWR/SLP
3	HD_LED_N	4	FP PWR/SLP
5	RESET_SW_N	6	POWER_SW_P
7	RESET_SW_P	8	POWER_SW_N
9	RSVD_DNU	10	KEY

If there are a headphone jack or/and a microphone jack on the front panel, connect the cables to the **AUDIO1** header on the mainboard. Here is a list of AUDIO1 header' s pin assignments:

Pin	Signal	Pin	Signal
1	AUD_MIC	2	AUD_GND
3	AUD_MIC_BIAS	4	AUD_VCC
5	AUD_FPOUT_R	6	AUD_RET_R
7	HP_ON	8	KEY
9	AUD_FPOUT_L	10	AUD_RET_L

This connector **J1**(LAN LED indicator) is attached to LAN device that needs a LED indicator.

Pin	Signal	Pin	Signal
1	ACT LED	2	ACT LED (+)
3	Link LED (+)	4	Link LED

Optional Extension Brackets

For this mainboard, you can also obtain a USB module extension bracket for more USB ports. Install them by following the steps below.

Note: All the ribbon cables used on the extension brackets have a red stripe on the Pin-1 side of the cable.

Extended USB Module

This module bracket has two USB ports for more USB devices (USB port 5-6).
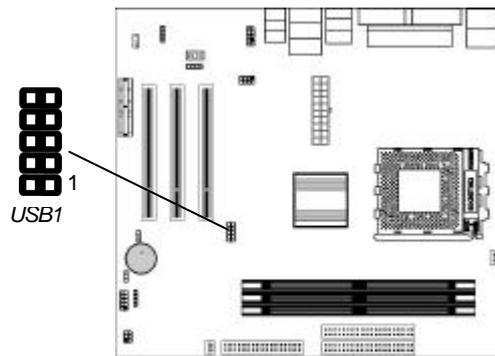
Pin	Signal	Pin	Signal
1	USBVCC1	2	GND
3	USBDT0-	4	KEY
5	USBDT0+	6	USBDT1+
7	KEY	8	USBDT1-
9	GND	10	USBVCC1

1. Locate the USB1 header on the mainboard.
2. Plug the bracket cable onto the USB1 header.
3. In the system chassis, remove a slot cover from one of the expansion slots and install the extension bracket in the opening. Secure the extension bracket in the chassis with a screw.

Extended IEEE1394a Header (Optional)

You can obtain one optional IEEE1394a header, and install them by following the steps below.
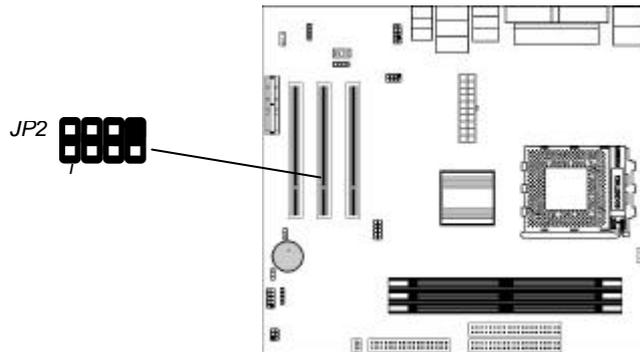
JP2

Pin	Signal	Pin	Signal
1	CPWR	2	GND
3	XTPB0M	4	XTPB0P
5	XTPA0M	6	XTPA0P
7	SHIELD	8	KEY

1. Locate the JP2 header on the mainboard.
2. Plug the bracket cable onto the JP2 header.
3. In the system chassis, remove the blanking plate from the corresponding expansion slot you want to use, and install an extension bracket in there. Secure the extension bracket in the chassis with a screw.

