



CERTIFICATE

The TÜV CERT Certification Body
for QM Systems of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT
procedure that

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

2F, No. 240, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
No. 20 & No. 26, Free Trade Zone, Shatoujiao, Shenzhen City, Guangdong Province, China

has established and applies a quality system for

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

An audit was performed, Report No. 2.5-1585/2000

Proof has been furnished that the requirements according to

ISO 9001 : 2000 / EN ISO 9001 : 2000 / JIS Q 9001 : 2000 / ANSI/ASQC Q9001 : 2000

are fulfilled. The certificate is valid until 27 January 2007


Certificate Registration No. 04100 2000 1325

The company has been certified since 2000



Essen, 04.03.2004

RWTÜV


The TÜV CERT Certification Body for QM Systems
of RWTÜV Systems GmbH



ISO14001 CERTIFICATE

Certificate No.: 061-04-E1-0065-R1-L

We hereby certify that

ECS MANUFACTURING (SHENZHEN) 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:

ECS MANUFACTURING (SHENZHEN) CO., LTD.

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

Shatuojiang, 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 7.1

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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.

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Chapter 4

Using the Motherboard Software

Describes the motherboard software

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Preface

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Multi-Language Translation

Chapter 1

Introducing the Motherboard

Introduction

Thank you for choosing this motherboard. It is a high performance, enhanced function motherboard that supports LGA775 latest Intel Pentium 4/Celeron D processors for high-end business or personal desktop markets.

It incorporates the 915P Northbridge (NB) and ICH6 Southbridge (SB) chipsets. The Northbridge supports a Front Side Bus (FSB) frequency of 800/533 MHz using a scalable FSB Vcc_CPU. The memory controller supports dual-channel DDR2 memory DIMM frequencies of 533MHz and 400 MHz. It supports four DDR Sockets with up to maximum memory of 2 GB. DDR Maximum memory bandwidth of 3.2 GB/s in single-channel mode and 6.4 GB/s in dual-channel mode is supported. Two PCI Express x16 slots are for Graphics Interface, fully compliant to the PCI Express Base Specification revision 1.0a.

The ICH6 Southbridge supports three PCI Slots which are PCI 2.3 compliant. In addition, one PCI Express x1 slot is supported, fully compliant to the PCI Express Base Specification, Revision 1.0a. It implements an EHCI compliant interface that provides 480Mb/s bandwidth for eight USB 2.0 ports, integrated AC'97 codec supporting 6-channel Audio output. One onboard IDE connector supports 2 IDE devices in ATA-100/66 mode. The Southbridge integrates a Serial ATA host controller that is SATA v1.0 compliant, supporting four SATA ports with maximum transfer rate up to 150 MB/s each.

It 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 line out.

Feature

Processor

The motherboard uses an LGA775 type of latest Pentium 4/Celeron D that carries the following features:

- Accommodates latest Intel Pentium 4/Celeron D processors
- Supports a system bus (FSB) of 800/533MHz
- Supports “Hyper-Threading” technology

“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 915P Northbridge (NB) and ICH6 Southbridge (SB) chipset is based on an innovative and scalable architecture with proven reliability and performance.

915P (NB)

- Supports 32-bit host bus addressing, allowing the CPU to access the entire 4 GB of the memory address space.
- Has a 12-deep In-Order Queue to support up to twelve outstanding pipelined address requests on the host bus.
- Supports one PCI Express x16 for Graphics Interface, fully compliant to the PCI Express Base Specification revision 1.0a.
- Supports 256-Mb, 512-Mb and 1-Gb DDR technologies for x8 and x16 devices
- Supports DDR 333/400 MHz up to four unbuffered DIMM with 4 GB maximum memory size



915P chipset can only support 256-Mb, 512-Mb and 1-Gb DDR technologies for x8 and x16 device, NOT support 128-Mb DDR technology. That is, 256 MB Double Side Memory Module & 128 MB Single Side Memory Module are NOT support.

ICH6 (SB)

- Enhanced DMA Controller, interrupt controller, and timer functions
- Compliant with PCI Express Base Specification, Revision 1.0a
- Compliant with PCI 2.3 specification
- Compliant with Serial ATA 1.0a specification
- Integrated USB 2.0 Host Controller supporting up to eight USB 2.0 ports
- Integrated LAN controller
- Compliant with Azalia specification supporting 8 Channels of audio outputs
- Integrated IDE controller supports Ultra ATA100/66/33

Memory

- Supports DDR2 533/400 MHz DDR SDRAM DIMMs
- Accommodates two unbuffered DIMMs
- Up to 1 GB per DIMM with maximum memory size up to 2 GB

Introducing the Motherboard

Audio

- Compliant with AC'97 2.3 specifications
- Meets performance requirements for audio on PC99/2001 systems
- Meets Microsoft WHQL/WLP 2.0 audio requirements
- Support 48KHz of S/PDIF output is compliant with AC'97 rev2.3 specification
- HRTF 3D Positional Audio and 10 Bands of Software Equalizer

Expansion Options

- Two PCI Express x16 slots for Graphic Interface
- one PCI Express x1 slot
- Three 32-bit PCI v2.3 compliant slots
- One 40-pin IDE low profile header that support two IDE devices
- One floppy disk drive interface
- Four 7-pin SATA connector

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

Onboard LAN (Optional)

- Integrates Fast Ethernet MAC, physical chip, and transceiver onto a single chip
- 10Mbps and 100Mbps operation
- Supports 10Mbps and 100Mbps N-way auto-negotiation
- Complies with PC99/PC2001 standards
- Supports ACPI power management
- Half/Full duplex capability
- Supports Full Duplex Flow Control (IEEE 802.3x)

Integrated I/O

- 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 line-out

BIOS Firmware

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

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

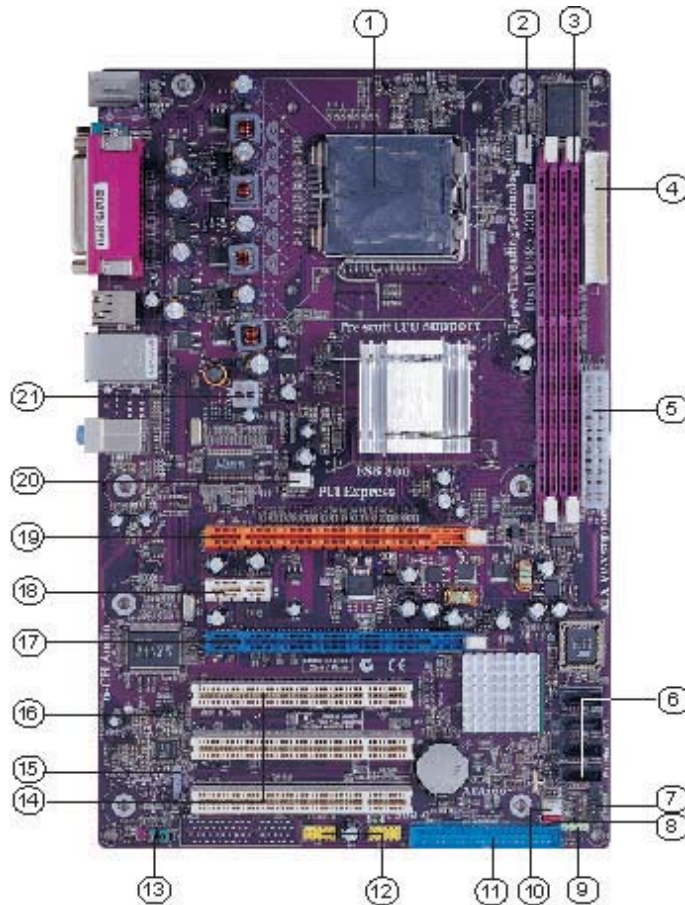
The firmware can also be used to set parameters for different processor clock speeds.



Some hardware specifications and software items are subject to change with out prior notice.

Introducing the Motherboard

Motherboard Components



Introducing the Motherboard

Table of Motherboard Components

ITEM	LABEL	COMPONENTS
1	CPU Socket	LGA775 Socket A for Pentium 4/Celeron D processors
2	CPUFAN1	CPU cooling fan connector
3	DIMM1~ DIMM2	Two 240-pin DDR2 SDRAM
4	FDD1	Floppy disk drive connector
5	ATX1	Standard 24-pin ATX power connector
6	SATA1~4	Serial ATA connectors
7	PANEL1	Front panel switches and LED header
8	CLR_CMOS1	Clear CMOS jumper
9	SPK1	Speaker header
10	CASFAN1	Case fan connector
11	IDE 1	Primary IDE channel
12	USB2/USB3	Front panel USB headers
13	AUDIO1	Front Panel Audio header
14	PCI1 ~ PCB	Three 32-bit PCI slots for add-on cards
15	SPDIFO1	SPDIF out header
16	CDIN1	Analog Audio Input header
17	PCI-E3	PCI-Express x16 slot
18	PCI-E2	PCI-Express x1 slot
19	PCI-E1	PCI-Express x16 slot
20	PWRFAN1	Power fan connector
21	PWR1	Standard 4-Pin ATX Power connector

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

Introducing the Motherboard

Memo

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 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, it supports one or two floppy diskette drives, two enhanced IDE drives, and four Serial ATA devices. 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 an ATX form factor of 305 x 200 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

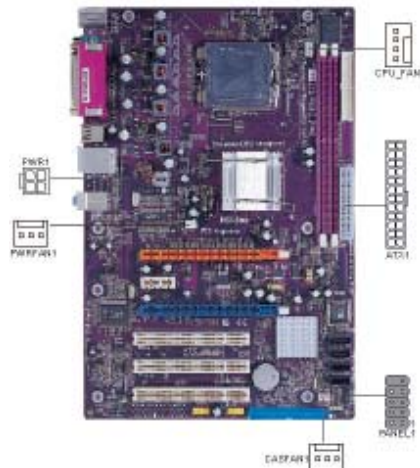
Jumper	Type	Description	Setting (default)	
CLR_CMOS1	3-pin	FLASH CMOS SWITCH	1-2: NORMAL 2-3: CLEAR CMOS Before clearing the CMOS, make sure to turn off the system.	

Installing the Motherboard

Connecting Case Components

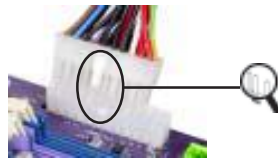
After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

- 1 Connect the CPU cooling fan cable to **CPUFAN1**.
- 2 Connect the case cooling fan connector to **CASFAN1**.
- 3 Connect the power fan connector to **PWRFAN1**.
- 3 Connect the case speaker cable to **SPK1**.
- 4 Connect the case switches and indicator LEDs to the **PANEL1**.
- 6 Connect the standard power supply connector to **ATX1**.
- 7 Connect the auxiliary case power supply connector to **PWR1**.



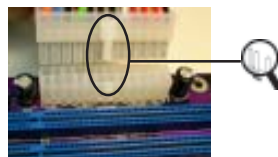
Connecting 20/24-pin power cable

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.



20-pin power cable

Users please note that when installing 20-pin power cable, the latch of power cable falls on the left side of the ATX1 connector latch, just as the picture shows.



