



# **PL-10510**

# **Networking Appliance**

User's Manual

Version 1.3

1U Rack-mount Intel® Celeron<sup>™</sup> (codename Bay Trail) Network System, Six Copper GbE, CF, SATA, PCIe and Bypass



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#### www.win-ent.com.

For technical supports or free catalog, please send your inquiry to sales@win-ent.com.

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# Chapter 1. General Information

# 1.1 Introduction

The PL-10510 is a 1U Rack-mounted hardware platform designed for network service applications. Built with Intel® embedded IA components for warranted longevity; it supports the Intel® Bay Trail low-voltage processor.

The platform supports high bandwidth DDR3L SODIMM slot with memory up to 8 GB. In order to provide the best network performance and utilization, the expansive storage interfaces include 2.5" SATA HDD and CompactFlash™. To enhance the network security performance, the PL-10510 is equipped with 6 GbE Copper ports, bypass function, USB2.0 ports, RJ-45 console port, mini-card socket and LED indicators that monitor power, storage device activities for local system management, maintenance and diagnostics. In addition, the PL-10510 supports one mini-PCIe card socket and is RoHS, FCC and CE compliant.

# 1.2 Specifications

<b>D</b>		Intel® Celeron™ processorJ1900 (Bay Trail-D),		
Processor	CPU	E3800 (Bay Trail-I) Processors		
System	BIOS	AMI UEFI BIOS		
	Technology	Un-buffered and Non-ECC DDR3L 1333MHz memory.		
Memory	Capacity	Up to 8GB with one SO-DIMM socket		
	GbE Ethernet	Six Copper GbE ports, Intel I211, PCI-E x1		
Ethernet		Two pairs bypass between LAN1, LAN2 and LAN3,		
	LAN bypass	LAN4		
	SATA HDD	One internal 2.5″ or one internal 3.5″ SATA HDD bay		
Storage	CompactFlash™	one CompactFlash <sup>™</sup> Type II		
	Socket			
		Rear: Two external USB2.0		
I/O	USB	Two internal 5x2 pin header		
	Serial	One RJ45 Console port (COM1)		
Expansion	PCIe Slot	One Standard PCI-E x1 connector (Optional)		
Power Supply	Watt	60W power supply		
	Form Factor	1U Rack-mount		
	LED	1 x Status LED (Green),		
		1 x HDD LED (Red),		
		1 x Power LED (Green),		
		1 x Bypass LED (Yellow)		
	Dimensions	432mm (W) x 270mm (D) x 44mm (H)		
Mechanical	(W x D x H)	(17" W x 8" D x 1.7" H)		
& Environmental	Operating			
	Temperature	Operating: 0 ~ 40°C ( 32 ~ 104°F )		
	Storage			
	Temperature	-20 ~ 75°C (-4 ~ 167°F)		
		10 ~ 85% relative humidity, non-operating,		
	Humidity	non-condensing		

# **1.3 Ordering Information**

We offer some accessories for PL-10510 appliance for customer needs.

	1U Rack-mount Intel® Celeron®	
PL-1051A	J1900 Network System, DDR3L, 6	
	Copper GbE, SATA, CF, Bypass	
	1U Rack-mount Intel® Celeron®	
	J1900 Network System, DDR3L, 5	
PL-1051B	Copper GbE, SATA, CF, Bypass,	
	PCI-E	
Optional		
	Cable development kit	
	CB -CO5204-01 Cross over cable	
	CB -EC5200-01 Ethernet cable	
	CB -RJDB91-01 RJ45 Console	
DK001	cable	
	CB -DB9200-01 Null modem cable	
	CB -IVGA01-01 VGA cable	
	CB -IPS200-00 KB/MS cable	
	CB -IUSB01-00 USB cable	

# 1.4 Packaging

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

- 1. PL-10510 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 item of above is missing or damaged, please contact your dealer or retailer from whom you purchased the PL-10510. Keep the box and carton if you anticipate shipment or storage of the PL-10510 in near future. After you unpack the goods,

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inspect and make sure the packaging is intact. Do not plug the power adapter to the appliance of PL-10510 if it is perceived to be damaged.

*Note:* Keep the PL-10510 *in the original packaging until you start installation.* 

# 1.5 Precautions

Please make sure you properly ground yourself before handling the PL-10510 appliance or other system components. Electrostatic discharge can be easily damage the PL-10510 appliance.

Do not remove the anti-static packing until you are ready to install the PL-10510 appliance.

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

Handle the PL-10510 appliance by its edges and avoid touching the components on it.

# CAUTION

Risk of explosion if battery is replaces by an incorrect type Dispose of used batteries according to instructions.

