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Notice for DDR SDRAM:

The table below lists the model chips of DDR that we have tested. We will test more DDR modules in the future. Users may get this information from our World Wide Web at <u>www.pcchips.com.tw</u>.

Model Chip	Memory	Manufacture
K4H2808388-TCBO	128 M	Samsung
HY5DU28822T-H	128 M	Hyundai
46V8M8-75M	128 M	Micon
46V16M8-75A	128 M	Micon
46V16M8-75A	256 M	Micon
LP13S6488EA	128 M	EliteMT
1170A W942508AH-7	128 M	Winbond
1170A W942508AH-7	256 M	Winbond

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Mainboard User's Manual

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Chapter 1

Introduction

This mainboard has a **Socket-A** processor socket for an **AMD K7** type processors. You can install any one of these processors on the mainboard. The mainboard supports front-side bus speeds of **200/266MHz**.

This mainboard uses the **SiS 735** chipset which supports a **4X AGP** slot for highly graphics display, **DDR** interface and **Ultra DMA** 33/**66/100** function, provides outstanding high system performance under all types of system operations. The mainboard has a built-in **AC97 Codec**, provides an **AMR** (Audio Modem Riser) slot to support Audio and Modem application, and has a built-in **10BaseT/100BaseTX Network Interface**. In addition, the mainboard has an extended set of **ATX I/O Ports** including PS/2 keyboard and mouse ports, two USB ports, a parallel port, and two serial ports. Two extra USB ports can be added using the Extended USB Module that connects to the mainboard.

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

Key Features

The key features of this mainboard include:

Socket-A Processor Support
♦ Supports AMD **Athlon/Duron** processors
♦ Supports 200/266 MHz Front-Side Bus

Processors are automatically configured using firmware and a synchronous Host/DRAM Clock Scheme.

Memory Support
♦ Two 168-pin DIMM slots for SDRAM memory modules
♦ Two 184-pin DIMM slots for DDR memory modules
♦ Support SDRAM up to 133 MHz /DDR up to 266 MHz memory bus
♦ Maximum installed memory is 1GB

Notice: You can NOT use SDRAM and DDR simultaneously.

Expansion Slots
♦ One AMR slot for a special audio/modem riser card
♦ One AGP4X slot for AGP 2.0-compliant interface
♦ Five 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 33/**66**/**100** modes

Power Supply and Power Management
♦ ATX power supply connector
♦ Meets ACPI 1.0b and APM 1.2 requirements, keyboard power on/off
♦ Supports RTC Alarm, Wake On Modem, AC97 Wake-Up and USB Wake-Up

AC97 Codec
- Compliant AC97 2.1 specification
- Supports 18-bit ADC (Analog Digital Converter) and DAC (Digital Analog Converter) as well as 18-bit stereo full-duplex codec

Built-in Ethernet LAN
- Built-in **10BaseT/100BaseTX Ethernet LAN**
- LAN controller integrates Fast Ethernet MAC and PHY compliant with IEEE802.3u 100BASE-TX, 10BASE-T and ANSI X3.263 TP-PMD standards
- Compliant with ACPI 1.0 and the Network Device Class Power Management 1.0
- High Performance provided by 100Mbps clock generator and data recovery circuit for 100Mbps receiver

Onboard I/O Ports
- Built-in Multi-threaded IO Link Delivering 1.2GB/s
- Provides PC99 Color Connectors for easy peripheral device connections
- Floppy disk drive connector with 1Mb/s transfer rate
- Two serial ports with 16550-compatible fast UART
- One parallel port with ECP and EPP support
- Two USB ports and optional two USB ports module
- Two PS/2 ports for keyboard and mouse
- One infrared port connector for optional module

Hardware Monitoring
- Built-in hardware monitoring for CPU & System temperatures, fan speeds and mainboard voltages

Onboard Flash ROM
- Supports Plug and Play configuration of peripheral devices and expansion cards
- Built-in virus protection using **Trend's ChipAwayVirus** provides boot process virus protection.

