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FW-8750
Manual

FW-8750
Manual

Safety Guidelines

Follow these guidelines to ensure general safety:

- Keep the chassis area clear and dust-free during and after installation.
- Do not wear loose clothing or jewelry that could get caught in the chassis. Fasten your tie or scarf and roll up your sleeves.
- Wear safety glasses if you are working under any conditions that might be hazardous to your eyes.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe.
- Disconnect all power by turning off the power and unplugging the power cord before installing or removing a chassis or working near power supplies
- Do not work alone if potentially hazardous conditions exist.
- Never assume that power is disconnected from a circuit; always check the circuit.

Operating Safety

- Electrical equipment generates heat. Ambient air temperature may not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Be sure that the room in which you choose to operate your system has adequate air circulation.
- Ensure that the chassis cover is secure. The chassis design allows cooling air to circulate effectively. An open chassis permits air leaks, which may interrupt and redirect the flow of cooling air from internal components.

Electrostatic discharge (ESD) can damage equipment and impair electrical circuitry. ESD damage occurs when electronic components are improperly handled and can result in complete or intermittent failures. Be sure to follow ESD-prevention procedures when removing and replacing components to avoid these problems.

- Wear an ESD-preventive wrist strap, ensuring that it makes good skin contact. If no wrist strap is available, ground yourself by touching the metal part of the chassis.
- Periodically check the resistance value of the antistatic strap, which should be between 1 and 10 megohms (Mohms).

EMC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense.

Class A Notice for FCC
Modifying the equipment without the authorization of Lanner Electronics, Inc. may result in the equipment no longer complying with FCC requirements for Class A digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

This equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Contents

1. Product Overview

1.1 Product Introduction

Figure 1 – FW-8750B Outlook

Built around the Intel Q35 chipset, the FW-8750 is the High benchmark for performance and throughput in a network appliance. Supporting Quad-Core /Dual-Core/Single-Core series processors in LGA775 socket the FW-8750 delivers fantastic performance per Watt.

The optional Cavium Nitrox CN1610 processes high-level IPsec and IKE, IPv6, SSL and Wireless LAN security protocol macro commands, that reduce the host I/O traffic and dramatically offload system processors to increase the total system throughput.

With one expansion module, Two unbuffered Dual-channel DDRII RAM Dimms, the FW-8750 offers customization now and plenty of headroom for hardware expansion in the future. Moreover, Lanner provides full-service product customization by working with you from drawings to samples to mass production to create a product that meets your exact specifications.

1.2 Features and Benefits

Listed below are the key features of FW-8750：

- High-performance Intel Q35 desk-top architecture with LGA 775 for Dual-Core and Quad-Core processor support
- Supports up to ten Gigabit Ethernet ports with Intel 82573L/82574L chipset and dedicated PCI-E x 2 bus per GbE pair
- Embedded Cavium CN1610 delivers high-speed encryption and packet throughput
- Supports two Dual Channel DDRII 667/800, and up to 4GB
- Equipped with Type II Compact Flash socket, Console port, USB Ports, PCI slot for used.
- Customization of the front panel and chassis colors ensures tailored solutions for OEM and ODM customers

1.3 Specifications

FEATURE	DESCRIPTION	
Form Factor	Desktop	
Platform	Processor	ore 2 Quad/Dual Core/Core 2 Duo /Pentium 4/Celeron 400 in LGA775 sockets
	Front Side Bus	800/1066/1333 MHZ
	Chipset	Intel®Q35Chipset(MCH),Intel®ICH9D OI/O Controller Hub
	BIOS	AMI BIOS
System Memory	Technology	DDR-II 667/800MH
	Max Capacity	4 GB (2 DIMM sockets)
Storage Interface	Storage Interface	1 x Compact Flash Type II socket 4 x SATA II connectors
Modules	Ethernet Ports	6 x RJ45 GbE ports,two pair of bypass
	Controller	5xIntel 82573L chip 1xIntel 82566DM chip
Front I/O Interface	Console	DB-9 RS-232 connector x 1
	USB 2.0	2
Expansion	PCI	RC-87501A：1 x PCI slot
Cooling	Processor	Heat Sink 3 x CPU FAN
	System	1 x System FAN
Environmental Parameters	Temperature, Ambient operating	0℃～40℃
	Temperature, Ambient storage	-20℃～70℃
	Humidity, Ambient operating and non-operating	5～95%, non condensing
Physical Dimensions	Dimensions（W x H x D）	431 x 44　x 395 mm
	Weight	N.W.: 8.2 kg./ G.W.: 10 kg.
Power	Type/ Watts	270W
	Input	AC 100～240V@50～60Hz
Approvals & Compliance		CE (EMC), FCC Class A
O.S. support	Windows	2000, 2003, XP
	Linux	Kernal 2.6 or above

1.4 Package Contents

Carefully unpack your package and make sure that you have the below items.

- FW-8750 Network Security Platform x 1
- Console cable（DB9）x 1
- 1.8 meters long cross-over Ethernet cable x 1
- 1.8 meters long straight-through Ethernet cable x 1
- Name Plate label（Front Panel）x 1
- Power cable x 1
- Drivers and User's Manual CD x 1
- Screw Set

Note：If you should find any components missing or damaged, please contact your dealer immediately for assistance

1.5 Technical Assistance

Should you have any questions or problems with your product, please contact the Lanner sales team.

Phone: 886-2-8692-6060
Fax: 886-2-8692-6101
E-mail: sales@lannerinc.com

Prior to contacting us, we ask that you first check the electronic product documentation for assistance. Should you still have questions, we recommend you have the following information on hand in order to expedite the process:

1. FW-8750 model name
2. Part number
3. Abnormal behavior and/or error messages reported by your network system
4. Your questions or a description of the problem you are experiencing

2. System Components

2.1 MB-8750 system Board

EM-8750 is the system board bundled with the FW-8750 Network security platform. The succeeding sections list all EM-8750 related jumper settings and connector pin assignments.

