

AR-B1666
INDUSTRIAL GRADE
CPU BOARD
User's Guide

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0. PREFACE

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0.2 WELCOME TO THE AR-B1666 CPU BOARD

This guide introduces the Acrosser AR-B1666 CPU Board.

Use information provided in this manual describes this card's functions and features. It also helps you start, set up and operate your AR-B1666. General system information can also be found in this publication.

0.3 BEFORE YOU USE THIS GUIDE

Please refer to the Chapter 2, "System Setting," in this guide, if you have not already installed this AR-B1666. Check the packing list before you install and make sure the accessories are completely included.

AR-B1666 CD provides the newest information regarding the CPU card. **Please refer to the files of the enclosed utility CD.** It contains the modification and hardware & software information, and adding the description or modification of product function after manual printed.

0.4 RETURNING YOUR BOARD FOR SERVICE

If your board requires any services, contact the distributor or sales representative from whom you purchased the product for service information. If you need to ship your board to us for service, be sure it is packed in a protective carton. We recommend that you keep the original shipping container for this purpose.

You can help assure efficient servicing for your product by following these guidelines:

1. Include your name, address, daytime telephone, facsimile number and E-mail.
2. A description of the system configuration and/or software at the time of malfunction.
3. A brief description of the problem occurred.

0.5 TECHNICAL SUPPORT AND USER COMMENTS

User's comments are always welcome as they assist us in improving the quality of our products and the readability of our publications. They create a very important part of the input used for product enhancement and revision.

We may use and distribute any of the information you provide in any way appropriate without incurring any obligation. You may, of course, continue to use the information you provide.

If you have any suggestions for improving particular sections or if you find any errors on it, please send your comments to Acrosser Technology Co., Ltd. or your local sales representative and indicate the manual title and book number.

Internet electronic mail to: Sales@acrosser.com

acrosser@tp.globalnet.com.tw

0.6 ORGANIZATION

This information for users covers the following topics (see the Table of Contents for a detailed listing):

Chapter 1, "Introduction", provides specifications and packing list.

Chapter 2, "Setting Up System", describes how to adjust the jumpers and the connector settings.

Chapter 3, "Watchdog Timer", describes watchdog timer setting and trigger.

Chapter 4, "BIOS Console", provides the BIOS settings options.

0.7 STATIC ELECTRICITY PRECAUTIONS

Before removing the board from its anti-static bag, read this section about static electricity precautions. Static electricity is a constant danger to computer systems. The charge that can build up in your body may be more than sufficient to damage integrated circuits on any PC board. It is, therefore, important to observe basic precautions whenever you use or handle computer components. Although areas with humid climates are much less prone to static build-up, it is always best to safeguard against accidents that may result in expensive repairs. The following measures should be sufficient to protect your equipment from static discharge:

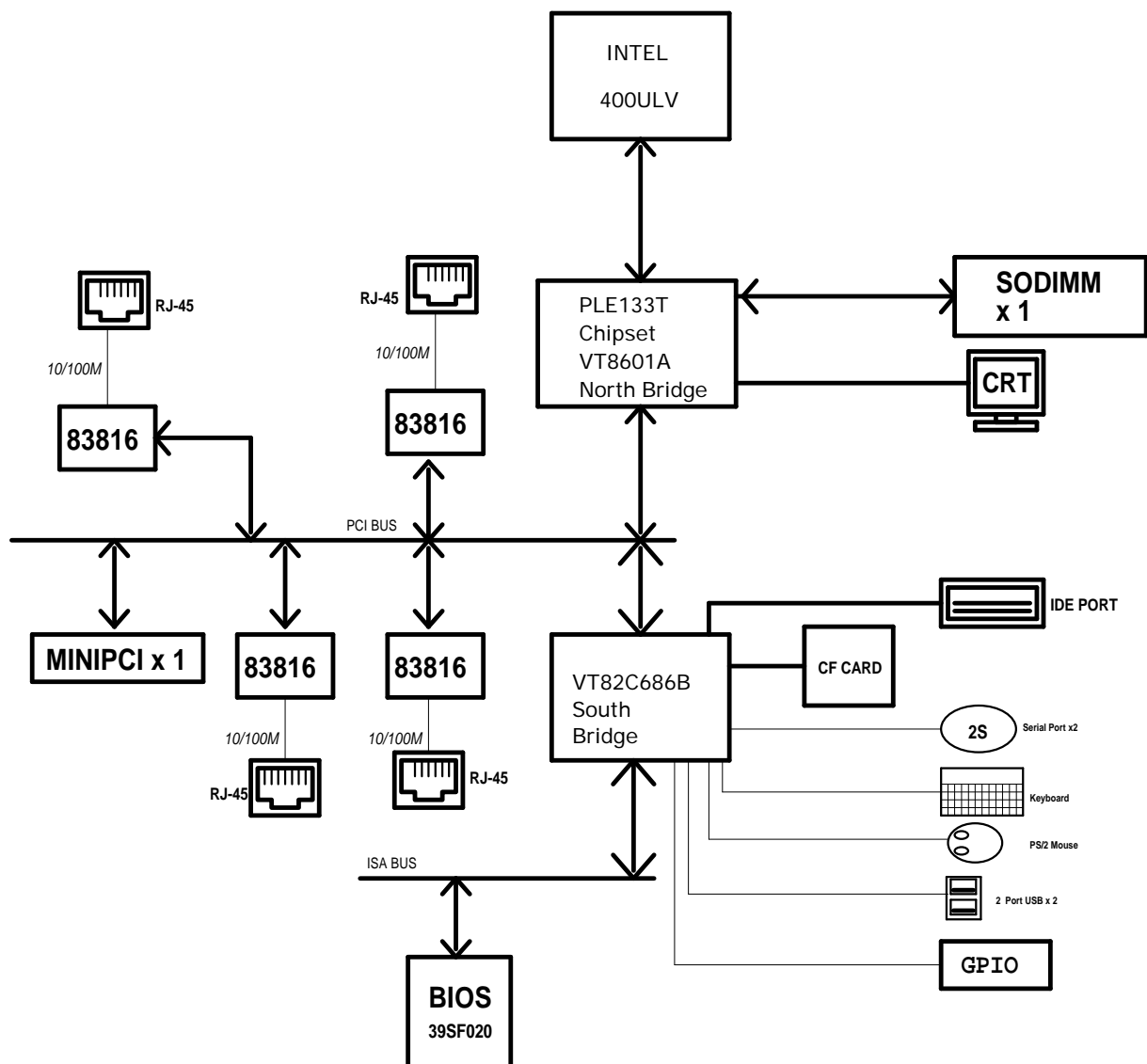
- Touch a grounded metal object to discharge the static electricity in your body (or ideally, wear a grounded wrist strap).
- When unpacking and handling the board or other system components, place all materials on an anti-static surface.
- Be careful not to touch the components on the board, especially the "golden finger" connectors on the bottom of the board.