Bundled Software

- ♦ **PC-Cillin2000** provides automatic virus protection under Windows 95/98/NT/2000
- ♦ **MediaRing Talk** provides PC to PC or PC to Phone internet phone communication
- ♦ **3Deep** delivers the precise imagery and displays accurate color in your monitor
- ♦ **WinDVD2000** is a DVD playback application (optional)

Dimensions

- ♦ ATX form factor (30.5cm x 24.4cm)

Package Contents

Attention: This mainboard series includes two different models. They are M830LR (LAN Ready) and M830 (without LAN). Please contact your local supplier for your purchase model. Each model will support different specification, list as below:

Model	Specification
M830LR	Onboard LAN PHY(U6) and LAN (RJ45) connector
M830	---

Your mainboard package ships with the following items:
- ❑ The mainboard
- ❑ This User's Guide
- ❑ 1 UDMA/66 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
- ❑ AMR v.90 56K Fax/Modem card

Static Electricity Precautions

Components on this mainboard can be damaged by static electricity. Take the following precautions when unpacking the mainboard and installing it in a system.

1. Keep the mainboard and other components in their original static-proof packaging until you are ready to install them.
2. During installation, 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. Handle the mainboard carefully by the edges. Avoid touching the components unless it is absolutely necessary. During installation put the mainboard on top of the static-protection packaging it came in with the component side facing up.

Pre-Installation Inspection

1. Inspect the mainboard for damage to the components and connectors on the board.
2. If you suspect that the mainboard has been damaged, do not connect power to the system. Contact your mainboard vendor and report the damage.

Chapter 2

Mainboard Installation

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

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

Note:
1. Before installing this mainboard, make sure jumper JP4 set to Normal setting. See this chapter for information on locating JP4 and the setting options.
2. Never connect power to the system during installation. Doing so may damage the mainboard.

Mainboard Components

Use the diagram below to identify the major components on the mainboard.
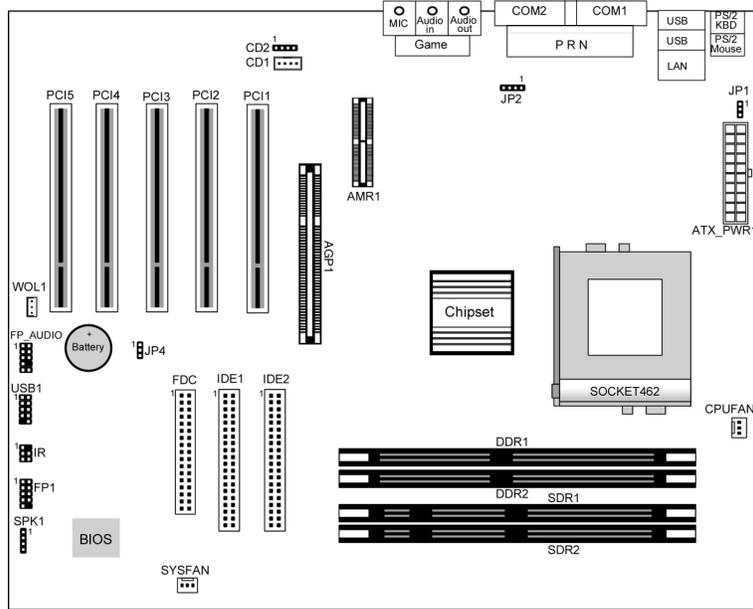
> **Note:** Any jumper on your mainboard that do not appear in the illustration above is for testing only.

