

Mainboard User's Manual

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K7S5A, V1.0
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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.

Model Chip	Memory	Manufacture
K4H2808388-TCBO	128 M	Sams ung
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 W942508AH7	128 M	Winbond
1170A W942508AH7	256 M	Winbond

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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 an built-in **10BaseT/100BaseTX Network Interface** (optional). 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.

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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

1: Introduction

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 (Optional)

- ◆ 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.

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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
- ◆ **WinDVD2000** is a DVD playback application (optional)

Dimensions

- ◆ ATX form factor (30.5cm x 24.4cm)

1: Introduction

Package Contents

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

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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.

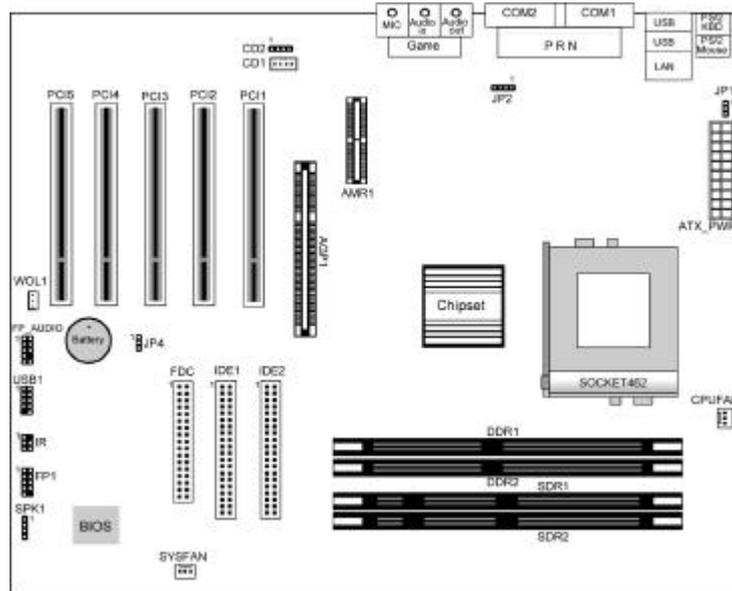
Note:

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.

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Mainboard Components

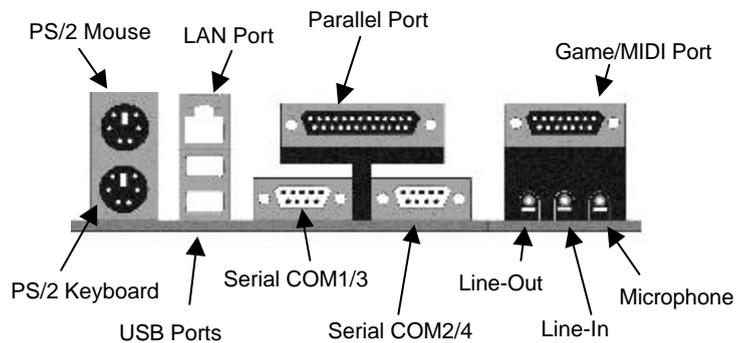
Use the diagram below to identify the major components on the mainboard.



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.



2: Mainboard Installation

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.

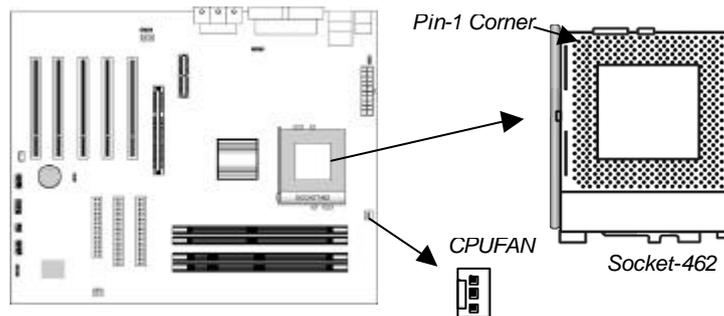
Athlon: 650 MHz~1.4 GHz, FSB: 200 MHz, 266 MHz

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 is locked.