# 1.6 System Layout



PL-10510, Front Side

# **1.7 Board Dimensions**



# Chapter 2. Connector/Jumper Configuration

# 2.1 Connector/Jumper Locations and Definitions



# MB-10510\* Connector list

Connector	Define	Connector	Define
CN1	SYSTEM FAN	CN18	PS2 KB/MS (Pin Header)
CN2	CPU FAN	CN19	PCIe X1 Slot (Option)
CN3	SYSTEM FAN	CN20	Power Switch
CN/4	Wirelass (ANLED (antion)	CND1	Status LED (Pin Header)
CIN4	WITEIESS LAN LED (Option)	CNZI	(Co-Layout with LED16)
CN5	USB Port 2 & 3 (Pin Header)	CN22	USB Port 0 & 1
CNG	VGA (Pin Header)	CNDD	DC-IN (Pin Header)
CINO		CN23	(Co-Layout with CN31)
CN7	SATA Power Connector	CN24	LAN1
CN8	KEY PAD (Pin Header)	CN25	LAN2
CN9	LCM (Pin Header)	CN26	LAN3
CN10	SPI (Pin Header)	CN27	LAN4
CN11	SATA Connector	CN28	LAN5
CN12	COM2 (Pin Header)	CN29	LAN6
CN13	GPIO (Pin Header)	CN30	COM1(Console Port)
0144	MINI-PCIe (Option)	CN31	DC-IN (Power Jack)
CIN14			(Co-Layout with CN23)
CN17	LPC (Pin Header)		

\* Motherboard

# 2.2 Connectors Defined and Jumper Settings

Connector Location & Defined CN1/CN2/CN3 : System/CPU FAN

Pin	Define	
1	Ground	
2	+12V	
3	Speed Detect	

### CN7: SATA PWR

1 0 2 0 3 0 4 0		
Pin	Define	
1	+12V	
2	GND	
3	GND	
4	+5V	

# CN8 : Keypad header

	$ \begin{array}{c c} & 1 \\ & 2 \\ & 3 \\ & 4 \\ & 5 \end{array} $
Pin	Define
1	ACK#
2	BUSY
3	PE
4	SLCT
5	GND

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#### **CN9 : LCM Pin Header**

	1 3 5 7 9 11 13 15	2 6 8 10 12 14 16	-
Pin	Define	Pin	Define
1	+5V	2	GND
3	P_AFD#	4	NC
5	P_INIT#	6	P_SLIN#
7	LCM_PD1	8	LCM_PD0
9	LCM_PD3	10	LCM_PD2
11	LCM_PD5	12	LCM_PD4
13	LCM_PD7	14	LCM_PD6
15	LCM_BK_CTRL	16	BK_CTRLP

### CN10 : SPI Pin Header

-0 1 2 0- -0 3 4 0- -0 5 6 0- -0 7 8 0-			
Pin	Define	Pin	Define
1	+1.8V	2	GND
3	CS#	4	SCLK
5	MISO	6	MOSI
7	N/A	8	IO

### **CN11 : SATA Connector**

	Pin	Signal
	1	GND
000000	2	TXP
	3	TXN
	4	Ground
	5	RXN
	6	RXP
	7	GND

#### CN12 : COM2 pin header

	<b>1</b> 3 5 7 9 9	2 0 4 0 6 0 10 0	
Pin	Define	Pin	Define
1	DCD#	2	DSR#
3	SIN#	4	RTS#
5	SOUT#	6	CTS#
7	DTR#	8	RI#
9	Ground	10	N/A

#### CN13 : GPIO

	1 3 5 7 9 11	2 4 6 8 12	
Pin	Define	Pin	Define
1	+3.3V	2	SIO_GP50
3	SIO_GP51	4	SIO_GP52
5	SIO_GP53	6	SIO_GP54
7	SIO_GP55	8	SIO_GP56
9	SIO_GP57	10	
11	+5V	12	GND

#### CN14 : MINI-PCIE

CN6			
CN6 1 WAKE# 5 7 RESERVED 7 7 8 7 8 7 8 7 8 8 7 8 7 8 8 7 7 8 8 7 8 8 7 8 8 7 7 9 8 8 8 7 7 8 8 8 7 7 8 8 8 7 8 8 8 7 8 8 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8		C RES RES RES D RES C RES C RES C SM S ME C C C C C C C C C C C C C C C C C C	2 3.3V 4 GND 1.5V 8 ERVED 10 X ERVED 12 ERVED 14 X ERVED 16 X ERVED 18 S ED- 40 GND 42 X EV ERVED 18 S D T A 40 S O F F F F F F F F F F F F F
	X 51 RESERVED RESERVED MINI_PCI	) ) E	GND +3.3V
Pin	Define	Pin	Define
1	WAKE#	2	3.3V
3	Reserved	4	GND
5	Reserved	6	1.5V
7	CLKREQ#	8	Reserved
9	GND	10	Reserved
11	REFCLK-	12	Reserved
13	REFCLK+	14	Reserved
15	GND	16	Reserved
17	Reserved	18	GND
19	Reserved	20	Reserved
21	GND	22	PERST#
23	PERN0	24	+3.3VAUX
25	PERP0	26	GND
27	GND	28	+1.5V
29	GND	30	SMB_CLK
31	PETN0	32	SMB_DATA
33	PETP0	34	GND
35	GND	36	USB_D-
37	Reserved	38	USB_D+
39	Reserved	40	GND
41	Reserved	42	LED_WWAN#
43	Reserved	44	LED_WLAN#
45	Reserved	46	LED_WPAN#
47	Reserved	48	+1.5V
49	Reserved	50	GND