1. INTRODUCTION

Welcome to the AR-B1666 Single Board Computer. The AR-B1666 board is Low power INTEL400ULV with the VIA ® advanced chipset Apollo PLE133T (VT8601T and VT82C686B). This product is designed for the system manufacturers, integrators, or VARs that want to provide all the performance, reliability, and quality at a reasonable price.

In addition, the AR-B1666 provides on chip VGA. The VGA, which provides up to True Color (32 bit) 1024x768 or High Color (16 bit) 1280x1024 resolutions. The VGA memory is share main memory (2M, 4M, or 8M).

The AR-B1666 is loaded with special on-board features that rival full-size systems. It has four networks controller on board, uses National Semiconductor 83816 LAN controller, a fully integrated 10/100BASE-TX solution with high performance networking functions. Compact Flash™. MINIPCI. The AR-B1666 also includes one 144-pin SO-DIMM sockets for up to 512 MB total on-board memory. The AR-B1666 has two on-board serial ports; COM1 with RS232C, COM2 with RS232C, two USB connectors for 4 USB ports, watchdog timer and tough industrial grade construction. All these features make the AR-B1666 a very "system integrator friendly" solution, perfect for handling applications in the harshest unmanned environments.



AR-B1666 System Block Diagram

1.1 SPECIFICATIONS

- **CPU:** On-board INTEL 400 ULV<FC-BGA>
- **DMA channels:** 7
- **Interrupt levels:** 15
- **Chipset:** VIA ® Apollo PLE133T (VT8601A Integrated 2D / 3D graphics accelerator and VT82C686B)
- **RAM memory:** Supports SDRAM PC100, on-board 144-pin SO-DIMM up to 512MB SDRAM memory module
- **VGA Controller:** Embedded VGA controller, Screen Resolution: up to True Color (32 bit) 1024x768, or High Color (16 bit) 1280x1024.
- **Display Interface:** CRT –2x5x2.00mm connector
- **Ultra ATA/33/66 IDE Interface:** One PCI Enhance IDE channel. The south bridge VT82C686B supports Ultra ATA/33/66 IDE interface. To support Ultra ATA66 Hard disk, a specified cable must be available.
- **C. F.:** Supports Compact Flash Type I interface
- **Series ports:** On-board one D-SUB 9-pin male connector for COM1 with RS-232C. On-board one 2x5x2.00mm pin-header connector for COM2 with RS-232C.(OPTION)
- **USB port:** On-board one USB connector for 2 USB ports x 2.
- **Watchdog timer:** Software programmable 1~63sec.
- **Ethernet:** On-board Four National Semiconductor 83816, supports 10/100Mbps Base-T with RJ-45 connector built-in LED
- **K/B & Mouse:** On-board PS/2 Keyboard and Mouse connector
- **GP I/O:** On-board 1x6x2.00mm pin-header connector for 4-bit input and 4-bit output, TTL level
- **Power Req.:** +5V 4A and +12V 1A maximum
- **PC Board:** 4 layers, EMI considered
- **Dimensions:** 203 mm x 146 mm
- **Operating Temperature:** 0° ~ 60

1.2 PACKING LIST

These accessories are included with the system. Before you begin installing your AR-B1666 board, please make sure that the following items have been included inside the AR-B1666 package.

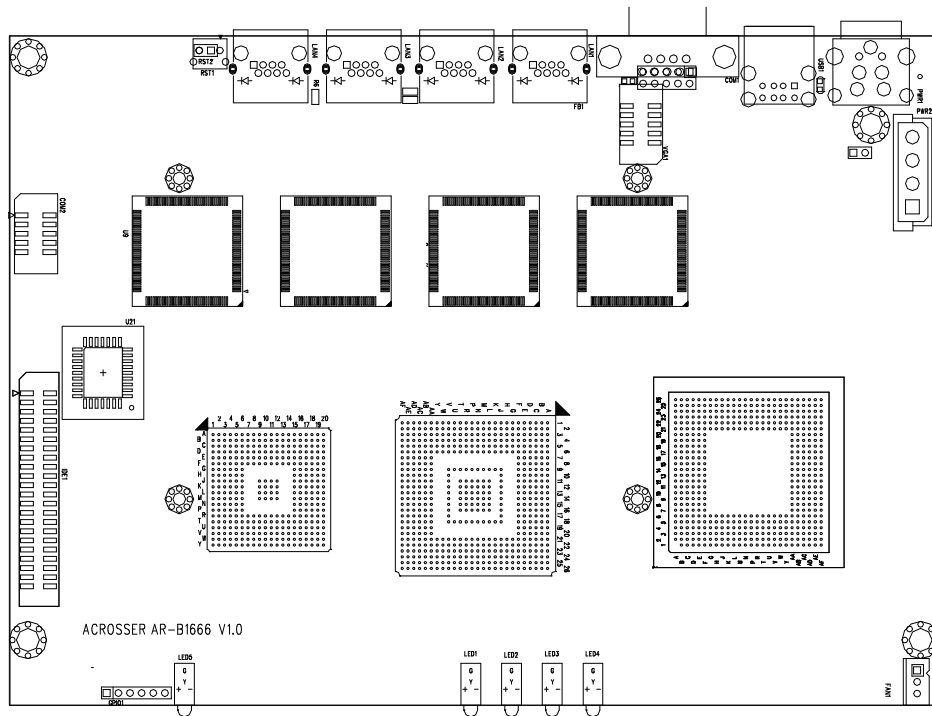
- The quick setup manual
- 1 AR-B1666 CPU board
- 1 Hard disk drive adapter cable for 2.5" hard disk
- 1 Software utility CD
- 1 RS-232 (option) and 1 PS/2 Mouse & Keyboard interface cable mounted on bracket
- 1 VGA cable
- 1 Mini Din power adapter & cable

2. SETTING UP SYSTEM

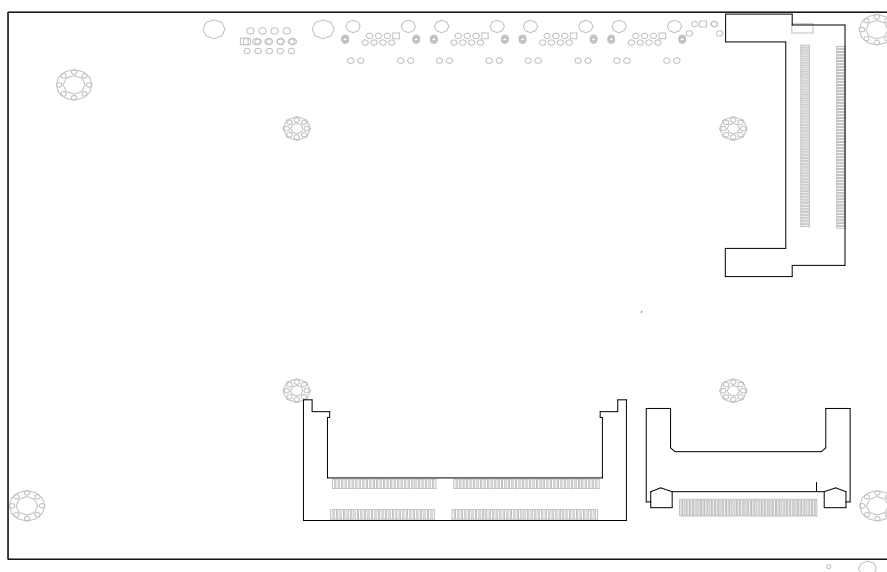
This chapter describes how to install the AR-B1666. At first, the layout of AR-B1666 is shown, and the unpacking information that you should be careful is described.