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-A which 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 notes the processors that are currently supported by this mainboard.
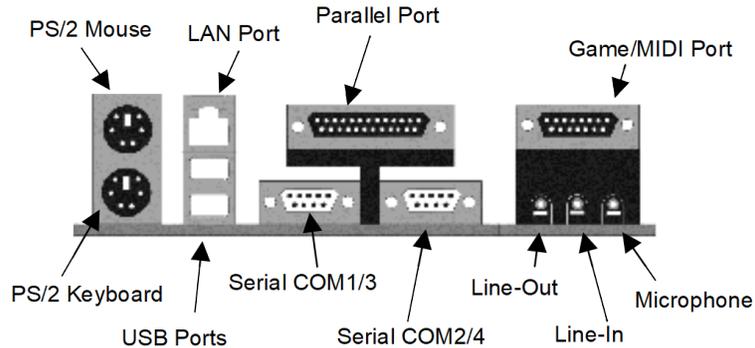
Athlon: 650 MHz~1.4 GHz, FSB: 200 MHz, 266 MHz
Duron: 550~950 MHz, FSB: 200 MHz

Installing a Socket-462 Processor

A processor installs into the ZIF (Zero Insertion Force) Socket-462 on the mainboard.

1. Locate the Socket-462 and CPUFAN. Pull the locking lever out slightly from the socket and raise it to the upright position.
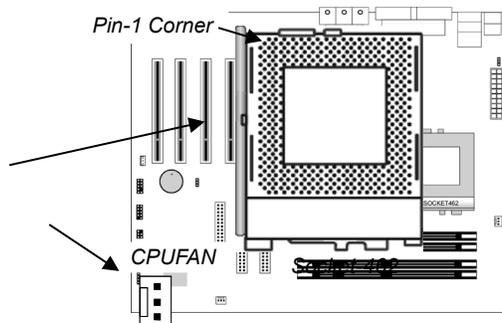
2. On the processor, identify the Pin-1 corner by its beveled edge.
3. On the Socket-462, identify the Pin-1 corner. The Pin-1 corner is at the top of the locking lever when it locked.

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4. Match the Pin-1 corners and insert the processor into the socket. No force is required and the processor should drop into place freely.
5. Swing the locking lever down and hook it under the catch on the side 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.

Install Memory

The mainboard has two 168-pin/184-pin DIMM sockets for SDRAM/DDR (Double Data Rate) SDRAM system memory modules. You must install at least one memory module in order to use the mainboard, and **you can only use one of the both SDRAM and DDR SDRAM at the same time**.

DDR SDRAM provides 800 MBps or 1 GBps data transfer depending on whether the bus is 100 MHz or 133 MHz. It doubles the rate to 1.6 GBps and 2.1 GBps by transferring data on both the rising and falling edges of the clock. DDR SDRAM uses additional power and ground lines and requires 184-pin 2.5V unbuffered DIMM module reather than the 168-pin 3.3V unbuffered DIMMs used by SDRAM.
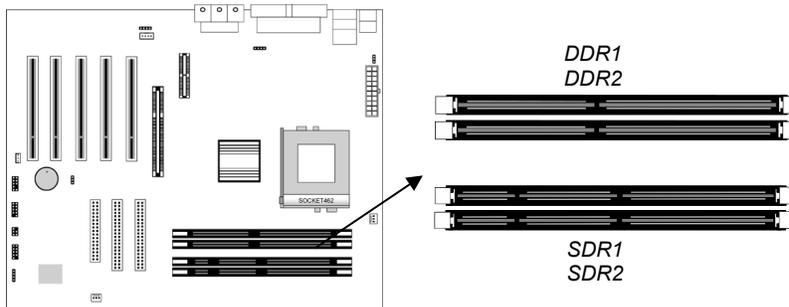
For this mainboard, the maximum memory size is 1GB.

The edge connectors on the memory modules have cut outs, which coincide with spacers in the DIMM sockets so that memory module can only be installed in the correct orientation.

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To install a module, push the retaining latches at either end of the socket outwards. Position the memory module correctly and insert it into the DIMM socket. Press the module down into the socket so that the retaining latches rotate up and secure the module in place by fitting into notches on the edge of the module.

The table below lists the model chips of DDR that we have tested.

