PL-80470

Networking Appliance

1U Rack-Mount Intel® Sandy/Ivy Bridge Core i7/i5/i3 Network System, 6 Copper GbE, SATA, CF, LCM, PCI-E, Bypass

User's Manual

Version 1.0a, 212

Custom Embedded Solutions

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For technical support send your inquiries to sales@win-ent.com.

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Chapter 1. General Information

1.1 Introduction

The PL-80470 is a 1U rackmount hardware platform designed for high performance network service applications that supports Intel Sandy/Ivy Bridge Core™ i7/i5/i3 processors with Intel® Advanced Vector Extensions and Turbo Boost Technology.

The platform supports two DDR3 1066/1333MHz unbuffered non-ECC DIMM sockets with memory up to 16GB. In order to provide the best network performance and best utilization, the powerful storage interfaces support one 3.5" or two 2.5" SATA HDD, one mSATA and one CompactFlash™.

This platform supports a range of 6 GbE to 14 GbE Ethernet ports via PCI-E by 8 accessible on the front-panel. To prevent network problems when the platform shuts down PL-80470 supports two segments of LAN bypass function through WDT and GPIO pin definitions. The front panel also has dual USB 2.0 ports, one RJ-45 console port and LED indicators that monitor power and storage device activities for local system management, maintenance and diagnostics. In addition, the PL-80470 features one PCI-E x8 slot or one PCI-E x8 Golden Finger connector to support an optional Ethernet module or PCI-E card.

1.2 Specifications

Processor System	CPU	Support Single Intel® Sandy Bridge Xeon E3/Core i7/i5/i3 processors, LGA1155
	Chipset	Intel® H61 PCH
	DMI	Up to 2.5GT/s
	BIOS	AMI® UEFI BIOS
Memory	Technology	Dual-channel, ECC/Non-ECC, un-buffered, DDR3 1066/1333MHz memory
	Capacity	Up to 16GB with 2 DIMM sockets
Expansion	Expansion Slots	One PCI-E x8 slot for expansion module One PCI-E x8 golden finger for

		expansion module (optional Riser card)
Ethernet	GbE Ethernet	Six RJ45 GbE ports, Intel I211, PCI-E x1, with two pairs bypass function (optional) 2~8 GbE ports (optional expansion module)
Storage	SATA	Internal HDD bay support one 3.5" or two 2.5" SATA HDD
	Compact Flash Socket	One CompactFlash™ Type I/II
I/O	USB	One External Dual USB2.0 One internal USB 2.0 (5x2 pin header)
	Serial	One RJ45 Console port (COM1) One internal header for second console (COM2)
Power Supply	Watt	ATX power supply
Mechanical and Environment	Form Factor	1U rack-mount
	LCD Module	One 16x2 LCM
	Keypad	Four buttons keypad
	LED	One Power LED (Green) One HDD LED (Yellow) Two Bypass LED (Green)
	Dimension（W x D x H）	435mm (W) x 400mm (D) x 44mm (H) (17.1" W x 15.8" D x 1.7" H)
	Operating Temperature	Operating: 0 ~ 40℃ (32 ~ 104℉)
	Humidity	10 ~ 85% relative humidity, non-operating, non-condensing
Weight	1pc/CTN, 10kgs, 55.5cm(W) x 54cm(D) x 22.5cm(H)	
Certification	CE/FCC	

1.3 Ordering Information

We offer some accessories for PL-80470 appliance for customer need.

PL-8047A	1U Rack-Mount Intel® Sandy/Ivy Bridge Core i7/i5/i3 Network System, 6 Copper, LCM, PCI-E, Bypass
DK001	Cable development kit

1.4 Packaging

Please make sure that the following items have been included in the package before installation.

1. PL-80470 Appliance
2. Quick Installation Guide (Optional)
3. Cables (Optional)
4. CD-ROM that contains the following folders:

(1) Manual
(2) System Driver
(3) Ethernet Driver
(4) Utility Tools

If any of the above items is missing or damaged, please contact sales@win-ent.com. Retain the box and carton for safe shipping and storage. After you unpack the box inspect everything and make sure the contents are intact. Do not plug in the power adapter of the appliance if you find it damaged.

Note: Keep the PL-80470 in the original packaging until you start installation.

1.5 Precautions

Please make sure you properly ground yourself before handling the PL-80470 appliance or other system components. Electrostatic discharge can be easily damage the PL-80470 appliance.

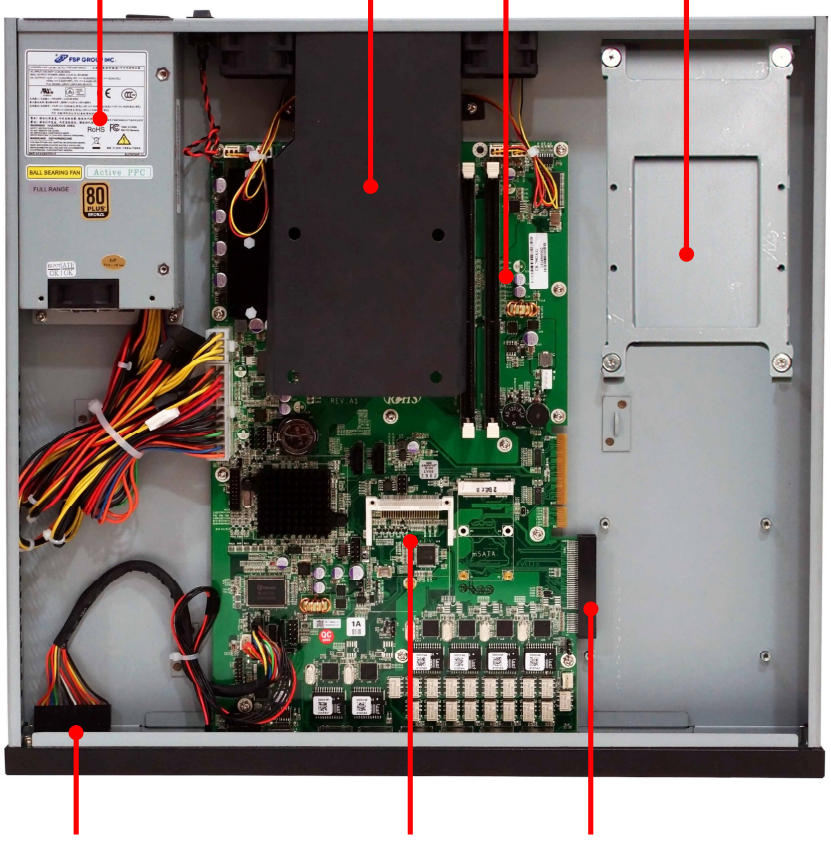
Do not remove the anti-static packing until you are ready to install the PL-80470 appliance.

Ground yourself before removing any system component from its protective anti-static packaging. To ground yourself, grasp the expansion slot covers or other unpainted parts of the computer chassis.

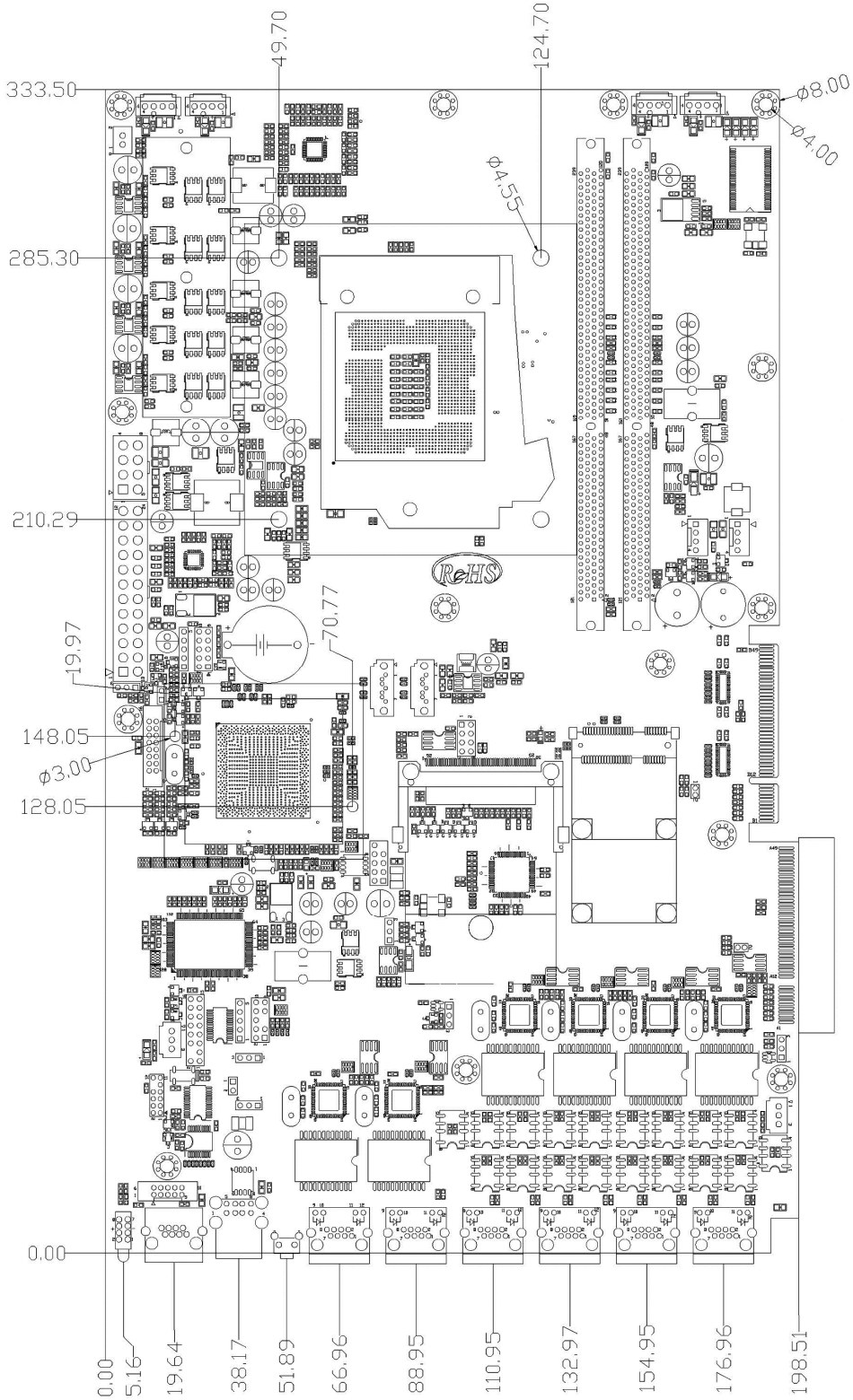
Handle the PL-80470 appliance by its edges and avoid touching the components on it.

