

SGS

Certificate HK07/01191.00

The management system of

ELITEGROUP COMPUTER SYSTEMS CO., LTD. ECS MANUFACTURING (SHENZHEN) CO., LTD.

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No.20 & No.26 (Except 1F, 2F&3F) Free Trade Zone, Shatoujiao,
Shenzhen City, Guangdong Province, China
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ISO 9001:2000

For the following activities

**Design and Sales of Mainboards, Personal Computers,
Notebooks, and Peripheral Cards;
Design and Manufacturing of Mainboards and Peripheral Cards.**

Further clarifications regarding the scope of this certificate and the applicability of
ISO 9001:2000 requirements may be obtained by consulting the organization
This certificate is valid from 16 March 2007 until 15 March 2010
Issue 1. Certified with SGS since March 2007

Multiple certificates have been issued for this scope
The main certificate is numbered HK07/01191.00

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ISO14001 CERTIFICATE

Certificate No.: 061-04-EI-0065-R1-L

We hereby certify that

ECS MANUFACTURING (SHANZHEN) CO., LTD.

by reason of its

Environmental Management System

has been awarded this certificate for
compliance with the standard

ISO14001:1996

The Environmental Management System

applies in the following area:

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located at No. 20 & 26 (except 1F, 2F), Free Trade Zone,

Shatuojiao, Shenzhen City, Guangdong Province, P. R. China.

is engaged in manufacturing of Mother Board and Peripheral Card,
and interrelated managerial activities.

Date of issue: 28th Sept. 2004

Date of expiry: 27th Sept. 2007

Signed by:



SHENZHEN SOUTHERN CERTIFICATION CO., LTD.

Preface

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Version 1.0A

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Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Preface

Declaration of Conformity

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

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

About the Manual

The manual consists of the following:

Chapter 1

Introducing the Motherboard

Describes features of the motherboard.

Go to  page 1

Chapter 2

Installing the Motherboard

Describes installation of motherboard components.

Go to  page 7

Chapter 3

Using BIOS

Provides information on using the BIOS Setup Utility.

Go to  page 27

Chapter 4

Using the Motherboard Software

Describes the motherboard software

Go to  page 43

Chapter 5

VIA VT8237 SATA RAID

Describes the information about SATA RAID Setup

Setup Guide

Go to  page 47

Preface

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Multi-Language Translation

Chapter 1

Introducing the Motherboard

Introduction

Thank you for choosing PT890T-A motherboard. This motherboard is a high performance, enhanced function motherboard that supports the LGA775 socket Intel Core™ 2 Duo/Pentium D/Pentium 4/Celeron D processors for high-end business or personal desktop markets.

The motherboard incorporates the PT890 Northbridge (NB) and VT8237A/VT8237S Southbridge (SB) chipsets. The Northbridge supports a Front Side Bus (FSB) frequency of 1066/800/533/400 MHz FSB and Hyper-Threading technology. The memory controller supports DDR2 memory DIMM frequencies of 533/400. It supports two DDR2 Sockets with up to maximum memory of 4 GB. High resolution graphic via two PCI Express slots, intended for Graphics Interface, are fully compliant to the PCI Express Base Specification revision 1.1.

The VT8237A/VT8237S Southbridge is a highly integrated peripheral controller, it includes an integrated keyboard controller with PS2 mouse support, two-channel Serial ATA/RAID hard disk controller, master mode enhanced Parallel IDE controller with full scatter/gather capability and extension to UltraDMA-133/100/66 for 133/100/66 MB/sec transfer rate, integrated USB 2.0 interface, supporting up to eight functional ports, and OnNow/ACPI compliant advanced configuration and power management interface. The Southbridge integrates networking MAC controller with standard MII interface to an external PHY for 100/10/1 Mb Base-T Ethernet.

This motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, COM1, LPT1, four USB ports, one optional LAN port, and audio jacks for microphone, line-in and 6/8-channel (optional) line-out.

Feature

Processor

This motherboard uses an LGA775 type of Intel Core™ 2 Duo/Pentium D/Pentium 4/Celeron D that carries the following features:

- Accommodates Intel Core™ 2 Duo/Pentium D/Pentium 4/Celeron D processors
- Supports a system bus (FSB) of 1066/800/533/400 MHz
- Supports "Hyper-Threading" technology CPU

"Hyper-Threading" technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate "logical" processors within the same physical processor.

Chipset

The PT890 Northbridge (NB) and VT8237A/VT8237S Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

- | | |
|--------------------------------------|---|
| PT890 (NB) | <ul style="list-style-type: none"> • Supports 66 MHz, 4x and 8x transfer modes, V-Link interface with 533 MB/s total bandwidth • Supports up to two PCI Express ports, configured as one x16 and one x1 PCI Express lanes • Advanced 64-bit DDR2/DDR SDRAM Controller • ACPI 2.0 and PCI Bus Management 1.1 compliant |
| VT8237A/
VT8237S
(SB) | <ul style="list-style-type: none"> • Supports 16-bit 66 MHz Ultra V-Link Host interface with total bandwidth of 1 GB/s • Compliant with PCI 2.3 specification at 33 MHz, supporting up to 6 PCI masters • Integrated Serial ATA/ Serial ATA II Host Controllers, supporting data transfer rates up to 1.5/3.0 Gb/s (Serial ATA II with VT8237S only) • Integrated Dual channel UltraDMA 133/100/66 Master Mode EIDE Controller • USB 2.0 Controller, supporting up to 8 USB 2.0 ports • Integrated keyboard Controller with PS2 mouse support |

Memory

- Supports unbuffered DDR2 533/400 DDR2 SDRAM DIMMs
- Up to 2 GB per DIMM with maximum memory size up to 4 GB

Introducing the Motherboard

Audio (Optional)

<ul style="list-style-type: none"> • 8 Channels of DAC support 16/20/24-bit PCM Format for 7.1 Audio Solution • All ADCs support 48K/192kHz Independent Sample Rate • Exceeds Microsoft PC2001 Requirements • High Quality Differential CD input • Power Support: Digital:3.3V; Analog: 3.3V/5.0V
<ul style="list-style-type: none"> • 7.1 + 2 Channel High Definition Audio Codec • All DACs support 44.1k/48k/96k/192kHz sample rate • High-quality analog differential CD input • Meets Microsoft WHQL/WLP 3.0 audio requirements • Direct Sound 3D™ compatible
<ul style="list-style-type: none"> • Three Stereo DACs support 16/20/24-bit PCM format for 5.1channel audio solution • ADCs support 44.1k/48k/96k sample rate • Meet Microsoft WHQL/WLP 3.0x audio requirements • Direct Sound 3D™ compatible

Onboard LAN (Optional)

The onboard LAN controller provides any of the following features:

<ul style="list-style-type: none"> • Supports 10/100 Mb/s N-way Auto negotiation operation • Supports Wake-On-LAN (WOL) function and remote wake up • Half/Full duplex capability
<ul style="list-style-type: none"> • Integrated 10/100/1000 transceiver • Supports PCI v2.3, 32-bit, 33/66 MHz • Supports fully with IEEE802.3, IEEE802.3u and IEEE802.3ab

Expansion Options

The motherboard comes with the following expansion options:

- One PCI Express x16 slot for Graphic Interface
- One PCI Express x1 slot
- Four 32-bit PCI v2.3 compliant slots
- Two 40-pin IDE connectors supporting up to 4 IDE devices
- One floppy disk drive interface
- Two 7-pin SATA connectors

This motherboard supports UltraDMA bus mastering with transfer rates of 133/100/66 MB/s.

Integrated I/O

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

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- Four USB ports
- One LAN port (optional)
- Audio jacks for microphone, line-in and 6/8-channel (optional) line-out


Introducing the Motherboard

BIOS Firmware

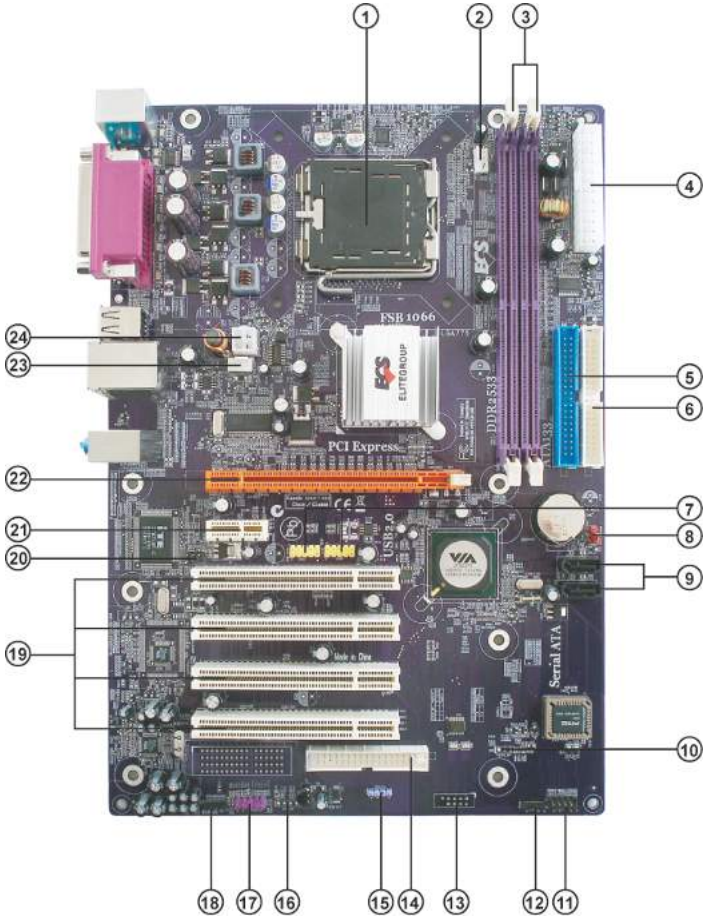
This motherboard uses AMI BIOS that enables users to configure system features including the following:

- Power management
- Wake-up alarms
- CPU parameters
- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

 *Some hardware specifications and software items are subject to change without prior notice.*

Motherboard Components



Introducing the Motherboard

Table of Motherboard Components

LABEL	COMPONENTS
1. CPU Socket	LGA775 socket for Intel Core™ 2 Duo/Pentium D/Pentium 4/Celeron D processors
2. CPU_FAN	CPU cooling fan connector
3. DDRII1~2	240-pin DDR2 SDRAM slots
4. ATX1	Standard 24-pin ATX power connector
5. IDE1	Primary IDE channel
6. IDE2	Secondary IDE channel
7. USB3~4	Front Panel USB headers
8. CLR_CMOS	Clear CMOS jumper
9. SATA1~2	Serial ATA connectors
10. BIOS_WP*	BIOS protect jumper
11. PANEL1	Front panel switch/LED header
12. SPK1	Speaker header
13. COM2*	Onboard Serial port header
14. FDD	Floppy disk drive connector
15. SPDIFO1	SPDIF out header
16. AUX_IN1*	Auxiliary audio input connector
17. AUDIO1	Front panel audio header
18. CD_IN1	Analog audio input connector
19. PCI1~4	32-bit add-on card slots
20. IR	Internal infrared header
21. PCIEX1	PCI Express x1 Slot
22. PCIEX16	PCI Express x16 Slot
23. SYS_FAN	System cooling fan connector
24. ATX_12V1	Auxiliary 4-pin power connector

* Stands for optional components

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Introducing the Motherboard

Chapter 2

Installing the Motherboard

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the Flex ATX system case. First, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, this motherboard supports one or two floppy diskette drives and four enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

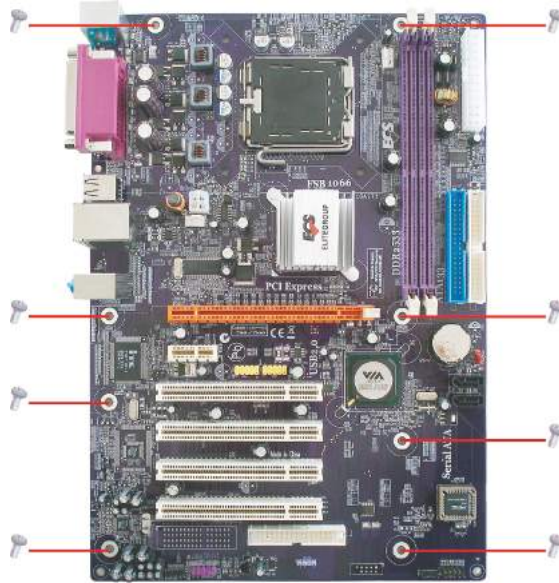
This motherboard carries a Flex ATX form factor of 305 x 210 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.



Do not over-tighten the screws as this can stress the motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

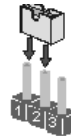


SHORT



OPEN

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT.




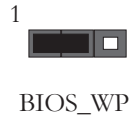
Installing the Motherboard

Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.



Jumper Settings

Jumper	Type	Description	Setting (default)	
CLR_CMOS	3-pin	Clear CMOS	1-2: NORMAL 2-3: CLEAR Before clearing the CMOS, make sure to turn off the system.	 CLR_CMOS
BIOS_WP	3-pin	BIOS PROTECT	1-2: DISABLE 2-3: ENABLE	 BIOS_WP



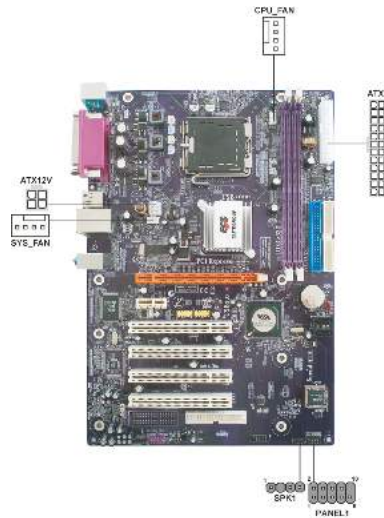
To avoid the system instability after clearing CMOS, we recommend users to enter the main BIOS setting page to “Load Optimal Defaults” and then “Save Changes and Exit”.

Installing the Motherboard

Connecting Case Components

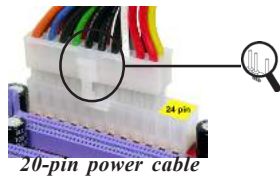
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

- 1 Connect the CPU cooling fan cable to **CPU_FAN**.
- 2 Connect the system cooling fan connector to **SYS_FAN**.
- 3 Connect the case switches and indicator LEDs to the **PANEL1**.
- 4 Connect the standard power supply connector to **ATX1**.
- 5 Connect the auxiliary case power supply connector to **ATX_12V1**.
- 6 Connect the case speaker cable to **SPK1**.



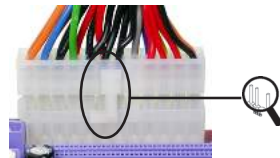
Connecting 20/24-pin power cable

Users please note that the 20-pin and 24-pin power cables can both be connected to the ATX1 connector. With the 20-pin power cable, just align the 20-pin power cable with the pin 1 of the ATX1 connector. However, using 20-pin power cable may cause the system to become unbootable or unstable because of insufficient electricity. A minimum power of 300W is recommended for a fully-configured system.



20-pin power cable

With ATX v1.x power supply, users please note that when installing 20-pin power cable, the latch of power cable clings to the left side of the ATX1 connector latch, just as the picture shows.



24-pin power cable

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable clings to the right side of the ATX1 connector latch.

Installing the Motherboard

CPU_FAN/SYS_FAN: Cooling FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	CPU FAN control



Users please note that the fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.

ATX_12V1: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

ATX1: ATX 24-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	Ground
4	+5V	16	PS_ON
5	Ground	17	Ground
6	+5V	18	Ground
7	Ground	19	Ground
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Ground

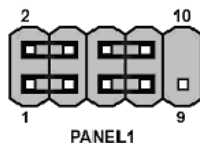
SPK1: Internal speaker

Pin	Signal Name
1	VCC
2	Key
3	NC
4	Signal

Installing the Motherboard

Front Panel Header

The front panel header (PANEL1) provides a standard set of switch and LED headers commonly found on ATX or micro-ATX cases. Refer to the table below for information:



Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED(+)	2	FP PWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	Reserved	10	Key	No pin

*MSG LED (dual color or single color)

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal debounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing the Motherboard

Installing Hardware

Installing the Processor



Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.



Warning: Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

This motherboard has an LGA 775 socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

Installing the Motherboard

CPU Installation Procedure

The following illustration shows CPU installation components.

- A. Read and follow the instructions shown on the sticker on the CPU cap.
- B. Unload the cap
 - Use thumb & forefinger to hold the lifting tab of the cap.
 - Lift the cap up and remove the cap completely from the socket.
- C. Open the load plate
 - Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
 - Lift up the lever.
 - Use thumb to open the load plate. Be careful not to touch the contacts.
- D. Install the CPU on the socket
 - Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.
- E. Close the load plate
 - Slightly push down the load plate onto the tongue side, and hook the lever.
 - CPU is locked completely.
- F. Apply thermal grease on top of the CPU.
- G. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.
- H. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.



1. To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.
2. DO NOT remove the CPU cap from the socket before installing a CPU.
3. Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA775 socket.

Installing the Motherboard

Installing Memory Modules

This motherboard accommodates two memory modules. It can support two 240-pin unbuffered DDR2 533/400. The total memory support capacity is 4 GB.

DDR2 SDRAM memory module table

Memory module	Memory Bus
<i>DDR2 400</i>	<i>200 MHz</i>
<i>DDR2 533</i>	<i>266 MHz</i>

You must install at least one module in any of the four slots. Each module can be installed with 2 GB of memory; total support memory capacity is 4 GB.



Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Installation Procedure

Refer to the following to install the memory modules.

- 1 This motherboard supports unbuffered DDR2 SDRAM .
- 2 Push the latches on each side of the DIMM slot down.
- 3 Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
- 4 Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
- 5 Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
- 6 Install any remaining DIMM modules.



Installing the Motherboard

Table B: DDR2 (memory module) QVL (Qualified Vendor List)

The following DDR2 memory modules have been tested and qualified for use with this motherboard.


