

IAC-F845 SERIES

**Full- size SBC
with VGA and LAN for
Socket 478 Pentium Processor**

User's Manual

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Chapter 1 General Information

1.1 Introduction

The IAC-F845 Series is a Pentium 4 PICMG Single Board Computer specifically designed for 478-pin socket Pentium 4 processor, AGP graphic, two 10/100Base-TX Ethernets. This makes the IAC-F845 Series a perfect solution for not only popular networking devices like Firewall, Gateway, and e-Server, but also CTI (Computer Telephony Integration) equipments such as PBX, Digital Logger, etc.

IAC-F845, powered by Intel advanced 845 chipset, and supports 478-pin socket Intel Pentium 4 processor. It supports Ultra DMA-33/66/100 for faster hard drive transmission speeds and contains health monitor hardware. The special designed heat sink and cooling fan makes IAC-F845 suitable for industrial standard 1U chassis without any thermal problem. Featured with 400MHz FSB (Front-Side-Bus), the IAC-F845 is also capable of providing 3 x the bandwidth than traditional Intel Pentium III platform.

Besides it's outstanding bandwidth and processing capability, the incorporated ATI Rage 128Ultra GL with 4 x AGP and 32MB video memory provides IAC-F845 with the highest VGA performance available in the market. The IAC-F845 is also proved to be the most reliable and stable networking platform with the on-board server level dual Intel 82559 chips.

In addition, IAC-F845 features two IDE ports, one FDD port, two COM ports with one selectable RS-232/422/485 and one multi-mode parallel port allows for more devices support and more flexibility. Other standard features include one socket for DiskOnChip, two USB headers and one IrDA header. IAC-F845 has also incorporated Watchdog Timer that allows for monitoring ability to ensure system stability.

IAC-F845 Series is a high power & full engine Single Board Computer CPU card, carefully designed to be a feature-rich SBC CPU card at a reasonable price, this board elegantly meets industry needs and saves time and money by waiving the hassle of going through the extra effort and cost of additional I/O cards. Being standards-compliant, it is proved to be a quality product with high performance and stability in a long run.

1.2 Features

- ✦ Support high performance Socket 478 Intel® Pentium® 4 processors.
- ✦ Support up to 2GB SDRAM
- ✦ Intel®845 chipset with 400MHz FSB
- ✦ ATI Rage 128 Ultra GL 4X AGP graphics accelerator with 32MB memory
- ✦ Two Intel® 82559 10/100 Base-TX Ethernet controllers
- ✦ DiskOnChip® flash memory support
- ✦ Special design heatsink and fan for 1U Chassis

1.3 Specification

IAC-F845 Series

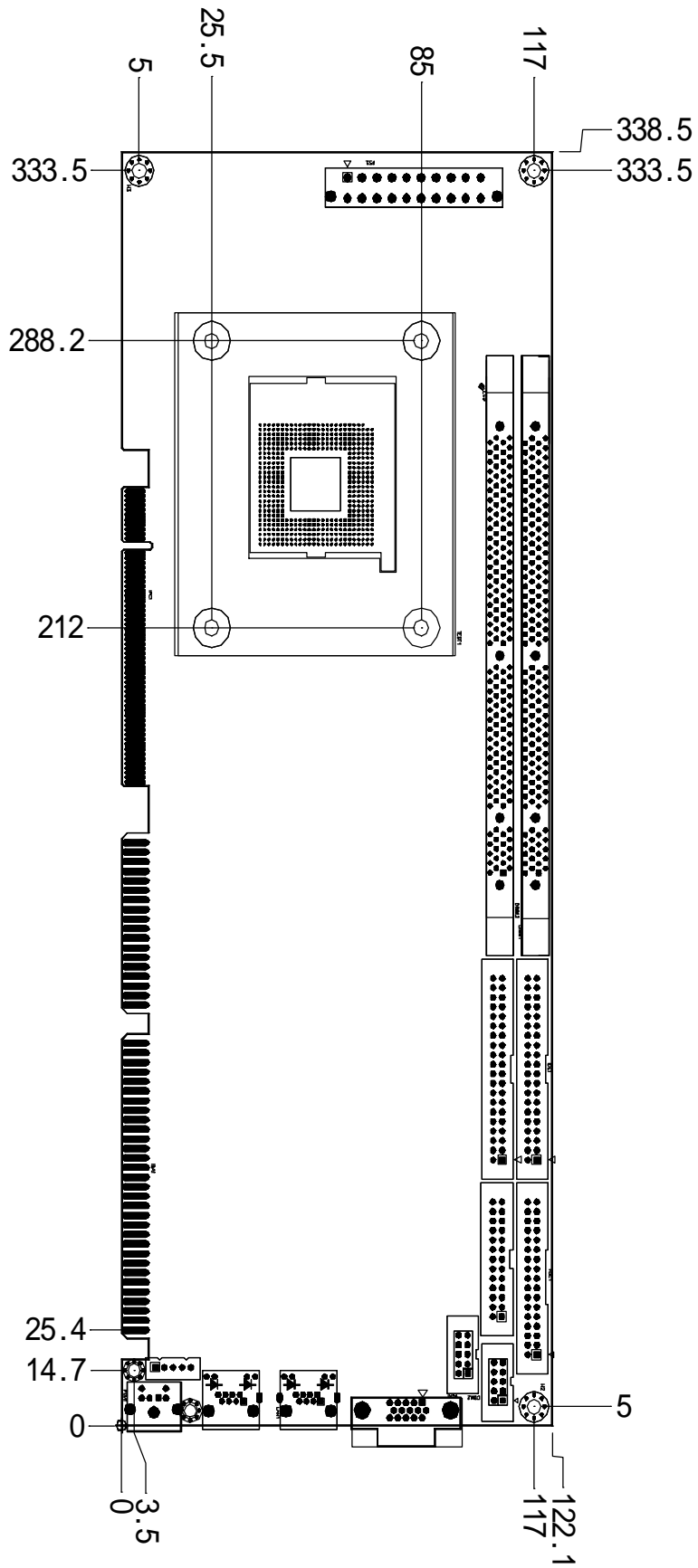
Processor	Intel Pentium® 4 processor
Chipset	Intel 845 chipset, (support SDRAM Version)
System Memory / RAM	Two DIMM sockets, support up to 2GB SDRAM
BIOS	AMI licensed BIOS (4M bit Flash ROM)
Flash Memory Disk	Reserved socket for DiskOnChip from M-System, support up to 144 MB flash memory disk
VGA Controller	ATI Rage 128 Ultra GL Pro (support 32MB SDRAM, Memory interface 128 bit, 4X AGP, 130MHz NV clock) Supporting Microsoft drivers Max. Resolution (32M SDRAM) : true color, 16.7 Million color 3D:1920x1200 2D:1920x1200 High color, 65K color 3D:1920x1200 2D:1920x1200
IDE Drive Interface	Two PCI IDE port support up to four IDE devices / Ultra DMA-33/66/100
Floppy Drive Interface	One FDD port, support up to two floppy devices
Serial Port	Two COM ports, one RS-232 and one RS-232/422/485
Parallel Port	One multi-mode parallel port (SPP / EPP / ECP)
Bus Interface	PCI/ISA bus (PICMG 2.0)
RTC	Internal RTC with LI Battery
Keyboard/Mouse Connector	6-pin mini-Din PS/2 keyboard/mouse connector and 5-pin keyboard header
Watchdog Timer	16-level time-out intervals for software
Universal Serial Bus	Support USB header
IR Interface	Support IrDA header
Health Monitoring	On-board hardware monitoring function
Operating Temperature	0 °C~60 °C
Storage Temperature	-20 °C~70 °C
Humidity	5%~95% RH, non-condensing
Dimensions	185 x 122 mm 0.5 mm
EMI/EMS	EN 50081-1/1994>EN 55022/1997> EN 61000-3-2/1995>EN 61000-3-3/1995, EN 50082-1/1994>IEC 1000-4-2/1995, IEC 1000-4-3/1995, IEC 1000-4-4/1995

1.4 Unpack your IAC-F845 Series and Accessory

Before you begin to install your card, please make sure that you received the following materials as listed below:

- | | |
|-----------------------------------|--|
| + IAC-F845 Series SBC x 1 pc | Single Board Computer |
| + Keyboard and Mouse Cable x 1 pc | 6pin Mini-Din PS/2 connector to 6pin PS/2 K/B+6pin PS/2 Mouse Cable |
| + LPT/COM cable x 1 pc | 26-pin to 25-pin Printer Cable with Bracket |
| + COM1/COM2 x 1pc | Two COM Cable with Bracket |
| + ATX Feature Cable x 1 pc | 4-pin 40cm cable |
| + IDE Cable x 1 pc | DMA-100 80pin IDE Cable |
| + FDD Cable x 1 pc | 34 to 34-pin Standard Header Flat Ribbon Cable |
| + Power Adapter Cable x 1 pc | Convert 2 peripheral power connectors to one +12V power connector on IAC-F845 (Before using this cable please check whether the power supply could supply enough current of +12V in your system) |
| + Driver Utility CD-ROM x 1 pc | Drivers & Utilities |
| + User's Manual x 1 pc | This User's Manual |

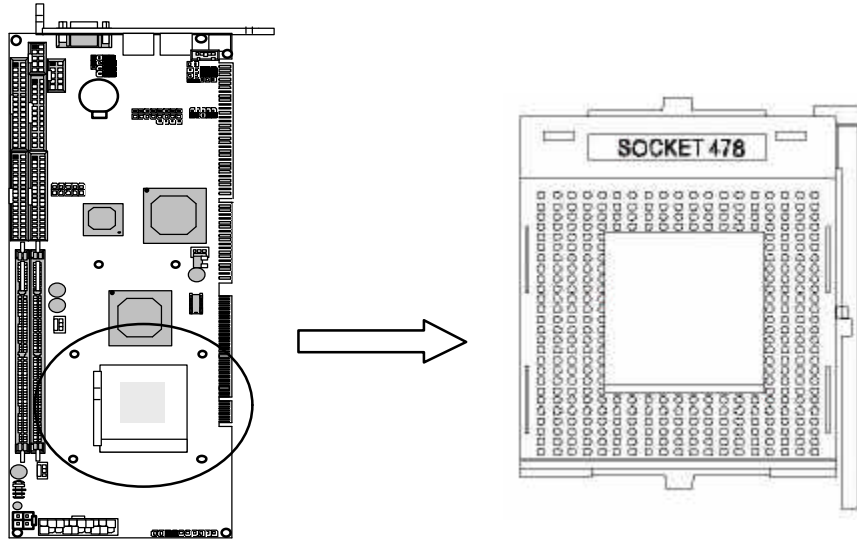
1.5 Board Layout



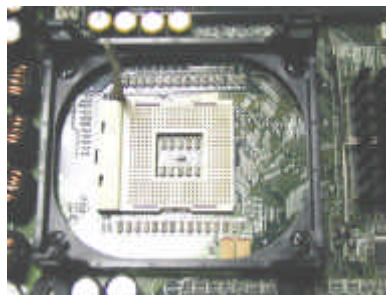
Chapter 2 Installation

2.1 Hardware Setup and Installation

2.1.1 CPU Installation and Upgrading



STEP1: Locate the ZIP Socket and open it by first pulling the lever of socket upward.



