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**

TGA-ZM-30-96-00

Essen, 04.03.2004

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 (SHANZHEN) CO., LTD.

by reason of its

Environmental Management System

has been awarded this certificate for compliance with the standard

ISO14001:1996

The Environmental Management System applies in the following area:

ECS MANUFACTURING (SHANZHEN) CO., LTD. located at No. 20 & 26 (except 1F, 2F), Free Trade Zone, Shatuojiao, Shenzhen City, Guangdong Province, P. R. China. is engaged in manufacturing of Mother Board and Peripheral Card, and interrelated managerial activities.

Date of issue: 28th Sept. 2004

Date of expiry: 27th Sept. 2007

Signed by:

SHENZHEN SOUTHERN CERTIFICATION CO., LTD.

Preface

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Version 3.1

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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.

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 Réglement sur le matériel brouilieur 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
Go to ⇨ page 37

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Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing the 915PL-A2 motherboard. This motherboard is a high performance, enhanced function motherboard that supports LGA775 Socket for latest Intel Pentium 4/Celeron Processors.

The motherboard incorporates the 915PL Northbridge (NB) and ICH6 Southbridge (SB) chipsets. The Northbridge on this motherboard supports a Front Side Bus (FSB) frequency of 800/533 MHz using a scalable FSB Vcc_CPU. The momory controller supports DDR memory DIMM frequencies of 333MHz and 400 MHz. It supports two DDR Sockets with up to maximum memory of 2 GB. DDR Maximum memory bandwidth of 3.2 GB/s in single-channel is supported, or 6.4 GB/s in dual-channel interleaved mode assuming DDR 400MHz. High resolution graphics via two PCI Express slots, intended for Graphics Interface, are 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, integrates Azalia codec supporting Azilia standard that features an 8-channel High Definition 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 and LAN controller supporting 10/100Mbit/s ethernet.

The 915PL-A2 motherboard is equipped with advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, COM1, LPT1, four USB ports, one optional LAN port, and audio jacks for microphone, line-in and 8-ch line out.

Feature

Processor

The 915PL-A2 uses an LGA775 type of Pentium 4 that carries the following features:

- Accommodates Intel P4/Celeron processors
- Supports a system bus (FSB) of 800/533MHz
- Supports “Hyper-Threading” technology CPU

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

Chipset

The 915PL Northbridge (NB) and ICH6 Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

915PL (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 piplined address requests on the host bus.
- Supports one PCI Express x16 for Graphics Interface, fully compliant to the PCI Express base Sepcification revision 1.0a
- Supports 256-Mb, 512-Mb and 1-Gb DDR technologies for x8 and x16 devices

915PL 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 specificaiton
- 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 DDR 400/333 MHz DDR SDRAM DIMMs
- Accommodates two unbuffered DIMMs
- Up to 1 GB per DIMM with maximum memory size up to 2 GB

Onboard LAN (Optional)

The onboard LAN controller provides the following features:

- Supports 100/10 Mb/s N-Way Auto negotiation operation
- Compliant to PCI Revision 2.2
- Supports Full Duplex Flow Control (IEEE 802.3x)
- 2.5/3.3V power supply with 5V tolerant I/Os

Audio

- Compliant with AC'97 2.3 specification
- Meets performance requirements for audio on PC99/2001 systems
- 8 Channels DA Converters with 48KHz rate
- Meets Microsoft SHQL/WLP 2.0 audio requirements

Expansion Options

The motherboard comes with the following 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 connector that support two IDE devices
- One floppy disk drive connector
- Four 7-pin SATA connectors

The 915PL-A2 motherboard supports UltraDMA bus mastering with transfer rates of 100/66 MB/s.

Integrated I/O

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

- Two PS/2 ports for mouse and keyboard
- One serial port
- One parallel port
- Four USB ports
- One LAN port (optional)
- Audio jacks for microphone in, line-in and 8-ch High Definition Audio output

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 memroy 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.

Motherboard Components

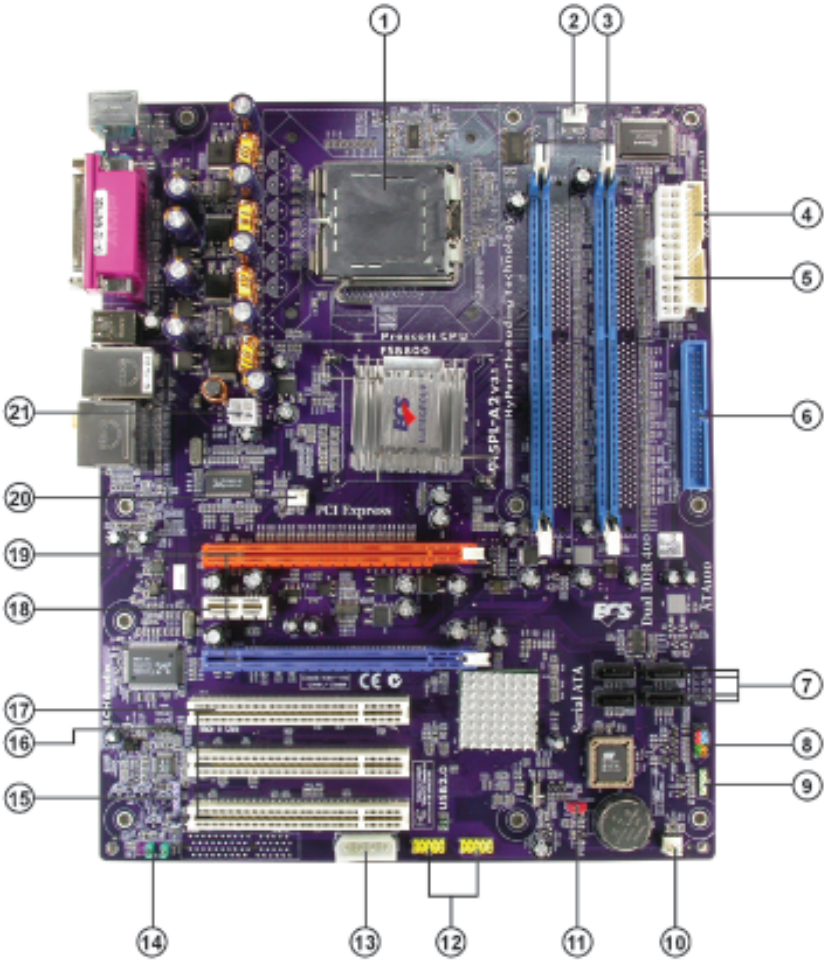


Table of Motherboard Components

LABEL	COMPONENT
1 CPU Socket	LGA775 socket for Pentium 4 CPUs
2 CPUFAN1	CPU cooling fan connector
3 DIMM1/3	184-pin DDR SDRAM slots
4 FDD1	Floppy diskette drive connector
5 ATX1	Standard 24-pin ATX power connector
6 IDE1	Primary IDE channel
7 SATA1~4	Serial ATA connectors
8 PANEL1	Panel connector for case switches and LEDs
9 SPK1	Speaker header
10 CASFAN1	Case cooling fan connector
11 CLR_CMOS1	Clear CMOS jumper
12 USB3-4	Front Panel USB headers
13 ATX4P1	Auxiliary power connector for graphics interface
14 AUDIO1	Front panel audio header
15 SPDIFO1	SPDIF out header
16 PCI1~3	32-bit add-on card slots
17 CDIN1	CD-in header
18 PCI-E1/E3	PCI Express x16 slots
19 PCI-E2	PCI Express x1 slot
20 PWRFAN1	Power cooling fan connector
21 PWR1	Auxiliary 4-pin power connector

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

Memo

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, 915PL-A2 supports one or two floppy diskette drives and two enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

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

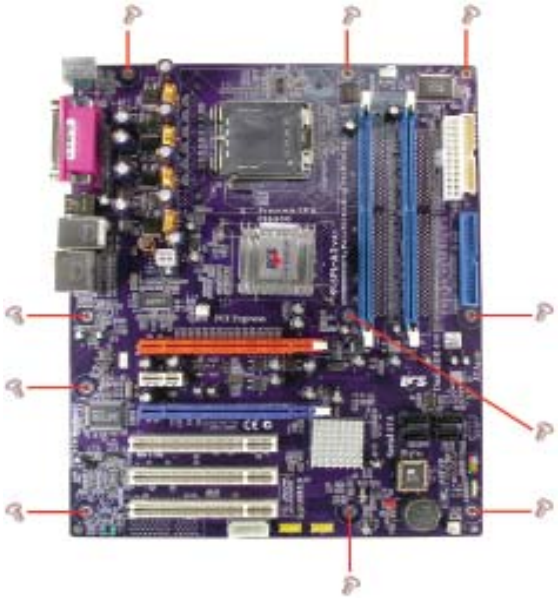
This motherboard carries an ATX form factor of 305 x 244 mm. Choose a case that accommodates this form factor.