Type	Size	Vendor	Model Name
DDR2 400	256 MB	Hynix	HYMP532U646-E3 AA
		NANYA	NT256T64UH4A0F-5A
		SAMSUNG	M378T3253FG0-CCC
	512 MB	Nanya	NT512T-64U88A0F-5A CL3
DDR2 533	256 MB	A-DATA	M2OHY2F3G3110A1B0Z
		Elixir	M2U25664TUH4A0F-37B
		Kingston	KVR533D2N4
		Ramaxel	RML 1040M28D5F-533
	512 MB	AENEON	AET660UD00-370A98U
		KINSTON	KVR533D2N4/512
		SAMSUNG	M378T6553BGO-CD5
	1 GB	Apacer	ELPIDA E5108AB-5C-E
		KINSTON	KVR533D2N4/1G

Installing a Hard Dish Drive/CD-ROM/SATA Hard Drive

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

About IDE Devices

Your motherboard has two IDE channels interface. An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.

 You must orient the cable connector so that the pin1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

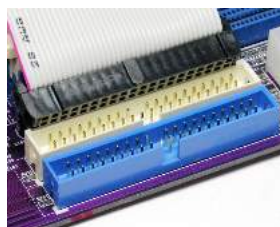
IDE1: IDE Connector

This motherboard supports two high data transfer SATA ports with each runs up to 1.5 Gb/s. To get better system performance, we recommend users connect the CD-ROM to the IDE channel, and set up the hard drives on the SATA ports.



IDE2: Secondary IDE Connector

The second drive on this controller must be set to slave mode. The configuration is the same as IDE1.



IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. Installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

Installing the Motherboard

About SATA Connectors

Your motherboard features two SATA connectors supporting a total of two drives. SATA, or Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with an SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.



SATA cable (optional)



SATA power cable (optional)

Refer to the illustration below for proper installation:

- 1 Attach either cable end to the connector on the motherboard.
- 2 Attach the other cable end to the SATA hard drive.
- 3 Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.



This motherboard does not support the “Hot-Plug” function.

Installing the Motherboard

Installing a Floppy Diskette Drive

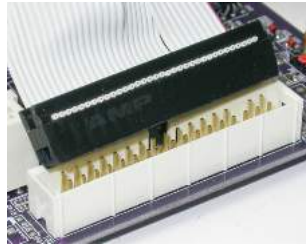
The motherboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive.



You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

FDD: Floppy Disk Connector

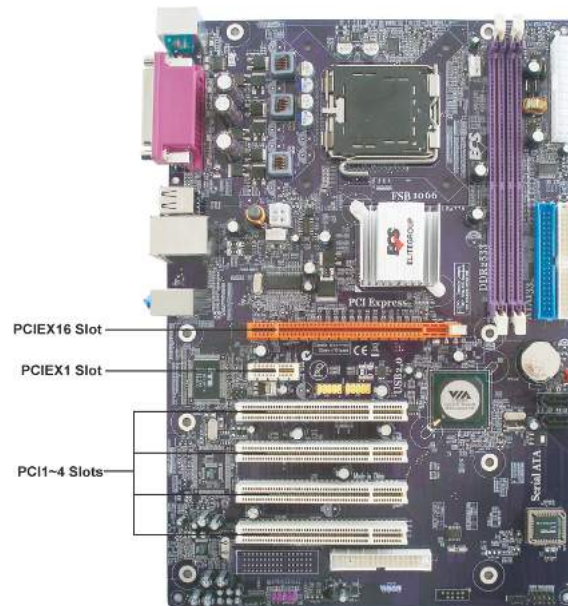
This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.



Installing the Motherboard

Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



PCIEX16 Slot The PCI Express x16 slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 1.1.

PCIEX1 Slot The PCI Express x1 slot is fully compliant to the PCI Express Base Specification revision 1.1.

PCI1~4 Slots This motherboard is equipped with two standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.3 compliant.



Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Installing the Motherboard

Follow these instructions to install an add-on card:

- 1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
- 2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
- 3 Secure the metal bracket of the card to the system case with a screw.

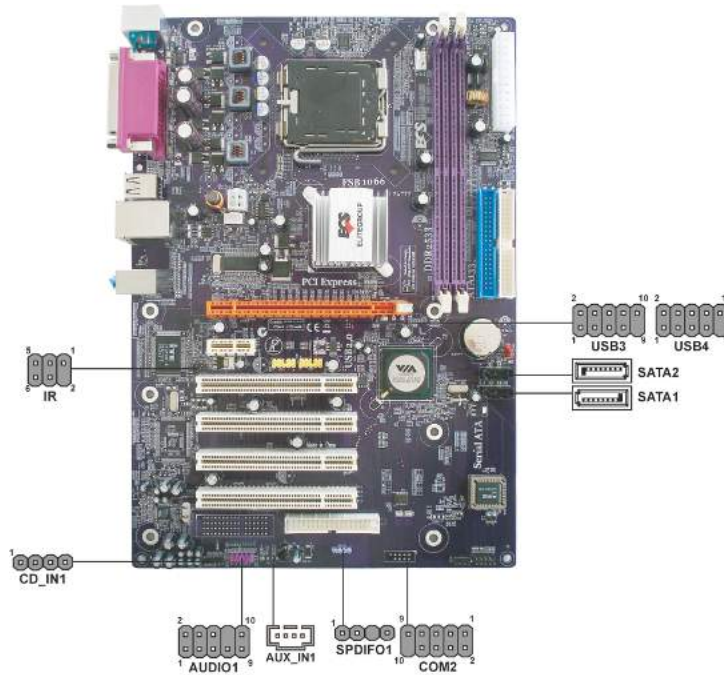


For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

Installing the Motherboard

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



USB3~4: Front Panel USB headers

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	USB_FP_OC0	Overcurrent signal

Installing the Motherboard

AUDIO1: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Pin	Signal Name
1	PORT 1L	2	AUD_GND
3	PORT 1R	4	PRESENCE#
5	PORT 2R	6	SENSE1_RETURN
7	SENSE_SEND	8	KEY
9	PORT 2L	10	SENSE2_RETURN



If your front panel cable is separated, please connect it to pin1 and pin3 or pin5 and pin7 to activate the MIC function.

CD_IN1: Analog Audio Input connector

Pin	Signal Name	Function
1	CD in_L	CD In left channel
2	GND	Ground
3	GND	Ground
4	CD in_R	CD In right channel

AUX_IN1: Auxiliary-in connector(optional)

This connector is an additional line-in audio connector. It allows you to attach a line-in cable when your rear line-in jack is set as line out port for 4-channel function.

Pin	Signal Name	Function
1	AUXIN_L	AUX In left channel
2	AGND	Ground
3	AGND	Ground
4	AUXIN_R	AUX In right channel

SPDIF01: SPDIF out header

This is an optional header that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coaxial connector.

Pin	Signal Name	Function
1	SPDIF	SPDIF digital output
2	+5VA	5V analog power
3	Key	No pin
4	GND	Ground

SATA1~2: Serial ATA connectors

These connectors are used to support the new Serial ATA devices for the highest data transfer rates (1.5 Gb/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

IR: Infrared header

The mainboard supports an Infrared (IR) data port. Infrared ports allow the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pin	Signal Name	Function
1	Not Assigned	Not assigned
2	Key	No pin
3	+5V	IR Power
4	GND	Ground
5	IR_TX	IrDA serial output
6	IR_RX	IrDA serial input

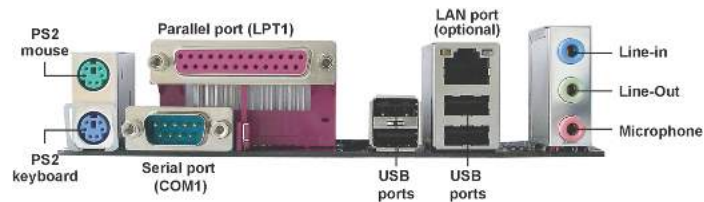
COM2: Onboard serial port header (Optional)

Connect a serial port extension bracket to this header to add a second serial port to your system.

Pin	Signal Name	Function
1	NDCDB	Data carry detect
2	NSINB	Serial Data In
3	NSOUTB	Serial Data Out
4	NDTRB	Data terminal ready
5	GND	Ground
6	NDSRB	Data set ready
7	NRTSB	Request to send
8	NCTSB	Clear to send
9	NRIB	Ring Indicator
10	Key	No pin

Connecting I/O Devices

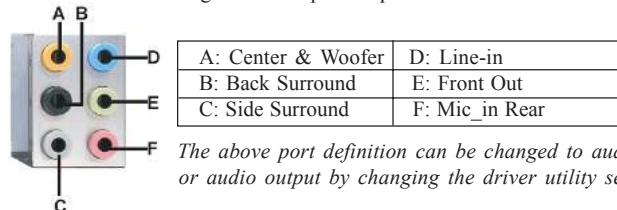
The backplane of the motherboard has the following I/O ports:



- PS2 Mouse** Use the upper PS/2 port to connect a PS/2 pointing device.
- PS2 Keyboard** Use the lower PS/2 port to connect a PS/2 keyboard.
- Parallel Port (LPT1)** Use LPT1 to connect printers or other parallel communications devices.
- Serial Port (COM1)** Use the COM port to connect serial devices such as mice or fax/modems.
- LAN Port (optional)** Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
- USB Ports** Use the USB ports to connect USB devices.
- Audio Ports** Use the audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.



This motherboard may adopt 8-channel audio devices that correspond to the A, B, C, and E port respectively. In addition, all of the 3 ports, B, C, and E provide users with both right & left channels individually. Users please refer to the following note for specific port function definition.



The above port definition can be changed to audio input or audio output by changing the driver utility setting.

This concludes Chapter 2. The next chapter covers the BIOS.

Installing the Motherboard

Memo

Chapter 3

Using BIOS

About the Setup Utility

The computer uses the latest American Megatrends BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL/F1 to enter SETUP

Press the delete key or F1 to access the BIOS Setup Utility.

CMOS Setup Utility -- Copyright (C) 1985-2005, American Megatrends, Inc.

▶ Standard CMOS Setup	▶ CPU PnP Setup
▶ Advanced Setup	▶ Hardware monitor
▶ Features Setup	Load Optimal Defaults
▶ Power Management Setup	Save Changes and Exit
▶ PCI / Plug and Play Setup	Discard Changes and Exit
▶ BIOS Security Features	
↑↓←→ : Move Enter : Select +/- : Value F10: Save ESC: Exit F1: General Help F9: Optimized Defaults	
Standard CMOS setup for changing time, date, hard disk type, etc.	
v02.59 (C)Copyright 1985-2005, American Megatrends, Inc.	

BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
↑↓←→	Scrolls through the items on a menu
+/-/PU/PD	Modifies the selected field's values
F1	Displays a screen that describes all key functions
F9	Loads an optimized setting for better performance
F10	Saves the current configuration and exits setup
ESC	Exits the current menu

Using BIOS

Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

- 1 If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
- 2 If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
- 3 Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
- 4 Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
- 5 Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
- 6 At the A:\ prompt, type the Flash Utility program name and the filename of the new bios and then press <Enter>. Example: AMINF340.EXE 040706.ROM
- 7 When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten. The computer will restart automatically.

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ►) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ►.

Using BIOS

Standard CMOS Setup

This option displays basic information about your system.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
Standard CMOS Setup

System Time	18: 39: 21	Help Item
System Date	Sun 04/16/2006	
▶ Primary IDE Master	[Hard Disk]	Use [ENTER], [TAB] or [SHIFT-TAB] TO select a field. Use [+] or [-] to configure system Time.
▶ Primary IDE Slave	[Not Detected]	
▶ Secondary IDE Slave	[Not Detected]	
▶ Secondary IDE Slave	[Not Detected]	
▶ S-ATA 1	[Not Detected]	
▶ S-ATA 2	[Not Detected]	
Floppy A	[.44 MB 3 1/2 "]	
Floppy B	[Disabled]	

[] <=> :Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

System Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

▶ Primary/Secondary IDE Master/Slave, S-ATA 1~2

Your computer has one IDE channel and each channel can be installed with one or two devices (Master and Slave). In addition, this motherboard supports two SATA channels and each channel allows one SATA device to be installed. Use these items to configure each device on the IDE channel.

Floppy A/Floppy B (1.44 MB 3 1/2 ") (Disabled)

These items set up size and capacity of the floppy diskette drive(s) installed in the system.

Press <Esc> to return to the main menu setting page.

Advanced Setup

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

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
Advanced Setup

		Help Item
Quick Boot	[Enabled]	
1st Boot Device	Removable Dev.	
2nd Boot Device	[Hard Drive]	
3rd Boot Device	[CD/DVD]	
▶ Hard Disk Drives	[Press Enter]	
▶ Removable Drives	[Press Enter]	
▶ CD/DVD Drives	[Press Enter]	
Try Other Boot Device	[Yes]	
Bootup num-Lock	[On]	
AGP Aperture Size	[128MB]	
DRAM timing	[Auto]	
Hyper Threading Technology	[Enabled]	
Auto Detect DIMM/PCI Clk	[Enabled]	
Spread Spectrum	[Disabled]	
Max CPUID Value Limit	[Disabled]	
Execute Disable Bit	[Disabled]	
CPU TM function	[Enabled]	
TM Status	[TM1]	
C1E Support	[Enabled]	
Intel (R) SpeedStep(tm) tech.	[Disabled]	
BIOS Protect	[Protect]	

↑↓ ↔ : Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

Quick Boot (Enabled)

If you enable this item, the system starts up more quickly because of the elimination of some of the power on test routines.

1st/2nd/3rd Boot Device (Removable Dev./Hard Drive/CD/DVD)

Use these items to determine the device order the computer used to look for an operating system to load at start-up time. The devices showed here will be different depending on the exact devices installed on your motherboard.

▶ Hard Disk Drives (Press Enter)

Enter this item, the system will show you the hard disk drives option.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
Hard Disk Drives

		Help item
Hard Disk Drives		
1st Drive	ST3160023A	

↑↓ ↔ : Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

Using BIOS

► **Removable Drives (Press Enter)**

Enter this item, the system will show you the removable drives option.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
Removable Drives

Removable Drives	Help item
1st Drive 1st FLOPPY DRIVE	Specifies the boot sequence from the available devices.

↑↓↔ : Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

► **CD/DVD Drives (Press Enter)**

Enter this item, the system will show you the CD/DVD drives option.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
CD/DVD Drives

CD/DVD Drives	Help item
1st Drive IDE/ATAPI CD-ROM 52	Specifies the boot sequence from the available devices.

↔ : Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

Try Other Boot Device (Yes)

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 boot device.

Bootup Num-Lock (On)

This item determines if the Num Lock key is active or inactive at system start-up time.

AGP Aperture Size (128MB)

This item defines the size of aperture if you use a graphic adapter.

DRAM Timing (Auto)

This item allows you to enable or disable the DRAM timing defined by the Serial Presence Detect electrical. Users please note that if setting this item to auto, the following two items are not available.

Using BIOS

Hyper Threading Technology (Enabled)

This item is only available when the chipset supports Hyper-Threading and you are using a Hyper-Threading CPU.

Auto Detect DIMM/PCI Clk (Enabled)

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

Spread Spectrum (Disabled)

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic interface) generated by the system.

Max CPUID Value Limit (Disabled)

This item enables or disables the Max CPU ID value limit. When Prescott with LGA775 CPU is installed, enable this item to prevent the system from “rebooting” when trying to install Windows NT4.0.

Execute Disable Bit (Disabled)

This item is a security feature that helps you protect your CPU and operating system against malicious software executing code. This item is available when CPU supports the feature.

CPU TM function (Enabled)

This item displays CPU’s temperature and enables you to set a safe temperature to Prescott CPU.

TM Status (TM1)

If CPU supports TM function, when you use this item, it will show what TM function this CPU supports.

C1E Support (Enabled)

Use this item to decrease the bus ratio that reduces the consumption of CPU electricity and power, which is only for the CPU supporting the C1E function.

Intel (R) Speedstep(tm) tech. (Disabled)

Use this item to enable or disable the Intel SpeedSetup Technology, which is only for the Intel CPU supporting the SpeedSetup Technology function.

BIOS Protect (Disabled)

This item protects the BIOS from accidental corruption by unauthorized users or computer viruses. When enabled, the BIOS’s data can not be changed when attempting to update the BIOS with a Flash utility. To successfully update the BIOS, you’ll need to disabled this BIOS Protect function.

Press <Esc> to return to the main menu setting page.

Features Setup

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

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Features Setup

OnBoard Floppy Controller	[Enabled]	Help Item
Serial Port1 Address	[3F8/IRQ4]	
OnBoard IR Port	[Disabled]	Allow BIOS to Enable or Disable Floppy Controller.
Parallel Port Address	[378]	
Parallel Port Mode	[ECP]	
ECP Mode DMA Channel	[DMA3]	
Parallel Port IRQ	[IRQ7]	
OnBoard PCI IDE Controller	[Both]	
OnBoard SATA-IDE	[IDE]	
Audio Device(8237R Plus Only)	[Enabled]	
High Definition Audio	[Enabled]	
Onboard LAN Controller	[Enabled]	
Onboard LAN BOOT ROM	[Disabled]	
Onboard USB Function	[Enabled]	
USB Function For DOS	[Enabled]	

↑↓ ←→ :Move Enter: Select +/-: Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

OnBoard Floppy Controller (Enabled)

Use this item to enable or disable the onboard floppy disk drive interface.

Serial Port1 Address (3F8/IRQ4)

Use this item to enable or disable the onboard COM1 serial port, and to assign a port address.

OnBoard IR Port (Disabled)

Use this item to enable or disable the onboard Parallel port, and to assign a port address.

Parallel Port Address (378)

Use this item to enable or disable the onboard Parallel port, and to assign a port address.

Parallel Port Mode (ECP)

Use this item to select the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or BPP (Bi-Directional Parallel Port).

ECP Mode DMA Channel (DMA3)

Use this item to assign the DMA Channel under ECP Mode function.

Parallel Port IRQ (IRQ7)

Use this item to assign IRQ to the parallel port.

OnBoard PCI IDE Controller (Both)

Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.

OnBoard SATA-IDE (IDE)

Use this item to set the onboard SATA-IDE channel to be disabled, IDE, or RAID.

Using BIOS

Audio Device (8237R Plus Only) (Enabled)

Use this item to enable or disable the AC'97 audio device.