24-pin power cable

Users please note that when installing 24-pin power cable, the latches of power cable and the ATX1 match perfectly.

Installing the Motherboard

CPUFAN1: FAN Power Connectors

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

PWRFAN1/CASFAN1: FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

SPK1: Internal speaker

Pin	Signal Name
1	VCC
2	Key
3	GND
4	Signal

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	COM
4	+5V	16	PS_ON
5	Ground	17	COM
6	+5V	18	COM
7	Ground	19	COM
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	COM

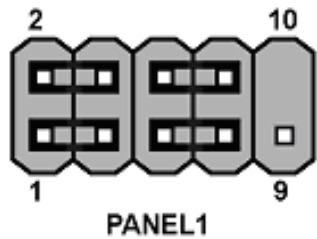
PWR1: ATX 12V Power Connector

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

Installing the Motherboard

Front Panel Connector

The front panel connector (PANEL1) provides a standard set of switch and LED connectors 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 LGA775 processor 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. 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.
- B. 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.
- C. Install the CPU on the socket
 - Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.
- D. Close the load plate
 - Slightly push down the load plate onto the tongue side, and hook the lever.
 - CPU is locked completely.
- E. Apply thermal grease on top of the CPU.
- F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.
- G. 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. The fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.
3. DO NOT remove the CPU cap from the socket before installing a CPU.

Installing the Motherboard

Installing Memory Modules

This motherboard accommodates two memory modules, which are two 240-pin DIMM1-2 sockets (Dual Inline Memory Module) for unbuffered DDR2 533/DDR400 memory modules (Double Data Rate SDRAM). DDR SDRAM is a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. You must install at least one module in any of the four slots. Each module can be installed with 256 MB to 1 GB of memory; total memory capacity is 2 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

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 one IDE channel interface (IDE1). 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: Primary IDE Connector

This motherboard supports four high data transfer SATA ports with each runs up to 150 MB/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.



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.

About SATA Connectors

Your motherboard features four SATA connectors supporting a total of four drives. 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)

Installing the Motherboard

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 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.

FDD1: Floppy Disk Connector

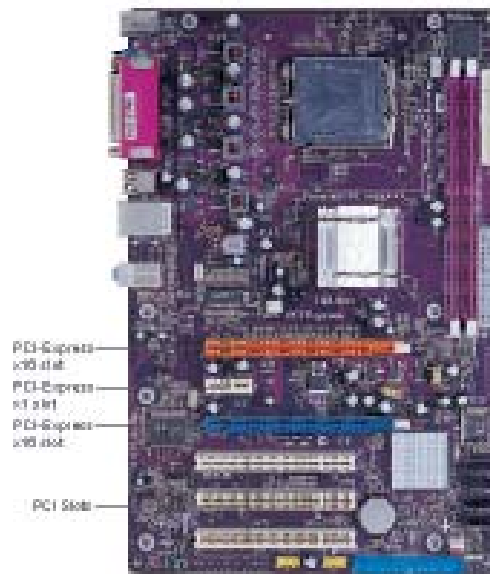
This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.



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.



PCI Express Slots

There are three PCI Express slots onboard, with two PCI Express x16 and one PCI Express x1 slots. These two PCI Express x16 slots are used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 1.0a. One PCI Express x1 slot is fully compliant to the PCI Express Base Specification revision 1.0a as well.

PCI 1-3 Slots

This motherboard is equipped with three 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:

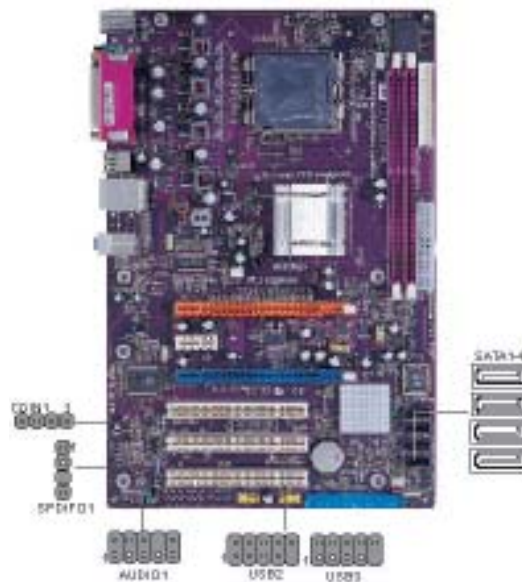
- 1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
- 2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
- 3 Secure the metal bracket of the card to the system case with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

Connecting Optional Devices

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



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	Function
1	PORT 1L	Analog Port 1 - Left channel
2	GND	Ground
3	PORT 1R	Analog Port 1 - Right channel
4	PRESENCE#	Active low signal
5	PORT 2R	Analog Port 2 - Right channel
6	SENSE1_RETURN	Jack detection return
7	SENSE_SEND	Jack detection sense line
8	KEY	Connector Key
9	PORT 2L	Analog Port 2 - Left channel
10	SENSE_RETURN	Jack detection return

CDIN1: CD Audio Input header

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

SATA1/2/3/4: Serial ATA connectors

These connectors are used to support the new Serial ATA devices for the highest data transfer rates (150 MB/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	-	-

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

Installing the Motherboard

USB2/3: Front Panel USB header

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

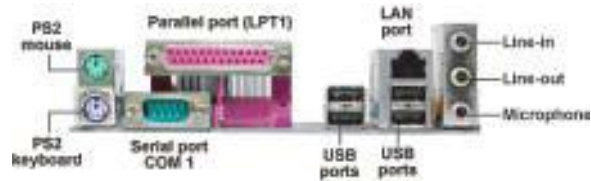


Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

Installing the Motherboard

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. COM1 is identified by the system as COM1/3. |
| 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 these three audio jacks to connect audio devices. The first jack is for stereo Line-In signal, the second jack for stereo Line-Out signal, and the third jack for Microphone. |

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

Installing the Motherboard

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 to enter SETUP

Press the delete key to access the BIOS Setup Utility:

CMOS Setup Utility -- Copyright (C) 1985-2004, American Megatrends, Inc.

<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced Setup ▶ Features Setup ▶ Power Management Setup ▶ PCI / Plug and Play Setup ▶ BIOS Security Features 	<ul style="list-style-type: none"> ▶ CPU PnP Setup ▶ Hardware monitor Load Best Performance settings Load Optimal Defaults Save Changes and Exit Discard Changes and Exit
↑↓ → ← : Move +/-/: Value Enter : Select F1: General Help ESC: Exit F8: Best Performance Settings F9: Optimized Defaults F10: Save	
Standard CMOS setup for changing time, date, hard disk type, etc. v02.56 (C)Copyright 1985-2004, 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
F8	Loads an best setting for peak performance
F9	Loads an optimized setting for better performance
F10	Saves the current configuration and exits setup

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 press <Enter>.
- 7 Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
- 8 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.

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 Features

This option displays basic information about your system.

CMOS Setup Utility - Copyright (C) 1985-2004, American Megatrends, Inc.
Standard CMOS Setup

System Time	14: 02: 44	Help Menu
System Date	Wed 05/05/2004	
Primary IDE Master	Not Detected	Use [ENTER], [TAB] or [SHIFT-TAB] TO select a field. Use [+] or [-] to configure system Time.
Primary IDE Slave	Not Detected	
Secondary IDE Master	Not Detected	
Secondary IDE Slave	Not Detected	
Third IDE Master	Not Detected	
Third IDE Slave	Not Detected	
Floppy A	1.44 MB 3 1/2"	

↑↓ → ← : Move +/-: Value Enter: Select F1: General help ESC: Exit
F8: Best Performance Settings F9: Optimized Defaults F10: Save

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.

► IDE Primary/Secondary/Third Master/Slave (Not Detected)

Your computer has one IDE channels and each channel can be installed with one or two devices (Master and Slave). In addition, this motherboard supports four 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

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) 1985-2004, American Megatrends, Inc.
Advanced Setup

Quick Boot	Enabled	Help Menu
1st Boot Device	CD/DVD:3S-CD-ROM 52	Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
2nd Boot Device	1st FLOPPY DRIVE	
3rd Boot Device	Network::Realtek RP	
Try Other Boot Device	Yes	
Bootup num-Lock	On	
Configure DRAM timing by SPD	Enabled	
Hyper Threading Function	Enabled	
Max CPUID Value Limit	Disabled	
CPU TM Function	TM2	
Auto Detect DIMM/PCI Clk	Enabled	
Spread Spectrum	Disabled	
Aperture Size Select	128MB	

↑↓ → ← : Move +/-: Value Enter: Select F1: General help ESC: Exit
F8: Best Performance Settings F9: Optimized Defaults F10: Save

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 (CD/DVD/1st FLOPPY DRIVE/Network)

Use this item to determine the device order the computer used to look for an operating system to load at start-up time.

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.

Configure DRAM Timing by SPD (Enabled)

This item allows you to enable or disable the DRAM timing defined by the Serial Presence Detect electrical.

Hyper Threading Function (Enabled)

If your P4 CPU is not HT CPU, this item will be hidden. On the other hand, if HT CPU supported, BIOS will show this item. You can set "Disabled" or "Enabled" to control HT CPU support in O.S. Set "Enabled" to test HT CPU function.

Using BIOS

Max CPUID Value Limit (Disabled)

Enable this item when users intend to install NT4.0 to make the system work properly with Prescott and LGA775 CPU.

CPU TM Function (TM2)

This item displays CPU's temperature and enhances you to set a safe temperature for 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.

Aperture Size Select (128MB)

This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

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.

CMOS Setup Utility - Copyright (C) 1985-2004, American Megatrends, Inc. Features Setup		
Onboard Floppy Controller	Enabled	Help Menu
Serial Port1 Address	3F8/IRQ4	
Parallel Port Address	378	Allow BIOS to Enable or Disable Floppy Controller.
Parallel Port Mode	ECP	
ECP Mode DMA Channel	DMA3	
Parallel Port IRQ	IRQ7	
Onboard PCI IDE Controller	Both	
ATA/IDE Configuration	Enhanced	
Ethernet Device	Enabled	
OnBoard LAN Boot ROM	Disabled	
Audio Device	AC'97 Audio and Mod	
Onboard USB Function	Enabled	
USB Function for DOS	Disabled	
↑↓ → ← : Move +/-: Value Enter: Select F1: General help ESC: Exit F8: Best Performance Settings F9: Optimized Defaults F10: Save		

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 COM1/2 serial 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 SPP (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or ECP + EPP.

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.

Using BIOS

ATA/IDE Configuration (Enhanced)

The ATA/IDE option can be configured as either “Enhanced (default)” or “Legacy” in the BIOS configuration. Windows* 98SE and Windows* Me operating systems do not support Enhanced mode IDE/Serial ATA resources for more than four devices. If the ATA/IDE option is set to Enhanced mode, the operating installation will not be able to recognize the drive, and the installation will fail. Before installing 98SE or Me, the ATA/IDE configuration must be changed from Enhanced to Legacy mode.

Ethernet Device (Enabled)

Use this item to enable or disable the onboard Modem.