1.6 System Layout

PL-80470 Front Side

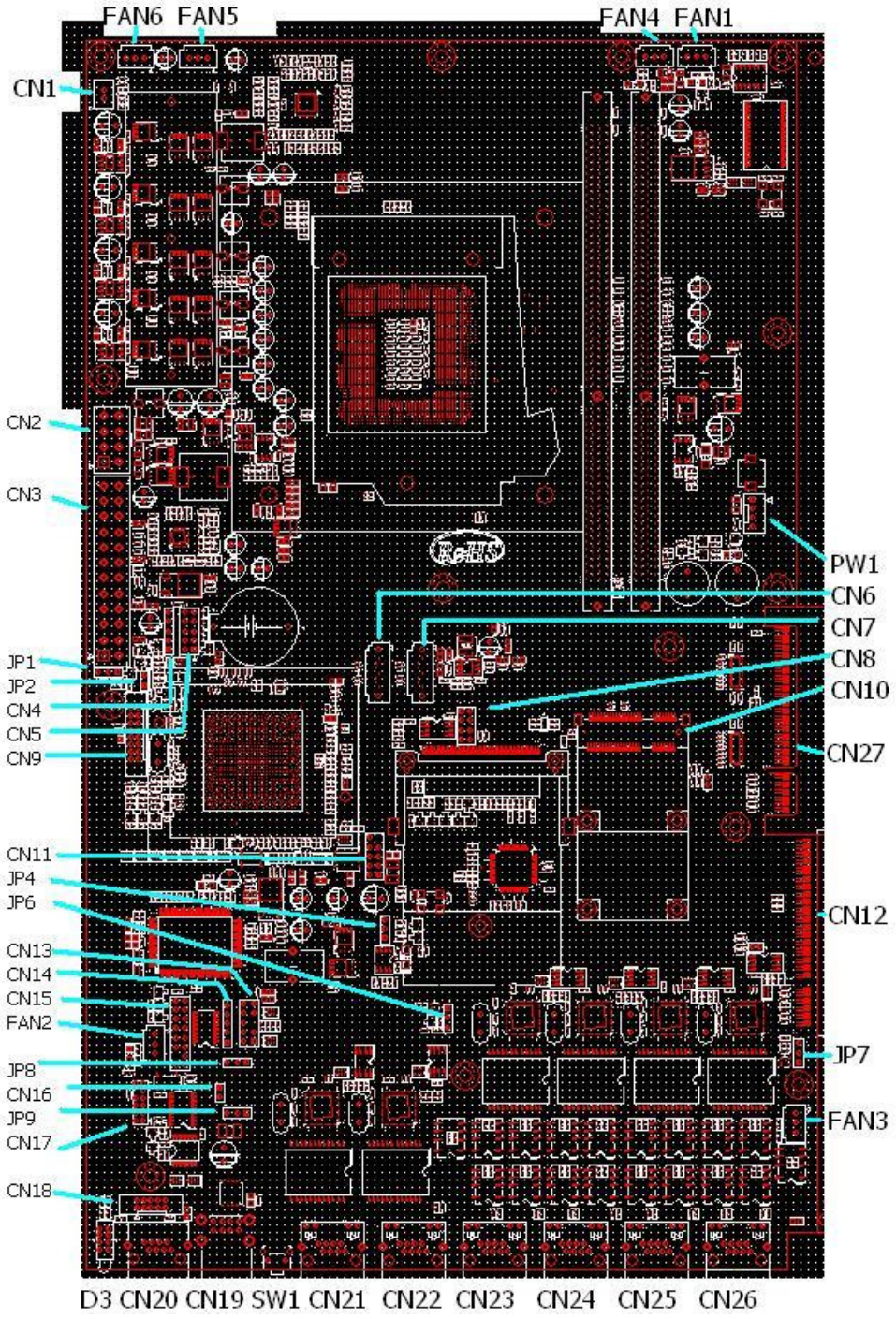


1.7 Board Dimensions



Chapter 2. Connector/Jumper Configuration

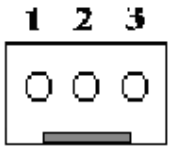
2.1 Connector/Jumper Locations and Definitions



Connector	Define	Connector	Define
FAN 1	FAN Connector	CN16	Reset Pin Header
FAN 2	FAN Connector	CN17	LPC Pin Header
FAN 3	FAN Connector	CN18	COM2 Box Header
FAN 4	SMART FAN Connector	CN19	USB Connector (2 ports)
FAN 5	SMART FAN Connector	CN20	COM1 RJ45 Connector
FAN 6	SMART FAN Connector	CN21	Giga LAN RJ45 Connector
CN1	ATX SWITCH Pin Header	CN22	Giga LAN RJ45 Connector
CN2	+12V Power Connector(8Pin)	CN23	Giga LAN RJ45 Connector
CN3	ATX Power Connector(24Pin)	CN24	Giga LAN RJ45 Connector
CN4	GPI Pin Header	CN25	Giga LAN RJ45 Connector
CN5	GPO Pin Header	CN26	Giga LAN RJ45 Connector
CN6	SATA Connector	CN27	PCI-E x8 Golden Finger
CN7	SATA Connector	JP1	Power on type
CN8	SPI Pin Header	JP2	VCCSA_VID
CN9	VGA Pin Header	JP3	PCI-E Golden Finger +5V
CN10	MSATA	JP4	CMOS MODE
CN11	USB Pin Header (2 ports)	JP5	PCI-E SLOT +5V
CN12	PCI-E x8 Slot	JP6	LAN3-4 Bypass
CN13	PS2 KB/MS	JP7	LAN1-2 Bypass
CN14	LCM Keypad Pin Header	JP8	Watchdog function
CN15	LCM Pin Header	JP9	Reset mode for SW1

2.2 Connector and Jumper Setting

FAN 1 /2 /3 /4 /5 /6 : FAN Connector

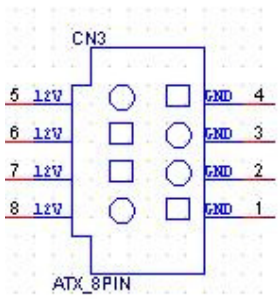


Pin	Define
1	GND
2	+12V
3	Speed Detect

CN1：ATX SWITCH Pin Header

Pin	Define
1	5VSB
2	SIGNAL

CN2：+12V Power Connector (8Pin)



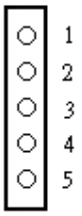
Pin	Define	Pin	Define
1	Ground	5	+12V
2	Ground	6	+12V
3	Ground	7	+12V

4	Ground	8	+12V

CN3：ATX Power Connector

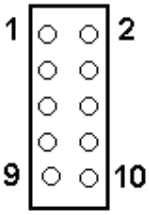
Pin	Define	Pin	Define
11	+3.3V	1	+3.3V
12	-12V	2	+3.3V
13	GND	3	GND
14	PS_ON*	4	+5V
15	GND	5	GND
16	GND	6	+5V
17	GND	7	GND
18	RSVD	8	POWER GOOD
19	+5V	9	5VSB
20	+5V	10	+12V
21	+5V	11	+12V
22	+GND	12	+3.3V

CN4：GPI Pin Header



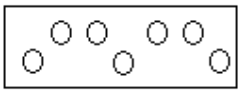
Pin	Define
1	GPI0
2	GPI1
3	GPI2
4	GPI3
5	GND

CN5：GPO Pin Header



Pin	Define	Pin	Define
1	GPO4-	2	GPO4+
3	GPO5-	4	GPO5+
5	GPO6-	6	GPO6+
7	GPO7-	8	GPO7+
9	Ground	10	+5V

CN6,7：SATA Connector

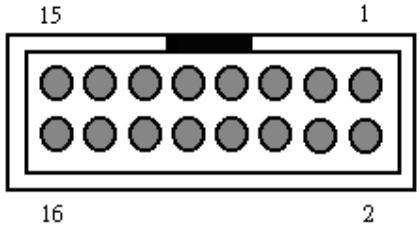


Pin	Define
1	Ground
2	TXP
3	TXN
4	Ground
5	RXN
6	RXP
7	Ground

CN8：SPI Pin Header

Pin	Define	Pin	Define
1	+3.3V	2	Ground
3	CS#	4	SCLK
5	MISO	6	MOSI
7	NONE	8	IO

CN9：VGA Pin Header



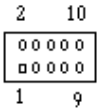
Pin	Define	Pin	Define
1	RED	2	GREEN
3	BLUE	4	N/A
5	GND	6	GND
7	GND	8	GND
9	+5V	10	GND
11	N/A	12	SDA
13	HSYNC	14	VSYNC
15	SCL	16	N/A

CN10：mSATA Connector

Pin	Define	Pin	Define
1	N/A	2	+3.3V
3	N/A	4	GND
5	N/A	6	N/A
7	N/A	8	N/A
9	GND	10	N/A
11	N/A	12	N/A
13	N/A	14	N/A
15	GND	16	N/A
17	N/A	18	GND
19	N/A	20	N/A
21	GND	22	RESET
23	RXP	24	+3.3V
25	RXN	26	GND
27	GND	28	N/A
29	GND	30	SMBCLK
31	TXN	32	SMBDAT
33	TXP	34	GND

35	GND	36	USBN
37	GND	38	USBP
39	+3.3V	40	GND
41	+3.3V	42	N/A
43	N/A	44	N/A
45	N/A	46	N/A
47	N/A	48	N/A
49	ACT_LED#	50	GND
51	N/C	52	+3.3V

CN11：USB Pin Header (2 ports)



Pin	Define	Pin	Define
1	+5V	2	+5V
3	USB1N	4	USB2N-
5	USB1P	6	USB2P
7	Ground	8	Ground
9	N/A	10	Ground

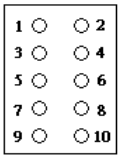
CN12：PCI-E x8 Slot

Pin	Define	Pin	Define
A1	GND	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	+12V
A4	GND	B4	GND
A5	+3.3V	B5	SMB_CLK_RESUME
A6	+3.3V	B6	SMB_DATA_RESUME
A7	GND	B7	GND
A8	+3.3V	B8	+3.3V
A9	+3.3V	B9	NC
A10	+3.3V	B10	+3.3V_STBY

A11	RESET	B11	PE_WAKE
A12	GND	B12	PWROK
A13	CLK_100MP	B13	GND
A14	CLK_100MN	B14	TX_0_DP
A15	GND	B15	TX_0_DN
A16	RX_0_DP	B16	GND
A17	RX_0_DN	B17	VCC5_SLOT
A18	GND	B18	GND
A19	VCC5	B19	TX_1_DP
A20	GND	B20	TX_1_DN
A21	RX_1_DP	B21	GND
A22	RX_1_DN	B22	GND
A23	GND	B23	TX_2_DP
A24	GND	B24	TX_2_DN
A25	RX_2_DP	B25	GND
A26	RX_2_DN	B26	GND
A27	GND	B27	TX_3_DP
A28	GND	B28	TX_3_DN
A29	RX_3_DP	B29	GND
A30	RX_3_DN	B30	WatchDog -Bypass
A31	GND	B31	GPIO53
A32	GPIO55	B32	GND
A33	PCI-E_CFG2	B33	TX_4_DP
A34	GND	B34	TX_4_DN
A35	RX_4_DP	B35	GND
A36	RX_4_DN	B36	GND
A37	GND	B37	TX_5_DP
A38	GND	B38	TX_5_DN
A39	RX_5_DP	B39	GND
A40	RX_5_DN	B40	GND
A41	GND	B41	TX_6_DP
A42	GND	B42	TX_6_DN
A43	RX_6_DP	B43	GND
A44	RX_6_DN	B44	GND