High Definition Audio (Enabled)

Use this item to enable or disable the High Definition audio device.

Onboard LAN Controller (Enabled)

Use this item to enable or disable the Onboard LAN Controller Device.

Onboard LAN Boot ROM (Disabled)

Use this item to enable or disable the boot function using the Onboard LAN boot rom.

Onboard USB Function (Enabled)

Enable this item if you plan to use the USB ports on this motherboard.

USB Function For DOS (Enabled)

Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.

Press <Esc> to return to the main menu setting page.

Power Management Setup

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

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Power Management Setup

		Help Item
ACPI Enhanced Efficiency	[Disabled]	
Suspend mode	[Disabled]	
Suspend Time Out	[Disabled]	Enable/Disabled ACPI support for Operating System.
Resume on RTC Alarm	[Disabled]	
RTC Alarm Data (Days)	[15]	
System Time	[12:30:30]	
Resume on Ring	[Disabled]	ENABLE: If OS support ACPI.
Resume on PME#	[Enabled]	
Resume from PCIE PME	[Disabled]	DISABLE: If OS does not support ACPI.
Resume on PS/2 Mouse	[Disabled]	
Restore on AC/Power Loss	[Power Off]	
Soft-OFF By Power Button	[Instant OFF]	
USB resume from S3	[Disabled]	
Resume from PS2 KB	[Disabled]	

↑↓ <> : Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

ACPI Enhanced Efficiency (Disabled)

If the motherboard doesn't support the S3 function, this item shows. It supports ACPI (Advanced Configuration and Power Management Interface). Use this item to enable or disable the ACPI feature.

Suspend Mode (Disabled)

If the motherboard supports the S3 function, this item shows. After the selected period of system inactivity, all devices except the CPU shut off.

Suspend Time Out (Disabled)

This item sets up the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.

Resume on RTC Alarm (Disabled)

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.

RTC Alarm Date (Days)

Use this item to set the date of the wake-up alarm.

System Time(12:30:30)

Use this item to set the system time.

Resume On Ring (Disabled)

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 Modem. You must use an ATX power supply in order to use this feature.

Resume On PME# (Enabled)

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 PCI Modem or PCI LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCI card.

Using BIOS

Resume from PCIE PME (Disabled)

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 PCIE LAN card. You must use an ATX power supply in order to use this feature. Use this item to do wake-up action if inserting the PCIE card.

Resume On PS/2 Mouse (Disabled)

This item enables or disables you to allow mouse activity to awaken the system from power saving mode.

Restore on AC/Power Loss (Power Off)

This item defines how the system will act after AC power loss during system operation. When you set to Off, it will keep the system in Off state until the power button is pressed.

Soft-OFF By Power Button (Instant OFF)

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

USB resume from S3 (Disabled)

This item allows you to enable or disable the USB device Wakeup function from S3 mode.

Resume from PS2 KB (Disabled)

This item enables or disables you to allow keyboard activity to awaken the system from power saving mode.

Press <Esc> to return to the main menu setting page.

PCI / Plug and Play Setup

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
PCI / Plug and Play Setup

Primary Graphics Adapter	PCI	Help Item
Allocate IRQ to PCI VGA	[Yes]	
PCI IDE BusMaster	[Enabled]	Options
		PCI
		IGD
		PCI-Express

↑↓ ↔ : Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

Using BIOS

Primary Graphics Adapter (PCI)

This item indicates if the primary graphics adapter uses the PCI Express VGA, PCI VGA.

Allocate IRQ to PCI VGA (Yes)

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 (Enabled)

This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

Press <Esc> to return to the main menu setting page.

BIOS Security Features

This page helps you install or change a password.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
BIOS Security Features

Security Settings	Help item
Supervisor Password : Not Installed	Install or Change the password.
Change Supervisor Password Press Enter	

↑↓←→ : Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

Supervisor Password (Not Installed)

This item indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

Change Supervisor Password (Press Enter)

You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

Press <Esc> to return to the main menu setting page.

CPU PnP Setup

This page helps you manually configure the CPU of this motherboard. The system will automatically detect the type of installed CPU and make the appropriate adjustments to these items on this page.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
CPU PnP Setup

Manufacturer	:	Intel	Help Item
Ratio Actual Value	:	14	
DRAM Frequency	:	Auto	Options
CPU Over-clocking Func.	:	[Disabled]	Auto
CPU Frequency	:	200MHz	200MHz
Memory Voltage	:	[Normal]	266MHz
			333MHz
			400MHz
			533MHz

↑↓ ↔ : Move Enter : Select +/- : Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

Manufacturer (Intel)

This item indicates the brand of the CPU installed in your system.

Ratio Actual Value (14)

This item determines the actual value of ratio.

DRAM Frequency (Auto)

This item enables users to adjust the DRAM frequency. The default setting is auto and we recommend users leave the setting unchanged. Modify it at will may cause the system to be unstable.

CPU Over-clocking Func. (Disabled)

This item decides the CPU over-clocking function/frequency installed in your system. If the over-clocking fails, please turn off the system power. And then, hold the PageUp key (similar to the Clear CMOS function) and turn on the power, the BIOS will recover the safe default.

CPU Frequency (200MHz)

This item indicates the current CPU frequency. Users can not make any change to this item. Please noted that the frequency will be varied with different CPU.

Memory Voltage (Normal)

This item determines the memory voltage adjustment.

Press <Esc> to return to the main menu setting page.

Using BIOS

Hardware Monitor

This page helps you set up some parameters for the hardware monitoring function of this motherboard.

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.
Hardware Monitor

-- System Hardware Monitor --		Help Item
CPU Vcore	: 1.280 V	
VDIMM	: 1.744 V	
+3.3V	: 3.328 V	
+5V	: 4.892 V	
5VSB	: 4.865 V	
VBAT	: 3.200 V	
CPU FAN Speed	: 4066 RPM	
SYSTEM FAN Speed	: 0 RPM	
PWR FAN Speed	: 0 RPM	
CPU Temperature	: 35°C/95°F	
SYSTEM Temperature	: 27°C/80°F	
Smart Fan Control	[Disabled]	Options
Shutdown Temp.	[Disabled]	Disabled
		Enabled

↑↓ <=> :Move Enter: Select +/-: Value F10: Save ESC: Exit
F1: General Help F9: Optimized Defaults

System Hardware Monitor

These items display the monitoring of the overall inboard hardware health events, such as system & CPU temperature, CPU & DIMM voltage, CPU & system fan speed,...etc.

Smart Fan Control (Disabled)

This item enables users to enable or disable smart fan function.

Shutdown Temp. (Disabled)

This item enables users to set the maximum temperature the system can reach before powering down.

Press <Esc> to return to the main menu setting page.

Load Optimal Defaults

This option opens a dialog box that lets you install stability-oriented defaults for all appropriate items in the Setup Utility. Select [OK] and then press <Enter> to install the defaults. Select [Cancel] and then press <Enter> to not install the defaults.

Save Changes and Exit

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, select [OK] to save and exit, or select [Cancel] to return to the main menu.

Discard Changes and Exit

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, select [OK] to discard changes and exit, or select [Cancel] to return to the main menu.



If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and select [OK] to discard any changes you have made.

Memo


Using BIOS

Chapter 4

Using the Motherboard Software

About the Software CD-ROM


The support software CD-ROM that is included in the motherboard 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 motherboard version. More information on some programs is available in a README file, located in the same directory as the software.

 *Never try to install all software from folder that is not specified for use with your motherboard.*

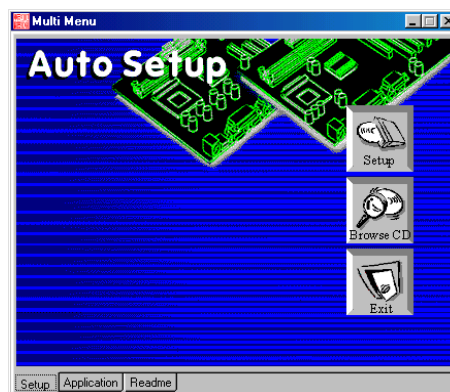
Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.


Auto-installing under Windows 2000/XP

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

 *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 the Utility Folder Installation Notes later in this chapter.*

The support software CD-ROM disc loads automatically under Windows 2000/XP. 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.



 *If the opening screen does not appear; double-click the file "setup.exe" in the root directory.*

Using the Motherboard Software

Setup Tab

Setup	Click the Setup button to run the software installation program. Select from the menu which software you want to install.
Browse CD	<p>The Browse CD button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD.</p> <p>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.</p> <p>Some software is installed in separate folders for different operating systems.</p> <p>In 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.</p>
Exit	The EXIT button closes the Auto Setup window.

Application Tab

Lists the software utilities that are available on the CD.

Read Me Tab

Displays the path for all software and drivers available on the CD.

Running Setup

Follow these instructions to install device drivers and software for the motherboard:

1. Click **Setup**. The installation program begins:

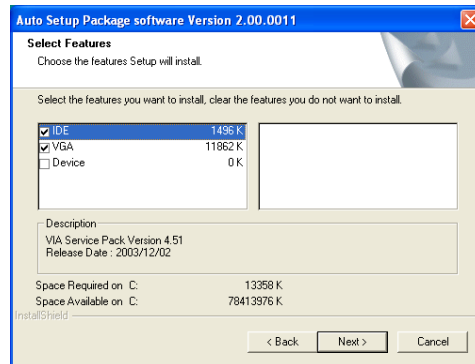


The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

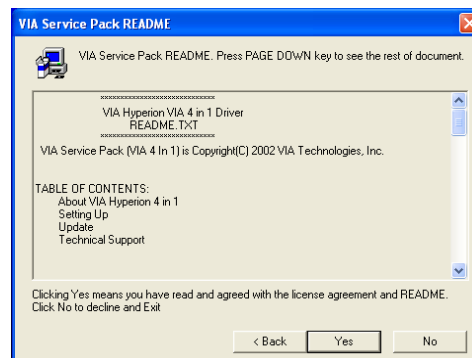
The motherboard identification is located in the upper left-hand corner.

Using the Motherboard Software

2. Click **Next**. The following screen appears:



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



5. Follow the instructions on the screen to install the items.

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Using the Motherboard Software

Manual Installation

Insert the CD in the CD-ROM drive and locate the PATH.DOC file in the root directory. This file contains the information needed to locate the drivers for your motherboard.

Look for the chipset and motherboard model; then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

Utility Software Reference

All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.



*These software(s) are subject to change at anytime without prior notice.
Please refer to the support CD for available software.*

This concludes Chapter 4.

Chapter 5

VIA VT8237 SATA RAID Setup Guide

VIA RAID Configurations

The motherboard includes a high performance Serial ATA RAID controller integrated in the VIA VT8237 Southbridge chipset. It supports RAID 0, RAID 1 and JBOD with two independent Serial ATA channels.

RAID: (Redundant Array of Independent Disk Drives) use jointly several hard drives to increase data transfer rates and data security. It depends on the number of drives present and RAID function you select to fulfill the security or performance purposes or both.

RAID 0 (called data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks. Two hard disks perform the same work as a single drive but at a sustained data transfer rate, double that of a single disk alone, thus improving data access and storage.

RAID 1 (called data mirroring) copies and maintains an identical image of data from one drive to a second drive. If one drive fails, the disk array management software directs all applications to the surviving drive as it contains a complete copy of the data in the other drive. This RAID configuration provides data protection and increases fault tolerance to the entire system.

JBOD: (Just a Bunch of Drives) Also known as “Spanning”. Two or more hard drives are required. Several hard disk types configured as a single hard disk. The hard drives are simply hooked up in series. This expands the capacity of your drive and results in a useable total capacity. However, JBOD will not increase any performance or data security.

Install the Serial ATA (SATA) hard disks

The VIA VT8237 Southbridge chipset supports Serial ATA hard disk drives. For optimal performance, install identical drives of the same model and capacity when creating a RAID set.

- If you are creating a RAID 0 (striping) array of performance, use two new drives.
- If you are creating a RAID 1 (mirroring) array for protection, you can use two new drives or use an existing drive and a new drive (the new drive must be of the same size or larger than the existing drive). If you use two drives of different sizes, the smaller capacity hard disk will be the base storage size. For example, one hard disk has an 80GB storage capacity and the other hard disk has 60GB storage capacity, the maximum storage capacity for the RAID 1 set is 60GB.

Follow these steps to install the SATA hard disks for RAID configuration.

- i Before setting up your new RAID array, verify the status of your hard disks. Make sure the Master/Slave jumpers are configured properly.
- ii Both the data and power SATA cables are new cables. You cannot use older 40-pin 80-conductor IDE or regular IDE power cables with Serial ATA drives. Installing Serial ATA (SATA) hard disks require the use of new Serial ATA cable (4-conductor) which supports the Serial ATA protocol and a Serial ATA power cable.

- iii Either end of the Serial ATA data cable can be connected to the SATA hard disk or the SATA connector on the motherboard.
- 1 Install the Serial ATA hard disks into the drive bays.
- 2 Connect one end of the Serial ATA cable to the motherboard's primary Serial ATA connector (SATA1).
- 3 Connect the other end of Serial ATA cable to the master Serial ATA hard disk.
- 4 Connect one end of the second Serial ATA cable to the motherboard's secondary Serial ATA connector (SATA2).
- 5 Connect the other end of Serial ATA cable to the secondary Serial ATA hard disk.
- 6 Connect the Serial ATA power cable to the power connector on each drive.
- 7 Proceed to section "Entering VIA Tech RAID BIOS Utility" for the next procedure.

Entering VIA Tech RAID BIOS Utility

- 1 Boot-up your computer.
- 2 During POST, press <TAB> to enter VIA RAID configuration utility. The following menu options will appear.



The RAID BIOS information on the setup screen shown is for reference only. What you see on your screen may not be exactly the same as shown.



On the upper-right side of the screen is the message and legend box. The keys on the legend box allow you to navigate through the setup menu options. The message describes the function of each menu item. The following lists the keys found in the legend box with their corresponding functions.

F1	View Array
↑↓	Move to the next item
Enter	Confirm the selection
ESC	Exit

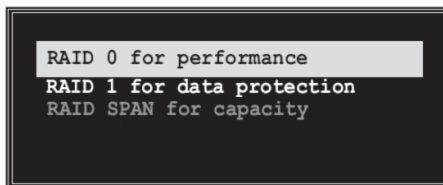
Create Array

- 1 In the VIA RAID BIOS utility main menu, select **Create Array** then press the <Enter> key. The main menu items on the upper-left corner of the screen are replaced with create array menu options.

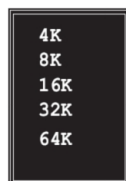


RAID 0 for performance

- 1 Select the second option item **Array Mode**, then press the <Enter> key. The RAID system setting pop-up menu appears.



- 2 Select **RAID 0 for performance** from the menu and press <Enter>. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Performance or manually configure the RAID array for striped sets. If you want to manually configure the RAID array continue with next step, otherwise, proceed to step #5.
- 3 Select **Select Disk Drives**, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter> to mark selected drive. An asterisk is placed before the selected drive.
- 4 Select **Block Size**, then press <Enter> to set array block size. Lists of valid array block sizes are displayed on a pop-up menu.



Tip For server systems, it is recommended to use a lower array block size. For multimedia computer systems used mainly for audio and video editing, a higher array block size is recommended for optimum performance.

Use arrow keys to move selection bar on items and press <Enter> to select.

- 5 Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following confirmation appears:

The same confirmation message appears when the Auto Setup for Performance option is selected.

```
The data on the selected disks will
be destroyed. Continue? Press Y/N
```

Press “Y” to confirm or “N” to return to the configuration options.

RAID 1 for data protection

- 1 Select the second option item Array Mode, then press the <Enter> key. The RAID system setting pop-up menu appears.

```
RAID 0 for performance
RAID 1 for data protection
RAID SPAN for capacity
```

- 2 Select RAID 1 for data protection from the menu and press <Enter>. Select next task from pop-up menu. The task Create only creates the mirrored set without creating a backup. Create and duplicate creates both mirrored set and backup.

```
Create only
Create and duplicate
```

- 3 Select task and press <Enter>. The screen returns to Create Array menu items. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Data Security or manually configure the RAID array for mirrored sets. If you want to manually configure the RAID array continue with next step, otherwise, proceed to step #5.
- 4 Select Select Disk Drives, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter> to mark selected drive. (An asterisk is placed before a selected drive.)
- 5 Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following confirmation message appears:

The same confirmation message appears when the Auto Setup for Performance option is selected.

```
The data on the selected disks will
be destroyed. Continue? Press Y/N
```

Press “Y” to confirm or “N” to return to the configuration options.

Delete Array

- 1 In the VIA RAID BIOS utility main menu, select **Delete Array** then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays.
- 2 Press the <Enter> key to select a RAID array to delete. The following confirmation message appears.

```
The selected array will be destroyed.
Are you sure? Continue? Press Y/N
```

Press “Y” to confirm or “N” to return to the configuration options.

