EC Declaration of Conformity

We

IWILL Corporation

No. 10, Wu Chuan 3rd Rd.,

Hsin Chuang City, Taipei,

Taiwan, R.O.C.

Declare under sole responsibility that the

W100 motherboard

Meets the intent of Directive 89/336/ECC for Electromagnetic Compatibility. Compliance was demonstrated to the following specifications as listed in the official Journal of the European Communities:

EN 50081-1 Emissions:

EN 55022   Radiated, Class B

EN 55022   Conducted, Class B

EN 60555-2   Power Harmonics

EN 50082-1 Immunity:

IEC   801-2 Electrostatic Discharge

IEC   801-3 RF Radiate

IEC   801-4 Fast Transient

Ver 1.1D

About This Manual

This manual will introduce to the user how this product is installed. All useful information will be described in later chapters. Keep this manual for future upgrades or system configuration changes.

Chapter 0 Overview

An overview of the motherboard

Chapter 1 Features

The detailed features and specifications of the motherboard

Chapter 2 Quick Installation

The quick reference for experienced users

Chapter 3 Hardware Installation

The detailed information on jumper setting, connection, and hardware installation

Chapter 4 System BIOS Setup

The detailed information of the system BIOS setup options

Chapter 5 How to use Power Installer

The detailed information for installing software and tools

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Warning

Contents

Chapter 0

Overview

Thank you for purchasing the IWILL W100 motherboard. This operation manual will instruct you how to configure and install the system properly. It contains an overview about the engineering design and features of this product. Also, this manual provides useful information for later upgrades or configuration changes. Keep this for your future reference.

W100 FEATURES

The W100 is the newest, most exciting motherboard in the market today. A step ahead of the competition, the W100 provides more power, convenience, and reliability for users. The W100 has more speed, and is great for better, fast computer graphics. The W100 has our special IWILL Smart Setting –an easy way to set your CPU frequency –and also more versatile power-on functions, all for your convenience. Furthermore, the W100 has several power-saving modes to reduce energy waste. All of these features are compacted in a dynamic motherboard that has the stability you require in a powerful motherboard. Special features of the W100 include:

- Integrated AGP1.0 compliant Intel ® i752 graphics in core logic to provide better graphics performance.
- IWILL Smart Setting –allows easy setting of your CPU frequency, no jumpers required!
- Versatile Power-On –you can power-on the system using a hot key, password, LAN, mouse button, or modem
- Power Management Setup –allows you to set Doze, Standby, and Suspend modes
- Power Failure Recovery –after a power failure, the system will automatically turn on again once the power returns
- Health Monitoring System –helps to manage your system so that your system runs safely

The W100 also includes some basic features, such as: 1 x Socket 370 for Intel ® Celeron^{TM}, Intel® 810 (DC-100) chipset, 2 x DIMM slots, 3 x PCI slots, 1 x AMR slot, 1 x FDC floppy disk connector, 2 x IDE connectors, 2 x USB ports, 1 x PS/2 mouse, 1 x PS/2 keyboard ports, one parallel port, two serial ports, ATX power connector, and much, much more!

The W100 has speed, convenience, and reliability, all wrapped up in one outstanding motherboard. The W100 is ahead of the pack. There is no other motherboard quite like it.

IWILL lead the way into the 21st century!

YEAR 2000 issue

The IBM compatible PC utilizes a Motorola MC146818 compatible Real-Time Clock (RTC) chip to maintain the date and time. Unfortunately, the "century" is not manipulated by the RTC. It uses 8-bits of information to report the year, and can only hold the last two digits of a year in packed BCD format. For example, 1997 is reported solely as 97. Since the RTC also contains non-volatile memory, IBM has specified a location in the memory to hold "century" information. By combining the century data with the year data, software can obtain a full 4-digit year. When the Year 2000 arrives, the RTC reports the year as '00' and the "century" in RTC memory will contain '19.' Combining the full 4-digit year yields 1900, not 2000. Any application which compare dates, or uses relative dates to perform functions will see incorrect dates.

All motherboards contain BIOS, which is one of the key ingredients to check for systems designed to handle the year 2000. **All motherboards currently shipped from IWILL contain BIOS capable of handling the year 2000 date correctly**. The BIOS contains a feature that checks the least two significant digits of the year stored in the RTC during each BIOS request (INT 1Ah) to read the date and, if less than `80', updates the century byte to `20'. This feature enables operating systems and applications using the BIOS date/time services to reliably manipulate the year as a four-digit value.

Be aware that the BIOS capability alone does not ensure that the system will handle the transition correctly. Other system components such as the operating system and application software also need to be able to handle the year 2000 date, and recognize the date format from other sources.

Peripherals and Devices

If you want to improve your system's I/O performance, choose the latest IWILL SCSI controllers. The following are some IWILL SCSI controllers you may purchase and use with your motherboard:

- SIDE 2930C: a fast SCSI controller that provides the connectivity for MO, CD-R, CD-RW, CD-ROM, etc. It can support up to 7 devices.

- SIDE 2930U+: an Ultra SCSI controller that provides the same connectivity as the SIDE 2930C. In addition, it offers a higher transfer rate, and supports booting from HDD and CD-ROM.

- SIDE 2936UW: a full function Ultra Wide SCSI controller. It supports 40 MB/sec transfer rate and up to 15 devices.

- SIDE 2935LVD: the newest generation Ultra2 SCSI controller. With its 80MB/sec transfer rate, and 12-meter cable length, it supports up to 15 devices making it the perfect solution for enthusiasts.

Chapter 1

Features

1.1 Features

1.1.1 Processor (Socket 370)

Supports (single) Intel ® Celeron^{TM} processors

Supports all published Intel ® Celeron^{TM} processor voltages

Supports Socket370 CPU from 300 MHz up to 466 MHz or higher

IWILL Smart Setting sets external frequency
(66/75/83/90/95/100/105/110/114/119/124/129/133/138/150 MHz)

IWILL Smart Setting sets CPU Multiplier (CPU Ratio) from 2X to 8X

IWILL Smart Setting sets processor speed from 300 MHz to 466 MHz or higher

1.1.2 Core Logic

Intel ® 82810 GMCH (Graphic Memory Control Hub) controller

      66/100 MHz system bus frequency

      100 MHz memory bus frequency

      Integrated VGA

      Integrated DRAM controller

      Suspend to RAM support

Intel ® 82801AB ICH (I/O Control Hub)

      Integrated IDE controller with Ultra DMA/66 support

      USB host interface with support for two USB ports

      Enhanced DMA controller and standard Interrupt controller and Timer function

      AC'97 2.1 Compliant

      Supports PCI Rev 2.2 Specification

      Supports Firmware Hub

1.1.3 Main Memory

2 x 168-pin DIMM (Dual In-Line Memory Module)

Supports up to 256MB of 3.3 V Unbuffered SDRAM or Registered DIMM

8MB to 256MB using 16Mb/64Mb technology
(512 MB using 128Mb technology)

1.1.4 Low Pin Count I/O

Winbond W83627 I/O controller

> Supports two floppy disk drives (include 3 Mode drive) and / or QIC-80 tape drive
>
> Supports one multi-mode parallel port
>
> Supports two high speed 16550 FIFO serial ports
>
> Integrated keyboard controller
>
> Integrated PS / 2 Mouse Controller
>
> Supports PS/2 mouse & Keyboard Power-On function
>
> Supports one game port
>
> Built-in Hardware monitoring function

1.1.5 Expansion slots

3 x PCI slots

1 x AMR slot

1.1.6 Form Factor

Compliant with Micro ATX specification

Supports ATX power supply connector

Supports the remote on/off switch

> Physical dimensions: length: 210 mm / width: 244 mm

1.1.7 Manageability

Wake on LAN header for use with add-in network interface cards (NICs)

Power failure recovery

Wake on modem

1.1.8 STD (Suspend To Disk)

Suspend to Disk is an energy-saving feature that allows you to temporarily power off your system (i.e. when you step away from your computer for a meeting, errand, etc.), then return to the original screen (when the screen was last on) to resume your work the next time you power-on the system. This feature is fast and efficient, especially if your system is handling a small memory size.

1.1.9 STR (Suspend To RAM)

Suspend To RAM is a Windows 98 ACPI sleep mode function. When recovering from STR sleep mode, the system is able, in just a few seconds, to retrieve the last "state" of the system before it went to sleep and recover to that state. The "state" is stored in memory (RAM) before the system goes to sleep. During STR sleep mode, your system uses only enough energy to maintain critical information and system functions, primarily the system state and the ability to recognize various "wake up" triggers or signals, respectively.

1.1.10 Other features

Award BIOS

Using 4Mbit Firmware Hub (Intel ® N82802AB) to provide on-board-upgrade ability without changing components

Plug and Play compatible

ACPI (Advanced Configuration Power Interface) 1.0 Compliant

1.2 Environment Requirements

Temperature 0-55 degrees C (operating or storage)

5% to 95% non-condensing relative humidity

At least a 250 W power supply

The power supply must comply with the following recommendations found in the specifications:

The potential relation between 3.3 VDC and +5 VDC power rails

5VSB standby minimum output 0.8 A or higher

All timing parameters

1.3 Motherboard Components Placement

The following figure shows the location of the components on the motherboard.
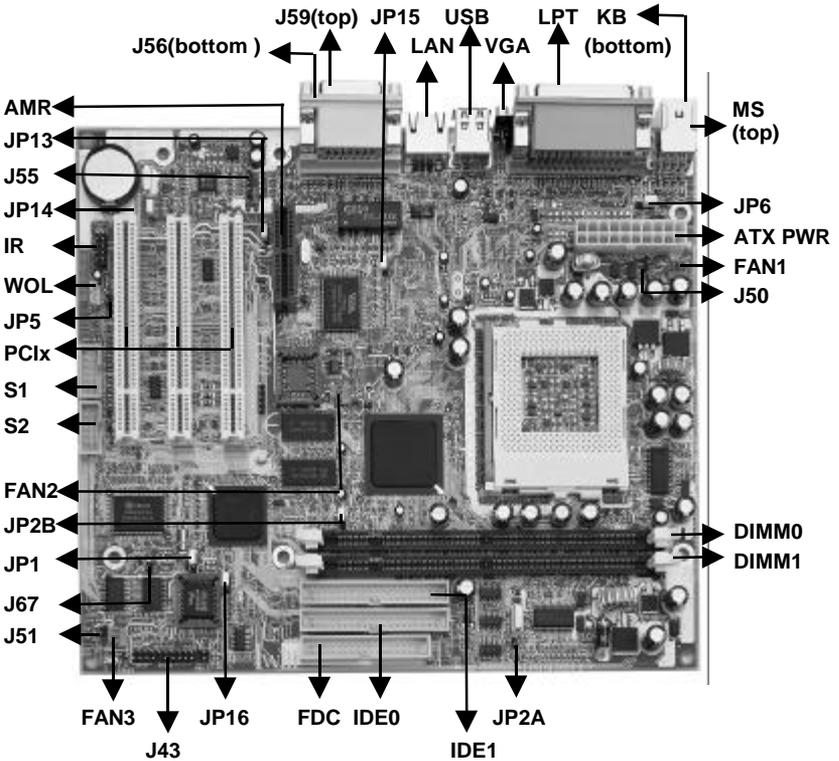
Location	Symbol	Description
J3	Socket 370	Processor PPGA connector
J5 –J6	DIMM0--1	168-pin DIMM Sockets
J12--J14	PCI1--3	PCI expansion slots
J28	IDE 0	Primary IDE connector
J29	IDE 1	Secondary IDE connector
J30	FDC	Floppy drive connector
J31	S1	Serial 1 connector
J32	S2	Serial 2 connector
J33	LPT	Parallel connector
J34	USB	Two USB connectors
J35	J35	PS/2 mouse & keyboard connector
J37	PWR	Standard ATX power connector
J39	FAN1	Processor fan header
J40	FAN2	System fan header
J41	FAN3	System fan header
J43	J43	Front panel I/O header (2x10)
	SUSLED (pins 1--2):	ACPI LED header
	IDE ACTIVE (pins 5--6):	IDE LED header
	RESET (pins 9--10):	Reset Switch header
	PLED (pins 11--13):	Power LED header
	KEYLOCK (pins 14--15):	Keylock switch header
	SPKRIN (pins 17--20):	Speaker header
	PWR (pin 12 and 24):	Remote power-o n/off header (1x2)
J45	IR	IR (infrared) connector CIR (2x5)
J46	J46	Wake On LAN header
J50	J50	2nd temperature sensor header (1x2) (near ATX Pwr)
J51	J51	3rd temperature sensor header (1x2)
J55	J55	CD_IN
J56	J56	Audio connector
J59	J59	Game Port
J60	VGA	Video connector
J63	J63	LAN RJ45 connector(for W100-N only)
J67	J67	Case Open Detector (1x2)
J69	AMR	AMR Slot
JP1	CLRTC	Jumper for clearing CMOS (1x3)
JP2A	JP2A	Clock Generator
JP2B	JP2B	Chipset Frequency Setup
JP5	JP5	Jumper for PCI devices compatibility (1x2)
JP6	JP6	KB VCC/5V SB for Keyboard Power On
JP13	JP13	On-Board AMR Enable / Disable (1x3)