Install Other Devices

Install and connect any other devices in the system following the steps below.


```
      FDC1              1 [::::::::::::::::::::] IDE2

1 [::::::::::::::::::::]   1 [::::::::::::::::::::] IDE1
```
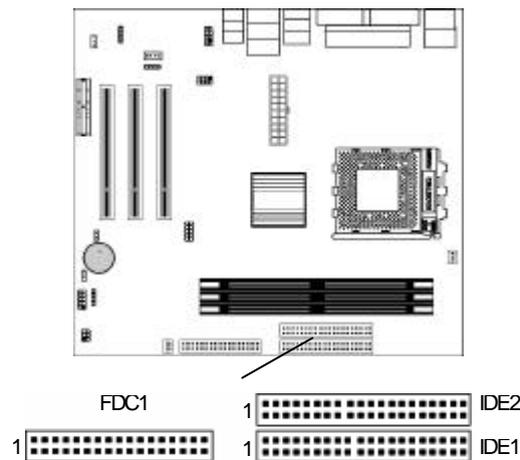
Floppy Disk Drive
The mainboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.
Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDC1**.

IDE Devices
IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.
The mainboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the mainboard.
If you want to install more IDE devices, you can purchase a second IDE cable and connect one or two devices to the Secondary IDE channel connector **IDE2** on the mainboard. If you have two devices on the cable, one must be Master and one must be Slave.

Internal Sound Connections

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.
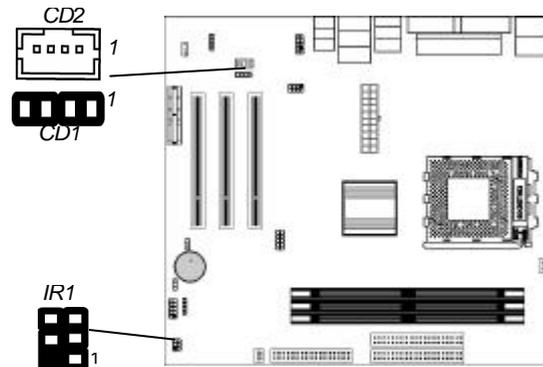
On the mainboard, locate the two 4-pin connectors **CD1** and **CD2**. There are two kinds of connectors because different brands of CD-ROM drives have different kinds of audio cable connectors. Connect the cable to the appropriate connector.

CD1

Pin	Signal
1	CD IN L
2	GND
3	GND
4	CD IN R

CD2

Pin	Signal
1	GND
2	CD IN R
3	GND
4	CD IN L

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Infrared Port

You can connect an infrared port to the mainboard. You can purchase this option from third-party vendors.

1. Locate the infrared port **IR1** header on the mainboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the IR1 header and then secure the port to an appropriate place in your system chassis.

Pin	Signal	Pin	Signal
1	NC	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

Expansion Slots

This mainboard has one CNR and three 32-bit PCI slots.

CNR1

PCI3 PCI2 PCI1
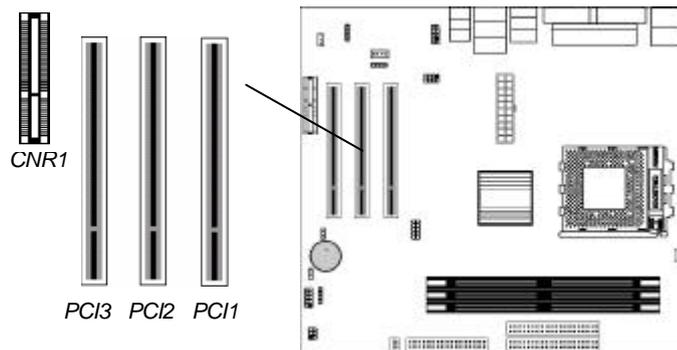
Follow the steps below to install a CNR/PCI expansion card.

1. Locate the CNR or PCI slots on the mainboard.
2. Remove slot cover from the system chassis.
3. Insert edge connector of expansion card into the slot, press down firmly inside until fully inserted.
4. Secure the expansion card bracket to the system chassis with a screw.

CNR Slot

The CNR (Communication and Networking Riser) slot allows for the installation of a CNR card. You can purchase an approved CNR card in your area and install it directly into the CNR slot

Mainboard User's Manual

Chapter 3

BIOS Setup Utility

Introduction

The BIOS Setup Utility records computer's settings and information, such as date and time, type of installed hardware, and various configuration settings. Your computer applies the information to initialize all the components when booting up, and basic functions of overall coordination between system components.