Select Boot Array

- 1 In the VIA RAID BIOS utility main menu, select Select Boot Array then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays.
- 2 Press the <Enter> key to select a RAID array for boot. The Status of the selected array will change to Boot. Press <ESC> key to go return to menu items. Follow the same procedure to deselect the boot array.

```
ESC : EXIT
```

Channel	Drive Name	Array Name	Mode	Size (GB)	Status
[] Channel Master	XXXXXXXXXX		XXXXXXXX	xxx.xx	Hdd
[] Channel Slave	XXXXXXXXXX		XXXXXXXX	xxx.xx	Hdd
Channel Master	No Drive				
Channel Slave	No Drive				

Serial Number View

- 1 In the VIA RAID BIOS utility main menu, select Serial Number View then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays. Move the selection bar on each item and the serial number is displayed at the bottom of the screen. This option is useful for identifying same model disks.

```
VIA Tech. RAID BIOS Ver 0.96
```

<ul style="list-style-type: none"> ▶ Create Array ▶ Delete Array ▶ Create/Delete Space ▶ Select/Change Array ▶ Serial Number View 	<p>Create a RAID array with the hard disk attached to VIA IDE controller</p> <p>F1 : View Array/Disk Status ↑,↓ : Move to next item Enter: Confirm the selection ESC : Exit</p>																														
<table border="1"> <thead> <tr> <th>Channel</th> <th>Drive Name</th> <th>Array Name</th> <th>Mode</th> <th>Size (GB)</th> <th>Status</th> </tr> </thead> <tbody> <tr> <td>Channel Master</td> <td>XXXXXXXXXX</td> <td></td> <td>XXXXX</td> <td>xxx.xx</td> <td>Hdd</td> </tr> <tr> <td>Channel Slave</td> <td>XXXXXXXXXX</td> <td></td> <td>XXXXX</td> <td>xxx.xx</td> <td>Hdd</td> </tr> <tr> <td>Channel Master</td> <td>No Drive</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Channel Slave</td> <td>No Drive</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Channel	Drive Name	Array Name	Mode	Size (GB)	Status	Channel Master	XXXXXXXXXX		XXXXX	xxx.xx	Hdd	Channel Slave	XXXXXXXXXX		XXXXX	xxx.xx	Hdd	Channel Master	No Drive					Channel Slave	No Drive					<p>Serial Number: VJF41646</p>
Channel	Drive Name	Array Name	Mode	Size (GB)	Status																										
Channel Master	XXXXXXXXXX		XXXXX	xxx.xx	Hdd																										
Channel Slave	XXXXXXXXXX		XXXXX	xxx.xx	Hdd																										
Channel Master	No Drive																														
Channel Slave	No Drive																														

Duplicate Critical RAID 1 Array

When booting up the system, BIOS will detect if the RAID 1 array has any inconsistencies between user data and backup data. If BIOS detects any inconsistencies, the status of the disk array will be marked as critical, and BIOS will prompt the user to duplicate the RAID 1 in order to ensure the backup data consistency with the user data.

```

Critical RAID 1
Duplicate array
Continue to boot

Critical Status
The RAID 1 array needs to
be duplicated to ensure
data consistency.

Fault Info Found:
Channel 1 Device 0 Fault

Remaining members of the failed array

Channel  Drive Name  Array Name  Mode  Size(GB)  Status
Channel1 Device0  IC351040RVV07-0  Array0    ATA 100  38.34  Mirror
Channel0 Device0  IC351040RVV07-0  Array0    ATA 100  38.34  Source

Note:
1) Press <ESC> to Exit.
2) After Execute, Press <TAB> immediately can into Utility Window!

```

If user selects **Continue to boot**, it will enable duplicating the array after booting into OS.

Rebuild Broken RAID 1 Array

When booting up the system, BIOS will detect if any member disk drives of RAID has failed or is absent. If BIOS detects any disk drive failures or missing disk drives, the status of the array will be marked as broken.

If BIOS detects a broken RAID 1 array but there is a spare hard drive available for rebuilding the broken array, the spare hard drive will automatically become the mirroring drive. BIOS will show a main interface just like a duplicated RAID 1. Selecting **Continue to boot** enables the user to duplicate the array after booting into operating system.

If BIOS detects a broken RAID 1 array but there is no spare hard drive available for rebuilding the array, BIOS will provide several operations to solve such problems.

```

Broken RAID 1
Power off and check the failed drive
Destroy the Mirroring Relationship
Choose replacement drive and rebuild
Continue to boot

Critical Status
A disk member of a mirroring
array has failed or is not
responding. The array is
still functional but fault
tolerance is disabled.

Remaining members of the failed array

Channel  Drive Name  Array Name  Mode  Size(GB)  Status
Channel0 Device0  IC35L040RVV07-0  Array0    ATA 100  38.34  Broken

Note:
1) Press <ESC> to Exit.
2) After Execute, Press <TAB> immediately can into Utility Window!

```

1. Power off and Check the Failed Drive:

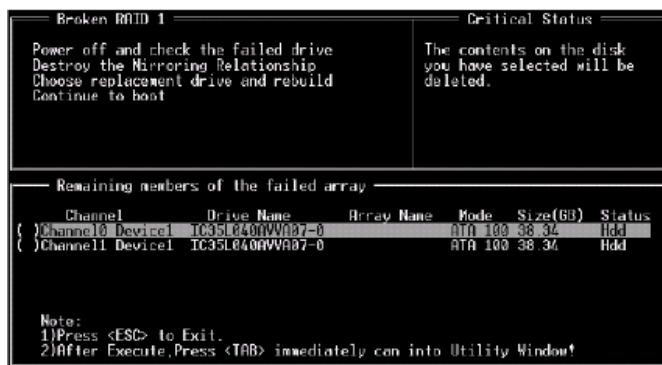
This item turns off the computer and replaces the failed hard drive with a good one. If your computer does not support APM, you must turn off your computer manually. After replacing the hard drive, boot into BIOS and select **Choose replacement drive and rebuild** to rebuild the broken array.

2. Destroy the Mirroring Relationship:

This item cancels the data mirroring relationship of the broken array. For broken RAID 1 arrays, the data on the surviving disk will remain after the destroy operation. However, **Destroy the Mirroring Relationship** is not recommended because the data on the remaining disk will be lost when the hard drive is used to create another RAID 1 array.

3. Choose Replacement Drive and Rebuild:

This item enables users to select an already-connected hard drive to rebuild the broken array. After choosing a hard drive, the channel column will be activated.



Highlight the target hard drive and press <Enter>, a warning message will appear. Press **Y** to use that hard drive to rebuild, or press **N** to cancel. Please note selecting option **Y** will destroy all the data on the selected hard drive.

4. Continue to boot:

This item enables BIOS to skip the problem and continue booting into OS.

Installing RAID Software & Drivers

Install Driver in Windows OS

New Windows OS (2000/XP/NT4) Installation

The following details the installation of the drivers while installing Windows XP.

- 1 Start the installation:
Boot from the CD-ROM. Press **F6** when the message "Press F6 if you need to install third party SCSI or RAID driver" appears.
- 2 When the Windows Setup window is generated, press **S** to specify an Additional Device(s).
- 3 Insert the driver diskette **VIA VT8237 Disk Driver** into drive A: and press <Enter>.
- 4 Depending on your operation system, choose **VIA Serial ATA RAID Controller (Windows XP)**, **VIA Serial ATA RAID Controller (Windows 2000)** or **VIA Serial ATA RAID Controller (Windows NT4)** from the list that appears on Windows XP Setup screen, press the <Enter> key.
- 5 Press <Enter> to continue with installation or if you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, press <Enter> to continue with installation.
- 6 From the Windows XP Setup screen press the <Enter> key. Setup will now load all device files and the continue the Windows XP installation.

Existing Windows XP Driver Installation

- 1 Insert the ECS CD into the CD-ROM drive.
- 2 The CD will auto-run and the setup screen will appear.
- 3 Under the Driver tab, click on **VIA SATA RAID Utility**.
- 4 The drivers will be automatically installed.

Confirming Windows XP Driver Installation

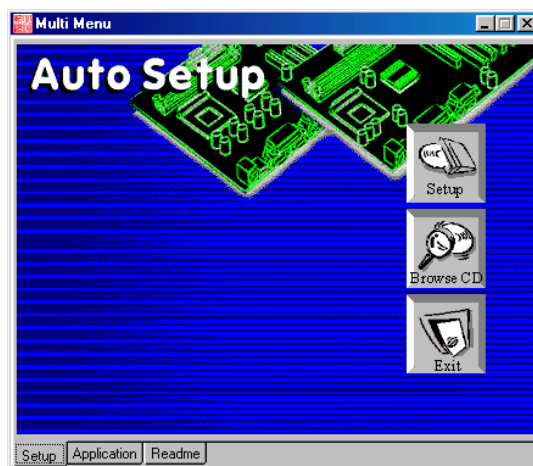
- 1 From Windows XP, open the **Control Panel** from **My Computer** followed by the System icon.
- 2 Choose the **Hardware** tab, then click the **Device manager** tab.
- 3 Click the "+" in front of the **SCSI and RAID Controllers** hardware type. The driver **VIA IDE RAID Host Controller** should appear.

Installation of VIA SATA RAID Utility

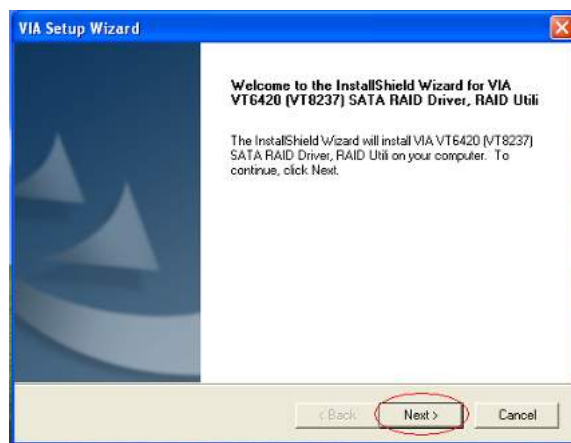
The VIA SATA RAID Utility is the software package that enables high-performance RAID 0 arrays in the Windows*XP operating system. This version of VIA SATA RAID Utility contains the following key features:

- Serial ATA RAID driver for Windows XP
- VIA SATA RAID utility
- RAID0 and RAID1 functions

Insert the ECS CD and click on the **Setup** to install the software.

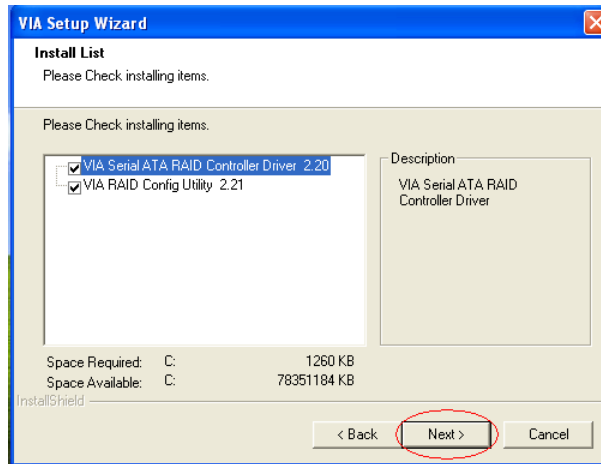


The **InstallShield Wizard** will begin automatically for installation. Click on the **Next** button to proceed the installation in the welcoming window.



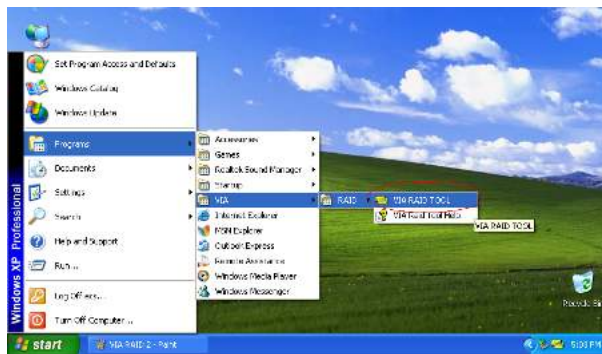
VIA VT8237 SATA RAID Setup Guide


Put a check mark in the check box to install the feature you want. Then click **Next** button to proceed the installation.



Using VIA RAID Tool

Once the installation is complete, go to Start---> Programs---> VIA---> raid_tool.exe to enable VIA RAID Tool.



After the software is finished installation, it will automatically start every time Windows is initiated. You may double-click on the  icon shown in the system tray of the tool bar to launch the **VIA RAID Tool** utility.



The main interface is divided into two windows and the toolbar above contain the main functions. Click on these toolbar buttons to execute their specific functions. The left windowpane displays the controller and disk drives and the right windowpane displays the details of the controller or disk drives. The available features are as following:



View by Controller



View by Devices





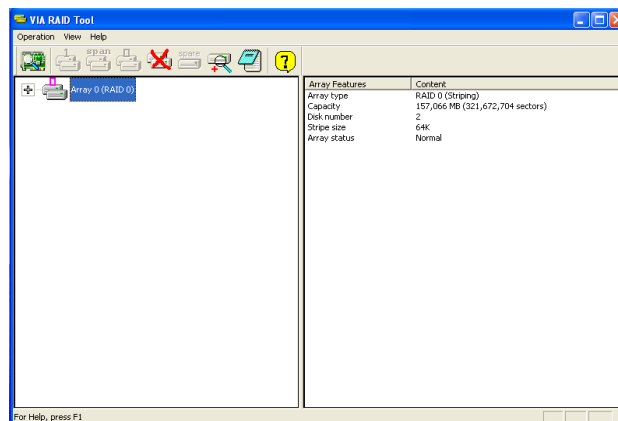
View Event log



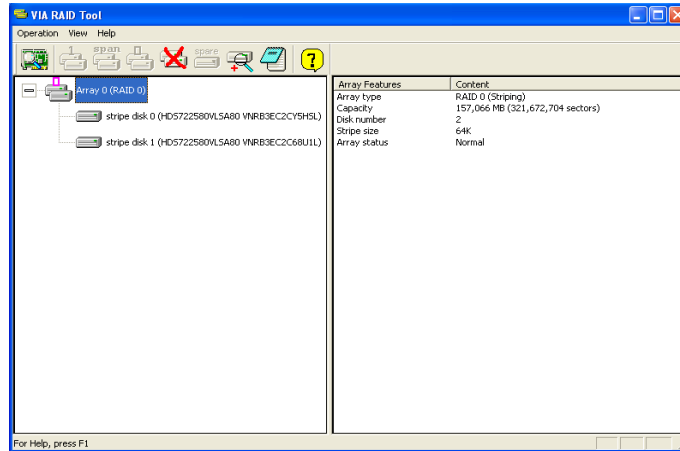
Help Topics

It means that VT8237 SATA RAID only has the feature of monitoring the statuses of RAID 0 and RAID 1.

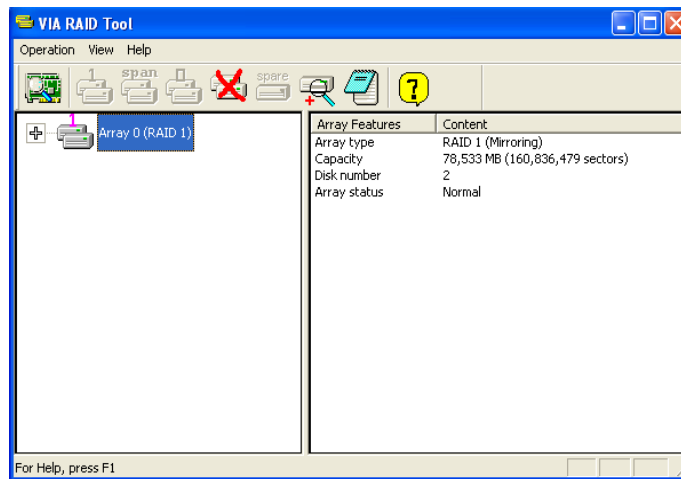
Click on  or  button to determine the viewing type of left windowpane. There are two viewing types: By controllers and by device. Click on the object in the left windowpane to display the status of the object in the right windowpane. The following screen shows the status of Array 0-RAID 0.



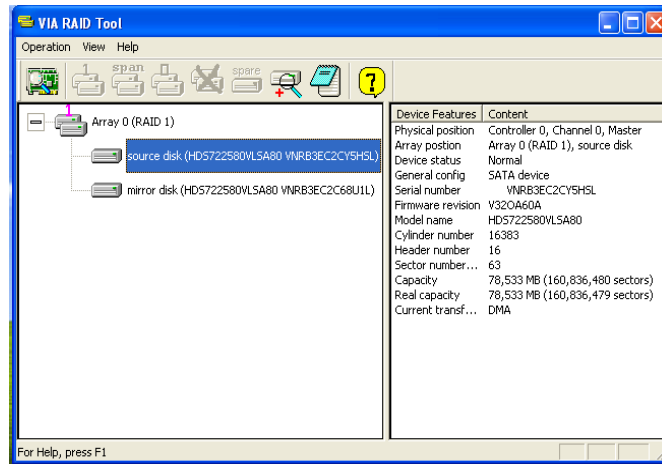
Click on the plus (+) symbol next to Array 0--RAID 0 to see the details of each disk.



You may also use the same  or  button to view the statuses of Array 0--RAID 1.



Click on the plus (+) symbol next to Array 0; RAID 1 to see the details of each disk.



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Memo

Caractéristiques

Processeur

Cette carte mère utilise un type LGA775 de Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D présentant les fonctionnalités suivantes :

- Reçoit des processeurs Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D
- Prend en charge un bus système (FSB) de 1066/800/533/400 MHz
- Prend en charge le CPU de technologie " Hyper-Threading"

La technologie "Hyper-Threading" permet au système d'exploitation de penser qu'il est connecté à deux processeurs, permettant d'exécuter deux threads en parallèle, à la fois sur des processeurs «logiques» séparés dans le même processeur physique.