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# CN17 : LPC Pin Header

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$				
Pin	Define	Pin	Define	
1	+3.3V	2	AD 0	
3	AD1	4	AD 2	
5	AD 3	6	Frame#	
7	PCIERST#	8	+5V	
9	CLOCK	10	PME#	
11	GND	12		
13	SERIRQ	14	DRQ#	

### CN18 : PS2 KB/MS Pin Header

	$ \begin{array}{c} 1 \bigcirc \\ 3 \bigcirc \\ 5 \bigcirc \\ 7 \bigcirc \\ 9 \bigcirc \end{array} $	<ul> <li>○ 2</li> <li>○ 4</li> <li>○ 6</li> <li>○ 8</li> <li>○ 10</li> </ul>	
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

#### **CN22 : USB Connector**

Pin	Define	Pin	Define	
1	+5V	2	DATA0-	
3	DATA0+	4	GND	
5	+5V	6	DATA1-	
7	DATA1+	8	GND	

# CN24~29 : LAN RJ-45 Connector

	D2	D1	
Pin		Define	
		TX+	
2		TX-	
3	RX+		
4	Chassis Ground		
5	Chassis Ground		
6	RX-		
7	Chassis Ground		
8	Chassis Ground		
D1	D1: Speed indicated LED		
1 (	GREEN		
100 Mbps		YELLOW	
	D2 :Link/Activity LED		
L	Link GREEN		
Ac	tivity	BLINKING	

# CN30 : COM1 (Console) Connector

1	D2	D1
	8	1
	RJ	45
Pin		Define
1		CTS#
2		DTR#
3		TXD#
4		GND
5		GND
6		RXD#
7		DSR#
8		RTS#

CN31 : DC +12V Power Jack (2Pin)

Pin	Define	Pin	Define	
1	+12V	2	GND	

#### Jumper Settings JP1 : Clear CMOS

Pin		Setting
1 3	1-2	Normal Operation
1	2-3	Clear CMOS

# JP2 : LAN1 & LAN2 bypass select

Pin		Setting
1 3 □	1-2	By-pass mode
1	2-3	Normal operation

# JP3 : LAN3 & LAN4 bypass select

Pin		Setting
1 3	1-2	By-pass mode
1 3	2-3	Normal operation

### JP4 : Reset Button Function Select

Pin		Setting
1 3	1-2	For GPI Input
1 3	2-3	For Reset

#### JP5 : Watching Dog Function Select

Pin		Setting
1 3 □	1-2	For Reset
1 3	2-3	For LAN Bypass

# 2.3 CompactFlash<sup>™</sup> Card Socket Pin Defined

CompactFlash<sup>™</sup> 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<sup>™</sup> 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								
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-10510 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 checks the system when you turn it on. The BIOS also includes CMOS 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 a battery installed on the PL-10510 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 Optim al 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 Changes 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

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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:

- 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 program. The main menu appears:

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Main Advanced Chipset Security Boot Save & Exit				
BIOS Information BIOS Vendor Core Version Compliancy Project Version Build Date and Time System Date	American Megatrends 5.010 UEFI 2.4; PI 1.3 C7903006 09/10/2014 11:22:08 [Sat 01/04/2014]	Set the Date. Use Tab to switch between Date elements.		
System Time Access Level	[22:08:36] Administrator			
		Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit		
Version 2.17.1246.	Copyright (C) 2014 America	n Megatrends, Inc.		

3. Choose a setup option with the arrow keys and press <Enter>. See the

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following sections for a brief description of each setup option.

**BIOS Information:** Displays the BIOS related information.

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.

In the main menu, press F4 ("Save Changes 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 changing the chipset settings.

Security: Use this menu to set User and Supervisor Passwords.

Boot: For changing the system boot configurations.