A45	GND	B45	TX_7_DP
A46	GND	B46	TX_7_DN
A47	RX_7_DP	B47	GND
A48	RX_7_DN	B48	PCI-E_CFG1
A49	GND	B49	GND

CN13：PS2 KB/MS Pin Header



Pin	Define	Pin	Define
1	KCLK	2	MCLK
3	KDAT	4	MDAT
5	N/A	6	N/A
7	PS2_GND	8	PS2_GND
9	PS2_VCC	10	PS2_VCC

CN14：LCM KEYPAD Pin Header

Pin	Define
1	ACK#
2	BUSY
3	PE
4	SLCT
5	Ground

CN15：LCM Pin Header

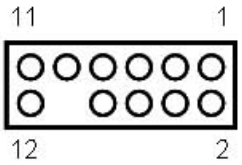
Pin	Define	Pin	Define
1	+5V	2	Ground

3	AFD#	4	N/A
5	INIT#	6	SLIN#
7	PD1	8	PD0
9	PD3	10	PD2
11	PD5	12	PD4
13	PD7	14	PD6
15	BLN	16	BLP

CN16：Reset Pin Header

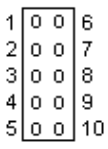
Pin	Define
1	Ground
2	Reset #

CN17：LPC Pin Header



Pin	Define	Pin	Define
1	+3.3V	2	AD 0
3	AD 1	4	AD 2
5	AD 3	6	Frame#
7	PCIRST#	8	+5V
9	CLOCK	10	N/A
11	Ground	12	Ground

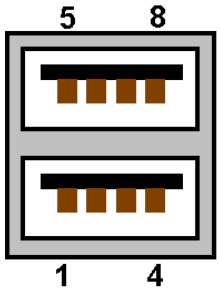
CN18：COM2 Box Header



Pin	Define	Pin	Define
1	DCD#	6	DSR#

2	RXD#	7	RTS#
3	TXD#	8	CTS#
4	DTR#	9	RI#2
5	Ground	10	N/A

CN19：USB Connector x2port

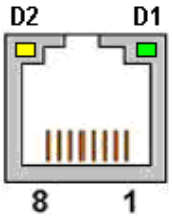


Pin	Define
1	+5V_USB
2	USBDT0-
3	USBDT0+
4	Ground
5	+5V_USB
6	USBDT1-
7	USBDT1+
8	Ground

CN20：COM1 RJ45 Connector

Pin	Define
1	CTS#
2	DTR#
3	TXD#
4	GND
5	GND
6	RXD#
7	DSR#
8	RTS#

CN21~CN26：Giga LAN RJ45 Connector



Pin	Define
1	MDI0+
2	MDI0-
3	MDI1+
4	MDI2+
5	MDI2-
6	MDI1-
7	MDI3+
8	MDI3-

LED:

D2 : Link/Activity LED	
Link	Green
Activity	Blinking
D1 : Bi-Color Speed LED	
10 Mbps	Off
100 Mbps	Yellow
1000Mbps	Green

CN27：PCI-E x8 Golden Finger

Pin	Define	Pin	Define
A1	GND	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	+12V
A4	GND	B4	GND
A5	+3.3V	B5	SMB_CLK_RESUME
A6	+3.3V	B6	SMB_DATA_

			RESUME
A7	GND	B7	GND
A8	+3.3V	B8	+3.3V
A9	+3.3V	B9	NC
A10	+3.3V	B10	+3.3V_STBY
A11	RESET	B11	PE_WAKE
A12	GND	B12	PWROK
A13	CLK_100MP	B13	GND
A14	CLK_100MN	B14	TX_0_DP
A15	GND	B15	TX_0_DN
A16	RX_0_DP	B16	GND
A17	RX_0_DN	B17	VCC5_SLOT
A18	GND	B18	GND
A19	VCC5	B19	TX_1_DP
A20	GND	B20	TX_1_DN
A21	RX_1_DP	B21	GND
A22	RX_1_DN	B22	GND
A23	GND	B23	TX_2_DP
A24	GND	B24	TX_2_DN
A25	RX_2_DP	B25	GND
A26	RX_2_DN	B26	GND
A27	GND	B27	TX_3_DP
A28	GND	B28	TX_3_DN
A29	RX_3_DP	B29	GND
A30	RX_3_DN	B30	WatchDog -Bypass
A31	GND	B31	GPIO8
A32	GPIO15	B32	GND
A33	GND	B33	TX_4_DP
A34	GND	B34	TX_4_DN
A35	RX_4_DP	B35	GND
A36	RX_4_DN	B36	GND
A37	GND	B37	TX_5_DP
A38	GND	B38	TX_5_DN
A39	RX_5_DP	B39	GND

A40	RX_5_DN	B40	GND
A41	GND	B41	TX_6_DP
A42	GND	B42	TX_6_DN
A43	RX_6_DP	B43	GND
A44	RX_6_DN	B44	GND
A45	GND	B45	TX_7_DP
A46	GND	B46	TX_7_DN
A47	RX_7_DP	B47	GND
A48	RX_7_DN	B48	GPIO27_IN
A49	GND	B49	GND

JP1: Power on type

Pin		Setting
	1-2	Control by POSN# (Default)
	2-3	Force On

JP2: VCCSA_VID

	
N/A	0.925V(default)
1-2	0.85V

JP3,JP5 : PCI-E Golden Finger/ SLOT +5V

	
1-2	+5V IN

JP4: CMOS MODE

Pin	Setting

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

JP6 : LAN3-4 Bypass
JP7 : LAN1-2 Bypass

Pin		Setting
	1-2	Normal (Default)
	2-3	Bypass Always Disable

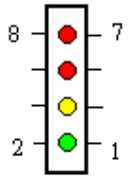
JP8: Watchdog function

Pin		Setting
	1-2	Reset (Default)
	2-3	LAN Bypass

JP9: Reset mode for SW1

Pin		Setting
	1-2	GPI (Default)
	2-3	Reset

LED3:

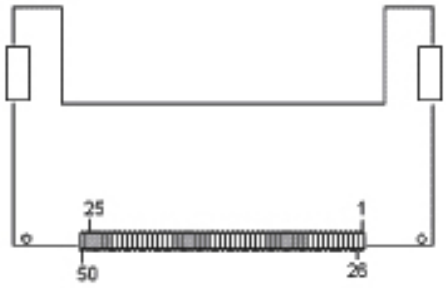


Pin	Define	Pin	Define
1	GND	2	Power LED+
3	HDD LED-	4	HDD LED+
5	BYPASS1_ LED-	6	BYPASS1_LED+
7	BYPASS2_ LED-	8	BYPASS2_LED+

2.3 CompactFlashTM Card Socket Pin Define

CompactFlash™ card is a small removable mass storage device. It can provide complete PCMCIA-ATA functionality and compatibility plus True IDE functionality compatible with ATA/ATAPI-4.
CompactFlash™ storage products are solid state form factor, it means they contain no moving parts. Thus, it provides users with much greater protection of the data than conventional magnetic disk device.

Pin	Assignment	Pin	Assignment	Pin	Assignment	Pin	Assignment	Pin	Assignment
1	Ground	11	Ground	21	D00	31	D15	41	RESET
2	D03	12	Ground	22	D01	32	CS	42	ORDY
3	D04	13	VCC	23	D02	33	NC	43	DREG
4	D05	14	Ground	24	WP	34	IOR	44	DACK
5	D06	15	Ground	25	NC	35	IOW	45	LED
6	D07	16	Ground	26	NC	36	WE	46	BVD
7	CS	17	Ground	27	D11	37	RDY/BSY	47	D08
8	Ground	18	A02	28	D12	38	VCC	48	D09
9	Ground	19	A01	29	D13	39	SCSE	49	D10
10	Ground	20	A00	30	D14	40	NC	50	Ground



Chapter 3. BIOS Setup

The ROM chip of your PL-80470 board is configured with a customized Basic Input/Output System (BIOS) from AMI BIOS. The BIOS is a set of permanently recorded program routines that give the system its fundamental operational characteristics. It also tests the computer and determines how the computer reacts to instructions that are part of programs.

The BIOS is made up of code and programs that provide the device-level control for the major I/O devices in the system. It contains a set of routines (called POST, for Power-On Self Test) that check out the system when you turn it on. The BIOS also includes BIOS setup program, so no disk-based setup program is required CMOS RAM stores information for:

- Date and time
- Memory capacity of the appliance
- Type of display adapter installed
- Number and type of disk drives

The CMOS memory is maintained by battery installed on the PL-80470 board. By using the battery, all memory in CMOS can be retained when the system power switch is turned off. The system BIOS also supports easy way to reload the CMOS data when you replace the battery of the battery power lose.

3.1 Quick Setup

In most cases, you can quickly configure the system by choosing the following main menu options:

1. Choose "Exit" ➔ "Load Optimal Defaults" from the main menu. This loads the setup default values from the BIOS Features Setup and Chipset Features Setup screens.
2. Choose "Main" & "Advanced" from the main menu. This option lets you configure the date and time, hard disk type, floppy disk drive type, primary display and more.
3. In the main menu, press F4 ("Save and Exit") to save your changes and reboot the system.

3.2 Entering the BIOS Setup Utility

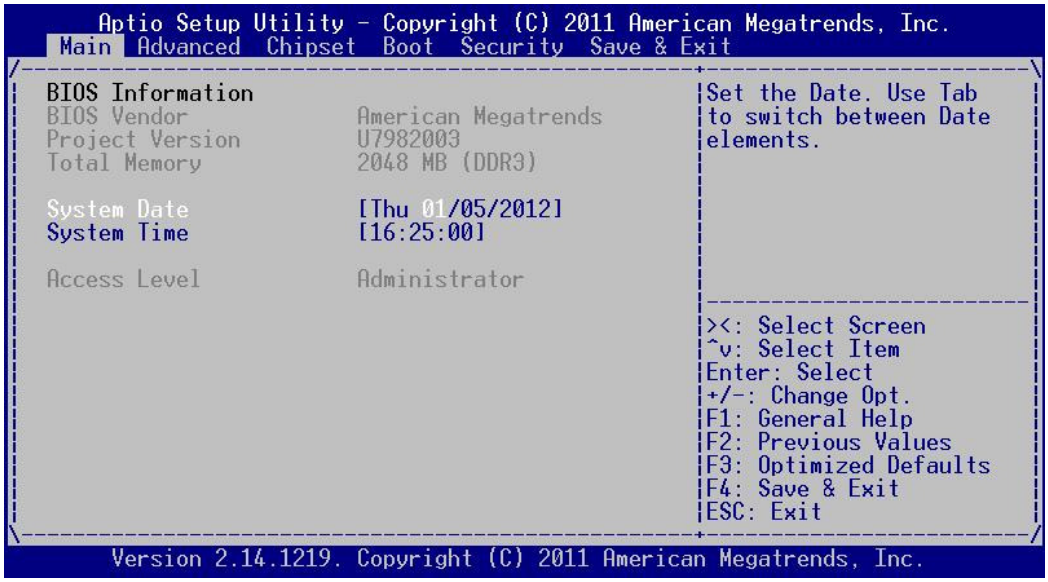
Use the BIOS setup program to modify the system parameters to reflect the options installed in your system and to customize your system. For example, you should run the Setup program after you:

- Received an error code at startup
- Install another disk drive
- Use your system after not having used it for a long time
- Find the original setup missing
- Replace the battery
- Change to a different type of CPU
- Run the AMI Flash program to update the system BIOS

Run the BIOS setup program after you turn on the system. On-screen instructions explain how to use the program.

