

PX915PD/ PX915GD Series

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits of 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. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. However, there is no guarantee that interference will not occur in a particular installation.

CE Mark

The device is in accordance with 89/336 ECC-ENC Directive.

120410116M1N

Intel® Desktop Processors Feature Set Reference Table

Intel Pentium® 4 Processors reference table:

Processor Number	Processor Generation/ Socket	Clock Speed	Front Side Bus	Cache	Intel Technologies
6XX Sequence					
670	Prescott/LGA775	3.8 GHz	800 MHz	2MB L2	HT/ XD/ EIST
660	Prescott/LGA775	3.6 GHz	800 MHz	2MB L2	HT/ XD/ EIST
650	Prescott/LGA775	3.4 GHz	800 MHz	2MB L2	HT/ XD/ EIST
640	Prescott/LGA775	3.2 GHz	800 MHz	2MB L2	HT/ XD/ EIST
5XX Sequence					
580 J	Prescott/LGA775	4.00 GHz	800 MHz	1MB L2	HT/ XD
570 J	Prescott/LGA775	3.80 GHz	800 MHz	1MB L2	HT/ XD
560 (560J)	Prescott/LGA775	3.60 GHz	800 MHz	1MB L2	HT (HT/ XD)
550 (550J)	Prescott/LGA775	3.40 GHz	800 MHz	1MB L2	HT (HT/ XD)
540 (540J)	Prescott/LGA775	3.20 GHz	800 MHz	1MB L2	HT (HT/ XD)
530 (530J)	Prescott/LGA775	3.00 GHz	800 MHz	1MB L2	HT (HT/ XD)
520 (520J)	Prescott/LGA775	2.80 GHz	800 MHz	1MB L2	HT (HT/ XD)

Intel Celeron® Processors reference table:

Processor Number	Processor Generation/ Socket	Clock Speed	Front Side Bus	Cache	Intel Technologies
3XX Sequence					
350 (350J)	Prescott/LGA775 & mPGA 478	3.20 GHz	533 MHz	256K L2	(XD)
345 (345J)	Prescott/LGA775 & mPGA 478	3.06 GHz	533 MHz	256K L2	(XD)
340 (340J)	Prescott/LGA775 & mPGA 478	2.93 GHz	533 MHz	256K L2	(XD)
335 (335J)	Prescott/LGA775 & mPGA 478	2.80 GHz	533 MHz	256K L2	(XD)
330 (330J)	Prescott/mPGA478	2.66 GHz	533 MHz	256K L2	(XD)
325 (325J)	Prescott/mPGA478	2.53 GHz	533 MHz	256K L2	(XD)
320	Prescott/mPGA478	2.40 GHz	533 MHz	256K L2	

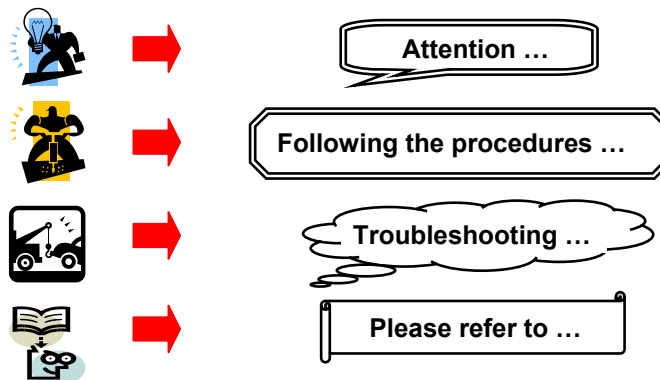
Important, please read!!!

- The images and pictures in this manual are for reference only and may vary slightly from actual product installation depending on specific hardware models, third party components and software versions.
- Unplug your computer when installing components and configuring switches and pins.
- This mainboard contains very delicate IC chips. Use a grounded wrist strap when working with the system.
- Do not touch the IC chips, leads, connectors or other components.
- Unplug the AC power when you install or remove any device on the mainboard.

Package Contents

- ◆ PX915PD/ PX915GD series mainboard
- ◆ IDE ATA Cable
- ◆ FDC Cable
- ◆ USB Bracket (optional)
- ◆ Game Port Bracket (optional)
- ◆ SPDIF & FRONT AUDIO Port Bracket (optional)
- ◆ SATA Power cord (optional)
- ◆ SATA Cable (optional)
- ◆ Installation and Setup Driver CD
- ◆ PX915PD/ PX915GD series User Manual

Symbols



PX915PD/ PX915GD Series

Intel® 915P/ 915G & ICH6
Supports Socket 775 Intel® Pentium® 4
Prescott Processor

User Manual

Enabling Hyper-Threading for your computer system requires ALL of the following components

- **CPU:** An Intel® Pentium® 4 Processor with HT Technology
- **Chipset:** An Intel® Chipset that supports HT Technology
- **BIOS:** A BIOS that supports HT Technology must be enabled
- **OS:** An operating system that supports HT Technology

For more information on Hyper-Threading Technology, go to:
<http://www.intel.com/info/hyperthreading>

Dimensions (ATX form-factor):

- 244mm x 305mm (W x L)

Operating System:

- Supports most popular operating systems: Windows® 2000/ XP

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Chapter 1. Getting Started

Introduction

Congratulations on choosing from the PX915PD/PX915GD series of mainboards! The PX915PD series includes the PX915PD PRO II, PX915PD PRO and PX915PD. The PX915GD series includes the PX915GD PRO II, PX915GD PRO and PX915GD. These mainboards are based on the Intel® 915P/915G Northbridge chipsets and the Intel® ICH6 Southbridge chipset. They also support Intel® Pentium® 4 Prescott Processor with FSB (Front Side Bus) frequencies of 533/800 MHz.

With these mainboards you can either use the two DDRII DIMM sockets with 240-pin DDRII memory or the two DDR DIMM sockets with 184-pin DDR memory. The total memory capacity for either configuration is 2 GB in Dual-Channel mode. You must use unbuffered, non-ECC DDRII 533/400 memory or DDR 400/333 (PC3200/2700) memory (for more details, see the Memory Installation section).

These mainboards provide one 16-lane (x16) PCI-Express slot for use with a PCI-Express graphics card. This slot can provide 4 GB/s bandwidths in each direction. It also has two 1-lane (x1) PCI-Express slots for additional cards. These slots provide 250 MB/s bandwidths in each direction. They also provide one AGP extension slot for AGP 8X/ 4X cards.

These mainboards provide a built-in IDE facility (Ultra ATA 66/100) that supports DMA and PIO modes. These mainboards also have 4 built-in Serial ATA slots capable of 150 MB/s transfer rates on each channel. The PX915PD (GD) PRO II and the PX915PD (GD) PRO also include 2 built-in RAID IDE slots (Ultra ATA 133) that support RAID 0, RAID 1, RAID 0+1 and JBOD modes.

These mainboards also come with an HD Audio sound codec (Azalia standard compliant), which supports high quality HD Audio with 8 channel capabilities. Sony/Philips Digital Interfaces are also supported.

These mainboards support up to 8 USB2.0 ports and also provide an infrared header for wireless infrared transmissions.

These mainboards come with a LAN chip (Marvell® MV8001) that provides up to 1 GB/s network connectivity. The PX915PD (GD) PRO II comes with a secondary LAN chip (VIA VT6105 LAN controller) which provides an additional back panel LAN port capable of 10/100 Mbit/s transmission speeds.

The company's 3 Year Limited Warranty for this product covers both labor costs and replacement parts during the 1st year. Only labor costs are covered during the 2nd and 3rd years (replacement parts will be charged during the 2nd and 3rd years).

All of the information in this manual is for reference only. This specification is subject to change without notice.

PX915PD/ PX915GD Series

Specification

CPU:

- Supports Socket 775 Pentium® 4 Prescott processor
- Supports Hyper-Threading Technology
- 533/ 800 MHz FSB (Front Side Bus) frequencies

Chipset:

- Northbridge Chipset – Intel® 915P (PX915PD series)/ 915G (PX915GD series)
- Southbridge Chipset – Intel® ICH6
- I/O Controller – Winbond W83627THF
- RAID IDE Controller – ITE IT8212F (for PX915PD (GD) PRO II/ PX915PD (GD) PRO)
- HD Audio Codec – Realtek ALC880
- Gb LAN Controller – Marvell® MV8001
- Mb LAN Controller – VIA® VT6105 (only for PX915PD (GD) PRO II)

DRAM Memory:

- Supports either two DDR 400/300 SDRAM memory modules or two DDRII 533/400 SDRAM memory modules.
- Total mainboard memory capacity is 2 GB.
- Supports Dual-Channel DDR and DDRII memory architectures.
- DDR and DDRII memory modules must be unbuffered and non-ECC
- Supported memory increments include 256 MB/ 512 MB/ 1GB

PCI-Express BUS Slots:

- Provides 1 x 16 PCI Express slot with 4 GB/s bandwidth (each direction)
- Provides 2 x 1 PCI Express slots with 250 MB/s bandwidth (each direction)
- All PCI Express slots are fully PCI Express 1.0a compliant

PCI BUS Slots:

- Provides 2 PCI slots
- Contains 33MHz, 32bit PCI interface, PCI 2.3 is compliant

Accelerated Graphics Port Extension Slot:

- Provide 1 AGP extension slot
- Support install 8X/ 4X AGP cards

PX915PD/ PX915GD Series

Universal Serial Bus:

- Supports up to 8 USB ports for USB compliant interface devices
- Supports USB 2.0 Enhanced Host Controller Interface (EHCI) and USB 1.1 Universal Host Controller Interface (UHCI)

Onboard IDE Facilities:

- Supports Ultra ATA 66/ 100, DMA and PIO modes
- Supports IDE interface with CD-ROM
- Supports high capacity hard disk drives
- IDE slot can support 2 IDE drives

Raid IDE controller: (for PX915PD (GD) PRO II & PX915PD (GD) PRO)

- Two RAID IDE slots that supports Ultra ATA 133 IDE
- Supports hard disk drives only
- Each slot can support 2 IDE drives
- Supports RAID 0, RAID 1, RAID 0+1 and JBOD modes

Onboard SATA Bus:

- 4 SATA IDE slots
- SATA 1.0 compatible
- Supports 150 MB/s transfer rates

Hardware Monitor Function:

- Monitors CPUFAN/ CHASFAN/ AUXFAN Speeds
- Monitors system Voltage

Infrared:

- Supports IrDA Version 1.0 SIR Protocol with a maximum baud rate of up to 115.2 Kbps

HD Audio Sound Codec Onboard:

- HD Audio (High Definition Audio) protocol compliance
- Compliant with Azalia specifications
- 8-channel playback capability
- Supports Sony/ Philips Digital Interfaces (S/PDIF)

PX915PD/ PX915GD Series

LAN Controller:

- Marvell MV8001 supports Ethernet 10/100/1000 Mbit/s connectivity.
- Provide an additional LAN facility using a built-in VIA® VT6105 chipset which supports Ethernet 10/100 Mbit/s network connectivity. (for PX915PD (GD) PRO II only)

Onboard Video Graphic: (only for PX915GD Series)

- Supports 2D Acceleration
- Supports 3D Acceleration
- Supports Video Acceleration
- Microsoft® DirectX compatible
- OpenGL driver available

I/O facilities:

- One multi-mode Parallel Port capable of supporting the following specifications:
 1. Standard & Bi-direction Parallel Port
 2. Enhanced Parallel Port (EPP)
 3. Extended Capabilities Port (ECP)
- Contains one serial port, 16550 UART
- Contains one VGA port (PX915GD series only)
- Supports Infrared Data Transmissions using IrDA
- Supports PS/2 mice and PS/2 keyboards
- Supports 360 KB/720 KB/1.2 MB/1.44 MB/2.88 MB floppy disk drives
- Contains 1 Game header

BIOS:

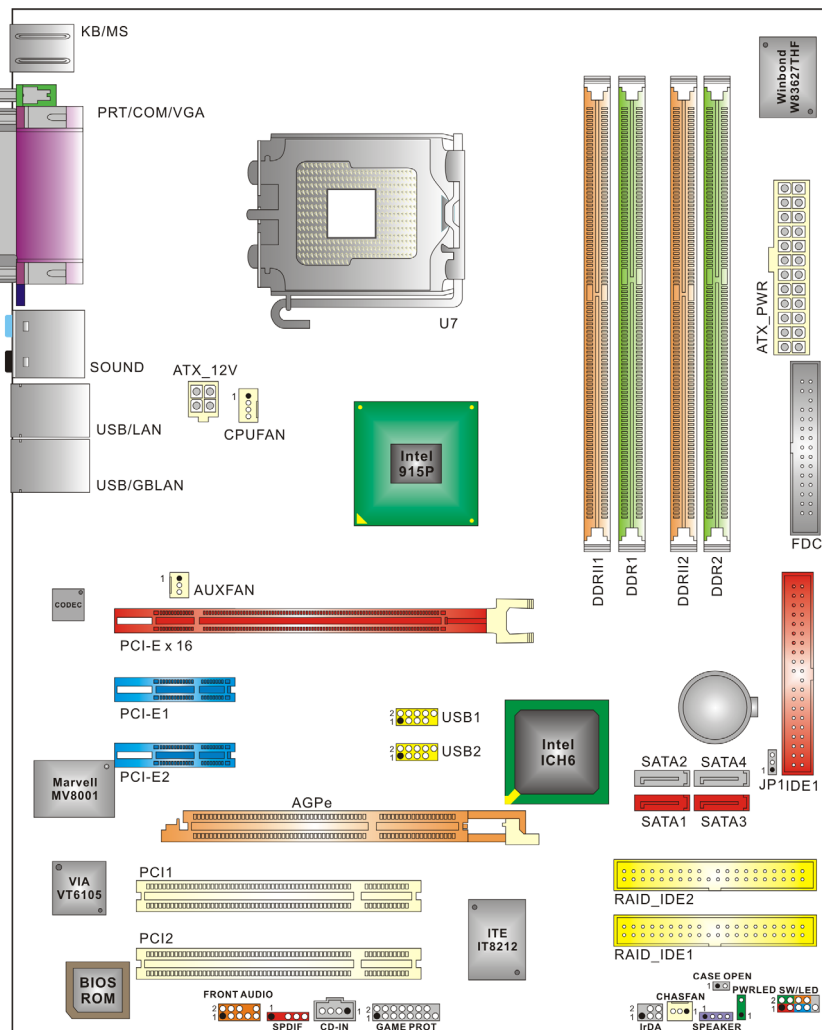
- Phoenix-Award™ BIOS
- Supports APM1.2
- Supports ACPI2.0 power management

Watch Dog Timer:

- This mainboard contains a special feature called the "Watch Dog Timer" which is used to detect when the system hangs during the POST stage due to certain BIOS configuration problems. Once a problem is detected, the Watch Dog will reset the configurations and reboot the system.