Chipset

Les chipsets PT890 Northbridge (NB) et VT8237A/VT8237S Southbridge (SB) sont basés sur une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées

PT890 (NB)

- Prend en charge les modes de transfert 66 MHz, 4X/8X, interface d'hôte V-Link avec bande passante totale de 533 Mo/s
- Contrôleur d'hôte 8 bits V-Link de 533 Mo/sec à bande passante élevée
- Contrôleur Graphique et Vidéo 3D/2D UniChrome Pro intégré, compatible Microsoft DirectX 7.0, OpenGL pris en charge
- Contrôleur SDRAM DDR2/DDR2 64 bits avancés et DDR
- Conforme ACPI 2.0 et PCI Bus Management 1.1

VT8237A /VT8237S (SB)

- Prend en charge une interface Hôte Ultra V-Link de 66 MHz en 16 bits avec une bande passante totale de 1 Go/s.
- Conforme aux spécifications PCI 2.3 en 33 MHz, supportant jusqu'à 6 maîtres PCI
- Contrôleurs d'hôte Serial ATA/ Serial ATA II intégrés, prenant en charge des vitesses de transfert jusqu'à 1,5/3,0 Gb/s (Serial ATA II avec VT8237S seulement)
- Contrôleur EIDE de Mode Maître UltraDMA 133/100/66 à Canal double intégré
- Contrôleur USB 2.0, supportant 8 ports USB 2.0
- Contrôleur clavier intégré avec support de souris PS2

Mémoire

- Prend en charge les DIMM DDR2 SDRAM DDR2 533/400
- Jusqu'à 2 Go par DIMM avec une taille de mémoire maximum de 4 Go

Audio (optionnel)

<ul style="list-style-type: none"> • 8 canaux de format PCM 24/20/16-bits de support DAC pour solution audio 7.1 • Tous les ADC prennent en charge la vitesse d'échantillonnage indépendante 48K/192kHz • Dépasse les exigences de Microsoft PC2001 • Entrée CD différentielle de haute qualité • Support d'alimentation : Numérique : 3,3 V; Analogique : 3,3 V/5,0 V
<ul style="list-style-type: none"> • Codec audio haute définition canal 7.1 + 2 • Tous les DAC prennent en charge la vitesse d'échantillonnage de 44,1k/48k/96k/192kHz • Entrée CD différentielle analogique de haute qualité • Conforme aux exigences audio de Microsoft WHQL/WLP 3.0 • Compatible Direct Sound 3D™
<ul style="list-style-type: none"> • Trois DAC stéréo prenant en charge le format PCM 16/20/24 bits pour solution audio de canal 5.1 • ADC prenant en charge la vitesse d'échantillonnage de 44,1k/48k/96k • Conforme aux exigences audio de Microsoft WHQL/WLP 3.0x • Compatible Direct Sound 3D™

LAN interne

Le contrôleur LAN interne offre les caractéristiques suivantes:

<ul style="list-style-type: none"> • Supporte le fonctionnement en Auto-négociation N-Way et 10 /100 Mb/s • Prise en charge de Wake-On-LAN (WOL) et réveil distant. • Prend en charge la capacité half/full duplex
<ul style="list-style-type: none"> • Émetteur-récepteur 10/100/1000 intégré • Prend en charge PCI v2.3, 32 bits, 33/66-MHz • Prise en charge totale avec IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Options d'extension

La carte mère est livrée avec les options d'extensions suivantes:

- Un PCI Express x16 pour Interface Graphique
- Un logement PCI Express x1
- Quatre logements conforme PCI v2.3 32 bits
- Deux connecteurs à profil bas IDE de 40 broches prenant en charge jusqu'à quatre périphériques IDE
- Une interface de lecteur de disquette
- Deux connecteurs SATA à 7 broches

Cette carte mère prenant en charge la maîtrise de bus UltraDMA avec vitesses de transfert de 133/100/66 Mo/s.

E/S intégrées

La carte mère possède un jeu complet de ports d'E/S et de connecteurs:

- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port parallèle
- Quatre ports USB
- Un port LAN (optionnel)
- Prises audio pour microphone, ligne d'entrée et ligne de sortie/sortie à 6/8 canaux (en option)

Microprogramme BIOS

La carte mère utilise AMI BIOS qui permet aux utilisateurs de configurer de nombreuses caractéristiques du système comprenant les suivantes:

- Gestion de l'alimentation
- Alarmes de réveil
- Paramètres de CPU
- Synchronisation du CPU et de la mémoire

Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.



Certaines spécifications matérielles et éléments de logiciels peuvent être modifiés sans avertissement.

Feature

Prozessor

Dieses Motherboard verwendet einen LGA775 Typ Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D mit den folgenden Eigenschaften:

- Nimmt Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D Prozessoren auf
- Unterstützt einen Systembus (FSB) mit 1066/800/533/400 MHz
- Unterstützt eine CPU mit „Hyper-Threading“ Technologie

Bei der „Hyper-Threading“ Technologie „denkt“ das Betriebssystem, dass es an zwei Prozessoren angeschlossen ist. Dadurch können im selben physikalischen Prozessor zwei Threads parallel auf separaten „logischen“ Prozessoren laufen.

Chipsatz

Die Chipsätze PT890 Northbridge (NB) und VT8237A/VT8237S Southbridge (SB) basieren auf einer innovativen und skalierbaren Architektur mit bewiesener Zuverlässigkeit und Leistung.

PT890 (NB)

- Unterstützt Transfermodi von 66 MHz, 4x/8x, V-Link Host-Interface mit einer Bandbreite von insgesamt 533 MB/s
- Unterstützt bis zu zwei PCI Express-Anschlüsse, konfiguriert als ein x16 und ein x1 PCI Express-Lanes
- Fortschrittlicher 64-Bit DDR2/DDR SDRAM-Controller
- Entspricht ACPI 2.0 und PCI Bus Management 1.1

VT8237A /VT8237S (SB)

- Unterstützt 16-Bit 66 MHz Ultra V-Link Host-Interface mit einer Bandbreite von insgesamt 1 GB/s
- Entspricht den Richtlinien der PCI 2.3- spezifikationen von 33 MHz, mit einer Unterstützung von bis zu 6 PCI Master
- Integrierte Serial ATA/ Serial ATA II Host-Controller, unterstützen Datentransferraten von bis zu 1.5/3.0 Gb/s (nur Serial ATA II mit VT8237S)
- Eingebauter Doppel-Kanal UltraDMA 133/100/66 Master Modus EIDE-Controllerr
- USB 2.0 Controller, mit einer Unterstützung für 8 USB 2.0 Steckvorrichtungen
- Eingebauter Tastatur-Controller mit einer PS2-Maus-Unterstützung

Speicher

- Unterstützt DDR2 533/400 DDR2 SDRAM DIMMs
- Bis zu 2 GB pro DIMM mit maximaler Speicherkapazität von bis zu 4 GB.

Audio (Optional)

<ul style="list-style-type: none"> • 8-Kanal DAC Unterstützung 24/20/16-Bit PCM-Format für 7.1 Audio • Alle ADCs unterstützen eine unabhängige Samplingrate von 48K/192kHz • Hochwertiger Differential-CD-Eingang • Übertrifft Microsoft PC2001 Anforderungen • Netzteilunterstützung: Digital: 3,3V; Analog: 3,3V/5,0V
<ul style="list-style-type: none"> • 7.1 + 2 Kanal High-Definition Audio-Codec • Alle DACs unterstützen eine Samplingrate von 44.1k/48k/96k/192kHz • Hochwertiger analoger Differential-CD-Eingang • Erfüllt Audioanforderungen für Microsoft WHQL/WLP 3.0 • Kompatibel mit Direct Sound 3D™
<ul style="list-style-type: none"> • Drei Stereo-DACs unterstützen 16/20/24-Bit PCM-Format für 5.1 Kanal-Audiolösung • ADCs unterstützen eine Samplingrate von 44.1k/48k/96k • Entspricht den Anforderungen von Microsoft WHQL/WLP 3.0x • Kompatibel mit Direct Sound 3D™

Integriertes LAN(Optional)

Der Onboard-LAN-Kontrolller hat folgende Eigenschaften:

<ul style="list-style-type: none"> • Unterstützt den Betrieb bei 10/100 Mb/s N-Way Auto-Negotiation • Unterstützung für Wake-on-LAN(WOL) und Remote Wake-up • Unterstützt Halb-/Voll duplex
<ul style="list-style-type: none"> • Enthält 10/100/1000 Transceiver • Unterstützung von PCI v2.3, 32-Bit, 33/66-MHz • Volle Unterstützung mit IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Erweiterungsoptionen

Das Motherboard bietet die folgenden Erweiterungsoptionen:

- Ein PCI-Express x16 für eine Grafikschnittstelle
- Ein PCI Express x1 Steckplatz
- Vier 32-bit PCI v2.3-Steckplätze
- Zwei 40-Pin IDE Flachstecker, die bis zu 4 IDE-Geräte unterstützen
- Ein Steckplatz für ein Diskettenlaufwerk
- Zwei 7-Pin SATA-Stecker

Dieses Motherboard unterstützt UltraDMA Bus Mastering mit einer Übertragungsrate von 133/100/66 MB/Sek.

Integrierte I/O-Schnittstellen

Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:

- Zwei PS/2-Schnittstellen für Tastatur und Maus
- Eine serielle Schnittstelle
- Eine parallele Schnittstelle
- Vier USB-Schnittstellen
- Eine LAN-Schnittstelle (optional)
- Audiobuchsen für Mikrofon, Line-in und 6/8-Kanal (optional) Line-out

Multi-Language Translation

BIOS Firmware

Dieses Motherboard setzt das AMI BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden:

- Energieverwaltung
- Wake-up Alarm
- CPU-Parameter
- CPU- und Speichertiming

Mit der Firmware können auch Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.



Einige Hardware- und Software-Spezifikationen können jederzeit und ohne vorherige Ankündigung geändert werden.

Caratteristiche

Processore

Questa scheda madre utilizza un tipo LGA775 di Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D che offre le seguenti caratteristiche:

- Alloggia processori Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D
- Supporto di un bus di sistema (FSB) da 1066/800/533/400 MHz
- Supporto di CPU con tecnologia "Hyper-Threading"

La tecnologia "Hyper-Threading" simula per il sistema operativo una sorta di doppio processore e consente a due processi di essere eseguiti in parallelo, ciascuno su un diverso processore "logico" all'interno del medesimo processore fisico.

Chipset

Il chipset PT890 Northbridge (NB) e VT8237A/VT8237S Southbridge (SB) è basato su un'innovativa architettura scalabile e offre affidabilità e prestazioni comprovate.

- PT890 (NB)**
- Supporto di interfaccia per V-Link a 66 MHz, modalità di trasferimento 4X/8X, con larghezza di banda totale di 533 MB/s
 - Supporto di fino a due porte PCI Express, configurate una come corsia PCI Express x16 e una come corsia PCI Express x1
 - Controller SDRAM DDR2/DDR a 64 bit avanzato
 - Conforme ad ACPI 2.0 e PCI Bus Management 1.1

- VT8237A /VT8237S (SB)**
- Supporto di interfaccia per Host Ultra V-Link a 66 MHz a 16 bit con larghezza di banda totale di 1 GB/s
 - Conforme alle specifiche PCI 2.3 a 33 MHz, in grado di supportare fino a 6 master PCI.
 - Host controller Serial ATA/Serial ATA II integrati, con supporto di velocità di trasferimento dati fino a 1,5/3,0 Gb/s (solo Serial ATA II con VT8237S)
 - Controller Master integrato UltraDMA a due canali 133/100/66 Master Mode EIDE Controller
 - Controller USB 2.0, in grado di supportare sino a 8 porte USB 2.0.
 - Controller integrato per la Tastiera e supporto mouse PS2

Memoria

- Supporto di DIMM SDRAM DDR2 DDR2 533/400
- Dimensione massima della DIMM pari ad 2 GB per un ammontare massimo di 4 GB di memoria

Audio (opzionale)

<ul style="list-style-type: none"> • 8 canali per formato PCM a 24/20/16 bit con supporto DAC per soluzioni audio 7.1 • Tutti i convertitori ADC supportano una velocità di campionamento indipendente di 48 K/192 kHz • Superiore ai requisiti Microsoft PC2001 • Ingresso CD differenziale ad alta qualità • Supporto alimentazione: Digitale: 3,3 V; Analogico: 3,3 V/5,0 V
<ul style="list-style-type: none"> • Codec audio ad alta definizione a 7.1 + 2 canali • Supporta i DAC con sample rate a 44.1k/48k/96k/192kHz • Ingresso CD analogico differenziale ad alta qualità • Rispetta i requisiti audio Microsoft WHQL/WLP 3.0 • Compatibile Direct Sound 3D™
<ul style="list-style-type: none"> • Tre DAC stereo supportano il formato PCM a 16/20/24 bit per soluzioni audio a 5.1 canali • Supporta ADC con sample rate di 44.1k/48k/96k • Conforme ai requisiti audio di WHQL e WLP 3.0x di Microsoft • Compatibile con Direct Sound 3D™

LAN integrata (opzionale)

La funzionalità LAN integrata sulla scheda offre le seguenti caratteristiche:

<ul style="list-style-type: none"> • Supporto di NWay Auto-negotiation a 10/100 Mb/s • Supporto di funzionalità Wake-on-LAN e riattivazione remota • Supporto di funzionalità half/full duplex
<ul style="list-style-type: none"> • Transceiver 10/100/1000 integrato • Supporta PCI v2.3, 32-bit, 33/66-MHz • Completamente conforme con l'IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Opzioni di espansione

La scheda madre è dotata delle seguenti opzioni di espansione:

- Un PCI Express x16 per interfaccia grafica
- Uno slot PCI Express x1
- Quattro slot PCI v2.3 a 32 bit
- Due connettori a basso profilo IDE a 40 pin per il supporto di fino a quattro dispositivi IDE
- Un'interfaccia per unità disco floppy
- Due connettori SATA a 7 pin

Questa scheda madre supporta bus master UltraDMA con tasso di trasferimento di 133/100/66 MB/s.

I/O integrati

La scheda madre offre una serie completa di porte e connettori I/O:

- Due porte PS/2 per mouse e tastiera
- Una porta seriale
- Una porta parallela
- Quattro porte USB
- Una porta LAN (opzionale)
- Prese jack audio per microfono, line-in e line-out a 6/8 canali (opzionale)

Firmware BIOS

La scheda madre si avvale del BIOS AMI che consente la configurazione personalizzata di molte funzionalità del sistema, tra cui:

- Gestione dell'alimentazione
- Allarmi di attivazione
- Parametri CPU
- Sincronizzazione di CPU e memoria

Il firmware consente inoltre di impostare i parametri per diverse velocità di clock del processore.



Alcune specifiche hardware e voci di software possono essere modificate senza preavviso.

Característica

Procesador

Esta placa principal usa un tipo LGA775 de Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D que lleva las sigtes características:

- Acomoda procesadores Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D
- Soporta un bus de sistema (FSB) de 1066/800/533/400 MHz
- Soporta la CPU con tecnología "Hyper-Threading"

La tecnología "Hyper-Threading" habilita el sistema operativo en pensar que está conectado a dos procesadores, que permite dos hilos a correr en paralelo, ambos en procesadores "lógicos" separados dentro de un mismo procesador físico.

Chipset

El chipset PT890 Northbridge (NB) y VT8237A/VT8237S Southbridge (SB) se basa de una arquitectura innovadora y escalable con el rendimiento y fiabilidad comprobados.

PT890 (NB)

- Soporta modos de transferencia 66 MHz, 4x/8x, interfaz V-Link Host con la ancha de banda total de 533 MB/s
- Soporta hasta dos puertos PCI Express, configurado como una línea x16 y una línea x1 PCI Express
- Controlador 64-bit DDR2/DDR SDRAM avanzado
- Conformidad de ACPI 2.0 y PCI Bus Management 1.1

VT8237A / VT8237S (SB)

- Soporta interfaz 16-bit 66 MHz Ultra V-Link Host con ancha de banda total de 1GB/s
- Conforme con la especificación PCI 2.3 en 33 MHz, que soporta hasta 6 másters de PCI
- Controladores Anfitriones Serial ATA/ Serial ATA II integrados, soporta índices de transferencia de datos hasta 1.5/3.0 Gb/s (Serial ATA II con VT8237S solamente)
- Controlador EIDE del Modo Máster UltraDMA 133/100/66 de Canal Dual integrado
- Controlador USB 2.0, con soporte para 8 puertos USB 2.0
- Controlador de teclado integrado con soporte de ratón PS2

Memoria

- Soporta SDRAM DIMMs de DDR2 533/400 DDR2 sin buffer
- Hasta 2 GB por DIMM con el tamaño de memoria máximo hasta 4 GB

Audio(optativo)

<ul style="list-style-type: none"> • 8 canales de formato PCM de 24/20/16-bit de soporte DAC para la solución de audio 7.1 • Todos los ADCs soportan Índice de Muestreo Independiente de 48K/192kHz • Excede los Requisitos de Microsoft PC2001 • Entrada de CD diferencial de alta calidad • Soporte de suministro: Digital: 3.3V; Analógico: 3.3V/5.0V
<ul style="list-style-type: none"> • Codec de Audio de Alta Definición de Canal 7.1 + 2 • Todos los DACs soportan el índice de muestreo 44.1k/48k/96k/192kHz • Entrada de CD diferencial analógica de alta calidad • Obedece a los requisitos de audio de Microsoft WHQL/WLP 3.0. • Compatible con Direct Sound 3D™
<ul style="list-style-type: none"> • Tres DACs Estéreo soportan formato PCM de 16/20/24-bit para la solución de audio de canal 5.1 • ADCs soportan índice de muestreo de 44.1k/48k/96k • Satisface los requisitos de audio de Microsoft WHQL/WLP 3.0x • Compatible con Direct Sound 3D™

LAN Abordo (optativo)

El controlador LAN abordo provee las sigtes. características:

<ul style="list-style-type: none"> • Soporta operación de Autonegociación N-Way de 10/100 Mb/s • Soporta la función Wake-On-LAN y despertar remoto • Soporta capacidad duplex medio/completo
<ul style="list-style-type: none"> • Transceptor 10/100/1000 integrado • Soporta PCI v2.3, 32-bit, 33/66-MHz • Soporte completo con el IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Opciones de Expansión

La placa principal viene con las sigtes. opciones de expansión:

- Un PCI Express x16 para la Interfaz de Gráficas
- Una ranura PCI Express x1
- Cuatro ranuras conforme con 32-bit PCI v2.3
- Dos conectores de bajo perfil IDE de 40-pin que soporta hasta 4 dispositivos IDE
- Una interfaz de la unidad de disco floppy
- Dos conectores SATA de 7-pin

Esta placa principal soporta el mastering de bus UltraDMA con índices de transferencia de 133/100/66 MB/s.

I/O Integrado

La placa principal tiene un juego completo de puertos y conectores I/O:

- Dos puertos PS/2 para ratón y teclado
- Un puerto serial
- Un puerto paralelo
- Cuatro puertos USB
- Un puerto LAN (optativo)
- Clavijas de Audio para micrófono, line-in y line-out de 6/8-canales (opcional)

BIOS Firmware

La placa principal usa AMI BIOS que habilita usuarios para configurar muchas características de sistema que incluyen las sigtes:

- Administración de Alimentación
- Alarmas para despertar
- Parámetros de CPU
- Cronometraje de CPU y de memoria

También se lo puede usar el firmware para configurar los parámetros para diferentes velocidades de reloj de procesador.



Algunas especificaciones de hardware e ítems de software son sujetos a cambio sin aviso previo.