⇩ **Enter the BIOS setup program's main menu as follows:**

1. Turn on or reboot the system. After the BIOS performs a series of diagnostic checks, the following message appears:
   "Press DEL to enter SETUP"
2. Press the <DEL> key to enter BIOS setup utility. The main menu appears:



3. Choose a setup option with the arrow keys and press <Enter>. See the following sections for a brief description of each setup option.

BIOS Information: Displays the BIOS related information.

BIOS Vendor: Displays the BIOS vendor.

Project Version: Displays the BIOS version.

Memory Information: Displays the total memory size.

System Date [Day mm/dd/yyyy]:
This item allows you to set the system date.

SystemTime: [hour:min:sec]:
This item allows you to set the system time.

Access Level: Displays the use authority.

In the main menu, press F4 ("Save and Exit") to save your changes and reboot the system. Press F3("Optimized Defaults") to load the Optimal default configuration values of the menu. Pressing <ESC> anywhere in the program returns you to the main menu.

3.3 Menu Options

The main menu options of the BIOS setup program are described in the following and the following sections of this chapter.

Main: For changing the basic system configurations.

Advanced: For changing the advanced system settings.

Chipset: For customize the Intel chipset function

Boot: For changing the system boot configurations.

Security: For setting User and Supervisor Passwords.

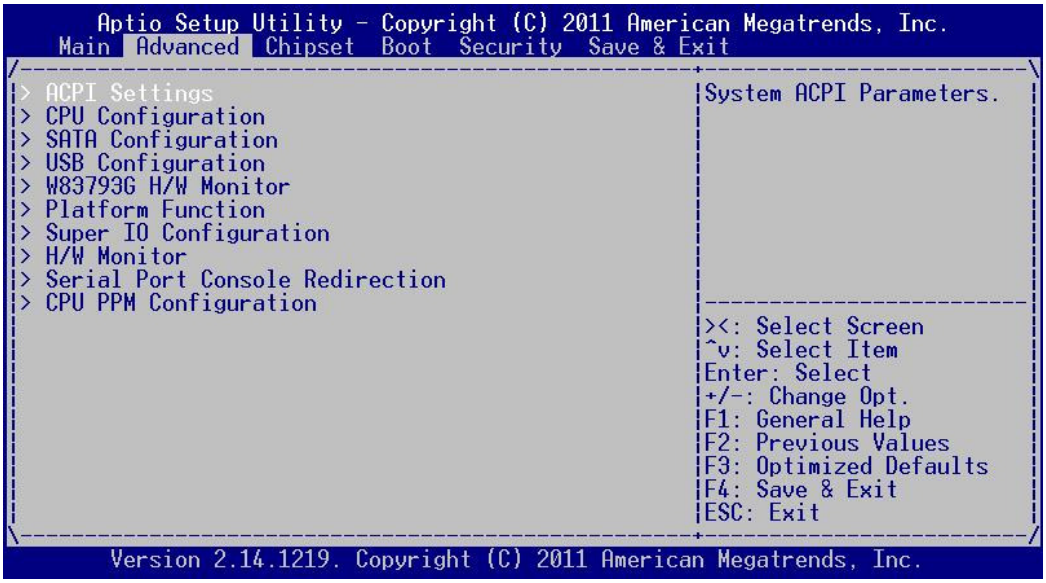
Save & Exit: For selecting the exit options and loading default settings.

3.4 Advanced Menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

⇩ Use the Advanced Setup option as follows:

1. Choose "Advanced" from the main menu. The following screen appears:

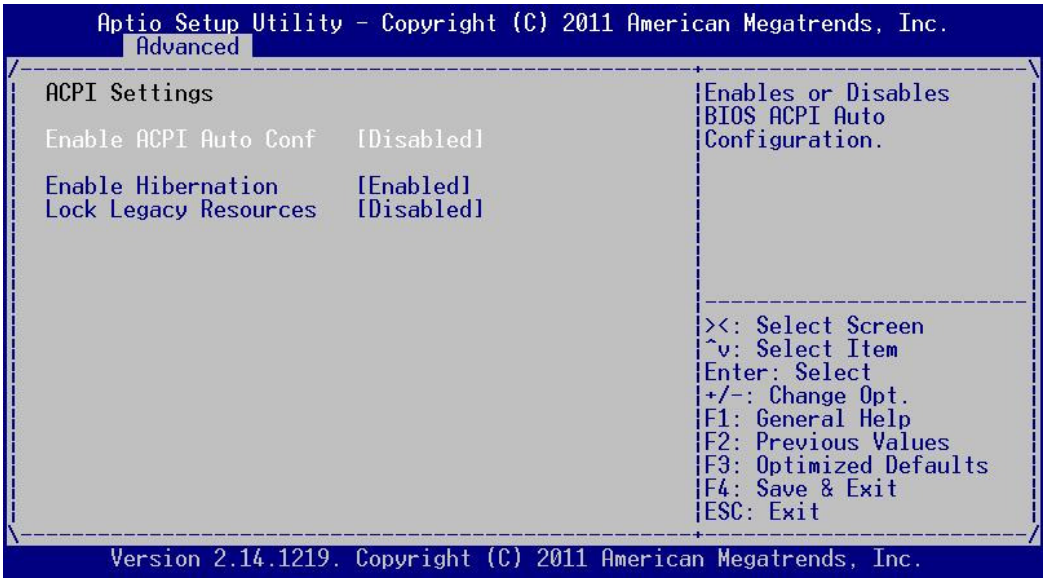


2. Use the arrow keys to move between fields. Modify the selected field using the PgUP/PgDN/+/- keys. Some fields let you enter numeric values directly.

3. After you have finished with the Advanced setup, press the <←> or <→> key to switch to other setup menu or press <F4> key to save setting.

3.4.1 ACPI Settings

This sub menu allows you to set or change the ACPI settings in the system.



Enable ACPI Auto Configuration: [Disabled]

Enables or Disables BIOS ACPI Auto Configuration.

Enable Hibernation: [Enabled]

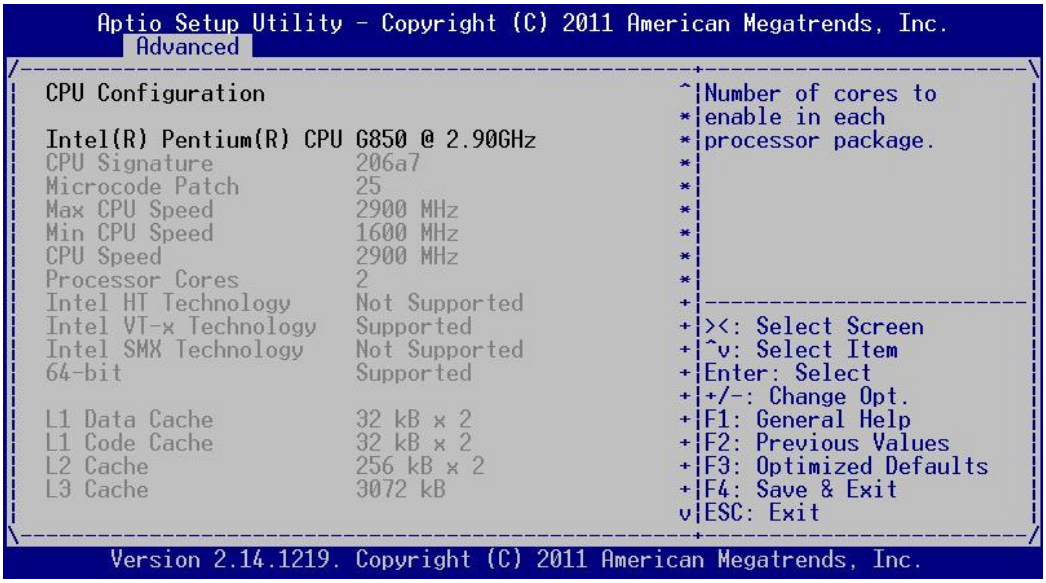
Enables or Disables Hibernation function.

Lock Legacy Resources: [Disabled]

The item allows you to lock legacy resources.

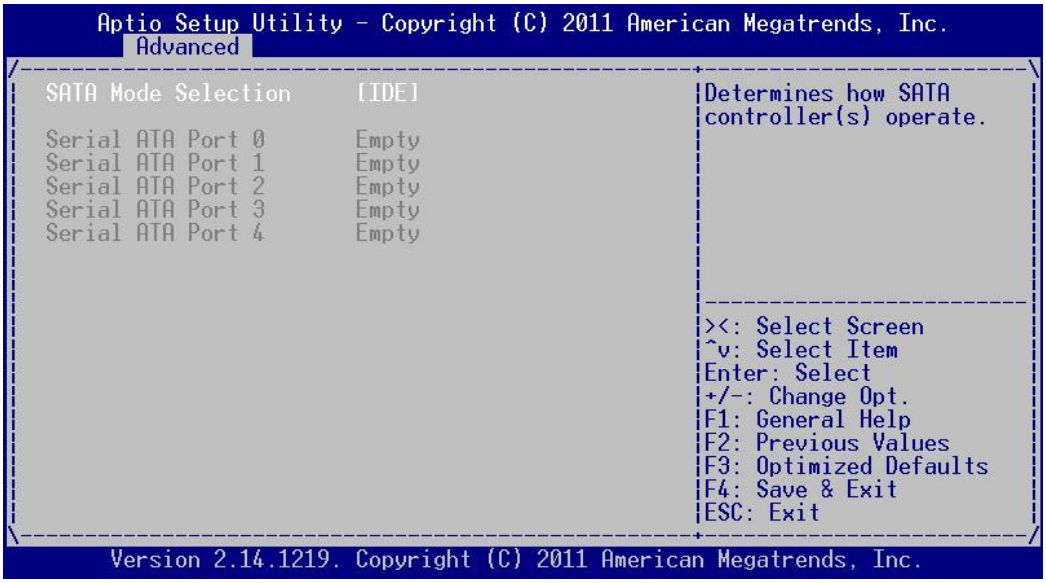
3.4.2 CPU Configuration

This sub menu shows the CPU related information which is automatically detected by BIOS.



3.4.2 SATA Configuration

This sub menu allows you to set or change the configurations for the SATA devices installed in the system.