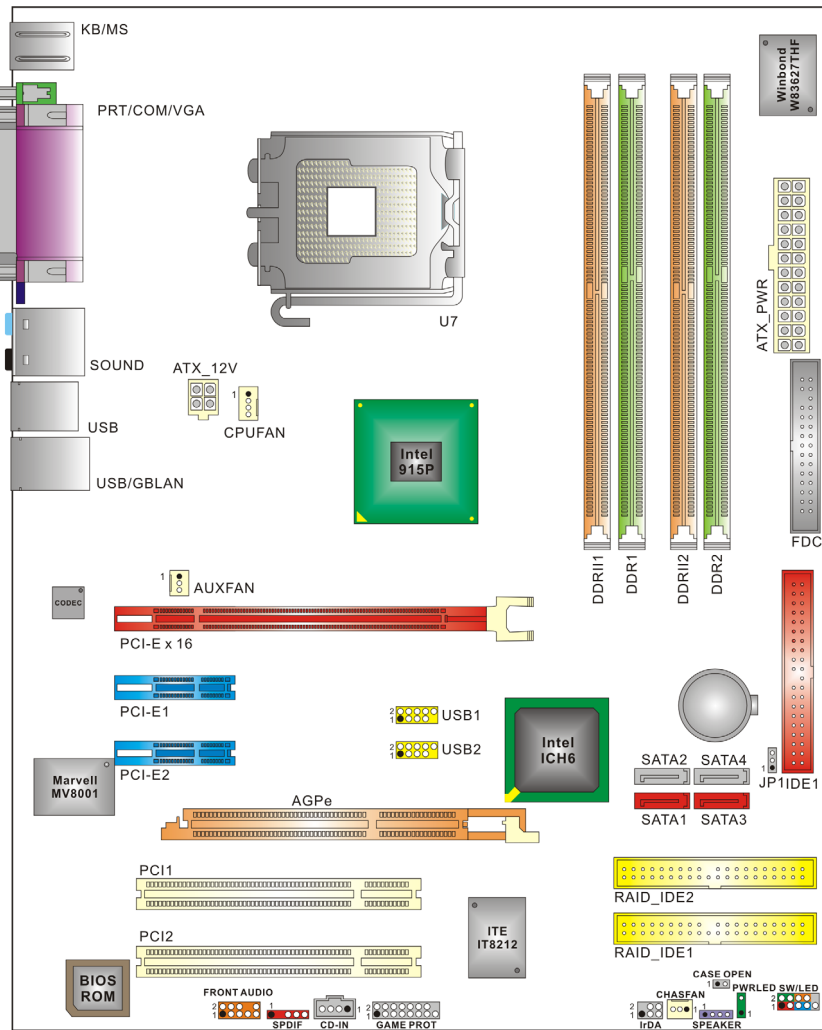
PX915PD/ PX915GD Series

Configuration Layout of PX915PD PRO II



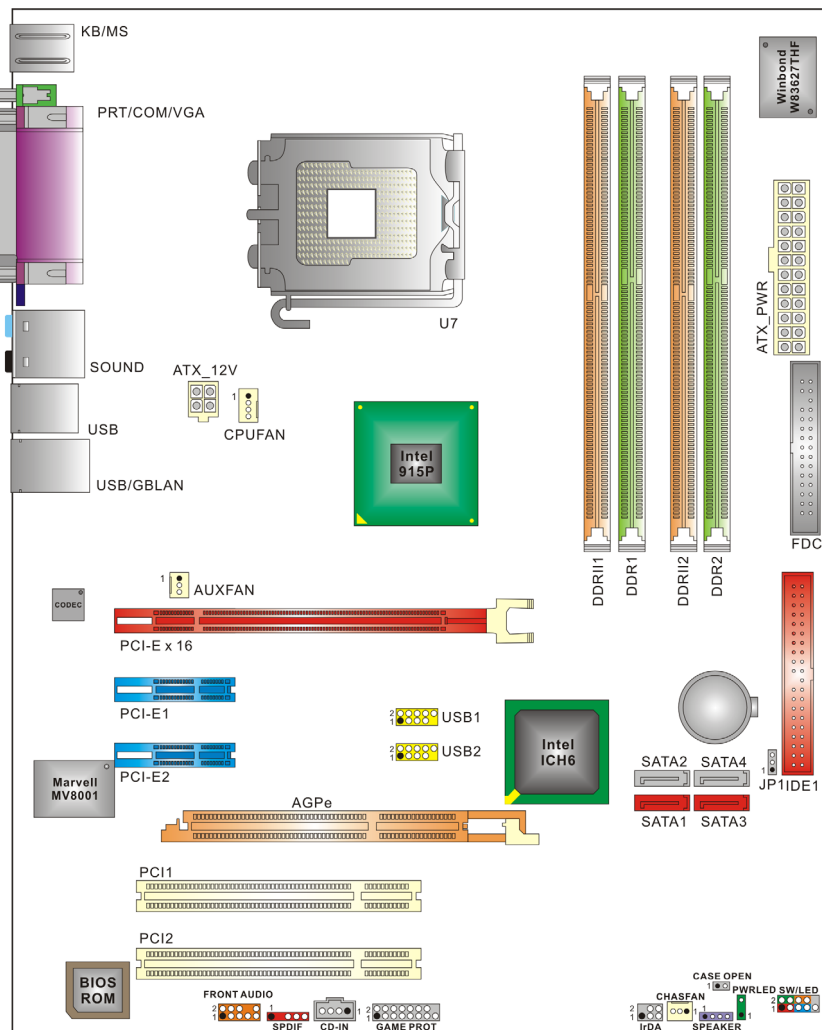
PX915PD/ PX915GD Series

Layout of PX915PD PRO



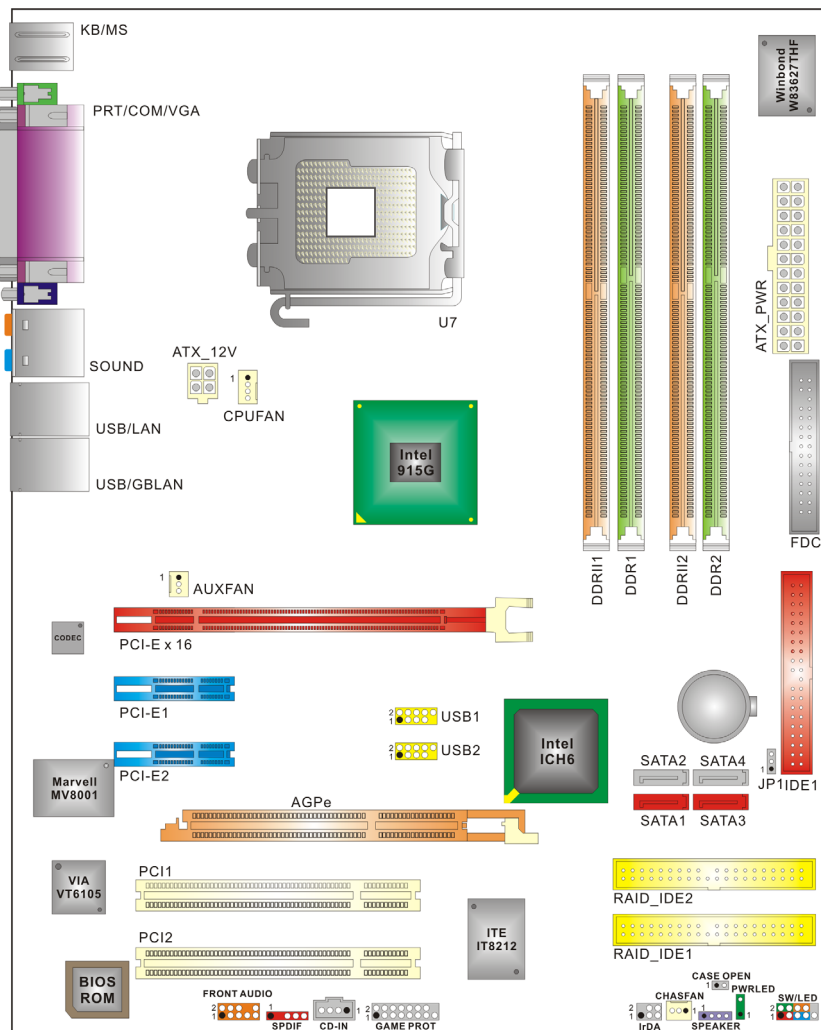
PX915PD/ PX915GD Series

Layout of PX915PD



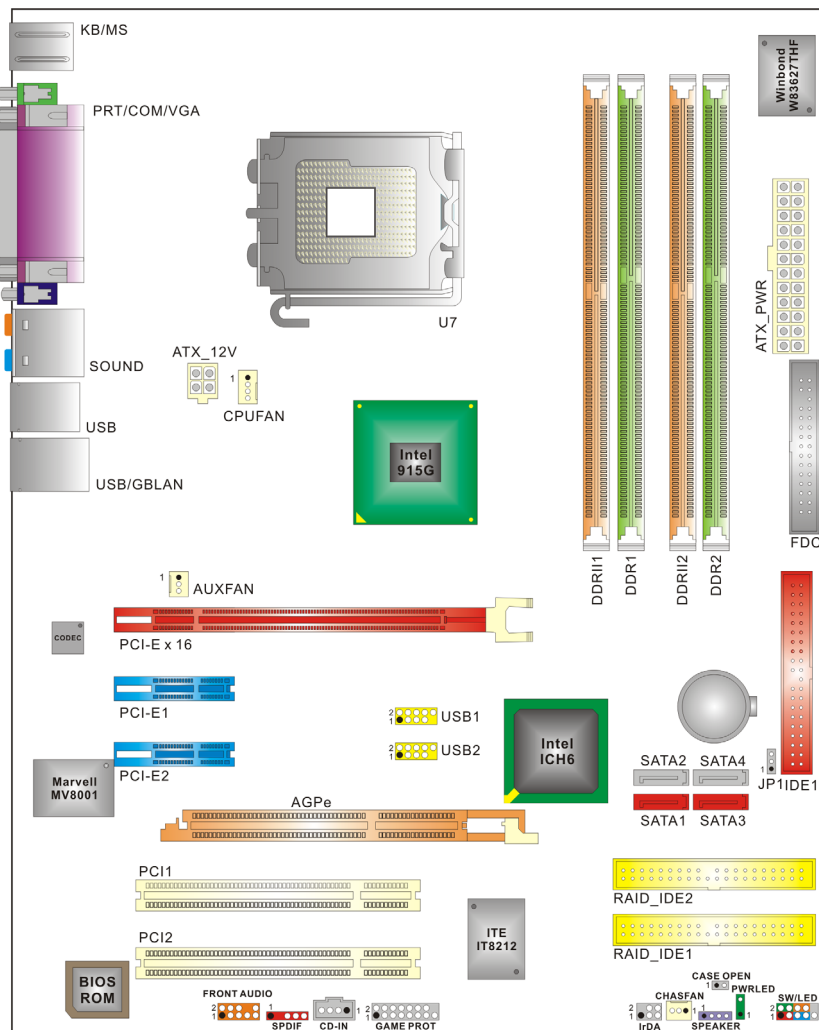
PX915PD/ PX915GD Series

Layout of PX915GD PRO II



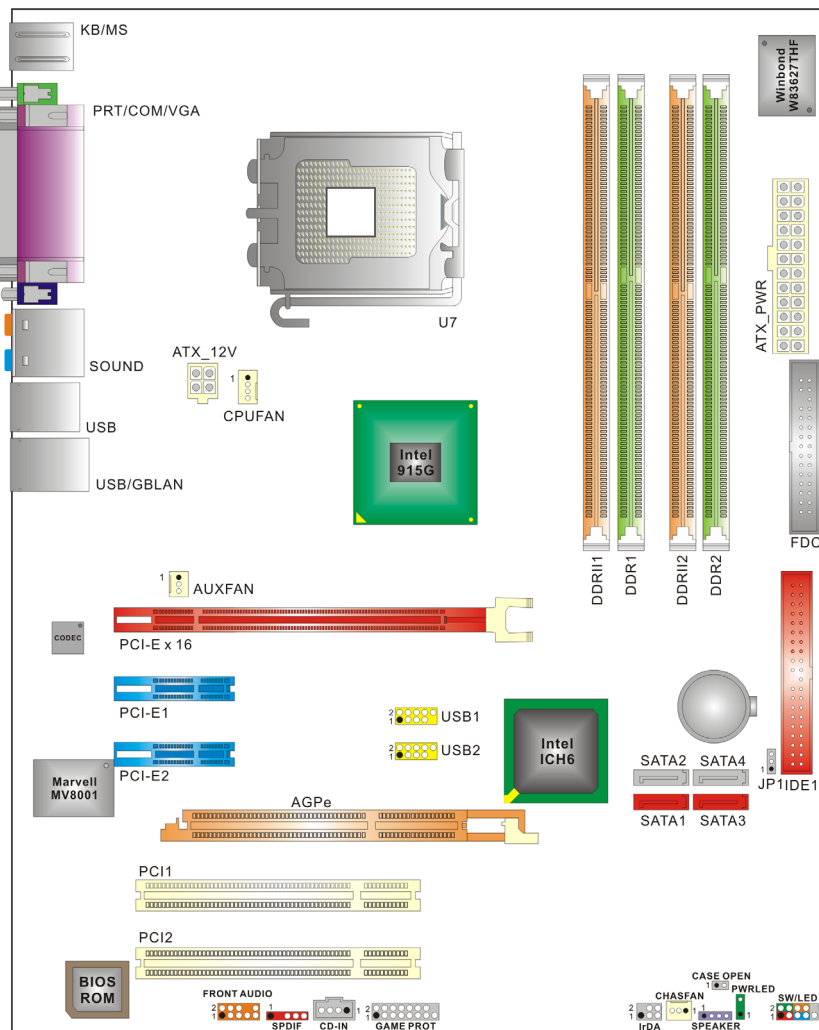
PX915PD/ PX915GD Series

Layout of PX915GD PRO



PX915PD/ PX915GD Series

Layout of PX915GD



Hardware Installation

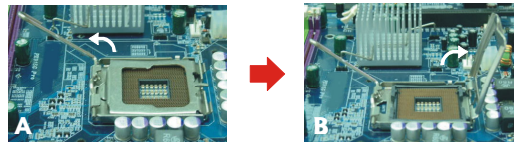
This section will assist you in quickly installing your system hardware. Wear a wrist ground strap before handling components. Electrostatic discharge may damage the system's components.

CPU Processor Installation

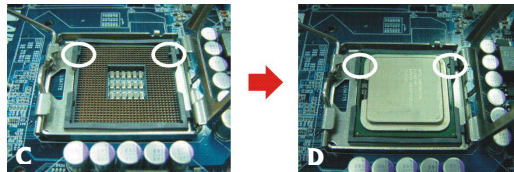
This mainboard supports Intel® Pentium® 4 processors using a Socket 775. Before building your system, we suggest you visit the Intel website and review the processor installation procedures. <http://www.intel.com>

CPU Socket 775 Configuration Steps:

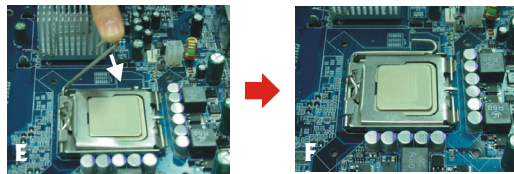
1. Locate the CPU socket 775 on your mainboard and nudge the lever away from the socket as shown. Then lift the lever to a 140-degree angle (A). Next, lift up the iron cover (B).



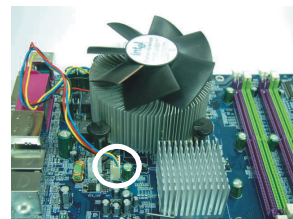
2. There are 2 distinctive marks located near the corners of the socket on the same side as the lever as shown (C). Match these marks with the marks on the CPU and carefully lower the CPU down onto the socket (D).



3. Replace the iron cover and then lower the lever until it snaps back into position (E). This will lock down the CPU (F).



4. Smear thermal grease on the top of the CPU. Lower the CPU fan onto the CPU/CPU socket and secure it using the attachments or screws provided on the fan. Finally, attach the fan power cable to the **CPUFAN** adapter.

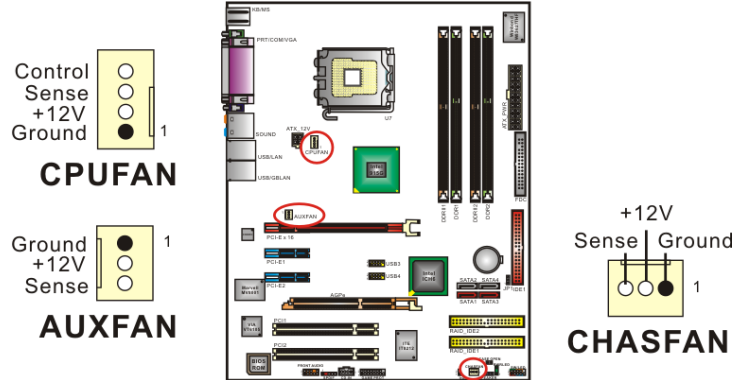


Attention: DO NOT touch the pins on the socket (the pins are sensitive and can be easily damaged). Also, make sure that you have completed all of the installation steps before starting the system. Finally, double-check that the heatsink is properly installed and make sure that the CPU fan power cable is securely attached (cooling problems can cause overheating, leading to damage to the CPU and other sensitive components).

PX915PD/ PX915GD Series

FAN Headers

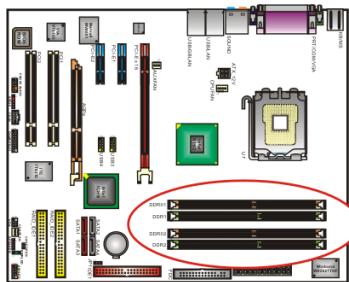
Three power headers are available for the cooling fans. Cooling fans play an important role in maintaining the ambient temperature in your system.



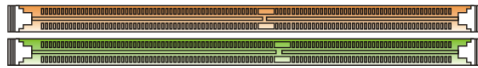
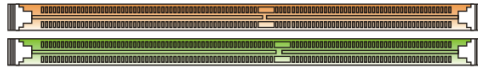
Attention: We strongly recommend that you use a CPU fan sink with your CPU. You can attach the power cable from the CPU fan sink to the CPUFAN Header.

Memory Installation

These mainboards can either use two 184-pin DDR SDRAM modules or two 240-pin DDRII SDRAM modules. You cannot use DDR and DDRII modules simultaneously. If you use DDR modules you must use the "DDR1" and "DDR2" slots. If you use DDRII modules, you must use the "DDRII1" and "DDRII2" slots. The maximum memory capacity that can be installed on the mainboard at one time is 2 GB. With either configuration (DDR or DDRII), you must use unbuffered/non-ECC DDR-SDRAM modules. These modules must contain a memory increment of either 256 MB, 512 MB, or 1 GB.



DDRII1
DDR1



DDRII2
DDR2

PX915PD/ PX915GD Series



Attention: We strongly recommend that You have to install modules in same specification to achieve the best effects. (Same timing specifications and same DDR speed) lest the failure of power-on or low memory speed if you install modules in different type, different SPD (series presence detect).

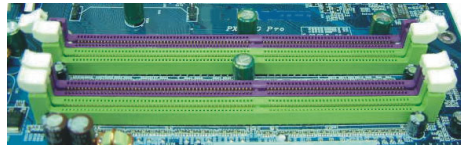
How to enable Dual-Channel DDR (DDRII):