- Overview
- System Settings

2.1 AR-B1666 OVERVIEW



TOP PLACEMENT



BOTTOM PLACEMENT

2.2 SYSTEM SETTINGS

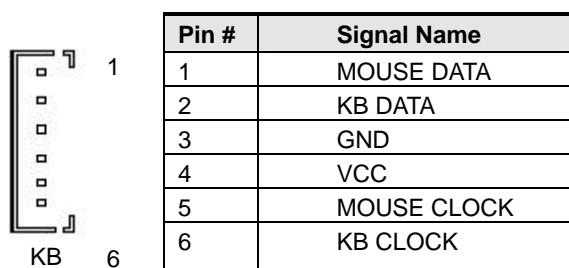
Jumper pins allow you to set specific system parameters. Set them by changing the pin location of the jumper blocks. (A jumper block is a small plastic-encased conductor that slips over the pins.) To change a jumper setting, remove the jumper from its current location with your fingers or small needle-nosed pliers. Place the jumper over the two pins designated for the desired setting. Press the jumper evenly onto the pins. Be careful not to bend the pins.

We will show the locations of the AR-B1666 jumper pins, and the factory-default settings.

CAUTION: Do not touch any electronic components unless you are safely grounded. Wear a grounded wrist strap or touch an exposed metal part of the system unit chassis. The static discharges from your fingers can permanently damage electronic components.

2.2.1 Keyboard & Mouse Connector (KB1)

The KB1 is a 6-pin pin header keyboard & Mouse connector. This keyboard & Mouse connector is PS/2 type connector. This connector is also for a standard IBM-compatible keyboard when used with the included PS/2 keyboard & Mouse adapter cable.



2.2.2 SDRAM SOCKET 144 PIN (DIMM1)

It can assemble 16/32/64/128/256/512MB 144 pin DIMM Module Memory. When you set up 144-pin DIMM Module Memory, AR-B1666 will auto-detect DRAM, and adopt correct save in order to make memory work till the best situation.

Caution: Set up 144-pin DIMM Module Memory, please insert into slot vertical, if the direction is wrong and it leads to failure, please confirm the direction is right.

DRAM Configuration (DIMM1)

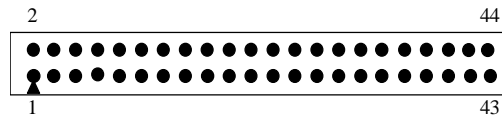


144 pin SO-DIMM

2.2.3 Hard Disk (IDE) Connector (IDE1)

44 Pin Hard Disk Connector (IDE1)

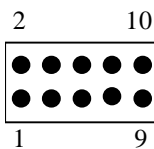
The on-board 44-pin mini-pitched IDE interface is used to let user support either a 3.5" HDD with 44 to 40pin adapter cable.



Pin	Signal	Pin	Signal
1	-RESET	2	GROUND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	GROUND	20	NOT USED
21	IDEDREQ	22	GROUND
23	-IOW A	24	GROUND
25	-IOR A	26	GROUND
27	IDEIORDYA	28	GROUND
29	-DACKA	30	GROUND
31	AIN T	32	GROUND
33	SA 1	34	Not Used
35	SA 0	36	SA 2
37	CS 0	38	CS 1
39	HD LED A	40	GROUND
41	VCC	42	VCC
43	GROUND	44	Not Used

2.2.4 CRT Connector (VGA1)

VGA1 is a standard 10-pin header connector commonly used for VGA.



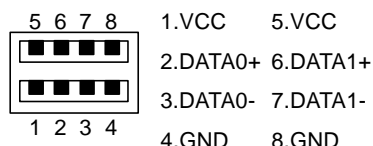
Pin #	Signal Name	Pin #	Signal Name
1	RED	6	AGND
2	AGND	7	V.S
3	GREEN	8	DDCD
4	GND	9	H.S
5	BLUE	10	DDCK

2.2.5 USB Connector (USB1)

The Universal Serial Bus (USB) controller is USB V1.1 and Universal HCI V1.1 compliant. The Universal Serial Bus (USB) standard is a low-to-medium speed interface for the connection of PC peripherals, which gives complete Plug & Play, and hot attach/detach for up to 127 external devices. USB is a leading edge technology that allows the user to quickly and easily add a wide range of peripheral devices from printers to keyboards and telephony devices to fax/modems. Universal Host Controller Interface (UHCI) and future support for the Open Host Controller Interface (OHCI) ensure USB compatibility and usability well into the future.

The CPU board supports two Universal Serial Bus ports. If the USB ports are installed, the USB Controller line in the Integrated Peripherals section of the CMOS Setup utility must be set to "Enabled". USB ports may also require Operating System support for USB devices.

■ USB1

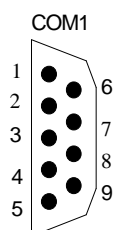


2.2.6 Serial Port (COM1)

AR-B1666 is equipped with two serial ports. COM1 is a standard RS-232 interface.

A. COM1

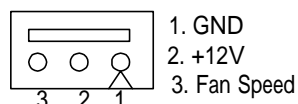
USED RS232



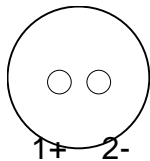
1.DCD	5.TX
2.DSR	6.CTS
3.RX	7.DTR
4.RTS	8.RI
	9.GND

2.2.7 Fan Power Connector (FAN1)

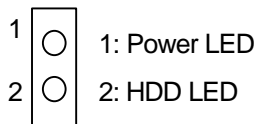
FAN1 is 3-pin header for the CPU fan. The fan must be a 12V fan.



2.2.8 Internal Buzzer (BUZ1)

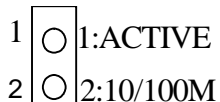


2.2.9 Power/HD LED (LED5)



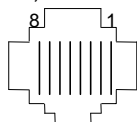
Power LED: External LED connector for Power status indication.
HDD LED (IDE1): External LED connector for primary IDE channel.