OnBoard LAN Boot ROM (Disabled)

Use this item to enable or disable the LAN Boot ROM function.

Audio Device (Enabled)

Use this item to enable or disable the onboard audio device.

Onboard USB Function (Enabled)

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

USB Function For DOS (Disabled)

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.

CMOS Setup Utility - Copyright (C) 1985-2004, American Megatrends, Inc.
Power Management Setup

ACPI Aware O/S	Yes	Help Menu Yes / No ACPI support for Operating System. YES: If OS supports ACPI. NO: If OS does not support ACPI.
Power Management	Enabled	
Suspend mode	Disabled	
Suspend Time Out	Disabled	
LAN/Ring Power On	Disabled	
Resume on RTC Alarm	Disabled	
Resume From USB Device	Disabled	
Keyboard Power On	Disabled	
Password	Press Enter	

[] ← → : Move +/-: Value Enter: Select F1: General help ESC: Exit
F8: Best Performance Settings F9: Optimized Defaults F10: Save

ACPI Aware O/S (Yes)

This item supports ACPI (Advanced Configuration and Power Management Interface). Use this item to enable or disable the ACPI feature.

Power Management (Enabled)

Use this item to enable or disable a power management scheme. If you enable power management, you can use this item below to set the power management operation. Both APM and ACPI are supported.

Using BIOS

Suspend Mode (Disabled)

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

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.

LAN/Ring Power On (Disabled)

Your system can enter the software power down. If you enable this item, the system can automatically resume if there is traffic on the network adapter.

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.

Resume From USB Device (Disabled)

If you enable this item, the system can automatically resume by using the USB device.

Keyboard Power On (Disabled)

If you enable this item, system can automatically resume by pressing hot keys on the keyboard or typing in the password. You must use an ATX power supply in order to use this feature.

Password (Press Enter)

When Keyboard Power On is set to "Password", this item is available and users can enter the password.

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) 1985-2004, American Megatrends, Inc.
PCI / Plug and Play Setup

Plug & Play Aware O/S	Yes	Help Menu
Primary Graphics Adapter	PCI-E VGA	No: lets the BIOS configure all the devices in the system. YES: lets the operating system configure Plug and Play (PnP) devices not required for boot if your system has a Plug and Play operating system.
Allocate IRQ to PCI VGA	Yes	
PCI IDE BusMaster	Enabled	

↑↓ → ← : Move +/-: Value Enter: Select F1: General help ESC: Exit
F8: Best Performance Settings F9: Optimized Defaults F10: Save

Using BIOS

Plug & Play Aware O/S (Yes)

This item select which, the BIOS or the operating system, will configure all the devices in the system. If set NO, the BIOS configures the system; set YES, the operating system configure Plug and Play devices.

Primary Graphics Adapter (PCI / PCI-E VGA)

This item indicates if the primary graphics adapter uses the PCI or the PCI-E 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 (Disabled)

This item enables or disabled 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) 1985-2004, American Megatrends, Inc.
BIOS Security Features

<div>Security Settings</div> <div>Supervisor Password : Not Installed</div> <div>Change Supervisor Password Press Enter</div> <div>Password Check Setup</div>	<div>Help Menu</div> <div>Install or Change the password.</div>
---	---

↑↓ → ← :Move +/-: Value Enter: Select F1: General help ESC: Exit
F8: Best Performance Settings F9: Optimized Defaults F10: Save

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.

Password Check (Setup)

This item enables users to choose the time when the system will perform password check.

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) 1985-2004, American Megatrends, Inc.
CPU PnP Setup

Configure advanced CPU settings	Help Menu
Manufacturer: Intel DRAM Frequency Auto CPU Frequency 200MHz CPU Over-clocking Func. Disabled Memory Voltage 2.65V	Auto 400 MHz 533 MHz

↑↓ → ← : Move +/-: Value Enter: Select F1: General help ESC: Exit
F8: Best Performance Settings F9: Optimized Defaults F10: Save

Manufacturer (Intel)

These items indicate the brand of the CPU installed in your system.

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.

Memory Voltage (2.65V)

This item determines the DDR 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) 1985-2004, American Megatrends, Inc.
Hardware Monitor

<div>-- System Hardware Monitor -- Vcore : 1.343 V Vdimm : 1.822 V VCC3V : 3.241 V CPU FAN Speed : 2463 RPM Power FAN Speed : 5818 RPM System FAN Speed : 0 RPM CPU Temperature : 27°C/80°F System Temperature : 28°C/82°F</div>	<div>Help Menu</div>
--	----------------------

↑↓←→ : Move +/- : Value Enter : Select F1: General help ESC: Exit
F8: Best Performance Settings F9: Optimized Defaults F10: Save

System Hardware Monitor

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

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

Load Best Performance Settings

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

Load Optimal Defaults

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

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, press <Y> to save and exit, or press <N> 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, press <Y> to discard changes and exit, or press <N> to return to the main menu.



Note: If you have made settings that you do not want to save, use the “Discard Changes and Exit” item and press <Y> 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.

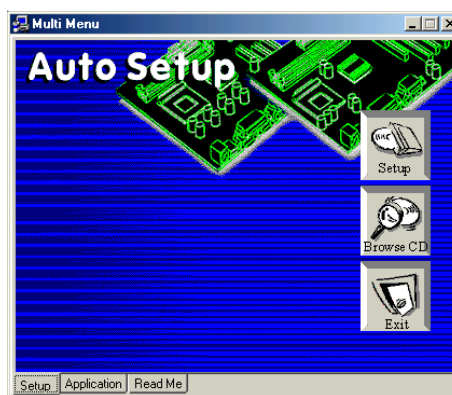
Auto-installing under Windows 2000/XP

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, such as DOS, WIN NT, or WIN98/95. Always go to the correct folder for the kind of OS you are using.</p> <p>In install the software, execute a file named SETU.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.

AMI/AWARD Flash Utility

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

WinFlash Utility

The Award WinFlash utility is a Windows version of the DOS Award BIOS flash writer utility. The utility enables you to flash the system BIOS stored on a Flash Memory chip on the motherboard while in a Windows environment. This utility is currently available for WINXP\ME\2000\98SE. To install the WinFlash utility, run WINFLASH.EXE from the following directory: \UTILITY\WINFLASH 1.51

This concludes Chapter 4.

Using the Motherboard Software

Caractéristiques

Processeur

La carte mère utilise un type LGA775 de Pentium 4/Celeron D présentant les fonctionnalités suivantes :

- Peut recevoir les derniers processeurs Intel Pentium 4/Celeron D
- Support un bus système (FSB) de 800/533 MHz
- Supporte 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' dans le même processeur physique.

Chipset

Le chipset 915P Northbridge (NB) Chipset et ICH6 Southbridge (SB) se base sur une architecture innovante et évolutive avec des performances et une fiabilité éprouvées.

915P(NB)

- Prend en charge l'adressage de bus hôte 32 bits, permettant au CPU d'accéder à l'espace de 4 Go complet d'adresse mémoire.
- Possède une "12-deep In-Order Queue" pour prendre en charge jusqu'à douze requêtes d'adresse en pipeline exceptionnelles sur le bus hôte.
- Prend en charge un PCI Express x16 pour Interface Graphique, entièrement conforme à la Spécification de Base PCI Express révision 1.0a.
- Prend en charge les technologies DDR 256-Mb, 512-Mb et 1-Gb pour x8 et x16 périphériques
- Prend en charge les DDR 333/400 MHz jusqu'à quatre DIMM sans tampon avec une taille mémoire maximum de 4 Go.



Le chipset 915P peut seulement prendre en charge les technologies DDR 256-Mb, 512-Mb et 1-Gb pour x8 et x16 périphériques, NE prend PAS en charge la technologie DDR 128-Mb. C'est à dire que le Module Mémoire Double Face de 256 Mo & le Module Mémoire Simple Face de 128 Mo NE sont PAS pris en charge.

ICH6 (SB)

- Fonctions de Contrôleur DMA Amélioré, de contrôleur d'interruption, et de minuterie
- Conforme aux spécifications de base PCI Express, Révision 1.0a
- Conforme aux spécifications PCI 2.3.
- Conforme aux spécifications ATA 1.0a Série
- Contrôleur d'Hôte USB 2.0 intégré prenant en charge jusqu'à huit ports USB 2.0
- Contrôleur LAN intégré
- Conforme à la spécification Azalia prenant en charge 8 Canaux de sorties audio
- Contrôleur IDE intégré prenant en charge Ultra ATA100/66/33

Mémoire

- Prend en charge les DIMM SDRAM DDR DDR2 533/400 MHz
- Reçoit deux DIMM sans tampon
- Jusqu'à 1 Go par DIMM avec une taille de mémoire maximum de 2 Go

Audio

- Conforme aux spécifications AC'97 2.3
- Répond aux exigences de performances pour l'audio sur les systèmes PC99/2001
- Conforme aux exigences audio de Microsoft WHQL/WLP 2.0
- Le support 48KHz de la sortie S/PDIF est conforme aux spécifications AC'97 rev2.3
- Audio Positionnelle 3D HRTF et 10 Bandes d'équaliseur de logiciel

Options d'extension

- Deux logements PCI Express x16 pour Interface Graphique
- Un logement PCI Express x1
- Trois emplacements PCI v2.3 bits
- Un en-tête demi-hauteur IDE de 40 broches supportant deux canaux IDE
- Une interface lecteur de disquettes
- Quatre connecteurs SATA à 7 broches

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

LAN sur carte (Optionnel)

- Fast Ethernet MAC intégré, puce physique, et émetteur-récepteur sur une seule puce
- Fonctionnement 10 Mbps et 100 Mbps
- Supporte l'auto-négociation N-way en 10Mbps et 100Mbps
- Conforme aux standards PC99/PC2001
- Supporte la gestion d'alimentation ACPI
- Capacité Half/Full duplex
- Prend en charge le Contrôle de Flux Full Duplex (IEEE 802.3x)

E/S intégrées

- 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

Microprogramme BIOS

La carte mère utilise AMI BIOS qui permet à l'utilisateur de configurer bon nombre de fonctions du système, dont :

- Gestion d'alimentation
- Alertes de réveil
- Paramètres de CPU
- Synchronisation de CPU et de mémoire

Le micro-programme peut également être utilisé pour définir les paramètres pour différentes vitesses d'horloge de processeur.



Certaines spécifications matérielles et certains éléments logiciels sont susceptibles de modification sans préavis.

Feature

Prozessor

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

- Nimmt die neuesten Pentium 4/Celeron D Prozessoren auf
- Unterstützt einen Systembus (FSB) mit 800/533 MHz.
- Unterstützt "Hyper-Threading"-Technologie.

"Hyper-Threading"-Technologie läßt das Betriebssystem glauben, es sei an zwei Prozessoren angeschlossen, was zwei parallele Threads auf separaten 'logischen' Prozessoren im selben physischen Prozessor erlaubt.

Chipsatz

Der 915P Northbridge (NB)- sowie ICH6 Southbridge (SB)-Chipsatz basiert sich auf eine innovative und skalierbare Architektur mit bewiesener Zuverlässigkeit und Leistung.