These mainboards provide Dual-Channel functionality for its DDR and DDRII slots. Enabling Dual-Channel can significantly increase your data access rates. Enabling Dual-Channel simply means to make sure that the total memory for the two channels you are using [(DDR1 and DDR2) or (DDRII1 and DDRII2)] are balanced. For example, if you install one 256 MB module in the DDR1 slot (or DDRII1 slot), you must install another 256 MB module in the DDR2 slot (or DDRII2 slot). In balancing the memory on the two channels, you have, in effect, enabled Dual-Channel.

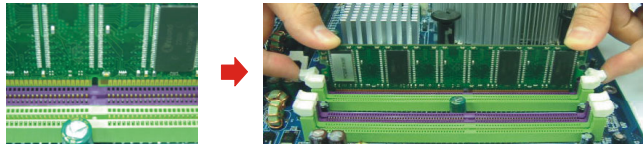
RAM Module Installation:

The following instructions explains memory module installation for these mainboards:

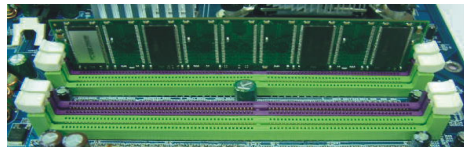
1. Pull the white plastic tabs at both ends of the slot away from the slot.



2. Match the notch on the RAM module with the corresponding pattern in the DIMM slot. This will ensure that the module will be inserted with the proper orientation.



3. Lower the RAM module into the DIMM Slot and press firmly using both thumbs until the module snaps into place.

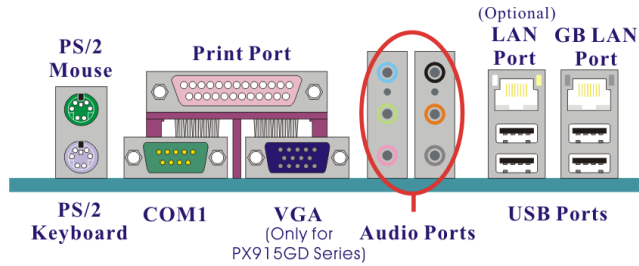


4. Repeat steps 1, 2 & 3 for the remaining RAM modules.

* The pictures above are for reference only. Your actual installation may vary slightly from the pictures.

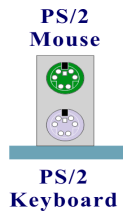
PX915PD/ PX915GD Series

Back Panel Configuration



PS/2 Mouse & PS/2 Keyboard Connectors: KB/MS

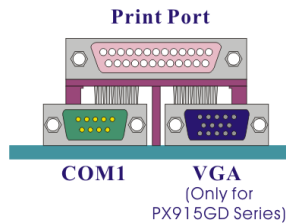
These mainboards provide a standard PS/2 mouse connector and PS/2 keyboard connector. The pin assignments are described below:



Pin	Assignment	Pin	Assignment
1	Data	4	+5 V (fused)
2	No connect	5	Clock
3	Ground	6	No connect

Serial and Parallel Interface Ports

These mainboards come equipped with one serial port and one parallel port. A VGA port is also provided with the PX915GD series only.



Parallel Interface Port: PRT

The parallel port on your system has a 25-pin, DB25 connector that is used to interface with parallel printers and other devices using a parallel interface.

The Serial Interface: COM1

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, modems and other peripheral serial devices can be connected to this port.

VGA Graphics Connector (PX915GD series only):

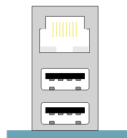
The PX915GD Series has a built in VGA port. Your VGA monitor can attach directly to this VGA connector (D-SUB 15 pin).

PX915PD/ PX915GD Series

USB & (GB) LAN Connectors: USB/GBLAN and USB/ (LAN = > optional)

These mainboards come with 4 USB ports and a Gb/s LAN port. The PX915PD (GD) PRO II have secondary 10/100 Mbit/s LAN port. The USB connectors are used to attach to keyboards, mice and other USB devices. You can plug the USB devices directly into this connector. The LAN connectors can be attached directly to a network.

LAN/GBLAN Port



USB Port



Pin	Assignment	Pin	Assignment
1	TX+ (TX+)	5	NC (TRD2-)
2	TX- (TX-)	6	RX- (RX-)
3	RX+ (RX+)	7	NC(TRD3+)
4	NC (TRD2+)	8	NC (TRD3-)



Pin	Assignment	Pin	Assignment
1/5	+5 V (fused)	3/7	USBP0+/P1+
2/6	USBP0-/P1-	4/8	Ground

Audio Port Connectors: Sound

This mainboard comes equipped with 6 Audio Ports. The Mic-in, Line-in and Front Speaker-out are standard audio ports that provide basic audio functionality. When you install the 8 Channel Audio Effects driver (4/6/8 channel audio), the other 3 audio ports will be enabled (see appendix 1).



Line In (blue) Connects to an external audio device such as a CD player, tape player or other audio devices that provide audio.

Front Speaker-Out (green) Connects to standard audio speakers for audio output. This port becomes the surround sound front speakers when the 8 Channel Audio Effects (4/6/8 speakers) driver is installed and enabled. Also note that this port provides the most amperage of all the ports making it suitable for headphones and speakers without their own power cables.

Mic In (pink) Connects to a microphone.

Surround Back Speaker-out (black) This port represents the surround sound back speakers and is only functional when the 4/ 6/ 8 Channel Audio Effects driver is installed and enabled.