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

Checking Jumper Settings

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

Jumper Settings

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

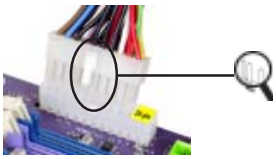
Connecting Case Components

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 cooling fan connector **PWRFAN1**
4 Connect the case speaker cable to **SPK1.**
5 Connect the connector for graphics interface to **ATX4P1**
6 Connect the case switches and indicator LEDs to the **PANEL1**.
7 Connect the standard power supply connector to **ATX1**.
8 Connect the auxiliary case power supply connector to **PWR1**.

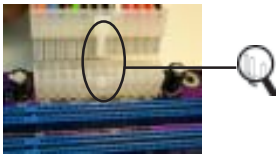
Connecting 20/24-pin power cable

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

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



24-pin power cable

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable and the ATX1 match perfectly.

CPUFAN1: CPU Cooling FAN Power Connector

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

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

CASFAN1/PWRFAN1: System Cooling FAN Power Connectors

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

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

SPK1: Internal speaker

Pin	Signal Name
1	VCC
2	Key
3	Ground
4	Signal

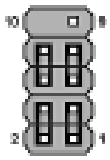
ATX4P1: Auxliary Power Connector for Graphics Interface

Pin	Signal Name
1	NC
2	GND
3	GND
4	+12V

Make sure to connect a 4-pin ATX power cable to ATX4P1; otherwise, the system will be unstable.

Front Panel Header

The front panel header (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 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.

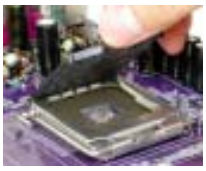
Warning: Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

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

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.

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.

Installing Memory Modules

This motherboard accommodates two memory modules. It can support two 184-pin 2.5V unbuffered DIMM, DDR400/333/266. The total memory capacity is 2GB.

DDR SDRAM memory module table

Memory module	Memory Bus
DDR266	***133MHz***
DDR333	***166MHz***
DDR400	***200MHz***

You must install at least one module in any of the three slots. Each module can be installed with 128 MB to 1 GB of memory; total memory capacity is 2GB.

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 DDR 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.

Table A: DDR (memory module) QVL (Qualified Vendor List)

The following DDR400 memory modules have been tested and qualified for use with this motherboard.

Size	Vendor	Model Name
256MB	SAMSUNG	K4H560838D-TCC4
	SAMSUNG	K4H560838D-TCCC
	TwinMOS	TMD7608F8E50D
	KingMax	KDL388P4EA-50A
	Winbond	W942508BH-5
	A-DATA	ADD8608A8A-5B
	A-DATA	ADD8608A8A-4.5B
	Kingston	D3208DL2T-5 0323PT01
	Kingston	9905192-012.A01
	Hynix	HY5DU5656822BT-D43
	Hynix	HY5DU56822BT-D43
	GEIL	GE08L3264D1WL5NKT3H71
	GEIL	G208L364D1TG5NKT3C
	Ramaxel	MT-46V32M8 TG-5BC
	Apacer	AM3A568ACT-5A
512MB	SAMSUNG	K4H560838D-TCC4
	SAMSUNG	K4H560838E-TCCC
	Infineon	HYB25D256800BT-5
	Elixir	N2DS25680BT-5T
	Kingston	D3208DL1T-5
	Kingston	KHX3500AK2
	PSC	A2S56D30BTP
	Hynix	HY5DU56822DT-D5
	Transcend	V58C2256804SAT5B
	CORSAIR	CMX512-3200C2PT
	CORSAIR	CMX512-3500C2PT
	CORSAIR	CMX512-4400PT
	Mushkin	PC3500 level ONE
	UNIFOSA	USI 64M8B8-WB200-0431
	GEIL	GE1GB3200BDC
	G.SKILL	F1-3200PHU2-1 GVZX
	AENEON	AED93T500
	AENEON	AED83T500
1GB	CORSAIR	CMX1024-3200PT

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. 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 correspoinds to the pin 1 of the I/O port connector.

IDE1: 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 dives 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. SATA , or Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

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

SATA cable (optional)

SATA power cable (optional)

Refer to the illustration below for proper installation:

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

This motherboard does not support the "Hot-Plug" function.

Installing 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.

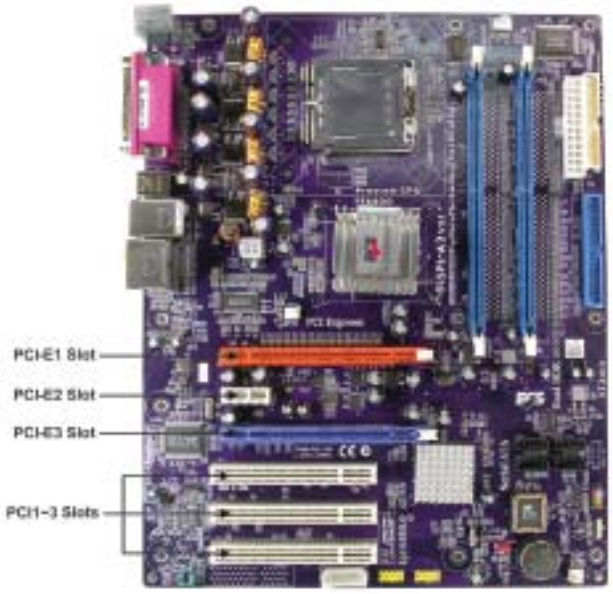
You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

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 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-E1 Slot The PCI Express slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 1.0a.

PCI-E2 Slot The PCI Express x1 slots is fully compliant to the PCI Express Base Specification revision 1.0a as well.

PCI-E3 Slot The PCI Express slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 1.0a.

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.

1. *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.*
2. *PCI-E1 slot will be disabled when PCIEX2 slot is installed.*

Follow these instructions to install add-on cards:

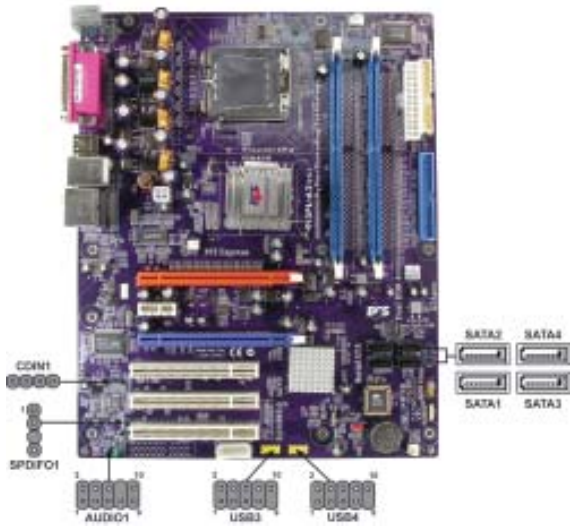
1. Open the chassis and then remove the slot bracket from the case where you will be installing the expansion cards.
2. Install your graphics card in the proper slot by pressing the card firmly into the slot.
3. Drive in the screw to secure the slot bracket of the expanson card.
4. Replace your computer's chassis cover.
5. Power on the computer, if necessary, set up BIOS utility of expansion card from BIOS.
6. Install related driver to complete the installation.