915P (NB)

- Unterstützung einer 32-Bit Host-Bus-Adressierung, welche der CPU einen Zugriff zum kompletten Speicherplatz von 4 GB erlaubt.
- Zur Unterstützung von bis zu 12 aufeinanderfolgenden offenstehenden Befehlen im Host Bus, hat er eine 12fach verstärkte Reihenfolgewarteschlange.
- Unterstützung von PCI Express x16 für die Grafikschnittstelle, gemäß den PCI Express-Base-Spezifikationen Revision 1.0a.
- Unterstützung von 256-Mb, 512-Mb und 1-Gb DDR-Technologien für x8 und x16 Zubehör.
- Unterstützt DDR 333/400 MHz bis zu vier ungepufferte DIMM mit max. 4 GB



Das 915P Chipset kann nur 256-Mb, 512-Mb und 1-Gb DDR-Technologien für x8 und x16 Zubehör unterstützen; KEINE Unterstützung für die 128-Mb DDR-Technologie. Das bedeutet, daß das 256 MB Double Side Memory Modul & 128 MB Single Side Memory Modul nicht unterstützt wird.

ICH6 (SB)

- Verbesserter DMA-Kontroller, Unterbrechungskontroller und Zeitfunktionen.
- Gemäß PCI Express-Base-Spezifikationen, Revision 1.0a.
- Gemäß Spezifikationen von PCI 2.3.
- Gemäß Serial ATA 1.0a Spezifikationen.
- Integrierter USB 2.0 Host-Kontroller, welcher bis zu acht USB 2.0 Steckvorrichtungen unterstützt.
- Integrierter LAN-Kontroller.
- Gemäß Azalia-Spezifikation, mit Unterstützung von 8 Audio-Output-Kanälen.
- Integrierter IDE-Kontroller, welcher Ultra ATA100/66/33 unterstützt.

Arbeitsspeicher

- Unterstützung von DDR2 533/400 MHz DDR SDRAM DIMMs.
- Es können zwei ungepufferte DIMMs aufgenommen werden.
- Bis zu 1 GB pro DIMM mit maximaler Speicherkapazität von bis zu 2 GB.

Audio

- Entspricht AC'97 2.3 Spezifikationen
- Entspricht den Leistungsanforderungen für Audio auf PC99/2001 Systemen
- Entspricht den Microsoft WHQL/WLP 2.0 Audio-Anforderungen
- Unterstützt 48KHz S/PDIF-Ausgabe, entspricht AC'97 Rev. 2.3 Spezifikation
- HRTF 3D Positional-Audio und 10-Band Software-Equalizer

Erweiterungsmöglichkeiten

- Zwei PCI-Express x16 Slots für eine Grafikschnittstelle
- Ein PCI Express x1 Slot
- Drei 32-bit PCI v2.3-Steckplätze
- Einen 40-Pin IDE low profile-Stecker, die zwei IDE-Kanäle unterstützen
- Ein Diskettenlaufwerkanschluss
- Vier 7-Pin SATA-Stecker

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

Onboard LAN (Optional)

- Integrierter Fast Ethernet MAC, physikalischer Chip und Transceiver in einem einzigen Chip
- Betrieb bei 10Mbps und 100Mbps
- Unterstützt 10Mbps und 100Mbps N-way Auto-Verhandlung
- Entspricht PC99/PC2001 Standards
- Unterstützt ACPI Versorgungs-Betriebssystem
- Halb-/Vollduplex-Fähigkeit
- Unterstützt Vollduplex-Flusskontrolle (IEEE 802.3x)

Integrierte I/O

- Zwei PS/2-Anschlüsse für Maus und Tastatur
- Eine serielle Schnittstelle
- Eine parallele Schnittstelle
- Vier USB-Anschlüsse
- Ein LAN- Steckplatz (optional)
- Audioanschlüsse für Mikrofon, line-in und line-out

BIOS-Firmware

Das Motherboard verwendet AMI BIOS, das es Benutzern gestattet, viele Systemfunktionen inkl. der Folgenden zu konfigurieren:

- Energieverwaltung
- Aufweckfunktionen
- CPU-Parameter
- CPU- und Arbeitsspeicherfrequenz

Die Firmware kann auch zur Einstellung von Parametern für verschiedene Prozessortaktgeschwindigkeiten verwendet werden.



Manche Hardwarespezifikationen und Softwareelemente können ohne Ankündigung geändert werden.

Caratteristiche

Processore

La scheda madre utilizza un tipo LGA775 di Pentium 4/Celeron D che offre le seguenti caratteristiche:

- Compatibilità con i più recenti processori Intel Pentium 4/Celeron D
- Supporta un bus di sistema (FSB) fino a 800/533 MHz
- Supporta tecnologia "Hyper-Threading"

La tecnologia "Hyper-Threading" induce il sistema operativo a pensare di essere collegato a due processori, questo permette di eseguire due thread in parallelo, ambedue su processori "logicamente" separati all'interno dello stesso processore.

Chipset

I chipset 915P Northbridge (NB) e ICH6 Southbridge (SB) sono basati su una architettura innovativa e scalabile dalle prestazioni e affidabilità garantite.

915P (NB)

- Supporta un indirizzamento host bus da 32 bit, consentendo alla CPU di accedere a tutti i 4 GB della memoria di sistema.
- Dispone di una coda in ordine per supportare sino a dodici richieste di indirizzo pipelined in sospenso sull'host bus.
- Supporta un PCI Express x16 per interfaccia grafica, completamente compatibile con le specifiche di revisione 1.0a di PCI Express Base.
- Supporta tecnologie DDR da 256-Mb, 512-Mb e 1-Gb per dispositivi x8 e x16
- Supporto di fino a quattro DIMM senza buffer per DDR a 333/400 MHz con una capacità massima di memoria di 4 GB



Il chipset 915P può supportare solo tecnologie DDR da 256-Mb, 512-Mb e 1-Gb per dispositivi da x8 e x16, NON supporta tecnologie DDR da 128-Mb. Cioè, non sono supportati moduli di memoria Double Side da 256-MB e moduli di memoria Single Side da 128-MB.

ICH6 (SB)

- Controller DMA migliorato, controller interrupt e funzioni di timer
- Compatibile con le Specifiche di base del PCI Express, Revision 1.0a
- Conforme alle specifiche PCI 2.3.
- Conforme alle specifiche Serial ATA 1.0a
- Host Controller USB 2.0 integrato in grado di supportare sino a 8 porte USB 2.0
- Controller LAN integrato
- Compatibile con le specifiche di Azalia in grado di supportare 8 canali di audio output
- Integrato con controller IDE supporta Ultra ATA100/66/33

Memoria

- Supporta DDR2 533/400 MHz DDR SDRAM DIMM
- Alloggia 2 DIMM unbuffered
- Dimensione massima della DIMM pari ad 1 GB per un ammontare massimo di 2 GB di memoria

Audio

- Conforme alle specifiche AC'97 2.3
- Conforme ai requisiti di prestazione audio su sistemi PC99/2001
- Megfelel a Microsoft WHQL/WLP 2.0 audio követelményeinek
- Supporto di output S/PDIF a 48 KHz conforme alla specifica AC'97 rev 2.3
- Positional Audio 3D HRTF e 10 bande di equalizzazione software

Opzioni di espansione

- Due slot PCI Express x16 per interfaccia grafica
- Un PCI Express x1
- Tre slot PCI v2.3 a 32 bit
- Una connettori IDE a 40 pin che supportano due canali IDE
- Una interfaccia floppy disk
- Quattro connettori SATA a 7 pin

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

LAN Onboard (Opzionale)

- Fast Ethernet MAC integrata, chip fisico e transceiver nello stesso chip
- Funzionamento a 10Mbps e 100Mbps
- Supporto della negoziazione automatica N-way a 10Mbps e 100Mbps
- Conforme con standard PC99/PC2001
- Supporto di gestione del consumo energetico ACPI
- Funzionalità half/Full duplex
- Supporto di controllo flusso full duplex (IEEE 802.3x)

I/O integrato

- Due porte PS/2 per mouse e tastiera
- Una porta seriale
- Una porta parallela
- Quattro porte USB
- Una porta LAN (opzionale)
- Jack audio per microfono, ingresso linea e uscita linea

Firmware BIOS

Questa scheda madre adotta un BIOS AMI che permette agli utenti di configurare le caratteristiche principali del sistema, inclusi:

- Gestione energia
- Allarmi wake up
- Parametri CPU
- Temporizzazione CPU e memoria

Il firmware può anche essere usato per impostare i parametri per diverse velocità di clock.



Alcune specifiche hardware e software potrebbero essere soggette a cambiamenti senza preavviso.

Características

Procesador

La placa principal usa un tipo LGA775 de Pentium 4/Celeron D que lleva las sigtes. características:

- Acomoda los últimos procesadores Intel Pentium 4/Celeron D
- Soporta un sistema de bus (FSB) de 800/533 MHz
- Soporta tecnología "Hyper-Threading"

La tecnología "Hyper-Threading" habilita el sistema operativo para que piense como si estuviera conectado a dos procesadores, que permite dos hilos a correr en paralelo, ambos en procesadores "lógicos" dentro del mismo procesador físico.

Chipset

Los chipsets Northbridge 915P (NB) y Southbridge ICH6 (SB) están basados en una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

915P (NB)

- Soporta la dirección de bus anfitrión 32-bit, que permite la CPU acceder a todos los 4 GB del espacio de dirección de memoria.
- Tiene 12-deep In-Order Queue (Fila En Orden de Profundidad 12) para soportar hasta 12 pedidos de dirección sobresalientes en el bus anfitrión.
- Soporta un PCI Express x16 para la Interfaz de Gráficas, completamente conforme a la Especificación Base PCI Express revisión 1.0a.
- Soporta las tecnologías 256-Mb, 512-Mb y 1-Gb DDR para los dispositivos x8 y x16.
- Soporta DDR 333/400 MHz hasta cuatro DIMMs sin buffer con un tamaño de memoria máximo de 4GB.



El chipset 915P solamente puede soportar las tecnologías 256-Mb, 512-Mb y 1-Gb DDR para los dispositivos x8 y x16, NO soporta la tecnología 128-Mb DDR. Es decir, NO soporta el Módulo de Memoria de Doble Lado 256 MB & Módulo de Memoria de Lado Singular 128 MB.

ICH6 (SB)

- Controlador DMA reforzado, controlador de interrupción y funciones de cornometraje.
- Conforme con la Especificación Base PCI Express, Revisión 1.0a.
- Conforme con la espec. PCI 2.3.
- Conforme con la espec. Serial ATA 1.0a
- Controlador Anfitrión USB 2.0 Integrado soporta hasta ocho puertos USB 2.0.
- Controlador LAN integrado .
- Conforme con la especificación Azalia que soporta 8 canales de salidas de sonido.
- Controlador IDE integrado soporta Ultra ATA100/66/33.