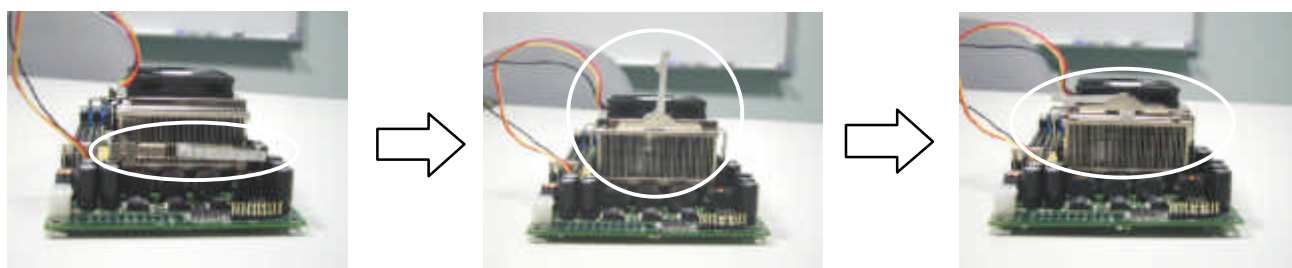
STEP2: Inset the CPU into the socket, Please keep the lever right angle when inserting CPU. When inserting the CPU please note the correct orientation as shown. The notched corner should point toward the end of the lever.



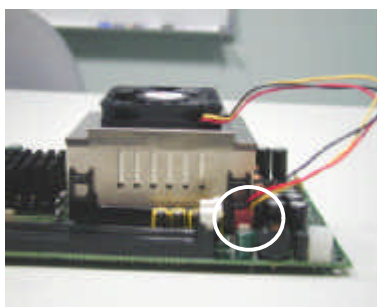
STEP3: Push the lever down to close the socket.



STEP4: Attach the heat sink onto the CPU and close the levers to fix the attachment.



STEP5: Finally attach the FAN cable to the CPU FAN header.

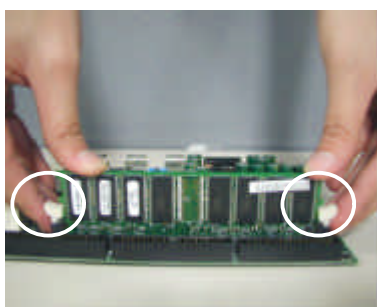


2.1.2 System Memory Installation

STEP1: Open latches of DIMM socket.

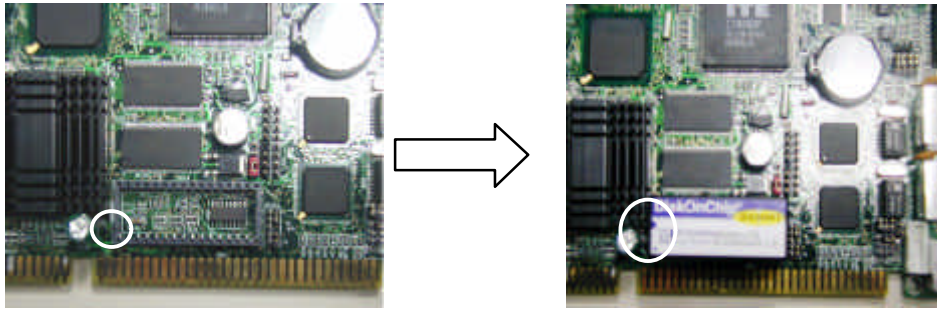
STEP2: Insert the RAM module into the DIMM socket.

STEP3: Press the latches into the notches of the RAM module.



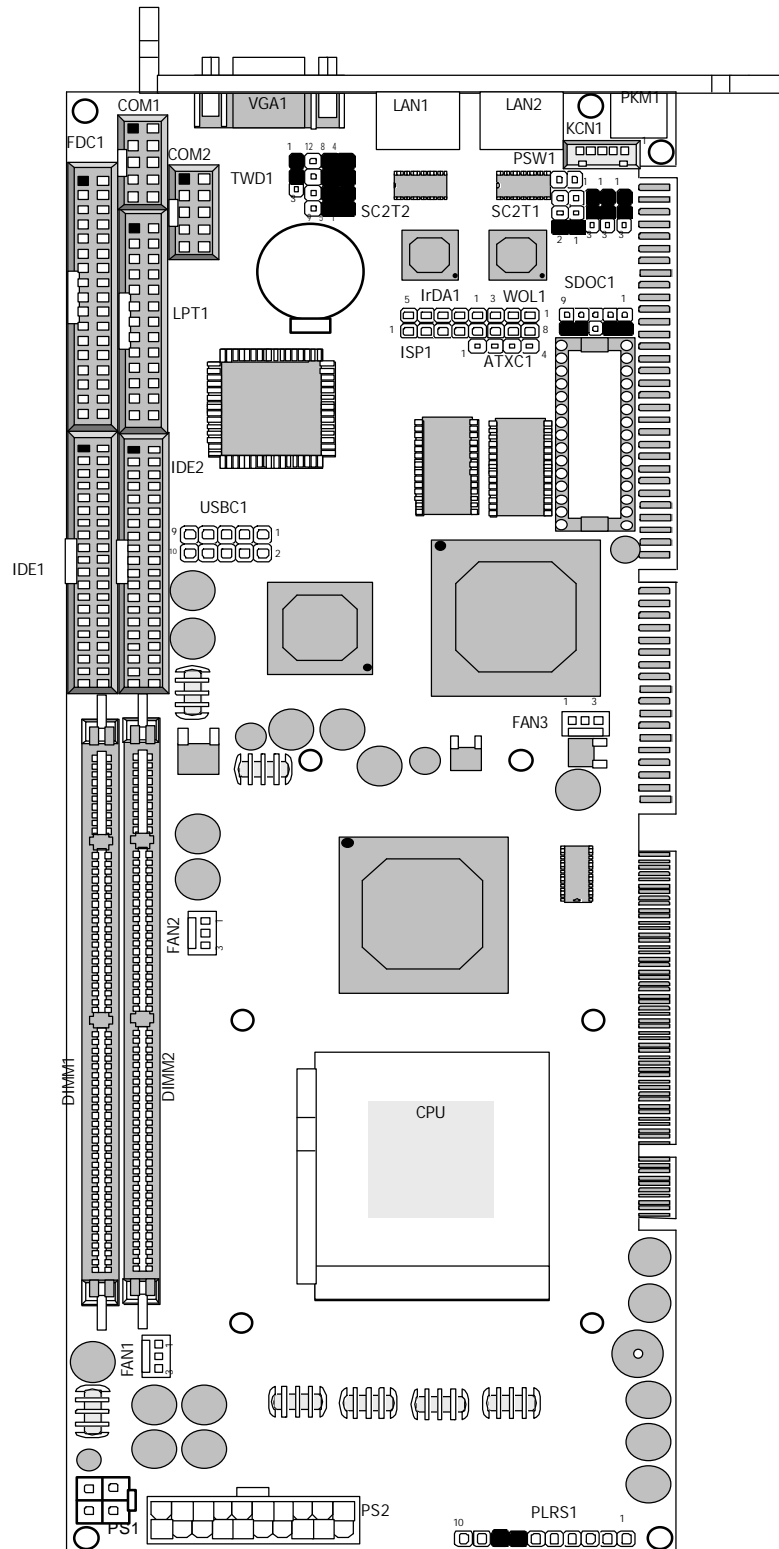
2.1.3 DiskOnChip Installation

Please make sure the central polarization key on the socket, and place the DiskOnChip as the same direction.



2.2 Jumper Settings and Connectors

2.2.1 Board outline



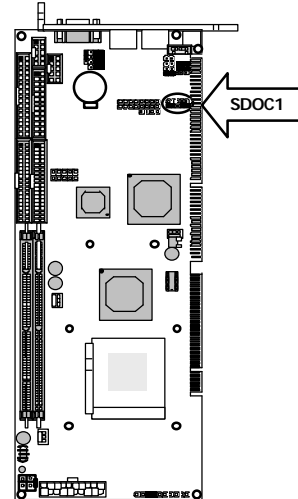
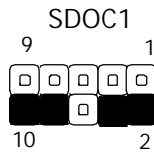
2.2.2 Jumper Settings Summary

JUMPER	Function
SDOC1	Select DiskOnChip (Flash Disk) & SRAM Address
CMOS1	Clear CMOS Data
TWD1	Select Watch-Dog Time of Period
SC2T1, SC2T2	Select COM2 Type
JP1/2	Manufacture default

✦ SDOC1: Select Disk On Chip (Flash Disk) & SRAM Address

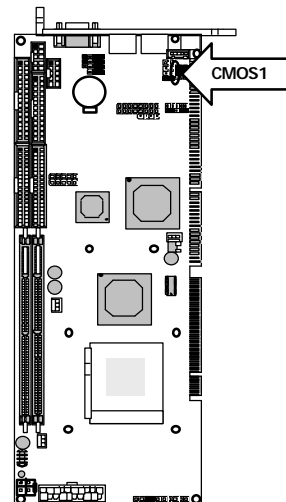
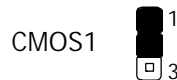
Flash Disk Address	SDOC1
C800H~C9FFH	1-2,7-8
CC00H~CDFFH	1-2,9-10
D000H~D1FFH	3-4,7-8
D400h~D5FFH	3-4,9-10
D800H~D9FFH	5-6,7-8
DC00H~DDFFH	5-6,9-10