Model Chip	Memory	Manufacture
K4H2808388-TCBO	128 M	Samsung
HY5DU28822T-H	128 M	Hyundai
46V8M8-75M	128 M	Micon
46V16M8-75A	128 M	Micon
46V16M8-75A	256 M	Micon
LP13S6488EA	128 M	EliteMT
1170A W942508AH-7	128 M	Winbond
1170A W942508AH-7	256 M	Winbond

Setting Jumper Switches

Jumpers are sets of pins which can be connected together with jumper caps. The jumper caps change the way the mainboard operates by changing the electronic circuits on the mainboard. If a jumper cap connects two pins, we say the pins are SHORT. If a jumper cap is removed from two pins, the pins are OPEN.
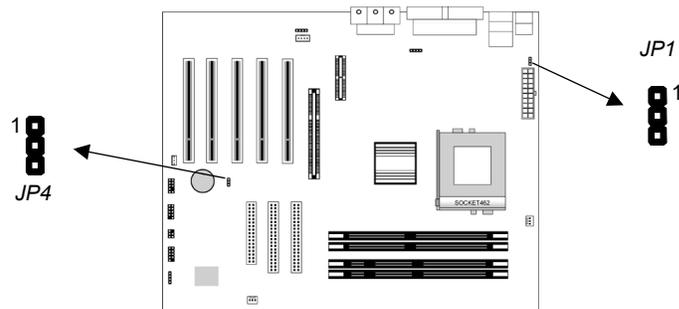
Jumper JP1: Keyboard Power On Selector
If you enable the keyboard power on feature, you can use hot keys on your keyboard as a power on/off switch for the system.
Note: The system must provide 1A on the +5VSB (+5V Standby) signal before using the Keyboard Power On function.

Function	Jumper Setting
Disable Keyboard Power On	Short Pins 1-2
Enable Keyboard Power On	Short Pins 2-3

Jumper JP4: Clear CMOS Memory
Use this jumper to 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 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.
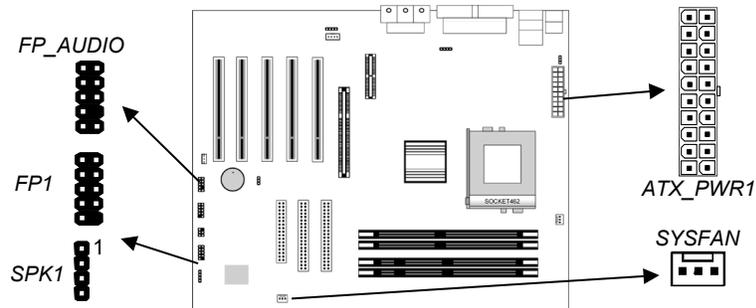
Connect the power connector from the power supply to the **ATX_PWR1** connector on the mainboard.
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYSFAN** fan power connector on the mainboard.
Connect the cable from the PC speaker to the **SPK1** header on the mainboard.
Connect the case switches and indicator LEDs to the **FP1** header.
If there are a headphone jack or/and a microphone jack on the front panel, connect the cables to the **FP_AUDIO1** header on the mainboard. See the illustrations below for the guide to the FP1 and FP_AUDIO headers pin assignments.

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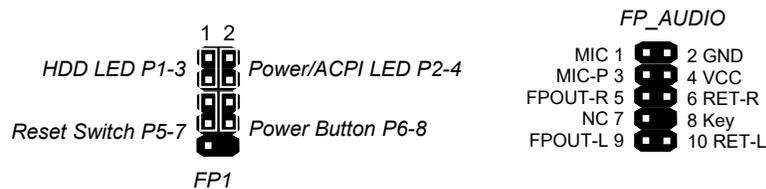
Optional Extension Brackets

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 3-4).
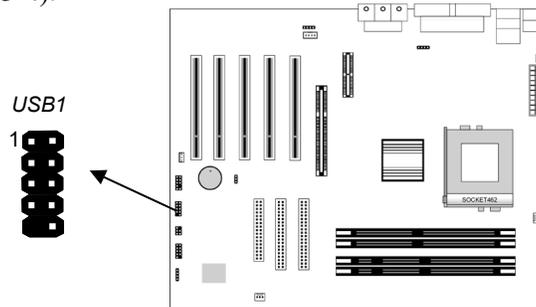
1. Locate the USB1 header on the mainboard.
2. Plug the bracket cable onto the USB1 header.
3. In the system chassis, remove a slot cover from one of the expansion slots and install the extension bracket in the opening. Use the screw that held the slot cover in place to secure the extension bracket to the chassis.