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:

```
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```

Aptio Setup Utility – Copyright (C) 2014 Americ Main <mark>Advanced</mark> Chipset Security Boot Save & E>	can Megatrends, Inc. <it< th=""></it<>
<ul> <li>Platform Function</li> <li>NCT6791D Super IO Configuration</li> <li>NCT6791D HW Monitor</li> <li>Serial Port Console Redirection</li> <li>CPU Configuration</li> <li>IDE Configuration</li> <li>OS Selection</li> <li>PCI Subsystem Settings</li> <li>CSM Configuration</li> <li>USB Configuration</li> </ul>	Platform Function ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.1246. Copyright (C) 2014 Americar	n Megatrends, Inc.

- 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, the <? > or <? > key to switch to other setup menu or press <F4> key to save setting.

#### **3.4.1 Platform Functions**

Aptio Setup Utility Advanced	– Copyright (C) 2014 Ameri	can Megatrends, Inc.
Watch Dog Function Watch dog Mode Watch dog Timer Watch dog count	[Sec] O : N/A	Watch dog Mode (Second / Minute)
Lan Bypass Function LAN Bypass1 Power Off LAN Bypass2 Power Off	[Disabled] [Disabled]	
		<pre>++: Select Screen  ↓: Select Item Enter: Select +/-: Change Opt. F1: General Help</pre>
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### Watch dog Mode

Watch dog Mode (Sec/Min) .

#### Watch dog Timer

Set up Watch dog Timer.

#### LAN Bypass1 Power off

Enabled or Disabled Bypass mode when System Power off.

#### LAN Bypass2 Power off

Enabled or Disabled Bypass mode when System Power off.

#### 3.4.2 NCT6791D Super IO Configuration

Aptio Setup Utility – Copyright (C) 2014 Ameri Advanced	can Megatrends, Inc.
NCT6791D Super IO Configuration Super IO Chip NCT6791D > Serial Port 1 Configuration > Serial Port 2 Configuration	Set Parameters of Serial Port 1 (COMA)
	<pre>++: Select Screen  ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.17.1246. Copyright (C) 2014 America	n Megatrends, Inc.

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Advanced				
Serial Port 1 Configura	ation	Enable or Disable		
Serial Port Device Settings	[Enabled] IO=3F8h; IRQ=4;			
Change Settings	[Auto]			
		++: Select Screen ↑↓: Select Item Enter: Select		
		+/-: Change Opt. F1: General Help F2: Previous Values		
		F3: Optimized Defaults F4: Save & Exit ESC: Exit		
Version 2.17.1246. Copyright (C) 2014 American Megatrends, Inc.				

Aptio Setup Utility Advanced	– Copyright (C) 2013 Ameri	can Megatrends, Inc.
Serial Port 2 Configura	tion	Enable or Disable Serial Port (COM)
Serial Port Device Settings	[Enabled] IO=2F8h; IRQ=3;	00110111011 (0011)
Change Settings	[Auto]	
		↑↓: Select Item Enter: Select
		+/-: Change Opt. F1: General Help F2: Previous Values
		F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.16.1242.	Copyright (C) 2013 America	n Megatrends, Inc.

# Serial Port 1/2 Configuration

#### Serial Port

Enable or Disable Serial Port (COM)

# Change Settings

Select an optimal setting for Super IO device.

# 3.4.3 NCT6791D HW Monitor

Aptio Setup Utility Advanced	– Copyright (C) 2014 Americ	can Megatrends, Inc.
Pc Health Status		
CPU temperature System temperature1 System temperature2 CPU Fan Speed(CN2) System Fan Speed(CN3) System Fan Speed(CN1) CPU Vcore +12 V + 5 V +3.3V DDR3L +VGFX +1.05V	: +32 C : +39 C : +31 C : N/A : N/A : 6428 RPM : +0.832 V : +11.704 V : +4.980 V : +3.300 V : +1.360 V : +0.840 V : +1.048 V	<pre>++: Select Screen fJ: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.17.1246.	Copyright (C) 2014 Americar	n Megatrends, Inc.

# 3.4.4 Serial port Console Redirection

Aptio Setup Utility – Copyright (C) 2014 Amer Advanced	ican Megatrends, Inc.
Serial Port 1 Console Redirection [Enabled] ▶ Console Redirection Settings	Console Redirection Enable or Disable.
	<pre>++: Select Screen f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.17.1246. Copyright (C) 2014 Americ	an Megatrends, Inc.

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#### **Console Redirection**

Console Redirection Enabled or Disabled.

#### 3.4.4.1 Console Redirection Settings

Aptio Setup Utility Advanced	ı – Copyright (C) 2014 Amer.	ican Megatrends, Inc.
Advanced Serial Port 1 Console Redirection Set Terminal Type Bits per second Data Bits Parity Stop Bits Flow Control VT-UTF8 Combo Key Sup Recorder Mode Resolution 100x31 Legacy OS Redirection Putty KeyPad Redirection After BIO	tings [VT100+] [115200] [8] [None] [1] [None] [Enabled] [Disabled] [Disabled] [80x24] [VT100] [Always Enable]	Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more ++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.1246.	Copyright (C) 2014 America	an Megatrends, Inc.

#### **Terminal Type**

Emulation: ANSI: Extended ASCII char set. VT100: ASCII char set. VT100+: Extends VT100 to support color, function keys, etc. VT-UTF8: Uses UTF8 encoding to map Unicode chars onto 1 or more bytes.

#### Bits per second

Select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds.

#### Data Bits

Set your Data Bits.

#### Parity

A parity bit can be sent with the data bits to detect some transmission errors. Even: parity bit is 0 if the num of 1's in the data bits is even. Odd: parity bit is 0 if num of 1's in 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. They can be

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used as an additional data bit.

#### **Stop Bits**

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.

#### **Flow Control**

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.

#### VT-UTF8 Combo Key Support

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

#### **Recorder Mode**

With this mode enabled only text will be sent. This is to capture Terminal data.