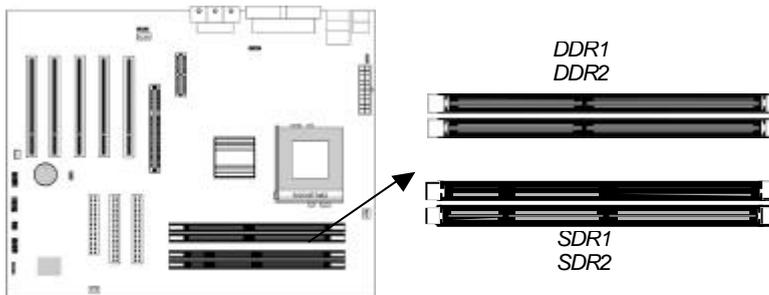
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4. Match the Pin-1 corners and insert the processor into the socket. No force is required and the processor should drop into place freely.
5. Swing the locking lever down and hook it under the catch on the side of the socket. This secures the CPU in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

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 rather 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.

2: Mainboard Installation

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.

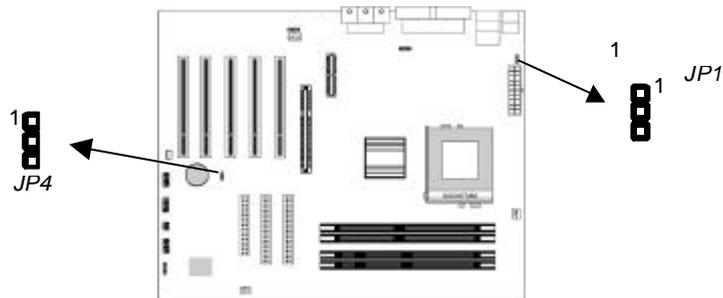
The table below lists the model chips of DDR that we have tested.

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

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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

2: Mainboard Installation

Jumper JP4: Clear CMOS Memory

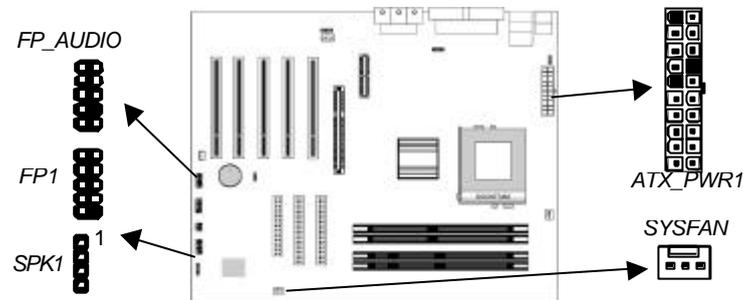
Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your main board from operating. To clear the CMOS memory, disconnect all the power cables from the mainboard and then move the jumper cap into the CLEAR setting for a few seconds.

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

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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.

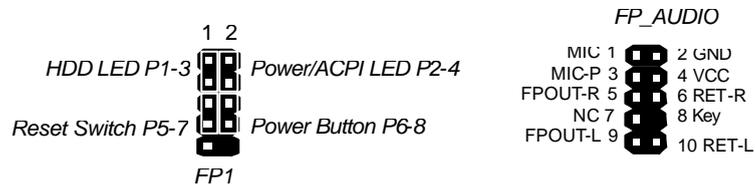


Connect the power connector from the power supply to the **ATX_PWR1** connector on the mainboard.

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 **SW1** header. If there are a headphone jack or/and a microphone jack on the front panel, connect the cables to the **FP_AUDIO** header on the mainboard. See the illustrations below for the guide to the FP1 and FP_AUDIO headers pin assignments.



2: Mainboard Installation

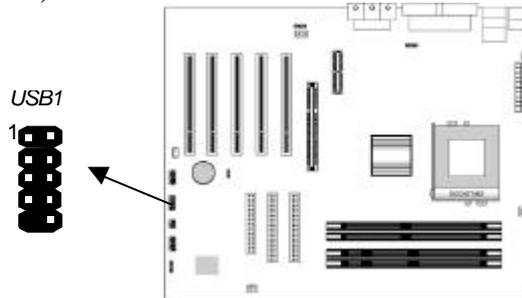
Optional Extension Brackets

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).