Default : 2-4,8-10



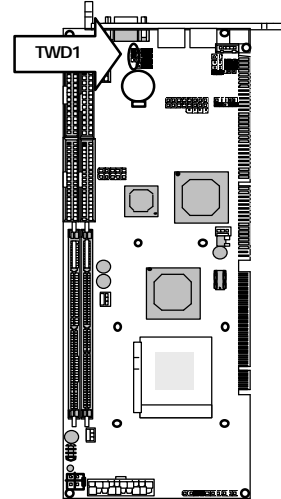
✦ CMOS1: Clear CMOS Data

Description	CMOS1
Normal (Default)	1-2
Clear CMOS	2-3



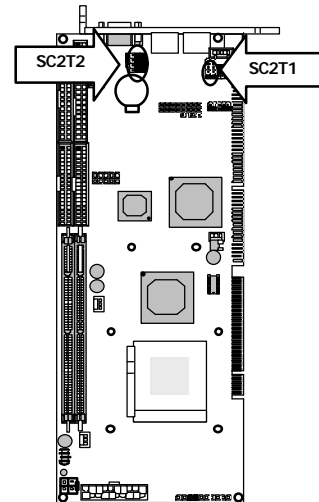
✦ **TWD1: Select Watch-Dog Time of Period**

Description	TWD1
2sec (Default)	1-2
8sec	2-3



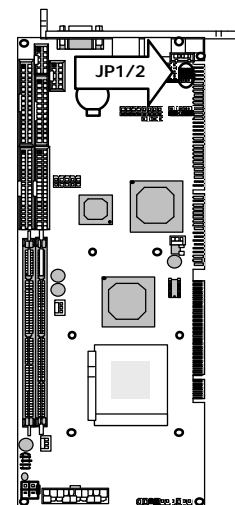
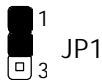
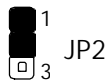
✦ **SC2T1/SC2T2 : Select COM2 Type**

COM2 Type	SC2T1	SC2T2
RS-232 (Default)	1-2	1-5,2-6,3-7,4-8
RS-422	3-4	5-9,6-10,7-11,8-12
RS-485	5-6	5-9,6-10,7-11,8-12



✦ **JP1/JP2: Manufacture default Setup**

default Setup
 JP1:(1-2)
 JP2:(1-2)

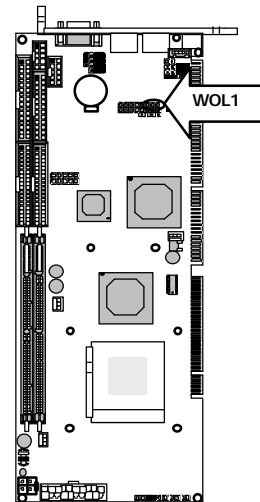


2.2.3 I/O Connector Summary

CONNECTOR	FUNCTION
WOL1	Wake on LAN by External PCI Card
ATXC1	ATX Power Control connector
IrDA1	Alternate IrDA
PLRS1	Power LED, Reset, Speaker Connector
ISP1	ISP GAL Connector (Factory only)
USBC1	USB Port #1 & #2 Connector
KCN1	KB Connector (5-Pin Wafer)
PSW1	ATX Power Button
PKM1	Keyboard & Mouse Connector (Min Din)
VGA1	VGA Connector (D-Sub Connector)
COM1	RS232 Serial Port #1 Connector (Header)
COM2	Serial Port #2 Connector (Header)
LPT1	Parallel Port Connector (Header)
IDE1 / IDE2	IDE Connector (Header)
FDC1	Floppy Interface Connector (Header)
PS1	ATX Power Connector for CPU
FAN1/2/3	Fan Connector
LAN1/2	LAN Connector

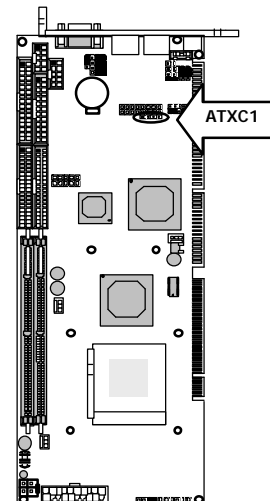
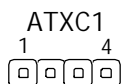
✦ WOL1: WAKE ON LAN by External PCI Card

Pin No.	Description
1	PME-
2	GND
3	Stand-BY 5V



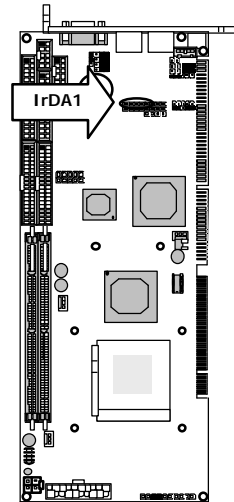
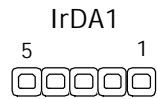
✦ ATXC1: ATX Power control connector

Pin No.	Description
1	GND
2	Stand-By 5V
3	GND
4	Power-on



✦ IrDA1 : Alternate IrDA

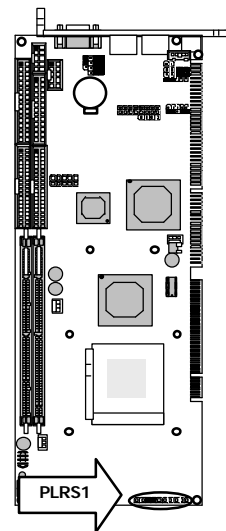
Pin No.	Description
1	VCC
2	NC
3	IRRX
4	GND
5	IRTX



✦ PLRS1 : Power LED, Reset, Speaker Connector

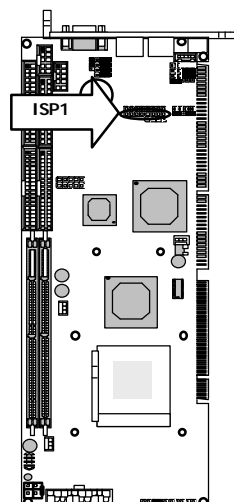
Pin No.	Description
1	Power LED +
2	GND
3	HDD LED +
4	HDD LED -
5	RESET SW +
6	RESET SW - (GND)
7	External Speaker -
8	Internal Buzzer -
9	NC
10	External Speaker +

Default :7-8 (ON)Internal Buzzer



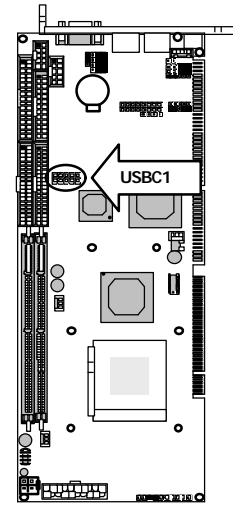
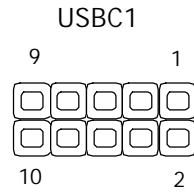
✦ ISP1: ISP GAL Connector (Factory only)

Pin No.	Description
1	VCC
2	SDO
3	SDI
4	ISP
5	NC
6	MODE
7	Ground
8	SCLK

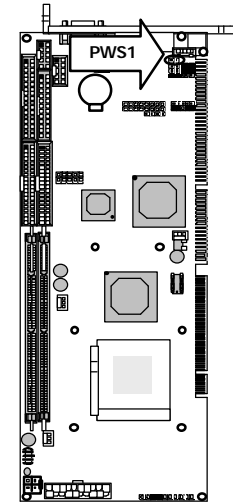
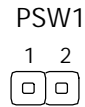


✦ **USBC1 : USB Port #1 & #2 Connector**

Pin No.	Description	Pin No.	Description
1	USB 1 VCC	2	USB 2 VCC
3	USBDT0-	4	USBDT1-
5	USBDT0+	6	USBDT1+
7	GND	8	GND
9	USB GND	10	USB GND

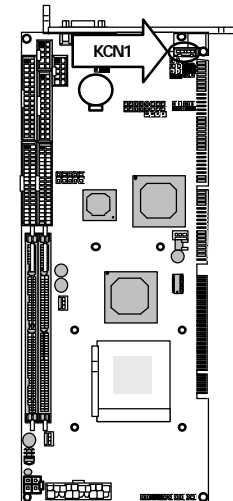
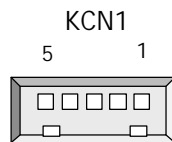


✦ **PSW1: ATX Power Button**



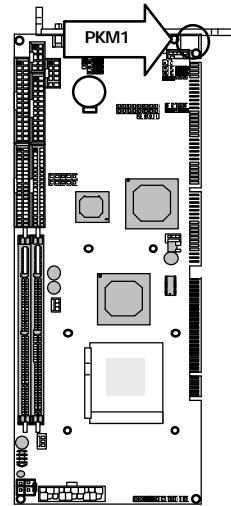
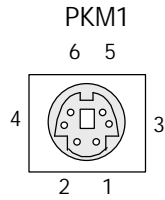
✦ **KCN1: 5 Pin Keyboard Cable Connector**

Pin No.	Description
1	Keyboard Clock
2	Keyboard Data
3	NC
4	Ground
5	Standy-By 5V



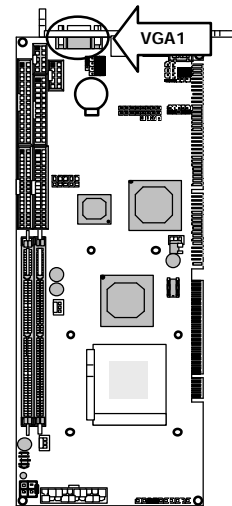
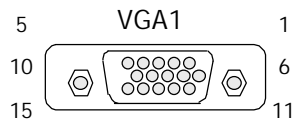
✦ **PKM1 : Keyboard & Mouse Connector (Mini Din)**

Pin No.	Description
1	Keyboard Data
2	Mouse Data
3	Ground
4	Standy-By 5V
5	Keyboard Clock
6	Mouse Clock



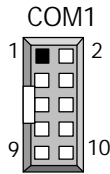
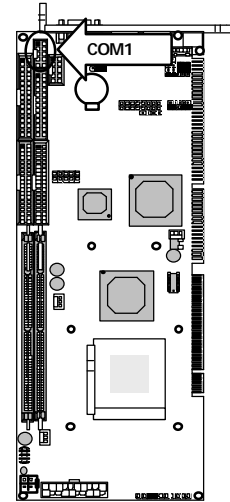
✦ **VGA1 : VGA Connector**