Características

Processador

Esta motherboard usa um tipo LGA775 de Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D que possui as seguintes características:

- Acomoda processadores Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D
- Suporta um bus de sistema (FSB) de 1066/800/533/400 MHz
- Suporta CPU de tecnologia “Hyper Threading”

Tecnologia “Hyper Threading” que permite ao sistema funcionar de forma interligada até dois processadores, permitindo que os dois fios possam funcionar em paralelo, ambos em processadores “lógicos” separados dentro do mesmo processador físico.

Conjunto de Chips

Um conjunto de chips PT890 Northbridge (NB) e VT8237A/VT8237S Southbridge (SB) é baseado numa arquitetura inovadora e escalável com uma performance comprovadamente credível.

PT890 (NB)

- Suporta modos de transferência 66 MHz, 8X/4X, interface V-Link Host com largura de banda total de 533 MB/seg.
- Suporta até duas portas PCI Express, configurado como uma x16 e uma x1 via PCI Express
- Controlador DDR SDRAM e DDR2 Avançado de 64 bits
- Compatível com ACPI 2.0 e Gestão de Bus PCI 1.1

VT8237A /VT8237S (SB)

- Suporta um interface 66 MHz Ultra V-Link Host de 16 bits com largura de banda total de 1 GB/seg.
- Compatível com especificação PCI 2.3 a 33 MHz, suportando mais de 6 PCI mestres
- ATA de Série integrado/ Controladores Host ATA II de Série, suportando taxas de transferência de dados até 1.5/3.0 Gb/seg. (ATA II de Série com somente VT8237S)
- Canal Duplo Integrado UltraDMA 133/100/66 Modo Mestre EIDE Controlador
- Controlador USB 2.0, suportando portos para 8 USB 2.0
- Controlador de teclado integrado com suporte para mouse PS2

Memória

- Suporta DDR2 533/400 DDR2 SDRAM DIMMs
- Até 2 GB por DIMM com tamanho de memória máxima de até 4 GB

Áudio (opcional)

- Formato 24/20/16-bit PCM com suporte DAC de 8 canais para solução áudio 7.1
- Todos os ADCs suportam uma Taxa de Amostragem Independente de 48K/192kHz
- Excede os requisitos Microsoft PC2001
- Entrada de CDs de diferencial de alta qualidade
- Suporte de potência: Digital: 3.3 V; Analógica: 3.3 V/ 5.0 V

- Codec Áudio de Alta Definição com 7.1 + 2 Canais
- Todos os DACs suportam uma taxa de amostragem de 44.1k/48k/96k/192kHz
- Entrada de CDs de diferencial analógica de alta qualidade
- Cumpre com os requisitos áudio WHQL/WLP 3.0 da Microsoft.
- Compatível com Direct Sound 3D™

- Três DACs Estéreo que suportam 16/20/24-bits e formato PCM para solução áudio canal 5.1
- ADCs suportam taxa de amostragem de 44.1k/48k/96k
- Cumpre com os requisitos áudio WHQL/WLP 3.0x da Microsoft audio
- Compatível com Direct Sound 3D™

Onboard LAN (opcional)

Esta motherboard poderá suportar qualquer um dos seguintes conjuntos de chips LAN:

- Suporta operação de Auto-negociação N-Way 10/100 Mb/s
- Suporte Wake-on-LAN (WOL) e wake-up remoto
- Suporta capacidade de duplex pela metade/ou na totalidade

- Transreceptor integrado 10/100/1000
- Suporta PCI v2.3, 32-bit, 33/66-MHz
- Suporta inteiramente com IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Opções de Expansão

A motherboard é fornecida com as seguintes opções de expansão:

- Um PCI Express x16 para Interface de Gráficos
- Uma ranhura PCI Express x1
- Quatro ranhuras compatíveis com PCI v2.3 de 32 bits
- Dois conectores de baixo perfil IDE de 40 pinos suportando até 4 dispositivos IDE
- Um interface com drive de disco flexível
- Dois conectores SATA de 7 pin

Esta motherboard suporta um domínio bus UltraDMA bus com taxas de Transferência de 133/100/66 MB/s.

I/O Integrado

A motherboard possui um conjunto completo de portas I/O e conectores:

- Duas portas PS/2 para rato e teclado
- Uma porta de série
- Uma porta paralela
- Quatro portas USB
- Uma porta LAN (opcional)
- Fichas áudio para microfone, line-in e line-out de 6/8-canais (opcional)

Multi-Language Translation

Microprogramação BIOS

Esta motherboard usa AMI BIOS que permitem aos utilizadores configurar muitas características do sistema incluindo as seguintes:

- Gestão de corrente
- Alarmes de despertar
- Parâmetros CPU
- Temporização de memória e CPU

A microprogramação poderá ser também usada para estabelecer parâmetros para diferentes velocidades de relógio do processador.



Algumas especificações de hardware e itens de software poderão ser sujeitos a alteraçõessem aviso prévio.

機能

プロセッサ

本マザーボードは Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D 向けの LGA775ソケットを採用しており、そのソケットには次の特徴があります：

- Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D プロセッサに対応
- 1066/800/533/400 MHzのシステムバス(FSB)をサポート
- “ハイパースレッド” 技術をサポート

ハイパースレッド (HT) 技術というのは、オペレーションシステムに2つのプロセッサが存在すると認識させることで、実際には2つのスレッドを1つのプロセッサで同時に執行させ、平行利用を可能とする技術です。

チップセット

PT890 Northbridge (NB)と VT8237A/VT8237S Southbridge (SB)チップセットは、実証された信頼性と性能を持つ革新的で拡張性のあるアーキテクチャに基づいています。

- PT890 (NB)**
- 66 MHz 4xと8x 転送モードの V-Link インターフェースで合計533 MB/秒の帯域幅を実現
 - 2つのPCI Expressポートをサポートし、x16とx1のPCI Express レインに設定可能
 - 新型の64ビットDDR2 およびDDR SDRAM コントローラ
 - “ACPI 2.0 and PCI Bus Management 1.1”規格に対応

- VT8237A/VT8237S (SB)**
- 16ビット66 MHzのUltra V-Link ホストインターフェースで1 GB/秒の帯域幅を提供
 - 33MHzでのPCI 2.3規格に準拠することで、最大6つまでのPCIマスター設備の取り付けを可能
 - シリアルATA/ シリアルATA IIホストコントローラを内蔵済みで、データ転送率を最大1.5/3.0 Gb/秒 (シリアルATA IIとVT8237Sの併用場合のみ)まで実現
 - 内蔵式のテュアルチャネルUltraDMA133/100/66マスターモードEIDEコントローラ
 - USB2.0仕様コントローラ (8つのUSB2.0仕様のポートに対応可能)
 - PS2マウス対応のキーボードコントローラを内蔵

メモリ

- 非バッファードDDR2 533/400 DDR2 SDRAM DIMMをサポート
- 各DIMMスロットに2 GBまで装着可能で、合計4 GBまでサポート

オーディオ(オプション)

<ul style="list-style-type: none"> 8チャンネルのDACで、7.1オーディオソリューションの24/20/16-bit PCM形式をサポート すべてのADCで、48K/192kHzの独立サンプリングレートが可能 Microsoft PC2001規格要求またはそれ以上対応 高品位の差動アナログCD入力 電源サポート: デジタルの場合は 3.3V、アナログの場合は3.3V/5.0V
<ul style="list-style-type: none"> 7.1 + 2 チャンネルの高品位オーディオ・コダック 44.1k/48k/96k/192kHz のサンプリングがすべてのDACで可能 高品位の差動アナログCD入力 Microsoft WHQL/WLP 3.0 オーディオ規格に準拠 Direct Sound 3D™ に対応
<ul style="list-style-type: none"> 5.1チャンネル・オーディオ・ソリューションの16/20/24ビットPCM形式に対応するステレオDACが3つ ADCでは44.1k/48k/96kのサンプリング・レートをサポート Microsoft WHQL/WLP 3.0x オーディオ要求に適合 Direct Sound 3D™ に対応

オンボードLAN

オンボードLANコントローラで次のいずれかの機能を提供します:

<ul style="list-style-type: none"> 10/100 Mb/s N-way自動ネゴシエーション動作をサポート Wake-on-LAN (WOL)およびリモート起動の機能をサポート 半/全二重の機能をサポート
<ul style="list-style-type: none"> 10/100/1000 トランシーバーを搭載済み PCI v2.3, 32-bit, 33/66-MHzへの対応 IEEE 802.3、IEEE 802.3u、IEEE 802.3abへの全面対応

拡張オプション

本マザーボードでは、次の拡張機能が利用できます。

- グラフィック用のPCI Express x16 インターフェース が1つ
- PCI Express x1 スロットが1つ
- 32ビットPCI v2.3 互換性スロットが4つ
- 40ピンIDEコネクタが2つ(計4つまでのIDE装置の接続を可能に)
- フロッピーディスクドライブインターフェイス が1つ
- 7ピンSATAコネクタ が2つ

このマザーボードは、133/100/66 MB/秒の転送速度でのUltra DMAバスマスタリングをサポートします。

統合の入出力ポート

マザーボードには、次のI/Oポートやコネクタを揃えています。

- マウスとキーボード用のPS/2ポート が2つ
- シリアルポート が1つ
- パラレルポート が1つ
- USBポート が4つ
- LANポート が1つ(オプション)
- マイクロホン、ライン入力、6/8チャンネル(オプション)ライン入力のオーディオジャック

BIOSファームウェア

本マザーボードはAMI BIOSを採用し、次の機能を含む多様なシステムの構成をサポートします。

- 電源管理
- ウェークアップアラーム
- CPUパラメータ
- CPUとメモリとのタイミング

さらに、所定のパラメータを設定することによって、プロセッサのクロック速度を変更することもできます。



一部のハードウェア仕様とソフトウェアアイテムは、予告なしに変更することがあります。

특성

프로세서

본 마더보드는 LGA775 타입 Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D를 사용하며 다음과 같은 특성을 지닌다:

- Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D 프로세서 사용
- 1066/800/533/400 MHz 의 시스템 버스 (FSB) 지원
- "Hyper-Threading" 기술의 CPU 지원

"Hyper-Threading" 기술은 운영 체제가 두개의 프로세서에 연결되어 있는 것처럼, 두 트래드가 동일한 물리적 프로세서 안에 있으면서도 각기 다른 "논리적" 프로세서에서 패러럴로 실행되게 한다.

칩셋

PT890 Northbridge (NB) 및 VT8237A/VT8237S Southbridge (SB) 칩셋은 혁신적이고 확장성을 지닌 아키텍처를 기반으로 확인된 안정성과 성능을 제공한다.

PT890 (NB)

- 66 MHz, 8X/4X 전송 모드, V-Link 호스트 인터페이스 총 대역폭 533 MB/s 지원
- 최대 2 개의 PCI Express 포트 지원(x16 + PCI Express lane)
- 고급 64 비트 DDR2/DDR SDRAM 컨트롤러
- ACPI 2.0 및 PCI Bus Management 1.1 부합

VT8237A/ VT8237AS (SB)

- 16 비트 66 MHz Ultra V-Link 호스트 인터페이스 총 대역폭 1 GB/s 지원
- 33 MHz에서 PCI 2.3 사양 호환, 최대 6 PCI 마스터 지원
- 통합 Serial ATA/ Serial ATA II 호스트 컨트롤러, 데이터 전송 속도 최대 1.5/3.0 Gb/s (VT8237S 탑재 Serial ATA II 만 해당) 지원
- 통합 듀얼 채널 UltraDMA 133/100/66 마스터 모드 EIDE 컨트롤러
- USB 2.0 컨트롤러, 8 USB 2.0 포트 지원
- PS2 마우스 지원 통합 키보드 컨트롤러

메모리

- Unbuffered DDR2 533/400 DDR2 SDRAM DIMM 지원
- DIMM 당 최대 2 GB, 최대 메모리 4 GB

오디오 코덱(선택 사항)

<ul style="list-style-type: none">• 8 채널 DAC, 7.1 오디오 솔루션을 위해 24/20/16 비트 PCM 포맷 지원• 모든 ADC의 48K/192kHz 독립적 샘플 속도 지원• Microsoft PC2001 요구사항 부합• 고품질 아차별적 CD 입력• 전원 지원: 디지털: 3.3 V; 아날로그: 3.3 V/5.0 V
<ul style="list-style-type: none">• 7.1 + 2 채널 High Definition Audio 코덱• 모든 DAC의 44.1k/48k/96k/192kHz 샘플 속도 지원• 고품질 아날로그 차별적 CD 입력• 마이크로소프트 WHQL/WLP 3.0 오디오 요구에 부합• Direct Sound 3D™ 호환
<ul style="list-style-type: none">• 3 개의 스테레오 DAC*로 5.1 채널 오디오 솔루션을 위한 16/20/24 비트 PCM 포맷 지원• ADCs 44.1k/48k/96k 샘플 속도 지원• 마이크로소프트 WHQL/WLP 3.0x 오디오 요구 조건 부합• Direct Sound 3D™ 호환

보드 내장 LAN (선택 사항)

보드 내장 LAN 컨트롤러는 다음과 같은 특징을 제공한다:

<ul style="list-style-type: none">• 10/100 Mb/s N-Way Auto-negotiation 작업 지원• Wake-on-LAN 및 원격 wake-up 지원• Half/full 듀플렉스 지원
<ul style="list-style-type: none">• 통합 10/100/1000 트랜시버• PCI v2.3, 32-bit, 33/66-MHz 지원• IEEE 802.3, IEEE 802.3u, IEEE 802.3ab 전적으로 지원

확장 옵션

본 마더보드의 확장 옵션은 다음과 같다:

- 그래픽 인터페이스를 위한 PCI 익스프레스 x16 1 개
- PCI Express x1 슬롯 1 개
- 32 비트 PCI v2.3 호환 슬롯 4 개
- 최대 4 개의 IDE 장치를 지원하는 40 핀 IDE low profile 커넥터 2 개
- 플로피 디스크 드라이브 인터페이스 1 개
- 7 핀 SATA 커넥터 2 개

본 마더보드는 마더보드는 전송 속도 133/100/66 MB/s의 UltraDMA 버스 마스터링을 지원한다.

통합 I/O

본 마더보드는 풀 셋트의 I/O 포트 및 커넥터가 있다:

- 마우스 및 키보드용 PS/2 포트 2 개
- 시리얼 포트 1 개
- 패러럴 포트 1 개
- USB 포트 4 개
- LAN 포트 1 개 (선택 사항)
- 오디오 잭 (마이크, 라인 입력 및 6/8 채널 (옵션) 라인 출력용)

Multi-Language Translation

BIOS 펌웨어

본 마더보드는 다음과 같은 시스템 특성을 구성할 수 있는 AMI BIOS 를 사용한다:

- 전원 관리
- Wake-up 알람
- CPU 파라미터
- CPU 및 메모리 타이밍

펌웨어로 다른 프로세서 클럭 속도의 파라미터를 설정할 수도 있다.



몇 하드웨어 사양 및 소프트웨어 아이템은 사전 통보 없이 변경될 수 있습니다.

功能

處理器

本主機板採用 Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D 型之LGA775插座，具有如下功能：

- 支援Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D 處理器
- 支援高達1066/800/533/400 MHz之前端匯流排(FSB)
- 支援使用超執行緒(Hyper-Threading)技術之CPU

利用“超執行緒(HT)”技術，可使作業系統在相當於裝上了兩具處理器的狀態下運作：利用一個“實體”處理器模擬出兩個獨立的“邏輯”處理器，同時執行兩個工作緒。

晶片組

PT890 北橋(NB)及VT8237A/VT8237S 南橋(SB)晶片組在研發設計上採用了創新且具擴充性之架構，具備優良的可靠性及性能。

PT890 (NB)

- 支援66 MHz之4X及8X傳輸模式的V-Link介面，提供合計高達533 MB/秒的頻寬
- 支援兩個PCI Express插槽，可組態設定一個x16 及一個x1 PCI Express 通道
- 先進之64位元 DDR2 及 DDR SDRAM 控制器
- 相容於ACPI 2.0暨PCI 匯流排管理第1.1版規格

VT8237A/ VT8237S (SB)

- 支援 16位元、66 MHz的Ultra V-Link 主控介面，總頻寬高達1GB/秒
- 相容於33MHz的PCI v2.3規格(支援6個PCI主控器)
- 內建串列ATA/串列ATA II 主控器，支援資料傳輸率高達1.5/3.0 Gb/秒 (僅串列ATA II 及VT8237S時)
- 內建有雙通道Ultra 133/100/66主控模式EIDE控制器
- USB2.0控制器(支援8個USB2.0埠)
- 內建有支援PS2滑鼠之鍵盤控制器

記憶體

- 支援 非緩衝DDR2 533/400 DDR2 SDRAM 雙直列記憶體模組
- 各插槽可安裝2 GB記憶體，共可支援高達4 GB的記憶體容量

音訊(選購)

<ul style="list-style-type: none">• 配備8通道之DAC，可支援 7.1音訊解決方案之24/20/16-bit PCM 格式• 所有ADC支援 48k/192kHz 獨立取樣率• 符合並超越Microsoft PC2001規格要求• 高品質類比微分CD輸入• 電源支援： 3.3V(數位)、3.3V/5.0V(類比)
<ul style="list-style-type: none">• 7.1 + 2 聲道高傳真音效編解碼器• 所有DAC均支援 44.1k/48k/96k/192kHz 取樣率• 高品質類比微分CD輸入• 符合Microsoft WHQL/WLP 3.0 音訊規格• Direct Sound 3D™ 相容
<ul style="list-style-type: none">• 3個立體聲數位類比轉換器(DAC)，支援5.1聲道音效解決方案的16/20/24位元PCM格式• 類比數位轉換器(ADC)支援44.1k/48k/96k的取樣率• Microsoft WHQL/WLP 3.0x 音訊規格相容• Direct Sound 3D™ 相容

內建區域網路

本主機板搭載有如下其中一種LAN晶片組：

<ul style="list-style-type: none">• 支援 10Mb/s 及100Mb/s N-way 自動協調運作• 支援區域網路喚醒(WOL)及遠端喚醒功能• 支援半/全雙工功能
<ul style="list-style-type: none">• 整合有10/100/1000 收發器• 支援PCI v2.3, 32位元, 33/66 MHz• 完全支援IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