Installing two graphics cards

Notes: 1. The two PCIE x16 slots run in two modes. With only one PCI Express Graphics card, install it onto PCI-E1 slot by default. Having two PCI Express Graphics cards at hand, set them up onto PCI-E1 and PCI-E3 slots simultaneously.
2. The Scalable D.G.E. supports a four-monitor configuration when PCIE x16 slot and PCIEx4 slot are working simultaneously.
3. Please note that the graphics card driver supports Windows 2000/XP only.
4. Make sure to connect a 4-pin ATX power cable to the ATX4P1; otherwise, the system will be unstable.

Connecting Optional Devices

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



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	AUD_MIC	Front Panel Microphone input signal
2	AUD_GND	Ground used by Analog Audio Circuits
3	AUD_MIC_BIAS	Microphone Power
4	AUD_VCC	Filtered +5V used by Analog Audio Circuits
5	AUD_F_R	Right Channel audio signal to Front Panel
6	REVD	Reserved
7	REVD	Reserved
8	Key	No Pin
9	AUD_F_L	Left Channel Audio signal to Front Panel
10	REVD	Reserved

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

USB3~4: 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	NC	Not connected

SATA1/2/3/4: Serial ATA connectors

These connectors are use to support the new Serial ATA devices for the highest date transfer rates (3.0 Gb/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

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

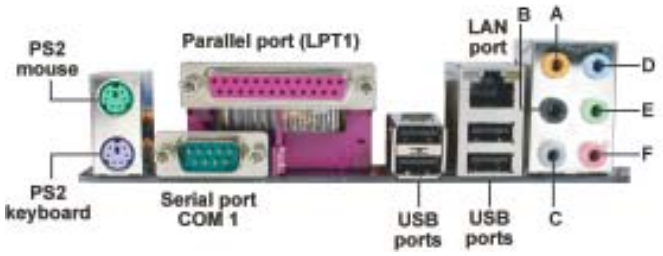
SPDIF01: SPDIF out header (optional)

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

Pin	Signal Name
1	SPDIF
2	+5VA
3	Key
4	GND

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 the audio jacks to connect audio devices. The A port is for stereo line-in signal, while the C port is for microphone in signal. This motherboard supports 8-channel audio devices that correspond to the A, B, D, and E port respectively. In addition, all of the 3 ports, A, B, and D provide users with both right & left channels individually. Users please refer to the following note for specific port function definition.

A: Line-in/Side Surround	D: Back Surround
B: Front Out	E: Center/Bass
C: Microphone In	F: Optical S/PDIF Out

The above port definition of A,B,C,D, and E can be changed to audio input or audio output by changing the driver utility setting.

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

Memo

Chapter 3
Using BIOS

About the Setup Utility

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

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

The BIOS Setup Utility enables you to configure:

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

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

This chapter provides explanations for Setup Utility options.

The Standard Configuration

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

This Setup Utility should be used:

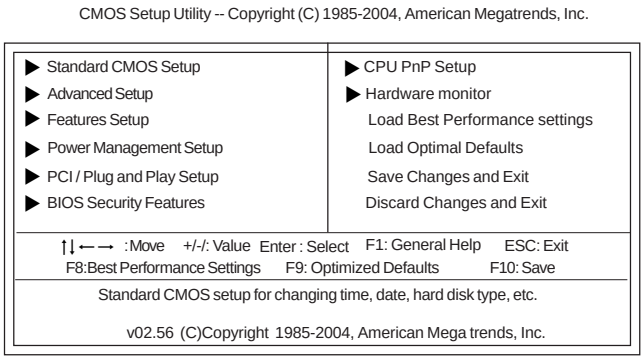
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security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

Entering the Setup Utility

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

Press DEL/F1 to enter SETUP

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



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 the best setting for peak performance
F9	Loads an optimized setting for better performance
F10	Saves the current configuration and exits setup
ESC	Exits the current menu

Updating the BIOS

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

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

Using BIOS

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

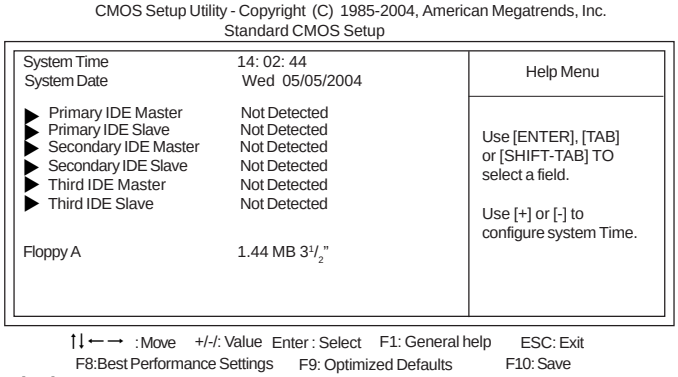
Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

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

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

Standard CMOS Setup

This option displays basic information about your system.



Date and Time

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

►Primary/Secondary/Third IDE Master/Slave

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

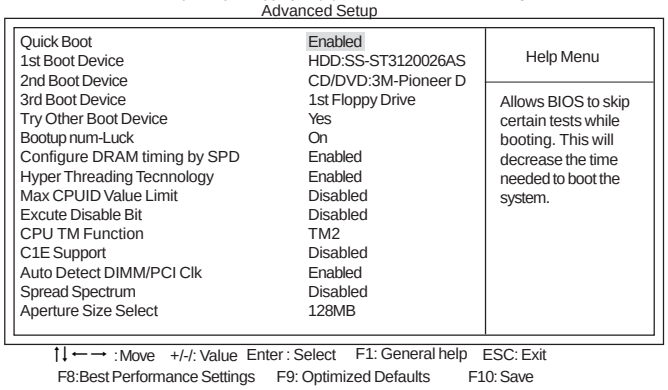
Floppy A

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.



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 rutines.

1st/2nd/3rd Boot Device

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

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 (Enabled)

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

Hyper Threading Technology (Enabled)

You can set “Disabled” or “Enabled” to control HT CPU support in O.S. Set “Enabled” to test HT CPU function.

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.

Excute Disable Bit (Disabled)

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

CPU TM Function (TM2)

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

C1E Support (Disabled)

Use this item to descrease the bus ratio that reduces the consumption of CPU electricity and power.

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 spertrum, it can significantly reduce the EMI (Electro-Magnetic interface) generated by the system.

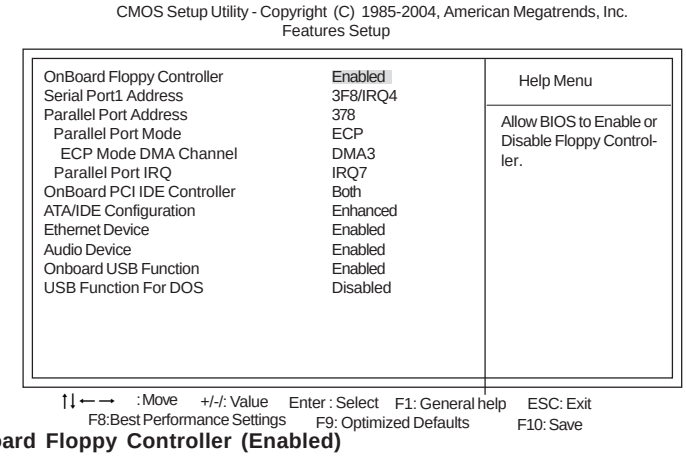
Aperture Size Select (128MB)

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.