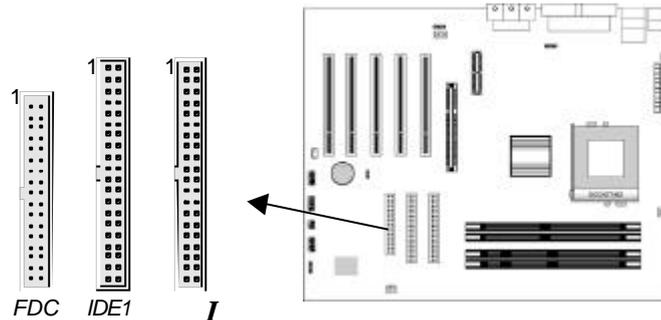


1. Locate the USB1 header on the mainboard.
2. Plug the bracket cable onto the USB1 header.
3. In the system chassis, remove a slot cover from one of the expansion slots and install the extension bracket in the opening. Use the screw that held the slot cover in place to secure the extension bracket to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

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Install Other Devices

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



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.

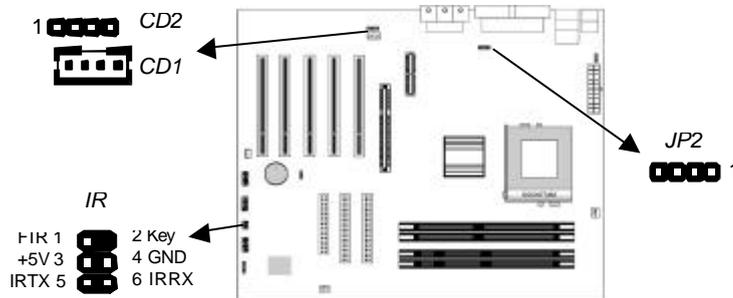
Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the mainboard.

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.

2: Mainboard Installation

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 IR1 header and then secure the port to an appropriate place in your system chassis.

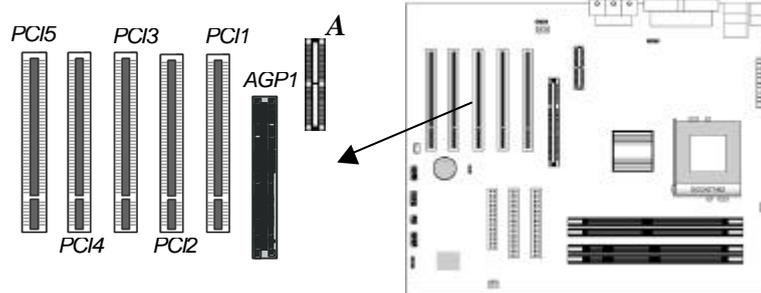
Onboard LAN LED Connections

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.

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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.

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.

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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 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.

3: BIOS Setup Utility

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	Bk	PIO	32Bit
	Type	Size	Cyln	Head	WPcom	Sec	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									PUPD+/- : Modify
									(Shift)F2 : Color
									F3 : Detect All HDD

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

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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	
1 st Boot Device	IDE-0	
2 nd Boot Device	Floppy	
3 rd 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	
System BIOS Cacheable	Enabled	
Timing Setting Mode	Normal	
SDR/DDR CAS Latency	SPD	
Auto Detect DIMM/PCI Clk	Disabled	
Clk Gen Spread Spectrum	Disabled	
		ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load Optimal values F7 : Load Best performance values

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 by 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. (SelfMonitoring, 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.

3: BIOS Setup Utility

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 (<i>Setup</i>) or required both at start-up and to enter the Setup Utility (<i>Always</i>).
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.

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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	
KeyBoard PowerOn Function	Disabled	ESC : Quit ↑↓←→ : Select Item
Power On by LAN	Disabled	F1 : Help PU/PD/+/- : Modify
		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.

3: BIOS Setup Utility

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.

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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	
USB Function Support	Enabled	
USB Function for DOS	Disabled	
		ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify 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.

3: BIOS Setup Utility

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.

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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.