2.1.1 Board Layout

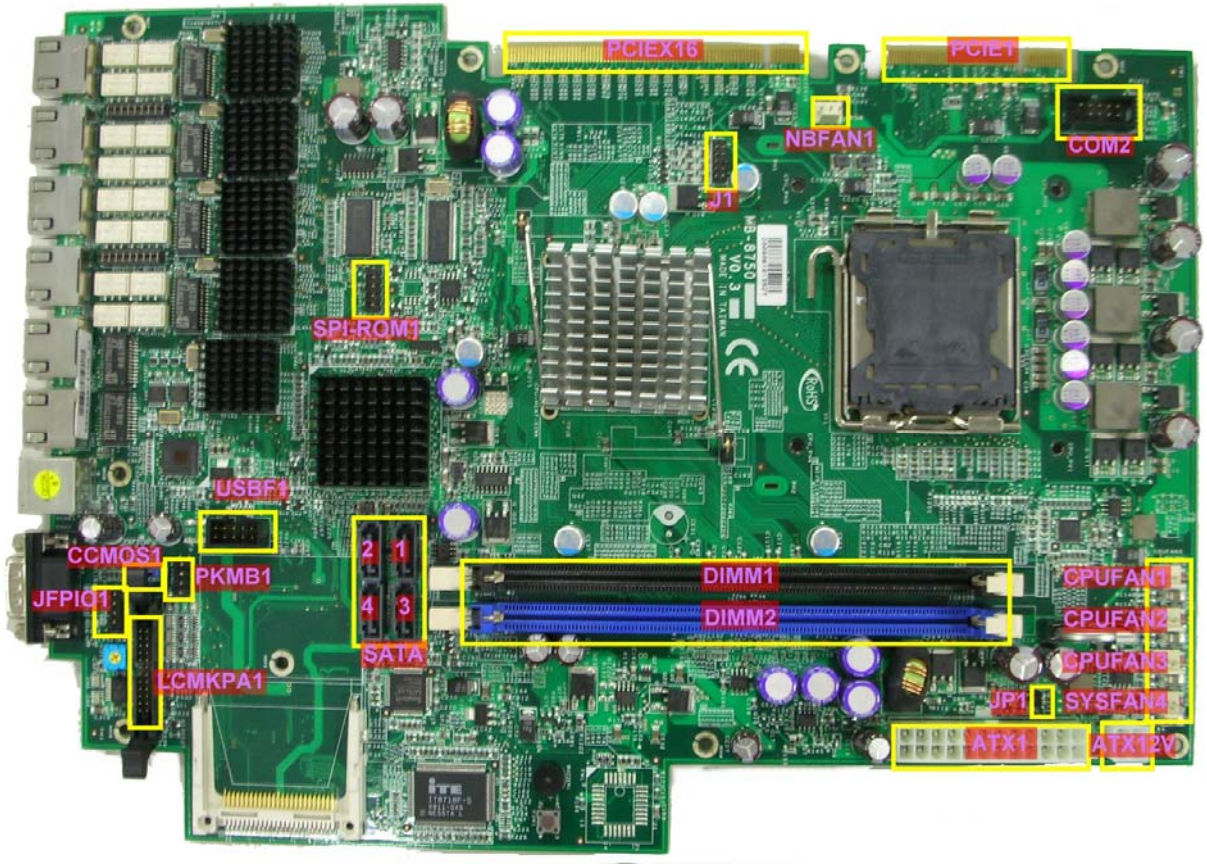


Figure 2 – EM-8750 Key Features

2.1.2 Dimensions (mm)

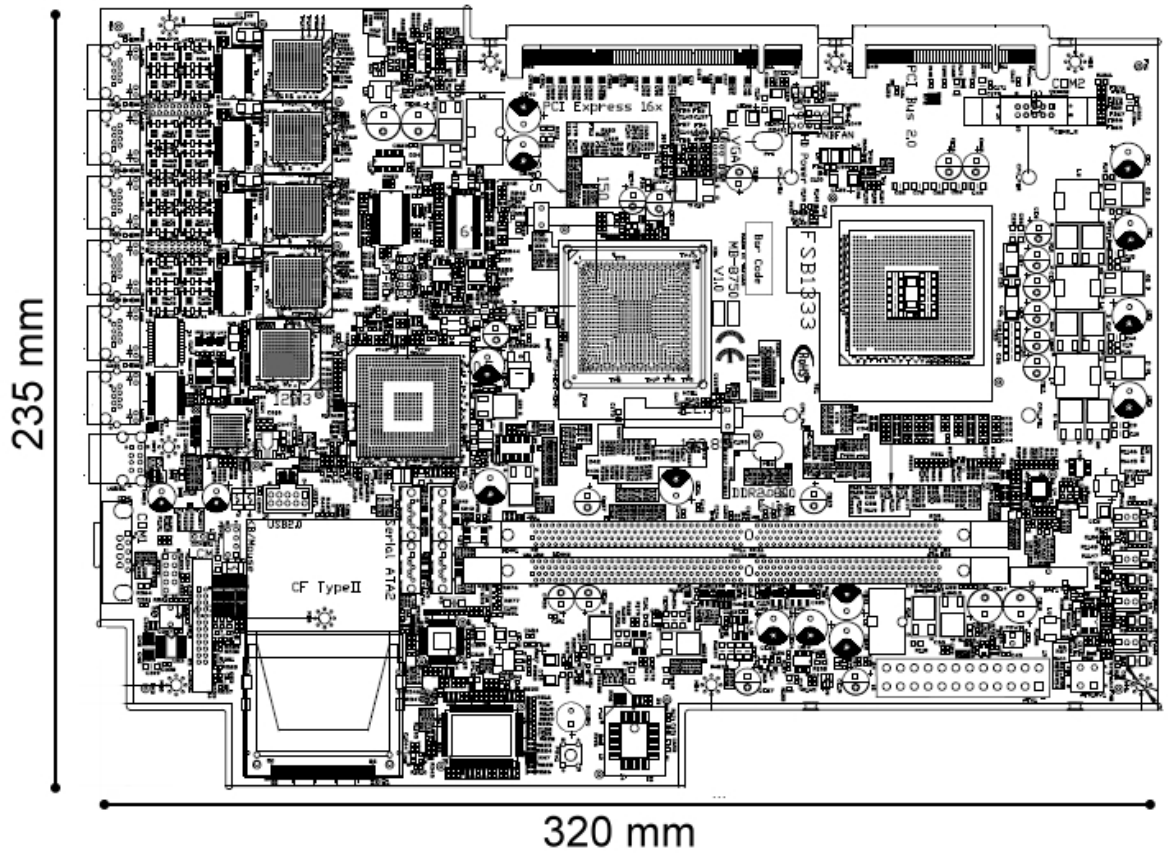


Figure 3 – Dimensions

2.1.3 Jumper Settings and I/O Connectors

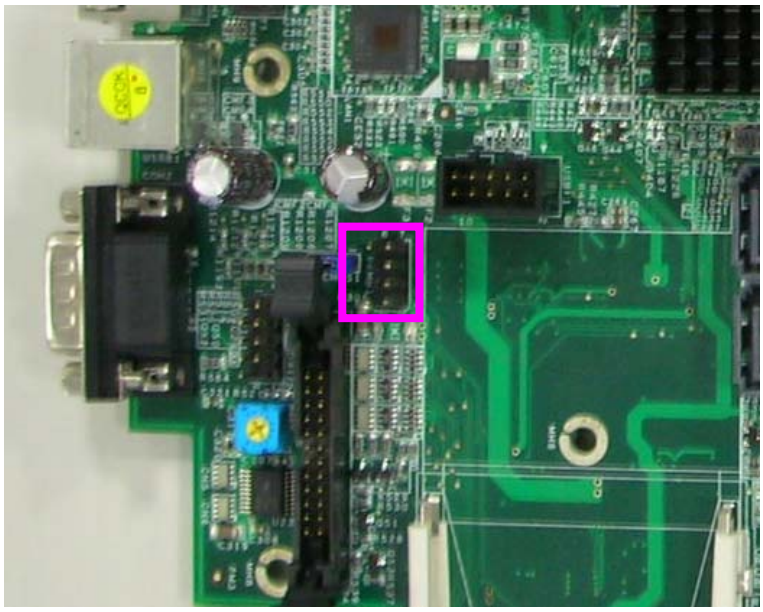
The jumper settings and I/O connectors of the MB-8750 board are specific to the FW-8750. Changing these settings may result in malfunctions or damage to your system.

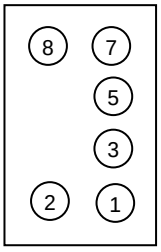
Jumper Settings and I/O Connector Summary for MB-8750：

JUMPER	FUNCTION
PKMB1	2x4 Header PS/2 Keyboard & Mouse Connector (2.54mm)
CCMOS1	Clear CMOS Data
USBF1	2x5 Pin USB Interface Header (2.54mm)
CN1	Compact Flash Connector
JFPIO1	9 Pin Front Panel Connector (2.54mm)
CPUFAN1~3／SYSFAN4	3 Pin Smart FAN Header
NBFAN1	3 Pin FAN Header
JP1	2 Pin ATX Power Switch Header
ATX1	2x12 Pin Power Connector
ATX12V1	2x2 Pin 12V Power Connector
J1	2x6 Pin External VGA Header (2.0mm)
COM2	9 Pin Serial Interface Header (2.54mm)
LCMKPA1	2x12 Pin LCM Interface Header (2.0mm)
SATA1~SATA4	SATA Connector
PCIEX16	PCI Express x16 Standard Connector
PCIE1	PCI Connector
DIMM1~DIMM2	240Pin Long-DIMM Connector

2.1.4 Connectors Pin Assignment

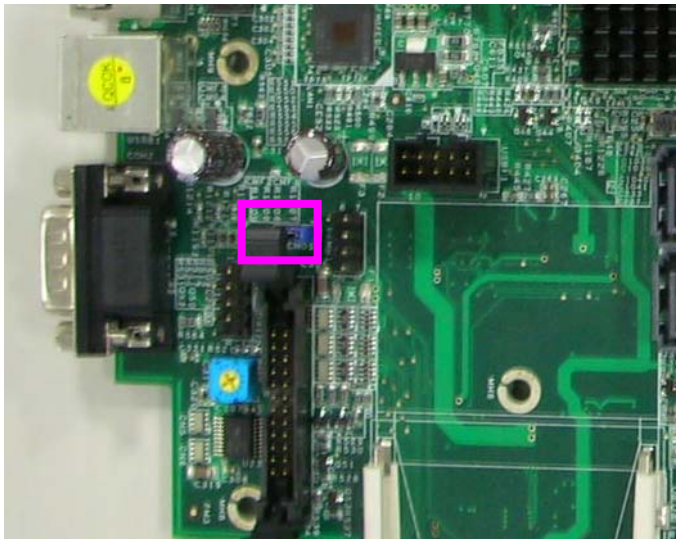
PKMB1 : 2x4 Header PS/2 Keyboard & Mouse Connector

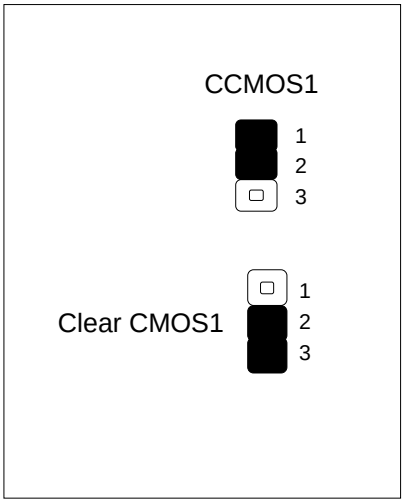




PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC5	2	MSCLK
3	MSDATA	4	KEY
5	KBDATA	6	KEY
7	GND	8	KBCLK

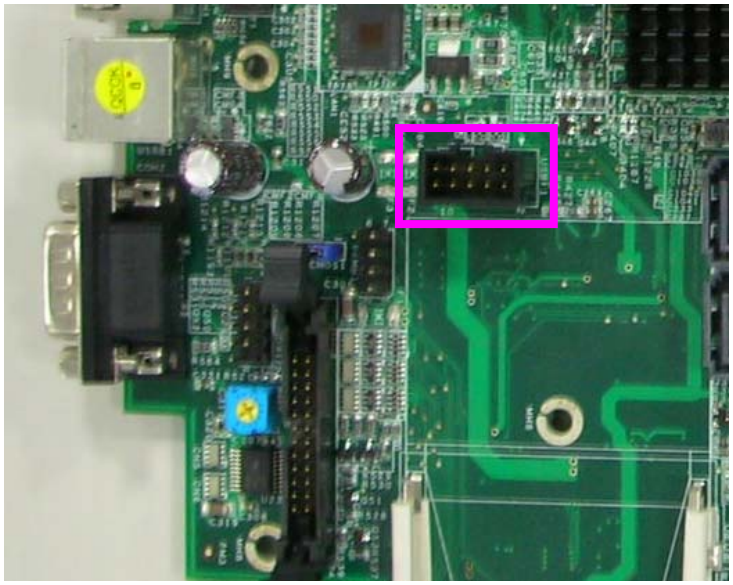
CCMOS1: Clear CMOS Data

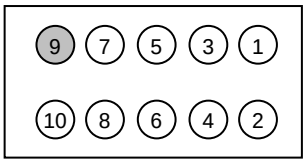




DESCRIPTION	CMOS
Normal (Default)	1-2
Clear CMOS	2-3

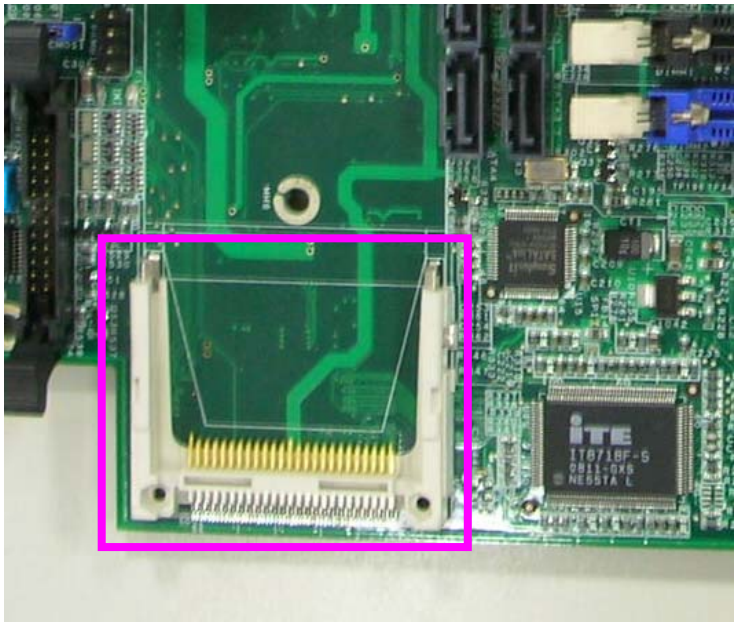
USBF1 : 2x5 Pin USB Interface Header (2.54mm)

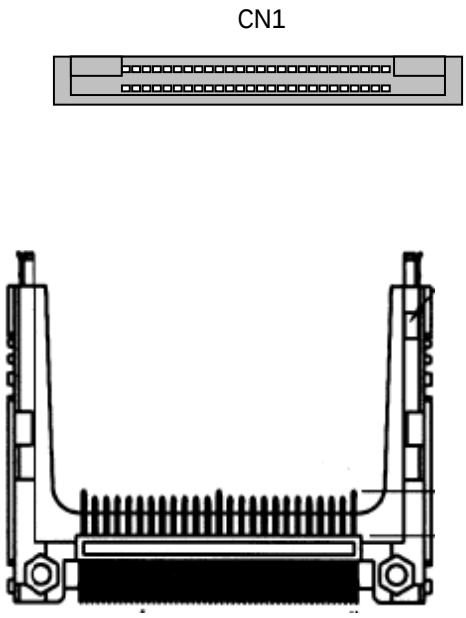




PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC_0	2	VCC_0
3	N.C.	4	N.C.
5	USB_0-	6	USB_0-
7	USB_0+	8	USB_0+

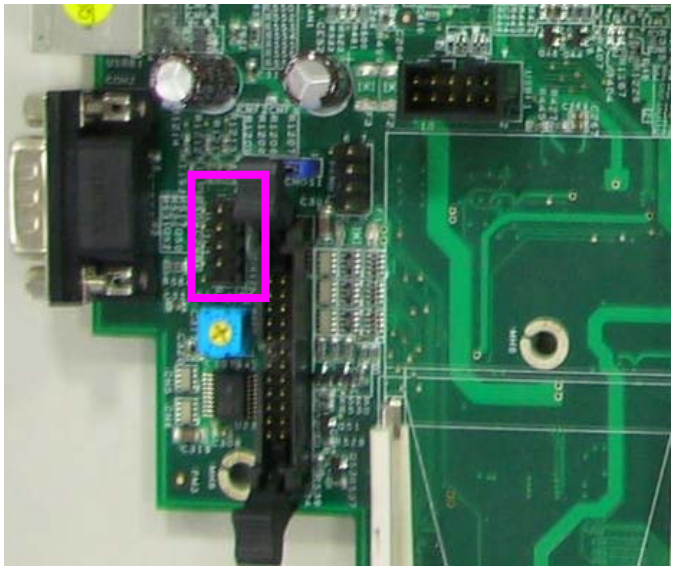
CN1 : Compact Flash Connector

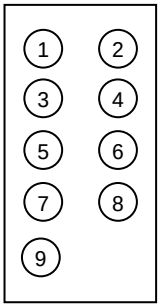




PIN No.	DESCRIPTION	PIN No.	DESCRIPTION
1	Ground	26	CF_DIS#
2	CF_DD3	27	CF_DD11
3	CF_DD4	28	CF_DD12
4	CF_DD5	29	CF_DD13
5	CF_DD6	30	CF_DD14
6	CF_DD7	31	CF_DD15
7	-CF_DCS0	32	-CF_DCS1
8	Ground	33	VCC3
9	Ground	34	CF_DIOR#
10	Ground	35	CF_DIOW#
11	Ground	36	VCC3
12	Ground	37	CF_IDEIRQ
13	VCC3	38	VCC3
14	Ground	39	Ground
15	Ground	40	VCC3
16	Ground	41	CF_IDERST#
17	Ground	42	CF_IORDY
18	CF_DA2	43	CF_DMARQ
19	CF_DA1	44	CF_DDACK#
20	CF_DA0	45	CFACT_L
21	CF_DD0	46	CF_PDIAG
22	CF_DD1	47	CF_DD8
23	CF_DD2	48	CF_DD9
24	N/C Pin	49	CF_DD10
25	CF_DIS#	50	Ground