2.2.10 LAN LED (LED1, LED2, LED3, LED4)



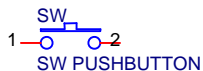
2.2.11 Ethernet RJ-45 Connector (LAN1, LAN2, LAN3, LAN4)

The system supports onboard network connectivity. To utilize this function, install the network driver from the utility diskette, and connect the cable to the following RJ-45 header.



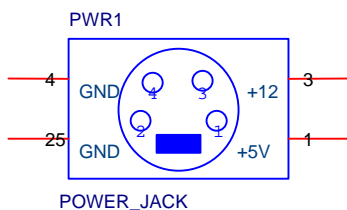
PIN (CN8)	FUNCTION
1	TPTX+
2	TPTX -
3	TPRX+
4	Not Used
5	Not Used
6	TPRX-
7	Not Used
8	Not Used

2.2.12 Reset Button (RST1)

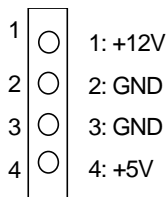


2.2.13 Power Connector (PWR1)

The PWR2 is a 4-pin mini dim power connector.



B:PWR2:

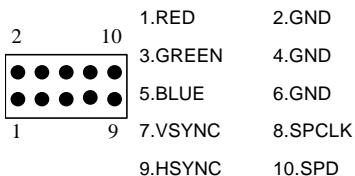


C: POWER SWITCH(J1)

Jumper	Function
Open	OFF
Short	ON

2.2.14 CRT Connector (CRT)

AR-B1666 built-in 10-pin VGA connector directly to your CRT monitor.



2.2.15 MINI PCI SLOT (PCI1)

On board one mini PCI slot (PCI1)

2.2.16 GPIO PORT (GPIO1)



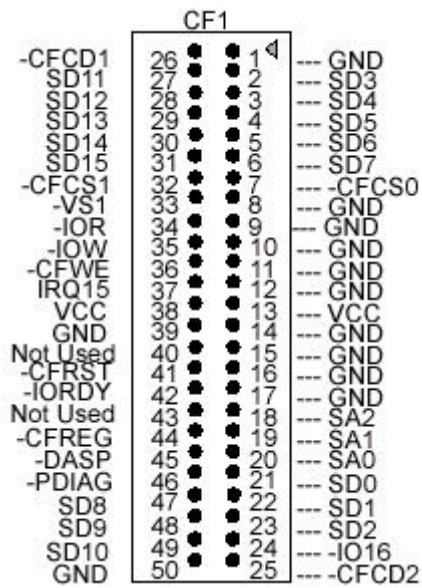
Users could test GPIO function under 'Debug' program as follow:

GPO Example :	
o 4e 87	;Extended Functions Enable Register
o 4e 87	;Extended Functions Enable Register
o 4e 29	;select CR29
o 4f 80	;(Define the PINs as GPIO or Game Port 1) "80" Pin121 ~ 128 set as GPIO
o 4e 07	;EFIR=EFER (Extended Functions Index Register) point to Logical Device Number Reg.
o 4f 07	;EFDR=EFIR+1 (select logical device 7,GPIO in logical device 7)
o 4e 30	;select CR30 (Active or inactive)
o 4f 01	;set 01 (Active) , 00 (inactive)
o 4e f0	;select CRF0 (Set the PINs be GPO or GPI Function)
o 4f 00	;set the PINs be GPO
o 4e f2	;select CRF2 (Output High / Low)
o 4f 00	;set the PINs be all Low Level (FF=all High Level)
o 4e f1	;select CRF1
o 4f 07	;set the output to be 07
o 4e aa	;exit EFER
q	;Quit debug

GPI Example :	
o 4e 87	;Extended Functions Enable Register
o 4e 87	;Extended Functions Enable Register
o 4e 29	;select CR29
o 4f 80	;(Define the PINs as GPIO or Game Port 1) "80" Pin121 ~ 128 set as GPIO
o 4e 07	;EFIR=EFER (Extended Functions Index Register) point to Logical Device Number Reg.
o 4f 07	;EFDR=EFIR+1 (select logical device 7,GPIO in logical device 7)
o 4e 30	;select CR30 (Active or inactive)
o 4f 01	;set 01 (Active) , 00 (inactive)
o 4e f0	;select CRF0 (Set the PINs be GPO or GPI Function)
o 4f ff	;set the PINs be GPI
o 4e f1	;select CRF1 (Set the PINs be Read only)
i 4f	;Show the PINs Value
q	;Quit debug

2.2.17 Compact Flash Slot (CF1)

Pin assignment is showed below.

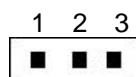


2.2.18 CF Master/Slave Mode Select (J2)

This 2-pins jumper will decide the CF operating in master/slave mode.

Jumper	Function
Open (Factory Preset)	Slave
Short	Master

2.2.19 Clear CMOS Jumper (JBAT1)



Jumper	Function
(1-2)	Keep Data (Factory Preset)
(2-3)	Clear Data

3. BIOS CONSOLE

This chapter describes the AR-B1666 BIOS menu displays and explains how to perform common tasks needed to get up and running, and presents detailed explanations of the elements found in each of the BIOS menu. The following topics are covered:

- Main
- Advanced
- Peripherals
- PC Health
- Boot
- Exit

3.1 BIOS SETUP OVERVIEW

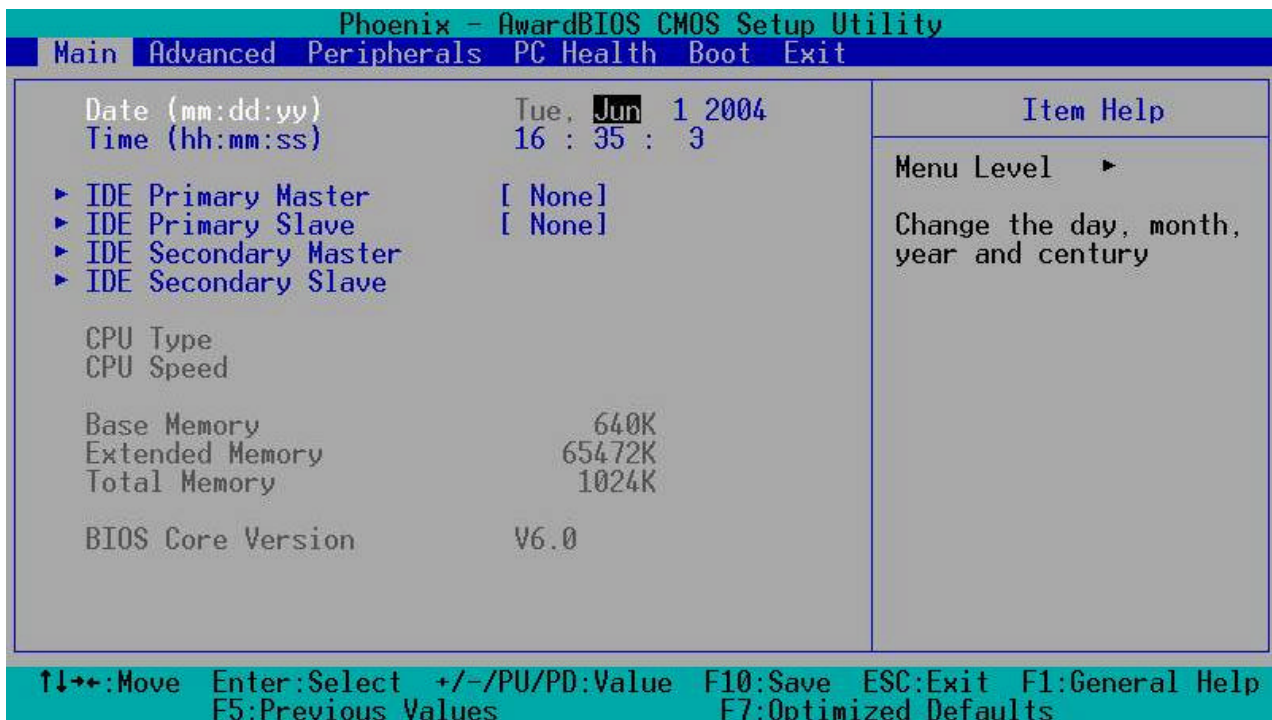
The BIOS is a program used to initialize and set up the I/O system of the computer, which includes the ISA bus and connected devices such as the video display, diskette drive, and the keyboard.

The BIOS provides a menu-based interface to the console subsystem. The console subsystem contains special software, called firmware that interacts directly with the hardware components and facilitates interaction between the system hardware and the operating system.

The BIOS default values ensure that the system will function at its normal capability. In the worst situation the user may have corrupted the original settings set by the manufacturer.

After the computer is turned on, the BIOS will perform diagnostics on the system and display the size of the memory that is being tested. Press the [Del] key to enter the BIOS Setup program, and then the main menu will show on the screen.

The BIOS Setup main menu includes some options. Use the [Up/Down] arrow key to highlight the option that you wish to modify, and then press the [Enter] key to select the option and configure the functions.



The <Main> option allows you to record some basic system hardware configuration and set the system clock and error handling. If the CPU board is already installed in a working system, you will not need to select this option anymore.

Date & Time Setup

Highlight the <Date> field and then press the [Page Up] /[Page Down] or [+]/[-] keys to set the current date. Follow the month, day and year format.

Highlight the <Time> field and then press the [Page Up] /[Page Down] or [+]/[-] keys to set the current date. Follow the hour, minute and second format.

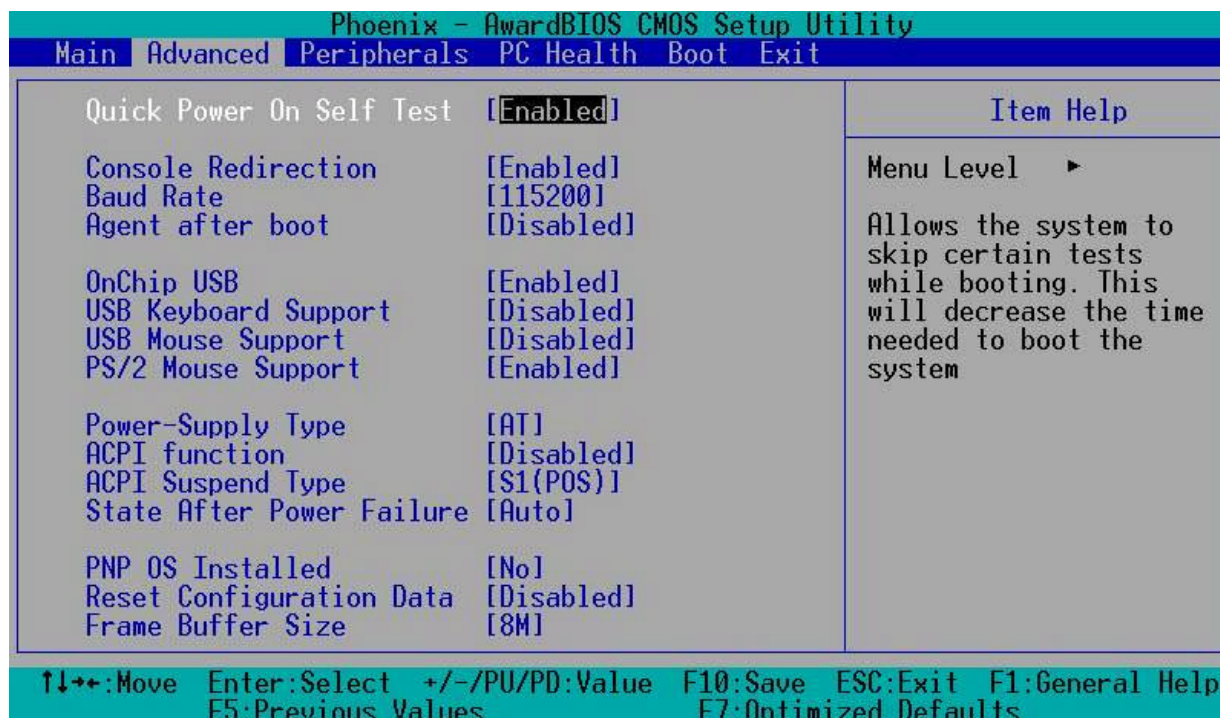
The user can bypass the date and time prompts by creating an AUTOEXEC.BAT file. For information on how to create this file, please refer to the MS-DOS manual.

Hard Disk Setup

The BIOS supports various types for user settings, The BIOS supports <Pri Master>, <Pri Slave>, <Sec Master> and <Sec Slave> so the user can install up to two hard disks. For the master and slave jumpers, please refer to the hard disk's installation descriptions and the hard disk jumper settings in section three of this manual.

3.2 ADVANCED

The <Advanced > option consists of configuration entries that allow you to improve your system performance, or let you set up some system features according to your preference. Some entries here are required by the CPU board's design to remain in their default settings.



Advanced

Quick Power on Self Test

This field speeds up the Power-On-Self Test (POST) routine by skipping retesting a second, third, and fourth time. Configuration options: [Disabled][Enable]

On Chip USB

This option can enable USB Ports or Disabled USB function.

USB Keyboard Support

This option can enable or Disabled USB keyboard function.

USB Mouse Support

This option can enable or Disabled USB mouse function.

ACPI Function

This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI). The settings are Enabled and Disabled.

ACPI Suspend Type

This item will set which ACPI suspend type will be used.

S1 (POS)

The S1 sleeping state is low wake-up latency sleeping state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system contexts.