SATA Mode: [IDE Mode]

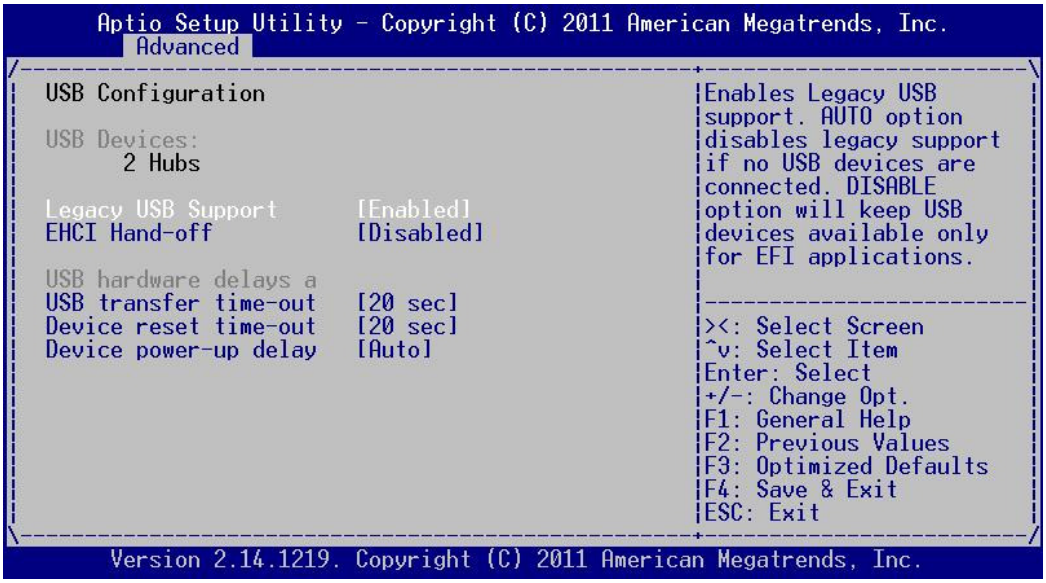
This item allows you to configure the SATA mode. It has three options **[IDE Mode], [AHCI Mode] and [RAID Mode]; the default is [IDE Mode].**

*** SATA Port0 ~ 4**

This information is auto-detected by BIOS and is not user-configurable. It will show "Not Present" if no IDE device is installed in the system.

3.4.4 USB Configuration

This sub menu allows you to set or change the configurations for the USB devices installed in the system.



Legacy USB Support: [Enabled]

Enables legacy USB support, Auto option disables legacy support if no USB devices are connected. Disable option will keep USB devices available only for EFI application.

EHCI Hand-off: [Disabled]

This item allows you to enable/disable the EHCI Hand-off function.

USB transfer time-out: [20 sec]

This item allows you to configure the USB transfer time-out.

Device reset time-out: [20 sec]

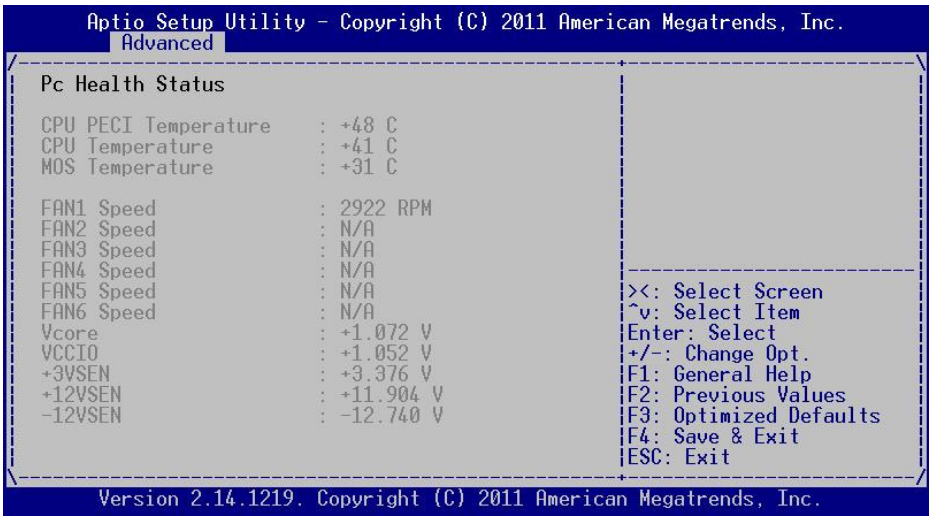
This item allows you to configure the Device reset time-out.

Device Power-up delay: [Auto]

This item allows you to configure the maximum time the device will take before it properly reports itself to the host controller. The default is [Auto]; for a root port it is 100ms, for a Hub port the delay is taken from Hub description.

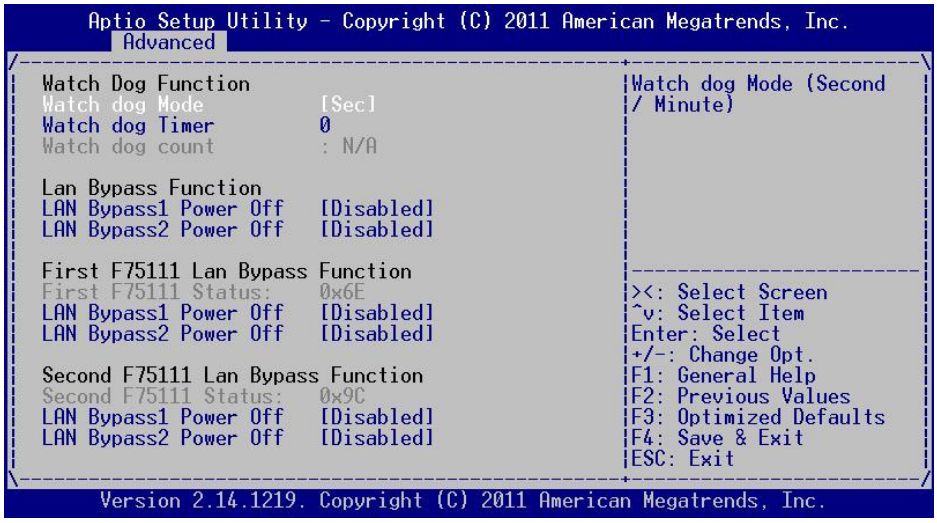
3.4.5 W83793G H/W Monitor / PC Health Status

This screen shows the CPU core voltage, System voltage, CPU temperature and FAN speed.



3.4.6 Platform Function

This sub menu allows you to set or change the configurations for the platform functions that are customized by WIN Enterprises.



Watch Dog mode: [sec]

This item allows you to change the Watch Dog mode. **The default is [sec].**

Watchdog Timer:

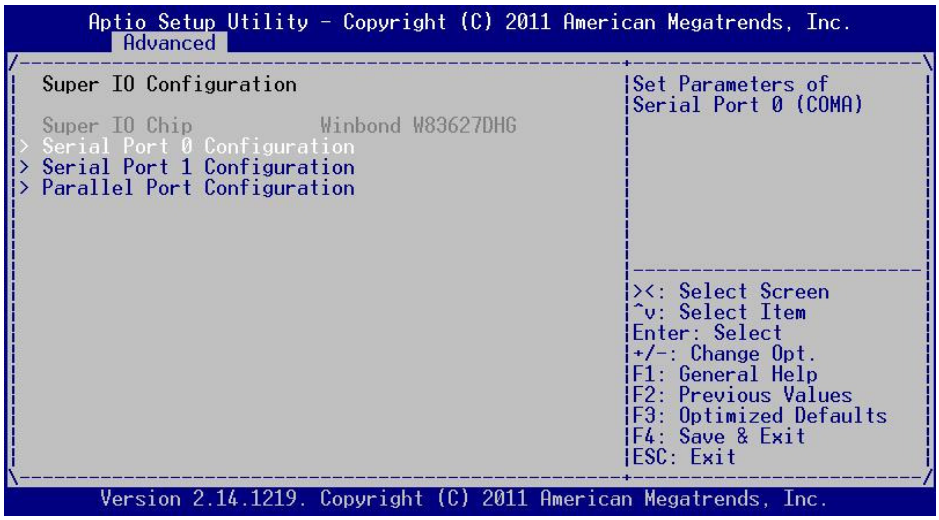
This item allows you to set up the time for watchdog timer.

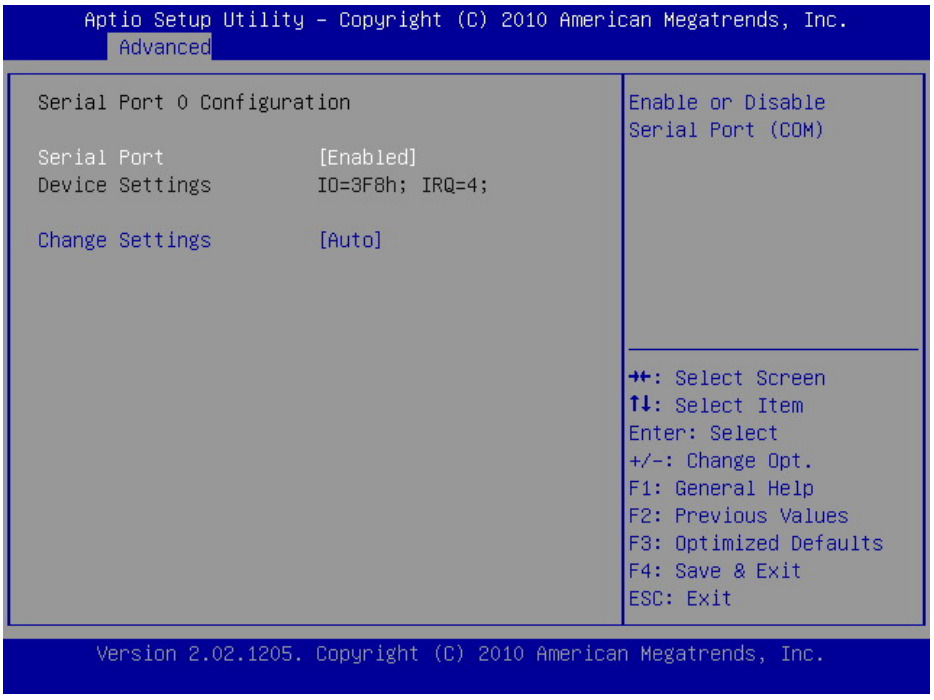
LAN Bypass1 Power off / LAN Bypass2 Power off: [Disable]

This item allows you to enable/disable the LAN Bypass1 or 2 when system power off.

3.4.7 Super IO Configuration

This sub menu allows you to set or change the configurations for the Super I/O Configuration.





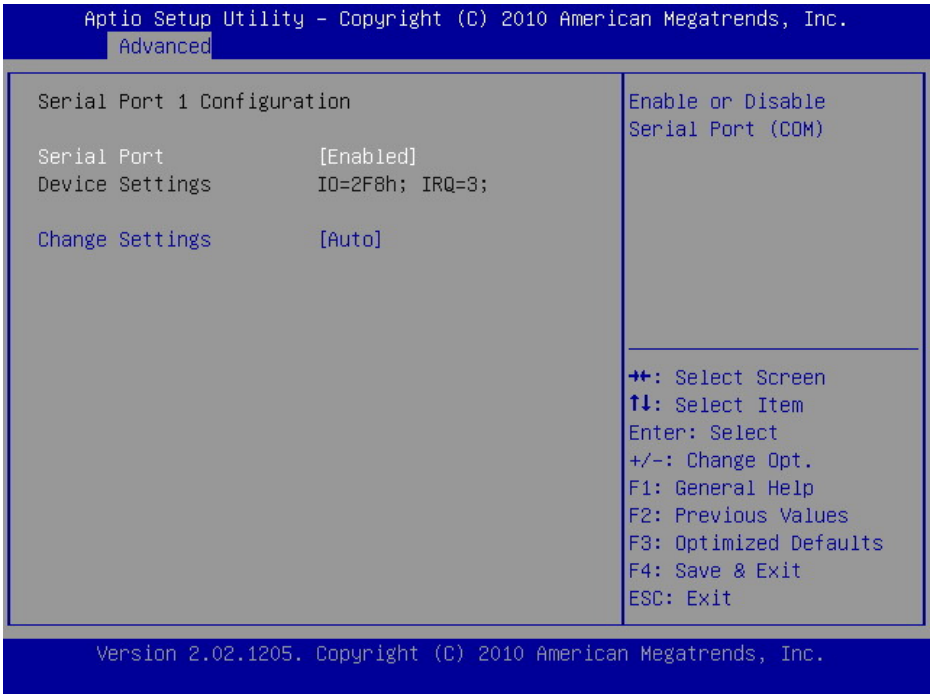
Serial Port 0 Configuration

Serial Port: [Enabled]

This item allows you to enable/disable the serial port 0.