#### **Resolution 100x31**

Enabled or disabled extended terminal resolution.

#### Legacy OS Redirection Resolution

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

#### **Putty KeyPad**

Select Function Key and KeyPad on Putty.

#### **Redirection After BIOS POST**

The Settings specify if BIOS is selected than Legacy console redirection is disabled before booting to Legacy OS. Default value is Always Enable which means Legacy console Redirection is enabled for Legacy OS.

#### 3.4.5 CPU Configuration

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

Aptio Setup Utility Advanced	) – Copyright (C) 2014	American Megatrends, Inc.
CPU Configuration		Socket specific CPU
▶ Socket O CPU Informatio	n	
CPU Speed 64-bit	2001 MHz Supported	
Limit CPUID Maximum Execute Disable Bit Intel Virtualization	[Disabled] [Enabled] [Enabled]	
		<pre>++: Select Screen 1↓: Select Item</pre>
		Enter: Select
		+/-: Change Opt. F1: General Help
		F2: Previous Values
		F3: Uptimized Defaults F4: Save & Exit
		ESC: Exit
Version 2.17.1246.	Copyright (C) 2014 A	merican Megatrends, Inc.

### Socket 0 CPU Information

Aptio Setup Utility Advanced	– Copyright (C) 2014 Ameri	can Megatrends, Inc.
Socket O CPU Informatio	n	
Intel(R) Celeron(R) CPU CPU Signature Microcode Patch Max CPU Speed Min CPU Speed Processor Cores Intel HT Technology Intel VT-x Technology	J1900 @ 1.99GHz 30678 815 1990 MHz 1334 MHz 4 Not Supported Supported	++: Select Screen
L1 Data Cache L1 Code Cache L2 Cache L3 Cache	24 kB x 4 32 kB x 4 1024 kB x 2 Not Present	<pre>\$</pre>
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#### Active Processor Cores

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Number of cores to enable in each processor package.

#### Limit CPUID Maximum

Disabled for Windows XP.

#### **Execute Disable Bit**

XD can prevent certain classes of malicious buffer overflow attacks when combined with a supporting OS (Windows Server 2003 SP1, Windows XP SP2, SuSE Linux 9.2, RedHat Enterprise 3 Update 3.)

#### Intel Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

#### **3.4.6 IDE Configuration**

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

Aptio Setup Utilit Advanced	y – Copyright (C) 2014 An	merican Megatrends, Inc.
IDE Configuration		Enable / Disable Serial
Serial-ATA (SATA)	[Enabled]	
SATA Speed Support SATA ODD Port SATA Mode	[Gen2] [No ODD] [AHCI Mode]	
Serial—ATA Port O	[Enabled]	
Serial-ATA Port 1	[Enabled]	→+: Select Screen ↑↓: Select Item
SATA PortO		Enter: Select
Not Present		+/–: Change Opt. F1: General Help
SATA Port1		F2: Previous Values
Not Present		F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.1246	. Copyright (C) 2014 Amer	rican Megatrends, Inc.

#### Serial-ATA (SATA)

Enabled or Disabled Serial-ATA.

#### **SATA Speed Support**

Select SATA Speed by Gen1 or Gen2.

#### SATA ODD Port

No ODD mode: HDD or SSD. ODD mode: ODD

#### SATA Mode

- (1) IDE Mode.
- (2) AHCI Mode.
- (3) RAID Mode.

#### Serial-ATA port 0

Enabled or Disabled Serial-ATA port 0.

# Serial-ATA port 1

Enabled or Disabled Serial-ATA port 1.

#### 3.4.7 OS Selection

Aptio Setup Ut Advanced	ility – Copyright (C) 2014	∔ American Megatrends, Inc.
OS Selection	[Windows 7]	OS Selection
		<pre> ++: Select Screen  fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.17.	1246. Copyright (C) 2014 f	American Megatrends, Inc.

Select your OS in this device.

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#### 3.4.8 PCI Subsystem Settings

Aptio Setup Utility Advanced	– Copyright (C) 2014 Ameri	can Megatrends, Inc.
DOT Due Deiver Hereie	AE 04 AE	Fachlas an Diachlas
PUI Bus Driver Versio	A5.01.05	64bit capable Devices
PCI Devices Common Sett	ings:	to be Decoded in Above
Above 4G Decoding	[Disabled]	4G Address Space (Only
SR-IOV Support	[Disabled]	if System Supports 64
N RCI Evanado Sattingo		bit PCI Decoding).
FOI EXPRESS Sectings		
▶ PCI Express GEN 2 Setti	ngs	
		↔ Select Screen
		T↓: Select Item
		Enter: Select
		F1: General Heln
		F2: Previous Values
		F3: Optimized Defaults
		F4: Save & Exit
		ESC: Exit
	Copupidat (C) 2014 Amonico	n Magatranda Inc
Version 2.17.1246.	-copyright (c) 2014 America	n Megatrenus, Inc.

#### Above 4G Decoding

Enabled or Disabled 64bit capable Devices to be Decoded in Above 4G Address Space (Only if System Supports 64 bit PCI Decoding).

#### **SR-IOV Support**

Enabled or Disabled SR-IOV mode.

#### 3.4.8.1 PCI Express Settings

This sub menu is used to change the settings for the PCI Express.

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Advanced		
PCI Express Device Regi	ster Settings	Enables or Disables PCI
Relaxed Ordering	[Disabled]	Express Device Relaxed
Extended Tag	[Disabled]	Ordering.
No Snoop	[Enabled]	
Maximum Payload	[Auto]	
Maximum Read Request	[Auto]	
PCI Express Link Regist	er Settings	
ASPM Support	[Disabled]	
WARNING: Enabling ASPM	may cause some	
PCI-E devices	to fail	↔+: Select Screen
Extended Synch	[Disabled]	↑↓: Select Item
-		Enter: Select
Link Training Retry	[5]	+/-: Change Opt.
Link Training Timeout	1000	F1: General Help
Unpopulated Links	[Keep Link ON]	F2: Previous Values
Restore PCIE Register	[Disabled]	F3: Optimized Defaults
-		F4: Save & Exit
		ESC: Exit
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#### **Relaxed Ordering**

Enabled or Disabled Relaxed Ordering function.

#### **Extended Tag**

Enabled or Disabled Extended Tag function.

#### No Snoop

Enabled or Disabled PCI Express Device No Snoop option.

#### **Maximum Payload**

Set Maximum Payload of PCI Express Device or allow System BIOS to select the value.

#### **Maximum Read Request**

Set Maximum Read Request Size of PCI Express Device or allow System BIOS to select the value.

# PCI Express Link Register Settings ASPM Support

Enabled or Disabled ASPM support.