JP14	JP14	Speaker Source Selection AC97/ICH (near PCI 3)
JP15	JP15	LAN Enable/Disable (for W100-N only)
JP16	JP16	BIOS-ROM Flash protect

1.4 Form Factor

The motherboard is designed to fit into a micro ATX form-factor chassis. The I/O connector and mounting locations are in compliance with the ATX specification. Please see details in the following figure:
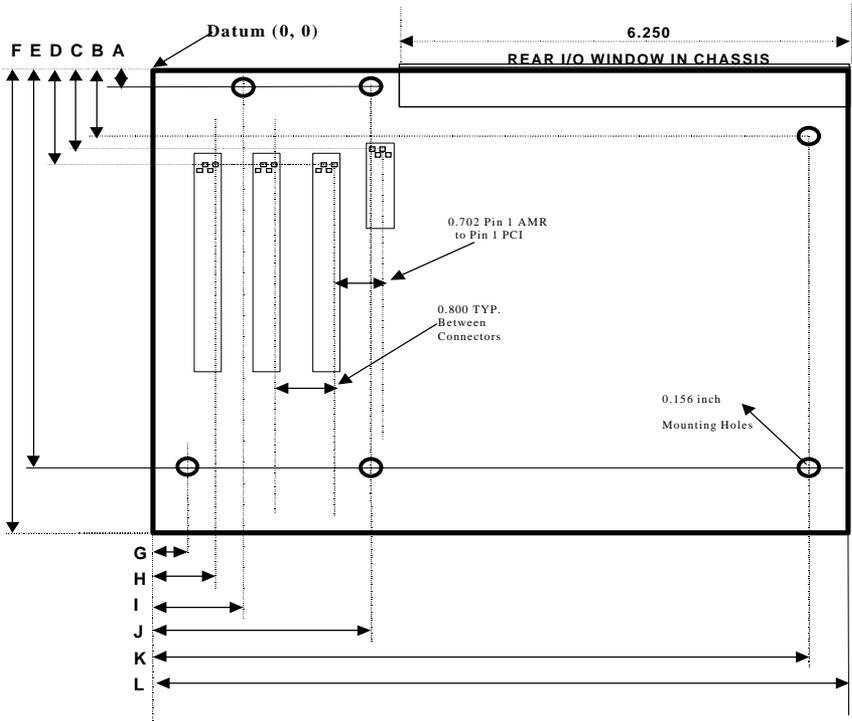
A: 0.400 inch G: 0.550 inch

B: 1.300 inch H: 0.960 inch

C: 1.460 inch I: 1.350 inch

D: 1.625 inch J: 3.150 inch

E: 6.500 inch K: 9.350 inch

F: 8.267 inch L: 9.600 inch

Chapter 2

Quick Installation

Several easy installation steps will be described in this chapter to help the experienced users with quick installation. If you are a beginner, or need to know more about this product, please refer to **Chapter 3**.

Note: Please review **1.3 Motherboard Components Placement** graphic for reference.

Warning: Users must follow these guidelines to ensure the motherboard is protected during installation.

    a.   Make sure your computer is unplugged whenever working with inside components.

    b.   Beware of Static electricity! Either wear anti-static wrist straps, or ensure that you touch a safely grounded object (such as a metal desk/table). Don't handle components near high static objects (i.e. carpets, wool/ acrylic sweaters, etc.).

    c.   Pick up components by their edges. Try not to touch IC chips, connectors or leads. Don't handle components any more than necessary.

    d.   Keep all magnets away from both your hard and floppy disk drives, **especially** magnetic screwdrivers. Keep both floppy and hard disks apart if disassembled.

    e.   Keep water and liquids away from your computer and its components.

Step 1. Install processor

Follow this quick four-step process to install the CPU processor:

1. Lift the lever of the Zero Insertion Force (ZIF) socket (pull it gently away from the small latch) to an upright position.
2. Before inserting the CPU, always make sure that "Pin1" on the CPU is placed in the corresponding "Pin 1" position on the socket.
3. Insert CPU into the socket.
4. Pull the lever back down to its original place, securing it underneath the small latch.

Note: The CPU fan must be kept on top of the CPU at all times to prevent the CPU from over-heating.

Step 2. Install processor fan

This process is executed more quickly if your CPU already has a fan attached to it. On the motherboard, there are three fan connectors, J39 for FAN1 (for the CPU), J40 for FAN2 and J41 for FAN3. All fans release heat produced by the power supply and other components inside the computer chassis. Attach the processor fan power cable to the FAN1 connector (J39).

Step 3. Setting CPU speed

The CPU speed is setup using **IWILL Smart Setting**. This is found in the BIOS setup by pressing <Del> during the boot up process. Please refer to **Chapter 4** for instructions on setting CPU speed.

Note: Ensure that all components are properly connected before powering-on your system and setting CPU speed. After entering **IWILL Smart Setting**, set the CPU speed according to your CPU specifications.

Step 4. Install the memory module

At least one memory module, such as a 168-pin 3.3V unbuffered SDRAM, Registered DIMM or EDO DIMM, needs to be inserted into one of the DIMM sockets. You may select **either** of the two DIMM sockets to insert one single DIMM –there are no restrictions.

Note: Be sure the edges of your memory module line-up correctly with the socket before attempting to insert the memory module.

Warning : In order to support the latest STR (Suspend to RAM) function, please note that the onboard power supply circuit in memory is independent of all other components. The memory module will always be provided with the necessary current to hold the data stored in memory chips even while the computer has been shut down.

Please remember to **UNPLUG** the power cord from AC power when you intend to insert or take out a memory module. **DO NOT** simply turn off the system power, or else permanent damage maybe done to your system.

Check the LED status located at the upper right of DIMM0 to make sure the power for Memory is OFF. **Do not** insert or take out any DIMM modules when the LED light (indicator) is lighted up.

Step 5. Connect the internal peripherals

Locate the 34-pin FDC (floppy disk connector) which is J30, and the two 40-pin IDE connectors (IDE0 and IDE1) which are J28 and J29 on your motherboard. There are two cables included in your retail package (one 34-pin flat cable to connect your floppy disk drive and one 40-pin flat cable) used for connecting different types of IDE devices. Using these cables, connect your internal peripherals to the motherboard.

Note: The plastic lead on the middle of one side of the cable's connector acts as a key, and slides easily into the gap in the middle of the receiving connector on the motherboard when inserting the cable connector.

Step 6. Connect the Reset button

J43 is a 2x12-pin jumper used for connecting several important functions. The 2-pin reset header is located on pins 11--12 (identified as RST). Connect the reset button cable connector attached to the front panel of your PC case to the RST header.

Locate the RST header on J43:

Pin 11	RESET	12		1
Pin 12	Ground	24		13
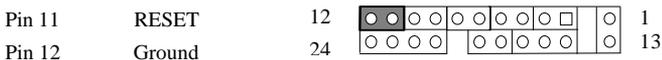
Step 7. Connect the Speaker

The 4-pin speaker header is located on pins 21--24 (identified as SPKR). Connect the speaker cable connector attached to the front panel of your PC case to the SPKR header.

Locate the SPKR header on J43:

Pin 21   VCC

Pin 22   Ground

Pin 23   NC

Pin 24   BUZZ
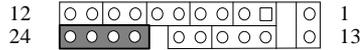
Step 8. Connect the Power LED

The 3-pin power LED header is located on pins 15--17 (identified as PLED). Connect the power LED cable connector attached to front panel of your PC case to the PLED header.

Locate the PLED header on J43:

Pin 15   Anode (+)

Pin16   NC

Pin 13   Cathode (-)
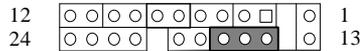
Step 9. Connect the keylock button

The 2-pin keylock header is located on pins 18--19 (identified as KL). Connect the keylock cable connector located on the front panel of your PC case to the KL header.

Locate the KL header on J43:

Pin 18   KEYLOCK

Pin 19   Ground
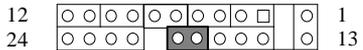
Step 10. Connect the IDE LED

The 2-pin IDE LED header is located on pins 7--8 (identified as ALED) on J43. Connect the IDE LED cable connector attached to the front panel of your PC case to the ALED header.

Locate the ALED header on J43:

Pin 7   Anode (+)

Pin 8   Cathode (-)
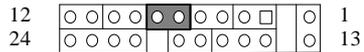
Step 11. Connect the ACPI LED

The 2-pin ACPI header is located on pins 3--4 (identified as ACPI). Connect the ACPI cable connector attached to the front panel of your PC case to the ACPI header.

Locate the ACPI LED header on J43:

Pin 3   Anode (+)

Pin 4   Cathode(-)
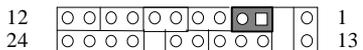
Step 12. Connect the Power-ON button

All ATX computers provide a Power-On button on the front panel of your PC case. PWR_ON header located on pins 1 –13 (identified as PWR_ON) on J43. This will allow you to turn your system on or off by pressing the Power-On button located on the front panel of your PC case. When using this function, please note that at least two seconds must pass before the power supply will recognize another on/off signal.

Locate the PWR_ON header on J43:
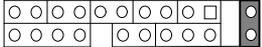
Pin 1	Anode (+)	12	1
Pin 13	Cathode (-)	24	13

Step 13. Install the Power Supply cord

The motherboard provides a 20-pin ATX power connector (J37) to provide power to your system. This works in conjunction with the Power-On button to provide remote On/Off function. Connect the ATX power supply cord to the ATX power connector on the motherboard.

Step 14. Install the Keyboard

Connect the cable from the PS/2 keyboard to the PS/2 keyboard connector on the motherboard.

Step 15. Install the Display Card

Simply connect your VGA cable from your monitor to the on-board VGA connector.

Step 16. Connect the External Peripherals

The motherboard has one multi-mode parallel connector (LPT), one integrated PS/2 mouse and one PS/2 keyboard connector (J35), two 10-pin high-speed 16550 FIFO serial (S1, S2) connectors, USB connectors, GAME port, Line-in, Line-out, MIC connectors. Connect your external peripherals to their respective transfer cables. For serial devices, connect each serial port transfer cable to its respective connector on the motherboard.

Step 17. Power-on the system

Once the system is powered on, make sure you enter the BIOS setup program and load the manufacturer's default settings. After the system reboot, you are ready to install your operating system. Enjoy!

Chapter 3

Hardware Installation

3.1 Preparation and Inspection

The motherboard, like all other electronic equipment, is sensitive to static electricity. Please take the proper precautions when handling it. If possible, ground yourself by touching a metal table or desk. Keep the board in its conductive wrapping until it is configured and ready to be installed in your system.

Note: Please review **1.3 Motherboard Components Placement** graphic for reference.