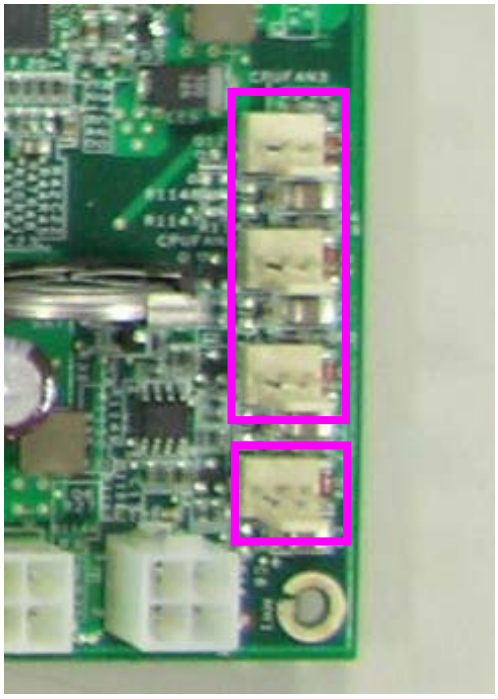
JFPIO1 : 9Pin Front Panel Connector (2.54mm)

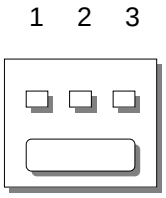




PIN NO	DESCRIPTION	PIN NO	DESCRIPTION
1	VCC5	2	5VSB
3	HDD_LED	4	SUSLED(POWER_LED)
5	GND	6	(GND)
7	RSTSW	8	POWON(PWRBTN)
9	N/C		

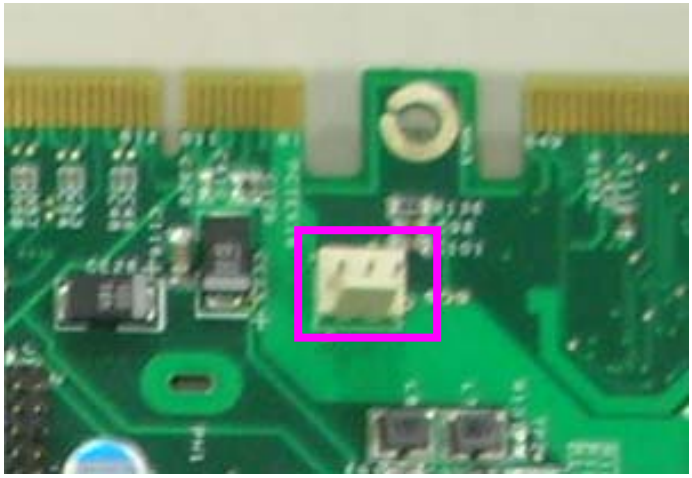
CPUFAN1~3／SYSFAN1：3Pin Smart FAN Header

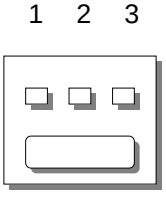




PIN NO	DESCRIPTION
1	Ground
2	VFAN1~2
3	FAN1~2

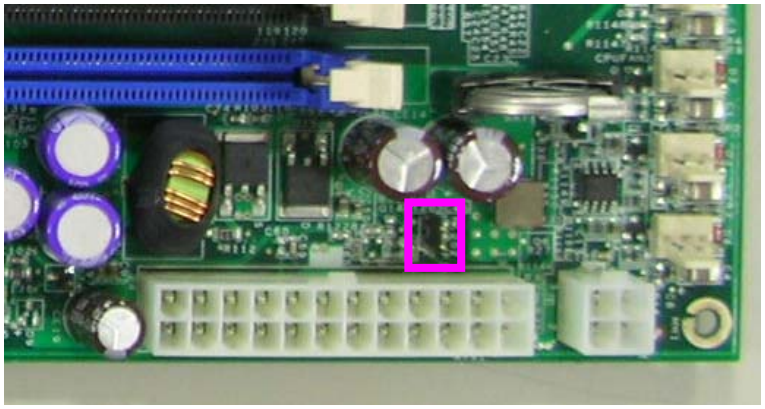
NBFAN1：3 Pin FAN Header

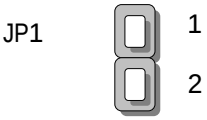




PIN NO	DESCRIPTION
1	Ground
2	VFAN4(+12V)
3	DUMMY

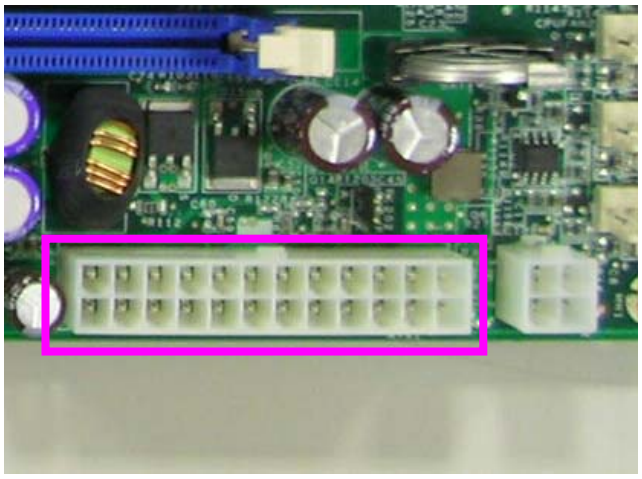
JP1 : 2 Pin ATX Power Switch Header





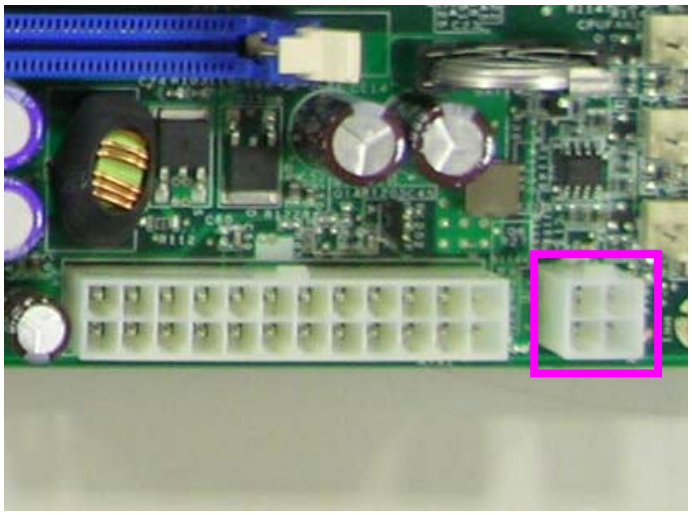
PIN NO	DESCRIPTION
1	PS_ON SW
2	PS_ON

ATX1 : 24Pin Power Connector



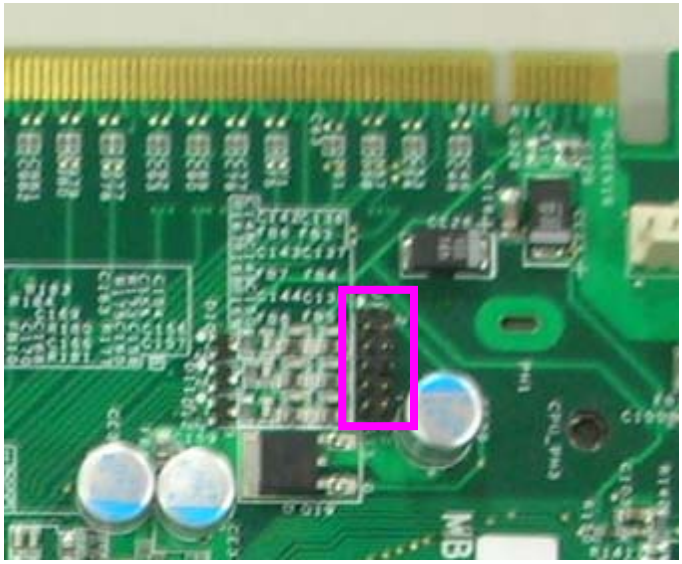
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	3.3V	13	3.3V
2	3.3V	14	-12V
3	GND	15	GND
4	VCC5	16	PS_ON
5	GND	17	GND
6	VCC5	18	GND
7	GND	19	GND
8	ATX_PWROK	20	-5V
9	5VSTBY	21	VCC5
10	12V	22	VCC5
11	12V	23	VCC5
12	3.3V	24	GND

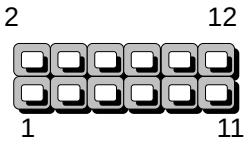
ATX12V1：2 x 20 Pin BOX Connector (2.0mm)



PIN NO.	DESCRIPTION
1	GND
2	GND
3	+12V
4	+12V

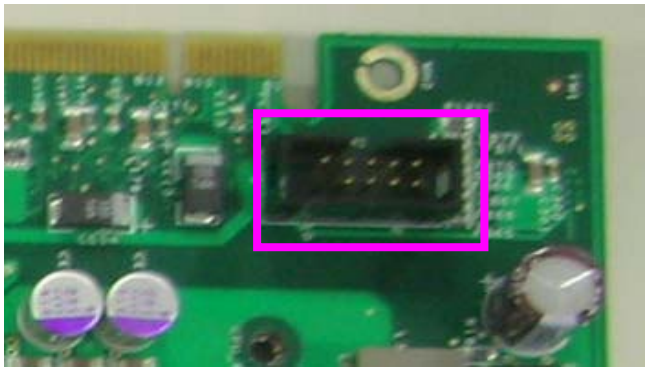
J1: External VGA Connector (12 Pin Header)

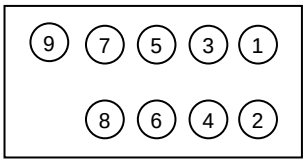




PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VGA_R	2	Ground
3	VGA_G	4	Ground
5	VGA_B	6	Ground
7	HSYNC_3V	N/C	
9	VSYNC_3V	10	Ground
11	DD_DATA	12	DD_CLK

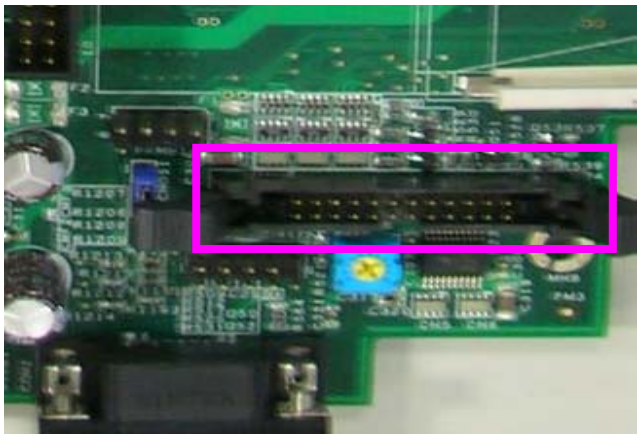
COM2 : 9 Pin Serial Interface Header (2.54mm)





PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	COM2_1	2	NDSR2
3	COM2_2	4	NRTS2
5	COM2_3	6	NCTS2
7	COM2_4	8	COMP2POWER
9	GND	10	NC

LCMKPK1 : 24 Pin LCM Interface Header (2.0mm)



PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC5	2	GND
3	SLIN / LPT17	4	VEE
5	AFD- / LPT14	6	PINIT / LPT16
7	PD1 / LDB1	8	PD0 / LDB0
9	PD3 / LDB3	10	PD2 / LDB2
11	PD5 / LDB5	12	PD4 / LDB4
13	PD7 / LDB7	14	PD6 / LDB6
15	STB- / LCD-	16	VCC5
17	KPA1 / LERR_L	18	KPA2 / LSLCT
19	KPA3 / LPE	20	KPA4 / LBUSY
21	3VSB / RST_BTN_L	22	LED GRN/ STATUS
23	LED RED/ STATUS	24	HDD_LED/ STATUS

2.2 Mechanical Overview

This section of the manual describes the mechanical and device nomenclature of FW-8750..