Change Settings: [Auto]

Select optimal settings for serial port 0.



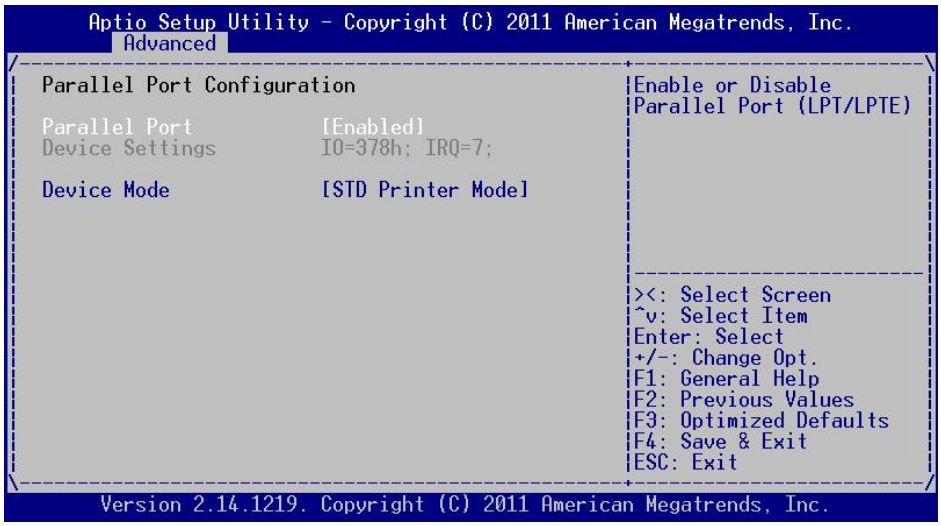
Serial Port 1 Configuration

Serial Port: [Enabled]

This item allows you to enable/disable the serial port 1.

Change Settings: [Auto]

Select optimal settings for serial port 1.



Parallel Port Configuration

Parallel Port: [Enabled]

This item allows you to enable/disable the Parallel Port.

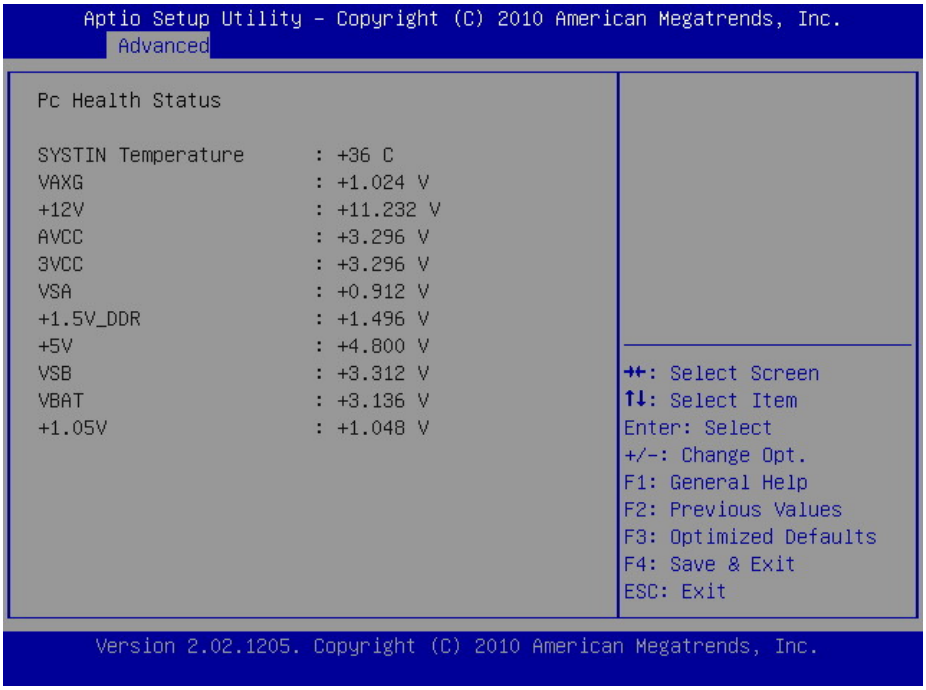
Device Mode: [STD Printer Mode]

This item allows you to change the device mode of Parallel Port.

.

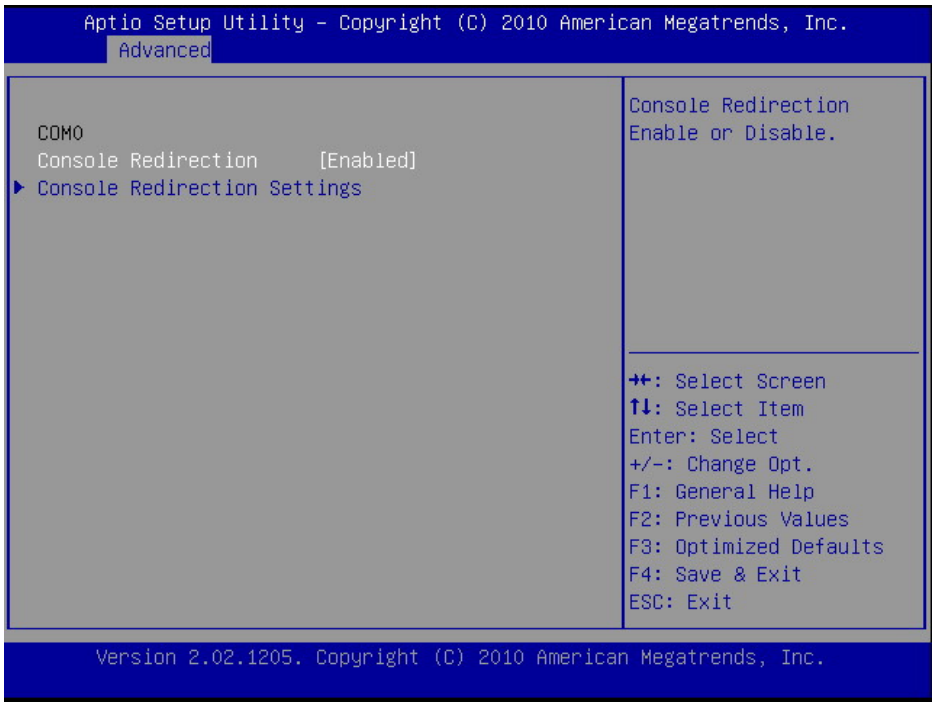
3.4.8 W83627EHG H/W Monitor / Pc Health Status

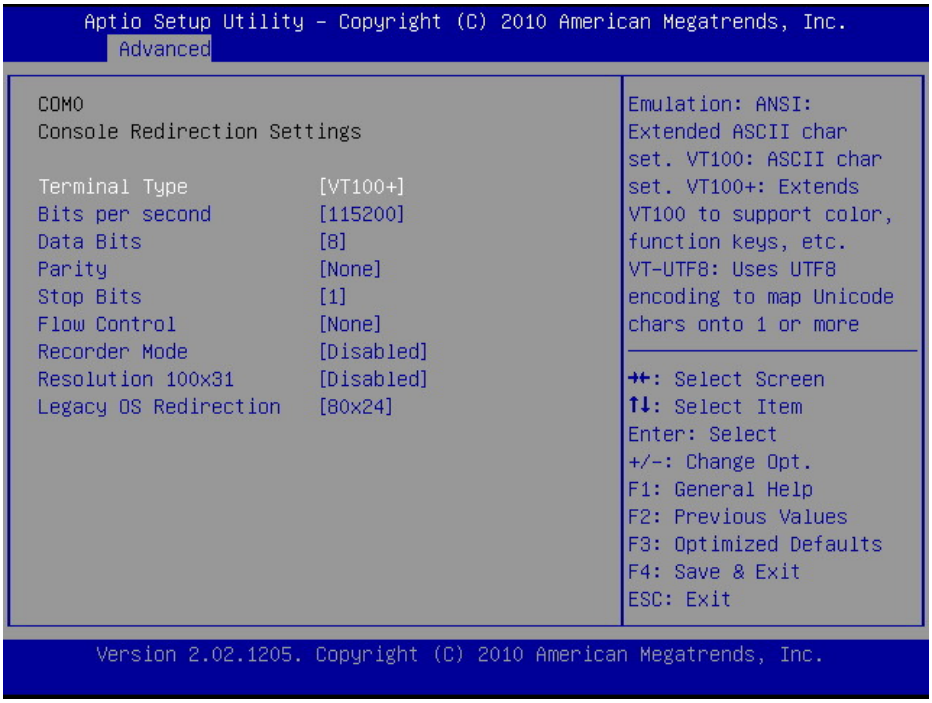
This screen shows the motherboard voltage and system temperature. The information will be changed according the CPU installed.



3.4.9 Serial Port Console Redirection

This sub menu allows you to change the setting of serial port console redirection.





Console Redirection: [Enabled]

This item allows you to enable/disable the console redirection feature.

Console Redirection Settings

Terminal Type: [VT100+]

This item allows you to select a terminal type to be used for console redirection.

Options available: VT100/VT100+/ANSI /VT-UTF8.

Bits per second: [115200]

This item allows you to select the baud rate for console redirection.

Options available: 9600/19200/57600/115200.

Data Bits: [8]

This item allows you to select the data bits for console redirection.

Options available: 5/6/7/8.

Parity: [None]

This item allows you to select the parity for console redirection.

A parity bit can be sent with the data bits to detect some transmission errors.

Even: parity bi is 0 if the num of 1's in the data bits is even.

Odd: parity bit is0if num of 1's the data bits is odd.

Mark: parity bit is always 1.

Space: Parity bit is always 0.

Mark and Space Parity do not allow for error detection.

Options available: None/Even/Odd/Mark/Space.

Stop Bits: [1]

This item allows you to select the stop bits for console redirection.

Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning).

The standard setting is 1 stop bit. Communication with slow devices may require more than 1 stop bit.

Options available: 1/2.

Flow Control: [None]

This item allows you to select the flow control for console redirection.

Custom Embedded Solutions

Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals.

Options available: None/Hardware RTS/CTS.

Recorder Mode: [Disabled]

This item allows you to select the recorder mode for console redirection.

When this mode enabled, only text will be send. This is to capture Terminal data.

Options available: Enabled/Disabled.

Resolution 100x31: [Disabled]

This item allows you to select the resolution 100x31 for console redirection.

Enables or disables extended terminal resolution.

Options available: Enabled/Disabled.