Pin No.	Description
1	Red Color Signal
2	Green Color Signal
3	Blue Color Signal
4	NC
5	Ground
6	Ground
7	Ground
8	Ground
9	NC
10	Ground
11	NC
12	DDC-DATA
13	H-Sync.
14	V-Sync.
15	DDC-CLK



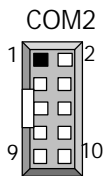
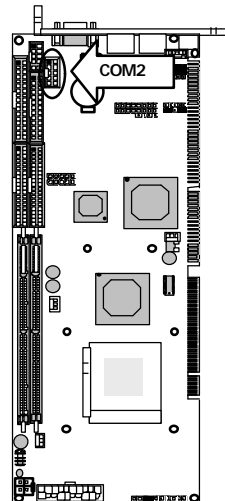
✦ **COM1: RS-232 Serial Port #1 Connector (Header)**

Pin No.	Description
1	Data Carrier Detect (DCDA #)
2	Data Set Ready (DSRA #)
3	Receive Data (RXDA)
4	Request To Send (RTSA #)
5	Transmit Data (TXDA)
6	Clear To Send (CTSA #)
7	Data Terminal Ready (DTRA #)
8	Ring Indicator (RIA #)
9	Ground (GND)
10	NC



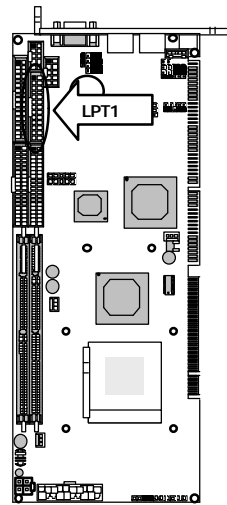
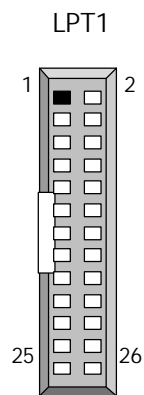
✦ **COM2 : Serial Port #2 Connector (Header)**

Pin No.	Description		
	RS-232	RS-422	RS-485
1	Data Carrier Detect (DCDB #)	Transmit Data- (TXD-)	Data -
2	Data Set Ready (DSRB #)	NC	NC
3	Receive Data (RXDB)	Transmit Data+ (TXD+)	Data +
4	Request To Send (RTSB #)	NC	NC
5	Transmit Data (TXDB)	Receive Data+ (RXD+)	NC
6	Clear To Send (CTSB #)	NC	NC
7	Data Terminal Ready (DTRB #)	Receive Data- (RXD-)	NC
8	Ring Indicator (RIB #)	NC	NC
9	Ground	NC	NC
10	NC	NC	NC



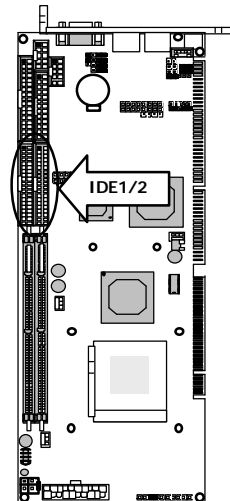
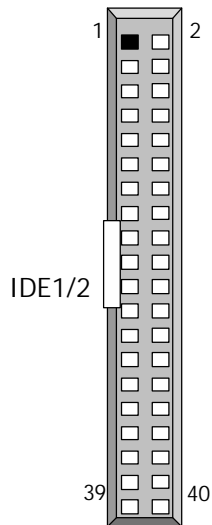
✦ LPT1 : Parallel Connector (Header)

Pin No.	Description	Pin No.	Description
1	Strobe #	2	Auto Form Feed
3	Data0	4	Error #
5	Data1	6	Initialize #
7	Data2	8	Printer Select IN #
9	Data3	10	Ground
11	Data4	12	Ground
13	Data5	14	Ground
15	Data6	16	Ground
17	Data7	18	Ground
19	Acknowledge #	20	Ground
21	Busy	22	Ground
23	Paper Empty	24	Ground
25	Printer Select	26	NC



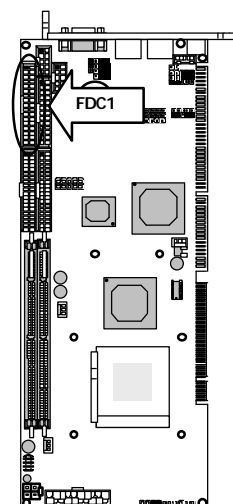
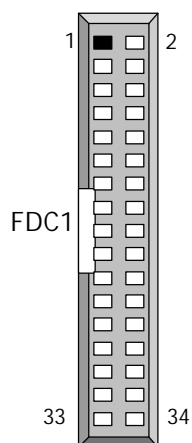
✦ IDE1/IDE2: IDE Connector (Header)

Pin No.	Description	Pin No.	Description
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	NC
21	DMA REQ	22	Ground
23	IOW #	24	Ground
25	IOR #	26	Ground
27	IOCHRDY	28	Ground
29	DMA ACK #	30	Ground
31	Interrupt	32	NC
33	SA1	34	PD80P/SD80P
35	SA0	36	SA2
37	HDC CS0 #	38	HDC CS1 #
39	HDD Active LED #	40	Ground



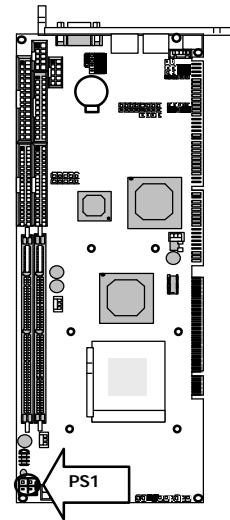
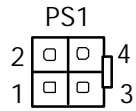
✦ FDC1: Floppy Interface Connector (Header)

Pin No.	Description	Pin No.	Description
1	Ground	2	Density Select
3	Ground	4	NC
5	Ground	6	NC
7	Ground	8	Index #
9	Ground	10	Motor Enable A #
11	Ground	12	Drive Select B #
13	Ground	14	Drive Select A #
15	Ground	16	Motor Enable B #
17	Ground	18	Direction #
19	Ground	20	Step #
21	Ground	22	Write Data #
23	Ground	24	Write Gate #
25	Ground	26	Track 0 #
27	Ground	28	Write Protect #
29	NC	30	Read Data #
31	Ground	32	Head Side Select #
33	NC	34	Disk Change #



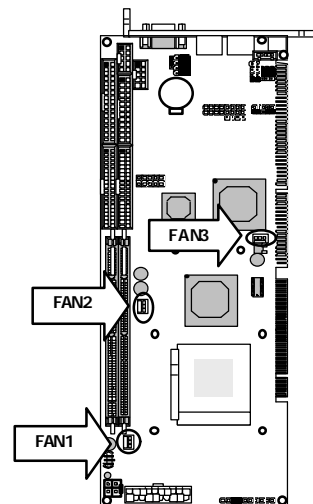
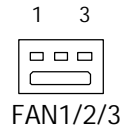
✦ **PS1: ATX Power Connector For CPU**

Pin No.	Description
1	GND
2	GND
3	+12V
4	+12V



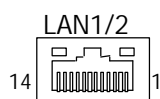
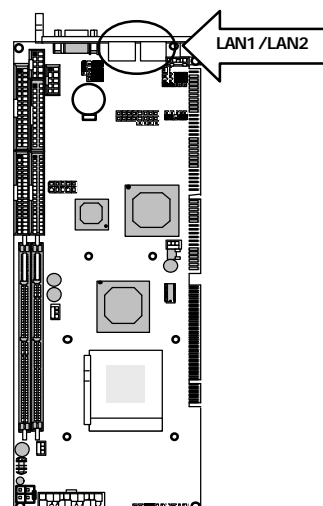
✦ **FAN1/ FAN2 /FAN3: FAN Connector**

Pin No.	Description
1	Ground
2	+12V
3	FAN Status



✦ LAN1 /LAN2: LAN CONNECTOR

Pin No.	Description
1	TX+
2	TX-
3	RX+
4	T45
5	T45
6	RX-
7	T78
8	T78
9	Link LED-
10	Link LED+
11	ACT LED-
12	ACT LED+
13	LGND
14	LGND



Chapter 3 BIOS Setup

The AMI's ROM BIOS provides a built-in Setup program that allows user to modify the basic system configuration and settings. The modified data will be stored in a battery-backed CMOS RAM so that these data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM stay unchanged unless there is configuration change in the system, such as hard drive replacement or new equipment is installed. AMI is a registered trademark of the American Megatrends, Inc.

3.1 Running AMI BIOS

The Setup Utility is stored in the BIOS ROM. When the power of the computer system is turned on, a screen message appears to give you an opportunity to call up the Setup Utility; while the BIOS will enter the Power On Self Test (POST) routines. The POST routines perform various diagnostic checks while initializing the board hardware. If the routines encounter an error during the tests, the error will be reported in either of the two different ways – (1) hear a series of short beeps, or (2) see an error message on the screen display. There are two kinds of error: fatal or non-fatal. The system can usually continue to boot up sequence with the non-fatal errors. Non-fatal error messages usually appear on the screen along with the following instructions:

" Press <F1> to RESUME "

Write down the message and press the F1 key to continue the bootup sequence. After the POST routines are completed, the following message appears:

" Press DEL to enter SETUP "