S3 (STR)

The S3 state is low wake-up latency sleeping states and all system contexts are lost expecting system memory. CPU, cache, and chipset context are lost in this state. Hardware maintains memory context and restores some CPU and L2 configuration context.

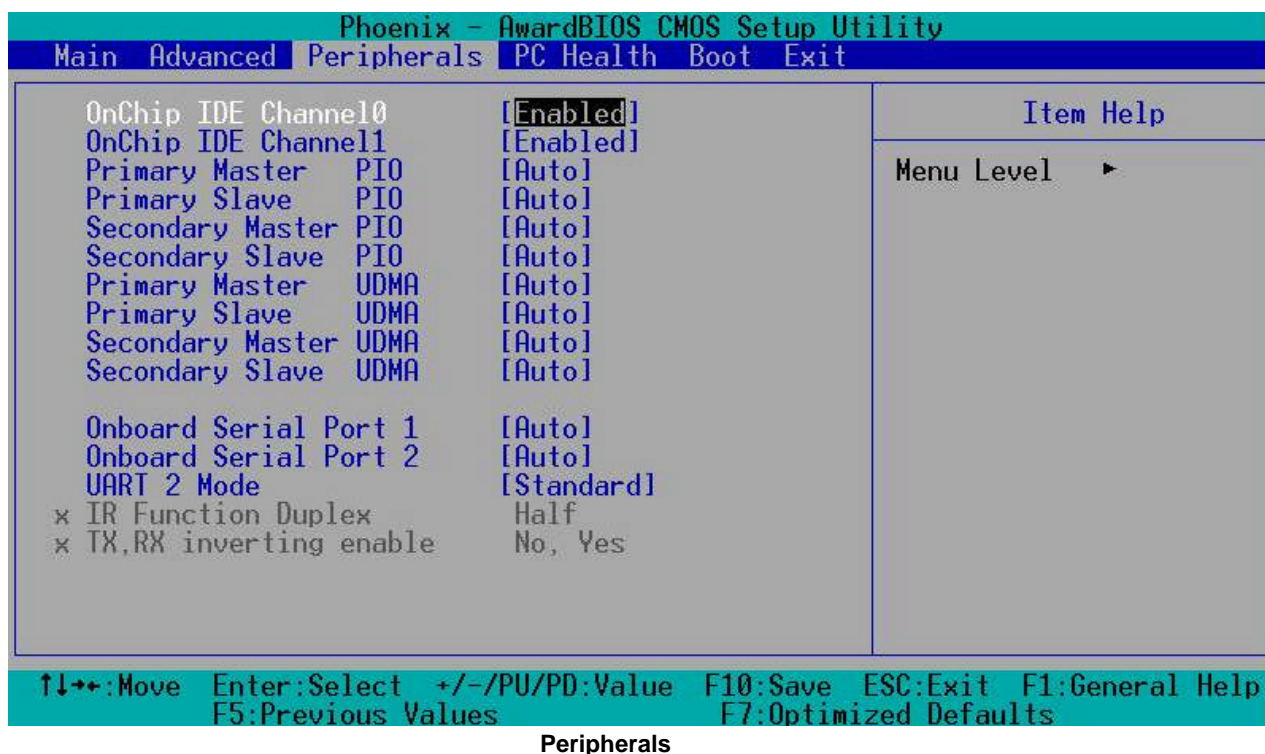
State after Power Failure

This option enables the End User to define if the system will be power-on once the AC Power is given. The Options:

1. Power Off (Always Power Off, must press Power Button to boot)
2. Power On (Auto Power On when AC power is on)
3. Last State (Depend on the Last State of the system).

3.3 PERIPHERALS

This option controls the configuration of the board's chipset. Control keys for this screen are the same as for the previous screen.



On Chip IDE Channel0

On Chip IDE Channel1

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the first and/or second IDE interface. Select Disabled to deactivate an interface, if you install a primary and/or secondary add-in IDE interface.

Onboard Serial Port

These fields allow you to set the addresses for the onboard serial connectors. Serial Port 1 and Serial Port 2 must have different addresses.

Configuration Options:[Disabled][3F8/IRQ4][2F8/IRQ3][3E8/IRQ4][2E8/IRQ3][Auto]

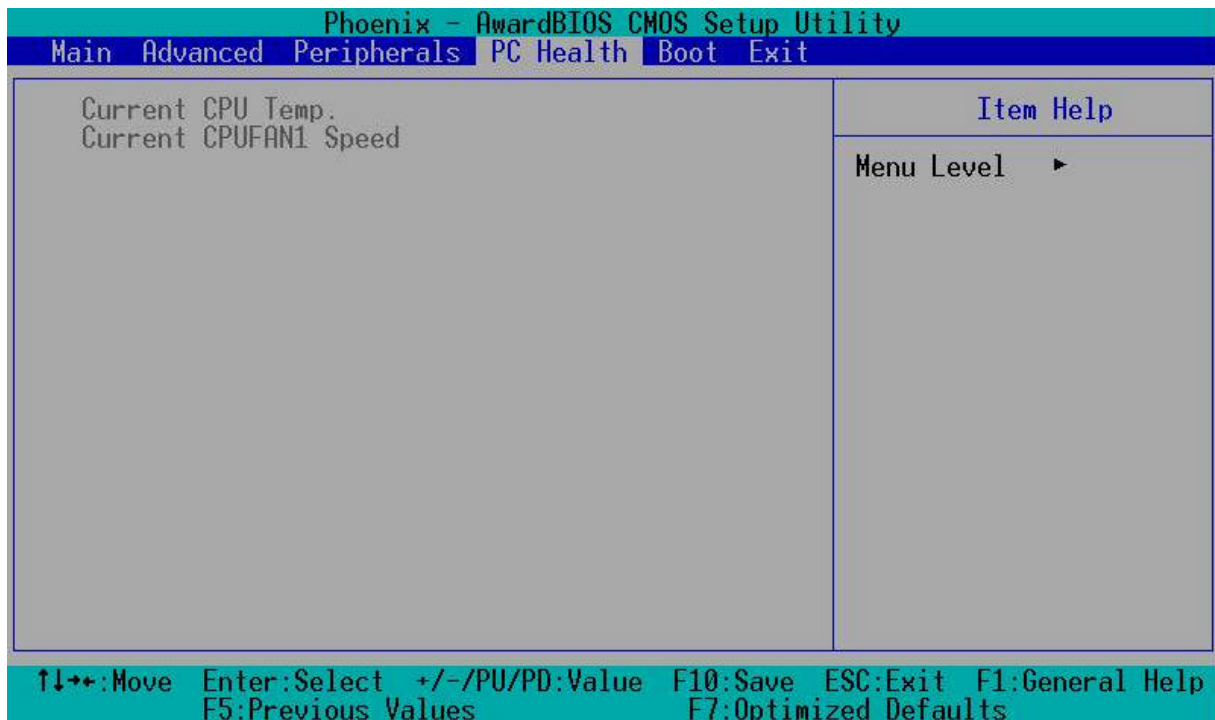
UART 2 Mode

Select an operating mode for the second serial port:

Standard	RS-232C serial port
HPSIR	IrDA-compliant serial infrared port
ASK IR	Amplitude shift keyed infrared port

3.4 PC HEALTH

This section is used to configure power management features. This <Power management Setup> option allows you to reduce power consumption. This feature turns off the video display and shuts down the hard disk after a period of inactivity.