Legacy OS Redirection: [80x24]

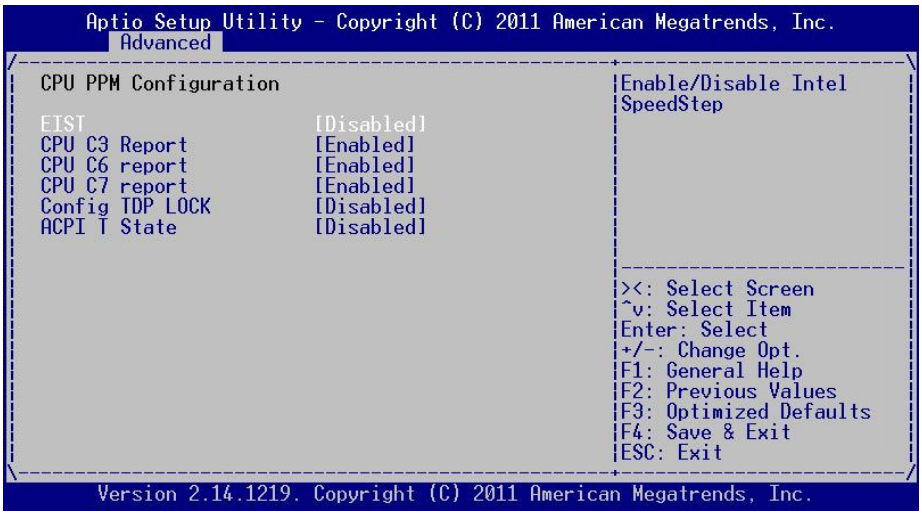
This item allows you to select the legacy OS redirection resolution for console redirection.

On Legacy OS, the number of Rows and Columns supported redirection.

Options available: 80x24/80X25.

3.4.10 CPU PPM Configuration

This sub menu allows you to set or change the configurations for CPU PPM.



EIST: [Disabled]

This item allows you to enable/disable Intel SpeedStep.

CPU C3 Report: [Enabled]

CPU C6 Report: [Enabled]

CPU C7 Report: [Enabled]

This item allows you to enable/disable CPU C3/C6/C7 report to the OS.

C3 = ACPI C2, C6 = ACPI C3, C7 = ACPI C3.

Config TDP LOCK: [Disabled]

This item allows you to enable/disable the lockdown of the Config TDP control register.

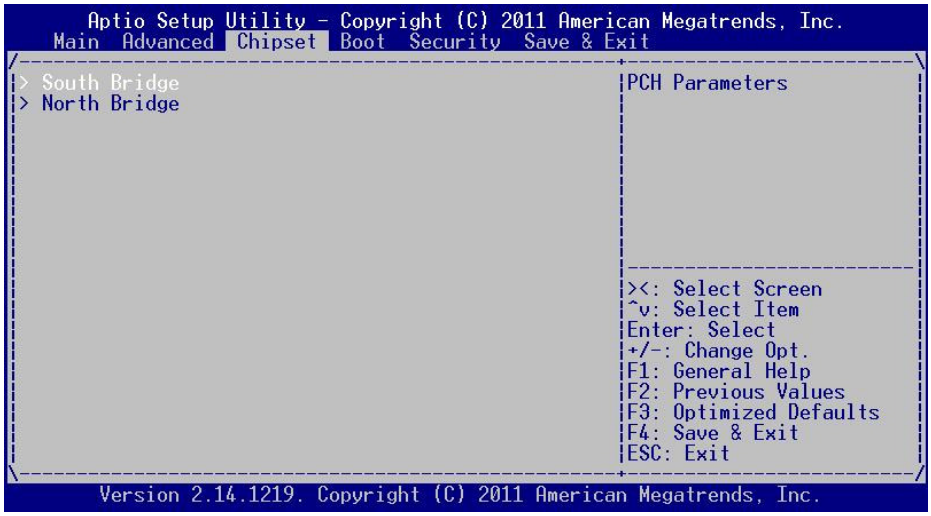
ACPI T State: [Disabled]

This item allows you to enable/disable ACPI T state support.

3.5 Chipset Menu

⇩**Use the Chipset Setup option as follows:**

1. Choose "Chipset" from the main menu. The following screen appears.

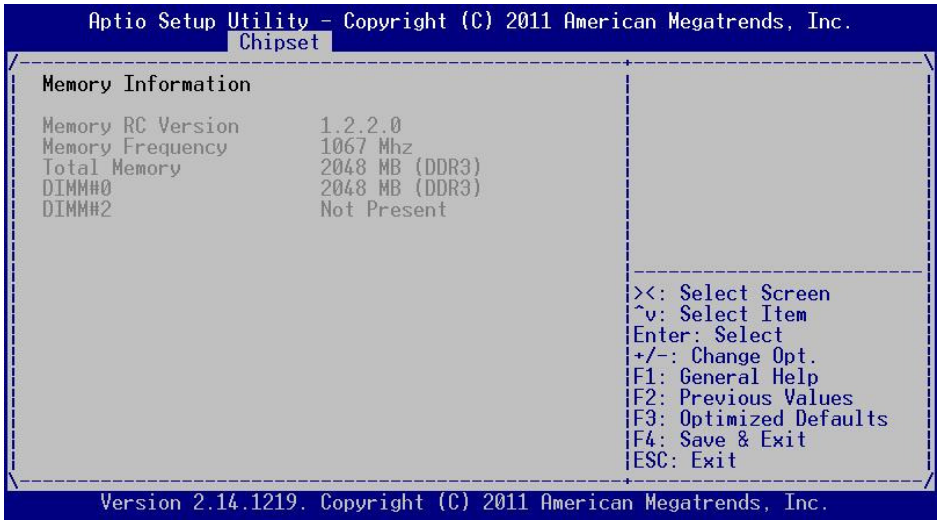


2. Move between items and select values by using the arrow keys. Modify the selected field the PgUP/PgDN keys. For information on the various options, press <F1> key.

3. After you have finished with the Chipset Setup, press the <←> or <→> key to switch to other setup menu or press <F4> key to save setting.

3.5.1 North Bridge Chipset Configuration

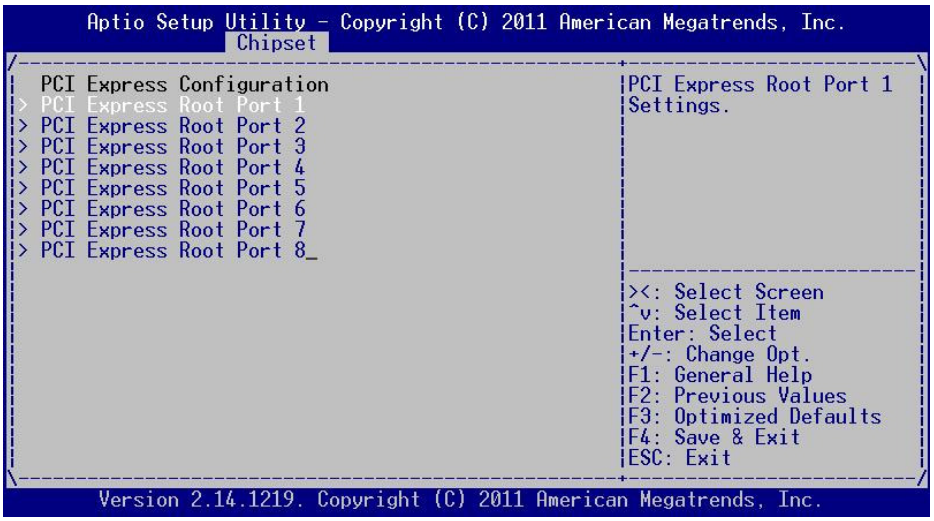
This screen shows memory information of system platform. The information will be changed according the memory module installed

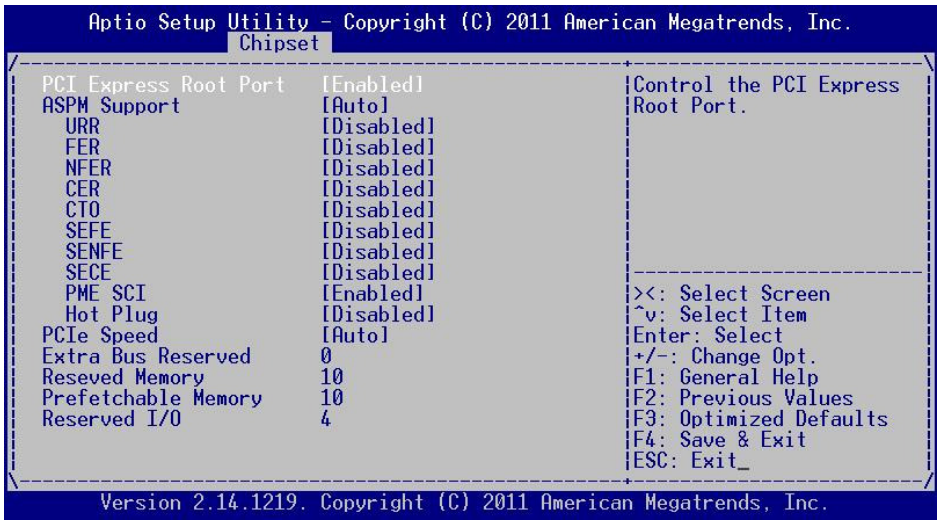


3.5.2 South Bridge Chipset Configuration*

PCI Express Ports Configuration

This sub menu allows you to change the setting of PCI Express ports.





PCI Express Root Port : [Enabled]

This item allows you to configure the PCI Express root port.

ASPM Support: [Auto]

his item allows you to configure the ASPM support.

PCIe Speed: [Auto]

This item allows you to configure the PCIe Speed.

Extra Bus Reserved: [0]

This item allows you to configure the Extra Bus Reserved.

Reserved Memory: [10]

This item allows you to configure the Reserved Memory.

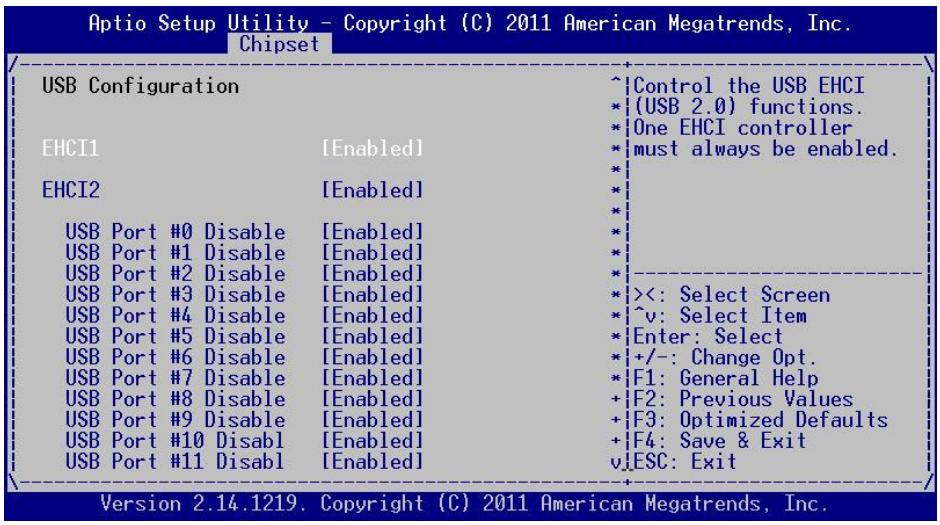
Prefectchable Memory: [10]

This item allows you to configure the Prefectchable Memory.