OnBoard Floppy Controller (Enabled)

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

Serial Port1 Address (3F8/IRQ4)

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

Parallel Port Address (378)

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

Parallel Port Mode (ECP)

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

ECP Mode DMA Channel (DMA3)

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

Parallel Port IRQ (IRQ7)

Use this item to assign IRQ to the parallel port.

OnBoard PCI IDE Controller (Both)

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

ATA/IDE Configuration (Enhanced)

The ATA/IDE option can be configured as either “Enhanced (default)” or “Compatible” 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 Compatible mode

Ethernet Device (Enabled)

Use this item to enable or disable the onboard Ethernet.

Audio Device (Enabled)

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

Onboard USB Function (Enabled)

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

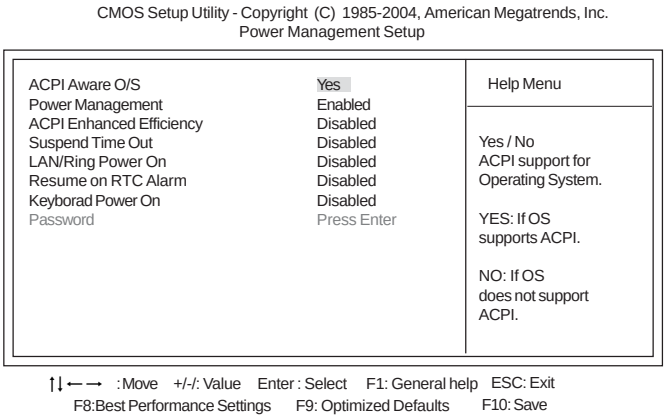
USB Function For DOS (Disabled)

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 Mangement Setup

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



ACPI Aware O/S (Yes)

This itme supports ACPI (Advanced Configuraion 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.

ACPI Enhanced Efficiency (Disabled)

This item allows you to enable or disable ACPI Enhanced Efficiency function.

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)

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

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.

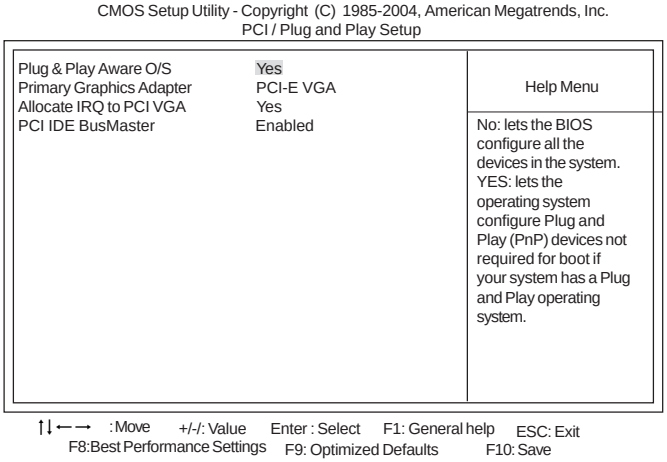
Keyboard Power On (Disabled)
If you enable this item, system can automatically resume by pressing any keys or power key or typing in the password on the keyboard. You must use an ATX power supply in order to usethis feature.

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.



Plug & Play Aware O/S (Yes)
This itme 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-E VGA)

This itme indicates if the primary graphics adapter uses the PCI-E VGA, PCI VGA, or AGP-E VGA.

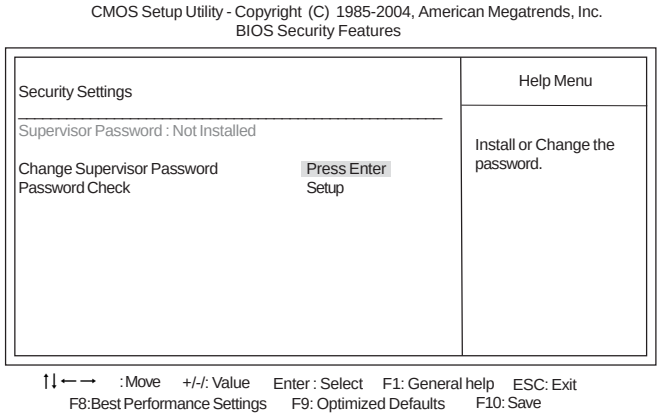
Allocate IRQ to PCI VGA (Yes)
If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

PCI IDE BusMaster (Enabled)
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.



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

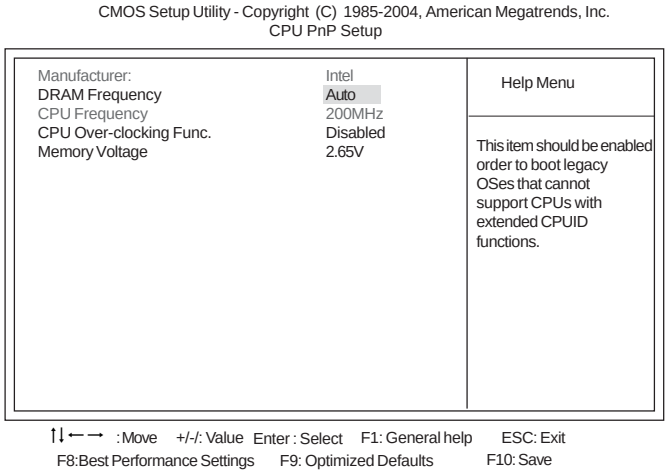
Change Supervisor Password (Press Enter)
You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

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 motherborad. The system will automatically detect the type of installed CPU and make the appropriate adjustments to these items on this page.



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 Frequency

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

CPU Over-clocking Func. (Disabled)

This item decides the CPU over-clocking function/frequencyinstalled in your system. If the over-clocking fails, please turn offthe system power. And then, hold the PageUp key (similar to theClear CMOS function) and turn on the power, the BIOS willrecover the safe default.

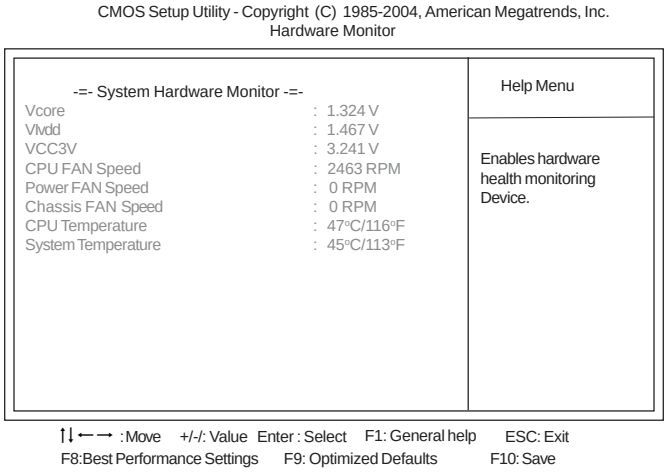
Memory Voltage (2.65V)

This item allows you to adjust memory voltage.

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

Hardware Monitor

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



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 select [OK], 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.

Warning: To load Best Performance Settings may make your system unstable or unbootable.

Load Optimal Defaults

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <OK> and then <Enter> to install the defaults. Press <Canel> 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 <F9>.

Users please remain the factory BIOS default setting of "Load Optimized Defaults" when install Operation System onto your system.

Save Changes and Exit

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

Discard Changes and Exit

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

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

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 folfer that is not specified for use with your motherboard.

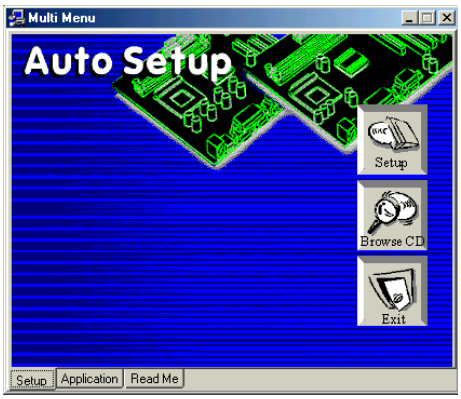
Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

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.