擴充選項

本主機板包括下列擴充選項：

- 1個繪圖卡用PCI Express x16 介面
- 1個PCI Express x1 插槽
- 4個32位元PCIv2.3插槽
- 2個40針IDE低通連接器，可連接4個 IDE裝置
- 1個軟碟機介面
- 2個7針SATA插頭

本主機板支援傳輸率133/100/66 MB/秒下的Ultra DMA 匯流排主控功能。

整合 I/O

主機板具有一組齊全的 I/O 連接埠及連接頭：

- 2 個 PS/2 埠，供滑鼠與鍵盤使用
- 1 個串列埠
- 1 個平行埠
- 4 個USB埠
- 1 個區域網路埠(選購)
- 具有麥克風、Line級輸入及6/8聲道(選項)Line級輸出的音訊端子

BIOS 韌體

本主機板使用AMI BIOS，使用者可以組態設定許多系統功能，包括如下：

- 電源管理
- 喚醒警鈴
- CPU參數
- CPU及記憶體の時脈定時

此外，也可藉由參數的設定，調整處理器的時脈速度。



部份硬體規格和軟體內容可能會在未經通知的情況下更動，敬請見諒。

功能

处理器

此主板使用 LGA775 型 Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D CPU，具备以下特点

- 支持 Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D 处理器
- 支持 1066/800/533/400 MHz 系统总线 (FSB)
- 支持“多线程”技术 CPU

“多线程”技术可以让操作系统认为自己连接了两个处理器，允许两个线程并行运行，每个线程位于同一处理器中的单独“逻辑”处理器中。

芯片组

PT890 北桥 (NB) 和 VT8237A/VT8237S 南桥 (SB) 芯片组是基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。

PT890 (NB)

- 支持 66 MHz 4x 和 8x 传输模式，支持 V-Link 接口，总带宽可达 533 MB/s
- 支持 2 个 PCI Express 端口，配置为一个 x16 和一个 x1 PCI Express lane
- 增强 64 位 DDR2 和 DDR SDRAM 控制器
- 符合 ACPI 2.0 和 PCI 总线管理 1.1 规格

VT8237A/ VT8237S (SB)

- 支持 16 位 66 MHz、Ultra V-Link 主机接口，1 GB/sec 总带宽
- 符合 33 MHz 下的 PCI 2.3 规格，最大支持 6 个 PCI 主控
- 集成 Serial ATA/ Serial ATA II 主机控制器，支持 1.5/3.0 Gb/s 数据传输速率（仅 Serial ATA II 带有 VT8237S）
- 集成双通道 UltraDMA 133/100/66 主控模式 EIDE 控制器
- USB 2.0 控制器，支持 8 个 USB 2.0 端口网络控制器
- 集成支持 PS2 鼠标的键盘控制器

内存

- 支持非缓冲 DDR2 533/400 DDR2 SDRAM DIMM
- 每个插槽支持 2 GB，总共最大可支持 4 GB

音频(可选)

<ul style="list-style-type: none">• 8 通道 DAC, 支持 24/20/16 位 PCM 格式用于 7.1 音频解决方案• 所有 ADC 支持 48K/192kHz 独立采样速率• 超过 Microsoft PC2001 要求• 高质量模拟量差分 CD 输入• 电源支持: 数字: 3.3V; 模拟: 3.3V/5.0V
<ul style="list-style-type: none">• 7.1 + 2 通道高清晰度音频编解码器• 所有 ADC 支持 44.1k/48k/96k/192kHz 采样速率• 高质量模拟量差分 CD 输入• 符合 Microsoft WHQL/WLP 3.0 音频要求• 符合 Direct Sound 3D™ 规格
<ul style="list-style-type: none">• 3 个立体声 DAC, 支持 16/20/24 位 PCM 格式用于 5.1 声道音频解决方案• ADC 支持 44.1k/48k/96k 采样速率• 符合 Microsoft WHQL/WLP 3.0x 音频要求• 符合 Direct Sound 3D™ 规格

Onboard LAN

此主板支持以下任何一种 LAN 芯片组:

<ul style="list-style-type: none">• 支持 10Mb/s 和 100Mb/s N 路自协商工作• 支持 LAN 唤醒(WOL)功能和远程唤醒功能• 支持半双工/全双工工作
<ul style="list-style-type: none">• 集成 10/100/1000 收发器• 支持 PCI v2.3, 32-位, 33/66-MHz• 完全支持 IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

扩展选项

此主板提供如下扩展选项:

- 1 个用于图形接口的 PCI Express x16 插槽
- 1 个 PCI Express x1 插槽
- 4 个 32 位 PCI v2.3 扩展插槽
- 2 个 40-pin IDE 接口, 支持 4 个 IDE 设备
- 1 个软驱接口
- 2 个 7-pin SATA 接口

主板支持 Ultra DMA 总线控制, 传输速率可达 133/100/66MB/s。

集成 I/O

此主板具有完整的 I/O 端口和插孔:

- 2 个用于连接鼠标和键盘的 PS/2 端口
- 1 个串口
- 1 个并口
- 4 个 USB 端口
- 1 个 LAN 端口 (可选)
- 麦克风、线入和 6/8 通道 (可选) 线出声音插孔

BIOS

此主板使用 AMI BIOS，可以让用户自己配置以下系统功能：

- 电源管理
- 唤醒报警
- CPU 参数
- CPU 和记忆定时

还可用于设置不同处理器时钟速度的参数。



某些硬件规格和软件项目若有更改恕不另行通知。

Характеристики Процессор

Материнская плата построена на базе процессора Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D типа LGA775 и обладает следующими характеристиками:

- Размещает процессоры Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D
- Поддерживает системные шины (FSB) с частотой 1066/800/533/400 MHz
- Поддерживает технологию CPU "Hyper-Threading"

Технология "Hyper-Threading" «убеждает» операционную систему в том, что в машине имеется два процессора; это позволяет параллельно обслуживать два процесса, причем каждый из процессов обслуживается отдельным «логическим» процессором в пределах одного физического процессора.

Чипсет

Северный мостик PT890 (NB) и южный мостик VT8237A/VT8237S (SB) чипсета построены с использованием инновационной масштабируемой архитектуры, характеризующейся доказанными надежностью и эффективностью.

PT890 (NB)

- Поддержка режимов работы 66 МГц, 4X/8X, интерфейса хоста V-Link с общей пропускной способностью 533 МБ/с
- Поддерживает два порта PCI Express, сконфигурированные как x16 и x1 PCI Express
- Усовершенствованный контроллер 64-бит DDR2/DDR SDRAM
- Совместимо с ACPI 2.0 и PCI Bus Management 1.1

VT8237A /VT8237S (SB)

- Поддержка интерфейса 16-бит 66 МГц Ultra V-Link с общей пропускной способностью 1ГБ/сек
- Совместима со спецификацией PCI 2.3 33 MHz, поддерживает до 6 PCI устройств типа master
- Встроенные контроллеры хоста Serial ATA/ Serial ATA II, поддержка скорости трансфера данных до 1,5/3,0 Гб/с (только Serial ATA II с VT8237S)
- Встроенный двухканальный контроллер UltraDMA 133/100/66 Master Mode EIDE
- Контроллер USB 2.0, поддержка до портов 8 USB 2.0
- Интегрированный контроллер клавиатуры с поддержкой мыши PS2

Память

- Поддержка модулей памяти DDR2 533/400 DDR2 SDRAM DIMM
- Обслуживает до 2 ГБ на модуль DIMM (максимально до 4 ГБ памяти)

Аудио (Опционально)

<ul style="list-style-type: none">• Поддерживает 8-канальный DAC в 24/20/16-битном PCM формате для аудио вер. 7.1• Все ADC поддерживают независимую скорость сэмпинга 48K/192 кГц• Соответствует требованиям Microsoft PC2001• Высококачественный дифференциальный вход CD• Электропитание: цифровой режим: 3.3V; аналоговый режим: 3.3V/5.0V
<ul style="list-style-type: none">• 2-канальный Аудио КОДЕК High Definition вер. 7.1• Все DAC поддерживают скорость сэмпинганию 44.1k/48k/96k/192 кГц• Высококачественный аналоговый дифференциальный вход CD• Соответствует требованиям Microsoft WHQL/WLP 3.0 к аудио• Совместимость с Direct Sound 3D™
<ul style="list-style-type: none">• Поддержка трех стерео-DAC 16/20/24-бит PCM для 5.1 аудио• Поддержка ADC со скоростью сэмпинга 44.1k/48k/96k• Соответствует требованиям Microsoft WHQL/WLP 3.0x аудио• Совместимость с Direct Sound 3D™

Встроенный сетевой адаптер LAN (Опционально)

Встроенный сетевой адаптер LAN обладает следующими характеристиками:

<ul style="list-style-type: none">• Поддерживает автоматическое определение скорости и режима соединения 10/100 Mb/s• Функция Wake-on-LAN и удаленного пробуждения• Поддержка режимов Half и Full Duplex
<ul style="list-style-type: none">• Интегрированный трансивер 10/100/1000• Поддержка PCI v2.3, 32-бит, 33/66-МГц• Полная совместимость с технологией IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Возможности расширения

Существуют следующие опции расширения данной материнской платы:

- Один разъем для карты графики PCI Express x16
- Один слот PCI Express x1
- Четыре 32-битных слота PCI v2.3
- Два 40-штырьковых низкопрофильных разъема IDE с поддержкой до 4 устройств IDE
- Один разъем для накопителя на гибких дисках
- Два разъема 7-pin SATA

Плата поддерживает технологию захвата управления шиной UltraDMA bus mastering со скоростью передачи данных 133/100/66 МБ/сек.

Интегрированный вход/выход

Плата снабжена полным набором портов входа/выхода и разъемов:

- Два порта PS/2 для подключения мыши и клавиатуры
- Один серийный порт
- Один параллельный порт
- Четыре порта USB
- Один порт LAN (опционально)
- Гнезда аудио для микрофона, входа и 6/8-канального (опционально) выхода

BIOS

Плата работает под AMI BIOS, который позволяет пользователю конфигурировать различные характеристики системы:

- Управление питанием
- Сигналы пробуждения системы
- Параметры CPU
- Время доступа для CPU и памяти

BIOS допускает также установку параметров для различных частот процессора.



Некоторые параметры платы и характеристики ее программного обеспечения могут быть изменены без предварительного уведомления.

Cechy

Procesor

Płyta główna obsługuje procesory Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D typu LGA775 i posiada następujące właściwości:

- Przystosowana do obsługi procesorów Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D
- Obsługuje szynę systemowa (FSB) 1066/800/533/400 MHz
- Zabezpiecza technologią CPU "Hyper-Threading"

Technologia "Hyper-Threading" powoduje, że system "myśli", że posiada dwa procesory i wykonuje równoległe dwa procesy; za wykonanie każdego procesu odpowiedzialny jest jeden z dwóch "logicznych" procesorów w ramach jednego fizycznego procesora

Chipset

Mostek północny (NB) PT890 i mostek południowy VT8237A/VT8237S chipsetu są zbudowane w oparciu o innowacyjną architekturę skalowalną o potwierdzonej niezawodności i solidnym wykonaniu.

PT890 (NB)

- Obsługuje 66 MHz tryby przesyłania 8X/4X, interfejs hosta V-Link o całkowitej przepustowości 533 MB/s
- Obsługuje do dwu portów PCI Express, z których jeden jest skonfigurowany jako PCI Express x16, a drugi jako PCI Express x1
- Zaawansowany kontroler 64-bitowy DDR2/DDR SDRAM
- Zgodne z ACPI 2.0 oraz PCI Bus Management 1.1

VT8237A/ VT8237S (SB)

- Obsługuje 16 bitowy, 66 MHz interfejs hosta Ultra V-Link o całkowitej przepustowości 1 GB/s
- Zgodny ze standardem PCI w wersji 2.3 o częstotliwości 33 MHz, obsługuje do 6 urządzeń PCI typu master.
- Zintegrowane kontrolery Serial ATA/ Serial ATA II zapewniające szybkości przesyłania do 1,5/3,0 GB/s (tylko Serial ATA II z VT8237S)
- Zintegrowany dwukanałowy kontroler UltraDMA 133/100/66 w trybie Master EIDE
- Kontroler USB 2.0, obsługujący do 8 gniazd USB 2.0
- Zintegrowany kontroler klawiatury z obsługą myszy PS2

Pamięć

- Obsługuje banki pamięci DDR2 533/400 DDR2 SDRAM DIMM
- Obsługuje pamięć DIMM do pojemności 2 GB każda; maksymalna możliwa pojemność pamięci do 4 GB

Audio (opcjonalnie)

<ul style="list-style-type: none">• Obsługuje 8 kanałów DAC w formacie 24/20/16-bit PCM w standardzie audio 7.1• Wszystkie ADC obsługują niezależną częstotliwość próbkowania w zakresie 48K - 192kHz• Spełnia wymogi Microsoft PC2001• Wysokiej jakości wejście różnicowe CD• Zasilacz obsługuje odbiorniki 3.3 V cyfrowe i 3.3 V/5.0V analogowe
<ul style="list-style-type: none">• 2 kanałowy Audio Codec High Definition w wersji 7.1• Konwertery DAC obsługują częstotliwości próbkowania 44.1k/48k/96k/192kHz• Wysokiej jakości analogowe wejście różnicowe CD• Spełnia wymagania standardów Microsoft do audio WHQL/WLP 3.0• Zgodny z Direct Sound 3D™
<ul style="list-style-type: none">• Obsługuje trzy Stereo DAC16/20/24-bit PCM format dla 5.1 audio kanałowego• Obsługuje ADC o szybkości próbkowania 44.1k/48k/96k• Spełnia wymagania stawiane audio przez firmę Microsoft w systemie WHQL/WLP 3.0x• Zgodny z Direct Sound 3D™

Zintegrowana obsługa sieci LAN (opcjonalnie)

Zintegrowana obsługa sieci LAN posiada następujące właściwości:

<ul style="list-style-type: none">• Obsługuje N-drożne automatycznie ustalone operacje z szybkościami 10 / 100 Mb/s• Obsługuje Wake-on-LAN (WOL) i zdalne wake-up• Zdolność Half/Full duplex
<ul style="list-style-type: none">• Zintegrowany terminal nadawczo-odbiorczy 10/100/1000• Obsługuje 32 bitowe PCI w wersji 2.3 o częstotliwościach 33/66-MHz• Obsługuje w pełni standard IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Możliwości rozbudowy

Płyta główna wyposażona jest w następujące gniazda:

- Jedno gniazdo PCI Express x16 dla karty graficznej
- Jedno gniazdo PCI Express x1
- Cztery 32-bitowych gniazda zgodnych z PCI w wersji 2.3
- Dwa 40-nóżkowe złącza niskoprofilowe IDE obsługujące do 4 urządzeń IDE
- Jedno złącze obsługujące stacje dyskietek
- Dwa 7-nóżkowe złącza SATA

Płyta główna obsługuje szynę UltraDMA z szybkością transferu 133/100/66 MB/s.

Zintegrowane We/Wy

Płyta główna wyposażona jest w pełny zestaw gniazd i złączy We/Wy:

- Dwa gniazda PS/2 dla myszy i klawiatury
- Jedno gniazdo szeregowo
- Jedno gniazdo równoległe
- Cztery gniazda USB
- Jedno gniazdo LAN (opcjonalnie)
- Gniazda typu Jack dla mikrofonu, 6/8-kanalowego wejścia (opcjonalnie) oraz wyjścia

Firmowy BIOS

Płyta główna wyposażona jest w BIOS firmy AMI, który pozwala użytkownikowi konfigurować wiele cech systemu włączając w to następujące właściwości:

- Zarządzanie poborem mocy
- Alarmy typu Wake-up
- Parametry pracy procesora
- Ustalenia szybkości pracy procesora i pamięci

BIOS może być używany do ustalania parametrów wpływających na szybkości pracy zegara procesora.



Niektóre parametry dotyczące płyty i jej oprogramowania mogą ulec zmianie bez uprzedniego powiadomienia.

Vlastnosti

Processor

Tato základní deska je určena pro procesory Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D LGA775 a může nabídnout následující vlastnosti:

- Použití pro procesory Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D s jádrem
- Podporuje taktování systémové sběrnice (FSB) na frekvenci 1066/800/533/400 MHz
- Podporuje technologii CPU „Hyper-Threading“

Technologie „Hyper-Threading“ umožňuje operačnímu systému pracovat tak, jako by byl připojen ke dvěma procesorům, protože je možné pracovat se dvěma toky programového kódu (vlákny) paralelně najednou, přičemž jsou k dispozici samostatné „logické“ procesory umístěné v rámci jednoho fyzického procesoru.

Čipová sada

Čipy northbridge (NB) PT890 a southbridge (SB) VT8237A/VT8237S jsou založeny na inovativní a škálovatelné architektuře s ověřenou spolehlivostí a výkonností.