Center/Subwoofer (orange) This port represents the Center/Subwoofer speakers and is only functional when the 6/ 8 Channel Audio Effects driver is installed and enabled.

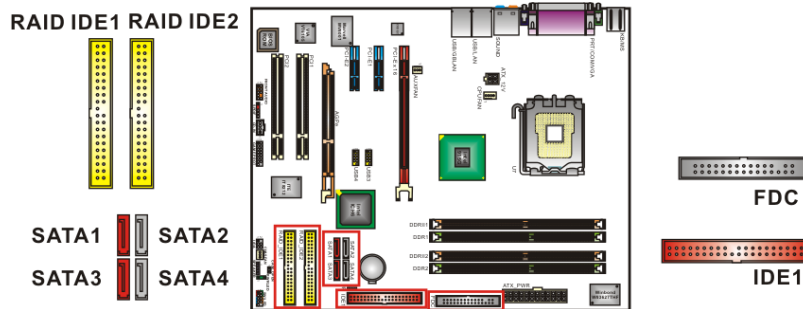
Surround Speaker-out (grey) This port represents an auxiliary port and is only functional when 8 Channel Audio Effects driver is installed and enabled.



With these mainboards, you can turn your default 2-speaker audio system into a 4, 6, or 8 speaker audio system by installing the 8 Channel Audio Effects driver. See appendix 1 for more information.

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Connectors



Floppy Disk Connector: FDC

These mainboards provide a standard floppy disk connector (FDC) that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy diskette drives. This connector supports the floppy drive ribbon cables provided in the packaging.

Hard Disk Connectors: IDE1/ SATA1-4/ (RAID IDE1/2 => for PX915PD (GD) PRO II & PX915PD (GD) PRO)

These mainboards provide a standard IDE connector that supports PIO Mode 0~4, Bus Master, Ultra ATA 66/100. 4 Serial ATA connectors are also available and can provide 150 MB/s transmission rates. The PX915PD (GD) PRO II & PX915PD (GD) PRO also contain 2 RAID IDE connectors that supports Ultra ATA 133 transmission rates and RAID 0/1/0 + 1 and JBOD modes.

IDE1 (Primary IDE Connector)

You can connect 2 IDE devices to the IDE1 connector using a single ribbon cable with 3 connectors (2 for the drives and one to connect to the board). If you are connecting 1 drive, you should configure it as the Master device. If you are connecting a second drive, you must configure it as the Slave device (see your hard drive manual for master/slave configuration specifics). If you have an IDE CD-ROM drive, you just can attach it to this connector.

SATA1-4 (Serial ATA connector)

These SATA connectors (SATA1 – SATA4) support Serial ATA 150. Each SATA connector can only support one serial ATA device. **Note:** With most storage devices, there is a power cable that you need attach to a power source (power supply).

PX915PD/ PX915GD Series

RAID IDE1/ RAID IDE2 (RAID IDE connector = > optional)

The PX915PD (GD) PRO II & PX915PD (GD) PRO provide two RAID IDE connectors. These connectors are capable of sophisticated disk management using RAID 0/1/0+1 and JBOD modes (**for more details about RAID configuration, please refer to the ITE RAID Controller manual**) . As with the IDE1 connector, you can connect 2 drives to this connector. If you are attaching a second drive, the first drive must be configured as the Master with the second drive being the Slave (see hard drive manual for master/slave configuration specifics). This connector can be only used with hard disk devices.

RAID 0 (disk striping) Striping is a performance-oriented, non-redundant disk storage technology. With RAID striping, multiple disks are used to form a larger virtual disk. Data is then striped or mapped across all the physical disks. In this way disk drives can perform multiple I/O operations in parallel, enhancing performance.

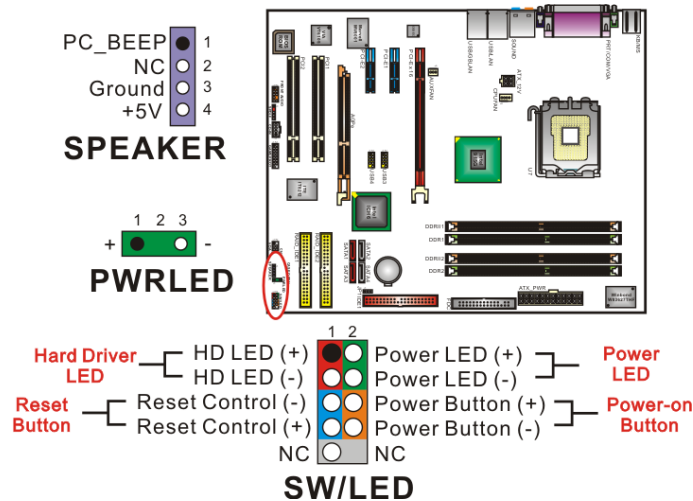
RAID 1 (disk mirroring) With Disk Mirroring there is a redundant disk that mirrors the main disk. Data that is written to the main disk is also written to the redundant disk. This redundancy provides fault tolerant protection from a single disk failure. If a read/write failure occurs on one drive, the system can still read and write data using the other drive.

RAID 0 + 1 This mode combines both the performance benefits of RAID 0 with the fault tolerance of RAID 1

JBOD (Just a Bunch Of Disks) This mode provides you with a way to combine many hard drives to create a larger drive. The JBOD drive will operate with the same functionality as a standard hard drive.

PX915PD/ PX915GD Series

Front Panel Indicator: SW/LED、PWRLED、SPEAKER



HD LED (Hard Drive LED Connector/ red)

This connector can be attached to an LED on the front panel of a computer case. The LED will flicker during any disk activity.

RST SW (Reset Connector/ blue)

This connector can be attached to a momentary SPST switch. This switch is normally left open. When closed it will cause the mainboard to reset and run the POST (Power On Self Test).

PWR-LED (2-pin Power LED/ green)

The mainboard provides a two-pin power LED connector. If there is a 2-pin power LED cable on the front panel of your computer case, you can attach it to the 2-pin power LED connector. The LED will illuminate showing that the computer is powered on.

PWR ON (Power Button/ orange)

This connector can be attached to a front panel power switch. The switch must pull the Power Button pin to ground for at least 50 ms to signal the power supply to switch on or off (the time required is due to internal debounce circuitry on the system board). At least two seconds must pass before the power supply will recognize another on/off signal.

PWR-LED (3-Pin Power LED/ green)

These mainboards provides a 3-pin power LED connector. If there is a 3-pin power LED cable on the front panel of a computer case, you can attach it to the 3-pin power LED connector. The LED will illuminate showing that the computer is powered on.

SPEAKER (Speaker/ violet)

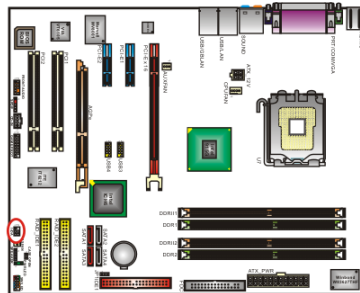
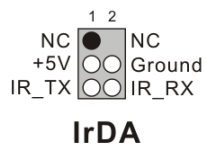
A front panel speaker can be attached to this connector. This speaker is used for audible beeps during the boot up process (Power On Self-Test). A single "short beep" is normal, while "irregular beeps" signal problems.

PX915PD/ PX915GD Series

Headers & Jumpers

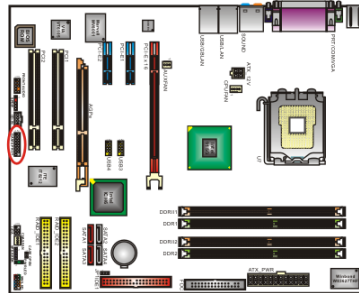
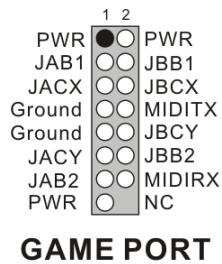
Infrared Header: IrDA

You can attach an infrared device to this connector and use this connector for connectionless infrared data transfers.



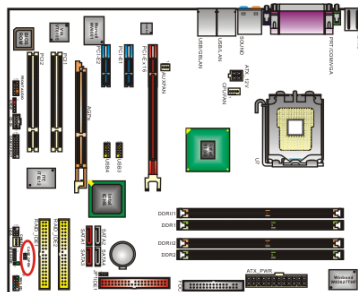
Game Port Header: GAME PORT

There is a game port header on these mainboards. To use this header, you must attach a game port bracket-cable so that you can interface to gaming devices (game port bracket is optional).



Case Open Warning Header: CASE OPEN

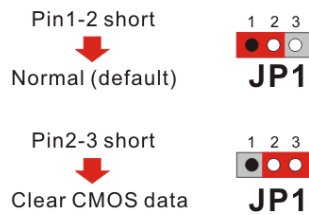
This connector is used to warn the user that the computer case has been previously opened. To use this functionality, you have to enable the CASE OPEN warning function in the BIOS Setup Utility. When your computer case is opened, your system will show alert messages during boot up. To use this function, your computer case must be equipped with a "case open" cable.



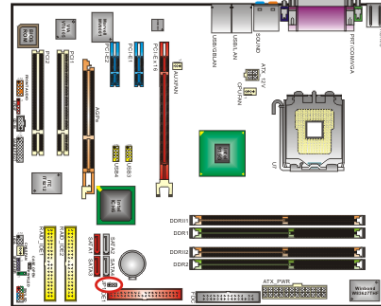
PX915PD/ PX915GD Series

Clear CMOS Jumper: JP1

The "Clear CMOS" jumper allows you to reset your CMOS configurations. This is particularly useful when you have forgotten your system password and cannot boot to the operating system.



(Short means to cover two pins on a jumper using a jumper cap.)

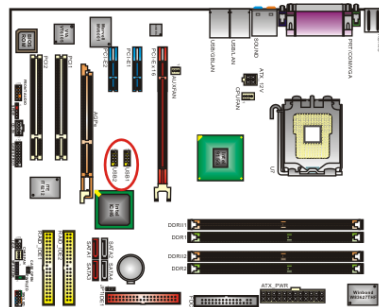
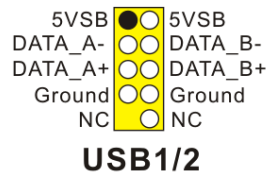


The following steps explain how to reset your CMOS configurations when you have forgotten your system password.

1. Turn off your system and disconnect the AC power cable.
2. Set JP1 to OFF (2-3 Closed).
3. Wait several seconds.
4. Set JP1 to ON (1-2 closed).
5. Connect the AC power cable and turn on your system.
6. Reset your new password.

Front USB Headers (Yellow): USB1/ USB2

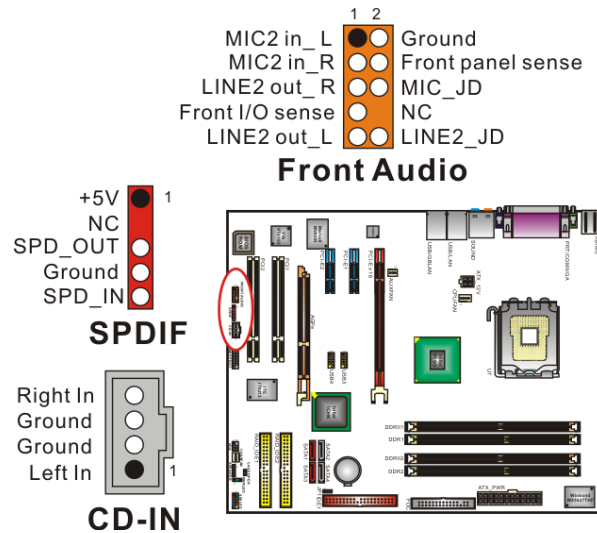
These mainboards provide 2 USB headers on the board allowing for 4 additional USB ports. To make use of these headers, you must attach a USB bracket/cable with USB ports (some models will come packaged with a USB 4-port bracket-cable). The optionally packaged bracket will have two connectors that you can connect to the headers (USB1, USB2). The other end (bracket containing the USB ports) is attached to the computer casing.



If you are using a USB 2.0 device with Windows 2000/XP, you will need to install the USB 2.0 driver from the Microsoft® website. If you are using Service pack 1 (or later) for Windows® XP, and using Service pack4 (or later) for Windows® 2000, you will not have to install the driver.