Memoria

- Soporta DDR2 533/400 MHz DDR SDRAM DIMMs
- Acomoda dos DIMMS sin buffer
- Hasta 1 GB por DIMM con el tamaño de memoria máximo hasta 2 GB

Audio

- Conformidad de las especificaciones AC'97 Rev2.3
- Satisface los requisitos de rendimiento para el audio en los sistemas PC99/2001
- Satisface los requisitos de audio de Microsoft WHQL/WLP 2.0
- Soporta la salida 48KHz of S/PDIF y con conformidad de la especificación AC'97 rev2.3
- Audio Posicional HRTF 3D y 10 Bandas de Ecualizador en Software

Opciones de expansión

- Dos ranuras PCI Express x16 para la Interfaz de Gráficas
- Un PCI Express x1
- Tres ranuras conforme con 32-bit PCI v2.3
- Una cabezal de perfil bajo 40-pin IDE dos soporta cuatro canales IDE
- Una interfaz para unidad de disquete
- Cuatro conectores SATA de 7-pin

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

LAN en placa (Optativo)

- Fast Ethernet MAC integrado, chip físico, y transceptor en un solo chip
- Operación 10Mbps y 100Mbps
- Soporta N-way auto-negociación 10Mbps y 100Mbps
- Conformidad de las normas PC99/PC2001
- Soporta administración de suministro ACPI
- Capacidad de duplex Medio/Total
- Soporta Control de Flujo de Duplex Total/Full Duplex Flow Control (IEEE 802.3x)

I/O integrado

- Dos puertos PS/2 para ratón y de teclado
- Un puerto serie
- Un puerto paralelo
- Cuatro puertos USB
- Un puerto LAN (optativo)
- Clavijas de sonido para micrófono, entrada y salida de línea

Firmware de BIOS

La placa base utiliza AMI BIOS que permite a los usuarios configurar muchas funciones de sistema, incluyendo las siguientes:

- Administración de energía
- Alarmas de encendido
- Parámetros CPU
- Temporización de memoria y CPU

El firmware también puede utilizarse para ajustar los parámetros para diversas velocidades del reloj del procesador.



Algunas especificaciones de hardware y elementos de software están sujetos a cambios sin previo aviso.

Características

Processador

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

- Acomoda os processadores Intel Pentium 4/Celeron D mais recentes
- Suporta um bus sistema (FSB) de 800/533 MHz
- Suporta tecnologia “Hyper-Threading”

A tecnologia “Hyper-Threading” permite que o sistema operativo “pense” que está ligado a dois processadores, permitindo que sejam executados dois threads em paralelo, ambos em processadores “lógicos” separados dentro do mesmo processador físico.

Chipset

Os chipsets da 915P Northbridge (NB) e ICH6 Southbridge (SB) são baseados em uma arquitetura inovativa e escalável com performance e confiabilidade comprovada.

915P (NB)

- Suporta um endereçamento no host bus de 32-bit, permitindo que o CPU acesse completamente aos 4 GB de espaço de endereçamento da memória.
- Possui uma Fila de Espera Em-Ordem com capacidade para 12 para suportar até doze pedidos de endereçamento estruturados e pendentes no host bus.
- Suporta um PCI Express x16 Interface de Gráficos, que cumpre inteiramente com a revisão de Especificação de Base 1.0a. do PCI Express.
- Suporta 256-Mb, 512-Mb e tecnologias 1-Gb DDR para aparelhos x8 e x16
- Suporta DDR 333/400 MHz com até quatro DIMMs sem buffers com tamanho de memória máxima de 4 GB



Chipset (conjunto de chips) 915P só consegue suportar tecnologias 256-Mb, 512-Mb e 1-Gb DDR para aparelhos x8 e x16, NÃO suporta tecnologia 128-Mb DDR. Ou seja, NÃO suporta Módulo de Memória Bidireccional 256 MB & Módulo de Memória Unidireccional 128 MB.

ICH6 (SB)

- Controlador DMA Melhorado, controlador de interruptor, e funções de temporizador
- Cumpre com a Especificação de Base do PCI Express, Revisão 1.0a
- Em conformidade com a especificação PCI 2.3
- Compatível com Série ATA 1.0a
- Controlador Host 2.0 USB integrado suportando até oito portas USB 2.0
- Controlador LAN integrado
- Cumpre com a especificação Azalia suportando 8 Canais de saídas áudio
- Controlador IDE integrado suporta Ultra ATA100/66/33

Memória

- Suporta DDR2 533/400 MHz DDR SDRAM DIMMs
- Acomoda duas DIMMs sem buffers
- Até 1 GB por DIMM com tamanho de memória máxima de até 2 GB

Áudio

- Cumpre com as especificações AC'97 2.3
- Cumpre com os requisitos de performance para áudio em sistemas PC99/2001
- Cumpre com os requisitos áudio WHQL/WLP 2.0 da Microsoft audio
- O suporte 48KHz de saída S/PDIF é compatível com a especificação AC'97 rev2.3
- Áudio Posicional HRTF 3D e 10 Bandas de Equalizador de Software

Opções de expansão

- Duas ranhuras PCI Express x16 para Interface de Gráficos
- Um ranhura 1 x PCI Express
- Três ranhuras compatíveis com PCI v2.3 de 32 bits
- Uma cabeçalhos de baixo perfil IDE 40 pinos, que suportam dois dispositivos IDE
- Uma interface para unidade de disquete
- Quatro conectores SATA de 7 pinos

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

Onboard LAN (Opcional)

- Fast Ethernet MAC integrado, chip físico e transreceptor em um único chip
- Funcionamento 10Mbps e 100Mbps
- Suporta auto-negociação N-way de 10Mbps e 100Mbps
- Compatível com os standards PC99/PC2001
- Suporta gerenciamento de força ACPI
- Capacidade dupla pela metade/ou na totalidade
- Suporta Controlo de Fluxo Duplo Completo (IEEE 802.3x)

E/S integradas

- Duas portas PS/2 para o rato e o teclado
- Uma porta de série
- Uma porta paralela
- Quatro portas USB
- Uma porta LAN (opcional)
- Jacks audio para microfone, line-in e line-out

Firmware do BIOS

A motherboard usa o AMI BIOS que permite aos usuários configurar vários recursos do sistema, como:

- Gerenciamento de energia
- Alarmes de reativação
- Parâmetros da CPU
- Sincronização da CPU e memória

O firmware também pode ser usado para definir os parâmetros de diferentes velocidades de clock do processador.



Alguns itens de software e especificação de hardware estão sujeitos a alterações sem prévio aviso.

機能 プロセッサ

本マザーボードは LGA775タイプのPentium 4/Celeron D に対応したもので、次の特徴があります：

- Intel Pentium 4 /Celeron D プロセッサに対応。
- 800/533MHzのシステムバス(FSB)をサポート。
- “ハイパースレッド(Hyper-Threading)”技術に対応。

ハイパースレッド 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

915P Northbridge (NB)とICH6 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。

- 915P (NB)**
- 32ビットホストバスアドレッシング機能対応、これでCPUが4 GBのメモリアドレス空間すべてをアクセス可能。
 - 12組ジャブ扱い可能の中順(In-Order)キュー採用、これでホストバスでの12つの未完成パイプライン・アドレス要求に対応。
 - グラフィックインターフェース用PCI Express x16 スロットを提供、これでPCI Express Base Specification revision 1.0aに完全対応。
 - 8倍速または16倍速のデバイスの256-Mbや512-Mb、1-Gb のDDR技術に対応。
 - DDR 333/400 MHzに対応し、4つの非バッファードDIMMに最大4 GBまでのメモリを取り付け可能



915P チップセットは8倍速または16倍速のデバイスの256-Mbや512-Mb、1-Gb のDDR技術のみ対応。128-Mb DDR 技術は対応されません。具体的に、256 MB二面メモリモジュールや128 MB 片面メモリモジュールは対応されませんので、ご注意。

- ICH6 (SB)**
- 強化型DMAコントローラと、割り込みコントローラ、タイマー機能を提供。
 - PCI Express Base Specification 1.0a版に完全対応。
 - PCI 2.3仕様に準拠しています。
 - シリアルATA 1.0a仕様に準拠し。
 - 統合型USB 2.0ホストコントローラで、最大8つまでのUSB 2.0 ポートに対応可能。
 - 統合型LANコントローラ。
 - Azalia規格に準拠で、8チャンネルのオーディオ出力可能。
 - 統合型IDEコントローラで、Ultra ATA100/66/33サポート可能。

メモリ

- DDR2 533/400 MHzのDDR SDRAM DIMMに対応。
- 2つの非バッファードDIMMを搭載。
- 各DIMMスロットに1 GBまで装着可能で、合計2GBまでをサポート。

オーディオ

- AC'97 2.3 規格に準拠
- PC99/2001 システムに関するオーディオ要求に適合
- Microsoft WHQL/WLP 2.0 オーディオ要求に適合
- 48KHz の S/PDIF 出力をサポートし、AC'97 rev2.3 規格に準拠
- HRTF 3D ポジショナル・オーディオ と 10 段のソフト式イコライザ

拡張オプション

- PCI Express x16 スロットが2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3つ
- 40ピンIDEロープロファイルヘッダー(2つのIDEチャネルをサポート)が1つ
- FDドライブ インターフェイス が1つ
- 7ピン SATAコネクタが4つ

このマザーボードは、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。

オンボードLAN (オプション)

- 高速イーサネット MAC、物理層チップ、およびトランシーバーを単一のチップに統合
- 10 Mb/秒および100 Mb/秒動作可能
- PC99/PC2001標準に準拠
- 10Mb/秒と100Mb/秒との Nウェイ自動折衝動作をサポート
- ACPI 電源管理機能をサポート
- 半/全二重動作とが可能
- 全二重フロー制御 (IEEE 802.3x)をサポート

統合I/O

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(オプション)が 1つ
- マイク、ラインイン、ラインアウト用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、次を含めた多様なシステム構成を行えます。

- 電源管理
- ウェークアップアラーム
- CPUパラメータ
- CPUおよびメモリのタイミング

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。



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

특징

프로세서

본 마더보드는 LGA775 타입의 인텔 펜티엄 4/셀러론 D 을 사용하여 다음과 같은 특성을 지닌다:

- 최신 인텔 펜티엄 4/셀러론 D프로세서 사용
- 800/533 MHz시스템 버스(FSB) 지원
- "Hyper-Threading" 기술 지원

"Hyper-Threading" 기술은 운영체제를 두 개의 프로세서에 연결한 것처럼 두개의 트래드를 패러렐로 실행하여 같은 물리적 프로세서 안에서 각기 다른 논리적 프로세서를 실행할 수 있게 한다.

칩셋

915P Northbridge (NB) 와 ICH6 Southbridge (SB) 칩셋은혁신 신적이고 범위성을 지닌 아키텍처를 바탕으로 인정된 신뢰성과 성능을 지닌다.