```
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```

#### **Extended Synch**

Enabled or Disabled Extended Synch.

#### Link Training Retry

Use this item to define number of retry attempts software will take to retrain the link if previous training attempt was unsuccessful.

#### Link Training Timeout

Use this item to define number of microseconds software will wait before polling 'Link Training' bit in link status register. Value range from 10 to 1000uS.

#### **Unpopulated Links**

In order to save power, software will disable unpopulated PCI Express links, if this option set to 'Disable Link'.

#### **Restore PCIE Register**

Enabled or Disabled PCIE Register restored.

#### 3.4.8.2 PCI Express GEN 2 Settings

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Advanced		
PCI Express GEN2 Device Completion Timeout ARI Forwarding AtomicOp Requester En AtomicOp Egress Block IDO Request Enable IDO Completion Enable LTR Mechanism Enable End-End TLP Prefix Bl	Register Settings [Default] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled]	In device Functions that support Completion Timeout programmability, allows system software to modify the Completion Timeout value. 'Default' 50us to 50ms. If 'Shorter' is
PCI Express GEN2 Link R Target Link Speed Clock Power Managemen Compliance SOS Hardware Autonomous W Hardware Autonomous S	egister Settings [Auto] [Disabled] [Disabled] [Disabled] [Disabled]	<ul> <li>✤: Select Screen</li> <li>↑↓: Select Item</li> <li>Enter: Select</li> <li>+/-: Change Opt.</li> <li>F1: General Help</li> <li>F2: Previous Values</li> <li>F3: Optimized Defaults</li> <li>F4: Save &amp; Exit</li> <li>ESC: Exit</li> </ul>
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# PCI Express GEN 2 Device Register Settings Completion Timeout

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In device Functions that support Completion Timeout programmability, allows system software to modify the Completion Timeout value. 'Default' 50us to 50ms. If 'Shorter' is selected, software will use shorter timeout ranges supported by hardware. If 'Longer' is selected, software will use longer timeout ranges.

#### **ARI** Forwarding

If supported by hardware and set to 'Enabled', the Downstream Port disables its traditional Device Number field being 0 enforcement when turning a Type1 Configuration Request into a Type0 Configuration Request, permitting access to Extended Functions in an ARI Device immediately below the Port. Default value: Disabled

#### AtomicOp Requester Enable

If support by hardware and set to 'Enabled', this function initiates AtomicOp Requests only if Bus Master Enable bit is in the Command Register Set.

#### AtomicOp Egress Blocking

If supported by hardware and set to 'Enabled', outbound AtomicOp Requests via Egress Ports will be blocked.