PX915PD/ PX915GD Series

Audio Connectors



CD-ROM Audio-In Header: CD-IN

This header is used to connect to the CD-ROM/DVD audio cable

Front Panel Audio Header (Orange): FRONT AUDIO

You can use the Front Panel Audio header (FRONT AUDIO) to connect to a separate audio bracket or to connect to case embedded audio equipment. The Front AUDIO header provides MIC-in and Line-out functionality and cannot be used simultaneously with the back panel mic and speakers. An SPDIF/Audio bracket is optionally packaged with some models

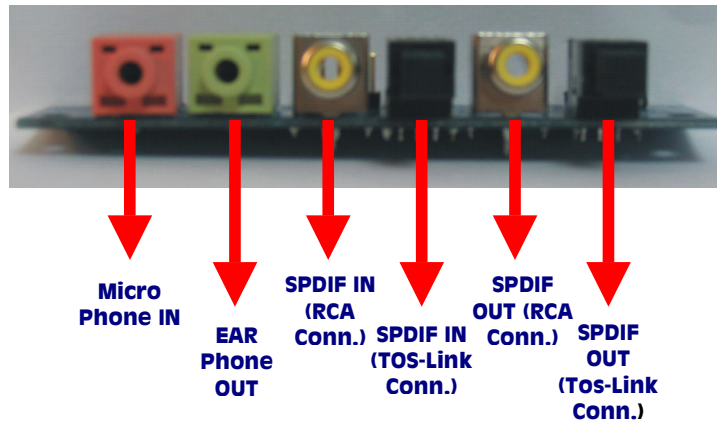
PX915PD/ PX915GD Series

S/PDIF Header (Red): SPDIF

S/PDIF (Sony/Philips Digital Interface) is an audio transfer file format which provides high quality audio using optical fiber and digital signals. This mainboard is equipped with an SPDIF header and must be used with a bracket-cable containing S/PDIF ports. An SPDIF/Audio bracket is optionally packaged with some models. The bracket has RCA connectors similar to that used with most consumer audio products and TOS-Link connectors and you can use these connectors to output/input audio to and from an S/PDIF device. The devices you connect to must be S/PDIF compliant for optimal effect.

SPDIF & FRONT AUDIO bracket

You can connect this bracket to the SPDIF and FRONT AUDIO Headers.

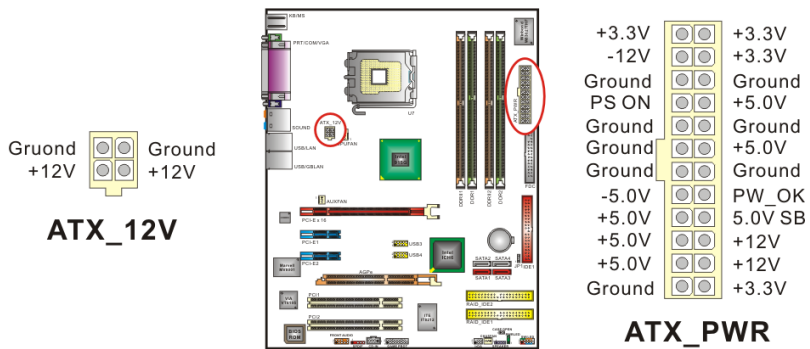


PX915PD/ PX915GD Series

Power Supply Attachments

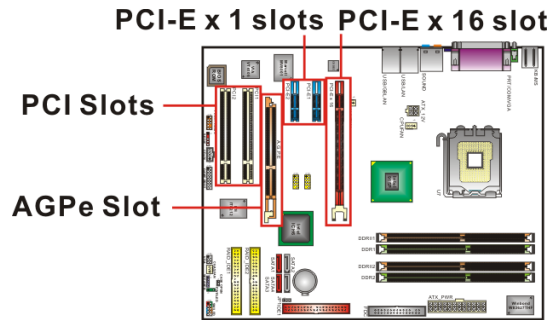
ATX Power Connector: ATX PWR , ATX 12V

This mainboard requires two ATX power connections. The first is a 24-pin connector and the second is a 4-pin connector. Attach the 4-pin connector first and then attach the 24-pin connector. Make sure the connectors are secure before applying power. (ATX_PWR can be attached to a 20-pin connector but be extra careful with the connector orientation when connecting the cables)



Slots

These slots are designed for expansion cards to complement and enhance the functionality of the mainboard.



PCI-Express slots: PCI-E X16 & PCI-E1/ PCI-E2

PCI-E x16 slots are for installing PCI-Express graphics cards. The PCI-E x1 slot is for expansion cards which fit the PCI-E x1 slot.

PCI Slots: PCI1/ PCI2

This mainboard is equipped with 2 standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which has, for the most part, supplanted the older ISA bus standard. This PCI slot is designated as 32 bit.

PX915PD/ PX915GD Series

AGP extension Slot: AGPe

This mainboard is equipped with an AGP extension slot. It supports to install 8X/ 4X AGP cards.

The AGPe slot on these mainboards do not support some AGP cards. Please refer to the list below to determine which AGP cards are compatible and which are not compatible.

Brand	GPU	Support
nVIDIA	GeForce FX5900XT	OK
	GeForce FX5700 Ultra	OK
	GeForce FX5600 Ultra	OK
	GeForce FX5600XT	OK
	GeForce FX 5200 Ultra	OK
	GeForce FX5200	OK
	GeForce4 Ti4800-SE	OK
	GeForce4 Ti4600	OK
	GeForce4 Ti4200-8X	OK
	GeForce4 Ti4200	OK
	GeForce4 MX440-8X	OK
	GeForce4 MX440	OK
	GeForce4 MX420	OK
	GeForce3 Ti200	OK
GeForce2 MX-400	OK	
ATi	RADEON 9500	OK
	RADEON 9200	OK
	RADEON 9000	OK
	RADEON 8500	OK
	RADEON 7500	OK
	RADEON 7000	OK
	RADEON 9500	OK
	RADEON 9600 Pro	X
	RADEON 9600XT	X
	RADEON 9600SE	X
	RADEON 9600	X
RADEON 9550	X	
SiS	SiS 301	X
Matrox	Millennium P650	X
	Millennium G550	X

Chapter 2. BIOS Setup

Introduction

This section describes PHOENIX-AWARD™ BIOS Setup program which resides in the BIOS firmware. The Setup program allows users to modify the basic system configuration. The configuration information is then saved to CMOS RAM where the data is sustained by battery after power-down.

The BIOS provides critical low-level support for standard devices such as disk drives, serial ports and parallel ports. As well, the BIOS controls the first stage of the boot process, loading and executing the operating system.

The PHOENIX-AWARD™ BIOS installed in your computer system's ROM is a custom version of an industry standard BIOS. This means that it supports the BIOS of Intel® based processors.

This version of the PHOENIX-AWARD™ BIOS includes additional features such as virus and password protection as well as special configurations for fine-tuning the system chipset. The defaults for the BIOS values contained in this document may vary slightly with the version installed in your system.

Plug and Play Support

This PHOENIX-AWARD™ BIOS supports the Plug and Play Version 1.0A specification as well as ESCD (Extended System Configuration Data) write.

EPA Green PC Support

This PHOENIX-AWARD™ BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

This PHOENIX-AWARD™ BIOS supports Version 1.1 & 1.2 of the Advanced Power Management (APM) specification. These features include system sleep and suspend modes in addition to hard disk and monitor sleep modes. Power management features are implemented using the System Management Interrupt (SMI).

PCI/ PCI-Express Bus Support

This PHOENIX-AWARD™ BIOS also supports Version 2.3 of the Intel PCI (Peripheral Component Interconnect) local bus specification and the PCI-Express v1.0a specification.

DRAM Support

DDR (Double Data Rate) SDRAM (Synchronous DRAM) is supported.

PX915PD/ PX915GD Series

Supported CPUs

This PHOENIX-AWARD™ BIOS supports the Intel® Pentium® 4 CPUs.

Key Function

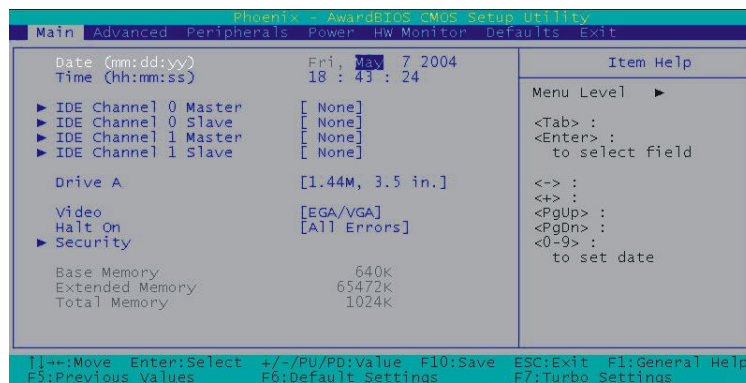
In general, you can use the arrow keys to highlight items, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate within the BIOS Setup program.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to the item you desire
PgUp key	Increase the numeric value or enter changes
PgDn key	Decrease the numeric value or enter changes
+ Key	Increase the numeric value or enter changes
- Key	Decrease the numeric value or enter changes
Esc key	Main Menu – Quit and do not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F6 key	Load the defaults from BIOS default table
F7 key	Load the turbo defaults
F10 key	Save all the CMOS changes and exit

PX915PD/ PX915GD Series

Main Menu

When you enter the PHOENIX-AWARD™ BIOS Utility, the Main Menu will appear on the screen. The Main menu allows you to select from several configuration options. Use the left/right arrow keys to select a particular configuration screen from the top menu bar or use the down arrow key to access and configure the information below.

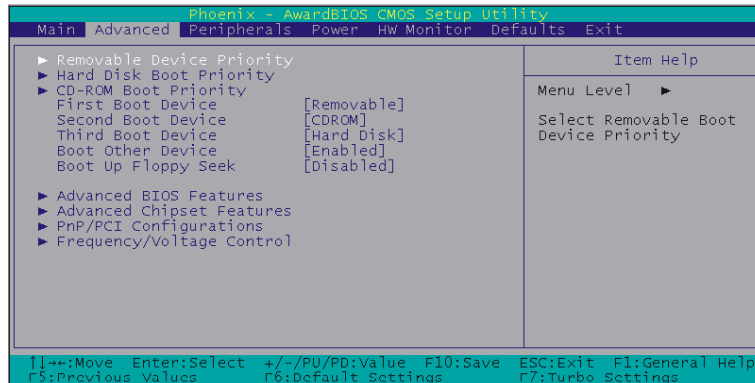


PX915PD/ PX915GD Series

Main Menu Setup Configuration Options

Item	Options	Description
Date	mm dd yyyy	Set the system date. Note that the 'Day' automatically changes when you set the date.
Time	Hh: mm: ss	Set the current time of the system.
IDE Channel 0/1 Master	Options contained in sub menu.	Press <Enter> to enter the sub menu.
IDE Channel 0/1 Slave	Options contained in sub menu.	Press <Enter> to enter the sub menu.
SATA Channel 0/1 Master	Options contained in sub menu.	Press <Enter> to enter the sub menu.
SATA Channel 0/1 Slave	Options contained in sub menu.	Press <Enter> to enter the sub menu.
Driver A	None 360k, 5.25 in 1.2M, 5.25 in 720K, 3.5 in 1.44M, 3.5 in 2.88M, 3.5 in	Select the type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select the situation in which you want the BIOS to stop the POST process and notify you.
Security	Options contained in sub menu.	Press <Enter> to enter the sub menu.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

Advanced BIOS Features



Removable Device Priority

Select removable device priority. Just like floppy, LS120, ZIP-100, USB-FDD and USB-ZIP.

Hard Disk Boot Priority

Select hard disk boot priority.

CD-ROM Boot Priority

Select CD-ROM boot priority.

First /Second/Third Boot Device

Select the order in which devices will be searched in order to find a boot device.

Options: Removable (default for first boot device) \ Hard Disk (default for third boot device) \ CDROM (default for second boot device) \ Disabled

Boot Other Device

The setting allows the system to try to boot from other devices if the system fails to boot from the 1st/ 2nd/ 3rd boot devices. Options: Enabled (default) \ Disabled

Boot Up Floppy Seek

When Enabled, the BIOS tests (seeks) floppy drivers to determine whether they have 40 or 80 tracks. Only 360 KB floppy drivers have 40 tracks. Drives with 720 KB, 1.2 MB and 1.44 MB capacity have 80 tracks. Because very few modern PCs have 40-tracks floppy drivers, we recommend that you set this field to "Disabled". Options: Enabled \ Disabled (default)

PX915PD/ PX915GD Series

Advanced BIOS Features

CPU Feature

Delay Prior

Select the delay time before thermal activation from high temperatures.

Options: 4 Min ∙ 8 Min ∙ 16 Min (default) ∙ 32 Min

Thermal Management

This item will monitor the CPU thermal to prevent the CPU damage with high temperature.

Limit CPUID MaxVal

When the limit CPUID MaxVal is set to 3, the item should be set to "Disabled" for Windows XP. Options: Enabled ∙ Disabled (default)

Virus Warning

This item allows you to choose the Virus Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will display a warning message on the screen and sound an audio alarm (beep).

Options: Disabled (default) ∙ Enabled

CPU L1 & L2 Cache

Make CPU internal cache active or inactive. System performance may degrade if you disable this item. Options: Enabled (default) ∙ Disable.

Hyper-Threading Technology

When you install a CPU include Hyper-Threading Technology. And this item will allow you to enable or disabled the Hyper-Threading technology.

Options: Disabled ∙ Enabled (default)

Quick Power On Self Test

Allows the system to skip certain tests while booting. This will speed up the boot process.

Options: Enabled (default) ∙ Disabled.

Boot Up NumLock Status

Selects the power on state for NumLock.

Options: On (default) Numpad keys are number keys.

 Off Numpad keys are arrow keys.

PX915PD/ PX915GD Series

Typematic Rate Setting

When "Enabled", the "typematic rate" and "typematic delay" can be configured. Typematic Rate determines the keystroke repeat rate used by the keyboard controller..

Options: Disabled (default) \ Enabled

Typematic Rate (Chars/Sec)

The rate at which a character repeats when you hold down a key.