915P(NB)

- 32 비트 호스트 버스 어드레스 지원으로, CPU 가 총 4 GB 메모리 어드레스 공간에 액세스할 수 있다.
- 12-deep In-Order Queue 가 호스트 버스에서 최대 12 개의 파이프라인 어드레스 요청을 지원한다.
- 그래픽 인터페이스를 위해 1 개의 PCI Express x16 지원, PCI Express Base 1.0a 사양 완전 부합.
- x8 및 x16 장치를 위해 256-Mb, 512-Mb, 1-Gb DDR 기술 지원.
- DDR 333/400 MHz 지원, 최대 4 개의 unbuffered DIMM , 총 메모리 크기 4 GB



915P 칩셋은 x8 및 x16 장치를 위해 256-Mb, 512-Mb, 1-Gb DDR 기술만을 지원하고, 128-Mb DDR 기술은 지원하지 않는다. 즉, 256 MB 양면 메모리 모듈 및 128 MB 단면 메모리 모듈을 지원하지 않는다.

ICH6 (SB)

- 보강 DMA 컨트롤러, 인터럽트 컨트롤러, 및 타이머 기능
- PCI Express Base 1.0a 사양 부합
- PCI 2.3 사양 호환.
- 시리얼 ATA 1.0a 사양 호환
- 최대 8 개의 USB 2.0 포트를 지원하는 통합 USB 2.0 호스트 컨트롤러
- 통합 LAN 컨트롤러
- 오디오 출력에 8 개 채널을 지원하는 Azalia 사양 부합
- 통합 IDE 컨트롤러로 Ultra ATA100/66/33 지원

메모리

- DDR2 533/400 MHz DDR SDRAM DIMM 지원
- 2 개의 unbuffered DIMM 사용
- DIMM 당 최대 1 GB, 최대 메모리 2 GB

오디오

- AC'97 2.3 사양 부합
- PC99/2001 시스템의 오디오를 위한 퍼포먼스 요구 조건 부합
- 마이크로소프트 WHQL/WLP 2.0 오디오 요구 조건 부합
- AC'97 rev2.3 사양에 부합하는 S/PDIF 출력 48KHz 지원
- HRTF 3D Positional Audio 및 10 밴드의 소프트웨어 이퀄라이저

확장 옵션

- 그래픽 인터페이스를 위한 PCI 익스프레스 x16 2 개
- PCI Express 1 개 x 슬롯 1 개
- 32 비트 PCI v2.3 호환 슬롯 3 개
- 2 개의 IDE 채널을 지원하는 40 핀 IDE 로우 프로파일 헤더 1 개
- 플로피 디스크 드라이브 인터페이스 1 개
- 7 핀 SATA 커넥터 4개

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

보드 내장 LAN (선택 사항)

- 싱글 칩 위에 통합 패스트 이더넷 MAC, 물리적 칩, 및 트랜시버
- 10Mbps 및 100Mbps 오퍼레이션
- 10Mbps 및 100Mbps N-way auto-negotiation 지원
- PC99/PC2001 표준 부합
- ACPI 전원 관리 지원
- Half/Full 듀플렉스 기능
- Full 듀플렉스 플로우 제어 (IEEE 802.3x) 지원

통합 I/O

- 마우스와 키보드용 PS/2 포트 2 개
- 시리얼 포트 1개
- 패러럴 포트 1 개
- USB 포트 4 개
- LAN 포트 (선택사항) 1 개
- 마이크의 라인 입력 및 라인 출력을 위한 오디오 잭

BIOS 펌웨어

본 메인보드는 AMI BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구형할 수 있다

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

펌웨어는 다른 프로세서의 클럭 속도를 설정하는 데도 사용될 수 있다



하드웨어 사양 및 소프트웨어 아이템은 사전 통보없이 변경될 수 있습니다

Multi-Language Translation

功能 處理器

本主機板適用 LGA775型最新 Pentium 4/Celeron D，且具有如下功能：

- 支援最新 Intel Pentium 4/Celeron D 處理器
- 支援高達800/533MHz之系統匯流排(FSB)
- 支援使用超執行緒(Hyper-Threading)技術

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

915P北橋(NB)及ICH6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。

915P (NB)

- 支援32位元主事匯流排定址，藉此CPU 存取整個4 GB的記憶位址空間
- 具有一個可容納12組資料之跳序(In-order)佇列，可支援最多12個在主控匯流排上發生的未完成管線位址要求
- 具有一個繪圖卡用之PCI Express x16 介面，完全符合PCI Express Base Specification 1.0a版
- 支援8倍速及16倍速之256-Mb、512-Mb、及1-Gb DDR技術
- 支援 DDR 333/400 MHz，具有4個非緩衝DIMM，總共最高可安裝 4 GB之記憶體



915P晶片組僅能支援8倍速及16倍速之256-Mb、512-Mb、及1-Gb DDR技術，惟，並不支援 128-Mb DDR 技術。具體而言，不支援256 MB雙面記憶體模組及128 MB單面記憶體模組。

ICH6 (SB)

- 增強型DMA控制器、中斷控制器、及計時功能
- 符合PCI Express Base Specification 1.0a版
- 符合PCI 2.3規格
- 符合序列ATA 1.0a規格；
- 內建式USB 2.0主控，可支援8個USB 2.0埠
- 內建式區域網路控制器
- 符合Azalia規格，支援8聲道音訊輸出
- 整合式IDE控制器，支援Ultra ATA100/66/33

記憶體

- 支援DDR2 533/400 MHz DDR SDRAM DIMM
- 可安裝2個非緩衝式DIMM
- 各DIMM可安裝1GB記憶體，共可支援高達2GB的記憶體容量

音效

- 相容於 AC'97 Rev2.3 規格
- 符合PC99/2001系統音訊標準要求
- 符合Microsoft WHQL/WLP 2.0 音訊標準
- 支援 48KHz的 S/PDIF輸出，相容於AC'97 rev2.3規格
- HRTF 3D 方位音效 及 10 波段之軟體等化器

擴充選項

- 2 個繪圖卡用PCI Express x16 介面
- 1 個PCI Express x1 槽
- 3 個32位元PCIv2.3插槽
- 1 個40針IDE低通接頭(支援2個IDE通路)
- 1 個軟碟機介面
- 4 個 7針型SATA連接器

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

機載區域網路 (選購)

- 高速乙太網路 MAC、實體層晶片、及收發模組整合成一個晶片
- 支援10 Mb/秒 及100 Mb/秒模式
- 支援10Mb/秒 及100Mb/秒 N向自動協商功能
- 相容於PC99/PC2001標準
- 支援ACPI 電源管理功能
- 半/全雙工功能
- 支援全雙工串流控制 (IEEE 802.3x)

整合輸出入埠

- 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LAN埠(選購)
- 麥克風音頻插座、線級輸入及線級輸出

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及記憶體的時脈定時

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 型最新的 Pentium 4/Celeron D CPU，具备以下特点：

- 支持最新的 Intel Pentium 4/Celeron D 处理器
- 支持 800/533 MHz 系统总线 (FSB)
- 支持“多线程(Hyper-Threading)”技术

“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

915P 北桥 (NB) 和 ICH6 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。

915P (NB)

- 支持 32 位主机总线寻址，允许 CPU 访问 4 GB 的完整内存地址空间。
- 带 12-deep In-Order Queue，主机总线上最多支持 12 个 Piplined 地址请求。
- 支持 1 个 PCI Express x16 用于图形接口，完全符合 PCI Express Base 规格 1.0a。
- 支持用于 x8 和 x16 设备的 256-Mb、512-Mb 和 1-Gb DDR 技术
- 最多支持 4 个 DDR 333/400 MHz 非缓冲 DIMM 内存模块，内存最大支持 4 GB



915P 芯片组仅支持用于 x8 和 x16 设备的 256-Mb、512-Mb 和 1-Gb DDR 技术，不支持 128-Mb DDR 技术。也就是说该芯片组不支持 256 MB 双面内存模块和 128 MB 单面内存模块。

ICH6 (SB)

- 增强 DMA 控制器、中断控制器和定时器功能
- 符合 PCI Express Base 规格 1.0a
- 符合 PCI 2.3 规格
- 符合串行 ATA 1.0a 规格
- 集成 USB 2.0 主控制器，最多支持 8 个 USB 2.0 端口
- 集成 LAN 控制器
- 符合 Azalia 规格，支持 8 声道音频输出
- 集成 IDE 控制器，支持 Ultra ATA100/66/33

内存

- 支持 DDR2 533/400 MHz DDR SDRAM DIMM
- 支持 2 个非缓冲 DIMM
- 每个插槽支持 1 GB，总共最大可支持 2 GB

音频

- 兼容 AC'97 v2.3 规格
- 符合 PC99/2001 系统音频要求
- 符合 Microsoft WHQL/WLP 2.0 音频要求
- 支持 48KHz S/PDIF 输出, 符合 AC' 97 rev2.3 规格
- HRTF 3D 定位音频和10 段软件均衡器

扩展选项

此主板提供如下扩展选项:

- 2 个 用于图形接口的 PCI Express x16
- 1 个 PCI Express x1 插槽
- 3 个 32 位 PCI v2.3 扩展槽
- 1 个 40-pin IDE 紧凑型接口, 支持 2 个 IDE 通道
- 1 个 软驱接口
- 4 个 7 针 SATA 接口

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

Onboard LAN (可选)

- 单芯片集成了快速以太网 MAC、物理芯片和收发器
- 10Mbps 和 100Mbps 工作
- 支持 10Mbps 和 100Mbps N 路自协商
- 符合 PC99/PC2001 标准
- 支持 ACPI 电源管理
- 半双工/全双工功能
- 支持全双工数据流控制 (IEEE 802.3x)

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 和记忆的定时

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 использует процессоры Pentium 4/Celeron D типа LGA775 и обладает следующими характеристиками:

- Поддерживает новейшие процессоры Intel Pentium 4/Celeron D
- Поддерживает системные шины (FSB) с частотой 800/533MHz
- Поддерживает технологию "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

Чипсеты 915P «Северный мост» (Northbridge, NB) и ICH6 «Южный мост» (Southbridge, SB) построены с использованием инновационной масштабируемой архитектуры, обеспечивающей высокую надежность и производительность.

- 915P(NB)**
- Поддерживает 32-битную адресацию хоста, обеспечивая для CPU адресацию памяти объемом 4ГБ.
 - Поддерживает технологию 12-deep In-Order Queue, обеспечивающую обслуживание до двенадцати заданий, ожидающих на шине хоста.
 - Имеет один разъем для подключения карты графики PCI Express x16; обеспечивает полную совместимость с PCI Express Base, rev. 1.0a.
 - Поддерживает технологии 256-Мб, 512-Мб и 1-Гб DDR для устройств x8 и x16
 - Поддержка до четырех модулей небуферизируемой памяти DDR DIMM 333/400 МГц при максимальном объеме памяти до 4 Гб



Чипсет 915P поддерживает только технологии 256-Мб, 512-Мб and 1-Гб DDR для устройств x8 / x16 и НЕ ПОДДЕРЖИВАЕТ технологии 128-Мб DDR. Таким образом, поддержка модулей памяти 256 Мб Double Side и 128 Мб Single Side ОТСУТСТВУЕТ.