3.2 Unpack the W100

You should find the following components when opening the box:

One W100 motherboard	One 34-pin floppy cable
This operation manual	Two 10-pin serial port transfer cables
One 80-pin IDE cable	Bracket for serial port transfer cables
One I/O shield	MR (Modem Riser) Card--option

For installation, you may need some or all of the following tools:

Medium size flat blade screwdriver

Medium size Phillips head screwdriver

A 3/16 inch nut driver or wrench

Warning: Users must follow these guidelines to ensure the motherboard is protected during installation.

a. Make sure your computer is unplugged whenever working with inside components.

b. Beware of Static electricity! Either wear anti-static wrist straps, or ensure that you touch a safely grounded object (such as a metal desk/table). Don't handle components near high static objects (i.e. carpets, wool/ acrylic sweaters, etc.).

c. Pick up components by their edges. Try not to touch IC chips, connectors or leads. Don't handle components any more than necessary.

d. Keep all magnets away from both your hard and floppy disk drives, **especially** magnetic screwdrivers. Keep both floppy and hard disks apart if disassembled.

e. Keep water and liquids away from your computer and its components.

3.3 Installation procedure

3.3.1 Install processor and fan

Follow this quick four-step process to install the CPU processor:

1.   Lift the lever of the Zero Insertion Force (ZIF) socket (pull it gently away from the small latch) to an upright position.
2.   Before inserting the CPU, always make sure that "Pin1" on the CPU is placed in the corresponding "Pin 1" position on the socket.
3.   Insert CPU into the socket.
4.   Pull the lever back down to its original place, securing it underneath the small latch.

Note: The CPU fan must be kept on top of the CPU at all times to prevent the CPU from over-heating.

Connect processor fan:

This process is executed more quickly if your CPU already has a fan attached to it. On the motherboard, there are three fan connectors, J39 for FAN1 (for the CPU), J40 for FAN2, and J41 for FAN3. All fans release heat produced by the power supply and other components inside the computer chassis. Attach the processor fan power cable to the "FAN1" connector (J39).

Locate the FAN1 header (processor fan header) on the motherboard:

Pin 1   Ground

Pin 2   +12 V

Pin 3   SENSE

Note. The second-level cache is located on the base of the SEC cartridge. The cache size and cacheable memory size vary, depending on the processor used.

3.3.2 Setting CPU speed

The CPU speed is setup using **IWILL Smart Setting**. This is found in the BIOS setup by pressing <Del> during the boot up process. Please refer to **Chapter 4** for instructions on setting CPU speed. When adjusting frequency, select the frequency that matches your motherboard's bus speed in order to maximize your motherboard's performance. Enclosed is a list of possible CPU settings.

Note: The CPU speed must be setup according to the CPU's specifications.

| Intel			
PGA 370	External Freq.	Multiplier	Voltage
300	66	4.5	2.0
333	66	5	2.0
366	66	5.5	2.0
400	66	6	2.0
433	66	6.5	2.0
466	66	7	2.0

3.3.3 Main memory (DIMM0--1)

At least one memory module, such as a 168-pin 3.3V unbuffered SDRAM, Registered DIMM, needs to be inserted into one of the DIMM sockets. You may select **either** of the two DIMM sockets to insert one single DIMM —there are no restrictions.

Note 1: This system **does not** support EDO DIMMs.

Note 2: In order to reduce the loading, the total memory chip count installed on the system should not exceed 36 unless Registered DIMMs are used.

Note 3: The Serial Presence Detect (SPD) information is highly recommended on all 100 MHz DIMMs for the motherboard. This function is implemented using an EEPROM component on the memory module. The nonvolatile storage device contains data programmed by the DIMM manufacturer that identifies the module type and various SDRAM organization and timing parameters. A warning message will be displayed if any DIMMs installed on this motherboard have no SPD EEPROM. If this is the case, the system might become unstable without correct timing parameters.

Warning : In order to support the latest STR (Suspend to RAM) function, please note that the onboard power supply circuit in memory is independent of all other components. The memory module will always be provided with the necessary current to hold the data stored in memory chips even while the computer has been shut down.

Please remember to **UNPLUG** the power cord from AC power when you intend to insert or take out a memory module. **DO NOT** simply turn off the system power, or else permanent damage maybe done to your system.

Check the LED status located at the upper right of DIMM0 to make sure the power for Memory is OFF. **Do not** insert or take out any DIMM modules when the LED light (indicator) is lighted up.

3.3.4 Primary/Secondary IDE connectors (IDE0 and IDE1)

The motherboard has two bus-mastering IDE connectors (IDE0 and IDE1) on, which support up to two devices each, including PIO Mode 3 / 4 and Ultra DMA 33 transfer mode devices. These connectors also support IDE hard disks, ATAPI devices (ex: CD-ROM), ZIP and LS-120 devices. If two devices are connected to one channel, one should be set to "Master" and the other one to "Slave" (Refer to your device operation guide for more details).

Locate the two 40-pin IDE connectors IDE0 and IDE1 (see graphic above). There is one 40-pin flat cable included in your retail package used for connecting different types of IDE devices. Using this cable, connect your internal peripherals to the motherboard.

Note 1: The plastic lead on the middle of one side of the cable's connector acts as a key, and slides easily into the gap in the middle of the receiving connector on the motherboard when inserting the cable connector.

Note 2: The IDE connectors are fully compatible with ATA66 & legacy ATA 33 devices.

3.3.5 Floppy drive connector (FDC)

The motherboard has one floppy interface, which supports 360K, 720K, 1.2M, 1.44M, 2.88M, 3 Mode floppy drives and QIC-80 floppy tape drive. It supports up to two devices in any capacity using the same connector.

Locate the 34-pin FDC or J30 on your motherboard. There is one 34-pin flat cable included in your retail package used for connecting your floppy disk drive. Using this cable, connect your floppy disk drive to the motherboard.

3.3.6 Clock Generator Frequency Setup (JP2A)

Warning: This jumper setting must coincide with the JP2B setting, or else the system will hang.

JP2A is a 1x2-pin jumper used for setting the motherboard front side bus speed. If no jumpers are placed on JP2A, the front side bus speed will set to 100 MHz. If a jumper cap is placed on JP2A, the front side bus speed will set to 66 MHz.

Note: For overclocking, users must enter BIOS to set CPU frequency. Please refer to **Chapter 4**.

1
2
Disable (100 MHz)

1
2
Enable (66MHz)
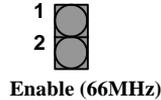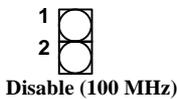
3.3.7 Chipset Frequency Setup (JP2B)

Warning: This jumper setting must coincide with the JP2A setting, or else the system will hang.

JP2B is a 1x2-pin jumper used for setting the motherboard front side bus speed. If enabled, the front side bus speed will set to 66 MHz. If no jumpers are placed on JP2B, the front side bus speed will set to 100 MHz.

Note: For overclocking, users must enter BIOS to set CPU frequency. Please refer to **Chapter 4**.

1
2
Disable (100 MHz)

1
2
Enable (66MHz)
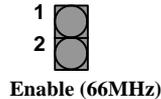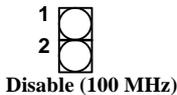
3.3.8 System fan headers (FAN2 and FAN3)

The user must purchase additional (secondary) fans in order to take advantage of this function. The system's airflow is critical for its reliability. Users should have the proper size and number of fans (and vents), and position each fan correctly in relation to the system's components in order to generate airflow within the system.

The motherboard supports two extra system fan headers: FAN2 (J40) and FAN3 (J41 –see graphic). If you intend to use system fans, connect each system fan power cable to either fan connector.

Note: These fans automatically stop when the system enters the suspend mode.

3.3.9 Front panel connector (J43)

The J43 connector contains several headers, which are connected to buttons, lights or switches located on front panel of your PC case.

Note: On W100 version 1.1, J43 is a 24-pin jumper that includes the PWR_ON header.
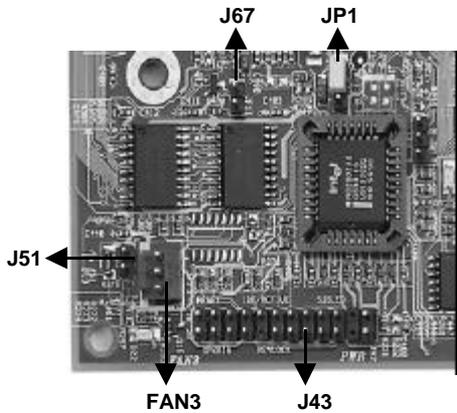
3.3.9.1 Power-On header (PWR_ON)

To enable the remote Power on/off function, connect the Power-On cable connector attached to the front panel of your PC case to the PWR_ON header located on pins 1 –13 (identified as PWR_ON) on J43. This will allow you to turn your system on or off by pressing the Power-On button located on the front panel of your PC case. When using this function, please note that at least two seconds must pass before the power supply will recognize another on/off signal.

Locate the PWR_ON header on J43:

Pin 1   Anode (+)

Pin 13   Cathode (-)

3.3.9.2 IDE LED header (ALED)

If connected, the LED will light up whenever the IDE devices are working. The 2-pin IDE LED header is located on pins 7--8 (identified as ALED) on J43. Connect the IDE LED cable connector attached to the front panel of your PC case to the ALED header.

Locate the ALED header on J43:

Pin 7   Anode (+)

Pin 8   Cathode (-)

3.3.9.3 RESET header (RST)

If connected, you may use the button on the front panel to reset the system. The 2-pin reset header is located on pins 11--12 (identified as RST). Connect the reset button cable connector attached to the front panel of your PC case to the RST header.

Locate the RST header on J43:

Pin 11   RESET

Pin 12   Ground

3.3.9.4 Power LED header (PLED)

If connected, the LED will light up each time you power-on the PC. The 3-pin power LED header is located on pins 15--17 (identified as PLED). Connect the power LED cable connector attached to front panel of your PC case to the PLED header.

Locate the PLED header on J43:

Pin 15   Anode (+)

Pin 16   NC

Pin 17   Cathode (-)
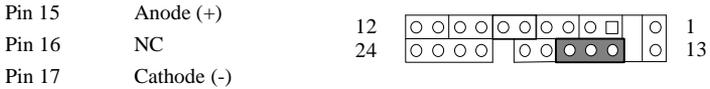
3.3.9.5 KEYLOCK header (KL)

If connected, the user is able to temporarily disable the keyboard (often used as security when the user steps away momentarily from the PC). Pressing the keylock button on the front panel of the PC case activates the function. The 2-pin keylock header is located on pins 18--19 (identified as KL). Connect the keylock cable connector located on the front panel of your PC case to the KL header.

Locate the KL header on J43:

Pin 18   KEYLOCK

Pin 19   Ground
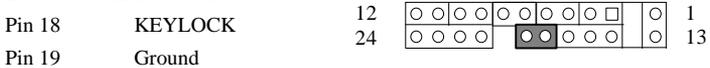
3.3.9.6 SPEAKER header (SPKR)

If connected, the speaker sounds an error "beep" code/information (during the POST) in the event that the computer can not use the video interface. The 4-pin speaker header is located on pins 21--24 (identified as SPKR). Connect the speaker cable connector attached to the front panel of your PC case to the SPKR header.

Locate the SPKR header on J43:

Pin 21   VCC

Pin 22   Ground

Pin 23   NC

Pin 24   BUZZ
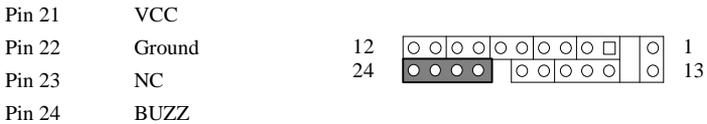
3.3.9.7 ACPI header (ACPI)

If connected, the ACPI will light up each time your PC is in the suspend, or power-saving mode. The 2-pin ACPI header is located on pins 3--4 (identified as ACPI). Connect the ACPI cable connector attached to the front panel of your PC case to the ACPI header.