#### **IDO Request Enable**

If supported by hardware and set to 'Enabled', this permits setting the number of ID-Based Ordering (IDO) bit (Attribute[2]) requests to be initiated.

#### **IDO Completion Enable**

If supported by hardware and set to 'Enabled', this permits setting the number of ID-Based Ordering (IDO) bit (Attribute[2]) requests to be initiated.

#### LTR Mechanism Enable

If supported by hardware and set to 'Enabled', this enables the Latency Tolerance Reporting (LTR) Mechanism.

#### End-End TLP Prefix Blocking

If supported by hardware and set to 'Enabled', this function will block forwarding of TLPs containing End-End TLP Prefixes.

#### PCI Express GEN 2 Link Register Settings

#### **Target Link Speed**

If supported by hardware and set to 'Force to 2.5 GT/s' for Downstream Ports,

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this sets an upper limit on Link operational speed by restricting the values advertised by the Upstream component in its training sequences. When 'Auto' is selected HW initialized data will be used.

#### **Clock Power Management**

If supported by hardware and set to 'Enabled', the device is permitted to use CLKREQ# signal for power management of Link clock in accordance to protocol defined in appropriate form factor specification.

#### **Compliance SOS**

If supported by hardware and set to 'Enabled', this will force LTSSM to send SKP Ordered Sets between sequences when sending Compliance Pattern or Modified Compliance Pattern.

#### Hardware Autonomous Width

If supported by hardware and set to 'Disabled', this will disable the hardware's ability to change link width except width size reduction for the purpose of correcting unstable link operation.

#### Hardware Autonomous Speed

If supported by hardware and set to 'Disabled', this will disable the hardware's ability to change link speed except speed rate reduction for the purpose of correcting unstable link operation.

#### 3.4.9 CSM Configuration

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Advanced		
Compatibility Support N	Nodule Configuration	Enable/Disable CSM
CSM Support	[Enabled]	Support.
CSM16 Module Version	07.76	
GateA20 Active Option ROM Messages	[Upon Request] [Force BIOS]	
Boot option filter	[Legacy only]	
Option ROM execution		++: Select Screen ↑↓: Select Item Enter: Select
Network	[Do not launch]	+/-: Change Opt.
Storage	[Legacy]	F1: General Help
Video	[Legacy]	F2: Previous Values
Uther PCI devices	[Legacy]	F3: Uptimized Defaults
		ESC: Exit
Version 2.17.1246. Copyright (C) 2014 American Megatrends, Inc.		

#### **CSM Support**

Enabled or Disabled CSM Support.

#### GateA20 Active

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**

Set display mode for Option ROM.

#### **Boot option filter**

This option controls what devices system can boot to.

#### 3.4.10 USB Configuration

This sub menu allows you to change the USB-related features.

Aptio Setup Utility Advanced	– Copyright (C) 2014 Ameri	can Megatrends, Inc.
USB Configuration		Enables Legacy USB
USB Module Version	8.11.02	support. AUTO option disables legacy support
USB Devices:		connected. DISABLE
1 Drive, 1 Keyboa	rd, 1 Hub	option will keep USB devices available only
Legacy USB Support EHCI Hand-off	[Enabled] [Disabled] [Enabled]	for EFI applications.
USB Mass Storage Driv	[Eughied]	++: Select Screen
USB hardware delays a		↑↓: Select Item
USB transfer time–out	[20 sec]	Enter: Select
Device reset time-out	[20 sec]	+/-: Change Opt.
Device power-up delay	[Auto]	F1: General Help
		F2: Previous Values
Mass Storage Devices:		F3: Optimized Defaults
IBM-DARA-212000 0811	[Auto]	F4: Save & Exit
		LOOP EXIT
Version 2.17.1246.	Copyright (C) 2014 America	n Megatrends, Inc.

#### Legacy USB Support

Enabled Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.

#### **EHCI Hand-off**

This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.

#### **USB Mass Storage Device Configuration**

Configure the USB Mass Storage Devices.

#### **USB transfer time-out**

The time-out value for Control, Bulk, and Interrupt transfers.

#### **Device reset time-out**

USB mass storage device Start Unit command time-out.

#### **Device power-up delay**

Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100 ms, for a Hub port

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the delay is taken from Hub descriptor.

#### Mass storage devices

Scan your USB port device.

# 3.5 Chipset Menu



3.5.1 Chipset / North Bridge

Aptio Setup Utility – Copyright (C) 2014 Americ Chipset	can Megatrends, Inc.
<ul> <li>Intel IGD Configuration</li> <li>Memory Information</li> </ul>	Config Intel IGD Settings.
Total Memory 4096 MB	
	<pre> ++: Select Screen  t↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.17.1246. Copyright (C) 2014 America	n Megatrends, Inc.