- ICH6 (SB)**
- Расширенные функции контроллера DMA, контроллера прерываний, внутреннего таймера
 - Совместимость с PCI Express Base, Rev. 1.0a
 - Совместимость с PCI 2.3
 - Совместимость с Serial ATA 1.0a
 - Встроенный контроллер хоста USB 2.0 с поддержкой до восьми портов USB 2.0
 - Встроенный контроллер LAN
 - Совместимость с технологией Azalia, поддержка 8-канального аудиовыхода
 - Встроенный контроллер IDE с поддержкой Ultra ATA100/66/33

Память

- Поддержка памяти DDR2 533/400 МГц DDR SDRAM DIMM
- Обслуживает 2 модуля небуферизованной памяти DIMM
- Обслуживает до 1 Гб на модуль DIMM (максимально до 2 Гб памяти)

Multi-Language Translation

Аудио

- Совместимость со спецификацией AC'97 2.3
- Соответствие требованиям для аудио в системах PC99/2001
- Соответствие требованиям для аудио Microsoft WHQL/WLP 2.0
- Поддержка выхода S/PDIF 48 КГц совместимого со спецификацией AC'97 вер. 2.3
- Позиционное аудио HRTF 3D и 10-канальный эквалайзер

Возможности расширения

- Один разъем для карты графики PCI Express x16
- Два слота PCI Express x1
- Три 32-битных слота PCI v2.3
- Один низкопрофильный 40-штырьковый слот IDE, обеспечивающий поддержку двух устройств IDE
- Один разъем для накопителя на гибких дисках
- Четыре 7-штырьковых коннектора SATA

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

Встроенный сетевой адаптер LAN (опционально)

- Интеграция Fast Ethernet MAC, физического чипа и трансивера в едином чипе
- Работа в режимах 10Mbps и 100Mbps
- Поддержка автовыбора режимов N-way 10Mbps и 100Mbps
- Совместимость со стандартами PC99/PC2001
- Поддержка управления электропитанием ACPI
- Поддержка режимов полного и половинного дуплекса
- Поддержка режима Flow Control (IEEE 802.3x) в полном дуплексе

Интегрированный вход/выход

- Два порта PS/2 для подключения мыши и клавиатуры
- Один серийный порт
- Один параллельный порт
- Четыре порта USB
- Один порт LAN (опционально)
- Гнездо для подключения микрофона, гнезда аудио-входа и 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.

Multi-Language Translation

Cechy

Procesor

Płyta główna obsługuje procesory Pentium 4/Celeron D typu LGA775 i posiada następujące właściwości:

- Obsługuje najnowsze procesory Intel Pentium 4/Celeron D
- Obsługuje szynę systemową (FSB) 800/533MHz
- Zabezpiecza technologię "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) 915P i mostek południowy (SB) ICH6 chipsetu oparty jest na nowatorskiej i skalowalnej architekturze o sprawdzonej niezawodności i funkcjonalności.

915P (NB)

- Obsługuje 32-bitowe adresowanie hosta pozwalając procesorowi zaadresować 4 GB pamięci
- Posiada technologię 12-deep In-Order Queue i przetwarza do dwunastu żądań oczekujących na szynie hosta.
- Obsługuje jedno złącze grafiki PCI Express x16; całkowicie zgodne z technologią PCI Express Base, w wersji 1.0a.
- Obsługuje pamięci 256-Mb, 512-Mb i 1-Gb w technologii DDR w urządzeniach x8 i x16
- Obsługuje pamięć DDR 333/400 MHz do cztery niebuforowanych banków DIMM o maksymalnej pojemności do 4 GB



Chipset 915P obsługuje tylko pamięci 256-Mb, 512-Mb i 1-Gb w technologii DDR dla urządzeń x8 i x16 I NIE OBSŁUGUJE pamięci 128-Mb w technologii DDR. To oznacza, że pamięci 256 MB Double Side i 128 MB Single Side NIE SĄ OSŁUGIWANE.

ICH6 (SB)

- Rozszerzony kontroler DMA, kontroler przerwania i funkcje zegara
- Zgodny z technologią PCI Express Base, Rev. 1.0a
- Zgodny z PCI w wersji 2.3
- Zgodny ze standardem Serial ATA 1.0a
- Wbudowany kontroler hosta USB 2.0 obsługuje do ośmiu portów USB
- Wbudowany kontroler LAN
- Zgodny z technologią Azalia: zapewnia 8-kanałowe wyjście audio
- Wbudowany kontroler IDE obsługujący Ultra ATA100/66/33

Pamięć

- Obsługuje pamięci typu DDR2 533/400 MHz DDR SDRAM DIMM
- Zaopatrzony w dwa gniazda niebuforowanej pamięci typu DIMM
- Obsługuje pamięć DIMM do pojemności 1 GB każda; maksymalna możliwa pojemność pamięci do 2 GB

Audio

- Zgodne ze specyfikacją AC'97 w wersji 2.3
- Spełnia wymagania dla audio w systemie PC99/2001
- Spełnia wymagania stawiane audio przez firmę Microsoft w systemie WHQL/WLP 2.0
- Obsługuje wyjście S/PDIF 48KHz zgodne z AC'97 ver.2.3
- Audio HRTF 3D Positional i 10-kanalowy Equalizer

Możliwości rozbudowy

- Dwa gniazda PCI Express x16 dla karty graficznej
- Jedno gniazdo typu PCI Express x1
- Trzy 32-bitowych gniazda zgodnych z PCI w wersji 2.3
- Jedno 40-nóżkowe złącze niskoprofilowe obsługujące dwa urządzenia IDE
- Jedno złącze obsługujące stacje dyskiek
- Cztery 7-nóżkowe złącza SATA

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

Zintegrowana obsługa sieci LAN (opcjonalnie)

- Zintegrowany Fast Ethernet MAC, fizycznie oddzielny chip, oraz transceiver (urządzenie nadawczo-odbiorcze) na jednym chipie
- Przesyłanie z prędkościami 10Mbps i 100Mbps
- Obsługuje prędkości przesyłania 10Mbps i 100Mbps z opcją auto-wyboru N-way
- Zgodność ze standardami PC99/PC2001
- Obsługuje zarządzanie energią w standardzie ACPI
- Zdolność obsługi Half/Full duplex
- Obsługuje kontrolę przesyłania w standardzie Full Duplex (IEEE 802.3x) V

Zintegrowane We/Wy

- Dwa gniazda PS/2 dla myszy i klawiatury
- Jedno gniazdo szeregowo
- Jedno gniazdo równoległe
- Cztery gniazda USB
- Jedno gniazdo LAN (opcjonalnie)
- Gniazdo wejściowe mikrofonowe, gniazdo wejściowe i wyjściowe dźwięku (audio)

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
- Ustalanie 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.

Multi-Language Translation

Vlastnosti

Procesor

Tato základní deska je určena pro procesory Pentium 4/Celeron D LGA775 a může nabídnout následující vlastnosti

- Základní deska je určena pro nejnovější procesy Intel Pentium 4/Celeron D
- Podporuje taktování systémové sběrnice (FSB) na frekvenci 800/533 MHz
- Podporuje technologii „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) 915P a southbridge (SB) ICH6 jsou založeny na inovativní a škálovatelné architektuře s ověřenou spolehlivostí a výkonností.

915P(NB)

- Podporuje 32bitové adresování, umožňující CPU přistupovat k celému adresovému prostoru paměti 4 GB.
- Má 12stupňovou frontu pro podporu až 12 požadavků na adresování v pipeline na hostitelské sběrnici.
- Podpora jednoho rozhraní PCI Express x16 pro grafiku, zcela splňující základní požadavky standardu PCI Express, revize 1.0a.
- Podpora 256 MB, 512 MB a 1 GB DDR technologií pro zařízení x8 a x16
- Podpora pamětí DDR 333/400 MHz se čtyři moduly DIMM bez vyrovnávací paměti, maximální velikost paměti 4 GB



Čipová sada 915P je schopná podporovat pouze technologie 256-Mb, 512-Mb a 1 Gb DDR pro zařízení x8 a x16, NIKOLIV technologie 128-Mb DDR. To znamená, že NEJSOU podporovány paměťové moduly 256 MB DIMM & 128 MB SIMM.

ICH6 (SB)

- Vylepšený řadič DMA, řadič přerušení a funkcí časovače
- Splňuje základní požadavky standardu PCI Express, revize 1.0a
- Splňuje požadavky standardu PCI 2.3
- Splňuje požadavky standardu Serial ATA 1.0a
- Integrované hostitelské řadiče USB 2.0 podporující až osm portů
- Integrovaný řadič LAN
- Splňuje požadavky standardu Azalia, který podporuje 8 kanálový zvukový výstup
- Integrovaný řadič IDE podporující Ultra ATA100/66/33

Paměť

- Podporuje paměťové moduly DDR2 533/400 MHz DDR SDRAM DIMM
- Instalovat je možné až dva DIMM moduly bez vyrovnávací paměti
- Až 1 GB paměti na jeden modul DIMM s maximální velikostí paměti do 2 GB

Zvuk

- Splňuje požadavky standardu AC'97 2.3
- Splňuje výkonnostní požadavky pro audio zařízení na systémech PC99/2001
- Splňuje požadavky pro audio zařízení Microsoft WHQL/WLP 2.0
- Podpora 48 kHz výstupu S/PDIF je ve shodě se specifikací standardu AC'97 verze 2.3
- Audio HRTF 3D a 10pásmový softwarový ekvalizér

Možnosti rozšíření

- Dvě patice PCI Express x16 pro grafickou kartu
- Jedna patice PCI Express x1
- Tři 32bitové patice PCI v2.3
- Jeden nízkoprofilový 40kolíkový konektor IDE podporující připojení dvou zařízení standardu IDE
- Jedno rozhraní pro disketovou mechaniku
- Čtyři 7kolíkové konektory SATA

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

Vestavění síťové rozhraní LAN (volitelně)

- Integrované rozhraní Fast Ethernet MAC, fyzické umístění obvodu i přijímače v jednom čipu
- Provoz 10 Mbps a 100 Mbps
- Podpora provozu 10 Mbps a 100Mbps s Ncestným automatickým vyjednáváním
- Shoda se standardem PC99/PC2001
- Podpora správy napájení ACPI
- Možnost polovičního a plného duplexu
- Podpora plně duplexního řízení toku dat (IEEE 802.3x)

Integrovaný vstup/výstup

- Dva porty PS/2 pro myš a klávesnici
- Jeden sériový port
- Jeden paralelní port
- Čtyři porty USB
- Jeden port LAN (volitelně)
- Zvukové konektory pro mikrofon, zvukový vstup a výstup

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.

Multi-Language Translation

Caracteristici

Procesorul

Placa de bază utilizează Intel Pentium 4/Celeron D tip LGA775 care are următoarele caracteristici:

- Este destinată celor mai recente procesoare Intel Pentium 4/Celeron D
- Funcționează cu bus sistem (FSB) de 800/533 MHz
- Este compatibilă 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

Seturile de chipuri 915P Northbridge (NB) și ICH6 Southbridge (SB) se bazează pe o arhitectură inovatoare și scalabilă, care s-a impus deja prin fiabilitate și performanță.