Install Other Devices

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

FDC   IDE1   IDE2
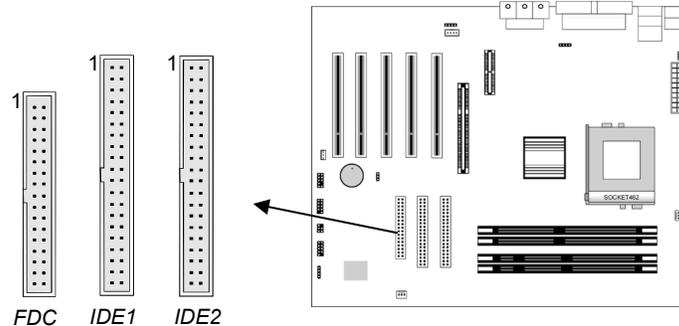
Floppy Disk Drive

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 **FDC**.

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 connector because different brands of CD-ROM drive have different kinds of audio cable connectors. Connect the cable to the appropriate connector.
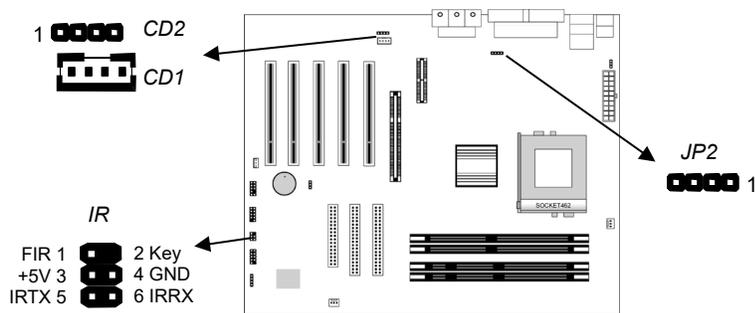
Infrared Port

You can connect an infrared port to the mainboard. You can purchase this option from third-party vendors.
1. Locate the infrared port **IR** header on the mainboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the IR header and then secure the port to an appropriate place in your system chassis.

Onboard LAN LED Connections

If you have a set indicator LEDs for the onboard LAN communication, you can connect the LED cable to the header **JP2**. Pins 1-2 are for Link LED. Pins 3-4 are for 10/100 Mbps mode LED, the onboard LAN run in 100 Mbps mode when the LED lit.

Expansion Slots

This mainboard has five 32-bit PCI slots, one AGP slot and one AMR slot.
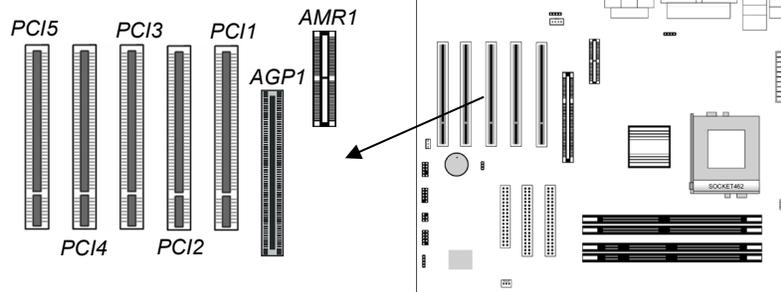
Follow the steps below to install a PCI/AGP/AMR expansion card.
1. Locate the AMR, AGP or PCI slots on the mainboard.
2. Remove the slot cover for this slot from the system chassis.
3. Insert the expansion card edge connector into the slot and press it firmly down into it so that it is fully inserted.
4. Secure the expansion card bracket to the system chassis using the screw that held the slot cover in place.

AMR Slot

The AMR (Audio Modem Riser) slot is an industry standard slot that allows for the installation of a special audio/modem riser card. Different territories have different regulations regarding the specifications of a modem card. You can purchase an AMR card that is approved in your area and install it directly into the AMR slot.