Locate the ACPI header on J43:

Pin 3   Anode (+)

Pin 4   Cathode (-)
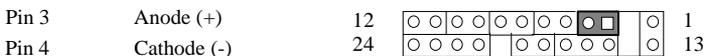
3.3.10 Chassis Open Detector (J67)

JP67 is a 1x2-pin jumper used as a security function to detect if the computer case has been opened. If enabled, the system will display a message indicating the computer case has been opened. If you wish to use this function, connect the case open switch (or sensor) connector attached to the front panel of your PC case to the J67 header.

Note: Only PC cases that support this function can be used.

3.3.11 Clear CMOS jumper block (JP1)

To reset the RTC (Real Time Clock) CMOS data, take the JP1 jumper cap off pins 1-2, place onto pins 2-3, and then place back onto pins 1-2 again. This will return the RTC to the default setting. Then, you will need to get into the BIOS setup program (See **Chapter 4**) choose LOAD SETUP DEFAULTS, and select the original manufacturer default settings in your CMOS.

3.3.12 ATX 2.01 back panel compliant I/O connectors

**Warning:** It is recommended that you turn off the computer's power before connecting or disconnecting keyboard and/or mouse.
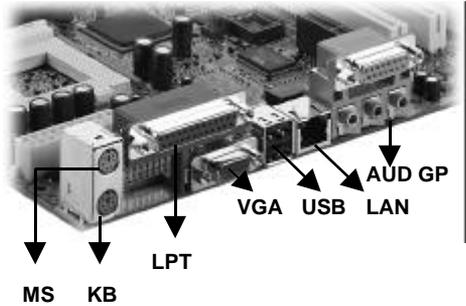
3.3.12.1 Parallel port connector (LPT)

One multi-mode parallel port (LPT) is used to install parallel devices, such as a parallel port printer. Locate the parallel port connector (burgundy), which is J33 on the motherboard. Then, connect your parallel port device to the parallel port connector.

3.3.12.2 PS/2 keyboard and mouse connectors (KB and MS)

Find the 6-pin mini-DIN keyboard connector, located on the back panel. Simply plug in the keyboard cable's connector into this back panel connector at the lower position in purple color. Then, find the 6-pin mini-DIN PS/2 mouse connector, also located on the back (the upper green-colored one). Plug in the mouse cable's connector into PS/2 mouse connector on the back panel.

Note: W100 offers an unique function that PS/2 keyboard & mouse can be swapped by smart Auto-detection circuitry design. The computer will still operate perfectly without worrying of system hang for wrong connection.

3.3.12.3 Video Graphics Adapter (VGA)

The motherboard has a high performance Video Graphics Adapter (VGA) functioning with AGP (Accelerated Graphics Port) capability. This is especially useful for graphic-intensive 3D applications. The VGA supports 133 MHz data transfer rates, allowing data throughput of 533 MB/sec. Simply connect your VGA cable from your monitor to the VGA connector (the blue-colored one).

The DIME (Direct Memory Execute) feature included needs to allocate some system memory via the OS to access large textures outside the local graphic memory of the card. In order to take advantage of the DIME feature, some software components should be installed or upgraded within your system.

For Windows NT 4.0: Upgrade to "Windows NT 4.0 Service Pack 3" or later versions

For Windows 95:   Upgrade to Windows 95 OSR 2.1 or later versions

                      Install DirectX 5 or later versions from Microsoft

3.3.12.4 Universal Serial Bus (J34)

The Universal Serial Bus (USB) port was developed to provide one single type of port to connect all low speed devices (i.e. the mouse, keyboard, joystick, etc.). More USB devices can be connected if your system is equipped with a USB hub.

The motherboard supports the following USB features:

Self-identifying, hot pluggable peripherals

Support of isochronous and asynchronous transfer type

Supports a maximum of 127 physical devices

Supports data transfer rate up to 12 Mbit/sec

3.3.12.5 Local Area Network connector (LAN) (Option for W100-N)

The W100 comes equipped with a Local Area Network (LAN) connector that enables two or more PC's to share data, printers, modems, and access to the Internet. If you wish to set up a network system, connect your LAN cable to the LAN connector (J18) on the mtoherboard.

Note: this function is available for W100-N

3.3.12.6 Game / MIDI Port & Audio connector (J59 & J56)

The 15-pin Game / MIDI Port & Audio connectors provide versatile entertainment functions.

3.3.12.6.1 Game / MIDI Port (J59)

It supports joysticks and MIDI devices. If you intend on using any of these devices, simply connect them to the Game / MIDI Port connector (in Gold).

3.3.12.6.2 Audio connector (J56)

The audio connector contains three lines:

Lime:	line out, or sound out to speaker;
Light Blue:	line in, or sound going into the system;
Pink:	microphone input

3.3.13 Audio Modem Riser (AMR) Slot

AMR is a new spec. defined by Intel. With AMR slot, Users could plug in AMR (Audio Modem Riser) Card or AR (Audio Riser) Card depending on motherboard design. If there is an AC-97 compliant audio codec embeded in motherboard. Users will get software sound with specified audio drive (provided in IWILL Power Installer CD). No AMR or AR card is needed. If the users require for better sound effects, just simply dsiable the on board audio codec then plugged in a H/W sound card. Since there is no modem codec on W100, the users will have to plug in either an MR (Modem Riser) card to play software modem or a PCI modem card or external modem as H/W modem.

JP14   JP13   J55   AMR

24
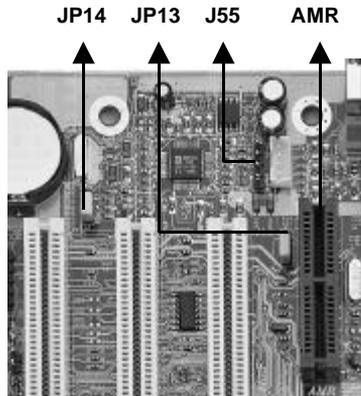
3.3.14 AC'97 Codec Enable/Disable (JP13)

If you intend on using the AMR slot for audio, modem, or dual functions, you must disable this Audio Codec. To disable, place the jumper caps over pins 1-2.

3.3.15 Speaker Souce Selection (JP14)

This feature allows you to have your PC sounds (beeps, error sounds) go through an audio system other than the speaker located on the front panel of your PC case (see above). The audio output then is sent either through your AMR card & Sound card, or the soft Audio, depending on the audio function you select, and then finally onward to your audio speakers. Place the jumper caps over pins 1-2 to enable the sound to go through an alternative audio system.

3.3.16 LAN Enable/Disable (JP15)

JP15 is a jumper block for enabling/disabling onboard LAN controller. The default setting, 1-2 , enables the onboard LAN controller. If you want to disable the onboard LAN controller, place the jumper cap onto pins 2-3.

Disable(Default)   Enable
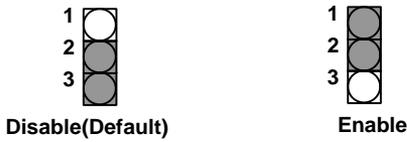
3.3.17 BIOS-ROM Flash Protect(JP16)

JP16 is a jumper block for enabling/disabling BIOS ROM Flash Protect. To Set BIOS-ROM Flash Protect , it can prevent update in BIOS. The default setting 1-2 , disables BIOS ROM Flash Protect. If you want to enable the BIOS ROM Flash Protect, place the jumper cap onto pins 2-3.

Enable   Disable(Default)

3.3.18 CD_IN (J55)

This connector allows audio output to transfer from your CD ROM into the motherboard. The audio output then is sent either through your AMR card, or the on-board Audio (J56) connector, depending on the audio function you select, and then finally onward to your audio speakers. If you intend on using a CD ROM for audio sound purposes, please connect your CD ROM audio connector into J55 on the motherboard.

3.3.19 Serial port connectors
(S1 and S2)

The motherboard has two 10-pin high-speed 16550 FIFO serial port connectors (S1, S2) which are used for connecting your serial devices. Take the two serial port transfer cables (included in your retail package) and connect each one to a serial port connector (S1, S2) on the motherboard. Then, connect a serial port device to each serial port transfer cable.
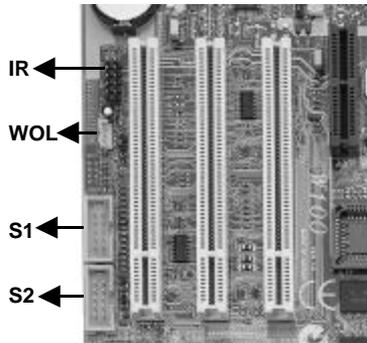
3.3.20 Infrared connector (IR)

The Infrared connector supports infrared wireless transmitting and receiving of data between devices when using the appropriate application software. You must configure a Serial Port 2 to support an IrDA module prior to using this feature. The 10-pin Infrared header (identified as IR) is located in between the PCI1 and PCI2 slots. Connect the cable from the IrDA module to the IR header.

Locate the IR header:

Pin 1	5V (Vcc)	Pin 6	X
Pin 2	X	Pin 7	CIR Rx
Pin 3	IRRX	Pin 8	5VSB
Pin 4	X	Pin 9	X
Pin 5	IRTX	Pin 10	X
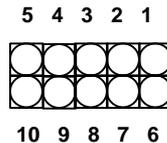
Note: At the IR header, there may be a printing error indicating a pin "2." This should read pin "6."

3.3.21 WOL header (WOL)

The WOL ("Wake On LAN,") is a feature which allows you to power-on or "wake up" the computer through a network LAN. This feature can only be used if your system has a network interface card (NIC) that supports WOL technology, and your system has an ATX power supply more than of at least 800mA on the 5V standby. Locate WOL header (see graphic). Connect the cable from a network interface card (NIC) to the WOL connector.

Note: When operating WOL, ensure the power cord is still plugged into the socket, and that the computer has been turned off.

3.3.22 Keyboard Power-On (JP6)

This is essential for the Keyboard Power-On to function properly (see below). Your system requires an ATX power supply of at least 300mA on the +5VSB lead (This standby current depends on your keyboard's power consumption). Please refer to **Chapter 4** for instructions on setting Keyboard Power-On mode. If you DO NOT want to use this function, place the jumper cap over pins 2-3, and the function will be disabled. If you want this function, place the jumper cap over pins 1-2 to set 5V_SB, and enable the function.

Note: In case of AC power loss, the Power-On function will reset to "BUTTON ONLY". To re-set your Power-On function again, you must re-enter CMOS setup utility.

```
1  ○          1  ◉
2  ◉          2  ◉
3  ◉          3  ○
```

Disable (Default)   **Enable**

3.3.23 Install the Power Supply cord

Warning: Because this motherboard is equipped with Suspend to RAM function, you must ensure the power switch of your ATX power supply is **turned off** prior to installing the power supply cord.

The motherboard has 20-pin ATX Power connector (J37) that works in conjunction with the Power-On button to provide remote On/Off function and power to your system. Connect your ATX power cord to J37 on the motherboard.

3.3.24 System Hardware Monitoring

The system hardware monitoring supports following features:

Integrated temperature sensor to monitor system temperature

Voltage sense monitoring to detect voltage level, Vcore, VTT, +3.3V, +5V, -5V, +12V, -12V, VBAT, 5VSB

Fan speed sensors for up to three fans

Using a proprietary application, the system's hardware monitoring logic will check the voltage, temperature and fan speed at all times. If any failure occurs, the application will display a warning message immediately.

Chapter 4

System BIOS Setup

4.1 Introduction

The motherboard uses AWARD BIOS, which is stored in flash memory and can be upgraded using the appropriate software program. The setup program is for viewing and changing the BIOS setting for a computer. These settings are stored in battery-backed RAM so that it retains all the settings after the power has been turned off.