2.2.1 Front View, LED Status and Behavior

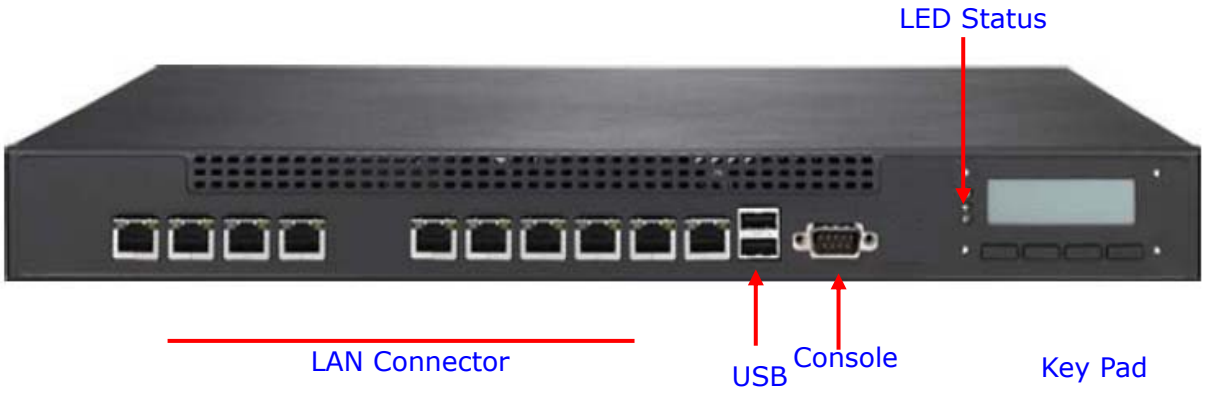


Figure 4 — FW-8750 Front View

The following table provides description of each LED on the FW-8750 front panel.

- **Console Port:** The console port cable connects FW-8750 to the host PC via. The Default baud rate is 115200
- **LAN Connector:** Require an Ethernet RJ-45 cable
- **LCM & Keypad:** Please reference the Appendix B

LED	Color	Status	Description
PWR	**Green**	On	Indicates when FW-8890 power is switched ON
	N/A	Off	No power connected
HDD	**Yellow**	On	Hard disk is being accessed
	N/A	Off	No Data is being accessed
Ethernet Ports Link/ACT	**Green**	On	LAN is connected
	Orange	Flash	Data is being accessed
Status			Lanner Provide the Sample Codes（Please reference the Driver/ Manual CD, under "LED Status" for more information）

2.2.2 Rear View

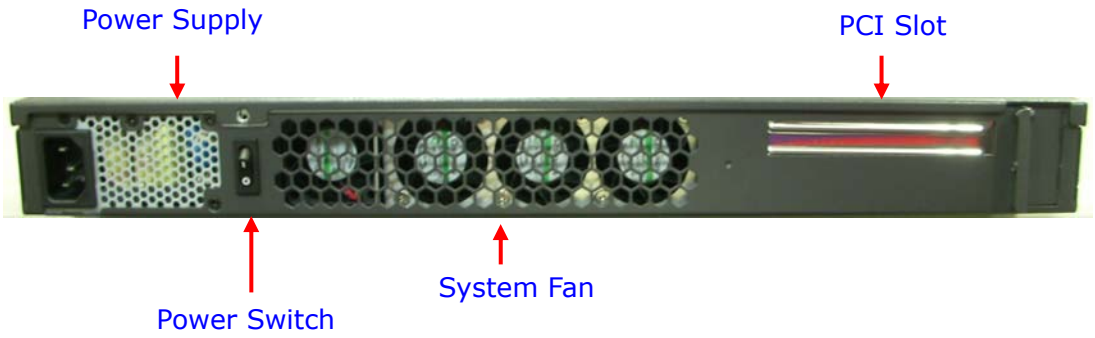


Figure 5 — FW-8750 Rear View

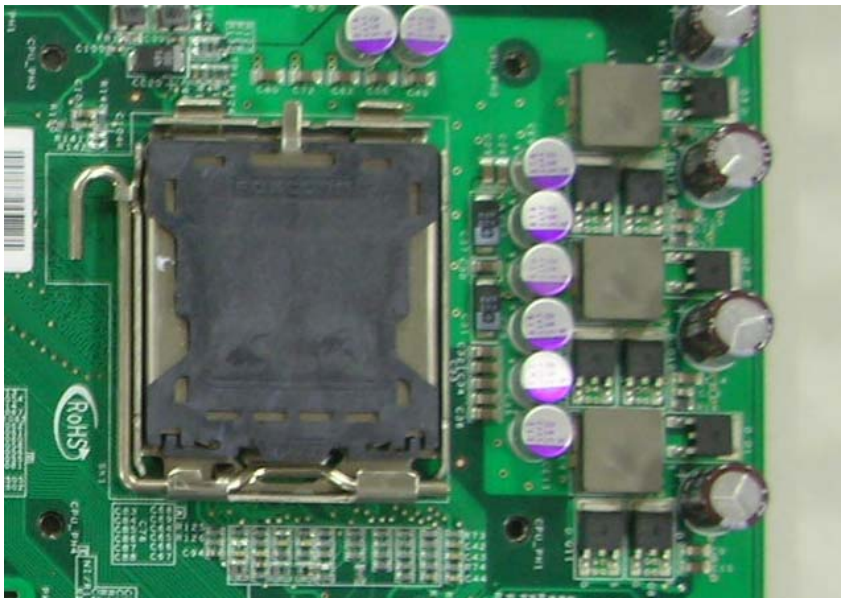
- **Power Switch:** Click the Power Switch to turn on the system.
-

Warning: Faulty or improper use of the power adaptor may cause permanent damage to the power supply and the FW-8750 Plug the adaptor to an electrical wall outlet that matches its specifications.

3. Hardware Installation Guide

3.1 CPU installation

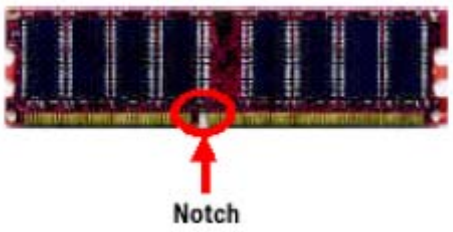
If you choose to insert only one CPU, please note that it will be inserted in CPU slot as specified in the diagram.

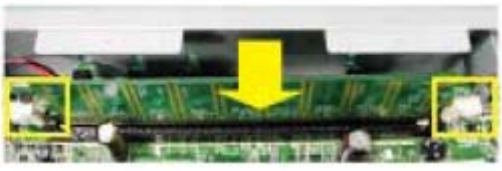


3.2 System Memory

Position the Long DIMM module to the DIMM socket properly, so the notch on the memory module first the socket. Push the memory into the socket.

Note: The Long DIMM memory module requires the proper orientation in order to fit into the socket properly.





Warning: Please note that the DIMM1 socket must be used first because it is a dual channel DDRII memory interface.

3.3 Install the Compact Flash Card

Carefully insert the Compact Flash card into the slot as shown in the illustration above.

4. BIOS Setup

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

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 will appear 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 one of two ways, a series of short beeps or an error message on the screen. There are two kinds of errors, fatal and non-fatal. The system can usually continue the boot up sequence with non-fatal errors. Non-fatal error messages usually appear on the screen along with the following
instructions:

" Press <F1> to RESUME "

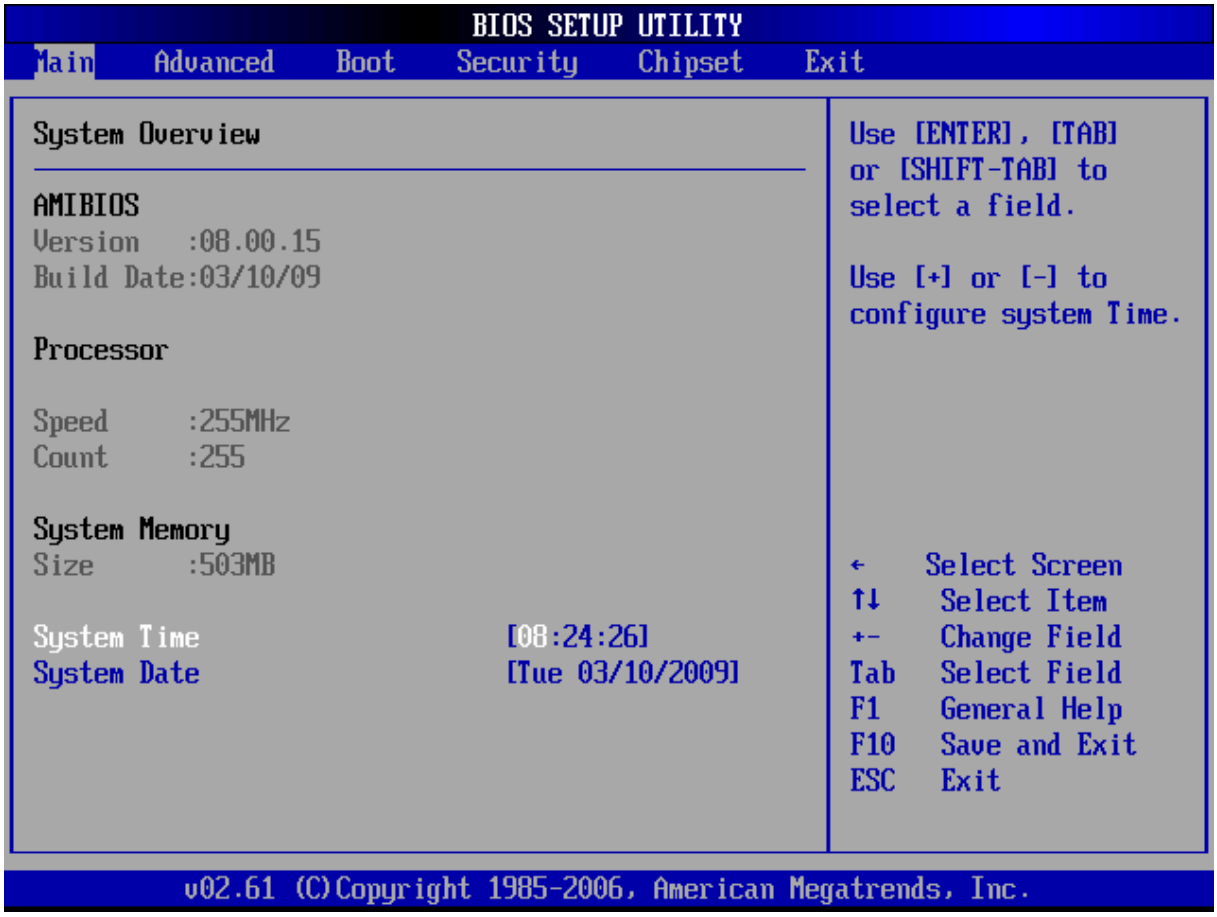
Write down the message and press the F1 key to continue the boot up sequence. After the POST routines are completed, the following message appears:

" Press DEL to enter SETUP "

Entering Setup
Turn on the power of the computer system and press <Del> immediately. If you don't have the chance to respond, reset the system by simultaneously pressing 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.