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	The **Browse CD** button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD. Before installing the software from Windows Explorer, look for a file named README.TXT, INSTALL.TXT or something similar. This file may contain important information to help you install the software correctly. Some software is installed in separate folders for different operating systems. Always go to the correct folder for the kind of OS you are using. In install the software, execute a file named SETUP.EXE or INSTALL.EXE by double-clicking the file and then following the instructions on the screen.
Exit	The **EXIT** button closes the Auto Setup window.

Application Tab

Lists the software utilities that are available on the CD.

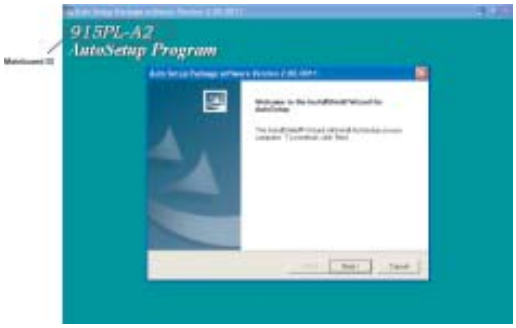
Read Me Tab

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:

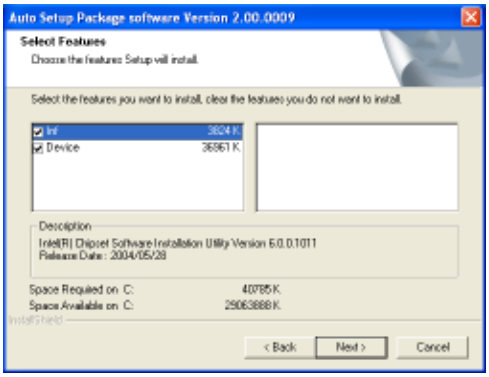
1. *Click **Setup.** The installation program begins:*



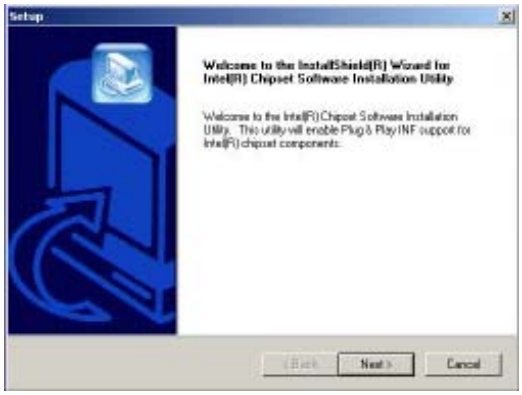
The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

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

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.

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\2000. To install the WinFlash utility, run WINFLASH.EXE from the following directory: \UTILITY\WINFLASH 1.51

This concludes Chapter 4.

Caractéristiques

Processeur

La 915PL-A2 utilise un type LGA775 de Pentium 4 présentant les fonctionnalités suivantes:

- Reçoit des processeurs Intel P4/ Celeron
- Support un bus système (FSB) de 800/533 MHz
- Supporte le CPU de technologie “Hyper-Threading”

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

Chipset

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

915PL(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

Le chipset 915PL 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 400/333 MHz
- Reçoit deux DIMM sans tampon
- Jusqu’à 1 Go par DIMM avec une taille de mémoire maximum de 2 Go

LAN sur carte (Optionnel)

Cette carte mère prend en charge les chipsets LAN suivants :

- Supporte le fonctionnement en Auto-négociation N-way en 100/10 Mb/s
- Conforme à PCI Revision 2.2
- Prend en charge le Contrôle de Flux Full Duplex (IEEE 802.3x)
- Alimentation de 2,5/3,3V avec tolérance d'E/S de 5V

Audio

- Conforme aux spécifications AC'97 2.3
- Répond aux exigences de performances pour l'audio sur les systèmes PC99/2001
- Convertisseurs DA à huit canaux avec vitesse de 48KHz
- Conforme aux exigences audio de Microsoft SHQL/WLP 2.0

Options d'extension

La carte mère comporte les options d'extension suivantes :

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

La 915PL-A2 carte mère prenant en charge la maîtrise de bus UltraDMA avec vitesses de transfert de 100/66 Mo/s.

E/S intégrées

La carte mère comporte un ensemble complet de connecteurs et de ports E/S :

- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port parallèle
- Quatre ports USB
- Un port LAN (optionnel)
- Prises audio pour entrée microphone, entrée de ligne et Audio Haute Définition 8 ch.

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.

Leistungsmerkmale

Prozessor

Der 915PL-A2 benutzt einen Pentium 4 des Typs LGA775 und besitzt folgende Eigenschaften:

- Aufnahme eines Intel P4/Celeron-Prozessors.
- Unterstützt einen Systembus (FSB) mit 800/533 MHz.
- Unterstützt CPU mit “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 915PL Northbridge (NB)- sowie ICH6 Southbridge (SB)-Chipsatz basiert sich auf eine innovative und skalierbare Architektur mit bewiesenr Zuverlässigkeit und Leistung.

915PL (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.

Das 915PL 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, Revision1.0a.
- 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 DDR 400/333 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.

Onboard LAN (Optional)

Das Onboard-LAN hat die folgenden Leistungsmerkmale:

- Unterstützt 100/10 Mb/Sek N-way Auto-negotiation Betrieb
- Entspricht PCI Revision 2.2
- Unterstützt Vollduplex-Flusskontrolle (IEEE 802.3x)
- 2,5/3,3V Netzteil mit 5V Toleranz I/Os

Audio

- Entspricht AC'97 2.3 Spezifikationen
- Entspricht den Leistungsanforderungen für Audio auf PC99/2001 Systemen
- Acht Kanäle DA Wandler mit 48KHz
- Entspricht den Microsoft SHQL/WLP 2.0 Audio-Anforderungen

Erweiterungsmöglichkeiten

Das Motherboard ist mit den folgenden Erweiterungsmöglichkeiten ausgestattet:

- 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

Der 915PL-A2 Motherboard unterstützt UltraDMA Bus Mastering mit einer Übertragungsrate von 100/66 MB/Sek.

Integrierte I/O

Das Motherboard hat einen vollständigen Satz von I/O-Schnittstellen bzw. -Anschlüssen:

- Zwei PS/2-Anschlüsse für Maus und Tastatur
- Eine serielle Schnittstelle
- Eine parallele Schnittstelle
- Vier USB-Anschlusse
- Ein LAN- Steckplatz (optional)
- Audiostecker fur Mikrofoneingang, line-in und hoch definiertem Ton mit 8 Kanalen

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

Il 915PL-A2 sfrutta un Pentium 4 di tipo LGA775 che dispone delle seguenti caratteristiche:

- Alloggia processori Intel P4/Celeron
- Supporta un bus di sistema (FSB) fino a 800/533 MHz
- Supporta CPU con 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 915PL Northbridge (NB) e ICH6 Southbridge (SB) sono basati su una architettura innovativa e scalabile dalle prestazioni e affidabilità garantite.

915PL (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 sospeso 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

Il chipset 915PL 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, Revision1.0a
- Conforme alle specifiche PCI 2.3.
- Conforme alle specifiche Serial ATA 1.0a
- Host Controller USB 2.0 integratoin grado di supporare 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 DDR 400/333 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

LAN Onboard (Opzionale)

La LAN su scheda fornisce le seguenti caratteristiche:

- Supporta operazioni di auto-negoziazione N-way a 100/10 Mb/s
- Conforme a PCI Revision 2.2
- Supporto di controllo flusso full duplex (IEEE 802.3x)
- Alimentazione a 2,5/3,3 V con ingressi/uscite con tolleranza di 5 V

Audio

- Conforme alle specifiche AC'97 2.3
- Conforme ai requisiti di prestazione audio su sistemi PC99/2001
- Otto canali di conversione audio digitale a 48 KHz
- Conforme ai requisiti audio di SHQL e WLP 2.0 di Microsoft

Opzioni di espansione

La scheda madre è dotata delle seguenti 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 915PL-A2 supporta bus master UltraDMA con tasso di trasferimento di 100/66 MB/s.