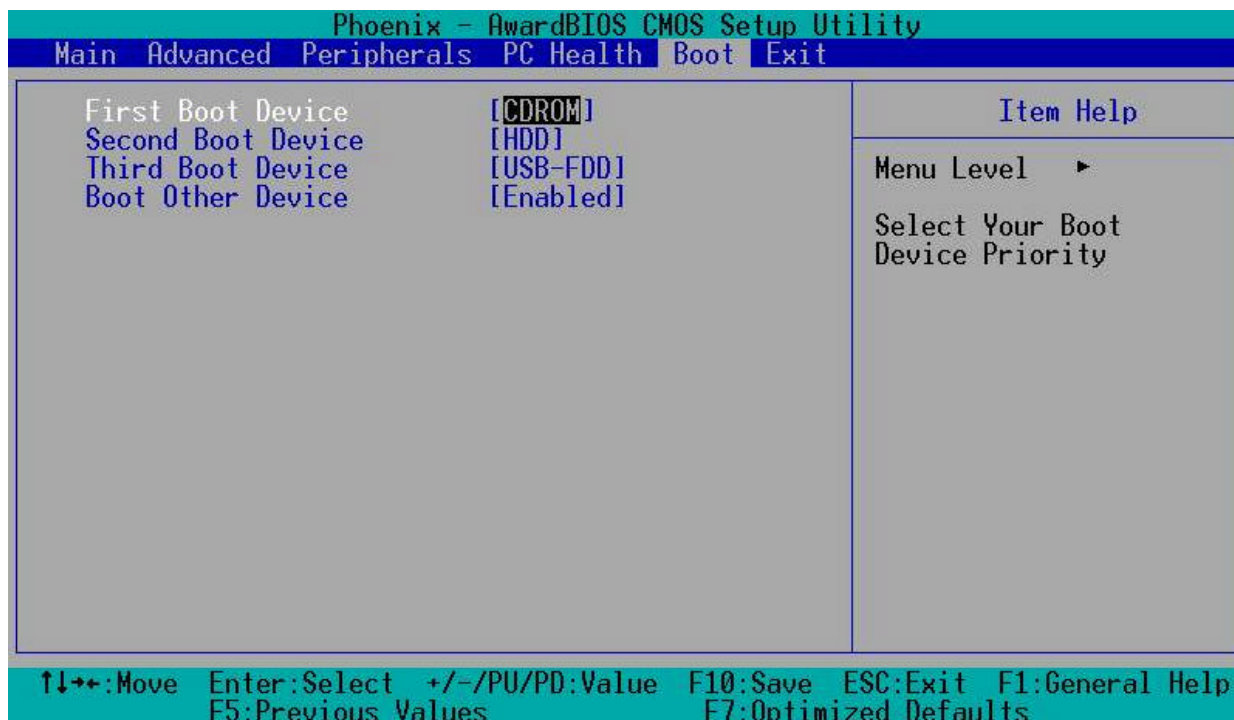
Current CPU Temp.

The onboard hardware monitor automatically detects and displays the CPU temperatures.

Current CPUFAN1 Speed

The onboard hardware monitor automatically detects and displays the CPU fan Speeds in rotations per-minute (RPM). If any of the fans is not connected to the Motherboard, that field shows N/A.

3.5 BOOT



First Boot Device [CDROM]

This field sets the priority of the first boot device; by default, the system boots up on The CD-ROM drive. Configuration options: [Floppy] [LS120] [HDD][SCSI] [CDROM] [ZIP100] [USB-FDD] [USB-Zip] [USB-CDROM] [USB-HDD] [LAN] [Disabled]

Second Boot Device [HDD]

This field sets the priority of the second boot device; by default, the system boots up on the hard disk drive if the CD-ROM drive is not present. Configuration options: [Floppy] [LS120] [HDD][SCSI] [CDROM] [ZIP100] [USB-FDD] [USB-Zip] [USB-CDROM] [USB-HDD] [LAN] [Disabled]

Third Boot Device [USB-FDD]

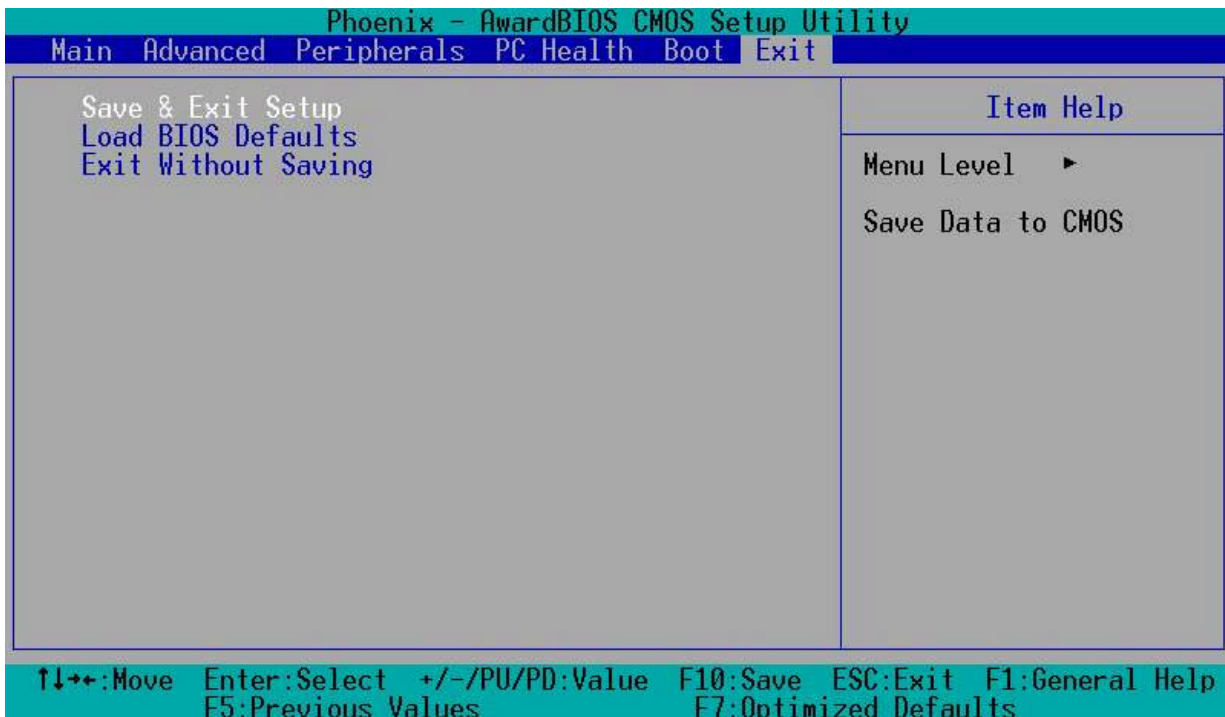
This field sets the priority of the third boot device; by default, the system boots up on the USB-FDD drive if the CD-ROM drive and hard disk drive is not present. Configuration options: [Floppy] [LS120] [HDD][SCSI] [CDROM] [ZIP100] [USB-FDD] [USB-Zip] [USB-CDROM] [USB-HDD] [LAN] [Disabled]