CMOS Setup Utility
To access the AMI BIOS SETUP program, press the <DEL> key. The screen display will appears as shown below:

4.1 Main Program Screen

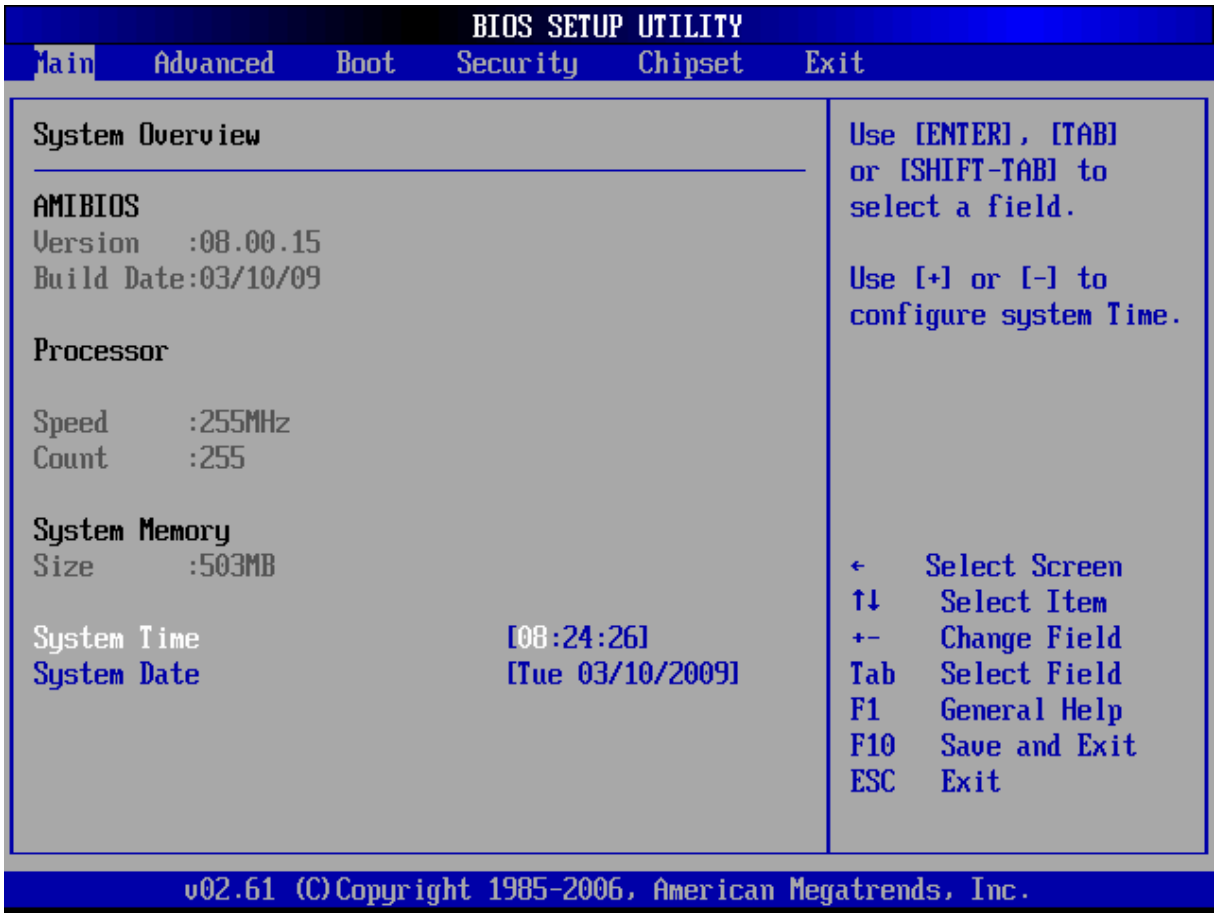


This screen provides access to the utility's various functions.
Listed below is explanation of the keys displayed at the bottom of the screen:
<ESC>: Exit the utility.
<↑↓→ ←>: Use arrow keys↑↓→ ← to move cursor to your desired selection.
<F1> : General Help
<F10>: Saves all changes made to Setup and exits program.

Main	For changing the basic system configuration
Advanced	For changing the advanced system settings.
Boot	For changing the system boot configuration
Security	For changing the Security setting
Chipset	For changing the Chipset setting
Exit	For selecting the exit options and loading default settings

4.2 Main CMOS Setup

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



The Main CMOS Setup utility is used to configure the following components such as date, time, display and memory.

AMIBIOS Displays the Version and Build Date of the BIOS

Processor Displays the auto-detected CPU specification

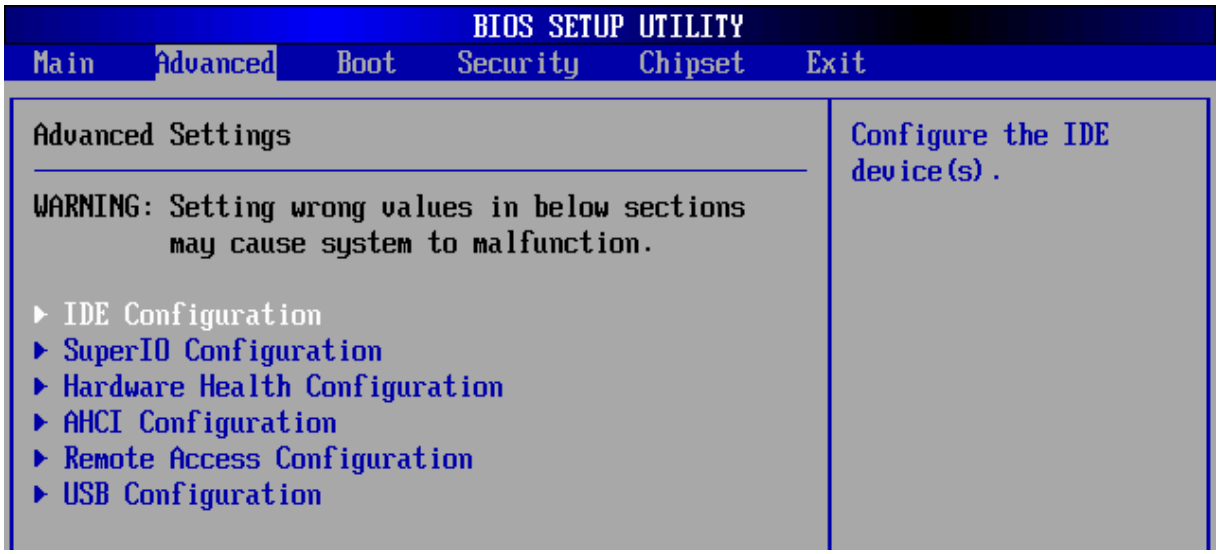
System Memory Displays the auto-detected system memory

System Time [xx:xx:xxxx] Allows you to set the system time.

System Date [Day xx/xx/xxxx] Allows you to set the system date.

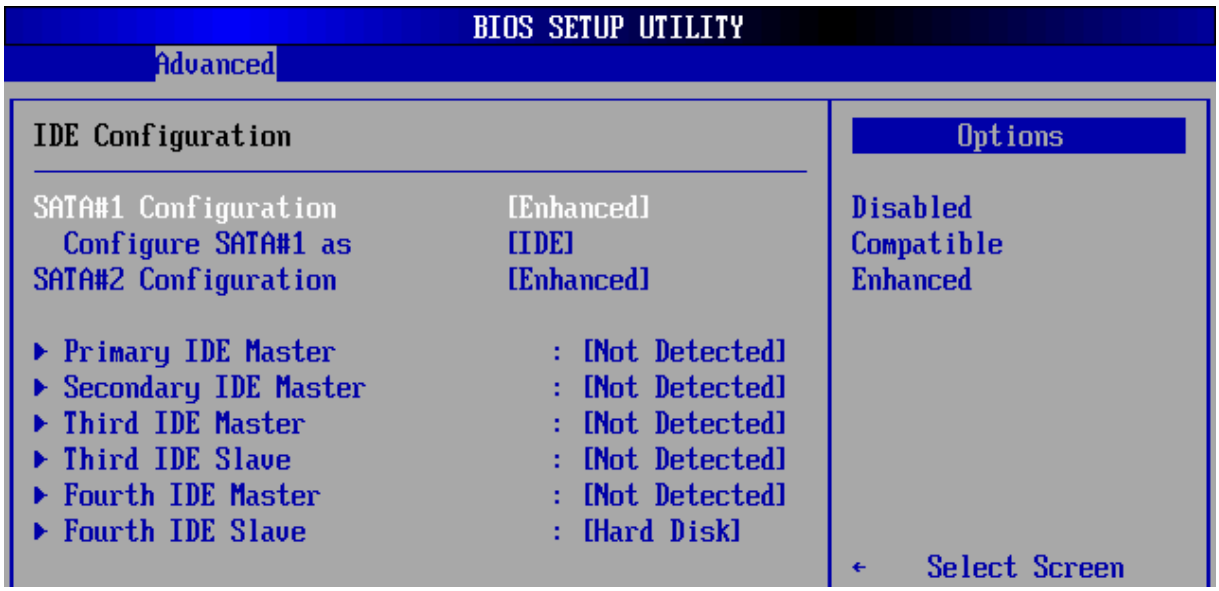
4.3 Advanced Menu

When you select the "Advanced Menu" on the main program, the screen display will appear as:



The following explains the options for each of the features as listed in the above menu:

IDE Configuration : The items in this menu allow you to set or change the configurations for the IDE devices installed in the system. Select an item then press <Enter>if you wish to configure the item.



SATA#1 Configuration: These items allow you to select the ATA/IDE and SATA0/1/2 configuration. Select [Disabled] in Configuration if you want to disable both ATA/IDE configuration. Select [Compatible] or [Enhanced] to use the IDE, S-ATA and PATA devices. Refer to the following tables for details.

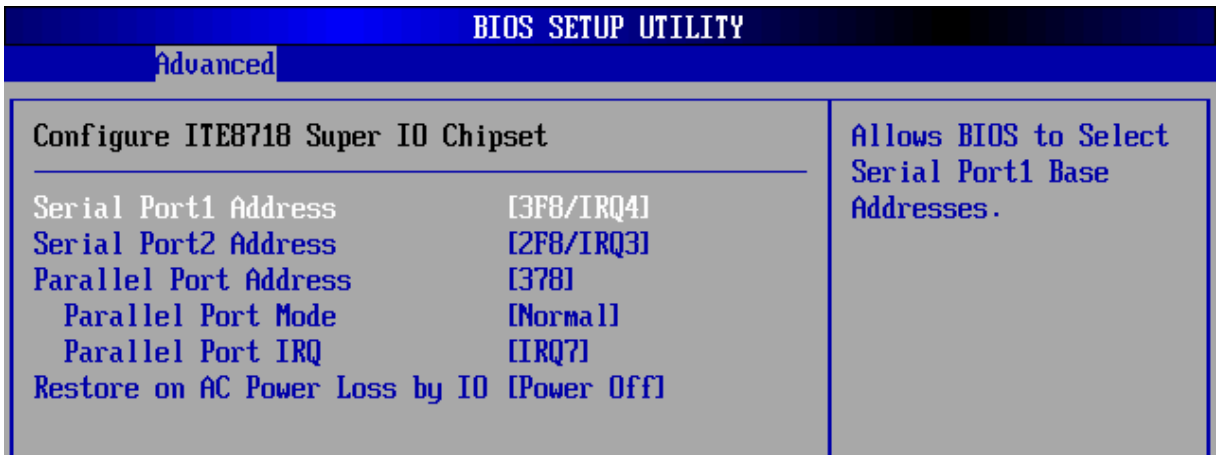
	ATA/IDE Configuration (Compatible)
SATA Only	*[SATA 1/3/2/4]*
PATA Pri, SATA Sec	*[IDE1, SATA2/4]*
SATA Pri, PATA Sec	*[SATA1/3, IDE1]*
PATA Only	*[IDE1]*

SATA#2 Configuration: These items allow you to select the SATA4/5 configuration. Select [Disabled] in Configuration if you want to disable both ATA/IDE configuration. Select [Enhanced] to use the IDE, S-ATA and PATA devices.

Primary, Third and Fourth IDE Master/Slave

While entering Setup, the BIOS automatically detects the presence of IDE devices. There is a separate sub-menu for each IDE device. Select a device item then press <Enter> to display the IDE device information.

Super IO Configuration: Press <Enter> to enter the sub-menu and the following screen appears:



Serial Port1/2 Address:
These items specify the base I/O port addresses of the onboard Serial Port 1 Selecting [Auto] allows BIOS to automatically determine the correct base I/O port address. Settings: [3F8/IRQ4], [2F8/IRQ3], [3E8/IRQ4], [2E8/IRQ3] and [Disabled].

Parallel Port Address: Allows you to select the Parallel Port base addresses. Configuration options: [Disabled] [378] [278] [3BC].

Parallel Port Mode: Allows you to select the Parallel Port mode. Configuration options: [Normal] [Bi-directional] [EPP] [ECP].