Options: 6 (default) \ 8 \ 10 \ 12 \ 15 \ 20 \ 24 \ 30

Typematic Delay (Msec)

The delay before keystrokes begin to repeat. Options: 250 (default) \ 500 \ 750 \ 1000

APIC Mode

By enabling this option, "MPS version control for OS" can be configured.

Options: Disabled \ Enabled (default)

MPS Version Control For OS

The 1.1 version is the older version that supports 8 more IRQs in the Windows NT environment. Choose the new 1.4 version for Windows 2000 and Windows XP.

Options: 1.4 (default) \ 1.1

OS Select For DRAM > 64MB

Select "OS2" only if you are running the OS/2 operating system with greater than 64MB of RAM. Options: Non-OS2 (default) \ OS2

HDD S.M.A.R.T. Capability

Self Monitoring Analysis and Reporting Technology is a technology that enables a PC to attempt to predict the possible failure of storage drives.

Options: Disabled (default) \ Enabled

Intel OSB Logo Show

This item allows you to show or hide the small LOGO EPA.

Options: Disabled \ Enabled (default)

Advanced Chipset Features

DRAM Timing Selectable

This item determines DRAM clock/ timing using SPD or manual configuration.

Make sure your memory module has SPD (Serial Presence Data), if you want to select the "By SPD" option. Options: Manual \ By SPD (default)

PX915PD/ PX915GD Series

CAS Latency Time

This item determines CAS Latency. When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system engineer. This field is adjustable only when "DRAM Timing Selectable" is set to "Manual". This field is locked when "DRAM Timing Selectable" is set to "By SPD" and is automatically determined by the system. Options: 2 ∙ 2.5 ∙ 3

DRAM RAS# to CAS# Delay

This item allows you to select a delay time between the CAS and RAS strobe signals. It only applies when DRAM is written to, read from, or refreshed. This field is adjustable only when "DRAM Timing Selectable" is set to "manual". This field is locked when "DRAM Timing Selectable" is set to "By SPD" and is automatically determined by the system.

Options: 4 ∙ 3 ∙ 2

DRAM RAS# Precharge

This item allows you to select the DRAM RAS# precharge time. The ROW address strobe must precharge again before DRAM is refreshed. An inadequate configuration may result in incomplete data. This field is adjustable only when "DRAM Timing Selectable" is set to "manual". This field is locked when "DRAM Timing Selectable" is set to "By SPD" and is automatically determined by the system. Options: 4 ∙ 3 ∙ 2

Precharge Delay

This item allows you to select DRAM Active to Precharge Delay. This field is locked when "DRAM Timing Selectable" is set to "By SPD" and is automatically determined by the system. Options: 8 ∙ 7 ∙ 6 ∙ 5

System BIOS Cacheable

When enabled, accesses to system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is enabled. Options: Enabled (default), Disabled

Video BIOS Cacheable

Select "Enabled" to allow caching of the video BIOS which may improve performance. If any other program writes to this memory area, a system error may result. Options: Enabled, Disabled (default)

Memory Hole at 15M-16M

When enabled, you can reserve an area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. Refer to the user documentation of the peripheral you are installing for more information. Options: Disabled (default) ∙ Enabled

PX915PD/ PX915GD Series

PCI Express Root Port Func

PCI Express Port1/2

This item allows you to enabled or disabled PCI Express x 1 port 1/ 2.

Options: Auto (default) \ Disabled

PCI-E Compliancy Mode

This item allows you select the PCI-E Compliancy Mode. Options: V1.0a (default) \ V1.0

****VGA Setting** (only for onboard VGA)**

PEG Force X1

This item allows you to force the PCI-Express x 16 slot to install the PCI-Express x 1 interface expansion card. Options: Disabled (default) \ Enabled

On-Chip Frame Buffer Size

This setting is for pure DOS mode using, you can set 1MB or 8MB to share the system memory.

FIXED Memory Size

This item will allows you to select the memory size for graphic use. And it is intended to provide the user with a guaranteed amount of graphics memory at all time. However, the OS will still report total system memory as including this allocated amount (as opposed to pre-allocated.)

DVMT Memory Size

DVMT is an enhancement of the UMA concept, wherein the graphics driver allocates memory as needed for running graphics applications. The graphics driver is cooperatively using this memory with other system components. If a user is not performing any graphics-intensive operations, most of the DVMT memory can be utilized by the operating system for other uses. In an environment where the user is unlikely to run games that require a large amount of memory, the memory will be available for other uses such as database applications etc. In an environment where the user is playing games or may not run any data intensive non-graphics applications, the memory will automatically be used to optimize the graphics. Intel recommends using the DVMT setting for better overall system performance.

Options:

When installed totally 128~255 MB memory in the system

On-Chip Frame Buffer Size	FIXED Memory Size	DVMT Memory Size	Fixed + DVMT	Total Graphics
1 MB	31 MB	0 MB	NA	32 MB
1 MB	0 MB	31 MB	NA	32 MB
8 MB	24 MB	0 MB	NA	32 MB
8 MB	0 MB	24 MB	NA	32 MB

PX915PD/ PX915GD Series

When installed totally 256 ~ 511 MB memory in the system

On-Chip Frame Buffer Size	FIXED Memory Size	DVMT Memory Size	Fixed + DVMT	Total Graphics
1 MB	63 MB	0 MB	NA	64 MB
1 MB	0 MB	63 MB	NA	64 MB
1 MB	127 MB	0 MB	NA	128 MB
1 MB	0 MB	127 MB	NA	128 MB
1 MB	0 MB	0 MB	63 MB + 64 MB	128 MB
1 MB	0 MB	MAX. DVMT	NA	160 MB
8 MB	56 MB	0 MB	NA	64 MB
8 MB	0 MB	56 MB	NA	64 MB
8 MB	120 MB	0 MB	NA	128 MB
8 MB	0 MB	120 MB	NA	128 MB
8 MB	0 MB	0 MB	56 MB + 64 MB	128 MB
8 MB	0 MB	MAX/ DVMT	NA	160 MB

When installed totally 511 ~ xxxx MB memory in the system

On-Chip Frame Buffer Size	FIXED Memory Size	DVMT Memory Size	Fixed + DVMT	Total Graphics
1 MB	63 MB	0 MB	NA	64 MB
1 MB	0 MB	63 MB	NA	64 MB
1 MB	127 MB	0 MB	NA	128 MB
1 MB	0 MB	127 MB	NA	128 MB
1 MB	0 MB	0 MB	63 MB + 64 MB	128 MB
1 MB	0 MB	MAX. DVMT	NA	256 MB
8 MB	56 MB	0 MB	NA	64 MB
8 MB	0 MB	56 MB	NA	64 MB
8 MB	120 MB	0 MB	NA	128 MB
8 MB	0 MB	120 MB	NA	128 MB
8 MB	0 MB	0 MB	56 MB + 64 MB	128 MB
8 MB	0 MB	MAX/ DVMT	NA	256 MB

Boot Display

This allows you to select the boot display. Options: Auto (default) \ CRT \ TV \ EFP

PnP/PCI Configurations

Reset Configuration Data

Select "Enabled" to reset the Extended System Configuration Data (ESCD) if you have installed a new add-on card and the system reconfiguration has caused such a serious conflict that the OS cannot boot. Options: Disabled (default) \ Enabled

PX915PD/ PX915GD Series

Resources Controlled By

BIOS can automatically configure all the boot and Plug and Play compatible devices. If you choose Auto, you will not be able to manually assign IRQ DMA and memory base address fields, since BIOS automatically assigns them. Options: Auto (ESCD) (default) \ Manual

IRQ Resources

When resources are controlled manually, you can assign each system interrupt a type, depending on the type of device using the interrupt. This is only configurable when "Resources Controlled By" is set to "Manual".

Options: IRQ-3/ 4/ 5/ 7/ 9/ 10/ 11/ 12/ 14/ 15 assigned to PCI device

PCI / VGA Palette Snoop

Some graphic controllers that are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

Options: Disabled (default) \ Enabled

PCI Latency Timer (CLK)

This item allows you to set up the PCI Latency Time (0-255). If you select the "32" it will optimize PCI speeds. Options: 0-255 \ 32 (default)

PCI SLOT1- 2

This item allows you to select an IRQ address for PCI slot 1-2.

Options: Auto (default) \ 3 \ 4 \ 5 \ 7 \ 9 \ 10 \ 11 \ 12 \ 14 \ 15

**** PCI Express relative items ****

Maximum payload Size

This item allows you to set the PCI Express Maximum payload size per time. Options: 4096 (default) \ 128 \ 256 \ 512 \ 1024 \ 2048

Frequency/Voltage Control

Spread Spectrum

The Spread Spectrum function can reduce the EMI (Electromagnetic Interference) generated. Options: Enabled (default) \ Disabled

PCI Speed Setting

This item determines the PCI frequency (speed settings). You can set the frequency using the supplied BIOS options. One of the options available to you is "Auto". Using the "Auto" option will instruct the system to automatically calculate the frequency.

Options: Auto (default) \ 33.0 \ 37.7 \ 44.0

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PCI-E Speed Setting

This item determines the PCI-E frequency (speed settings). You can set the frequency using the supplied BIOS options. One of the options available to you is "Auto". Using the "Auto" option will instruct the system to automatically calculate the frequency.

Options: Auto (default) \ 100

System Memory Frequency

This item allows you to select Memory Frequency.

Options: Auto (default) \ 333 MHz \ 400 MHz

CPU Speed Detected

This item displays the default CPU speed.

CPU Speed Setting

This item display the CPU speed that you setting for. If you don't change the "CPU Host Frequency" or the "CPU Clock Ratio" and the item will display the current CPU speed.

CPU Host Frequency (MHz)

This item displays the CPU Host frequency. You can set it from XXX to 333. The default depends on your CPU frequency. The default for this field depends on the CPU installed.

CPU Clock Ratio

This field will only display if the CPU has not been set to a locked state by the CPU manufactory. If your CPU is locked, you will not be able to adjust the "CPU Clock Ratio". The default depends on your CPU.

DDR Voltage (Volt)

This item allows you to adjust the RAM voltage.

Options for DDR : Default (default) \ + 0.3V \ + 0.2V \ + 0.1V

Options for DDRII : Default (default) \ +0.15V \ +0.10V \ 0.05V

NB Voltage (Volt)

This item allows you to adjust the North Bridge voltage.

Options: Default (default) \ +0.3V \ + 0.2V \ + 0.1V

Default CPU Voltage (Volt)

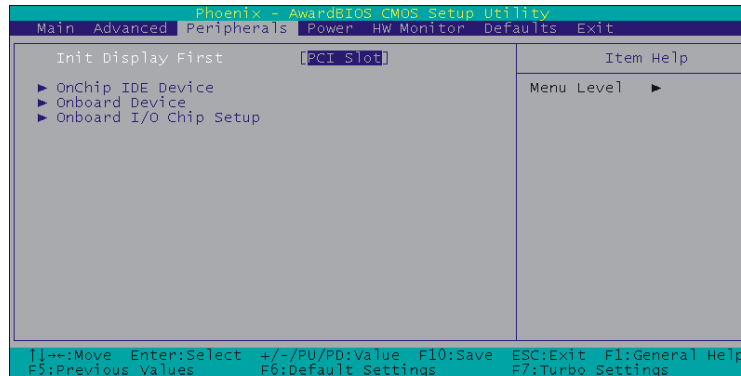
This item displays the CPU default Voltage.

CPU Voltage (Volt)

This item allows you to adjust your CPU core voltage. Options: 0.85~1.9 (The default depends on your CPU.)

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Integrated Peripherals



Init Display First

With systems that have multiple video cards, this option determines whether the primary display uses a PCI slot or an AGP slot. Options: PCIEx (default) \ PCI Slot

OnChip IDE Device

IDE HDD Block Mode

Block mode is otherwise known as block transfer, multiple commands, or multiple sector read/write. Select the "Enabled" option if your IDE hard drive supports block mode (most new drives do). The system will automatically determine the optimal number of blocks to read and write per sector. Options: Enabled (default) \ Disabled

On-Chip channel0/channel1 PCI IDE

The mainboard chipset contains a PCI IDE interface with support for two IDE channels. These two IDE channels are for IDE1 and SATA1/2/3/4 connectors use. Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to deactivate the interface if you are going to install a primary and/or secondary add-in IDE interface. Options: Enabled (default) \ Disabled

IDE channel0/ channel1/Master/Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance incrementally. In Auto mode, the system automatically determines the best mode for each device. Options: Auto (default) \ Mode0 \ Mode1 \ Mode2 \ Mode3 \ Mode4.

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IDE channel0 /channel1 /Master / Slave UDMA

Ultra DMA 100 functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA 100, select "Auto" to enable BIOS support.

Options: Auto (default) \ Disabled

***** OnChip Serial ATA Setting*****

On-Chip Serial ATA

This field allows you to select the on-chip Serial ATA operating mode which will determine how you will use your Serial ATA drives with the other standard IDE drives. This system can physically attach 2 IDE drives and 4 SATA drives but will have certain limitations as described below.