Boot Other Device [Enabled]

By default, this field enables the detection of the other device, by default, aside from the first three priority devices. Configuration options: [Enabled] [Disabled]

3.6 EXIT

This section is used to configure peripheral features.



Save & Exit Setup

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS. Type "N" will return to Setup Utility.

Load BIOS Defaults

Selecting this field loads the factory defaults for BIOS and Chipset Features, which the System automatically detects.

Exit Without Saving

Type "Y" will quit the Setup Utility without saving to RTC CMOS.
Type "N" will return to Setup Utility.

3.7 BIOS UPDATE

The BIOS program instructions are contained within computer chips called FLASH ROMs that are located on your system board. The chips can be electronically reprogrammed, allowing you to upgrade your BIOS firmware without removing and installing chips.

The AR-B1666 provides the FLASH BIOS update function for you to easily to update to a newer BIOS version. Please follow these operating steps to update to new BIOS:

Step 1:	Turn on your system and don't detect the CONFIG.SYS and AUTOEXEC.BAT files.
Step 2:	Insert the FLASH BIOS diskette into the floppy disk drive.
Step 3:	In the MS-DOS mode, you can type the AWDFLASH program. A:\>Awdflash filename. bin /py /sn /f

APPENDIX A. ADDRESS MAPPING

IO Address Map

I/O MAP	ASSIGNMENT
0x0000-0x0CF7	PCI bus
0x0000-0x0CF7	Direct memory access controller
0x0D00-0x3FFF	PCI bus.
0x4100-0x4FFF	PCI bus
0x5010-0x5FFF	PCI bus
0x6080-0xFFFF	PCI bus
0x03B0-0x03BB	VIA Tech CPU to AGP Controller
0x03B0-0x03BB	VIA Tech VT8361/VT8601 Graphics Controller
0x03C0-0x03DF	VIA Tech CPU to AGP Controller
0x03C0-0x03DF	VIA Tech VT8361/VT8601 Graphics Controller
0x0A79-0x0A79	ISAPNP Read Data Port
0x0279-0x0279	ISAPNP Read Data Port
0x0274-0x0277	ISAPNP Read Data Port
0xE000-0xE00F	VIA Bus Master IDE Controller
0x01F0-0x01F7	Primary IDE Channel
0x03F6-0x03F6	Primary IDE Channel
0x0170-0x0177	Secondary IDE Channel
0x0376-0x0376	Secondary IDE Channel
0xE100-0xE11F	VIA USB Universal Host Controller
0xE200-0xE21F	VIA USB Universal Host Controller
0xFE00-0xFEFF	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter
0xE400-0xE4FF	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #2
0xE500-0xE5FF	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #3
0xE600-0xE6FF	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #4
0x0010-0x001F	Motherboard resources
0x0022-0x003F	Motherboard resources
0x0044-0x005F	Motherboard resources
0x0062-0x0063	Motherboard resources
0x0065-0x006F	Motherboard resources
0x0074-0x007F	Motherboard resources
0x0091-0x0093	Motherboard resources
0x00A2-0x00BF	Motherboard resources
0x00E0-0x00EF	Motherboard resources
0x04D0-0x04D1	Motherboard resources
0x0020-0x0021	Programmable interrupt controller
0x00A0-0x00A1	Programmable interrupt controller
0x0080-0x0090	Direct memory access controller
0x0094-0x009F	Direct memory access controller
0x00C0-0x00DF	Direct memory access controller
0x0040-0x0043	System timer
0x0070-0x0073	System CMOS/real time clock
0x0061-0x0061	System speaker
0x00F0-0x00FF	Numeric data processor
0x03F8-0x03FF	Communications Port (COM1)
0x02F8-0x02FF	Communications Port (COM2)
0x0060-0x0060	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
0x0064-0x0064	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard

Memory Map:

MEMORY MAP	ASSIGNMENT
0xF0000-0xF3FFF	System board
0xF4000-0xF7FFF	System board
0xF8000-0xFBFFF	System board.
0xFC000-0xFFFFF	System board
0x77F0000-0x77FFFFF	System board
0xFFFF0000-0xFFFFFFFF	System board
0x0000-0x9FFFF	System board
0x100000-0x77EFFFF	System board
0xFEE00000-0xFEE00FFF	System board
0xA0000-0xBFFFF	PCI bus
0xA0000-0xBFFFF	VIA CPU to AGP Controller
0xA0000-0xBFFFF	VIA Tech VT8361/VT8601 Graphics Controller
0xC0000-0xDFFFF	PCI bus
0x7800000-0xFFEFFFFF	PCI bus
0xEC000000-0xED7FFFFF	VIA CPU to AGP Controller
0xEC000000-0xED7FFFFF	VIA Tech VT8361/VT8601 Graphics Controller
0xE8000000-0xEBFFFFF	VIA CPU to AGP Controller
0xED000000-0xED01FFFF	VIA Tech VT8361/VT8601 Graphics Controller
0xEC800000-0xECFFFFFF	VIA Tech VT8361/VT8601 Graphics Controller
0xED813000-0xED813FFF	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter
0xED810000-0xED810FFF	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #2
0xED811000-0xED811FFF	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #3
0xED812000-0xED812FFF	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #4

APPENDIX B. INTERRUPT REQUEST (IRQ)

SETTING	HARDWARE USING THE SETTING
01	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
03	Communications Port (COM2)
04	Communications Port (COM1)
07	VIA Tech VT8361/VT8601 Graphics Controller
07	VIA USB Universal Host Controller
07	VIA USB Universal Host Controller
07	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter
07	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #2
07	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #3
07	National Semiconductor Corp. DP83815/816 10/100 MacPhyter PCI Adapter #4
08	System CMOS/real time clock
09	Microsoft ACPI-Compliant System
12	PS/2 Compatible Mouse
13	Numeric data processor
14	Primary IDE Channel