4.1.1 Upgrade BIOS

The BIOS can be upgraded from a diskette with the Award Flash utility -- AWDFLASH.EXE. The BIOS image file, and update utility are available from IWILL's WEB site: www.iwill.net

4.1.2 Enter BIOS setup program

Power-on the system by either pressing the Power-On button, or by using any of the power-on features provided by the motherboard. Then, press the <Del> key after the Power-On Self Test (POST), and before the scanning of IDE devices. Simply look for the message "Press DEL to enter SETUP" displayed at the bottom of the screen during the boot up process. If the message disappears before you've had a chance to respond, you can restart the system by

Turning off the system power then turn it on again, or

Pressing the "RESET" button on the system case, or

Pressing <Ctrl>, <Alt> and <Del> keys simultaneously.

4.1.3 Using BIOS setup program

The following table shows the function keys available for each menu screen.

↑Up	Move to the previous field
↓Down	Move to the next field
←Left	Move to the field on the left hand side
→Right	Move to the field on the right hand side
<Esc>	Quit from setup program without saving changes, or
	Exit from current menu page and return to main menu page
<PgUp> or <+>	Select the previous value for a field
<PgDn> or <->	Select the next value for a field
<F1>	General Help
<F2>	Item Help
<F5>	Previous Values
<F6>	Fail-Safe Defaults
<F7>	Optimized Defaults
<F10>	Save the current value and exit setup program

NOTE

Generally, the BIOS default settings have been carefully chosen by the system manufacturer to provide the absolute maximum performance and reliability. It is very dangerous to change any setting without full understanding. We strongly recommend that you

> **DO NOT update your BIOS if the system works perfectly.**

> **DO NOT change any setting unless you fully understand what it means.**

If the system does not work smoothly after changing the BIOS settings, follow the procedures described previously, enter the BIOS setup program, then load the original manufacturer default settings.

If the system is no longer able to boot after changing the settings, the only way to recover it is to clear the data stored in RTC CMOS. To reset the RTC CMOS data, take the JP1 jumper cap off pins 1-2, place onto pins 2-3, and then place back onto pins 1-2 again. This will return the RTC to the default setting. Then, get into the BIOS setup program (see **4.1.2** above), choose Load Fail-Self Defaults, and select the original manufacturer default settings in your CMOS.

4.2 Main Menu

The main menu allows you to select from several setup pages. Use the arrow keys to select among these pages and press <Enter> key to enter the sub-menu. A brief description of each highlighted selection appears at the bottom of the screen.

Note: An asterisk (*****) denotes the default setting, whenever appropriate.

The main menu includes the following setup pages.

Standard CMOS Features

Use this menu for basic system configuration

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Specifies on-board controller features

Power Management Setup

Specifies power management features

PnP /PCI Configurations

Specifies Plug and Play and PCI features

PC Health Status

Specifies Health Status of the System

Iwill Smart Setting

Specifies special features provided by IWILL

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations.

Set Supervisor Password

Specifies passwords

Set User Password

Specifies passwords

Save & Exit Setup

Saves current value to CMOS and exits setup

Exit Without Saving

Abandons all changes and exits setup

4.3 Standard CMOS Features

This setup page is used for allocating resources for hardware components.

4.3.1 Date

This field specifies the current date. The date format is <month>, <day>, and <year>.

4.3.2 Time

This field specifies the current time. The time format is <hour>, <minute>, and <second>. The time is calculated based on the 24-hour (military-time) clock.

4.3.3 IDE Primary Master / Primary Slave / Secondary Master / Secondary Slave

Press "Enter" to enter next page for detail hard drive setting.

4.3.3.1 IDE HDD Auto-Detection

Auto-Detect the HDD's Capacity, and its parameters, ex: Cylinder, Head and Sector.

4.3.3.2 IDE Primary Master / Primary Slave / Secondary Master / Secondary Slave

This field specifies type of drive that corresponds to the drive installed in your system.

If you select User, please specify the correct number of Cylinders, Heads, and Sectors.

Options	Description
Manual	Selecting 'manual' lets you set the remaining fields on this screen. Selects the type of fixed disk.
Auto (*)	BIOS automatically fills in the values for the cylinders, heads and sectors fields
None	No disk drives are attached

4.3.3.3 Capacity

Auto Display your disk drive size

4.3.3.4 Access MODE

This field specifies the IDE translation mode.

Options	Description
NORMAL	Specifies traditional CHS addressing mode
LARGE	Specifies extended CHS translation mode
LBA	Specifies LBA translation mode
AUTO (*)	BIOS specifies translation method automatically

4.3.3.5 Cylinders

Set the number of cylinders for this hard disk.

4.3.3.6 Heads

Set the number of read/write heads

4.3.3.7 Precomp

Setting a value of 65535 means no hard disk

4.3.3.8 Sectors

Set the number of sectors per track

4.3.4 Drive A / Drive B

This field specifies the traditional type of floppy drives.

Options	Description
None **(*Drive B default)**	No floppy drive is connected
360K, 5.25 in.	A 360K floppy drive is connected
1.2M, 5.25 in.	A 1.2M floppy drive is connected
720K, 3.5 in.	A 720K floppy drive is connected
1.44M, 3.5 in. **(*Drive A default)**	A 1.44M floppy drive is connected
2.88M, 3.5 in.	A 2.88M floppy drive is connected

4.3.5 Video

This field specifies the type of the graphics adapters used by the primary system monitor.

Options	Description
EGA/VGA (*)	Specifies EGA or VGA adapter
CGA 40	Specifies CGA adapter with 40 column mode
CGA 80	Specifies CGA adapter with 80 column mode
MONO	Specifies Monochrome adapter

4.3.6 Halt On

This field determines how the system reacts to errors once detected.

Options	Description
All Errors (*)	Each time the BIOS detects a non-fatal error, the system will stop and display an error message
No Errors	The system will not stop for any errors that are detected
All, But Keyboard	The system will stop for any errors except keyboard error
All, But Diskette	The system will stop for any errors except diskette error
All, But Disk/Key	The system will stop for any errors except diskette and keyboard errors

4.3.7 Base Memory

The POST (Power-On Self Test) determines the amount of base (conventional) memory installed in the system.   The value of the base memory is typically 640K. This field has no options.

4.3.8 Extended Memory

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the processor's memory address map. This field has no options.

4.3.9 Total Memory

Displays the total memory available in the system

4.4 Advanced BIOS Features

This setup page specifies advanced features available through the BIOS.

4.4.1 Virus Warning

When this function is enabled, the BIOS monitors the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will halt the system and then display an error message. Afterwards, if necessary, you can run an anti-virus program to locate and remove the problem before any damage is done.

Many disk diagnostic programs will attempt to access the boot sector table, which can cause the above warning message. If you run such a program, we recommend that you first disable the Virus Warning function beforehand.

Options   **Enabled**

                Disabled (*)

4.4.2 CPU Internal Cache

This field configures the CPU internal cache (L1 cache).

Options   **Enabled (*)**

                Disabled

4.4.3 External Cache

This field configures the system's external cache (L2 cache).

Options   **Enabled (*)**

                Disabled

4.4.4 CPU L2 Cache ECC Checking

This field specifies whether the CPU L2 cache supports ECC or not.

Options   **Enabled**

                Disabled (*)

4.4.5 Quick Power On Self Test

This field allows the system to skip certain tests while booting. This will decrease the time needed to boot the system.

Options   **Enabled (*)**
                 Disabled

4.4.6 First / Secondary / Third / Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

Options   **Floppy (*)**
                 LS/ZIP
                 HDD-0 (**)
                 SCSI
                 CD-ROM
                 HDD-1
                 HDD-2
                 HDD-3
                 LAN
                 Disable (***)

4.4.7 Swap Floppy Drive

When enabled, floppy drives A and B will be exchanged without the user physically changing the connection on the cable.

Options   **Enabled**
                 Disabled (*)

4.4.8 Boot Up Floppy Seek

Seeks disk drives during boot up. Disabling speeds boot up.

Options   **Enabled (*)**
                 Disabled

4.4.9 Boot Up NumLock Status

This field determines the configuration of the numeric keypad after system boot up. If **On**, the keypad uses numbers keys. If **Off**, the keypad uses arrow keys.

Options   Description
On (*)   Keypad works as number keys
Off   Keypad works as arrow keys

4.4.10 Gate A20 Option

This field configures how the gate A20 is handled. The gate A20 is a device used to address memory above 1 MB. At first, the gate A20 was handled from a pin on the keyboard. While some keyboards still provide this support, it is more common, and much faster, for modern system chipsets to provide support for gate A20.

Options	Description
Fast (*)	GateA20 signal supported by core logic
Normal	GateA20 signal supported by keyboard controller

4.4.11 Typematic Rate Setting

This field determines if the typematic rate is to be used. When enabled, the BIOS will report (after a moment) that the key has been depressed repeatedly. When disabled, the BIOS will report only once if a key is held down continuously. This feature is used to accelerate cursor movements using the arrow keys.

Options	**Enabled**
	Disabled (*)

4.4.12 Typematic Rate (Chars/Sec)

When Typematic Rate Setting enabled, this field specifies how many characters will be displayed in one second when a key is held down continuously.

Options   **6 (*), 8, 10, 12, 15, 20, 24, 30**

4.4.13 Typematic Delay (Msec)

When enabled, typematic delay allows you to select the time delay between when the key is first pressed and when the acceleration begins.

Options   **250 msec (*), 500 msec, 750 msec, 1000 msec**

4.4.14 Security Option

This field configures how the system security is handled. It works conjunction with SETTING SUPERVISOR / USER PASSWORD page to control the security level of the system.

Options	Description
Setup (*)	System needs a password to enter BIOS setup program
System	System needs a password to boot

4.4.15 OS Select for DRAM >64MB

When enabled, this field allows you to access the memory that is over 64MB under OS/2.

Options	**OS/2**
	Non-OS/2 (*)

4.4.16 Report No FDD For WIN 95

For a floppy diskless system that runs Windows 95, this field should be set to **Yes**.

    Options   **Yes**

                        No (*)

4.5 Advanced Chipset Features

This setup page is used to specify advanced features available through the chipset. The default settings have been chosen carefully for most operating conditions. **DO NOT change the value of any field in this setup page without full understanding.**

4.5.1 SDRAM CAS Latency Time

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

    Options   **2**

                        3 (*)

4.5.2 SDRAM Cycle Time Tras/Trc

Select the number of SCLKs for an access cycle.

    Options   **6/8**

                        5/7 (*)

4.5.3 SDRAM RAS-to-CAS Delay

This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. *Fast* gives faster performance; and *Slow* gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

Note: This field is for experienced users only.

    Options   **2**

                        3 (*)

4.5.4 SDRAM RAS Precharge Time

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain data. *Fast* gives faster performance; and *Slow* gives more stable performance. This field applies only when synchronous DRAM is installed in the system. **Note:** This field is for experienced users only.

    Options   **2**

                        3 (*)

4.5.5 System BIOS Cacheable

When enabled, accesses to the system BIOS will be cached.

      Options   **Enabled (*)**

                      Disabled

4.5.6 Video BIOS Cacheable

When enabled, access to the video BIOS will be cached.

      Options   **Enabled (*)**

                      Disabled

4.5.7 Memory Hole At 15M-16M

Some add-in cards need to re-map its resource to a block of main memory address range. Any host cycles that match this memory hole are passed on to the add-in cards.

      Options   **Enabled**

                      Disabled (*)

4.5.8 Delayed Transaction

When enabled, the south bridge ICH/ICH0 will supports the Delayed Transaction mechanism when it is the target of a PCI transaction. The PCI revision 2.1 compliant requires this field to be enabled. This field is for experienced users only.

      Options   **Enabled (*)**

                      Disabled

4.5.9 On-Chip Video Window Size

Select the on-chip video window size for VGA drive use.

      Options   **32MB**

                      64MB (*)

                      Disabled

Onboard Display Cache Setting

Setting the onboard display cache timing.

4.5.10 CAS # Latency

Select the local memory clock periods.

      Options   **2 (*) / 3**

4.5.11 Paging Mode Control

Select the paging mode control.

Options   **Close (*)**

                Open

4.5.12 RAS-to-CAS Override

Select the display cache clock periods control.