If the Setup Utility configuration is incorrect, it may cause system's malfunction. It can even keep your computer from booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory that has stored the configuration information.

You can run the setup utility and manually make changes to the configuration. You might need to do this to configure some of the hardware that you install on or connect to the mainboard, such as the CPU, system memory, disk drives, etc.

Running the Setup Utility

Each time your computer starts, before the operating system loads, a message appears on the screen that prompts you to "*Hit <DEL> if you want to run SETUP*". When you see this message, press the **Delete** key and the Main menu page of the Setup Utility appears on your monitor.

```
             AMIBIOS SIMPLE SETUP UTILITY – VERSION 1.21.12
              (C) 2000 American Megatrends, Inc. All Rights Reserved
┌─────────────────────────────────┬─────────────────────────────────┐
│ Standard CMOS Setup             │   Features Setup                │
│ Advanced Setup                  │   CPU PnP Setup                 │
│ Power Management Setup          │   Hardware Monitor              │
│ PCI / Plug and Play Setup       │   Change Password               │
│ Load Optimal Settings           │   Exit                          │
│ Load Best Performance Settings  │                                 │
├─────────────────────────────────┴─────────────────────────────────┤
│ Esc :  Quit    - ¯ ¬ ®: Select Item  (Shift)F2 : Change Color  F5 : Old Values │
│ F 6  :  Optimal values          F7 : Best  performance values   F10 : Save&Exit │
├────────────────────────────────────────────────────────────────────┤
│       Standards CMOS setup for changing time, date, hard disk type, etc.       │
└────────────────────────────────────────────────────────────────────┘
```

You can use the cursor arrow keys to highlight any of the options on the main menu page. Press **Enter**to select the highlighted option. To leave the setup utility, press the **Escape** key. To cycle through the Setup Utility's optional color schemes hold down the **Shift** key and press **F2**.

Some of the options on the main menu page lead to tables of items with installed values. In these pages, use the cursor arrow keys to highlight the items, and then use the **PgUp** and **PgDn** keys to cycle through the alternate values for each of the items. Other options on the main menu page lead to dialog boxes requiring you to answer Yes or No by hitting the **Y** or **N** keys.

If you have already made changes to the setup utility, press **F10** to save those changes and exit the utility. Press **F5** to reset the changes to the original values. Press **F6** to install the setup utility with a set of default values. Press **F7** to install the setup utility with a set of high-performance values.

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Standard CMOS Setup Page

Use this page to set basic information such as the date, the time, the IDE devices, and the diskette drives. If you press the F3 key, the system will automatically detect and configure the hard disks on the IDE channels.

```
┌─────────────────────────────────────────────────────────────────┐
│            AMIBIOS SETUP – STANDARD CMOS SETUP                    │
│                                                                   │
│        (C) 2000 American Megatrends, Inc. All Rights Reserved     │
├─────────────────────────────────────────────────────────────────┤
│ Date (mm/dd/yy) :  Fri Nov 01, 2002                               │
│ Time (hh/mm/ss) :  10:42:23                                       │
│                                          LBA   Blk   PIO   32Bit  │
│          Type        Size Cyln Head WPcom Sec Mode Mode  Mode Mode│
│ Pri Master  : Auto                                           On   │
│ Pri Slave   : Auto                                           On   │
│ Sec Master : Auto                                            On   │
│ Sec Slave  : Auto                                            On   │
│                                                                   │
│ Floppy Drive A :  1.44 MB 31/2                                    │
│ Floppy Drive B :  Not Installed                                   │
├─────────────────────────────────────────────────────────────────┤
│ Month : Jan – Dec                         ESC  : Exit             │
│   Day : 01 – 31                           ↑↓   : Select Item      │
│   Year : 1901 – 2099                      PU/PD/+/- : Modify      │
│                                           (Shift)F2 : Color       │
│                                           F3 : Detect All HDD     │
└─────────────────────────────────────────────────────────────────┘
```

Date & Time	Use these items to set the system date and time
Pri Master **Pri Slave** **Sec Master** **Sec Slave**	Use these items to configure devices connected to the Primary and Secondary IDE channels. To configure an IDE hard disk drive, choose *Auto*. If the *Auto* setting fails to find a hard disk drive, set it to *User*, and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting *CDROM* If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120) select *Floptical*.
Floppy Drive A **Floppy Drive B**	Use these items to set the size and capacity of the floppy diskette drive(s) installed in the system.