Mainboard User's Manual

Chapter 3

BIOS Setup Utility

Introduction

The BIOS Setup Utility records settings and information about your computer such as the date and time, the kind of hardware installed, and various configuration settings. Your computer uses this information to initialize all the components when booting up and functions as the basis for coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer from booting properly. If this happens, you can use the clear CMOS jumper to clear the CMOS memory used to store 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.

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
F6: Optimal values   F7: Best performance values   F10: Save&Exit

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 which require 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.

```
Date  (mm/dd/yy) :  Tue May 29, 2001
Time  (hh/mm/ss) :  14:26:53
                                                     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 :  1.44MB 3 1/2"
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

Use this page to set more advanced information about your system. Take some care with this page. Making changes can affect the operation of your computer.

Trend ChipAway Virus	Disabled	
Quick Boot	Enabled	
1st Boot Device	IDE-0	
2nd Boot Device	Floppy	
3rd Boot Device	CDROM	
Try Other Boot Devices	Yes	
S.M.A.R.T. for Hard Disks	Disabled	
BootUp Num-Lock	On	
Floppy Drive Swap	Disabled	
Floppy Drive Seek	Disabled	
Password Check	Setup	
Boot To OS/2 > 64MB	No	
L1 Cache	Enabled	
L2 Cache	Enabled	ESC : Quit ↑↓←→ : Select Item
System BIOS Cacheable	Enabled	F1 : Help PU/PD/+/- : Modify
Timing Setting Mode	Normal	F5 : Old Values (Shift)F2 : Color
SDR/DDR CAS Latency	SPD	F6 : Load Optimal values
Auto Detect DIMM/PCI Clk	Disabled	F7 : Load Best performance values
Clk Gen Spread Spectrum	Disabled	

Trend ChipAway Virus	This mainboard has built-in virus protection in the BIOS. Use this item to enable or disable the built-in virus protection. If the OS (like Windows 98SE Japanese Version) needs to run EMM386.EXE and this item is enable, please add the NOEMS parameter (e.g.: EMM386 NOEMS) on it.
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 Device	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 items 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 > 64MB	Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.
L1/L2 Cache	Leave these items enabled since all the processors that can be installed on this board have internal 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.
Timing Setting Mode	Use this item to determine the timing setting mode of the memory. We recommend that you leave this item at the default value.
SDR/DDR CAS Latency	This item determines the operation of the SDRAM / DDR 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.
Auto Detect DIMM/PCI Clk	Use this item to enable the DIMMs or PCI slots to detect automatically device then generating clock.
Clk Gen Spread Spectrum	Use this item to enable the clock to generate spread spectrum.

Power Management Setup Page

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

```
┌─────────────────────────────────────────────────────────────┐
│                                                              │
│ ACPI Aware O/S               Yes                             │
│ Power Management             Enabled                         │
│ Suspend Time Out             Disabled                        │
│ Hard Disk Time Out           Disabled                        │
│ Ring On Power On             Disabled                        │
│ RTC Alarm Power On           Disabled                        │
│ RTC Alarm Date               Every Day                       │
│ RTC Alarm Hour               12                              │
│ RTC Alarm Minute             30                              │
│ RTC Alarm Second             00          ESC  : Quit         ↑↓←→ : Select Item
│ KeyBoard PowerOn Function    Disabled    F1   : Help      PU/PD/+/-  :  Modify
│ Power On by LAN              Disabled    F5   : Old Values  (Shift)F2   :  Color
│                                          F6   : Load Optimal values
│                                          F7   : Load Best performance values
│                                                              │
└─────────────────────────────────────────────────────────────┘
```

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.
Ring On Power On	The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Fax/Modem. You must use an ATX power supply in order to use this feature.
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.

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KeyBoard Power On Function	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.
Power On by LAN	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.

PCI / Plug and Play Setup Page

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

```
Plug and Play Aware O/S          Yes
Primary Graphics Adapter         PCI
Allocate IRQ to PCI VGA          Yes




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

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.

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.