Options   **By CAS# LT (*)**

                Override

4.5.13 RAS# Timing

This item controls RAS# active to Protegra, and refresh to RAS# active delay (in local memory clocks).

Options   **Slow (*)**

                Fast

4.5.14 RAS# Precharge Timing

This item controls RAS# precharge (in local memory clocks).

Options   **Slow (*)**

                Fast

4.6 Integrated Peripherals

4.6.1 On-Chip Primary / Secondary PCI IDE

This field enables or disables the onboard IDE controller.

Options   **Enabled (*)**

                Disabled

4.6.2 IDE Primary Master / Slave PIO
IDE Secondary Master / Slave PIO

These fields configure the PIO (Programmable Input Output) transfer mode for IDE controller. The maximum transfer rates of each PIO mode are listing as follow:

Note: Higher settings may cause problems for older IDE devices.

PIO Mode Setting	Maximum transfer rate
PIO Mode 0	3.3 MB/sec
PIO Mode 1	5.2 MB/sec
PIO Mode 2	8.3 MB/sec
PIO Mode 3	11 MB/sec
PIO Mode 4	16.6 MB/sec

Options	Description
Auto (*)	The BIOS negotiates with device automatically
Mode 0	Use Mode 0 timing to access device
Mode 1	Use Mode 1 timing to access device
Mode 2	Use Mode 2 timing to access device
Mode 3	Use Mode 3 timing to access device
Mode 4	Use Mode 4 timing to access device

4.6.3 IDE Primary Master / Slave UDMA
IDE Secondary Master / Slave UDMA

If you select Auto, the IDE controller uses Ultra DMA 33 Mode to access Ultra DMA-capable IDE devices. The maximum transfer rate of Ultra DMA 33 Mode is 33.3 MB/sec.

Options   **Auto (*)**

Disabled

4.6.4 USB Controller

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals. When enabled, the IDE controller will use the faster block mode to access devices.

Options   **Enabled**

Disabled (*)

4.6.5 USB Keyboard under DOS

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard under DOS

Options   **Enabled**

Disabled (*)

4.6.6 Init Display First

This item allows you to decide which slot to activate first, either PCI slot or AGP slot. This function takes place during the system boot.

Options   **PCI Slot**

Onboard AGP (*)

4.6.7 AC97 Audio/Modem

This item allows you to decide to enable/disable the 810 chipset family to support AC97 Audio/Modem.

Options   **Enabled (* for audio)**

Disabled (* for modem)

4.6.8 Onboard PCI LAN Device (for W100-N only)

This item allows you to decide to enable/disable the onboard PCI LAN.

    Options   **Enabled (*)**

                    Disabled

Note 1: This feature is not available for W100 but available for W100-N which has LAN solution on motherboard.

4.6.9 IDE HDD Block Mode

When enabled, the IDE controller will use the faster block mode to access devices.

    Options   **Enabled (*)**

                    Disabled

4.6.10 Power-On Function

This field configures the Power-On mode of the system. If a power outage occurs, you need to re-configure this field. To ensure proper set up, allow the system to complete its reboot process (including the Power-On Self Test) before powering off computer.

Note 1: This feature is available when using ATX Power only

Note 2: This feature only supports keyboard and PS/2 mouse. It does not work with USB keyboard or serial mouse.

Options	Description
Password	You can assign a password string through KB Power-On Password field. Typing this password string will power-on your system. **Note**: The Power-On button will not function in this mode.
Hot KEY	You can assign a hot key through the Hot Key Power-On field. Pressing this hot key will power-on your system.
Mouse/Password	"Double-Clicking" the mouse button on your mouse or KB power-on password will automatically power-on your system.
Mouse/Hot KEY	"Double-Clicking" the right button on your mouse or KB hot-key will power-on your system.
Button only (*)	Simply power-on your system by pressing the Power-On button on the front panel of your PC case.
Keyboard 98	Enables Keyboard 98 function. This function is good only for users of Keyboard 98.

4.6.10.1 KB Password Power-On

In you wish to use this function, bring the cursor to the field written "Enter", then press <Enter>. The computer will display the message, "Enter Password". Type your password and press <Enter>. After the message "Confirm Password" is displayed, re-type your password. The KB Power-On function will be in effect after you save and exit setup.

To disable a password, bring the cursor to the "Enter" field again, then press <Enter>. The computer will display the message, "Enter Password". Press <Enter>. A message will confirm that the password is disabled. Once the password is disabled, the system will boot and you can enter setup program freely.

4.6.10.2 Hot Key Power-On

This field specifies key selection for the Keyboard-Power-On hot key.

Options   **Ctrl-F1 / Ctrl-F2 / Ctrl-F3 / Ctrl-F4 / Ctrl-F5 / Ctrl-F6**

                    Ctrl-F7 / Ctrl-F8 / Ctrl-F9 / Ctrl-F10 / Ctrl-F11 / Ctrl-F12

4.6.11 Onboard FDC Controller

This field enables or disables the onboard floppy controller. Select enabled if you intend to use your floppy disk drive.

Options   **Enabled (*)**

                    Disabled

4.6.12 Onboard Serial Port 1 / 2

These fields configure the onboard serial ports. There are several port addresses and IRQ channels to select from.

Options	Description
3F8 / IRQ 4(*)	Port address 3F8h, IRQ 4
2F8 / IRQ 3(*)	Port address 2F8h, IRQ 3
3E8 / IRQ 4	Port address 3E8h, IRQ 4
2E8 / IRQ 3	Port address 2E8h, IRQ 3
Auto	BIOS assigns port address and IRQ channel automatically
Disabled	Disables serial port

4.6.13 UART Mode Select

The UART (Universal Asynchronous Receiver/Transmitter) converts the parallel data into serial format on the transmission side and converts serial data to parallel format on the receiver side. This field must be configured in order to use the infrared connector, which supports infrared wireless transmitting and receiving of data between devices when using the appropriate application software. You must configure a Serial Port 2 to support an IrDA module prior to using this feature.

Options   **Normal (*), IrDA, ASKIR**

4.6.13.1 RxD, TxD Active for IrDA and ASKIR functions

When setting the field to either IrDA or ASKIR, you must select the active level of receiving and transmission signal.

Options   **Hi, Lo (*) / Lo, Hi / Lo, Lo / Hi, Hi**

4.6.13.2 IR Transmission delay for IrDA and ASKIR functions

When setting the field to either IrDA or ASKIR, you must select whether or not you require a delay between IR transmissions.

Options   **Enabled (*)**

                    Disabled

4.6.14 Onboard Parallel Port

This field configures the onboard parallel port. There are several port addresses and IRQ channels to select from.

Options	Description
378 / IRQ 7(*)	Port address 378h, IRQ 7
278 / IRQ 5	Port address 278h, IRQ 5
3BC / IRQ 7	Port address 3BCh, IRQ 7
Disabled	Disables parallel port

4.6.15 Parallel Port Mode

This field configures the operating mode of an onboard parallel port. Ensure you know the specifications of your parallel port devices before selecting field.

Options   **SPP (*)** / **EPP** / **ECP** / **ECP+EPP**

4.6.15.1 EPP Mode Select

When the Parallel Port Mode field is configured as EPP, ECP+EPP mode, the EPP version needs to be specified. Please check the EPP specifications before selecting field.

Options	Description
EPP1.7 (*)	Use EPP 1.7 protocol
EPP1.9	Use EPP 1.9 protocol

4.6.15.2 ECP Mode Use DMA

When the Parallel Port Mode field is configured as ECP, ECP+EPP mode, it needs a DMA channel for data transfer. This field specifies the DMA channel for ECP parallel port use.

Options	Description
1	Use DMA channel 1
3 (*)	Use DMA channel 3

4.6.16 AC PWR Loss Recovery

The field configures the system status after experiencing a power failure.

Options	Description
Former-Sts	System returns to former status prior to power failure (on or off)
On	System turns back on after power lost
Off (*)	System remains off after power lost

4.6.17 Game Port Address

This field configures the onboard game port. There are several port addresses to select from.

Options	Description
201(*)	Port address 201h
209	Port address 209h
Disabled	Disables game port

4.6.18 Midi Port Address

This field configures the midi port. There are several port addresses to select from.

Options	Description
330(*)	Port address 330h
300	Port address 300h
Disabled	Disables midi port

4.6.19 Midi Port IRQ

This field configures the midi port IRQ. There are several IRQs to select from.

Options	Description
5(*)	Port address IRQ5
7	Port address IRQ7
Disabled	Disables midi port IRQ

4.7 Power Management Setup

This setup page specifies suspend or power-saving features.

Each power-saving mode has a respective timer. The value of the timer can be assigned or reloaded and it will count down to zero. When the timer equals to zero, the system will be forced into the related suspend or power-saving mode. If any predefined signal or event is detected during the timer counting period, the timer restarts automatically.

4.7.1 ACPI Suspend Type

There are several ACPI modes used to save computer's energy

S1 (POS)	This is the Power-On-State, the CPU clock runs at slower speed, the system operates at slower speed
S3 (STR)	This is the Suspend-To-Ram State, all system data will be saved in system's memory and all devices except the memory will shut off

4.7.2 Power Management

This feature allows the user to select the default parameters for the power-saving mode.

Options	Description
Min Saving	When idle for one hour, the system enters suspend mode
Max Saving	When idle for fifteen minutes, the system enters suspend mode
User Define (*)	User can specify the time the system enters suspend mode

4.7.3 Video off Method

This field specifies the method that video subsystem used for power saving.

Options	Description
V/H SYNC+Blank	Turn off the vertical and horizontal synchronization ports and write blanks to the video buffer
Blank Screen	Writes blanks to the video buffer only
DPMS (*)	Initial display power management signaling with DPMS

4.7.4 Video Off In Suspend

This determines the manner in which the monitor is blanked.

Options   **Yes (*)**

            No

4.7.5 Suspend Type

Select the Suspend Type.

Options   **PwrOn Suspend / Stop Grant (*)**

4.7.6 MODEM Use IRQ

This determines the IRQ in which the MODEM can use.

Options   **3 (*)/ 4 / 5 / 7 / 9 / 11 / NA**

4.7.7 APM Suspend Timer

This field specifies the time the system enters power-saving mode. It is available only when the Power Management field is set to User Define.

Options   **1 Min / 2 Min / 4 Min / 8 Min / 12 Min / 20 Min**

            30 Min / 40 Min / 1 Hour / Disable (*)

4.7.8 APM HDD Power Down Timer

This field specifies the time the system enters HDD power down. It is available only when the Power Management field is set to User Define.

Options **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 / 15 Min / Disable (*)

4.7.9 PWR-Off Mode by PWR-BTTN

This field specifies the function of power button.

Options	Description
Instant-Off (*)	When power button pressed, the system turns off immediately.
Delay 4 Sec.	After the power button has been pressed and held for four seconds, the system turns off.

4.7.10 CPU Thermal throttling

This field specifies the throttling function of CPU Thermal. When the CPU's temperature attain it's default protection point, the CPU will run slower in order to descend the hit generation from itself.

Options	Description
87.5%	Keep 87.5% of CPU's full speed performance
75.0%	Keep 75.0% of CPU's full speed performance
62.5%(*)	Keep 62.5% of CPU's full speed performance
50.0%	Keep 50.0% of CPU's full speed performance
37.5%	Keep 37.5% of CPU's full speed performance
25.0%	Keep 25.0% of CPU's full speed performance
12.5%	Keep 12.5% of CPU's full speed performance

4.7.11 PowerOn/Resume by Alarm

When enabled, you can set the date and time to automatically power-on your PC (similar to an alarm clock). The alarm from RTC (real-time clock) automatically turns on the system.

Options	Description
Disabled (*)	Disables RTC alarm function
Enabled	Enter the Date and Time Alarm to power-on the PC.
	To set alarm for every day, select "0" for Date (of month) Alarm.

4.7.12 Reset APM Timer Events

This field enables the system to detect activity, and restart the timer of the power-saving mode.

4.7.12.1 Primary IDE 0

If enabled, timer restarts whenever the master disk of the primary IDE channel is active.