Options :

Disabled	Disable on-chip serial ATA. No Serial ATA devices installed.
Auto(default)	BIOS will auto-detect the presence of any SATA devices. 2 (or 1) IDE drivers + 4 (or 3) SATA drivers → Enhanced Mode 2 (or 1) IDE drivers + 2 (or 1) SATA drivers (Must connect with SATA1 +3 or with SATA2+4) → Combined Mode 4 (or 3 or 2 or 1)SATA drivers → SATA only 2 (or 1) IDE drivers → Disabled
Combined Mode	Windows® 98/ME can recognize IDE devices but cannot directly recognize an SATA device and therefore you must use this mode to allow the SATA device to simulate an IDE device by assuming the role of one IDE channel in the system. This means that you will have one available IDE channel for 2 SATA drives to use (each IDE channel can support 2 IDE drives). If you were to install all both IDE drives and 4 SATA drives, you will only see 2 of the SATA drives along with the 2 IDE drives.
Enhanced Mode	In this mode, you can use all 6 hard disk drives (including 2 IDE drives and 4 SATA drives). Note: You cannot use "Enhanced" mode with Windows® 98/ME. It only support to install Windows® 2000/ XP if you want to boot from SATA device. (It's restriction from Microsoft.)
SATA Only	Select this option when you install SATA drives only.

PATA IDE Mode

This item allows you to select an IDE channel for PATA IDE devices. When you install the SATA device(s) to the SATA1 or 3 or 1+3, this item should be set to channel 1. When you install the device(s) to the SATA2 or 4 or 2+4, this item should be set to channel 0.

Options: Channel 0 (default) \ channel 1

SATA Port

This item will display which IDE channel will be used to the SATA device.

Options: SATA2, 4 is channel 1

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Onboard Device

USB Controller

This option should be enabled if your system has a USB port installed on the system board. You will need to disable this feature if you add a higher performance controller.

Options: Enabled (default) \ Disabled

USB 2.0 Controller

This option should be enabled if your system has a USB 2.0 device installed on the system board. You will need to disable this feature if you install a USB 1.1 device.

Options: Enabled (default) \ Disabled

USB Keyboard Support

Enables support for USB attached keyboards. Options: Disabled (default) \ Enabled

Audio Device

This item allows you to control the onboard audio. Options: Auto (default) \ Disabled

10/100 Mb LAN Device (For PX915PD (GD) PRO II only)

This item allows you to enable or disable the 10/ 100 Mb LAN Device. Options: Enabled (default) \ Disabled

Gigabit LAN Device

This item allows you to enable or disable the Gigabit LAN Device. Options: Enabled (default) \ Disabled

IDE RAID Device (For PX915PD (GD) PRO/ PRO II)

This item allows you to enable or disable the IDE RAID Device. Options: Enabled (default) \ Disabled

Onboard I/O Chip Setup

Power On Function

This option allows you to select a way to power on your computer. Options: Password \ Hot KEY \ Mouse Left \ Mouse Right \ Any KEY \ BUTTON ONLY (default), and Keyboard 98

KB Power On Password

This is the password that your system will use as part of the power-on sequence. This field is only configurable when "Power On Function" is set to "Password".

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Hot Key Power ON

This option allows you to use the Ctrl key along with a hot key (function key) to power on your system. This field is only configurable when "Power On Function" is set to "Hot Key".
Options: Ctrl-F1 ∙ Ctrl-F2..... Ctrl-F12

Onboard FDC Controller

Select "Enabled" if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select "Disabled". Options: Enabled (default) ∙ Disabled

Onboard Serial Port 1/ 2

Select an address and corresponding interrupt for the first/ second serial port.
Options: Disabled ∙ 3F8/IRQ4 (default for port1) ∙ 2F8/IRQ3 ∙ 3E8/IRQ4 ∙ 2E8/IRQ3 ∙ Auto

UART Mode Select

This item allows you to select the Infra Red (IR) standard to be used.
Options: Disabled (default) ∙ ASKIR ∙ IrDA

RxD, TxD Active

This item determines the RxD and TxD frequencies. This field only configurable if "UART Mode Select" is set to "ASKIR" or "IrDA". Options: Hi / Lo (default) ∙ Hi / Hi ∙ Lo / Hi ∙ Lo / Lo

IR Transmission Delay

This item allows you to enable/disable IR transmission delay. This field only configurable if "UART Mode Select" is set to "ASKIR" or "IrDA". Options: Enabled (default) ∙ Disabled

UR2 Duplex Mode

Select the transmission mode used by the IR interface. Full-duplex mode permits simultaneous bi-directional transmission. Half-duplex mode permits transmission in only one direction at a time. This field only configurable if "UART Mode Select" is set to "ASKIR" or "IrDA". Options: Half (default) ∙ Full

Use IR Pins

Consult your IR peripheral documentation to select the correct setting of the TxD and RxD signals. This field is only configurable if "UART Mode Select" is set to "ASKIR" or "IrDA".
Options: RxD2 ∙ DxD2 (default)

Onboard Parallel Port

Select an address and corresponding interrupt for the onboard parallel port.
Options: 378/IRQ7 (default) ∙ 278/IRQ5 ∙ 3BC/IRQ7 ∙ Disabled

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Parallel Port Mode

This option allows you to select a parallel port mode for the onboard parallel port.

Options:

ECP (default)	Extended Capabilities Port.
EPP	Enhanced Parallel Port.
SPP	Standard Printer Port.
ECP + EPP	ECP & EPP mode.
Normal	

EPP Mode Select

Select EPP port type 1.7 or 1.9. This field is only configurable if "Parallel Port Mode" is set to "EPP" or "ECP + EPP". Options: EPP 1.9(default) \ EPP 1.7

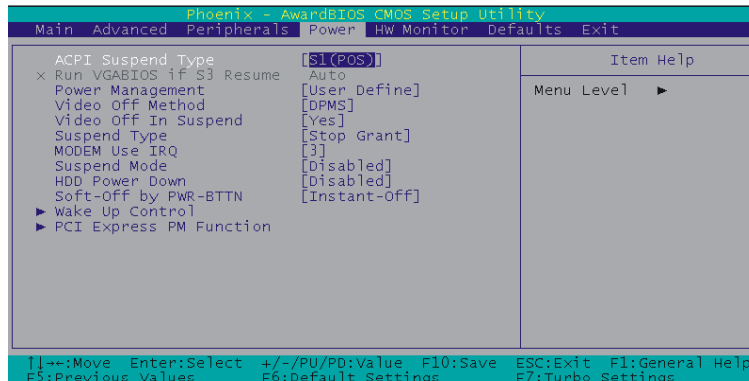
ECP Mode Use DMA

Select a DMA Channel for the parallel port when using the ECP mode. This field is only configurable if "Parallel Port Mode" is set to "ECP". Options: 3 (default) \ 1

PWRON After PWR-Fail

This field will determine whether your system will boot after restoring power after a power failure. If you select "On", the system will boot whether or not the system was on before power failure. If you select "Former-Sts", the system will be restored to the status before the power failure. Options: Off (default) \ On \ Former-Sts

Power Management



The Power Management Setup Menu allows you to configure your system to utilize energy conservation features as well as power-up/ power-down options.

ACPI Suspend Type

The item allows you to select the suspend type using the ACPI operating system.

Options:

- S1 (POS) (default) Power on Suspend
- S3 (STR) Suspend to RAM
- S1 & S3 POS and STR

Run VGABIOS if S3 Resume

Select whether you want to run VGABIOS when the system wakes up from the S3 suspend function. This field is not configurable if "ACPI Suspend Type" is set to "S1(POS)".

Options: Auto (default) \ Yes \ No

Power Management

There are three options of Power Management:

1. Min. Saving

Minimum power management

Suspend Mode = 1hour

HDD Power Down = 15 minutes

2. Max. Saving

Maximum power management (only available for si CPUs).

Suspend Mode = 1 minute

HDD Power Down = 1 minute

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3. User Defined (default)

Allows you to set each mode individually.

When this option is enabled, each of the ranges are from 1 minute to 1 hour except for HDD Power Down, which ranges from 1 minute to 15 minute and includes a "disable" option.

Note: If you select Min. or Max. Power Saving modes, the "HDD Power Down" value and the "Suspend Mode" value are both fixed.

Video Off Method

This option determines the manner in which the monitor goes blank.

Options:

V/H SYNC + Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen(default)	This option only writes blanks to the video buffer.
DPMS Support	Initial display power management signaling.

Video Off In Suspend

This determines whether power to the monitor is switched off when the computer is in suspend mode. Options: Yes \ No (default)

Suspend Type

This item allows you to select the suspend type under the ACPI operating system.

Options: Stop Grant (default) \ PwrOn Suspend

Modem Use IRQ

This determines the modem's IRQ. Options: 3 (default) \ 4 \ 5 \ 7 \ 9 \ 10 \ 11 \ NA.

Suspend Mode

This item allows you to select the suspend time under the ACPI operating system.

Options: Disabled(default) \ 1Min \ 2Min \ 4Min \ 8Min \ 12Min \ 20Min \ 30Min \ 40Min \ 1Hour

HDD Power Down

When enabled, the hard disk drive will power down after a certain configurable period of system inactivity. All other devices remain active.

Options: Disabled (default) \ 1 Min \ 2 Min \ 3 Min \ 4 Min \ 5 Min \ 6 Min \ 7 Min \ 8 Min \ 9 Min \ 10 Min \ 11 Min \ 12 Min \ 13 Min \ 14 Min \ 15Min

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Soft-Off by PWRBTN

In situations where the system enters a "hung" state, you can configure the BIOS so that you are required to pre the power button for more than 4 seconds before the system enters the Soft-Off state.

Options: Delay 4 Sec, Instant-Off (default).

Wake Up Control

If you highlight the "Wake Up Control" label and then press the enter key, it will display a submenu with the following options:

PCI PME Wake Up

This option will also cause the system to wake up with any onboard LAN activity.

Options: Disabled (default) \ Enabled

Ring Wake Up

This option allows you to awaken the system upon receiving an incoming call to modem device. Options: Disabled (default) \ Enabled.

USB KB Wake-up From S3

This item allows you to awaken the system from suspend mode using a USB keyboard.

Options: Enabled \ Disabled (default)

* This option is configurable only when the ACPI Suspend Type is set to S3.

RTC Wake Up

When "Enabled", you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode. Options: Enabled \ Disabled (default).

Date (of Month) Alarm

You can choose which date of the month the system will boot up. This field is only configurable when "RTC Wake Up" is set to "Enabled".

Time (hh: mm: ss) Alarm

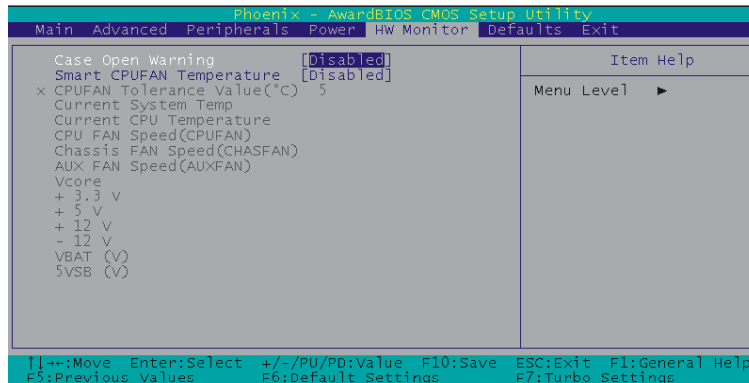
You can choose the hour, minute and second the system will boot up. This field is only configurable when "RTC Wake Up" is set to "Enabled".

****Reload Global Timer Events****

When a system goes into suspend mode, certain devices must be inactive for a period of time. Conversely, if any of those devices have any activity, the system will awaken. You can select the devices that will participate in suspend/power-on activity by configuring these fields. Devices include: Primary IDE 0/ Primary IDE 1/ Secondary IDE 0/ Secondary IDE 1/ FDD,COM,LPT Port/ PCI PIRQ [A-D]#. Options: Disabled (default), Enabled

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Hardware Monitor



Case Open Warning

If this function is set to "Enabled" and the case had been previously opened, the system will automatically display alert messages on the screen when you power on your computer. If this function is set to "Disabled", the system will not show alert messages when you power on your computer even if the case had been previously opened.

Options: Disabled (default) \ Enabled

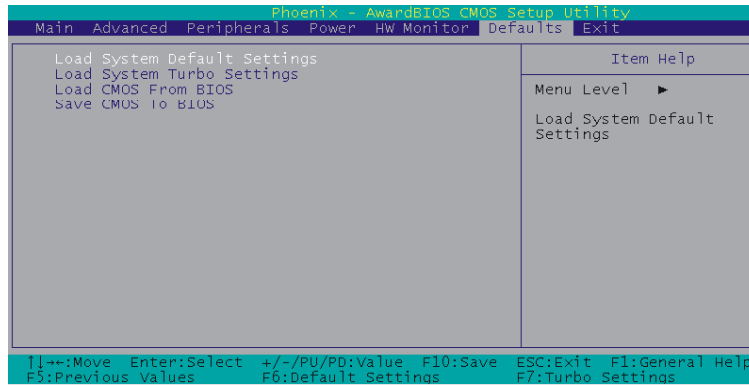
Smart CPUFAN Temperature

This function allows you to select the CPU temperature. If the CPU temperature is higher than the value you've selected, the CPUFAN will accelerate till the temperature cools down to the defaulted value you set.