I/O integrato

La scheda madre è dotata di un set completo di connettori e porte I/O:

- 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, line-in e 8 canali audio ad alta definizione.

Firmware BIOS

Questa scheda madre adotto 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 915PL-A2 usa un tipo LGA775 de Pentium 4 que lleva las sigtes. características::

- Acomoda los procesadores Intel P4/Celeron
- Soporta un sistema de bus (FSB) de 800/533 MHz
- Soporta CPU de 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 915PL (NB) y Southbridge ICH6 (SB) están basados en una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

915PL (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 Profunidad 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.

El chipset 915PL solamente puede soportar las technologías 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, Revisión1.0a.
- 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 DDR 400/333 MHz DDR SDRAM DIMMs
- Acomoda dos DIMMS sin buffer
- Hasta 1 GB por DIMM con el tamaño de memoria máximo hasta 2 GB

LAN en placa (Optativo)

La LAN en placa proporciona las características siguientes:

- Soporta la operación de auto-negociación de 100/10 Mb/s N-way
- Conformidad de la PCI Revisión 2.2
- Soporta Full Duplex Flow Control (IEEE 802.3x)
- Suministro de 2.5/3.3V con I/Os tolerantes de 5V

Audio

- Conformidad con las especificaciones AC'97 2.3
- Satisface los requisitos de rendimiento para el audio en los sistemas PC99/2001
- Transformadores DA de Ocho Canales con un índice de 48KHz
- Satisface los requisitos de audio de Microsoft SHQL/WLP 2.0

Opciones de expansión

La placa base viene con las opciones siguientes 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 915PL-A2 soporta el mastering de bus UltraDMA con índices de transferencia de 100/66 MB/s.

I/O integrado

La placa base tiene un conjunto completo de puertos I/O y conectores:

- 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 entrada de microfono, entrada de linea y Sonido de Alta Definicion de 8 canales.

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

O 915PL-A2 usa um tipo LGA775 de Pentium 4 que possui as seguintes características:

- Acomoda processadores Intel P4/Celeron
- Suporta um bus sistema (FSB) de 800/533 MHz
- Suporta CPU de 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 915PL Northbridge (NB) e ICH6 Southbridge (SB) são baseados em uma arquitetura inovativa e escalável com performance e confiabilidade comprovada.

915PL (NB)

- Suporta um endereçamento no host bus de 32-bit, permitindo que o CPU aceda 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

Chipset (conjunto de chips) 915PL 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 DDR 400/333 MHz DDR SDRAM DIMMs
- Acomoda duas DIMMs sem buffers
- Até 1 GB por DIMM com tamanho de memória máxima de até 2 GB

Onboard LAN (Opcional)

O onboard LAN fornece as seguintes características:

- Suporta o funcionamento de negociação automática de 100/10 Mb/s N-direcções
- Compatível com a Revisão 2.2 PCI
- Suporta Controlo de Fluxo Duplo Completo (IEEE 802.3x)
- Fonte de alimentação 2.5/3.3V com I/Os tolerantes de 5V

Áudio

- Cumpre com as especificações AC'97 2.3
- Conversores DA com oito canais com taxa de 48KHz
- Cumpre com os requisitos de performance para áudio em sistemas PC99/2001
- Cumpre com os requisitos áudio WHQL/WLP 2.0 da Microsoft audio

Opções de expansão

A motherboard possui as seguintes opções de expansão:

- Duas ranhuras PCI Express x16 para Interface de Gráficos
- Um 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 915PL-A2 suporta um domínio bus UltraDMA bus com taxas de Transferência de 100/66 MB/s.

E/S integradas

A motherboard conta com um conjunto completo de portas e conectores E/S:

- Duas portas PS/2 para o rato e o teclado
- Uma porta de série
- Uma porta paralela
- Quatro portas USB
- Uma porta LAN (opcional)
- Fichas áudio para microfone, alinhadas e com Áudio de Elevada Definição 8-ch

Firmware do BIOS

A motherboard usa o AMI BIOS que permite aos usuários configurar vários recusos 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

915PL-A2 はLGA775タイプのPentium 4に対応したもので、その特徴は次の通りです:

- Intel P4 /Celeron プロセッサ取付け可能。
- 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)"技術対応のCPUを取り付け可能。

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

915PL 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。

915PL (NB)

- 32ビットホストバスアドレシング機能対応、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・アドレス要求を対応。
- 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。

915PL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 ポートを対応可能。
- 統合型LANコントローラ。
- Azalia規格に準拠で、8チャ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

- DDR 400/333 MHzのDDR SDRAM DIMMに対応。
- 2つの非バッファー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。

オンボードLAN（オプション）

当マザーボードは次のLANチップセットのいずれかを搭載しております：

- 100/10 Mb/秒のNウェイ自動認識機能動作をサポート
- PCI 2.2に準拠
- 全二重フロー制御(IEEE 802.3x)をサポート
- 許容電圧5VのI/Oでの2.5/3.3V 電源サプライ

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
- 48KHzでの8チャネルDA コンバーター
- Microsoft SHQL/WLP 2.0 オーディオ要求に適合

拡張オプション

本マザーボードでは、次の拡張機能が利用できます。

- 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ロープロフィルヘッダー(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。

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
- さらに、マイクロホン入力と、ライン入力と、8チャネルHigh Definition Audio出力とを搭載

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

915PL-A2 는 다음과 같은 특징을 지닌 팬티엄 4 의 LGA775 타입을 사용한다:

- 인텔 팬티엄 4 /Celeron 프로세서 사용
- 800/533 MHz시스템 버스(FSB) 지원
- ”Hyper-Threading” 기술 CPU 지원

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

칩셋

915PL Northbridge (NB) 와 ICH6 Southbridge (SB) 칩셋은혁 신적이고 범위성을 지닌 아키텍쳐를 바탕으로 인정된 신뢰성과 성능을 지닌다.

915PL(NB)

- 32 비트 호스트 버스 어드레싱 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.

915PL 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

- DDR 400/333 MHz DDR SDRAM DIMM 지원
- 2 개의 unbuffered DIMM 사용
- DIMM 당 최대 1 GB, 최대 메모리 2 GB

보드 내장 LAN (선택 사항)

본 마더보드는 다음과 같은 LAN 칩셋을 지원합니다:

- 100/10Mbps N-Way Auto-negotiation 작업 지원
- PCI 2.2 사양 호환
- Full Duplex Flow Control (IEEE 802.3x) 지원
- 2.5/3.3V 파워 써플라이 5V I/O

오디오

- AC'97 2.3 사양 부합
- PC99/2001 시스템의 오디오를 위한 퍼포먼스 요구 조건 부합
- 48KHz 의 8 채널 DA 컨버터
- 마이크로소프트 WHQL/WLP 2.0 오디오 요구 조건 부합

확장 옵션

이 메인보드는 다음과 같은 확장 옵션이 있다

- 그래픽 인터페이스를 위한 PCI 익스프레스 x16 2 개
- PCI Express 1 개 x 슬롯1 개
- 32 비트 PCI v2.3 호환 슬롯 3 개
- 2 개의 IDE 채널을 지원하는 40 핀 IDE 로우 프로파일 해더 1 개
- 플로피 디스크 드라이브 인터페이스 1 개
- 7 핀 SATA 커넥터 4개

915PL-A2 마더보드는 전송 속도 100/66 MB/s의 UltraDMA 버스 마스터링을 지원한다.