Options   **Enabled**

             Disabled (*)

4.7.12.2 Primary IDE 1

If enabled, timer restarts whenever the slave disk of the primary IDE channel is active.

Options   **Enabled**

             Disabled (*)

4.7.12.3 Secondary IDE 0

If enabled, timer restarts whenever the master disk of the secondary IDE channel is active.

Options   **Enabled**

             Disabled (*)

4.7.12.4 Secondary IDE 1

If enabled, timer restarts whenever the slave disk of the secondary IDE channel is active.

Options   **Enabled**

             Disabled (*)

4.7.12.5 FDD, COM, LPT Port

If enabled, timer restarts whenever the floppy disk is active.

Options   **Enabled**

             Disabled (*)

4.7.12.6 PCI IRQ#

If enabled, timer restarts whenever any of these interrupts occurs.

Options   **Enabled**

             Disabled (*)

4.8 PnP/ PCI Configurations

This setup page specifies Plug and Play and PCI features.

4.8.1 Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

Note: Leave this field disabled unless you have a conflict similar to the one mentioned above.

Options   **Enabled**

             Disabled (*)

4.8.2 Resources Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows®98/95/NT. If you set this field to "manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a "➤").

Options	Description
Auto (ESCD)(*)	Resources controlled by BIOS automatically
Manual	Resources controlled by the user

4.8.2.1 IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

4.8.2.1.1 IRQ3/4/5/7/9/10/11/12/14/15 assigned to

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.

Options   **PCI / ISA PnP (*)**

Legacy ISA

4.8.2.2 DMA Resources

This sub menu can let you control the memory resource.

4.8.2.2.1 Reserved Memory Base

Reserved a low memory for the legacy device (non-PnP device).

Options   **C800 / CC00 / D000 / D800 / DC00 / D400 / N/A (*)**

4.8.2.2.2 Reserved Memory Length

Reserved a low memory length for the legacy device (non-PnP device).

Options   **8K (*) / 16K / 32K / 64K.**

4.8.3 PCI / VGA Palette Snoop

This field controls the ability of a primary PCI graphics controller to share a common palette with an ISA/VESA video or MPEG card

Options	Description
Enabled	PCI VGA co-works with ISA MPEG card
Disabled (*)	All cases except above

4.9 PC Health Status

This page is monitoring your status of computer. On the screen displays CPU/System temperature, FAN speed, and voltages.

4.10 IWILL Smart Setting

Warning: Over-clocking is not guaranteed. Users must have substantial knowledge of proper CPU relative to adjusting CPU speeds. Over-clocking should be done only by experienced engineers who conduct tests.

In general, when adjusting the CPU frequency, you should start by selecting the frequency that matches your motherboard bus speed. The reason is that your CPU can only communicate with its external components at the same speed at which the components operate. In other words, if your motherboard bus speed is 66 MHz, you should select 66 MHz (as a "base") to set the CPU frequency. This frequency is also referred to as the "system bus frequency" or **external frequency**.

The fact remains that CPU manufacturers make CPUs much faster than the speed of the motherboard system bus frequency. This is true because most of the operations are done in a small die inside the CPU chip. This is the CPU **internal frequency**. For example, a 300 MHz CPU actually means the **internal frequency** runs at 300 MHz.

To adjust your CPU frequency, combine the **external frequency** with the appropriate **multiplier**. For example: If you purchase a 300 MHz CPU, and your motherboard runs at 66 MHz system bus speed, adjust your CPU frequency by selecting 66 MHz (system bus frequency) x 4.5 (**multiplier**), which equals 300 MHz (your CPU frequency). Or, to install the same 300 MHz CPU into motherboard with 100 MHz system bus speed, you may be select 100 MHz (system bus frequency) x 3 (**multiplier**), which equals 300 MHz (your CPU frequency). However, the fact is, a higher system bus frequency runs faster and has a much better performance than a slower system bus frequency.

4.10.1 Auto Detect DIMM/PCI Clk

When enabled, the motherboard will automatically disable the clock source for a DIMM socket, which does not have a module on it. This is true for all PCI slots.

      Options   **Enabled (*)**

                            Disabled

4.10.2 Spread Spectrum

This item configures radiation emitted from the system. When enabled, system will release less radiation.

      Options   **Enabled**

                            Disabled (*)

4.10.3 CPU Host/ PCI Clock

This field allows user to adjust CPU Host and PCI Clock

When CPU external frequency set to 66Mhz, the available Options are:

66/33, 75/37, 83/41, Default (*)

When CPU external frequency set to 100Mhz, the available Options are:

90/30, 95/31, 100/33, 105/35, 110/36, 114/38, 119/39, 124/41, 129/32, 133/33, 138/34, 150/37, Default (*)

4.10.4 CPU Ratio

This field allows user to CPU clock ratio

When CPU external frequency set to 66Mhz, the available Options are:

x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, xx7.5, x8,

When CPU external frequency set to 66Mhz, the available Options are:

x2, x2.5, x3, x3.5, x4, x4.5, x5, x5.5, x6, x6.5, x7, xx7.5, x8,

4.11 Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N) ? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal-performance system operations.

4.12 Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

4.13 Set Supervisor / User Password Setting

These setup pages are used for password setting. When a password has been enabled and the Security Option field is set as Setup, you will be required to enter the password every time you try to enter BIOS Setup program. This prevents an unauthorized person from changing any part of your system configuration. Additionally, if the Security Option field is set as Boot, the BIOS will request a password every time your system boot. This would prevent unauthorized use of your computer.

In you wish to use this function, bring the cursor to this field, then press <Enter>. The computer will display the message, "Enter Password". Type your password and press <Enter>. After the message "Confirm Password" is displayed, re-type your password. The Supervisor Password function will be in effect after you save and exit setup.

To disable a password, bring the cursor to this field, then press <Enter>. The computer will display the message, "Enter Password". Press <Enter>. A message will confirm that the password is disabled. Once the password is disabled, the system will boot and you can enter setup program freely.

Note: The User Password allows you to enter BIOS setup program, but you cannot change the value of any fields.

4.14 Save & Exit Setup

Saves current CMOS value and exit BIOS setup program.

4.15 Exit Without Saving

Abandons all CMOS value changes and exits BIOS setup program.

Chapter 5

How to use Power Installer

5.1 Software Installation

The attached Power Installer CD contains all the necessary drivers, utilities and tools for IWILL's full range of motherboards. It provides an easy way for users to install the needed drivers without going through a complicated process. The Power Installer CD is able to auto-detect and display the drivers, utilities and tools needed for your motherboard.

5.1.1 What's inside Power Installer CD

(Necessary driver, Utilities, required for the motherboard)

1. Drivers

  a.   Chipset Recognition Patch for Windows 9X (INF Update Utility)

  b.   IDE Bus Master Driver for Windows 95

  c.   Intel 810 Graphics driver

  d.   Software Audio driver

  e.   Network driver (for W100-N only)

2. Utilities

  a.   Make Driver Diskettes Utility

  b.   Anti-Virus program

  c.   Hardware Monitoring Utility

  d.   Suspend to Disk Utility

3. Tools

  a.   Adobe Acrobat Reader

4. Manuals

5.2 How to use the Power installer CD

The Power Installer CD supports the Auto Run program under Windows 98/95 and Windows NT operating systems. All the necessary drivers, utilities and manual for this motherboard will show on the screen. Select the one that needs to be installed, then simply follow the messages displayed on the screen to complete setup.

Note: IWILL Power Installer does not support a keyboard at this moment. You must use a mouse to install it.

5.2.1 How to view manual

This Power Installer CD includes detailed information of all IWILL manuals for every motherboard manufactured by IWILL. Please insert the IWILL Power Installer CD into the CD-ROM drive; the Auto Run program will display the main manual automatically. Click the "View Manual" item, and select the product you want to view, and the manual will be displayed.

5.2.2 How to make driver diskette

5.2.2.1 Without O.S. installed

This bootable Power Installer CD also allows you to boot up your system, even when the OS has not been installed. During the boot-up process, you can perform "IWILL Diskette Creator," which will automatically make the driver diskettes you need.

Note: At least one CD-ROM drive and one 1.44M floppy drive are necessary to make "IWILL Diskette Creator" work properly.

Follow the instructions below to make your own device driver floppy diskettes if you have a CD-ROM with IDE interface. If you have already installed SCSI CD-ROM, please make sure your SCSI host adapter supports bootable CD-ROM, and then proceed directly to step h, and then finish the procedure.

   a.   First, power-on or "boot" your system.

   b.   Press <**Del>** key during boot sequence to enter " **CMOS Setup Utility**"

   c.   Use arrow keys to select "**ADVANCED BIOS FEATURES**" on the menu, then press "**Enter**."

   d.   Select "**First Boot Device**" and change the default setting from "**Floppy"** to "**CDROM**" using Page Up /Page Down key.

   e.   Press <**Esc>** key to go back to CMOS SETUP Utility menu.

   f.   Press <**F10>** to select "Save and Exit Setup"

   g.   Press "**Y**" then "Enter" to complete. Now you are able to boot up the system from the CD-ROM.

   h.   Insert the Power Installer CD into the CD-ROM drive and re-start the computer.

   i.   IWILL Diskette Creator will now execute automatically for making your own driver diskettes.

   j.   Make the desired driver diskettes according to the instructions displayed on screen.

5.2.2.2 Under windows 98/95/NT

You may just click on the software (Make Driver Diskettes Utility) shown on screen, then select the driver you need, follow the messages shown on screen to complete.

5.2.3 How to install Chipset Recognition Patch Utility

You may just click on the software shown on screen that needs to be installed, then follow the prompts to complete setup.

5.2.4 How to install IDE Bus Master driver

You may just click on the IDE Bus Master Driver shown on screen that needs to be installed, then follow the prompts to complete setup.

5.2.5 How to install Intel 810 AGP driver

You may just click on the Intel 810 AGP Driver shown on screen that needs to be installed, then follow the prompts to complete setup.

5.2.6 How to install Software Audio driver

You may just click on the Software Audio Driver shown on screen that needs to be installed, then follow the prompts to complete setup.

5.2.7 How to install Network driver (Option for W100-N)

You may just click on the Network Driver Installation Guide shown on screen , then follow the instructions to complete setup.

5.2.8 How to use Anti-Virus program

Simply click on the Anti-Virus shown on screen that be installed, then follow the prompts to complete setup.

Note:

The Anti-virus Utility offers other languages.

Select the language you preferred according to the following instructions.

1. Click on "Explore"
2. Select your "CD-ROM"
3. Enter "antivirus folder"
4. Select one of the following languages.

   For example "Chinese English Japanese French and Germany ……"

5.2.9 How to use Hardware Monitoring Utility

You may just click on the Hardware Monitoring Utility shown on screen then follow the prompts to complete setup.

5.2.10 How to run STD (Suspend to Disk)

Suspend to Disk is an energy-saving feature that allows you to temporarily power off your system (i.e. when you step away from your computer for a meeting, errand, etc.), then return to the original screen (when the screen was last on) to resume your work the next time you power-on the system. This feature is fast and efficient, especially if your system is handling a small memory size.

Although the Suspend to Disk utility can be installed without an operating system, it is highly recommended that you first install an operating system before installing Suspend to Disk. You must first make a "Suspend to Disk" diskette to use for installation. Insert the **Power Installer CD** into your CD-ROM, select **Make Driver Diskette** from the menu, and carefully follow the instructions to make a driver diskette. Please see **Chapter 5.2.2** in the W100 manual to create a driver diskette without an operating system.

System Requirements for installing Suspend to Disk:

1. Suspend to Disk utility only works with IDE hard disk drives. You cannot use this utility with any SCSI device because the system BIOS controls IDE devices, but cannot control SCSI devices.

2. This feature works fine with Windows 95/98, and Windows NT FAT file systems, but does not work with Windows NT NTFS file system. This utility also does not support ACPI modes.