Advanced Setup Page

This page sets up more advanced information about your system. Take care with this page with more caution. Making changes can affect the operation of your computer.

```
┌──────────────────────────────────────────────────────────────────┐
│               AMIBIOS SETUP – ADVANCED SETUP                       │
│        (C) 2000 American Megatrends, Inc. All Rights Reserved       │
├────────────────────────────────┬───────────────────────────────────┤
│ Share Memory Size      32MB     │                                   │
│ Quick Boot             Enabled  │                                   │
│ 1st Boot Device        Floppy   │                                   │
│ 2nd Boot Device        IDE-0    │                                   │
│ 3rd Boot Device        CDROM    │                                   │
│ Try Other Boot Devices Yes      │                                   │
│ S.M.A.R.T. for Hard Disks Disabled │ ESC : Quit   – ¯ ¬ ® : Select │
│ BootUp Num-Lock        On       │ Item                              │
│ Floppy Drive Swap      Disabled │ F1  : Help    PU/PD/+/ - : Modify │
│ Floppy Drive Seek      Disabled │                                   │
│ Password Check         Setup    │ F5  : Old Values (Shift)F2 : Color│
│ Boot To OS/2 > 64MB    No       │ F6  : Load BIOS Defaults          │
│ L2 Cache               WriteBack│                                   │
│ System BIOS Cacheable  Enabled  │ F7  : Load Setup Defaults         │
│ Graphic Win Size       4MB      │                                   │
│ DRAM CAS# Latency      3T       │                                   │
│ Timing Setting Mode    Normal   │                                   │
│ Auto Detect DIMM/PCI Clk Enabled│                                   │
│ Spread Spectrum        Disabled │                                   │
└────────────────────────────────┴───────────────────────────────────┘
```

Share Memory Size	This item lets you allocate a portion of the main memory for the onboard VGA display application with 16/32/64MB options.
Quick Boot	If you enable this item, the system starts up more quickly be elimination some of the power on test routines.
1st Boot Device 2nd Boot Device 3rd Boot Device	Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.
Try Other Boot Devices	If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.
S.M.A.R.T. for Hard Disks	Enable this item if any IDE hard disks support the S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) feature.
BootUp Num-Lock	This item determines if the Num Lock key is active or inactive at system start-up time.

Floppy Drive Swap	If you have two diskette drives installed and you enable this item, drive A becomes drive B and drive B becomes drive A.
Floppy Drive Seek	If you enable this item, your system will check all floppy disk drives at start up. Disable this item unless you are using an old 360KB drive.
Password Check	If you have entered a password for the system, use this item to determine if the password is required to enter the Setup Utility (*Setup*) or required both at start-up and to enter the Setup Utility (*Always*).
Boot to OS/2	Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.
L2 Cache	Leave these items enabled since all the processors that can be installed on this board have internal L2 cache memory.
System BIOS Cacheable	If you enable this item, a segment of the system BIOS will be cached to main memory for faster execution.
Graphic Win Size	This item defines the size of aperture if you use a graphic adapter.
DRAM CAS# Latency	This item determines the operation of the DRAM memory CAS (column address strobe). We recommend that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.
Timing Setting Mode	This item determines the timing setting mode of the memory. We recommend you leave this item at the default value.
Auto Detect DIMM/PCI Clk	Use this item to enable the DIMMs or PCI slots to detect automatically device then generating clock.
Spread Spectrum	If you enable spread spectrum, it can significantly reduce the EMI(Electro-Magnetic Interference) generated by the system.