PT890 (NB)

- Podpora hostitelského rozhraní 66 MHz, přenosové režimy 4x/8x, V-Link s celkovou šířkou pásma 533 MB/s
- Podporuje až dva sloty PCI Express, konfigurované jako jedna trasa x16 a jedna trasa x1 PCI Express
- Moderní 64bitový řadič paměti DDR2 a DDR SDRAM
- Slučitelné s ACPI 2.0 a PCI Bus Management 1.1

VT8237A /VT8237S (SB)

- Podpora rozhraní Ultra V-Link 16bit 66 MHz s celkovou šířkou pásma 1 GB/s
- Splňuje specifikace standardu PCI 2.3 s frekvencí 33 MHz, podporující až 6 hlavních kanálů PCI
- Integrované řadiče Serial ATA/ Serial ATA II, podpora rychlosti přenosu dat až 1,5/3,0 Gb/s (jen řadič Serial ATA II s čipem VT8237S)
- Integrovaný dvoukanálový řadič UltraDMA133/100/66 EIDE v řídicím režimu.
- Řadič USB 2.0, podporující 8 portů USB 2.0
- Integrovaný řadič klávesnice s podporou myši PS2

Paměť

- Podpora paměťových modulů DDR2 533/400 DDR2 SDRAM DIMM
- Až 2 GB paměti na jeden modul DIMM s maximální velikostí paměti do 4 GB

Zvukový (volitelně)

<ul style="list-style-type: none">• 8 kanálů převodníku DAC podporuje 24/20/16bitový formát PCM pro zvukový výstup 7.1• Všechny A/D převodníky podporují nezávislé vzorkování 48 K/192 kHz• S rezervou vyhovují požadavkům Microsoft PC2001• Vysoce kvalitní diferenční vstup CD• Podpora napájení: Digitální: 3,3 V; Analogové: 3,3V/ 5,0V
<ul style="list-style-type: none">• 7.1 + 2 kanály vysokého rozlišení Audio kodek• Všechny podpory DAC 44.1k/48k/96k/192kHz vzorkovací rychlost• Vysoce kvalitní analogový diferenční vstup CD• Splňuje audio požadavky Microsoftu WHQL/WLP 3.0• Kompatibilita s Direct Sound 3D™
<ul style="list-style-type: none">• 3 stereo převodníky DAC podporují 16/20/24bitový formát PCM pro zvukový výstup 5.1• Podpora ADC se vzorkovací frekvencí 44.1k/48k/96k• Splňuje požadavky pro audio zařízení Microsoft WHQL/WLP 3.0x• Kompatibilita s Direct Sound 3D™

Vestavění síťové rozhraní LAN (volitelně)

Vestavěné síťové rozhraní LAN nabízí následující možnosti:

<ul style="list-style-type: none">• Podpora 10/100 Mb/s N-cestného automatického přepínání provozu• Jeden čip fyzické síťové vrstvy 100Base-TX/10Base-T• Poloviční a plný duplex
<ul style="list-style-type: none">• Integrovaný transceiver 10/100/1000• Podpora rozhraní PCI v2.3, 32bitové, 33/66MHz• Plná podpora rozhraní IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Možnosti rozšíření

Základní deska je dodávána s následujícími možnostmi rozšíření

- Jedna patice PCI Express x16 pro grafickou kartu
- Jedna patice PCI Express x1
- Čtyři 32bitové patice PCI v2.3
- Dva nízkoprofilové 40kolíkové konektory IDE podporující připojení 4 zařízení standardu IDE
- Jedno rozhraní pro disketovou mechaniku
- Dva 7kolíkové konektor SATA

Základní deska podporuje sběrnici Ultra DMA s přenosovými rychlostmi 133/100/66 MB/s.

Integrovaný vstup/výstup

Základní deska je vybavena kompletní sadou vstupních portů a konektorů I/O:

- Dva porty PS/2 pro myš a klávesnici
- Jeden sériový port
- Jeden paralelní port
- Čtyři porty USB
- Jeden port LAN (volitelně)
- Audio konektory mikrofonu, linkového vstupu a 6/8kanálového (volitelné) linkového výstupu

Firmware BIOS

Základní deska využívá BIOS formy AMI, který uživateli umožňuje nakonfigurovat mnoho systémových parametrů, včetně následujících:

- Řízení spotřeby
- Alarmy při spouštění systému
- Parametry CPU
- Časování CPU a paměti

Firmware může být rovněž použit k nastavení parametrů pro různé taktovací frekvence procesoru.



Některé technické parametry hardware a software se mohou měnit bez předchozího upozornění.

Caracteristici

Procesorul

Această placă de bază utilizează un Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D de tip LGA775 cu următoarele caracteristici:

- Funcționează cu procesoare Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D
- Funcționează cu bus sistem (FSB) de 1066/800/533/400 MHz
- Este compatibilă cu unități centrale dotate cu tehnologia „Hyper-Threading”

Tehnologia „Hyper-Threading” permite sistemului de operare să funcționeze ca și cum ar exista două procesoare, putând fi rulate în paralel două fire, fiecare pe câte un procesor „logic” separat, aflate pe același procesor fizic.

Setul de chipuri

Chipsetul PT890 Northbridge (NB) și VT8237A/VT8237S Southbridge (SB) se bazează pe o arhitectură inovatoare și dezvoltată cu fiabilitate și performanță demonstrate.

PT890

(NB)

- suport pentru moduri de transfer 66 MHz, 4x/8x, interfață V-Link Host cu lățime de bandă totală de 533 MB/s
- Suportă până la două porturi PCI Express, configurat ca și un x16 și unu x1 PCI LANE-uri Express
- controller 64-bit DDR2/DDR SDRAM avansat
- Compatibil cu ACPI 2.0 și PCI Bus Management 1.1

VT8237A/

VT8237S

(SB)

- suport pentru interfață 16-bit 66 MHz Ultra V-Link Host cu lățime de bandă totală de 1 GB/s
- Compatibil cu specificația PCI, versiunea 2.3 33MHz, care suportă cel mult 6 module PCI master
- Serial ATA/ Serial ATA II Host Controller-uri integrate, care suportă rate de transferuri de dată de până la 1.5/3.0 Gb/s (Serial ATA II cu VT8237S numai)
- Controler EIDE UltraDMA 133/100/66 Master Mode integrat cu canal dual
- Controler USB 2.0 care suportă 8 porturi USB 2.0
- Controler de tastatură cu suport pentru mouse PS/2

Memoria

- Suport pentru DIMM-uri DDR2 533/400 DDR2 SDRAM
- Poate funcționa cu module DIMM de cel mult 2 GB, iar cantitatea maximă de memorie este de 4 GB

Audio (opțional)

<ul style="list-style-type: none">• Suport DAC 8 canale format PCM 24/20/16-bit pentru soluții audio 7.1• Toate ADC-urile suportă 48K/192kHz Independent Sample Rate• Excede Cerințele Microsoft PC2001• input CD diferențial înaltă calitate• Suport curent: Digital: 3.3V; Analog: 3.3V/5.0V
<ul style="list-style-type: none">• Codec Audio High Definition 7.1 + 2 canale• toate DAC-urile au suport pentru viteză de eșantionare 44.1k/48k/96k/192kHz• input CD analog diferențial înaltă calitate• Corespunde cerințelor audio Microsoft WHQL/WLP 3.0• Compatibil cu Direct Sound 3D™
<ul style="list-style-type: none">• Trei DAC-uri stereo 16/20/24-bit format PCM pentru soluție audio 5.1 canale• Suport ADC-uri la viteză de eșantionare 44.1k/48k/96k• Corespunde cerințelor audio Microsoft WHQL/WLP 3.0x• Compatibil cu Direct Sound 3D™

Onboard LAN (opțional)

Onboard LAN are următoarele caracteristici:

<ul style="list-style-type: none">• Suportă operații de autonegociere N-way de 10/100 Mb/s• Suport pentru funcțiile Wake-on-LAN (WOL) și trezire la distanță• Posibilitate semi-duplex și duplex complet
<ul style="list-style-type: none">• Unitate de emisie/recepție 10/100/1000 integrat• Suportă PCI, versiunea 2.3, de 32 biți, la 33/66 MHz• compatibil pe deplin cu standardul IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Opțiuni de extindere

Placa de bază este dotată următoarele posibilități de extindere:

- Un PCI Express de 16x pentru interfața grafică
- Un slot PCI Express x1
- Patru sloturi de 32 biți compatibile PCI, versiunea 2.3
- Două socluri IDE plate de 40 de ace care suportă cel mult patru unități IDE
- O interfață pentru unitate floppy
- Două conecitoare SATA plate de 7

Placa de bază suportă bus mastering UltraDMA cu viteze de transfer de 133/100/66 MB/s

I/O integrată

Placa de bază este dotată cu un set complet de porturi și conecitoare I/O:

- Două porturi PS/2, pentru mouse și tastatură
- Un port serial
- Un port paralel
- Patru porturi USB
- Un port LAN (opțional)
- Fișă audio pentru microfon, priză de intrare și priză de ieșire 6/8-canale (opțional)

Multi-Language Translation

Firmware BIOS

Placa de bază utilizează AMI BIOS, care permite utilizatorului să configureze mai mulți parametri ai sistemului, cum ar fi:

- Gestionarea energiei
- Alarmer de trezire
- Parametri CPU
- Temporizare CPU și memorie

Acest firmware poate fi utilizat și pentru a seta parametrii diferitelor frecvențe de comandă ale procesorului.



Anumite specificații hardware și elemente de software pot fi modificate fără înștiințare prealabilă.

Спецификация

Процесор

Тази дънна платка използва сокет LGA775 за процесори Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D със следните характеристики:

- поддръжка на процесори Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D
- поддръжка на системна шина със скорост 1066/800/533/400 MHz
- поддръжка на процесори с технология "Hyper-Threading"

Технологията "Hyper-Threading" позволява да се "излъже" операционната система, че работи на два процесора, което дава възможност за паралелното изпълнение на две задачи на два отделни "логически" процесора в един и същ физически процесор.

Чипсет

Чипсетът със северен мост PT890 и южен мост VT8237A/VT8237S е с иновационна и разширяема архитектура с доказана надеждност и производителност.

PT890 (NB)

- поддръжка на режими на трансфер 66 MHz, 4x/8x, V-Link интерфейс с обща предавателна лента 533 MB/s
- Поддръжка до два PCI Express порта (един x16 и един x1)
- Усъвършенстван 64-битов DDR2/DDR SDRAM контролер
- Съвместимост с ACPI 2.0 и PCI Bus Management 1.1

VT8237A /VT8237S (SB)

- Поддръжка на 16-битов Ultra V-Link Host интерфейс, 66 MHz, с обща пропускателна способност 1 GB/sec
- Съвместимост със спецификацията PCI 2.3 при 33 MHz, с поддръжка на до 6 PCI master устройства
- Интегрирани Serial ATA/ Serial ATA II host контролери, поддържащи скорост на трансфер до 1.5/3.0 Gb/s (Serial ATA II е опция за модела VT8237S)
- Интегриран дву-канален EIDE контролер UltraDMA 133/100/66 Master Mode
- Контролер USB 2.0 с поддръжка на 8 порта USB 2.0
- Интегриран контролер за клавиатура с поддръжка на PS2 за мишка

Памет

- Поддръжка на модули памет DDR2 533/400 DDR2 SDRAM DIMM
- до 2 GB памет на DIMM канал с максимален капацитет 4 GB

Audio (опция)

<ul style="list-style-type: none">• 8-канален цифрово-аналогов преобразовател с поддръжка на 24/20/16-bit PCM формат за 7.1 канален звук.• Всички цифрово-аналогови преобразователи (DAC) поддръжат независима честота на дискретизация 48K/192kHz• Превъзхожда изискванията на стандарта Microsoft PC2001• Висококачествен самостоятелен CD-вход• Захранване: цифрово: 3.3 V; аналогово: 3.3 V/5.0 V
<ul style="list-style-type: none">• High Definition Аудио кодек 7.1 + 2 канала• всички цифрово-аналогови преобразователи (DAC) поддръжат честота на дискретизация 44.1k/48k/96k/192kHz• Висококачествен самостоятелен аналогов CD-вход• Съответства на изискванията на Microsoft WHQL/WLP 3.0 audio съвместимост с Direct Sound 3D™
<ul style="list-style-type: none">• Три Стерео DAC поддръжат 16/20/24 битов PCM формат за 5.1 канално аудио решение• ADC-та поддръжат скорост 44.1k/48k/96k• аудио - съвместимо с спецификацията Microsoft WHQL/WLP 3.0x съвместимост с Direct Sound 3D™

Интегриран мрежов контролер (опция)

Спецификация на интегрирания мрежов контролер:

<ul style="list-style-type: none">• поддръжка на 10/100 Mb/s, N-Way Auto-negotiation operation• Интегриран едночипов LAN контролер на физическо ниво за Ethernet 100Base-TX/10Base-T• Режим: Half/Full duplex
<ul style="list-style-type: none">• Интегриран 10/100/1000 контролер• Поддръжка на PCI v2.3, 32-bit, 33/66-MHz• Пълна поддръжка на IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Възможности за разширяване

Дънната платка има следните разширителни възможности:

- Един слот PCI Express x16 за графичен интерфейс
- Един слот PCI Express x1
- четири слота 32-bit PCI v2.3
- Два нископрофилни 40-pin IDE конектора с поддръжка до 4 IDE устройства
- един конектор за флопидисково устройство
- Два 7-щифтови SATA конекторас

Дънната платка поддържа шина UltraDMA 133/100/66 MB/s

Интегриран Вход/Изход контролер

Дънната платка има пълен набор от I/O портове и конектори:

- два PS/2 порта за мишка и клавиатура
- един сериен порт
- един паралелен порт
- четири USB порта
- един LAN порт (опция)
- Аудио жакове за микрофон, линеен вход и 6/8-канален (опция) линеен изход

BIOS Firmware

Дънната платка използва AMI BIOS с възможност за различни системни настройки, включително

- управление на захранването
- Wake-up аларми
- параметри на процесора
- синхронизиране на процесора и паметта

настройка на скоростта на часовника на процесора



Хардуерните и софтуерни спецификации и параметри могат да бъдат изменени без предупреждение.

Jellemző

Processzor

Ez az alaplap LGA775 típusú Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D-et használ, amely a következő tulajdonságokkal rendelkezik:

- Intel Core™2 Duo/Pentium D/Pentium 4/Celeron D processzorokkal működik
- 1066/800/533/400 MHz sebességű rendszerbuszt (FSB) támogat
- Támogatja a „Hyper-Threading” technológiát használó központi egységeket

A „Hyper-Threading” technológia által az operációs rendszer úgy működik, mintha két processzorral rendelkezne, ami két szál párhuzamos futását teszi lehetővé két független, ugyanazon fizikai processzoron található „logikai” processzoron.

Lapkakészlet

A PT890 Northbridge (NB) és a VT8237A/VT8237S Southbridge (SB) chip-készlet bizonyított megbízhatóságú és teljesítményű új és fejlesztett architektúrára épül.

PT890 (NB)

- megfelel 66 MHz, 4X/8X transzfer módoknak, V-Link Host 533 MB/s teljes sávszélességű interfészre
- Akár két PCI Express portot is támogat, ha ezek egy x16-ként és egy x1 PCI Express LANE hálózatként vannak konfigurálva
- fejlett 64-bites DDR2/DDR SDRAM vezérlő
- ACPI 2.0 és PCI Bus Management 1.1 megfelelés

VT8237A /VT8237S (SB)

- megfelel 16-bit 66 MHz Ultra V-Link Host 1Gb/s teljes sávszélességű interfésznek
- A PCI 2.3 specifikációval kompatibilis 33 MHz-en, maximum 6 PCI mestert támogat
- Integált soros ATA/ Soros ATA II Host Controllerek, melyek egészen 1.5/3.0 Gb/s-os adatátvitelt támogatnak (kizárólag Soros ATA II VT8237S-el)
- Beépített duál csatornás UltraDMA 133/100/66 Master módú EIDE vezérlő
- USB 2.0 vezérlő, 8 USB 2.0 portot támogat
- Beépített billentyűzet-vezérlő, PS/2 egér támogatása

Memória

- Megfelel DDR2 533/400 DDR2 SDRAM DIMM-eknek
- Maximum 2 GB-os DIMM egységeket támogat, maximális memória 4 GB

Audio (választható)

<ul style="list-style-type: none">• 8 csatornás DAC támogatás 24/20/16-bit PCM formátum 7.1 hangberendezésre• Az összes ADC támogatja a 48K/192kHz-es független mintavételi frekvencia• jó minőségű differenciál CD input• Meghaladja a Microsoft PC2001 Követelményeket• Áramellátás: Digitális: 3.3 V; Analóg: 3.3 V/5.0 V
<ul style="list-style-type: none">• 7.1 + 2 csatornás High Definition Audio Codec• az összes DAC elbír 44.1k/48k/96k/192kHz mintavételezési sebességet• jó minőségű analóg differenciál CD input• Megfelel a Microsoft WHQL/WLP 3.0 audio követelményeinek• Kompatibilis a Direct Sound 3D™ technológiával
<ul style="list-style-type: none">• Három Stereo DAC támogatás 16/20/24-bit PCM formátummal 5.1 csatornás audio kivitelezéshez• ADC támogatás 44.1k/48k/96k mintavételezési sebességgel• Megfelel a Microsoft WHQL/WLP 3.0x audio követelményeinek• Kompatibilis a Direct Sound 3D™ technológiával

Alaplapon levő LAN (választható)

Az alaplapon levő LAN jellemzői:

<ul style="list-style-type: none">• 10/100 Mb/s N-Way automatikus beállítással• A Wake-on-LAN és a távoli ébresztés funkciók támogatása• Fél-/teljes duplex
<ul style="list-style-type: none">• Integrált 10/100/1000 adó-vevő• Támogatja a 32 bites, 33/66 MHz-es PCI 2.3-as változatát• Teljesen kompatibilis az IEEE 802.3, IEEE 802.3u, IEEE 802.3ab szabvánnyal

Bővítési lehetőségek

Az alaplap a következő bővítési lehetőségekkel rendelkezik:

- Egy PCI Express x16 foglalat a grafikus interfész
- Egy PCI Express x1 foglalat
- Négy 32 bites, a PCI 2.3-as változatával kompatibilis foglalat
- Két 40 tűs lapos IDE foglalat, amelyek maximum négy IDE egységet képesek kiszolgálni
- Egy hajlékonylemez meghajtó interfész
- Két 7 tűs SATA csatlakozó

Ez az alaplap támogatja az UltraDMA bus mastering megoldást, 133/100/66 MB/s sebességen

Beépített I/O

Az alaplapot az I/O portok és csatlakozók teljes készletével szerelték fel:

- Két PS/2 port az egér és a billentyűzet számára
- Egy soros port
- Egy párhuzamos port
- Négy USB port
- Egy LAN port (választható)
- Audio dugasz a mikrofon számára, bemeneti és 6/8-csatornás (opcionális) kimeneti csatlakozók

BIOS Firmware

Az alaplapon levő AMI BIOS segítségével a felhasználó a rendszer sok paraméterét állíthatja be, például:

- Energiagazdálkodás
- Ébresztési riasztások
- CPU paraméterek
- CPU és memória időzítés

A firmware segítségével a processzor órajel-frekvenciáinak paramétereit is beállíthatják.



Bizonyos hardverjellemzők és szoftverelemek előzetes bejelentés nélkül módosulhatnak.