Entering Setup

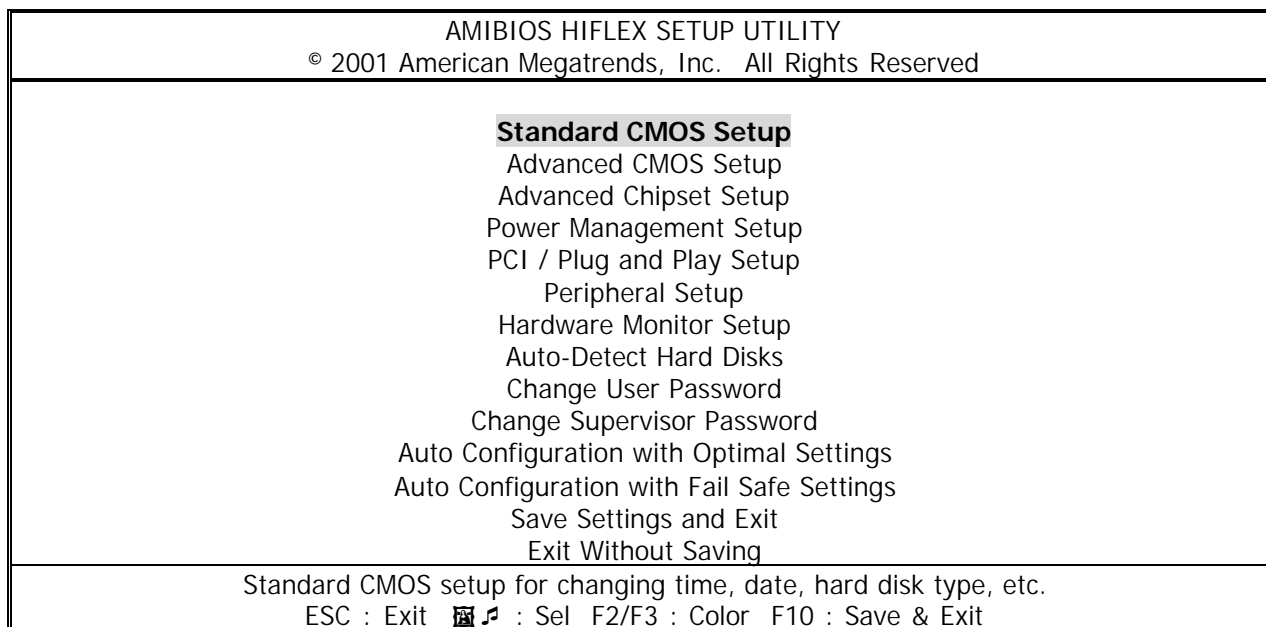
Turn on the power of the computer system and press immediately. If you don't have the chance to respond, reset the system by simultaneously typing the <Ctrl>, <Alt> and <Delete> keys, or by pushing the ' Reset ' button on the system cabinet. You can also restart by turning the system OFF then ON.

Note: BIOS versions are regularly updated from time to time without notices. Therefore, the options available in your setup screen may differ from the options shown in this manual.

3.2 AMI BIOS HIFLEX Setup Utility

To access the AMI BIOS HIFLEX SETUP UTILITY program, press the key. The screen display will appear as:

Main Program Screen



This screen provides access to the utility's various functions.

Listed below are the explanation of the keys displayed at the bottom of the screen:

<ESC> : Exit the utility.

⏴ ⏵ : Use arrow keys ⏴ ⏵ to move cursor to your desired selection.

<F2> / <F3> : Changes background and foreground colors.

<F10> : Saves all changes made to Setup and exits program.

Standard CMOS Setup: Use this menu for basic system configurations, such as time, date etc.

Advanced CMOS Setup: Use this menu to specify your settings for Advance CMOS.

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

Power Management Setup: Use this menu to specify your settings for power management.

PCI / Plug and Play Setup: Use this menu to specify your settings for PCI/Plug and Play.

Peripheral Setup: Use this menu to specify your settings for integrated peripherals.

Hardware Monitor Setup: This entry shows your PC's current status, and allows you to adjust CPU clock ratio etc.

Auto-Detect Hard Disks: Use this menu to automatically detect the characteristics of most hard drives.

Change User Password: Use this menu to set User Password.

Change Supervisor Password: Use this menu to set Supervisor Password.

Auto Configuration with Optimal Settings: This option allows you to load the default values to your system configuration. These default settings are optimal and enable all high performance features.

Auto Configuration with Fail Safe Settings: This option allows you to load the troubleshooting default values permanently stored in the BIOS ROM. These default settings are non-optimal and disable all high-performance features.

Save Settings and Exit: Save changes to CMOS and exit setup.

Exit Without Saving: Abandon all changes and exit setup.

3.3 Standard CMOS Setup

When you select the "STANDARD CMOS SETUP" on the main program, the screen display will appear as:

Standard CMOS Setup Screen

AMIBIOS SETUP – STANDARD CMOS SETUP											
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Date (mm/dd/yyyy)	: Mon Dec 10, 2001					Base Memory	: 639KB				
Time (hh/mm/ss)	: 14:25:00					Extd Memory	: 1023MB				
Floppy Drive A :	1.44 MB 3 ¹ / ₂										
Floppy Drive B :	Not Installed										
	Type	Size	Cyln	Head	WPcom	Sec	LBA Mode	Blk Mode	PIO Mode	32 Bit Mode	
Pri Master	: Auto									On	
Pri Slave	: Not Installed										
Sec Master	: Not Installed										
Sec Slave	: Not Installed										
Boot Sector Virus Protection	Disabled										
Month	: Jan - Dec						ESC:Exit	: Sel			
Day	: 01 - 31						PgUp/PgDn:	Modify			
Year	: 1980 - 2099						F1: Help	F2/F3:Color			

Standard CMOS Setup options are displayed by choosing the Standard field from the AMIBIOS HIFLEX SETUP menu. All Standard Setup options are described below.

Date: This allows you to set the system to the date that you want (usually the current date). The format is <day><month><date><year>.

Day	Day of the week, from Sun to Sat, determined by BIOS. Read-only.
Month	The month from Jan. through Dec.
Date	The date from 1 to 31 can be keyed by numeric function keys.
Year	The year can be adjusted by users.

Time: This allows you to set the system time that you want (usually the current time). The time format is <hour><minute><second>.

Pri Master/ Pri Slave: Press PgUp/<+> or PgDn/<-> to select the hard disk drive type. The specification of hard disk drive will show up on the right hand according to your selection.

Type	Type of the device.
Size	Capacity of the device.
Cyln	Number of cylinders.
Head	Number of heads.
WPcom	Write precompensation cylinder.
Sec	Number of sectors.
Mode	Access mode.

Floppy Drive A, B: Choose the Floppy Drive A or B field to specify the floppy drive type. The settings are 360 KB 5¹/₄", 1.2 MB 5¹/₄", 720 KB 3¹/₂", 1.44 MB 3¹/₂", or 2.88 MB 3¹/₂".

Boot Sector Virus Protection: The item is to set the Virus Warning feature for IDE Hard Disk boot sector protection. When *Enabled*, BIOS will issue a virus warning message and beep if a write to the boot sector or the partition table of the HDD is attempted. Setting options: *Disabled* and *Enabled*.

Note: This feature only protects the boot sector, not the whole hard disk.

3.4 Advanced CMOS Setup

When you select the "ADVANCED CMOS SETUP" on the main program, the screen display will appear as: **Advanced CMOS Setup Screen**

AMIBIOS SETUP – ADVANCED CMOS SETUP ©2001 American Megatrends, Inc. All Rights Reserved		
Quick Boot	Enabled	Available Options:
1st Boot Device	FLOPPY	Disabled
2nd Boot Device	IDE-0	Enabled
3rd Boot Device	CDROM	Cached
Try Other Boot Devices	Yes	
S.M.A.R.T. for Hard Disks	Enabled	
BootUp Num-Lock	On	
Floppy Driver Swap	Disabled	
Floppy Drive Seek	Disabled	
PS/2 Mouse Support	Enabled	
Primary Display	VGA/EGA	
Password Check	Setup	
L1 Cache	Enabled	
L2 Cache	Enabled	
System BIOS Cacheable	Enabled	
C000, 32K Shadow	Cached	
C800, 16K Shadow	Disabled	
CC00, 16K Shadow	Disabled	
D000, 16K Shadow	Disabled	
D400, 16K Shadow	Disabled	ESC : Exit : Sel
D800, 16K Shadow	Disabled	PgUp/PgDn : Modify
DC00, 16K Shadow	Disabled	F1: Help F2/F3: Color

Note : The above page of the Advanced CMOS Setup only shows part of the related options. To proceed to the next options, please move your cursor downwards.

Advanced Setup options are displayed by choosing the Advanced icon from the WINBIOS Setup main menu. All Advanced Setup options are described in this section.

Quick Boot: Setting the item to Enabled allows the system to boot within 5 seconds by skipping some check items. Settings: Enabled and Disabled.

1st/2nd/3rd Boot Device: The items allow you to set the sequence of boot devices where AMIBIOS attempts to load the operation system. Possible settings are:

- IDE-0 : The system will boot from the first HDD.
- IDE-1 : The system will boot from the second HDD.
- IDE-2 : The system will boot from the third HDD.
- IDE-3 : The system will boot from the fourth HDD.
- Floppy : The system will boot from floppy drive.
- ARMD-FDD : The system will boot from any ARMD device, such as LS-120 or ZIP drive, that functions as a floppy drive.
- ARMD-HDD : The system will boot from ARMD device, such as MO or ZIP drive, that functions as hard disk drive.
- CDROM : The system will boot from the CD-ROM.
- SCSI : The system will boot from the SCSI.
- NETWORK : The system will boot from the Network drive.
- BBS-0 : The system will boot from the first BBS (BIOS Boot Specification) compliant device.
- BBS-1 : The system will boot from the second BBS (BIOS Boot Specification) compliant device.
- BBS-2 : The system will boot from the third BBS (BIOS Boot Specification) compliant device.

- BBS-3 : The system will boot from the fourth BBS (BIOS Boot Specification) compliant device.
- Disabled : Disable this sequence.

Note: Available settings for "1st/2nd/3rd Boot Device " vary depending on the bootable devices you have installed. For example, if you did not install a floppy drive, the setting " Floppy" does not show up.

Try Other Boot Devices: Setting the option to yes allows the system to try to boot from other devices if the system fails to boot from the 1st/2nd/3rd Boot Device.

S.M.A.R.T. for Hard Disks: This allows you to activate the S.M.A.R.T. (Self-Monitoring Analysis & Reporting Technology) capability for the hard disks. S.M.A.R.T is a utility that monitors your disk status to predict hard disk failure. This gives you an opportunity to move data to a safe place before the hard disk becomes offline. Settings: Enabled and Disabled.

BootUp Num-Lock: Set this option to *Off* to turn the Num Lock key off when the computer is booted so you can use the arrow keys on both the numeric keypad and the keyboard. The settings are *On* or *Off*. The default setting is *On*.

Floppy Driver Swap: This field is effective only in systems with two floppy drives. Selecting Enabled assigns physical drive B to logical drive A, and physical drive A to logical drive B.