Power Management Setup Page

This page sets up some of the parameters for system power management operation.

```
┌─────────────────────────────────────────────────────────────────┐
│              AMIBIOS SETUP – POWER MANAGEMENT SETUP               │
│        (C) 2000 American Megatrends, Inc. All Rights Reserved     │
├──────────────────────────────┬──────────────────────────────────┤
│ ACPI Aware O/S        Yes     │                                  │
│ Power Management      Enabled │                                  │
│ Suspend Time Out      Disabled│                                  │
│ Hard Disk Time Out    Disabled│                                  │
│ Resume RTC Alarm      Disabled│                                  │
│ RTC Alarm Date        15      │                                  │
│ RTC Alarm Hour        12      │ ESC : Quit     - ‾ ¬ ® : Select Item │
│ RTC Alarm Minute      30      │ F1  : Help      PU/PD/+/ - : Modify │
│ RTC Alarm Second      00      │ F5  : Old Values (Shift)F2 : Color │
│ LAN/Ring Power On     Disabled│                                  │
│ Keyboard Power On     Disabled│ F6  : Load BIOS Defaults         │
│                               │ F7  : Load Setup Defaults        │
└──────────────────────────────┴──────────────────────────────────┘
```

ACPI Aware O/S	Enable this item if you are using an O/S that supports ACPI function such as Windows 98/ME /2000.
Power Management	Use this item to select a power management scheme. Both APM and ACPI are supported.
Suspend Time Out	This sets the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.
Hard Disk Time Out	This sets the timeout to power down the hard disk drive, if the time selected passes without any hard disk activity.
Resume RTC Alarm Power On / Date / Hour / Minute / Second	The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system' s RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

LAN/Ring Power On	Your system can enter a software power down. If you enable this item, the system can automatically resume if there is traffic on the network adapter.
Keyboard Power On	If you enable this item, you can turn the system on and off by pressing hot keys on the keyboard. You must enable the Keyboard Power On jumper and use an ATX power supply in order to use this feature.

PCI / Plug and Play Setup Page

This page sets up some of the parameters for devices installed on the PCI bus and devices that use the system plug and play capability.

```
AMIBIOS SETUP – PCI / PLUG AND PLAY SETUP
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Plug and Play Aware O/S      Yes
Primary Graphics Adapter     PCI
Allocate IRQ to PCI VGA      Yes
PCI IDE BusMaster            Disabled

                              ESC : Quit        - ¯ ¬ ® : Select Item
                              F1  : Help        PU/PD/+/ - : Modify
                              F5  : Old Values  (Shift)F2  : Color
                              F6  : Load BIOS Defaults
                              F7  : Load Setup Defaults
```

Plug and Play Aware O/S	Enable this item if you are using an O/S that supports Plug and Play such as Windows 95/98/ME.
Primary Graphics Adapter	This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default PCI setting still lets the onboard display work and allows the use of a second display card installed in a PCI slot.
Allocate IRQ to PCI VGA	If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.
PCI IDE BusMaster	This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

Load Optimal Settings

If you select this item and press **Enter** a dialog box appears. If you press **Y**, and then **Enter**, the Setup Utility loads a set of fail-safe default values. These default values are not very demanding and they should allow your system to function with most kinds of hardware and memory chips.
Note: It is highly recommended that users enter this option to load optimal values for accessing the best performance.

Load Best Performance Settings

If you select this item and press **Enter** a dialog box appears. If you press **Y**, and then **Enter**, the Setup Utility loads a set of best-performance default values. The se default values are quite demanding and your system might not function properly if you are using slower memory chips or other low-performance components.