통합 I/O

이 메인보드에는 풀 세트의 I/O 포트와 커넥터가 있다

- 마우스와 키보드용 PS/2 포트 2 개
- 시리얼 포트1개
- 패러럴 포트 1 개
- USB 포트 4 개
- LAN 포트 (선택사항) 1 개
- 마이크 폰 입력, 라인 입력 및 8 채널 고 재생음 오디오를 위한 오디오 잭

BIOS 펌웨어

본 메인보드는 AMI BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구성할 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

功能

處理器

915PL-A2 採用LGA775型的Pentium 4，具有如下特徵：

- 支援Intel P4/Celeron 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)技術之CPU

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

晶片組

915PL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。

915PL (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

915PL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DDR 400/333 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

機載區域網路 (選購)

機載區域網路提供下列功能：

- 支援 100/10 Mb/秒N向自動辨識連線功能
- 相容於PCI 2.2版規格
- 支援全雙工流量控制(IEEE 802.3x)
- 2.5/3.3V 電源供應，具有容限電壓為5V的I/O

音效

- 相容於AC'97 2.3 規格
- 8通道DA 轉換器，具48KHz 頻率
- 符合PC99/2001系統音訊標準要求
- 符合Microsoft SHQL/WLP 2.0 音訊標準

擴充選項

本主機板包括下列擴充選項：

- 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。

整合輸出入埠

主機板具有一組齊全的輸出入埠及連接器:

- 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)
- 具有麥克風輸入端子、線級輸入端子、及 8聲道高傳真音效(High Definition Audio)輸出端子

BIOS 韌體

本主機板使用AMI BIOS，使用者可以組態設定許多系統功能，包括如下：

- 電源管理
- 喚醒警鈴
- CPU參數
- CPU及記憶體的時脈定時

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

915PL-A2 使用 LGA775 型 Pentium 4 CPU，具备以下特点：

- 支持 Intel P4/Celeron 处理器
- 支持 800/533 MHz 系统总线 (FSB)
- 支持“多线程(Hyper-Threading)”技术 CPU

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

芯片组

915PL 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。

915PL (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

915PL 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 DDR 400/333 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

Onboard LAN (可选)

此主板支持以下任何一种 LAN 芯片组：

- 支持 100/10 Mb/s N 路自协商工作
- 兼容 PCI 2.2 版本
- 支持全双工流控制 (IEEE 802.3x)
- 2.5/3.3V 电源，支持 5V I/O

音频

- 兼容 AC'97 v2.3 规格
- 8 通道 DA 转换器，48KHz 速率
- 符合 PC99/2001 系统音频要求
- 符合 Microsoft SHQL/WLP 2.0 音频要求

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915PL-A2支持 Ultra DMA 总线控制，传输速率可达 100/66 MB/sec。

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）
- 用于麦克风、线入和 8 声道高清晰度音频的音频插孔

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。

Процессор

Плата 915PL-A2 построена на базе процессора Pentium 4 LGA775 и обладает следующими характеристиками:

- Размещает процессоры Intel P4/Celeron
- Поддерживает системные шины (FSB) с частотой 800/533MHz
- Поддерживает технологию CPU “Hyper-Threading”

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

Чипсет

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

915PL(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 сместимость с PCI Express Base, rev. 1.0a.
- Поддерживает технологии 256-Мб, 512-Мб и 1-Гб DDR для устройств x8 и x16

Чипсет 915PL 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 DDR 400/333 МГц DDR SDRAM DIMM
- Обслуживает 2 модуля небуферизованной памяти DIMM
- Обслуживает до 1 ГБ на модуль DIMM (максимально до 2 ГБ памяти)

Встроенный сетевой адаптер LAN (опционально)

Встроенный сетевой адаптер LAN обладает следующими характеристиками:

- Поддерживает автоматическое определение скорости и режима соединения 100/10Mb/s
- Совместимость с PCI вер. 2.2
- Поддерживает режим управления потоком Full Duplex Flow Control (IEEE 802.3x)
- Электропитание 2.5/3.3V при допустимости 5V на входе/выходе

Аудио

- Совместимость со спецификацией AC'97 2.3
- 8-канальный DA конвертер с частотой 48 КГц
- Соответствие требованиям для аудио в системах PC99/2001
- Соответствие требованиям для аудио Microsoft WHQL/WLP 2.0

Возможности расширения

Существуют следуюшие опции расширения данной материнской платы:

- 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 915PL-A2 поддерживает технологию захвата управления шиной UltraDMA bus mastering со скоростью передачи данных 100/66 МБ/сек.

Интегрированный вход/выход

Плата снабжена полным набором портов входа/выхода и разъемов:

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

BIOS

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

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

BIOS допускает также установку параметров для различных частот процессора.

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

Cechy

Procesor

Płyta główna 915PL-A2 zaopatrzona jest w procesor Pentium 4 typu LGA775 i charakteryzuje się następującymi cechami:

- Obsługuje procesory Intel P4/Celeron
- Obsługuje szynę systemowa (FSB) 800/533MHz
- Zabezpiecza technologię CPU “Hyper-Threading”

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

Chipset

Mostek północny (NB) 915PL i mostek południowy (SB) ICH6 chipsetu oparty jest na nowatorskiej i skalowalnej architekturze o sprawdzonej niezawodności i funkcjonalnoœci.

915PL (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

Chipset 915PL 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 przerywań 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 DDR 400/333 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

Zintegrowana obsługa sieci LAN (opcjonalnie)

Zintegrowana obsługa sieci LAN posiada następujące właściwości:

- Obsługuje N-drożne automatycznie ustalane operacje z szybkościami 100/10 Mb/s
- Zgodny z PCI Revision\ w wersji 2.2
- Obsługuje Full Duplex Flow Control (zgodnie ze standardem IEEE 802.3x)
- Zasilacz 2.5/3.3V który toleruje We/Wy 5V

Audio

- Zgodne ze specyfikacją AC'97 w wersji 2.3
- Konwertuje sygnały ośmiokanałowego DA z częstotliwością 48KHz
- Spełnia wymagania dla audio w systemie PC99/2001
- Spełnia wymagania stawiane audio przez firmę Microsoft w systemie SHQL/WLP 2.0

Możliwości rozbudowy

Płyta główna wyposażona jest w następujące gniazda:

- 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 dyskietek
- Cztery 7-nóżkowe złącza SATA

Płyta główna 915PL-A2 obsługuje szynę UltraDMA z szybkością transferu 100/66 MB/s.

Zintegrowane We/Wy

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

- Dwa gniazda PS/2 dla myszy i klawiatury
- Jedno gniazdo szeregowe
- Jedno gniazdo równoległe
- Cztery gniazda USB
- Jedno gniazdo LAN (opcjonalnie)
- Wejście mikrofonowe, wejście audio i 8-kanałowe wyjście High Definition 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
- Ustalenia szybkoœci pracy procesora i pamiêci

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

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

Vlastnosti

Procesor

Základní deska 915PL-A2 je urèena pro procesory Pentium 4 LGA775 a mùže nabídnout následující vlastnosti:

- Pro připojení procesorů Intel P4/Celeron
- Podporuje taktování systémové sběrnice (FSB) na frekvenci 800/533 MHz
- Podporuje technologii CPU „Hyper-Threading“

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

Čipová sada

Čipy northbridge (NB) 915PL a southbridge (SB) ICH6 jsou založeny na inovativní a škálovatelné architektuře s ověřenou spolehlivostí a výkonností.