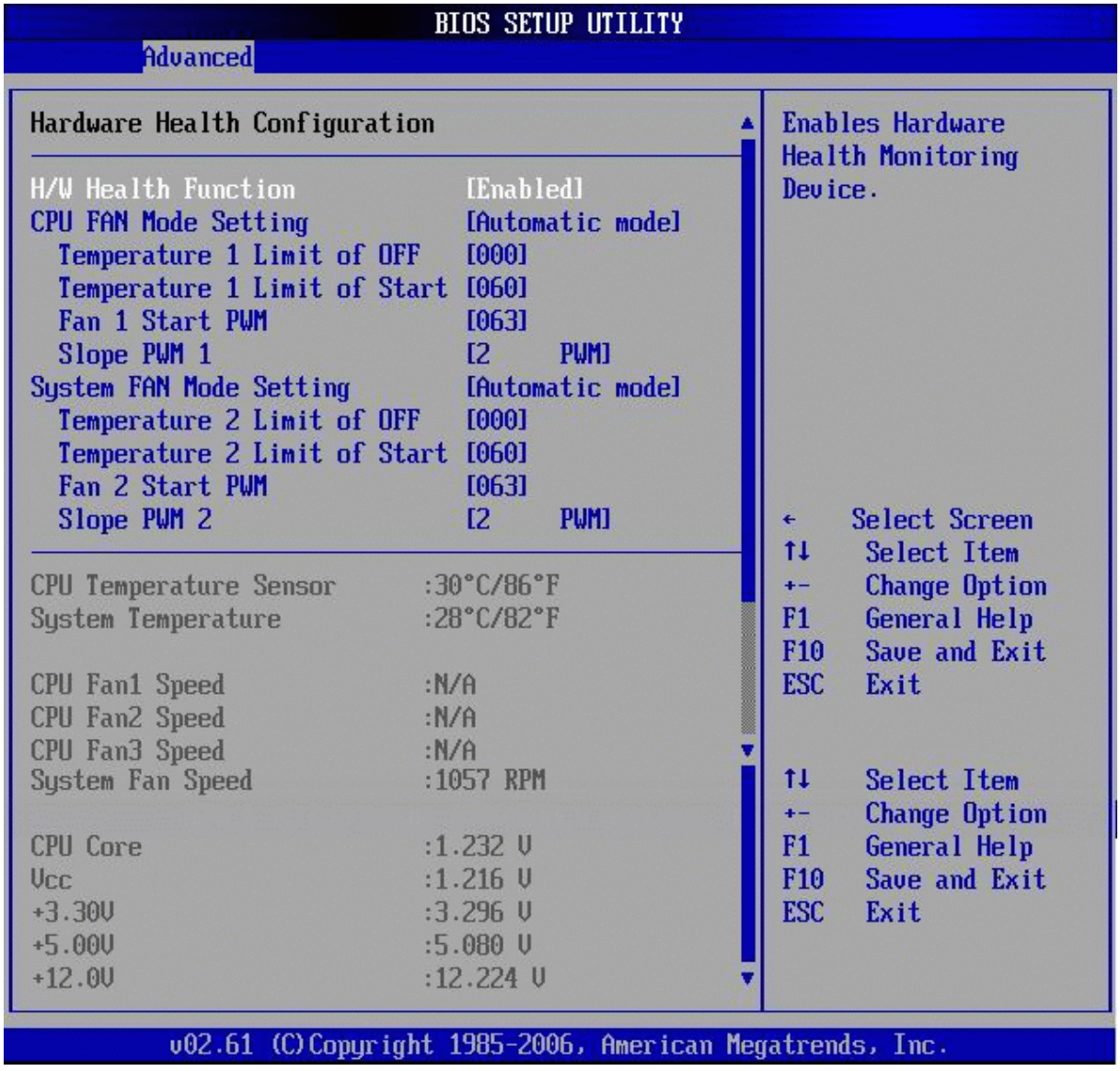
Parallel Port IRQ:
Configuration options: [IRQ5] [IRQ7].

Restore on AC Power Loss by IO

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] Leaves the computer in the power on state.

Hardware Health Configuration: Press <Enter> to enter the sub-menu and the following screen appears:



H/W Health Function : Enable/Disable Hardware Health Monitoring Device.

CPU FAN Mode Settings : These items allows you to select CPU fan mode Configuration options:[Automatic mode][Full On mode][PWM Manually mode]
Fan 1 Start PWM: Default set 63. The temperauter in low speed rpm of the Fan

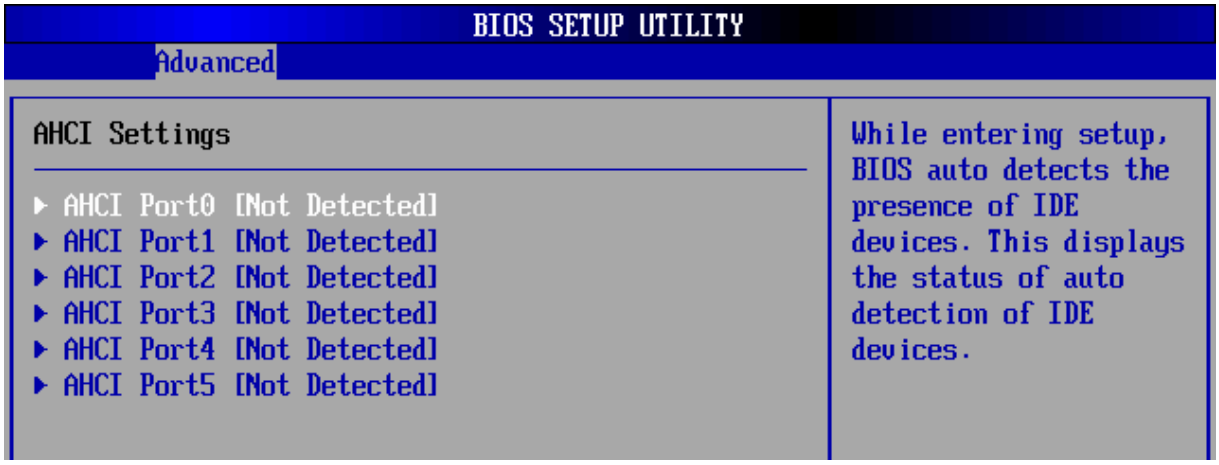
System FAN Mode Settings : These items allows you to select CPU fan mode Configuration options:[Automatic mode][Full On mode][PWM Manually mode]
Fan 2 Start PWM: Default set 63. The temperauter in low speed rpm of the Fan

Temperature 1 Limit of OFF : Default set 0°C. The FAN turn off in which temperature

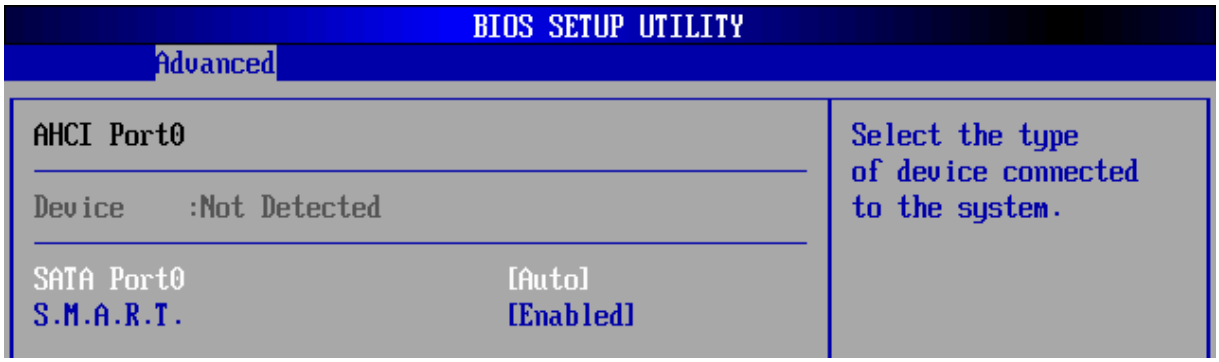
Temperature 1 Limit of Start : Default set 60°C. The FAN turns full speed in which temperature

SYS/CPU FAN Speed, CPU Vcore, FBD_VCC,+3V,+5V, +12V, FBD_VTT,-12V,5VSB,VBAT: These items display the current status of all of the monitored hardware devices components such as CPU voltages, and all fans' speeds.

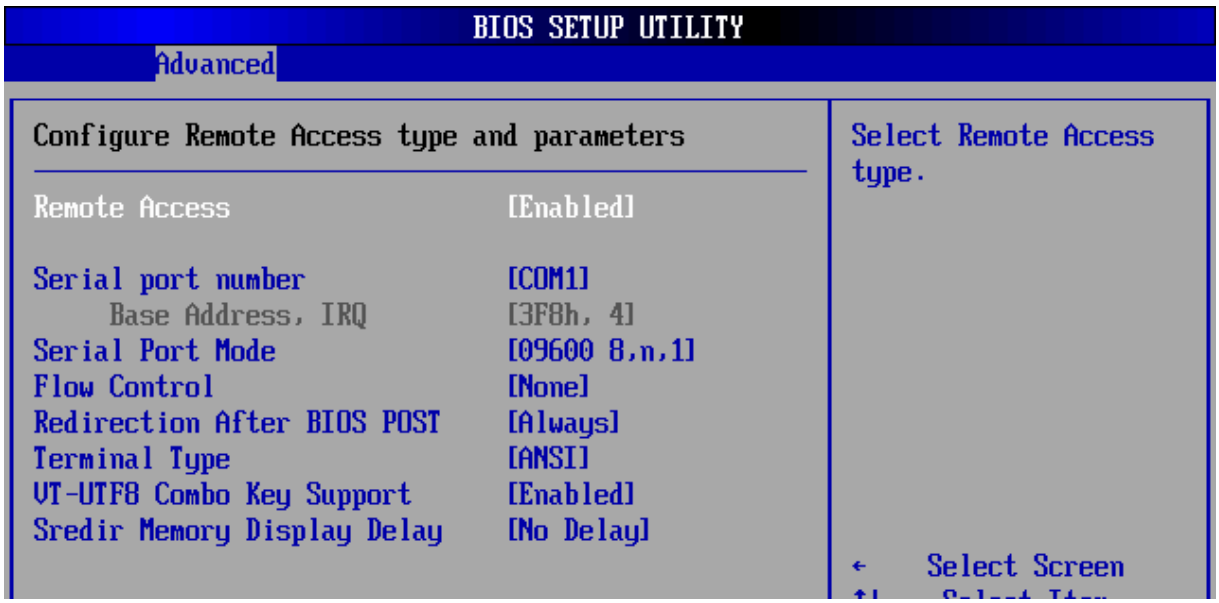
AHCI Configuration: Press <Enter> to enter the sub-menu and the following screen appears:



AHCI Port0/1/2/3/4/5[Not Detected]: While entering setup, BIOS auto detects the presence of IDE devices. This displays the status of auto detection of IDE device.



Remote Access Configuration: Press <Enter> to enter the sub-menu and enable Remote Access then the following screen appears:



Serial port number: Select Serial Port for console redirection.

Serial Port Mode: Select Serial Port setting.

Flow Control: Select Flow Control for console redirection.

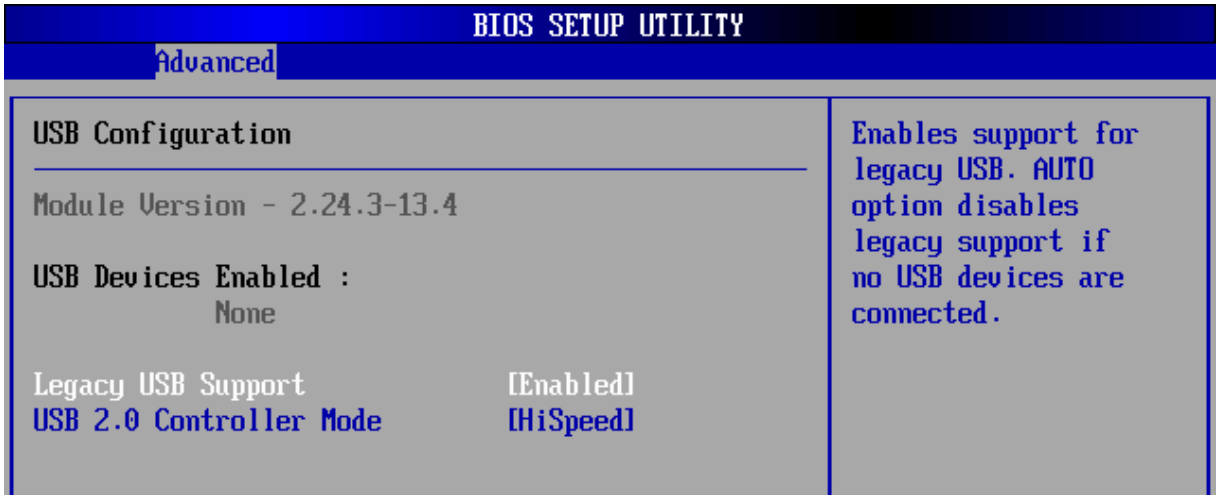
Redirection After BIOS POST: DISABLE, Turns off the redirection after POST. Boot Loader, Redirection is active during POST and during Boot Loader. Always, Redirection is always active.