Floppy Drive Seek: Set this option to *Enabled* to specify that floppy drive A: will perform a Seek operation at system boot. The settings are *Disabled* or *Enabled*. The Optimal and Fail-safe default settings are *Disabled*.

PS/2 Mouse Support: When this option is set *Enabled*, AMIBIOS supports a PS/2 type mouse. The settings are *Enabled* or *Disabled*. The default setting is *Enabled*.

Primary Display: This option specifies the type of display monitor and adapter in the computer. The settings are *Mono*, *CGA40*, *CGA80*, *EGA/VGA* or *Absent*. The Optimal and Fail-Safe default settings are *EGA/VGA*.

Password Check: This option enables password checking every time the computer is powered on or every time WINBIOS Setup is executed. If *Always* is chosen, a user password prompt appears every time the computer is turned on. If *Setup* is chosen, the password prompt appears if WINBIOS is executed. The defaults setting are *Setup*.

L1 Cache: The option enabled or disabled the internal cache memory in the processor.

L2 Cache: The option enables secondary cache memory. If enabled is selected, external cache memory is enabled. If disabled is selected, external cache memory is disabled.

System BIOS Cacheable: When this option is set to Enabled, the contents of the F0000h system memory segment can be read from or written to L2 secondary cache memory. The contents of the F0000h memory segment are always copied from the BIOS ROM to system RAM for faster execution.

The settings are *Enabled* or *Disabled*. The default setting is *Enabled*.

C000, 32K Shadow
C800, 16K Shadow
CC00, 16K

Shadow
D000, 16K Shadow
D400, 16K Shadow
D800, 16K Shadow
DC00, 16K Shadow

These options control the location of the contents of the 16KB of ROM beginning at the specified memory location. If no adaptor ROM is using the named ROM area, this area is made available to the local bus. The settings are:

Setting	Description
Shadow	The contents of C0000h - C3FFFh are written to the same address in System memory (RAM) for faster execution.
Cache	The contents of the named ROM area are written to the same address in system memory (RAM) for faster execution, if an adaptor ROM will be using the named ROM area. Also, the contents of the RAM area can be read from and written to cache memory.
Disabled	The video ROM is not copied to RAM. The contents of the video ROM cannot be read from or written to cache memory.


The default setting is Cache.

In the AMIBIOS for the Intel Triton chipset, the E000h page is used as ROM during POST, but shadowing is disabled and the ROM CS# signal is disabled to make the E000h page available on the local bus.

3.5 Advanced Chipset Setup

When you select the "ADVANCED CHIPSET SETUP" on the main program, the screen display will appear as:

Advanced Chipset Setup Screen

AMIBIOS SETUP – ADVANCED CHIPSET SETUP		© 2001 American Megatrends, Inc. All Rights Reserved	
*****DRAM Timing*****			
SDRAM Frequency	Auto		
Configure SDRAM Timing by SPD	Enabled		
SDRAM CAS# Latency	3 Clocks		
SDRAM RAS# Precharge	3 Clocks		
SDRAM RAS# to CAS# Delay	3 Clocks		
SDRAM Precharge Delay	7 Clocks		
SDRAM Idle Timer	Infinite		
SDRAM Read Thermal Management	Disabled		
DRAM Integrity Mode	Disabled		
Memory Hole	Disabled		
APIC Interrupt Mode	Enabled		
MPS Revision	1.4		
AGP Aperture Size	64MB		
USB Port 0&1	Disabled		
USB Device Legacy Support	Disabled	ESC : Exit	 : Sel
Port 64/60 Emulation	Disabled	PgUp/PgDn :	Modify
		F1:Help	F2/F3 : Color

In the 'Advanced Chipset Setup' page, all options are predefined by the system board designer. Any attempt to change the parameter of the fields are not recommended.

SDRAM Frequency: This field displays the capability of the memory modules that you are using
--- Either PC100 or PC133

Configure SDRAM Timing by SPD: Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) EEPROM on the DRAM module. Setting to SPD enables CAS# Latency, RAS# Precharge, RAS# to CAS# Delay and Precharge Delay automatically to be determined by BIOS based on the configurations on the SPD. Selecting Manual allows users to configure these fields manually.

SDRAM CAS# Latency	This controls the timing delay(in clock cycles) before SDRAM starts a read command after receiving it. Settings are 3 Clocks and 2 Clocks. 2 Clocks increases the system performance while 3 Clocks provides more stable performance.
SDRAM RAS# Precharge	This item controls the number of cycles for Row Address Strobe(RAS) to be allowed to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system. Available settings: 3 Clocks and 2 Clocks.
SDRAM RAS# to CAS# Delay	This field allows you to set the number of cycle for a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from or refreshed. Fast speed offers faster performance while slow speed offers more stable performance. Settings: 3 Clocks and 2 Clocks.
SDRAM Precharge Delay	The field specifies the idle cycles before percharging an idle bank. Settings: 7 Clocks, 6 Clocks and 5 Clocks.

SDRAM Idle Timer: Specify the number of idle cycles to wait before precharging an idle-bank.

SDRAM Read Thermal Management: Setting to enabled will activate SDRAM Read Thermal Management feature settings: Enabled and Disabled.

DRAM Integrity Mode: This option sets the type of system memory checking. The settings are:

Setting	Description
Disable	No error checking or error reporting is done.
ECC	Multibit errors are detected and reported as parity errors. Single-bit errors are corrected by the chipset and are written back to DRAM system memory. If a soft (Correctable) memory error occurs, writing the fixed data back to DRAM system memory will resolve the problem. Most DRAM errors are soft errors. If a hard (uncorrectable) error occurs, writing the fixed data back to DRAM system memory does not solve the problem. In this case, the second time the error occurs in the same location, a Parity Error is reported, indicating an uncorrectable error. If <i>ECCI</i> is selected, AMIBIOS automatically enable the System Management interface (SMI) is enabled. If you do not want to enable power management, set the Power Management / APM option to <i>Disabled</i> and set all Power Management Setup timeout options to <i>Disabled</i> . To enable power management, set Power Management / APM to <i>enabled</i> and set the power management timeout options as desired.

Memory Hole: This option allows the end user to specify the location of a memory hole for memory space requirement from ISA-bus cards.

APIC Interrupt Mode: This field is used enabled or disabled the APIC(Advanced Programmable Interrupt Controller). Due to compliance with PC2001 design guide, the system is able to run in APIC mode. Enabling APIC mode will expand available IRQ resources for the system. Settings: Enabled and Disabled.

MPS Revision: This field allows you to select which MPS (Multi-Processor Specification) version to be used for the operating system. You need to select the MPS version supported by your operating system. To find out which version to use, consult the vendor of your operating systems. Settings:1.4 and 1.1.

AGP Aperture Size The field selects the size of the Accelerated Graphics Port(AGP) aperture. Aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. Settings are 4MB, 8MB, 16MB, 32MB, 64MB, 128MB and 256MB.

USB Port 0 & 1: Setting this option to activate USB port 0 & 1


USB Device Legacy Support: This field support Universal Serial Bus (USB) devices. If detected, USB controller legacy mode will be enabled. If not detected, USB controller legacy mode will be disabled.

Port 64/60 Emulation: Setting this option to allow a USB Keyboard to act like a legally keyboard.

3.6 Power Management Setup

The "Power Management Setup" controls the CPU card's "Green" features. When you select the "POWER MANAGEMENT SETUP" on the main program, the screen display will appear as:

Power Management Setup Screen

AMIBIOS SETUP – POWER MANAGEMENT SETUP			
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ACPI Function	Disabled		
Power Management /APM	Enabled		
Video Power Down Mode	Stand By		
Hard Disk Power Down Mode	Stand By		
Standby Time Out (Minute)	Disabled		
Throttle Slow Clock Ratio	50.0%		
FDC / LPT/ COM Ports	Monitor		
Primary Master IDE	Monitor		
Primary Slave IDE	Ignore		
Secondary Master IDE	Monitor		
Secondary Slave IDE	Ignore		
Power Button Function	On/Off		
Restore On AC/Power Loss	Power On		
Resume On PME#/ LAN	Enabled		
Resume On RTC Alarm	Disabled		
RTC Alarm Date	15		
RTC Alarm Hour	12	ESC : Exit	 : Sel
RTC Alarm Minute	30	PgUp/PgDn :	Modify
RTC Alarm Second	30	F1:Help	F2/F3 : Color

Power Management Setup options are displayed by choosing the Power Management field from the WINBIOS Setup main menu. All Power Management Setup options are described in this section.

ACPI Function: This item is to activate the ACPI (Advanced Configuration and Power Management Interface) Function. If your operating system is ACPI-aware, such as Windows 98SE/2000/ME, select Enable. Settings: Enable and Disable.

Power Management /APM: Setting to Enabled will activate the Advanced Power Management (APM) feature to enhance power saving modes. Settings: Enabled and Disabled.

Video Power Down Mode: This option specifies the power conserving state that the VESA VGA video subsystem enters after the specified period of display inactivity has expired.

Hard Disk Power Down Mode: This option specifies the power conserving state that the hard disk drive enters after the specified period of hard drive inactivity has expired. The settings are *Standby, or Suspend*.

Standby Time Out (Minute): This option specifies the length of the period of system inactivity while the computer is in Full-On power state before the computer is placed in Standby mode. When this length of time expires, the computer enters Standby Timeout state. In Standby mode, some power use is curtailed.

Throttle Slow Clock Ratio: This option specifies the speed at which the system clock runs in power saving modes. The settings are expressed as duty cycle of the STPCLK# signal. This duty cycle indicates the percentage of time the STPCLK# signal is asserted while in the throttle mode.

FDC / LPT/ COM Ports, Primary Master IDE, Primary Slave IDE, Secondary Master IDE, Secondary Slave IDE: These items specify if the BIOS will monitor the activity of the listed hardware peripheral or component. If set to Monitor, any activity detected on the specified hardware peripheral or component will wake up the system or prevent the system from entering the power saving modes. Settings: Monitor and Ignore.

Power Button Function: This feature sets the function of the power button. Settings:

- On/Off The power button functions as normal on/off button.
- Suspend When you press the power button, the computer enters the suspend/sleep mode, but if the button is pressed for more than four seconds, the computer is turned off.