915PL (NB)

- Podporuje 32bitové adresování, umožòující CPU pøistupovat k celému adresovému prostoru pamìti 4 GB.
- Má 12stupòovou frontu pro podporu až 12 požadavkù na adresování v pipeline na hostitelské sbìrnici.
- Podpora jednoho rozhraní PCI Express x16 pro grafiku, zcela splòující základní požadavky standardu PCI Express, revize 1.0a.
- Podpora 256-Mb, 512-Mb a 1-Gb DDR technologií pro zaøízení x8 a x16

Čipová sada 915PL 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 pamì ové moduly DDR 400/333 MHz DDR SDRAM DIMM
- Instalovat je možné až dva DIMM moduly bez vyrovnávací pamìti
- Až 1 GB pamìti na jeden modul DIMM s maximální velikostí pamìti do 2 GB

Vestavění síťové rozhraní LAN (volitelně)

Vestavěné síťové rozhraní LAN nabízí následující možnosti:

- Podpora 100/10Mb/s N–cestného automatického přepínání provozu
- Splňuje požadavky standardu PCI verze 2.2
- Podpora plně duplexního řízení toku dat (IEEE 802.3x)
- Napájení 2,5/3,3 V s obvody I/O tolerujícími napětí 5 V

Zvuk

- Splňuje požadavky standardu AC'97 2.3
- Splňuje výkonnostní požadavky pro audio zařízení na systémech PC99/2001
- Osmikanálové převodníky DA se vzorkovací frekvencí 48 kHz
- Splňuje požadavky pro audio zařízení Microsoft SHQL/WLP 2.0

Možnosti rozšíření

Základní deska je dodávána s následujícími možnostmi 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 915PL-A2 podporuje sběrnici Ultra DMA s přenosovými rychlostmi 100/66 MB/s.

Integrovaný vstup/výstup

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

- Dva porty PS/2 pro myš a klávesnici
- Jeden sériový port
- Jeden paralelní port
- Čtyři porty USB
- Jeden port LAN (volitelně)
- Zvukové konektory pro mikrofon, zvukový vstup a 8kanálový Hi-Fi zvukový 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.

Caracteristici

Procesorul

915PL-A2 utilizează Pentium 4 de tipul LGA775, având următoarele caracteristici:

- Funcționează cu procesoare Intel P4/ Celeron
- Funcționează cu bus sistem (FSB) de 800/533 MHz
- Este compatibilă cu unități centrale dotate cu tehnologia „Hyper-Threading"

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

Setul de chipuri

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

915PL (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 viteza 8x sau 16x

Setul de chipuri 915PL funcționează doar cu tehnologiile DDR de 256-Mb, 512-Mb și 1-Gb pentru unități de viteza 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 400/333 MHz DDR
- 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

Onboard LAN (opţional)

Onboard LAN are următoarele caracteristici:

- Suportă operații de autonegociere N-way de 100/10 Mb/s
- Compatibil cu PCI Revision 2.2
- Suportă controlul proceselor de duplex total (IEEE 802.3x)
- sursă 2.5/3.3 V cu I/O tolerant a 5V

Audio

- Compatibil cu specificația AC'97 2.3
- Corespunde cerințelor de performanță audio pentru sisteme PC99/2001
- Convertoare DA cu 8 canale cu rata de 48khz
- Corespunde cerințelor audio Microsoft WHQL/WLP 2.0

Opţiuni de extindere

Placa de bază este dotată următoarele posibilități 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 conectoare SATA cu 7 ace

Placa de bază 915PL-A2 suportă bus mastering UltraDMA cu viteze de transfer de 100/66 MB/s

I/O integrată

Placa de bază este dotată cu un set complet de porturi şi conectoare I/O:

- Două porturi PS/2, pentru mouse şi tastatură
- Un port serial
- Un port paralel
- Patru porturi USB
- Un port LAN (opțional)
- Mufe audio pentru microfon, intrare audio şi pentru 8 canale audio de ieşire de înaltă fidelitate

Firmware BIOS

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

- Gestionarea energiei
- Alarme de trezire
- Parametri CPU
- Temporizare CPU şi memorie

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

Anumite specificații hardware şi elemente de software pot fi modificate fără înştiinţare prealabilă.

Спецификация

Процесор

Дънната платка 915PL-A2 поддържа Pentium 4 тип LGA775 със следните спецификации:

- Поддръжка на процесори Intel P4/Celeron
- 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 915PL (NB) и южен мост ICH6 (SB) е изграден на базата на оригинална архитектура с възможност за надстройка с доказана надеждност и производителност.

915PL (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

Чипсетът 915PL поддържа само технологиите 256-Mb, 512-Mb and 1-Gb DDR за x8 и x16 устройства, и НЕ поддържа технологията 128-Mb DDR. Това означава, че НЕ 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 DDR 400/333 MHz DDR SDRAM DIMMs
- поддръжка на до два небуферирани DIMM слота
- до 1 GB памет на 1 DIMM канал с максимален капацитет 2 GB

Интегриран мрежов контролер (опция)

Спецификация на интегрирания мрежов контролер:

- поддръжка на 100/10 Mb/s, N-Way Auto-negotiation operation
- Съвместимост със спецификацията PCI 2.2
- поддръжка на Full Duplex Flow Control (IEEE 802.3x)
- Захранване 2.5/3.3V с толеранс 5V

Аудио

- Съвместимост със спецификацията AC'97 2.3
- Съответствие с изискванията за аудио производителност на системи PC99/2001
- Осем-канални цифрово-аналогови преобразователи / 48KHz
- аудио - съвместимо с спецификацията Microsoft SHQL/WLP 2.0

Възможности за разширяване

Дънната платка има следните разширителни възможности:

- 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 915PL-A2 поддържа шина UltraDMA 100/66 MB/s

Интегриран Вход/Изход контролер

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

- два PS/2 порта за мишка и клавиатура
- Един сериен порт
- Един паралелен порт
- Четири USB порта
- Един LAN порт (опция)
- аудио жак за микрофон (вход), линеен вход, линеен изход и изход за 8-канално High Definition аудио

BIOS Firmware

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

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

настройка на скоростта на часовника на процесора

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

Jellemző

Processzor

A 915PL-A2 LGA775 típusú Pentium 4 számára készült, és a következő jellemzőkkel bír:

- Intel P4/Celeron processzorokkal működik
- 800/533 MHz sebességű rendszerbuszt (FSB) támogat
- Támogatja a „Hyper-Threading" technológiát használó központi egységeket

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

Lapkakészlet

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

915PL(NB)

- 32 bites host bus addressing-et (gazdabusz címzést) 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

A 915PL 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

- 400/333 MHz-es DDR SDRAM DIMM egységekkel működik
- Két puffermentes DIMM egységgel működik
- Maximum 1 GB-os DIMM egységeket támogat, maximális memória 2 GB

Alaplapon levő LAN (választható)

Az alaplapon levő LAN jellemzői:

- 100/10 Mb/s N-Way automatikus beállítással
- PCI Revision 2.2 –vel kompatibilis
- Támogatja a teljes duplex folyamatvezérlést (IEEE 802.3x)
- 2.5/3.3 V áramforrás 5V toleráns I/O-tal

Audio

- Megfelel az AC'97 2.3-as specifikációnak
- Megfelel a PC99/2001 rendszerek audio-teljesítménnyel szembeni követelményeknek
- 8 csatornás DA konvertor 48khz-es sebességgel
- Megfelel a Microsoft WHQL/WLP 2.0 audio követelményeine

Bővítési lehetőségek

Az alaplap a következő bővítési lehetőségekkel rendelkezik:

- 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 915PL-A2 alaplap támogatja az UltraDMA bus mastering megoldást, 100/66 MB/s ebességen

Beépített I/O

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

- Két PS/2 port az egér és a billentyűzet számára
- Egy soros port
- Egy párhuzamos port
- Egy LAN port (opcionális)
- Négy USB port
- Csatlakozók mikrofon bemenethez, audio bemenethez és 8 csatornás, nagy hűségű audio kimenethez

BIOS Firmware

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

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

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

Bizonyos hardverjellemzők és szoftverelemek előzetes bejelentés nélkül módosulhatnak.