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. These 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.

```
OnBoard FDC               Enabled
OnBoard Serial PortA      3F8h/COM1
OnBoard Serial PortB      2F8h/COM2
   Serial Port2 Mode      Normal
OnBoard Parallel Port     378h
   Parallel Port Mode     Normal
   Parallel Port IRQ      7
   Parallel Port DMA      N/A
OnBoard Game Port         201h
OnBoard MIDI Port         300h
   MIDI Port IRQ          10
OnBoard PCI IDE           Both
OnBoard AC'97 Sound       Enabled
OnBoard AC'97 Modem       Enabled     ESC  :  Quit          ↑↓←→  :  Select Item
USB Function Support      Enabled     F1   :  Help          PU/PD/+/-  :  Modify
USB Function for DOS      Disabled    F5   :  Old Values  (Shift)F2  :  Color
                                      F6   :  Load Optimal values
                                      F7   :  Load Best performance values
```

OnBoard FDC	Use this item to enable or disable the onboard floppy disk drive interface.
OnBoard Serial PortA/B	Use these items to enable or disable the onboard COM1/2 serial port, and to assign a port address.

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Serial Port2 Mode	Use this item to allocate the resources of the second serial port. Under Normal, the resources are allocated to the onboard serial port. Under ASKIR or IrDA, the resources are allocated to the onboard IR port.
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	Use this item to assign either IRQ 5 or 7 to the parallel port.
Parallel Port DMA	Use this item to assign a DMA channel to the parallel port. The options are 0, 1 and 3.
OnBoard Game Port	Use this item to enable or disable the onboard Game port.
OnBoard MIDI Port	Use this item to enable or disable the onboard MIDI port, and to assign a port address.
MIDI Port IRQ	Use this item to assign an IRQ to the MIDI port.
Onboard PCI IDE	Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.
Onboard AC'97 Sound	This item enables or disables the onboard AC'97 audio chip.
Onboard AC'97 Modem	This item enables or disables the onboard AC'97 modem chip.
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.

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.

```
┌─────────────────────────────────────────────────────────┐
│                                                           │
├───────────────────────────────┬───────────────────────── │
│ CPU Brand          AMD K7      │                          │
│ CPU Type           Athlon      │                          │
│ CPU Speed          700MHz      │                          │
│ CPU Core Voltage   1.700 V     │                          │
│ CPU Ratio          7.0         │                          │
│ CPU Frequency      100MHz      │                          │
│ DRAM Frequency     100MHz      │                          │
│                                ├───────────────────────── │
│                                │ 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 Brand/Type/ Core Voltage/Ratio /Frequency	These items show the kind, core voltage, ratio and frequency of CPU that has installed in your system.
CPU Speed	Use this item to set the CPU speed 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.