3. This feature works fine with APM compatible PCI/AGP VGA and Sound Blaster compatible cards and drivers.

4. The Intel Bus Master IDE driver is not fully compatible with Suspend to Disk. If this causes some problems, please uninstall the drivers, or do not use Suspend to Disk.

5. Whether you select file or partition method, please make sure that you have enough free HDD space for creating this hidden file or partition. Ex: if you have 64MB system memory and 4MB of VGA memory, you need at least 68MB (64MB + 4MB) of HDD space. You also have to reserve some free space for your future memory expansion. For example, if you plan to upgrade you system memory to 128MB in the near future, then you may reserve a 132MB (128MB+4MB) space.

6. The following are just some of the many AGP cards that have been tested and approved to work satisfactorily with Suspend to Disk:

Manufacturer/model	Chipset
IWILL Adventure II	3Dlabs Permedia 2
Matrox G200	
GainWard	3Dfx Banshee
View Top Vulcan B	3Dfx Banshee
View Top Titan 4000	S3 Trio 3D
Prolink	3Dfx Banshee
ATI	3D Rage Pro
ATI	Rage IIC
ASUS	Sis 6326

5.2.10.1 Set-Up Suspend to Disk

Before installing Suspend to Disk utility, please make sure your system is running normally. More importantly, you must ensure the Suspend to Disk feature has been disabled before installing new devices, or upgrading your system memory.

Enter BIOS setup

Power-on the system by either pressing the Power-On button, or by using any of the power-on features provided by the BD100 Plus motherboard. Then, press the <Del> key after the Power-On Self Test (POST), and before the scanning of IDE devices. Simply look for the message "Press DEL to enter SETUP" displayed at the bottom of the screen during the boot up process. If the message disappears before you've had a chance to respond, you can restart the system by

Turning off the system power then turn it on again, or

Pressing the "RESET" button on the system case, or

Pressing <Ctrl>, <Alt> and <Del> keys simultaneously.

Set-Up Suspend to Disk in BIOS

Select Power Management Setup, move cursor to "Suspend Mode Option", select "Suspend to Disk" and move cursor to "Soft-Off by PWR-BTTN", select "Delay 4 Sec".

Select PNP/PCI Configuration Setup. Then, for "PnP OS Installed" select "NO".

Press <F10> to save your setup into BIOS. The system will then automatically re-boot.

5.2.10.1.1 Enter DOS mode From Windows 95/98/NT

Open your "Programs" file, and select "MS DOS Prompt."

Once you've entered DOS from Windows

a.   Type the following:
               C:\WINDOWS>lock

       Press <Enter>

b.   The system will ask, "Are you Ready?" Press "y" for "yes." Press <Enter>.

c.   Insert your **Suspend to Disk diskette** into your floppy disk drive. (See above).

d.   Type the following:
               C:\>A:

       Press <Enter>

e.   Create a **file** or **partition**

There are two ways to store the data into HDD: Create a **file** or **partition**. You must make sure you have enough disk space before selecting either option (Please refer to **System Requirements** above). Creating a **file** stores all the necessary information (you may be working on) into a hidden read-only file within the system hard disk. Creating a **partition** allows further protection for you by storing all the necessary information into partition separate from other files.

Create a file

You may select the **file** size, or allow the system to automatically select for you.

Automatic Selection

Type the following:

               A:\>zvhdd /c /file

(**Note** one space is between "zvhdd and "/c", and one space is between "/c" and "/file")

Press <Enter>

The system will then automatically select **file** size.

Then, the system will display the following message: "The C:\SAVE2DSK.BIN has been executed". The Suspend to Disk utility has been set up.

Enter File Size (Example: You select 100 MB file size)

      Type the following:

            A:\>zvhdd /c /file /m:100

      (**Note** one space is between "zvhdd and "/c", between "/c" and "/file", and between "/file" and "/m:100")

      Press <Enter>

In this case, the system will use 100 MB file size that you've selected.
Then, the system will display the following message: "The C:\SAVE2DSK.BIN has been executed".
The Suspend to Disk utility has been set up.

Create a partition

      Type the following:

            A:\>zvhdd /c /partition

      (**Note** one space is between "zvhdd and "/c", and one space is between "/c" and "/partition")

The system will start to create and format a **partition**.

Whether you have selected **file** or **partition** options, once the Suspend to Disk utility has been set up, press any key, and you will automatically return to Windows. Then, you **must** restart your system in order to enable the Suspend to Disk feature.

Whether you have selected **file** or **partition** options, once the Suspend to Disk utility has been set up, press any key, and you will automatically return to Windows. Then, you **must** restart your system in order to enable the Suspend to Disk feature.

5.2.10.1.2 Enter DOS command Directly

      You may also enter DOS during the re-boot process by pressing the <F8> key after powering on the system, and selecting "Command prompt only.**"** If your system normally runs from DOS, or you have a DOS diskette, simply boot from DOS.

      Then, simply follow procedures "c" through "e" (above). Since the system is not controlled by Windows, it will automatically re-boot.

5.2.10.2 Using Suspend to Disk

      There are two ways to use Suspend to Disk:

      Simply press the power-on button located on the front panel of your computer chassis. **Note**: Do not hold the power-on button more than four seconds, because the system will shutdown immediately, and the Suspend to Disk function will not work.

      For Windows 95/98/NT, you may use your mouse, "click" on the "Start" icon (located on the lower left hand corner of your screen). Then, "click" the "Shut Down" option. Finally, select the "Standby" option.

      After selecting either method, the system will automatically enter the Suspend to Disk mode. The screen will become black for several seconds. Then, the screen will display the percentage of memory as it is being saved into the hard disk. Once the percentage reaches 100%, the system will shut down automatically.

To return to the original screen (last used when the system was last on), press the power-on button. The screen will display the percentage of memory as it is being restored from the hard disk. Once the percentage reaches 100%, the system will return to the original screen.

5.2.10.3 Removing Suspend to Disk utility

This process helps disable the Suspend to Disk utility.

5.2.10.3.1 Delete Suspend to Disk From Windows 95/98/NT

Open your "Programs" file, and select "MS DOS Prompt."

1. Type the following:

    C:\WINDOWS>lock

    Press <Enter>

2. The system will ask, "Are you Ready?" Press "y" for "yes." Press <Enter>.

3. Insert your **Suspend to Disk diskette** into your floppy disk drive. (See above).

4. Type the following:

    C:\>A:

    Press <Enter>

5. To delete **file**, type the following:

    A:\>zvhdd /d /file

    (**Note** one space is between "zvhdd and "/d", and one space is between "/d" and "/file")

6. To delete **partition**, type the following:

    A:\>zvhdd /d /partition

    (**Note** one space is between "zvhdd and "/d", and one space is between "/d" and "/partition")

7. Press any key to return to Windows. Then restart your system.

5.2.10.3.2 Delete Suspend to Disk From DOS Directly

Enter DOS during the re-boot process by pressing the <F8> key after powering on the system, and selecting "Command prompt only." Or, if your system normally runs from DOS, or you have a DOS diskette, simply boot from DOS.

1. Insert your Suspend to Disk diskette into your floppy disk drive. (See above).

2. Type the following:

    C:\>A:

    Press <Enter>

3. Then, follow procedures "5" through "7" in 5.6.3.1 (above).

Since the system is not controlled by Windows, it will automatically re-boot.

5.3 Installing Operating Systems

This section briefly demonstrates how to install a few popular software operating systems. Use this section only as a guide. It is highly recommended that users first refer to the installation manual of their operating system for a more thorough, detailed description on how to install the operating system.

5.3.1 Windows 98

Whenever installing Windows 98, please remember that Setup creates a new folder for Windows 98, and won't transfer any existing system settings. Windows 98 will become your default operating system, and will use standard system settings. This procedure represents an entirely new installation of Windows, therefore you'll need to reinstall any existing programs you may want to use.

There are two ways to install Windows 98. Each method depends on your current computer setup.

Note: During Setup, your computer will automatically restart several times using the Windows 98 Setup wizard.

5.3.1.1 Installing the CD-ROM version of Windows 98

1.   Place a Windows 98 Startup Disk into the floppy disk drive.

2.   Restart your computer.
     The Microsoft Windows 98 Startup menu will appear.

3.   Place the Windows 98 CD into your CD-ROM drive.

4.   Type the number **1** and press <ENTER >.
     A series of scans is performed, and then the MS-DOS prompt is displayed.

5.   Type the word **setup** at the MS-DOS display, and press <ENTER>.

     Setup performs a check (A message will be displayed).
     This message won't appear if your computer can't locate your CD-ROM drive. If you haven't installed the correct CD-ROM driver, please consult your drive's documentation or contact your hardware manufacturer.

6.   Press <ENTER>.
     Microsoft ScanDisk will check your disk drives for errors.

7.   When ScanDisk finishes, press the **X** key.
     Setup will initialize. Then, Windows 98 Setup begins.

8.   Please follow the instructions that are displayed.

     Note: Setup may ask you to insert your original Windows 95 or Windows 3.1 disks if you're using the upgrade version of Windows 98.

5.3.2 Windows NT

5.3.2.1 Installing the CD-ROM version of Windows NT on an IDE system

1. First, power-on or "boot" your system.

2. Press <Del> key during boot sequence to enter " CMOS Setup Utility"

3. Use arrow keys to select "BIOS FEATURES SETUP" on the menu, then press "Enter."

4. Select "Boot Sequence" and change the default setting from **A, C, SCSI** to "**CD-ROM, C, A**" using Page Up /Page Down key.

5. Place the Windows NT 4.0 CD-ROM in the drive.

6. Follow all instructions to finish Windows NT installation.

5.4 IWILL SCSI series

If you want to improve I/O performance of your motherboard, choose the latest IWILL SCSI controllers. The followings are some IWILL SCSI controllers you may purchase, and use with your motherboard:

SIDE 2930C: an economical SCSI card, and connects up to 7 device
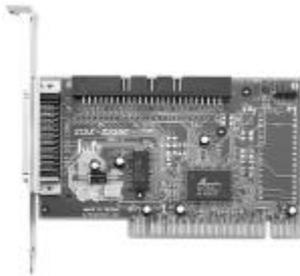
- Supports SCSI-1, SCSI-2 protocol
- 10 MB/sec. Data transfer rate
- The best choice for CD-ROM, CD-R, CD-R/W, MO, Scanner ..etc.
- Connects maximum 7 narrow SCSI devices
- Automatic active termination control for easy plug & play installation.
- Both Mac / PC Compatible

SIDE 2930U+: 20MB/sec. transfer rate, this card also connects up to 7 devices

- Supports SCSI-1, SCSI-2 and Ultra SCSI protocol
- Up to 20 MB/sec synchronous data transfer rate
- Connects maximum narrow SCSI devices
- Automatic active termination control for easy plug & play installation
- Supports Multi-tasking, Multi-threaded, scatter/gather, tagged queuing
- Both Mac / PC Compatible

SIDE 2936UW: this doubles the 2930U+; a 40 MB/sec transfer rate, connects up to 15 devices
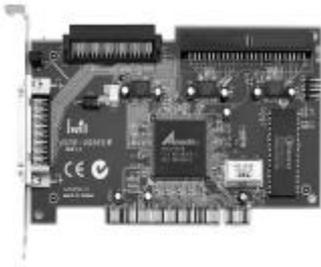
- Supports both Ultra Narrow (50-pin) and Ultra Wide (68-pin) SCSI
- Data transfer rate up to 20 MB/sec and 40 MB/sec respectively
- Able to connect up to 15 Ultra Wide SCSI devices
- Active terminator
- Able to boot from CD-ROM
- Both Mac / PC Compatible

SIDE 2935LVD: 80MB/sec data transfer rate, maximum cable length 12-meter connects up to 15 devices

- Double the data transfer rate of Ultra Wide SCSI to 80 MB/sec
- Up to 12 meters cable length for Ultra 2 devices
- Able to connect up to 15 devices
- Able to boot from any SCSI ID
- Able to boot from CD-ROM

Please contact IWILL today for more information regarding our SCSI cards.