Reserved I/O: [4]

This item allows you to configure the Reserved I/O.

USB Configuration



EHCI Controller 1 & 2

This item allows you to enable/disable the EHCI Controller 1 or 2.

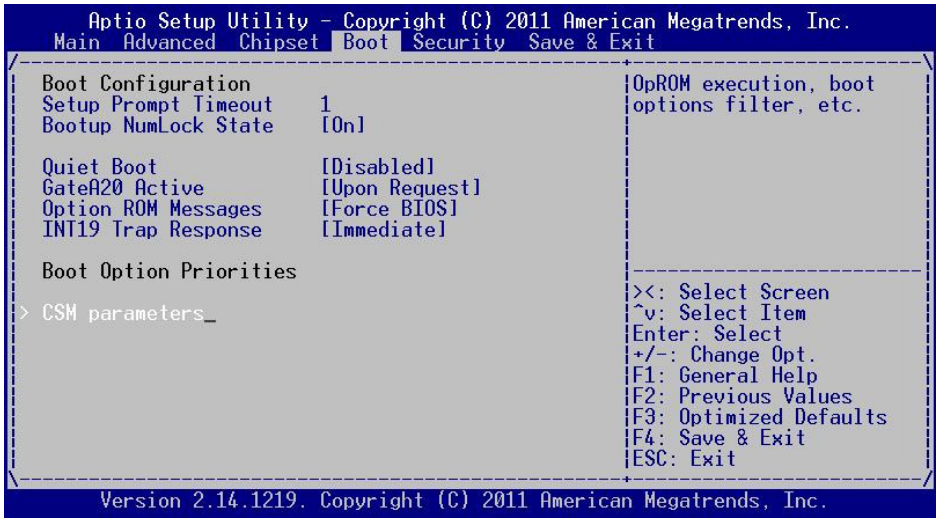
USB Port 1~11

This item allows you to enable/disable the USB Port 1~12.

3.6 Boot Menu

Use the Boot Setup option as follows:

1. Choose "Boot" from the main menu. The following screen appears:



2. Move between items and select values by using the arrow keys. Modify the selected fields using the PnUP/PgDN Keys. For information on the various options, press <F1> key.

3. After you have finished with the Boot setup, press the <←> or <→> key to switch to other setup menu or press <F4> key to save setting.

Setup Prompt Timeout

Use the <+> and <-> keys to adjust the number of seconds to wait for setup activation key.

Bootup NumLock State

This item allows you to select "On" or "Off" power-on state for the NumLock.

Quiet Boot

If this option is set to Disabled, the BIOS displays normal POST messages. If Enabled, an OEM Logo is shown instead of POST messages.

GateA20 Active: [Upon Request]

This item allows you to configure the GateA20 Active feature.
[UPON REQUEST]: GA20 can be disabled using BIOS services.
[ALWAYS]: do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.

Option ROM Messages: [Force BIOS]
This item allows you to select "Force BIOS" or "Keep Current" to set the display mode for Option ROM.

Interrupt 19 Capture: [Disabled]
This item allows you to enable/disable the Option ROM to trap Interrupt 19.

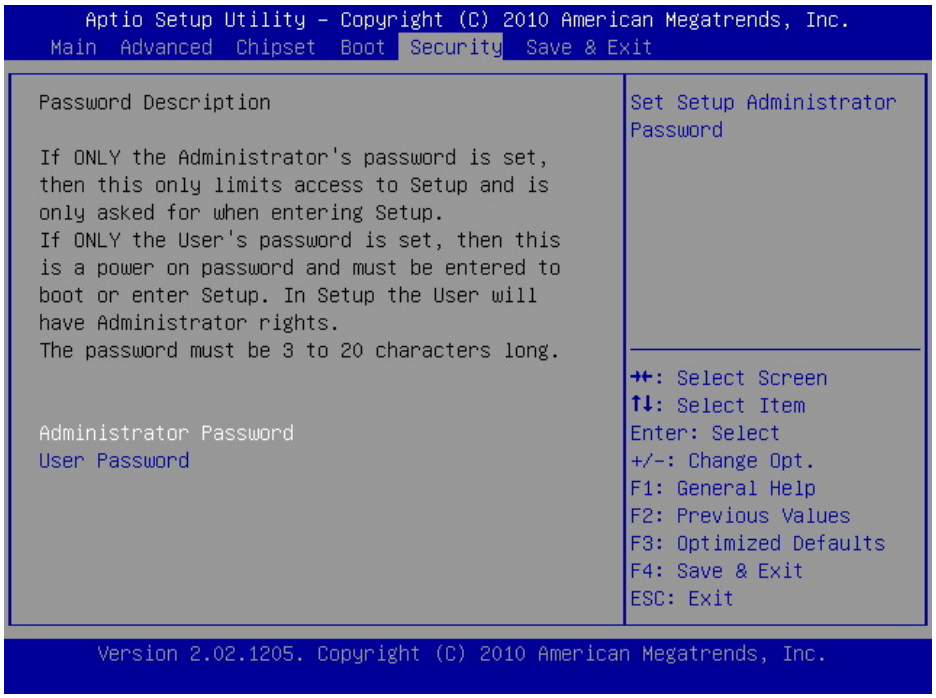
Boot Option Priorities
Choose boot priority from boot device.

CSM Parameters:
These items allow you to change the CSM parameters.

3.7 Security Menu

⇩**Use the Security Setup option as follows:**

1. Choose "Security" from the main menu. The following screen appears:



2. Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. Please press the <F1> key for information on the various options.

3. After you have finished with the Security setup, press the <←> or <→> key to switch to other setup menu or press <F4> key to save setting.

Administrator Password:

This item allows you to set or change the administrator password. The Administrator Password item on top of the screen shows the default Not Installed. After you have set a password, this item shows Installed.

User Password:

This item allows you to set or change the user password. The User Password

item on top of the screen shows the default Not Installed. After you have set a password, this item shows Installed.

3.8 Save & Exit Menu

The item allows you to save or discard your changes to the BIOS items, and load the optimal defaults or user defaults for the BIOS items.

⇩Use the Exit option as follows:

1. Choose "Exit" from the main menu, the following screen appears.

2. Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. For information on the various options, please press <F1> key.

3. Press the <←> or <→> key to switch to other setup menu or press <F4> key to save setting.

Save Changes and Reset:

Store all changes you made into CMOS and reboot system. F4 key can be used for this operation.

Discard Changes and Reset:

Discard all changes you made and reboot system. ESC key can be used for

this operation.

Restore Defaults:

This item allows you to load optimal defaults for each setting on the Setup Utility menus, which will provide the best performance settings for system. F9 key can be used for this operation.

Boot Override:

This item allows you to configure the boot override setting.

Chapter 4. Utility & Driver Installation

Please install the GbE modules properly before you install the OS, driver or other software.

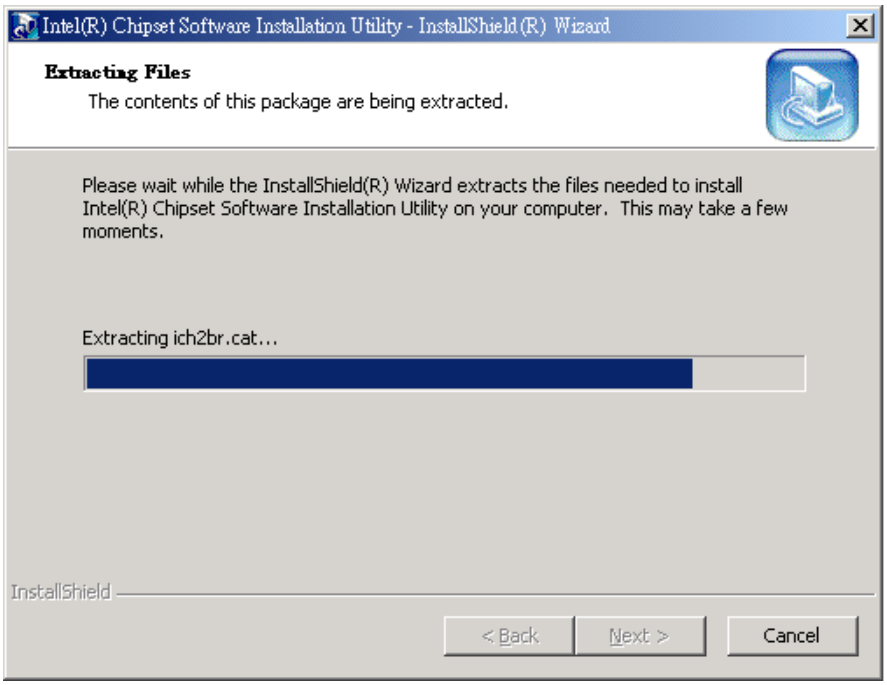
4.1 Operation System Supporting

PL-80470 can support Windows® and Linux® operation system as follows. Before installation, please check your OS version. If your OS is not in the following list, please upgrade your OS version.

OS	Version
Windows®	Windows Vista x64 Windows Server 2003 Windows Server 2008 Windows XP SP2 Windows XP SP3 Windows 7
Linux & Unix Like	Fedora 9 x64 (2.6.25) Redhat Enterprise 5.0 x64 Version 5.2 (2.6.18) Redhat Enterprise 5.0 x64 Version 5.3 (2.6.18-128.el5 Fedora Core 5 (2.6.15) Fedora 8 (2.6.23.1-42) CentOS 5.1 (2.6.18-53) FreeBSD 6.3-RC1

4.2 System Driver Installation

PL-80470 offers the system driver in the setup CD. Please install the driver following the procedures.



4.3 LAN Driver Installation

PL-80470 offers the LAN driver in the setup CD. Please click the Autorun file and install the driver following the procedures.

1. Insert the setup CD of PL-80470 into your CD-ROM drive.
2. Choose the Drivers file to click the Autorun icon.
3. Follow the procedures to finish the installation.

Custom Embedded Solutions

Appendix A: Cable Development Kit

The PL-80470 offers some cables for development use.

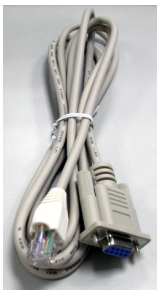
DK001

Item & Description	Part No.	Qty
Ethernet Cat.5 Cable 2M/ RoHS	CB-EC5200-00	1
Cross Over 2M Color/ RoHS	CB-CO5202/4-00	1
RJ45 to DB9 2M Cable/ RoHS	CB-RJDB91-00	1
2m null modem cable/ RoHS	CB-DB9200-01	1
VGA CABLE (2mm) 15CM/ RoHS	CB-IVGA01-00	1
KB/MS CABLE 15CM/ RoHS	CB-IPS200-00	1
USB CABLE w/ Bracket/ RoHS	CB-IUSB01-00	1

CB-EC5200-00

CB-CO5202/4-00

CB-RJDB91-00



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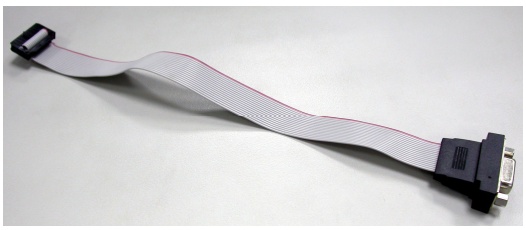

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