915P (NB)

- Sprijină adresarea host bus (bus gazdă) de 32 biți, permițând unității centrale să acceseze întreaga cantitate de memorie de 4 GB.
- Dispune de o coadă de așteptare cu adâncimea 12 pentru a sprijini maxim douăsprezece cereri de adresare paralele pe busul gazdei.
- Sprijină PCI Express de 16x pentru interfața grafică, este pe deplin compatibil cu versiunea 1.0a a specificației de bază PCI Express.
- Este compatibil cu tehnologiile de 256-Mb, 512-Mb și 1-Gb DDR, pentru unități de viteză 8x sau 16x
- Compatibil cu DDR 333/400 Mhz cu patru DIMM-uri netamponate (unbuffered) cu memorie maximă de 4GB



Setul de chipuri 915P funcționează doar cu tehnologiile DDR de 256-Mb, 512-Mb și 1-Gb pentru unități de viteză 8x sau 16x. NU suportă tehnologia DDR de 128-Mb. Adică, NU suportă modulele de memorie cu față dublă de 256 MB și cele cu față simplă de 128 MB.

ICH6 (SB)

- Controler DMA îmbunătățit, controler de întreruperi și funcții de temporizare
- Compatibil cu specificația de bază PCI Express, versiunea 1.0a
- Compatibil cu specificația PCI 2.3
- Compatibil cu specificație Serial ATA 1.0a
- Controler gazdă USB 2.0 integrat, care suportă cel mult opt porturi USB 2.0
- Controler LAN integrat
- Compatibil cu specificație Azalia, suportând 8 canale audio de ieșire
- Controler IDE integrat, suportând Ultra ATA100/66/33

Memoria

- Funcționează cu module SDRAM DIMM DDR 533/400 MHz DDR2
- Poate funcționa cu două module DIMM fără zonă tampon
- Poate funcționa cu module DIMM de cel mult 1 GB, iar cantitatea maximă de memorie este de 2 GB

Audio

- Compatibil cu specificația AC'97 2.3
- Corespunde cerințelor de performanță audio pentru sisteme PC99/2001
- Corespunde cerințelor audio Microsoft WHQL/WLP 2.0
- ieșirea de suport 48KHz de S/PDIF corespunde specificației AC'97 rev2.3
- Audio Pozițional HRTF 3D și 10 benzi de Software Equalizer

Opțiuni de extindere

- Două sloturi PCI Express de 16x pentru interfața grafică
- Un PCI Express x1
- Trei sloturi de 32 biți compatibile PCI, versiunea 2.3
- O interfață IDE 40 cu profil plat care poate deservi două unități IDE
- O interfață pentru unitate floppy
- Patru conecitoare SATA cu 7 ace

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

Onboard LAN (opțional)

- integrează Fast Ethernet MAC, cip fizic și emițător-receptor într-un singur cip
- operare 10Mbps și 100Mbps
- asigură auto-negociere N-way 10Mbps și 100Mbps
- corespunde standardelor PC99/PC2001
- asigură economie de energie ACPI
- capacitate Half/Full duplex
- asigură control flux Full Duplex (IEEE 802.3x)

I/O integrată

- Două porturi PS/2, pentru mouse și tastatură
- Un port serial
- Un port paralel
- Patru porturi USB
- Un port LAN (opțional)
- Mufe audio pentru microfon, intrare și ieșire audio

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.

Multi-Language Translation

Спецификация

Процесор

Тази дънна платка използва сокет LGA775 за Pentium 4/Celeron D със следните спецификации:

- поддръжка на последни модели процесори Intel Pentium 4/Celeron D
- поддръжка на системна шина със скорост 800/533MHz
- 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 915P(NB) и южен мост ICH6 (SB) е изграден на базата на оригинална архитектура с възможност за надстройка с доказана надеждност и производителност.

915P (NB)

- 32-bit адресация на шината, което позволява на процесора достъп към пълното адресно пространство на паметта 4GB.
- 12-deep In-Order Queue (12-стъпков конвейерен буфер) с поддръжка на до дванадесет операции за четене на данни от паметта.
- поддръжка на шина PCI Express x16 за графичен интерфейс, напълно съвместима с шината PCI Express Base ревизия 1.0a.
- поддръжка на технологии 256-Mb, 512-Mb и 1-Gb DDR за x8 и x16 устройства
- Поддръжка на четири небуферирани модула памет DIMM DDR 333/400 MHz с общ максимален капацитет до 4 GB



Чипсетът 915P поддържа само технологиите 256-Mb, 512-Mb and 1-Gb DDR за x8 и x16 устройства, и HE поддържа технологията 128-Mb DDR. Това означава, че HE могат да се подключат модули 256 MB Double Side Memory Module и 128 MB Single Side Memory Module.

ICH6 (SB)

- подобрен DMA Контролер, контролер на прекъсванията и часовник
- поддръжка на шината PCI Express Base, ревизия 1.0a
- поддръжка на шината PCI 2.3
- съвместимост със спецификацията Serial ATA 1.0a
- интегриран контролер USB 2.0 с поддръжка на до осем порта USB 2.0
- интегриран мрежов контролер
- съвместимост със спецификацията Azalia с поддръжка на 8-канално аудио
- интегриран контролер IDE с поддръжка на Ultra ATA100/66/33

Памет

- поддръжка на DDR2 533/400 MHz DDR SDRAM DIMMs
- поддръжка на до два небуферирани DIMM слота
- до 1 GB памет на 1 DIMM канал с максимален капацитет 2 GB

Аудио

- Съвместимост със спецификацията AC'97 2.3
- Съответствие с изискванията за аудио производителност на системи PC99/2001
- Съответствие с изискванията на Microsoft WHQL/WLP 2.0
- Поддръжка на изход S/PDIF 48KHz, съвместим със спецификациите на AC'97 rev2.3
- HRTF 3D Аудио и 10-лентов софтуерен еквалайзер

Възможности за разширяване

- два слота PCI Express x16 за графичен интерфейс
- един слот PCI Express x1
- три слота 32-bit PCI v2.3
- един нископрофилен 40-pin IDE колектор с поддръжка на две IDE устройства
- един конектор за флопидисково устройство
- четири конектора 7-pin SATA

Дънната платка поддържа шина UltraDMA 100/66 MB/s

Интегриран мрежов контролер (опция)

Спецификация на интегрирания мрежов контролер:

- Интегриран Fast Ethernet MAC контролер и трансивер на един физически чип
- режими на работа 10Mbps и 100Mbps
- Поддръжка на режими 10Mbps и 100Mbps с N-way автоматично съгласуване
- Съответствие със стандартите PC99/PC2001
- Поддръжка на управление на захранването ACPI
- Режимы на работа Half/Full duplex
- Поддръжка на Full Duplex Flow Control (IEEE 802.3x)

Интегриран Вход/Изход контролер

- 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 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 софтуерните спецификации и параметри могат да бъдат изменени без предупреждение.

Multi-Language Translation

Jellemző

Processzor

Az alaplap LGA755 típusú Pentium 4/Celeron D használ, amely a következő tulajdonságokkal rendelkezik:

- A legújabb Intel Pentium 4/Celeron D processzorokkal működik
- 800/533 MHz sebességű rendszerbuszt (FSB) támogat
- Támogatja a „Hyper-Threading” technológiát

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 915P Northbridge (NB) és ICH6 Southbridge (SB) lapkakészletek egy új és méretezhető, nagy megbízhatóságú és teljesítőképességű architektúrára épülnek.

915P(NB)

- 32 bites host bus addressing-et (gazdabusz címezést) tesz lehetővé, ami által a központi egység a teljes 4 GB-os címzési tárhelyhez hozzáfér.
- 12-es mélységű sorbanállással rendelkezik, amellyel akár 12 megoldatlan csővezetékes címzési kérést képes kezelni a gazdabuszon.
- Egy 16-szoros Express PCI-vel rendelkezik a grafikus interfész számára, amely teljesen kompatibilis a PCI Express alapspecifikáció 1.0a változatával.
- 256 Mb-os, 512 Mb-os és 1 Gb-os DDR technológiát támogat 8- és 16-szoros eszközök esetében
- kompatibilis DDR 333/400 Mhz-cel négy nem puffertelt, 4 GB maximális memória méretű DIMM-mel



A 915P lapkakészlet csak a 256 Mb-os, 512 Mb-os és 1 Gb-os DDR technológiákat támogatja 8- és 16-szoros eszközök esetében, azaz a 128 Mb-os technológiával NEM kompatibilis. Azaz NEM működik 256 MB-os kétoldalú, illetve 128 MB-os egyoldalú memóriaegységekkel.

ICH6 (SB)

- Fejlett DMA vezérlő, megszakításvezérlő és időzítő funkciók
- Kompatibilis a PCI Express alapspecifikáció 1.0a változatával
- Kompatibilis a PCI 2.3-as specifikációjával
- Kompatibilis a soros ATA 1.0a specifikációval
- Beépített USB 2.0 gazda vezérlő, legtöbb nyolc USB 2.0 portot támogat
- Beépített LAN vezérlő
- Kompatibilis az Azalia specifikációval, 8 csatornás audio kimenetet támogatva
- Beépített IDE vezérlő, amely az Ultra ATA100/66/33 technológiát támogatja

Memória

- DDR2 533/400 MHz-es DDR SDRAM DIMM egységekkel működik
- Két puffertmentes DIMM egységgel működik
- Maximum 1 GB-os DIMM egységeket támogat, maximális memória 2 GB

Audio

- Megfelel az AC'97 2.3-as specifikációnak
- Megfelel a PC99/2001 rendszerek audio-teljesítménnyel szembeni követelményeknek
- Megfelel a Microsoft WHQL/WLP 2.0 audio követelményeinek
- a 48KHz S/PDIF kompatibilis kimenet megfelel a AC'97 rev2.3 specifikációnak
- HRTF 3D pozíciós hang és 10 sávós szoftver hangszínszabályozó

Bővítési lehetőségek

- Két 16-szoros PCI Express a grafikus interfész számára
- Egy 1-szeres PCI Express foglalat
- Három 32 bites, a PCI 2.3-as változatával kompatibilis foglalat
- Egy 40 tűs lapos IDE foglalat, amely két IDE eszközt képes kiszolgálni
- Egy hajlékonylemez meghajtó interfész
- Négy 7 tűs SATA csatlakozó

A alaplap támogatja az UltraDMA bus mastering megoldást, 100/66 MB/s

Alapra levő LAN (választható)

- Fast Ethernet MAC-et, fizikai csipet és adó-vevőt integrál egyetlen csipbe
- 10Mbps-es és 100Mbps-es működés
- 10Mbps-es és 100Mbps-es N-way saját intézést (auto-negotiation) biztosít
- megfelel a PC99/PC2001 szabványoknak
- ACPI energiagazdálkodást biztosít
- Half/Full duplex képesség
- Full Duplex forgalomvezérlést biztosít (IEEE 802.3x)

Beépített I/O

- Két PS/2 port az egér és a billentyűzet számára
- Egy soros port
- Egy párhuzamos port
- Egy LAN port (opcionális)
- Négy USB port
- Audio csatlakozók mikrofon, bemenet és kimenet számára

BIOS Firmware

Az alapra 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.

Multi-Language Translation