Restore on AC/ Power Loss: This setting specifies whether your system will reboot after a power failure or interrupt occurs. Available settings are:

- Power Off Leaves the computer in the power off state.
- Power On Reboots the computer.
- Last State Restores the system to the status before power failure or interrupt occurs.

Resume On PME/LAN: When setting to Enabled, this feature allow your system to be awakened from the power saving modes through an incoming call from a signal from the LAN, or any event on PME (Power Management Event). Settings: Enabled and Disabled.

Note: You need to install a LAN card supporting power on function for Resume on PME/LAN function.

Resume On RTC Alarm: This is used to enable or disable the feature of booting up the system on a schedule time/ date. Settings: Enabled and Disabled.


Alarm Date/Hour/Minute/Second: If Resume On RTC Alarm is set to Enabled, the system will automatically resume (boot up) on a specific date/hour/minute/second specified in these fields. Available settings for each item are:

- Alarm Date 01~31, Every Day
- Alarm Hour 00~23
- Alarm Minute 00~59
- Alarm Second 00~59

3.7 PCI Plug and Play Setup

Both the ISA and PCI buses on the CPU card use system IRQs & DMAs. You must set up the IRQ and DMA assignments correctly through the PCI / Plug and Play Setup utility, otherwise the SBC will not work properly. When you select the "PCI / PLUG AND PLAY SETUP" on the main program, the screen display will appear as:

PCI / Plug and Play Setup Screen

AMIBIOS SETUP – PCI / PLUG AND PLAY SETUP		
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Plug and Play Aware O/S	No	
Reset Configuration Data	No	
PCI Latency Timer (PCI Clocks)	32	
Primary Graphics Adapter	PCI	
PCI VGA Palette Snoop	Disabled	
OffBoard PCI IDE Card	Auto	
OffBoard PCI IDE Primary IRQ	Disabled	
OffBoard PCI IDE Secondary IRQ	Disabled	
PCI Slot1 IRQ Priority	Auto	
PCI Slot2 IRQ Priority	Auto	
PCI Slot3 IRQ Priority	Auto	
PCI Slot4 IRQ Priority	Auto	
DMA Channel 0	PnP	
DMA Channel 1	PnP	
DMA Channel 3	PnP	
DMA Channel 5	PnP	
DMA Channel 6	PnP	
DMA Channel 7	PnP	
IRQ3	ISA / EISA	
IRQ4	ISA / EISA	
IRQ5	PCI / PnP	
IRQ7	ISA / EISA	
IRQ9	PCI / PnP	
IRQ10	PCI / PnP	
IRQ11	PCI / PnP	
IRQ14	PCI / PnP	
IRQ15	PCI / PnP	
Reserved Memory Size	Disabled	
Reserved Memory Address	C8000	
		ESC : Exit  : Sel PgUp/PgDn : Modify F2/F3 : Color

PCI/PnP Setup options are displayed by choosing the PCI/PnP Setup icon from the WINBIOS Setup main menu. All PCI/PnP Setup options are described in this section.

Plug and Play Aware O/S: Set this option to " Yes" if the operation system installed in the computer is Plug and Play-aware. BIOS only detects and enables PnP ISA adapter cards that are required for system boot. The Windows 95 operating system detects and enables all other PnP-aware adapter cards. Windows 95 is PnP-aware. Set this option to " No" if the operating system (such as DOS, OS/2, Windows 3.x) does not use PnP.

Reset Configuration Data: This option allows the BIOS to reset the Configuration Data in the BIOS. The optimal an Fail-Safe default settings is No.

Option	Description
No	This setting preserves the PnP data. It does not force the PnP data to be cleared on boot. This is the default setting.
Yes	This option allows the PnP data to be rebuilt by the BIOS at every boot.

PCI Latency Timer (PCI Clocks): This option is used to control PCI latency timer period (follow PCI clocks). Based on PCI specification 2.1 or later and PCI bus frequency in system, user can select different timer to meet their PCI bus environment.

Primary Graphics Adapter: Initialize the PCI video display card on a PCI slot before initialize any other display device on the system. Thus the PCI slot display card becomes the primary display. Available options are [PCI] and [AGP].

PCI VGA Palette Snoop: When this option is set to Enabled, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example: if there are two VGA devices in the computer (one PCI and one ISA) and:

VGA Palette Snoop Bit	Action
Disabled	Data read and written by the CPU is only directed to the PCI VGA device's palette registers.
Enabled	Data read and written by the CPU is directed to the both the PCI VGA device's palette registers and the ISA VGA device palette registers, permitting the palette registers of both devices to be identical.

This option must be set to Enabled if any ISA adapter card installed in the system requires VGA palette snooping. The Optimal and Fail-Safe default settings are Disabled.

OffBoard PCI IDE Card: This option specifies if an offboard PCI IDE controller adapter card is used in the computer. You must also specify the PCI expansion slot on the motherboard where the offboard PCI IDE controller card is installed. If an offboard PCI IDE controller is used, the motherboard onboard IDE controller is automatically disabled. The settings are Disabled, Auto, Slot1, Slot2, Slot3, Slot4, Slot5, or Slot6. If Auto is selected, AMIBIOS automatically determines the correct setting. The Optimal and Fail-Safe default settings are Auto. This option forces IRQ14 and 15 to a PCI slot on the PCI local bus. This is necessary to support non-compliant PCI IDE adapter cards.

OffBoard PCI IDE Primary IRQ: This option specifies the PCI interrupt used by the primary IDE channel on the offboard PCI IDE controller. The settings are Disabled, Hardwired, INTA, INTB, INTC, or INTD. The Optimal and Fail-Safe default settings are Disabled.

OffBoard PCI IDE Secondary IRQ: This option specifies the PCI interrupt used by the secondary IDE channel on the offboard PCI IDE controller. The settings are Disabled, Hardwired, INTA, INTB, INTC, or INTD. The Optimal and Fail-Safe default settings are Disabled.

PCI Slot1 IRQ Priority, PCI Slot2 IRQ Priority, PCI Slot3 IRQ Priority, PCI Slot4 IRQ Priority: These options specify the IRQ priority for PCI devices installed in the PCI expansion slots. The settings are Auto, (IRQ)3,4,5,7,9,10, and 11, in priority order. The Optimal and Fail-Safe default settings are Auto.

DMA Channel 0/1/3/5/6/7: These items specify the bus that the system DMA(Direct Memory Access) channel is used. The settings determine if AMIBIOS should remove a DMA from the available DMAs passed to devices that are configurable by the system BIOS. The available DMA pool is determined by reading the ESCD NVRAM. If more DMAs must be removed from the pool, the end user can reserve the DMA by assigning an ISA/EISA setting to it.

IRQ3/4/5/7/9/10/11/14/15: These items specify the bus where the specified IRQ line is used. The settings determine if AMIBIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the IRQ pool, the end user can use these settings to reserve the IRQ by assigning an ISA/EISA setting to it. Onboard I/O is configured by AMIBIOS. All IRQs used by onboard I/O are configured as PCI/PnP. If all IRQs are set to ISA/EISA, and IRQ14/15 are allocated to the onboard PCI IDE, IRQ9 will still be available for PCI and PnP devices. Settings: ISA/EISA and PCI/PnP.


Reserved Memory Size: This option specifies the size of the memory area reserved for legacy ISA adapter cards. The settings are Disabled, 16K,32, or 64K. The Optimal and Fail-Safe default settings are Disabled.

Reserved Memory Address: This option specifies the beginning address (in hex) of the reserved memory area. The specified ROM memory area is reserved for use by legacy ISA adapter cards. This option does not appear if the Reserved Memory Size option is set to Disabled. The settings are C0000,C4000,C8000,CC000,D0000,D4000,D8000,or DC000.

3.8 Peripheral Setup

When you select the "PERIPHERAL SETUP" on the main program, the screen display will appear as:

Peripheral Setup Screen

AMIBIOS SETUP – PERIPHERAL SETUP			
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OnBoard IDE	Both		
OnBoard FDC	Enabled		
OnBoard Serial Port 1	3F8/COM1		
OnBoard Serial Port 2	2F8/COM2		
Serial Port2 Mode	Normal		
Select Duplex Mode	N/A		
OnBoard Parallel Port	378		
Parallel Port Mode	Normal		
Parallel Port IRQ	7		
Parallel Port DMA Channel	N/A		
K/B Power-on function	Disabled		
Stroke keys Selected	N/A		
Password for PowerOn	N/A		
PS/2 Mouse Power-On function	Disabled		
		ESC : Exit	 : Sel
		PgUp/PgDn :	Modify
		F1:Help	F2/F3 : Color

Peripheral Setup options are displayed by choosing the Peripheral Setup icon from the WINBIOS Setup main menu. All Peripheral Setup options are described in this section.

Onboard IDE: This option specifies the onboard IDE controller channels that will be used. The settings are Disabled, Primary, Secondary, or Both.

Onboard FDC : This option enables the floppy drive controller on the motherboard. The settings are Enabled or Disabled.

Onboard Serial Port1 : This option enables serial port 1 on the motherboard and specifies the base I/O port address for serial port 1. The settings are 3F8h, 3E8h, or Disabled.

Onboard Serial Port2 : This option enables serial port 2 on the motherboard and specifies the base I/O port address for serial port 2. The settings are 2F8h, 2E8h, or Disabled.

Serial Port2 Mode: This item sets the operation mode for Serial Port 2 (COM 2). Settings: Normal, 1.6 uS, 3/16 Baud and ASKIR.

Select Duplex Mode: Two options are available: Full and Half. This item lets you choose the operation mode for your IR KIT. Some IR device only can work at half duplex mode. Refer to your IR KIT user's guide to find out which setting is correct.

Onboard Parallel Port : This option enables the parallel port on the motherboard and specifies the parallel port base I/O port address. The settings are 378h, 278h, or Disabled.

Parallel Port Mode : This option specifies the parallel port mode. ECP and EPP are both bidirectional data transfer schemes that adhere to the IEEE P1284 specifications. The default setting is *Normal*. The other settings are:

Setting	Description
Normal	Normal The normal parallel port mode is used. This is the default setting.
EPP	The parallel port can be used with devices that adhere to the Enhanced Parallel Port (EPP) specification. EPP uses the existing parallel port signals to provide asymmetric bidirectional data transfer driven by the host device.
ECP	The parallel port can be used with devices that adhere to the Extended Capabilities Port (ECP) specification. ECP uses the DMA protocol to Achieve transfer rates of approximately 2.5 Mbs. ECP provides symmetric Bidirectional communications.