Terminal Type: Select the target terminal type.

VT-UTF8 Combo Key Support: Enable VT-UTF8 Combination Key Support for ANSI/VT100 terminals.

Sredir Memory Display Delay: Gives the delay in seconds to display memory information.

USB Configuration: Press <Enter> to enter the sub-menu and the following screen appears:



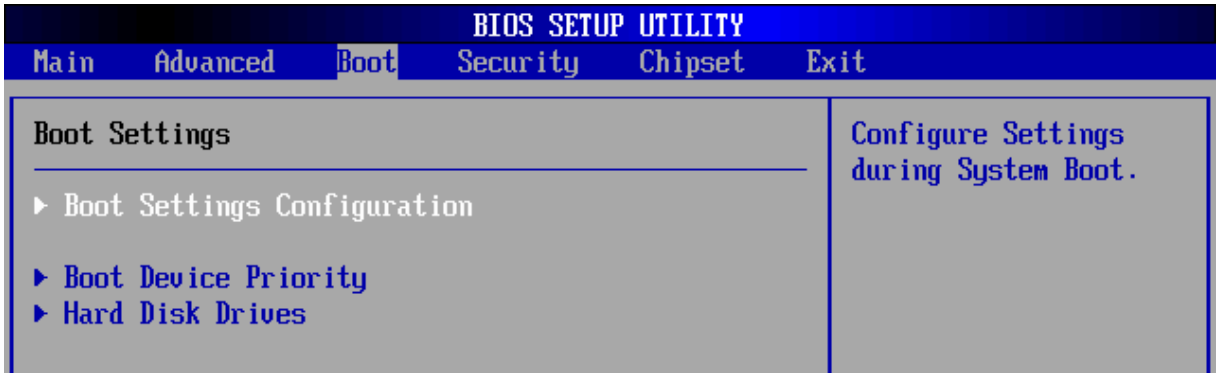
Lagacy USB Support: Enables support for legacy USB. AUTO option disable legacy support if no USB devices are connected.
Configuration options: [Disable] [Enable] [Auto].

USB 2.0 Controller Mode: Configures the USB 2.0 controller in HiSpeed or FullSpeed).

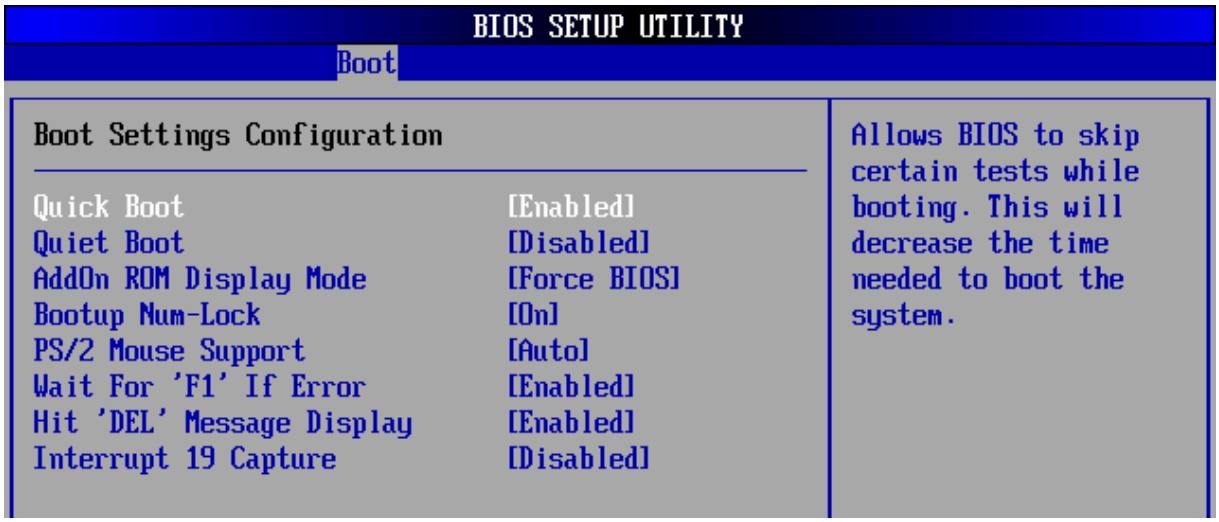
Configuration options: [FullSpeed] [HiSpeed].

4.4 Boot Menu

The Boot menu items allow you to change the system boot options. Select an item then press <Enter> to display the sub-menu.



Boot Setting Configuration: Press <Enter> to enter the sub-menu and the following screen appears:



Quick Boot : Enabling this item allows the BIOS to skip some power on self tests (POST) while booting to decrease the time needed to boot the system. When set to [Disabled], BIOS performs all the POST items. Configuration options: [Disabled] [Enabled]

Full Screen Logo: This allows you to enable or disable the full screen logo display feature.Configuration options: [Disabled] [Enabled]

Add On ROM Display Mode: Sets the display mode for option ROM.
Configuration options: [Force BIOS] [Keep Current].

Bootup Num-Lock: Allows you to select the power-on state for the NumLock. Configuration options: [Off] [On]

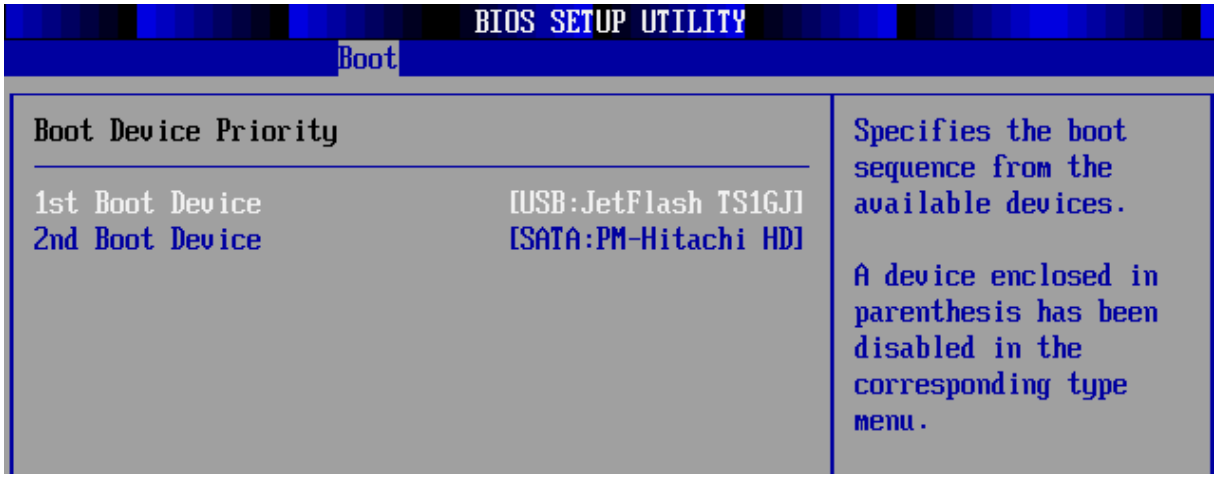
PS/2 Mouse Support: Allows you to enable or disable support for PS/2 mouse. Configuration options: [Disabled] [Enabled] [Auto].

Wait for 'F1' If Error: When set to Enabled, the system waits for the F1 key to be pressed when error occurs. Configuration options: [Disabled] [Enabled].

Hit 'DEL' Message Display: When set to Enabled, the system displays the message "Press DEL to run Setup" during POST. Configuration options: [Disabled] [Enabled].

Interrupt 19 Capture: When set to [Enabled], this function allows the option ROMs to trap Interrupt 19. Configuration options: [Disabled] [Enabled].

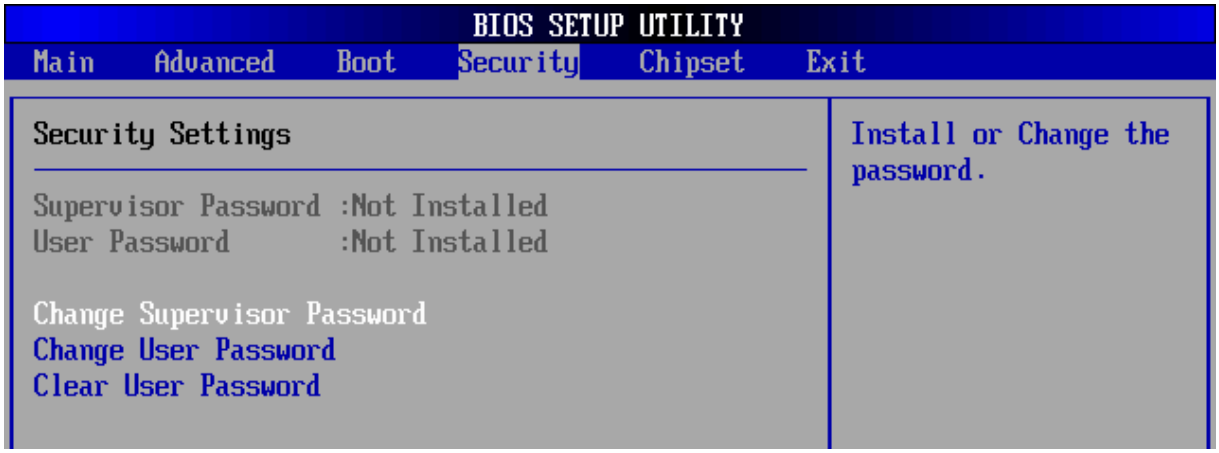
Boot Device Priority: Press <Enter> to enter the sub-menu and the following screen appears:



1st ~ xxth Boot Device: These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Configuration options: [xxxxx Drive] [Disabled].

4.5 Security Menu

Press <Enter> to enter the sub-menu and the following screen appears:



Type the password, up to 6 characters in length, and press <Enter>. The password typed now will replace any previously set password from CMOS memory. You will be prompted to confirm the password. Retype the password and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.
To clear a set password, just press <Enter> when you are prompted to enter the password. A message will show up confirming the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup without entering any password.