Features Setup Page

This page sets some of the parameters for peripheral devices connected to the system.

```
┌─────────────────────────────────────────────────────────────┐
│              AMIBIOS SETUP – FEATURES SETUP                  │
│      (C) 2000 American Megatrends, Inc. All Rights Reserved  │
├──────────────────────────────┬──────────────────────────────┤
│ OnBoard FDC          Enabled │                              │
│ OnBoard Serial PortA 3F8h/COM1│                             │
│ OnBoard IR Port      Disabled│                              │
│ OnBoard Parallel Port 378h   │                              │
│   Parallel Port Mode ECP     │                              │
│   Parallel Port IRQ  7       │                              │
│   Parallel Port DMA  3       │                              │
│ OnBoard MIDI Port    300h    │ ESC : Quit    – ¯¬ ® : Select│
│   MIDI Port IRQ      10       │ Item                         │
│ OnBoard PCI IDE      Both     │ F1  : Help    PU/PD/+/ - : Modify│
│ Audio Device         Enabled │                              │
│ Modem Device         Enabled │ F5  : Old Values (Shift)F2 : Color│
│ IEEE1394 Device      Enabled │                              │
│ USB Function Suppport Enabled │ F6  : Load BIOS Defaults     │
│ USB Function for DOS Disabled │ F7  : Load Setup Defaults    │
│ ThumbDrive for DOS   Disabled │                             │
└──────────────────────────────┴──────────────────────────────┘
```

OnBoard FDC	This item enables or disables the onboard floppy disk drive interface.

OnBoard Serial PortA	These items enable or disable the onboard COM1 serial port, and to assign a port address.
OnBoard Ir Port	Use this item to define the protocol for an infrared port if you have installed an optional IR port. The options are IrDA and ASKIR.
Onboard Parallel Port	Use this item to enable or disable the onboard LPT1 parallel port, and to assign a port address. The Auto setting will detect and available address.
Parallel Port Mode	Use this item to set the parallel port mode. You can select SPP (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or ECP + EPP.
Parallel Port IRQ	This item assigns either IRQ 5 or 7 to the parallel port.
Parallel Port DMA	This item assigns a DMA channel to the parallel port. The options are 0, 1 and 3.
OnBoard MIDI Port	This item enables or disables the onboard MIDI port, and to assign a port address.
MIDI Port IRQ	This item assigns an IRQ to the MIDI port.
Onboard PCI IDE	This item enables or disables either or both of the onboard Primary and Secondary IDE channels.
Audio Device	This item enables or disables the onboard AC' 97 audio chip.
Modem Device	This item enables or disables the onboard AC' 97 modem chip.
IEEE1394 Device	This item selects S100, S200, S400 or disables the IEEE1394 device.
USB Function Support	Enable this item if you plan to use the USB ports on this mainboard.
USB Function for DOS	Enable this item if you plan to use the USB ports on this mainboard in a DOS environment.
ThumbDrive for DOS	Enable this item to make a small portion of memory storage device for the USB ports.

Mainboard User's Manual

CPU PnP Setup Page

This page lets you manually configure the mainboard for the CPU. The system will automatically detect the kind of CPU that you have installed and make the appropriate adjustments to the items on this page.

```
                   AMIBIOS SETUP – CPU PnP SETUP
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CPU Speed          100/100 MHz
CPU Frequency      100 MHz
DRAM Frequency     100 MHz



                                        ESC : Quit       - ¯¬® : Select Item
                                        F1  : Help       PU/PD/+/ - : Modify
                                        F5  : Old Values  (Shift)F2 : Color
                                        F6  : Load Optimal values
                                        F7  : Load Best performance values
```

CPU Speed / Frequency	These items show the speed and base frequency of CPU that has installed in your system.
DRAM Frequency	Use this item to set the frequency of DRAM that has installed in your system.

Note: If you manually set the wrong speed and the system won't run properly, press the **Page Up** key while the system is booting and a default setting will replace the incorrect CPU setting.

Hardware Monitor Page

This page sets some of the parameters for the hardware monitoring function of this mainboard.

```
┌────────────────────────────────────────────────────────────────┐
│              AMIBIOS SETUP – HARDWARE MONITOR                   │
│      (C) 2000 American Megatrends, Inc. All Rights Reserved     │
├──────────────────────────────────┬─────────────────────────────┤
│ *** System Hardware ***          │                             │
│ Vcore                    1.632V   │                             │
│ Vcc 2.5V                 2.496V   │                             │
│ Vcc 3.3V                 3.392V   │                             │
│ Vcc                      4.945V   │                             │
│ +12V                    11.968V   │ ESC : Quit  - ¯¬® : Select Item │
│ SB3V                     3.472V   │ F1  : Help   PU/PD/+/ - : Modify │
│ -12V                   -11.885V   │                             │
│ SB5V                     5.026V   │ F5  : Old Values (Shift)F2 : Color │
│ VBAT                     3.488V   │ F6  : Load BIOS Defaults     │
│ SYSTEM Fan Speed        0 RPM     │ F7  : Load Setup Defaults    │
│ CPU Fan Speed           1308 RPM  │                             │
│ SYSTEM Temperature    32°C/89°F   │                             │
│ CPU Temperature       39°C/102°F  │                             │
└──────────────────────────────────┴─────────────────────────────┘
```