Options: Disabled (default) \ 30°C / 86°F \ 35°C / 95°F \ 40°C / 104°F \ 45°C / 113°F \ 50°C / 122°F \ 55°C / 131°F \ 60°C / 140°F \ 65°C / 149°F \ 70°C / 158°F \ 75°C / 167°F \ 80°C / 176°F \ 85°C / 185°F

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Load Defaults



Load System Default Settings

Load System Default Settings.

Load System Turbo Settings

Load System Turbo Settings.

Load CMOS From BIOS

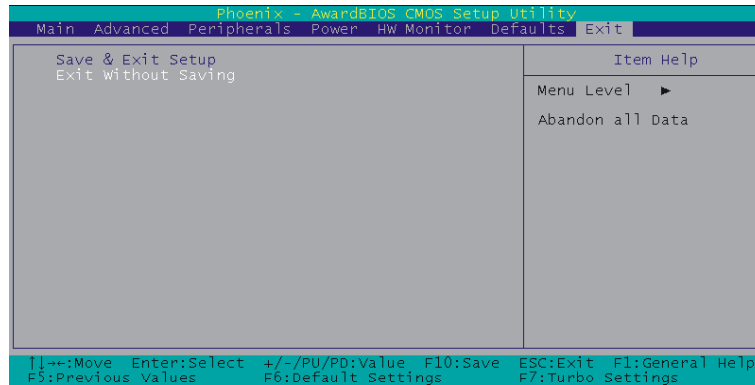
Load defaults from flash ROM for systems without batteries.

Save CMOS To BIOS

Save defaults to flash ROM for systems without batteries.

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Exit Menu



Save & Exit Setup

Save all configuration changes to CMOS (memory) and exit setup. A confirmation message will be displayed before proceeding.

Exit Without Saving

Abandon all changes made during the current session and exit setup. A confirmation message will be displayed before proceeding.

Chapter 3: Software Setup

Software List

Category	Platform
Intel Chipset INF	Windows 98 /ME /2000 /XP
Realtek Audio Driver	Windows 2000 /XP
Intel onboard VGA Driver (only for PX915GD series)	Windows 2000 /XP
ITE RAID (for PX915PD (GD) PRO II & PX915PD (GD) PRO)	Windows 2000 /XP
VIA Network Driver (only for PX915PD (GD) PRO II)	Windows 98 /ME /2000 /XP
Marvell Network Driver	Windows 98 /ME /2000 /XP
Trend PC-Cillin	Windows 98 /ME /2000 /XP
Microsoft DirectX	Windows 98 /ME /2000 /XP
Adobe Acrobat Reader	Windows 98 /ME /2000 /XP
VCT	Windows 98 /ME /2000 /XP

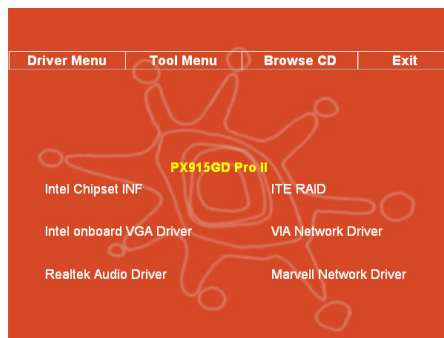
Note: Because the Realtek HD Audio and Intel Onboard VGA do not support Windows® 98/ ME, therefore we strongly recommend you installing Windows® 2000/ XP.

Software Installation

Place the Driver CD into the CD-ROM drive and the Installation Utility will auto-run. You can also launch the Driver CD Installation Utility manually by executing the Intel.exe program located on the Driver CD. (For more details, please refer to the Readme.txt files that in each folder of the Driver.)

© The screen and images are only for general reference. The version of the screens you received with your software may vary slightly.

1. When you insert the driver CD into the CD ROM, you'll see the Driver Menu screen as the picture below. There are several buttons displayed in the main screen as shown below.



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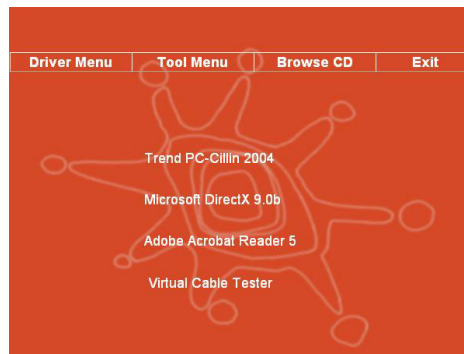
- Intel Chipset INF – Provides all the drivers needed for the Northbridge/Southbridge.
- Realtek Audio Driver – provides the driver for Realtek HD Audio Codec

Note : You can only install this driver if you are using Windows® XP with Service Pack1 (or more advanced). You will see a screen as shown right after finishing the driver installation and rebooting the system, click “Continue Anyway” to complete the installation. You can only install this driver if you are using Windows® 2000 with Service Pack4 (or more advanced).



- Intel Onboard VGA Driver – For PX915GD series, provides the driver for Onboard VGA.
- ITE RAID – provides the driver for ITE RAID Controller (for PX915PD (GD) PRO II & PX915PD (GD) PRO)
- VIA Network Driver – provides the driver for VIA Network installation. (only for PX915PD (GD) PRO II)
- Marvell Network Driver –Provides the driver for Marvell (Gb) Networking installation.

2. Click the “Tool Menu” button and the screen will display as below. This screen displays all of the software that you can install from the Driver CD.



- Trend PC-Cillin 2004 – Installs the Trend PC-Cillin software.
- Microsoft DirectX – Installs Microsoft DirectX.
- Acrobat Reader – Installs the Adobe Acrobat Reader program for reading pdf files
- Virtual Cable Tester – Installs Virtual Cable Tester for Gb LAN.

3. If you click the “Browse CD” button, you can browse all the files in the Driver CD.

4. Click “Exit” button to exit the program.

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How to install Windows® 98/ ME to the SATA device?

1. Make sure that the "On-Chip Serial ATA" option is set to " Combined Mode" in the BIOS Setup Utility. (For more details, please see page 38 "OnChip Serial ATA Setting".)
BIOS Setup Utility -> Integrated Peripherals → OnChip IDE Device → On-Chip Serial ATA → "Combined Mode"
2. Save all BIOS configurations and exit the BIOS setup utility.
3. Place the Windows® 98/ME CD into the CD-ROM drive to begin the OS installation process. During the installation you will see that the SATA device has been assigned to the C: drive. Continue and complete the installation of the Windows® OS.
4. Because the SATA device only support windows® 2000/ XP, therefore, If you want to install windows® 98/ ME, you must had the SATA devices simulate PATA device (by using IDE channel). So that you should set the "On-Chip Serial ATA" options to "Combined Mode" all time in the BIOS Setup Utility.

Installing ITE RAID Drivers during Windows Installation with the IDE RAID Device (for PX915PD (GD) PRO II & PX915PD (GD) PRO)

1. Copy the "ITE RAID Driver" from the bundle CD Driver to a floppy disk. 【CD File Location Path = > D: \ Driver \ ITE_RAID\ RAID \ WIN2K or WINXP (depends on the OS you've installed)\ includes 4 files (iteraid.cat/ iteraid.sys/ iteraid.inf/ txtsetup.oem)】
2. Power off the system. Connect the IDE hard disk to one of the RAIDIDE connectors. Power up the system.
3. Place your Windows® 2000/XP CD into the CD-ROM/DVD drive. When the "Windows Setup" screen displays, press "F6".
4. Press 's' when setup asks if you want to specify an additional device. Insert the floppy disk which includes the "ITE RAID Driver" into the floppy drive. Press 'Enter' and select the appropriate OS device driver.
5. Press 'Enter' again to continue the setup process.
6. Follow the setup instructions and select your choice for partition and file system.
7. After setup examines your disks, it will copy files to the Windows® 2000/ XP installation folders and restart the system. After the system is rebooted the setup program will continue with the installation all the way to completion.
8. Wait until Windows® 2000/ XP finishes installing devices, regional settings, networking settings, components, and the final set of tasks. Reboot the system if you are asked to do so.

Chapter 4: Troubleshooting

Problem 1:

No power to the system. Power light does not illuminate. Fan inside power supply does not turn on. Indicator lights on keyboard are not lit.

Causes:

1. Power cable is unplugged.
2. Defective power cable.
3. Power supply failure.
4. Faulty wall outlet; circuit breaker or fuse blown.

Solutions:

1. Make sure power cable is securely plugged in.
2. Replace cable.
3. Contact technical support.
4. Use different socket, repair outlet, reset circuit breaker or replace fuse.

Problem 2:

System inoperative. Keyboard lights are on, power indicator lights are lit, hard drive is active but system seems "hung"

Causes: Memory DIMM is partially dislodged from the slot on the mainboard.

Solutions:

1. Power Down
2. Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

Problem 3:

System does not boot from the hard disk drive but can be booted from the CD-ROM drive.

Causes:

1. Connector between hard drive and system board unplugged.
2. Damaged hard disk or disk controller.
3. Hard disk directory or FAT is corrupted.

Solutions:

1. Check the cable running from the disk to the disk controller board. Make sure both ends are securely attached. Check the drive type in the standard CMOS setup.
2. Contact technical support.
3. Backing up the hard drive is extremely important. Make sure you periodically perform backups to avoid untimely disk crashes.



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Problem 4:

System only boots from the CD-ROM. The hard disk can be read and applications can be used but booting from the hard disk is impossible.

Causes: Hard Disk boot sector has been corrupted.

Solutions: Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

Problem 5:

Error message reading "SECTOR NOT FOUND" displays and the system does not allow certain data to be accessed.

Causes: There are many reasons for this such as virus intrusion or disk failure.

Solutions: Back up any salvageable data. Then performs low level format, partition, and then a high level format the hard drive. Re-install all saved data when completed.

Problem 6:

Screen message says "Invalid Configuration" or "CMOS Failure."

Causes: Incorrect information entered into the BIOS setup program.

Solutions: Review system's equipment. Reconfigure the system.

Problem 7:

The Screen is blank.

Causes: No power to monitor.

Solutions: Check the power connectors to the monitor and to the system.

Problem 8:

Blank screen.

Causes:

1. Memory problem.
2. Computer virus.

Solutions:

1. Reboot computer. Reinstall memory. Make sure that all memory modules are securely installed.
2. Use anti-virus programs to detect and clean viruses.

Problem 9:

Screen goes blank periodically.

Causes: Screen saver is enabled.

Solutions: Disable screen saver.



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Problem 10:

Keyboard failure.

Causes: Keyboard is disconnected.

Solutions: Reconnect keyboard. Replace keyboard if you continue to experience problems.

Problem 11:

No color on screen.

Causes:

1. Faulty Monitor.
2. CMOS incorrectly set up.

Solutions:

1. If possible, connect monitor to another system. If no color appears, replace monitor.
2. Call technical support.

Problem 12:

The screen displays "C: drive failure."

Causes: Hard drive cable not connected properly.

Solutions: Check hard drive cable.

Problem 13:

Cannot boot the system after installing a second hard drive.

Causes:

1. Master/slave jumpers not set correctly.
2. Hard drives are not compatible / different manufacturers.

Solutions:

1. Set master/slave jumpers correctly.
2. Run SETUP program and select the correct drive types. Call drive manufacturers for possible compatibility problems with other drives.

Problem 14:

Missing operating system on hard drive.

Causes: CMOS setup has been changed.

Solutions: Run setup and select the correct drive type.

Problem 15:

Certain keys do not function.


Causes: Keys jammed or defective.

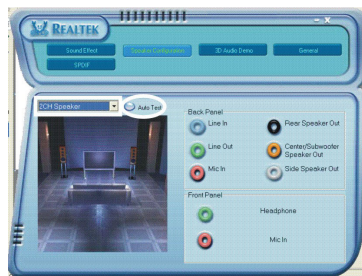
Solutions: Replace keyboard.



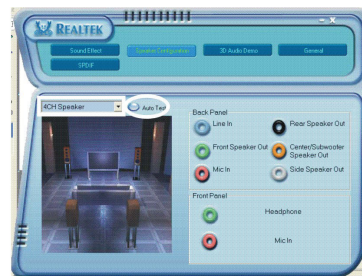
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Appendix I: 2/ 4/ 6 /8 Channel Setup

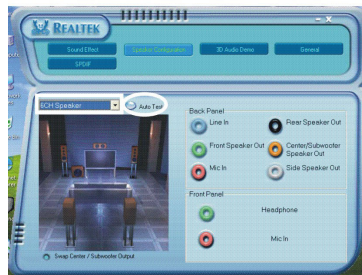
1. After into the system, click the audio icon  from the Windows screen.
2. Click Speaker Configuration button, you can see the screen like the picture below.
3. You can choice 2, 4, 6 or 8 channels by your speakers.
4. You can click the "Auto test" button to test your audio devices.



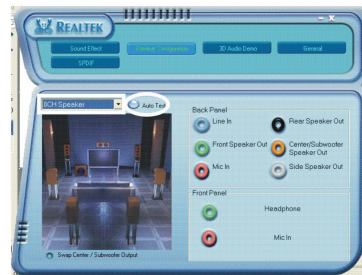
2 Channel



4 Channel



6 Channel



8 Channel



To take advantage of 8 Channel Audio Effects, you must use audio software that supports this functionality. You must also make sure your software is specifically configured for 8 Channel Audio Effect support.