```
      --- System Hardware   ---
Vcore                2.000 V
Vcc2.5V              2.500 V
Vcc3.3V              3.300 V
Vcc5V                5.000 V
+12V                 12.000 V
SB3V                 3.300 V
-12V                 -12.000 V
SB5V                 5.000 V
VBAT                 3.300 V
System Fan Speed
CPU Fan Speed                        ESC : Quit          ↑↓←→ : Select Item
System Temperature                   F1  : Help          PU/PD/+/- : Modify
CPU Temperature      30°C/86°F       F5  : Old Values  (Shift)F2  : Color
                                     F6  : Load Optimal values
                                     F7  : Load Best performance values
```

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

Software & Applications

Introduction

The support software CD-ROM that is included in the mainboard package contains all the drivers and utility programs needed to properly run our 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. **If the operating system used in your system is Windows 98, it will automatically install all the drivers and utilities for your board.** See the Auto-Installing under Windows 98 section.

Installing Support Software

The software on the support CD-ROM is for Windows 95/NT/2000 and Windows 98. The installation procedure differs depending on which Operating System you have, but the automatic installation is now for Win98 only.

Installing under Windows 95/NT/2000

To install support software for Windows 95/NT/2000 follow this general procedure:

1. Insert the support CD-ROM disc in the CD-ROM drive.
(The system might get an error message from the PnP function. Don't care the message. You don't really need that file to install the drivers)
2. Use My Computer or Windows Explorer to look at the directory structure. You must use the Open command in the right-button menu. Double-clicking on the drive icon will result in an error message because the disc's AutoRun feature doesn't work in Windows 95/NT/2000.
3. Execute the EXE file name given in the description below.

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*Note: The correct path name for each software driver is provided, where **D:** identifies the CD-ROM drive letter – modify if necessary.*

AGP Driver
The AGP Drivers allows the system to properly manage the AGP slot on the mainboard. Find the driver here:
♦ D:\VGA\AGP\SiS735\

Audio Driver
The Audio driver allows the system to use the onboard audio circuitry. Find the driver and audio application here:
♦ D:\SOUND\Driver\SiS735\

Network Adapter Driver
Find the network adapter driver here:
♦ D:\LAN\SiS900\

AMR Modem Driver
Find the driver here:
♦ D:\Modem\Driver\AMR\SiS635\
♦ D:\Modem\SuperVoice\ [Telecom management software]
♦ D:\Modem\MediaRingTalk\

USB Driver
The USB Driver allows the system to recognize the USB ports on the mainboard. You need to install this driver if you are running Windows 95. Windows 95 OSR2 does not require this driver. This driver is available for:
♦ Win95 – D:\USB\EUSBSUPP\USBSUPP.EXE
♦ Win95 (Chinese) – D:\USB\CUSBSUPP\CUSBSUPP.EXE

3Deep Software
Find the software here:
♦ D:\3Deep\3Deep 3.3\Setup.EXE

BIOS Update Utility

The BIOS Update utility allows you to update the BIOS file on the mainboard to a newer version. You can download the latest version of the BIOS setup available for your mainboard from the website.

♦ D:\UTILITY\AMINFxxx.EXE

PC-Cillin Software

The PC-cillin software program provides anti-virus protection for your system. Find this program here:

♦ D:\PC-CILLIN\

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Auto-installing under Windows 98

The support software CD-ROM disc loads automatically under Windows 98. When you insert the CD-ROM disc in the system CD-ROM drive the Autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit. See the following screen illustration.
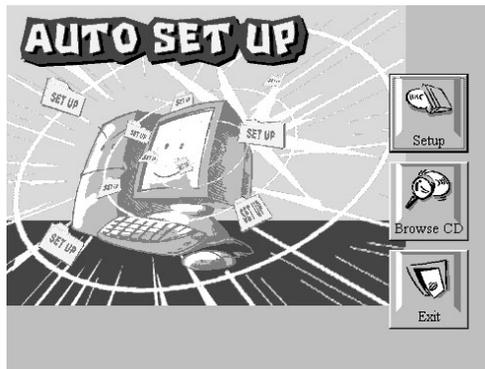
When you click on the **Setup** button the software installation program will run and you can select what kind of installation you want to do, as explained later in this section.
The **Browse CD** button is the standard Windows command that allows you to examine the contents of the disc using the Windows 98 file browsing interface.
The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive or click on AutoRun in the context sensitive menu for the CD-ROM drive icon in a file browser window.
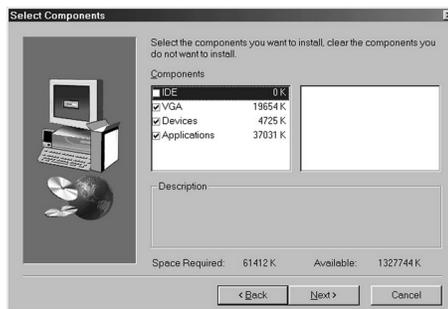
Installing Software with Auto Setup
To install support software for the system board follow this procedure:

1. Click on the **Setup** button. The install program will load and display the following screen. Click the **Next** button.

2. Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.

3. The support software will automatically install.

Once any of the installation procedures start, software is automatically installed in sequence. You will need to follow the onscreen instructions, confirm commands and allow the computer to restart as few times as is needed to complete installing whatever software you selected to install. When the process is finished, all the support software will be installed and working.

There are some utilities that you have to manually install if you need, check to the above section.