Voltage Measurements & FAN Speeds	These items indicate cooling fan speeds in RPM and the various system voltage measurements.
System / CPU Temperature	These items display CPU and system temperature measurement.

Change Password

If you highlight this item and press **Enter**, a dialog box appears which lets you enter a Supervisor password. You can enter no more than six letters or numbers. Press **Enter** after you have typed in the password. A second dialog box asks you to retype the password for confirmation. Press **Enter** after you have retyped it correctly. The password is then required to access the Setup Utility or for that and at start-up, depending on the setting of the Password Check item in Advanced Setup.

Change or Remove the Password

Highlight this item, press Enter and type in the current password. At the next dialog box, type in the new password, or just press Enter to disable password protection.

Exit

Highlight this item and press **Enter** to save the changes that you have made in the Setup Utility configuration and exit the program. When the Save and Exit dialog box appears, press **Y** to save and exit, or press **N** to exit without saving.

Chapter 4

About the Software CD-ROM

The support software CD-ROM that is included in the mainboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your mainboard version. More information on some programs is available in a README file, located in the same directory as the software.

Note: Never try to install software from a folder that is not specified for use with your mainboard.

Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

Utility Software Reference

All the utility software available on the CD-ROM is Windows compliant. It is provided only for the convenience of customers. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

Note: The software in these folders is subject to change at anytime without prior notice. Please refer to the support CD for available software.

AMI Flash Memory Utility

This utility enables you to erase the system BIOS stored on a Flash Memory chip on the mainboard, and lets you copy an updated version of the BIOS to the chip. Proceed with caution when using this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is incorrect, your system will malfunction. Refer to Chapter 3, Using BIOS for more information.

PC-CILLIN

The PC-CILLIN software program provides anti-virus protection for your system. This program is available for Windows 2000/ME/98SE and Windows NT. Be sure to check the readme.txt and install the appropriate anti-virus software for your operating system.

We strongly recommend users to install this free anti-virus software to help protect your system against viruses.

Note: Update your virus software regularly to protect against new viruses.

MediaRing Talk – Telephony Software

To install the MediaRing Talk voice modem software for the built-in modem, run MRTALK-SETUP72.EXE from the following directory:
\UTILITY\MEDIARING TALK

Super Voice – Fax/Modem Software

To install the Super Voice voice, fax, data communication application for use with the built-in fax/modem, run PICSHELL.EXE from the following directory:
\UTILITY\SUPER VOICE

CD Ghost

The CD Ghost software enables you to create a virtual cabinet of CD-ROM drives on your system to help you categorize and organize your CD collection. A user-friendly interface assists you in quickly creating images of both CDs and DVDs onto your system. To install the software, run SETUP.EXE from the following directory:

\UTILITY\CDGHOST\ENG\CDGHOST

Recovery Genius

The Recovery Genius software program is an innovative windows application system that protects your Hard Disk Drive from virus intrusion, accidental deletions, and system corruption. To install the Recovery Genius software program run SETUP.EXE from the following directory
\UTILITY\RECOVERY GENIUS\ENG\RECOVERYGENIUS

Language Genius

The Language Genius is a software-based product that helps you to learn new languages. To install the Language Genius software program run SETUP.EXE from the following directory
\UTILITY\LANGUAGE GENIUS\ENG\LANGUAGEGENIUS

PageABC

The PageABC application software enables you to create your own home page. To install the PageABC, run SETUP.EXE from the following directory:
\UTILITY\PageABC