3: BIOS Setup Utility

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		ESC : Quit ↑↓←→ : Select Item
CPU Fan Speed		F1 : Help PU/PD/+/- : Modify
System Temperature		F5 : Old Values (Shift)F2 : Color
CPU Temperature	30°C/86°F	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.

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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

Introduction

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

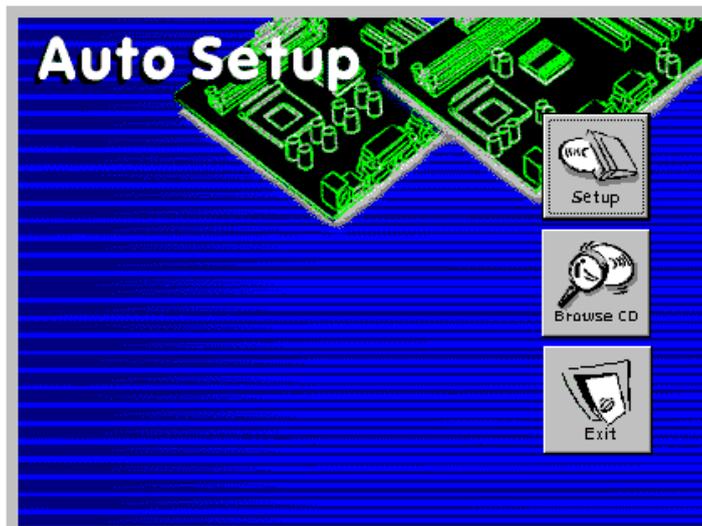
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Auto-installing under Windows 98

The Auto-install CD-ROM makes it easy for you to install the drivers and software for your mainboard.

Note: If the Auto-install CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Refer to Utility Folder Installation Notes later in this chapter.

The support software CD-ROM disc loads automatically under Windows 98. When you insert the CD-ROM disc in the 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**.



Note: If the opening screen doesn't appear, double-click the file "setup.exe" in the root directory.

1. Setup

Click the **Setup** button to run the software installation program. Select from the menu which software you want to install.

4: Software

2. Browse CD

The **Browse CD** button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD.

Before installing the software from Windows Explorer, look for a file named README.TXT, INSTALL.TXT or something similar. This file may contain important information to help you install the software correctly.

Some software is installed in separate folders for different operating systems, such as DOS, WIN NT, or WIN98/95. Always go to the correct folder for the kind of OS you are using.

To install the software, execute a file named SETUP.EXE or INSTALL.EXE by double-clicking the file and then following the instructions on the screen.

3. Exit

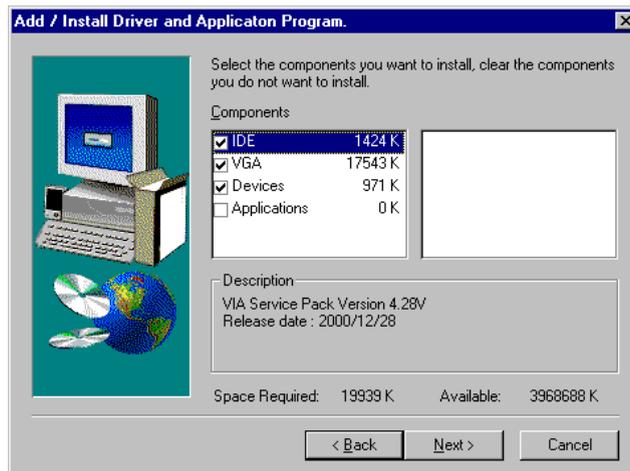
The **Exit** button closes the Auto Setup window.

Note: The following screens are examples only. The screens and driver lists will be different according to the mainboard you are installing.