Parallel Port IRQ: This option specifies the IRQ used by the parallel port. The Optimal and Fail-Safe default setting is 7.

Option	Description
5	This option allows the serial port to use Interrupt 5.
7	This option allows the serial port to use Interrupt 7. This is the default setting. The majority of parallel ports on computer systems use IRQ7 and I/O Port 378H as the standard setting.

Parallel Port DMA Channel : This option is only available if the setting for the **Parallel Port Mode** option is *ECP*. The settings are *Disabled*, *DMA CH (channel) 0*, *DMA CH 1*, or *DMA CH 3*. The default setting is *N/A*.

K/B Power-on Function: The item controls which button on the PS/2 keyboard can power on the system. Settings are *Disabled*, *PowerKey*, *Any Key*, and *Specific Key*.

Stroke Keys Selected: This setting allows users to set a specific key for the K/B power-on function.


Password for PowerOn: This setting allows users to set a password for the K/B power-on function.

PS/2 Mouse Power-on Function: The item controls which button on the PS/2 mouse can power on the system. Settings are *Disabled*, *Left button* and *Right button*.

3.9 Hardware Monitor Setup

When you select the "Hardware Monitor Setup" on the main program, the screen display will appear as:

Peripheral Setup Screen

AMIBIOS SETUP – HARDWARE MONITOR SETUP		© 2001 American Megatrends, Inc. All Rights Reserved	
CPU Ratio Selection	12.0x		
Warning Temperature	Disabled		
CPU Temperature	30 /86		
System Temperature	28 /82		
Fan 1	4963 RPM		
Fan 2	0 RPM		
Fan 3	0 RPM		
VCORE	+1.424V		
+3.3V Standby	+3.232V		
+3.3V	+3.328V		
+5V	+5.057V		
+12V	+11.430V		
-12V	-11.398V		
+5V	-5.140V		
+1.8V	+1.802V		
Battery Voltage	+3.296V		
		ESC : Exit	 : Sel
		PgUp/PgDn :	Modify
		F1:Help	F2/F3 : Color

CPU Ratio Selection: This field sets the frequency multiple between the CPU's internal frequency and external frequency. In jumper free mode, when CPU internal frequency set to the "CPU Ratio Selection", to match the internal frequency of your CPU. Configuration options vary according to the external frequency of your CPU.

Warning Temperature: The item allow user to select a system temperature as warning temperature. When the system temperature reach the selected temperature the system will alarm.

CPU Temperature, System Temperature, Fan1, Fan2, Fan3, VCORE, +3.3V Standby, +3.3V, +5V, +1.85V, -5V, -12V, +12V, Battery Voltage: These items display the current status of all monitored hardware devices/components such as system voltages, temperatures and fan speeds.

3.10 Utility

In the Utility, the following icons appear in this section of the WINBIOS Setup main screen --

Color Set : Color Set sets the Setup screen colors.

3.11 BIOS Defaults

The icons of BIOS Defaults in this section permit you to select a group of settings for all WINBIOS Setup options. Not only can you use these icons to quickly set system configuration parameters, you can choose a group of settings that have a better chance of working when the system is having configuration-related problems.

Optimal : You can load the optimal default settings for the WINBIOS by selecting the Optimal icon. The Optimal default settings are best-case values that should optimize system performance. If NVRAM is corrupted, the Optimal settings are loaded automatically.

Fail-Safe BIOS Setup Settings : You can load the Fail-Safe WINBIOS Setup option settings by selecting the Fail-Safe icon from the Default section of the WINBIOS Setup main menu.

The Fail-Safe settings provide far from optimal system performance, but are the most stable settings. Use this option as a diagnostic aid if the system is behaving erratically

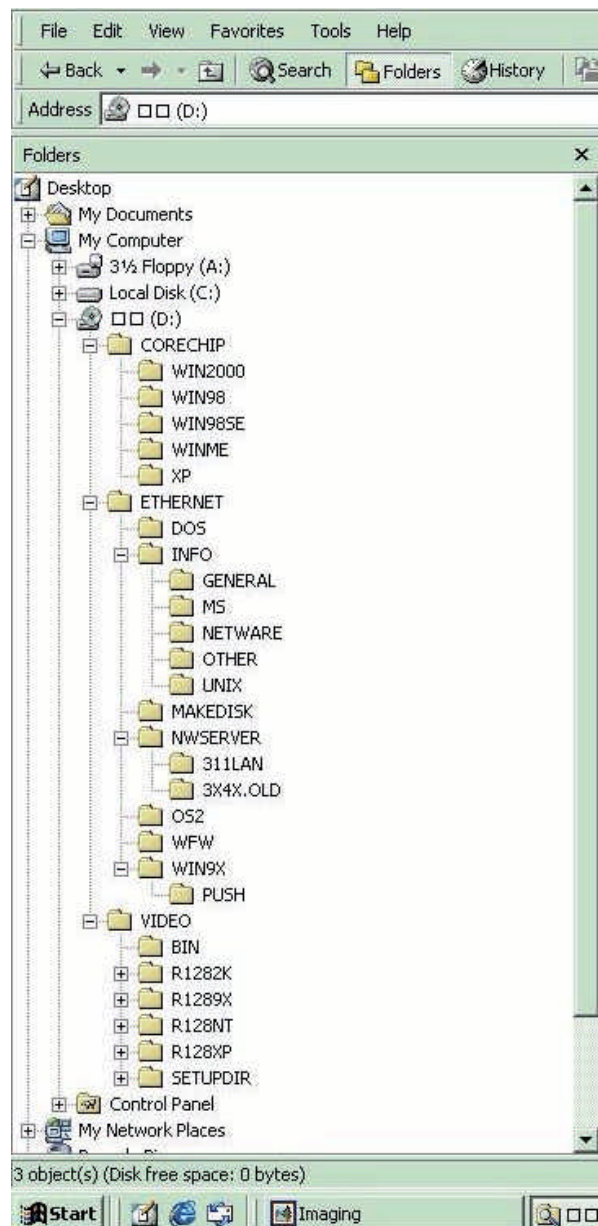
Chapter 4 Drivers Support

4.1 Use Your Driver CD-ROM

This chapter provides information on how to install the drivers in generally and related directory that come with the CD-ROM in the package. Please follow the instructions set forth on the screen carefully.

1. Find the directory for your O/S accordingly.
2. Always read the README.TXT before installation
3. Run the *.EXE and follow the installation prompt step by step.

4.2 File Directory



APPENDIX A. Watch-Dog Timer

You can enable the watch-dog when your application software monitors an unexpected or not respond, then the timer generates a reset to reboot your system. During the period of enable to reset, you could still cancel reset by disabling the watch-dog. Decide the way you want to set the period for reset by selecting hardware or software watch-dog (if both of them are available). For hardware setting period, select period by jumper. For software setting period, normally setting hardware watch-dog timer period to 16 sec.

Software watch-dog using example

EX.1: For DOS

Enable	Disable
C:\DOS> DEBUG -o443 D	C:\DOS>DEBUG -o441 F

EX.2: For assemble Language

Enable :	Disable :
MOV DX, 443H	MOV DX, 441H
MOV AL, 0FH	MOV AL, 0FH
OUTDX, AL	OUT DX, AL

Note: "F" is the period of software watch-dog timer (normally "F" indicated 0 sec.). 0 to 9 and A to F are used for represent different period. Normally, the step is 2 sec. That means "E" is 2, "D" is 4, "2" is 26, "1" is 28 and "0" is 30 seconds.

Terms and Conditions

Date:1997.10.20

Warranty Policy

1. All products are warranted against defects in materials and workmanship for a period of two years from the date of purchase by the customer.
2. The buyer will bear the return freight charges for goods that are returned for repair within the warranty period whereas manufacturer will bear the return to user freight charges after repair.
3. The buyer will pay for repair (for the replaced materials plus service time) and transportation charges (both ways) for items after the expiration of the warranty period.
4. If the RMA Service Request Form does not meet the stated requirement as listed on "RMA Service " , RMA goods will be returned at the customer expense.
5. The following conditions are excluded from this warranty :
 - A. Improper or inadequate maintenance by the customer.
 - B. Unauthorized modification or misuse.
 - C. Operation outside of the environmental specifications for the product.

RMA Service

1. Request a RMA#:

Complete and fax to Supplier the "RMA Request Form" to obtain a RMA number.

2. Shipping:

- A. The customer is requested to fill up the problem code as listed. If none of the code is selected, please write the symptom description on the remark.
- B. Ship the defective units with freight prepaid.
- C. Mark the RMA # clearly on the box.
- D. Shipping damage as a result of inadequate packing is the customer' s responsibility.
- E. Use the original packing materials whenever possible.

3. All RMA# are valid for 30 days only:

When RMA goods are received after valid RMA# period, the goods will be rejected.

When requesting RMA service, please fill out this "RMA Service Request Form".
Without this form your RMA will be REJECTED!!!

RMA No:	Reasons to Return:	Repair(Please include failure details)	Testing
Purpose			
Company:		Contact Person:	
Phone No.		Purchased Date:	
Fax No.:		Applied Date:	
Return Shipping Address:_____			
Shipping by: Air Freight Sea Express:_____ Others:_____			
Item	Model Name	Serial Number	Configuration
Item	Problem Code	Failure Status	

- *Problem Code:**
- | | | | |
|------------------------|------------------------------|--------------------|--------------------------|
| 01:D.O.A. | 07: BIOS Problem | 13: SCSI | 19: DIO |
| 02: Second Time R.M.A. | 08: Keyboard Controller Fail | 14: LPT Port | 20: Buzzer |
| 03: CMOS Data Lost | 09: Cache RMA Problem | 15: PS2 | 21: Shut Down |
| 04: FDC Fail | 10: Memory Socket Bad | 16: LAN | 22: Panel Fail |
| 05: HDC Fail | 11: Hang Up Software | 17: COM Port | 23: CRT Fail |
| 06: Bad Slot | 12: Out Look Damage | 18: Watchdog Timer | 24: Others (Pls specify) |

Request Party _____ **Confirmed By Supplier** _____

Authorized Signatures / Date _____ **Authorized Signatures / Date** _____