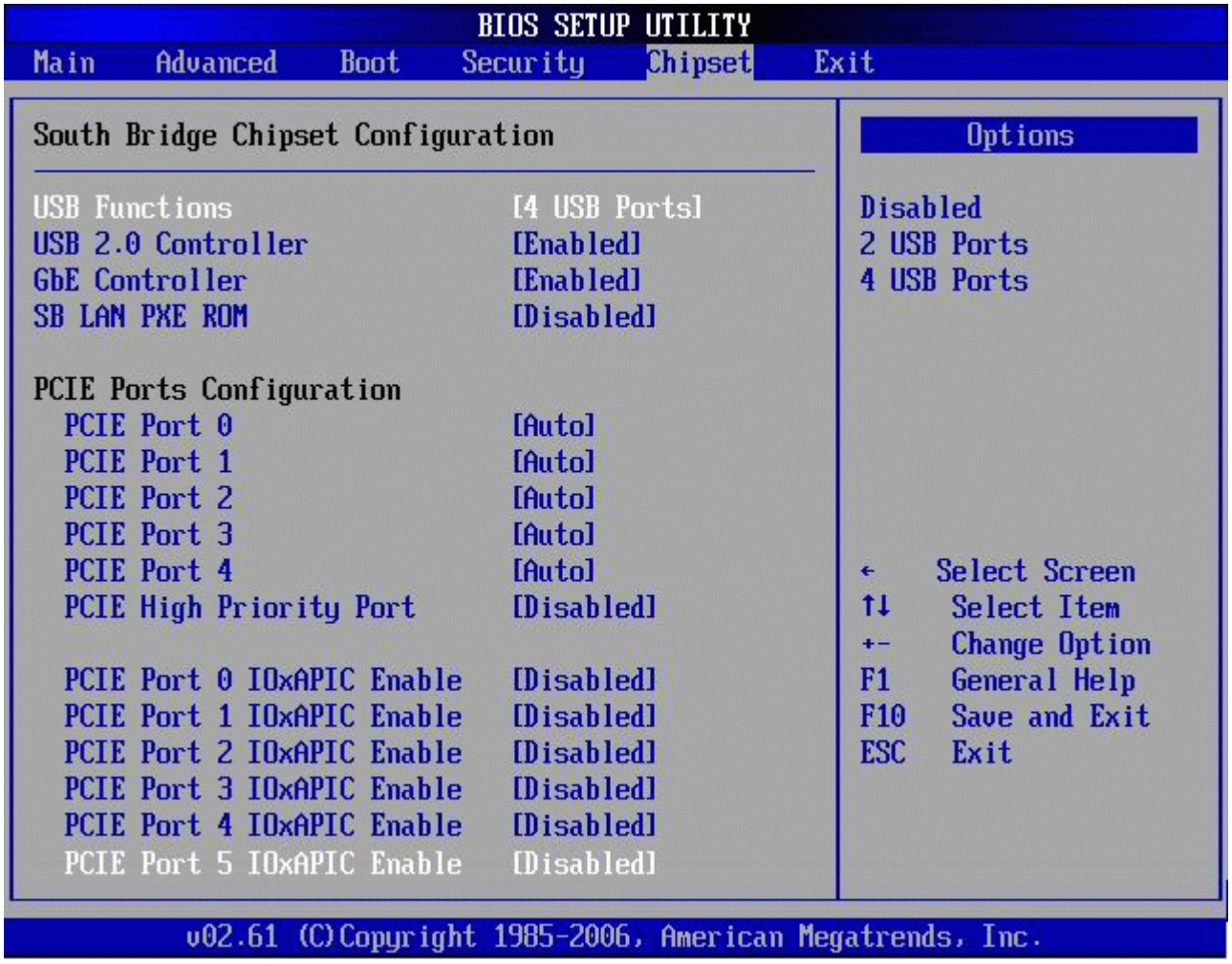
When a password has been set, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Change Supervisor Password: Install or Change the password.

Change User Password: Install or Change the password.

4.6 Chipset Settings

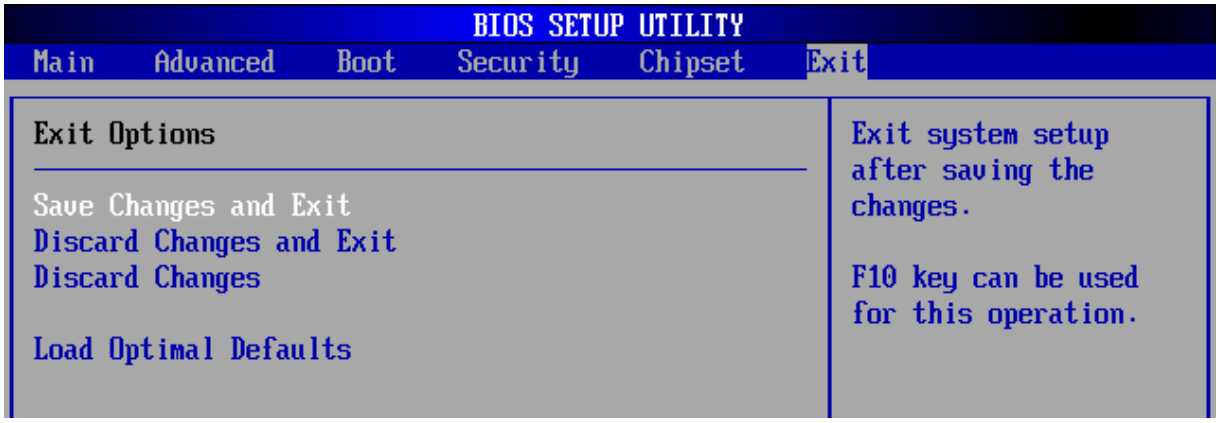
Press <Enter> to enter the sub-menu and the following screen appears:



USB Functions: Allows you to enable or disable support for USB ports.
Configuration options: [Disabled] [2 USB ports] [4USB ports].
USB 2.0 Controller: Enabled/Disabled USB 2.0 spec.
Configuration options: [Enabled][Disabled]
GbE Controller: Enabled/Disabled onchip LAN
Configuration options: [Enabled][Disabled]
SB LAN PXE ROM: For LAN boot
Configuration options: [Disabled][SB LAN][PCIE LAN1][PCIE LAN2][PCIE LAN3][PCIE LAN4][PCIE LAN5]
PCIE Port 0~4: Enabled/Disabled SB PCIE
Configuration options: [Auto][Enabled][Disabled]
PCIE High Priority Port: Select high priority for SB PCIE
Configuration options: [Disabled][Port 0][Port 1][Port 2][Port 3][Port 4][Port 5]
PCIE Port 0~5 IOxAPIC Enable: Enabled/Disabled IO APIC for SB PCIE
Configuration options: [Enabled][Disabled]

4.7 Exit Menu

Press <Enter> to enter the sub-menu and the following screen appears:



Save Changes and Exit: Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. An onboard backup battery sustains the CMOS RAM so it stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select Yes to save changes and exit.

Discard Changes and Exit: Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than System Date, System Time, and Password, the BIOS asks for a confirmation before exiting.

Discard Changes: This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select Yes to discard any changes and load the previously saved values.

Load Optimal Defaults: This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F9>, a confirmation window appears. Select Yes to load default values. Select Exit & Save Changes or make other changes before saving the values to the non-volatile RAM.

A. Appendix A: Power Supply

A.1 Power Supply Specifications

AC input specifications：Voltage 90 ~ 264 VAC FULL RANGE

Output specifications：

Output Voltage	Output Current （Min）	Output Current （Max）	Output Current Peak	Regulation Load	Regulation Line	Output Ripple & Noise Max.[P-P]
+5V	1A	32A		± 5%	± 50mV	50mV
+12V	2A	42A		± 5%	± 50mV	70mV
-12V	0A	1A		± 5%	± 50mV	70mV
-3.3V	1A	24A		± 5%	± 50mV	50mV
+5VSB	0.1A	2.0A		± 5%	± 50mV	50mV

A.2 Feature

- 12V, Maximum current: 42A
- Temperature Range: Operating ranges from 0℃ to 40℃, Storage ranges from -20℃ to 80℃
- Dual EMI Noise Inlet Filter: CE Class B, FCC Class B
- Safety: UL 1950, CSA 1402C & CSA 950, TUV EN-60950-1
- Hot-swappable/ Hot-pluggable Redundancy function
- Used 48-Pin industrial connectors
- Cooling: 38 x 38 x 28 mm DC Fans x 2
- AC Inlet in each module

B. Appendix B: Watchdog Timer

B.1 Introduction

Most systems need to be self-reliant. If an error should occur it is typically not possible to wait for the system to be rebooted manually. In some cases, such as apace probes, the system is simply disabled. In other cases, the speed at which a human operator would reset the system would be too slow to meet the uptime requirements of the product.

A watchdog timer is a piece of hardware that can be used to automatically detect system anomalies and reset the processor if the case any problems are found. Generally speaking, a watchdog timer is based on a counter that counts down from an initial value to zero. The software selects the counter's initial value and periodically restarts it. Should the counter reach zero before the software restarts it, the software is presumed to be malfunctioning and the processor's reset signal is asserted. Thus, the processor will be restarted as if a human operator had cycled the power

Note: The watchdog function is from the Intel 82573L. Lanner provides sample codes and the Intel 82573L datasheet in the Manual/ Driver CD under the path:// WATCHDOG

C. Appendix C: Console Redirection

Console redirection lets you maintain a system from a remote location by re-directing keyboard input and text output through the serial port. This section will tell you how to use this feature.

1. Attach the console cable to the FW-8750 and Remote Client System.
2. Choose the following settings in the BIOS Setup menu for FW-8750.

   BIOS > Advanced > Remote Access Configuration > Serial Port Mode > [115200, 8 , n , 1](Defult）
3. Configure Console Redirection on the client system. The following example is applicable for a Windows platform:

   A. Click the start button, point to Programs > Accessories > Communications and select Hyper Terminal.

   B. Enter any name for the new connection and select any icon.

   C. Click OK.

   D. From the "Connect to". Pull-down menu, select a **Com2** port available on the client system and click OK.

   E. Select Baud Rate > 115200 > Flow Control > None.

   F. Select Data bit > 8.

   G. Select Parity Check > None.

   H. Select Stop bit > 1.

   I. Power on the FW-8890, and it should display the BIOS information on the client system..

D. Appendix D: LCM Module and Keypad for FW-8750

D.1 Purpose of this chapter

The purpose of this document is to provide installation information for the LCM module and key pad installed in the FW-8750

D.2 LCM module specification overview

The LCM module is designed to provide real-time operating status and configuration information for the system. The detail specifications can be referenced in the Manual/ Driver CD under the path:// LCM/ LCD_Datasheet.pdf

The driver and library can be found on the Manual/ Driver CD under the path://LCM

E. Appendix E: LAN Bypass Function

E.1 Introduction

The bypass function is used to link (or short) two independent Ethernet ports when the system crash or powers off. This means if your system is equipped with a LAN Bypass function, a condition in your system will not interrupt your network traffic. There are typically two communication states for the bypass function, one is "Normal" state and another is "Bypass" state. Lanner provides three methods for enabling the LAN Bypass function.

1. When the system powers off, it will be forced to enable the LAN Bypass function directly..
2. User can enable or disable the LAN Bypass function by programming which Control by GPIO.
3. A watchdog timer（WDT）can be used to control the LAN Bypass function via programming.

Please refer to the Intel 82573L datasheet on the Manual/ Driver CD under the path// LAN_Bypass. Lanner also provides sample code for reference.

F. Appendix F: Hotswap Hard disk

F.1 Introduction

Hot swap is a feature supported by the Advanced Host Controller Interface(AHCI). Hot swap allows devices to be removed and inserted while the system is running.

In order for hot swap to be enabled, the following must to be true :

1. bios select Advanced → IDE configuration -→ Configure SATA as -→ AHCI
2. Operating system must to be support the AHCI driver. But be notes that AHCI is fully supported out of the box for Microsoft Windows and the Linux operating system from kernel 2.6.19 or later.

Terms and Conditions

Date:2007.03.19

Warranty Policy

1. All products are under warranty against defects in materials and workmanship for a period of one year from the date of purchase.
2. The buyer will bear the return freight charges for goods returned for repair within the warranty period; whereas the manufacturer will bear the after service freight charges for goods returned to the user.
3. The buyer will pay for repair (for replaced components 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 customer's expense.
5. The following conditions are excluded from this warranty:

   Improper or inadequate maintenance by the customer

   Unauthorized modification, misuse, or reversed engineering of the product

   Operation outside of the environmental specifications for the product.

RMA Service

Requesting a RMA#

1. To obtain a RMA number, simply fill out and fax the "RMA Request Form" to your supplier.
2. The customer is required to fill out the problem code as listed. If your problem is not among the codes listed, please write the symptom description in the remarks box.
3. Ship the defective unit(s) on freight prepaid terms. Use the original packing materials when possible.
4. Mark the RMA# clearly on the box.

Note: Customer is responsible for shipping damage(s) resulting from inadequate/loose packing of the defective unit(s). All RMA# are valid for 30 days only; RMA goods received after the effective RMA# period will be rejected.

RMA Service Request Form

When requesting RMA service, please fill out the following form. Without this form enclosed, your RMA cannot be processed.

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
	09: Cache RMA Problem	15: PS2	21: Shut Down
03: CMOS Data Lost	10: Memory Socket Bad	16: LAN	22: Panel Fail
04: FDC Fail	11: Hang Up Software	17: COM Port	23: CRT Fail
05: HDC Fail	12: Out Look Damage	18: Watchdog Timer	24: Others (Pls specify)
06: Bad Slot			

Request Party ***Confirmed By Supplier***

Authorized Signature / Date **Authorized Signature / Date**

8