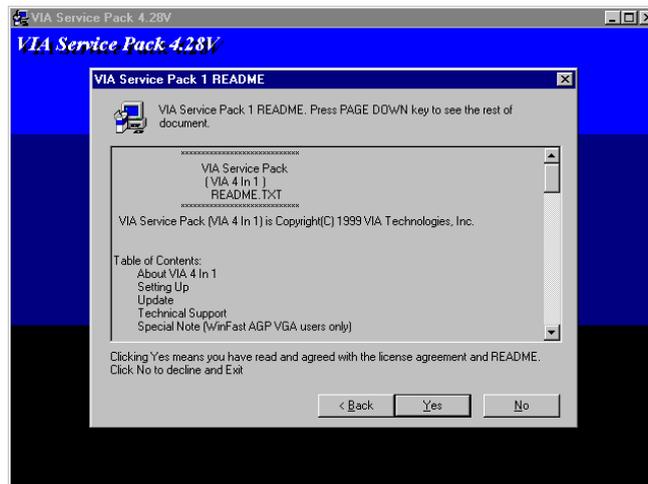


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The mainboard identification is located in the upper left-hand corner. Click the **Next** button to run Auto Setup program.



Check the box next to the items you want to install. The default options are recommended. Click the **Next** button to run the Installation Wizard. An item installation screen appears:



Follow the instructions on the screen to install the items.

4: Software

Drivers and software are automatically installed in sequence. You will need to follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete installing whatever software you selected to install:



When the process is finished, all the support drivers and software will be installed and working.

Folders for this Mainboard

For this board, you can install software from the following folders:

Utility Folder

Some of the software in you support CD may not be listed here, please always refer to the readme.txt for further information.

- AWDFlash/AMIFlash**: Software to erase and install new revisions of the system BIOS (CMOS)
- MEDIARING TALK**: Telephony software.
- PC-CILLIN**: Anti-virus software
- SUPER VOICE**: Fax/modem software.
- WinDVD(optional)**: Video player software.

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K7S5A Folder

Use the software in the following sub-folders:

- ❑ **VGA:** This folder contains the AGP VXD driver for the AGP card. Be sure to install this AGP VXD driver before you install the driver for the AGP card.
- ❑ **Audio:** This folder contains the driver for the audio code on board.
- ❑ **LAN:** This folder contains a short README file giving directions to alternate folders for installing the LAN software.

Utility Folder Installation Notes

AMI Flash Memory Utility

This utility lets you erase the system BIOS stored on a Flash Memory chip on the mainboard, and lets you copy an updated BIOS to the chip. Take care how you use 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. For this mainboard, use **AMI8XX.EXE** to flash the BIOS (where 8XX is the version number). You can use any version, but we suggest you use the latest version. To use the utility, you must be in real-mode DOS (not the DOS box that is available in Windows 95/98/NT). If you are using WINDOWS 95/98, shut down your computer and select the option *Restart in DOS* in the shutdown dialog box. If you are running Windows NT, shut down your computer and boot from a DOS diskette temporarily in order to run the flash memory utility.

PC-cillin Software

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.

Caution: We strongly recommend users to install this free anti-virus software to protect your system against the various viruses that may occur every day.

4: Software

MediaRing Talk

To install the MediaRing Talk voice modem software for the built-in modem, go to the directory \UTILITY\MEDIARING TALK; then run MRTALK-SETUP7.2.EXE to install the application software.

Super Voice

To install the Super Voice voice, fax, data communication application for use with the built-in fax/modem, go the directory \UTILITY\SUPERVOICE; then run PICSHELL.EXE to install the application software.

WinDVD

Go to the directory \UTILITY\WINDVD; then run SETUP.EXE to install the application software. The WinDVD software is not free. Before you install, you need to register and get the serial number first.

Mainboard (K7 S5A) Installation Notes

Most of the sub-folders in this folder are empty, with a short README file giving directions to alternate folders for the appropriate software.

VGA

This folder contains the AGP VXD driver for the AGP card. Be sure to install this AGP VXD driver before you install the driver for the AGP card. Drivers are provided for Windows 2000/ME/98/95 and Window NT. To install the AGP VXD driver, go the directory \SiS\VXD folder and run SETUP.EXE for your operating system.

Audio

The audio driver allows the system to use the onboard audio. To install the audio drivers, go the directory \SiS\635CODEC folder and run "SETUP.EXE" for your operating system.

LAN

This folder has software and drivers for the LAN system that is integrated on this mainboard. Drivers are provided for Windows 2000/ME/98/95 and Window NT. To install the LAN driver, go to the directory \SiS\LANSiS900\ folder and run SETUP.EXE for your operating system.