# 3.5.1.1 Chipset / North Bridge/ Intel IGD Configuration

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Chipset		
GOP Configuration GOP Driver Intel IGD Configuration	[Disabled]	Enable GOP Driver will unload VBIOS; Disbale it will load VBIOS
Integrated Graphics D	[Enabled]	
IGD Turbo Enable Spread Spectrum clock	[Enabled] [Disabled]	
		<pre> ++: Select Screen  f↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.17.1246. Copyright (C) 2014 American Megatrends, Inc.		

#### **GOP Driver**

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Enabled or Disabled GOP Driver.

#### **Integrated Graphics Device**

Enabled or Disabled Integrated Graphics Device.

#### IGD Turbo Enable

Enabled or Disabled Integrated Graphics Device Turbo Mode.

#### Spread Spectrum clock

Enabled or Disabled Spread Spectrum clock.

#### 3.5.2 Chipset / South Bridge

Aptio Setup Utility – Copyright (C) 2014 Americ Chipset	can Megatrends, Inc.
USB 2.0(EHCI) Support [Enabled]	Control the USB EHCI (USB 2.0) functions. One EHCI controller must always be enabled
	↔: Select Screen 1↓: Select Item
	Enter: Select
	+/-: Change Opt.
	F2: Previous Values
	F3: Optimized Defaults
	ESC: Exit
Version 2.17.1246. Copyright (C) 2014 Americar	n Megatrends, Inc.

#### USB 2.0 (EHCI) Support

Enabled or Disabled USB2.0 (EHCI) Support.

### 3.6 Security Menu

# $\bigcirc$ Use the Security Setup option as follows:

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

- 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.

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Main Advanced Chipset <mark>Security</mark> Boot Save & Exit		
Password Description If ONLY the Administrate then this only limits ar only asked for when ente If ONLY the User's passe is a power on password a boot or enter Setup. In have Administrator right	or's password is set, ccess to Setup and is ering Setup. word is set, then this and must be entered to Setup the User will ts.	Set Administrator Password
The password length mus in the following range: Minimum length	t be 3	→+: Select Screen ↑↓: Select Item
Maximum length	20	Enter: Select +/−: Change Opt. F1: General Help
Administrator Password User Password		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.17.1246.	Copyright (C) 2014 America	n Megatrends, Inc.

#### 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.

#### 3.7 Boot Menu

#### $\prod$ 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 <ESC> key to return to the main menu.

Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. Main Advanced Chipset Security <mark>Boot</mark> Save & Exit				
Boot Configuration Setup Prompt Timeout Bootup NumLock State	<b>1</b> [0n]	Number of seconds to wait for setup activation key. 65535(0xEEEE) means		
Quiet Boot Fast Boot	[Disabled] [Disabled]	indefinite waiting.		
Boot mode select Boot Option #1 Boot Option #2	[LEGACY] [Hard Disk] [CD/DVD]			
Boot Option #3 Boot Option #4 Boot Option #5	[USB Hard Disk] [USB CD/DVD]	↔: Select Screen ↑↓: Select Item		
Boot Option #5 Boot Option #6 Boot Option #7	[USB Floppy] [USB Lan]	+/−: Change Opt. F1: General Help		
Boot Option #8 [Network] ▶ USB Key Drive BBS Priorities		F2: Previous Values F3: Optimized Defaults F4: Save & Exit		
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#### Setup Prompt Timeout

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

#### **Bootup NumLock Stat**

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

#### **Quiet Boot**

Enabled or Disabled quiet boot option.

#### Boot mode select

Select Legacy BIOS or UEFI Boot Mode

#### Boot Option #1~#8

Set the system Boot Priority.

#### 3.7.1 USB Key Drive BBS Priorities

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Aptio Setup Utility – Copyright (C) 2014 American Megatrends, Inc. <mark>Boot</mark>				
Boot Option #1	[IBM-DARA-212000 0811]	Sets the system boot order		
		<pre>++: Select Screen 1↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>		
Version 2.17.12	46. Copyright (C) 2014 Americ	can Megatrends, Inc.		

# Boot Option #1~8

Set the USB boot priority order.

# 3.8 Exit Menu

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

### Use the Save & Exit option as follows:

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



#### 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 default for each setting on the Setup Utility menus, which will provide the best performance settings for system. "F3" key can be used for this operation.

# 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-10510 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
DOS	DOS 6.22
Windows®	Windows® 7 Ultimate SP1x64
Linux®	Redhat Enterprose Linux 6.4
	Fedora 20
	Ubuntu 14.01 server

# 4.2 System Driver Installation

PL-10510 offers the system driver in the setup CD. Please install the driver following the procedures.

🔊 Intel(R) Chipset Software Installation Utility - InstallShield(R) Wizard
Extracting Files The contents of this package are being extracted.
Please wait while the InstallShield(R) Wizard extracts the files needed to install Intel(R) Chipset Software Installation Utility on your computer. This may take a few moments.
Extracting ich2br.cat
InstallShield

# 4.3 LAN Driver Installation

PL-10510 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-10510 into your CD-ROM drive.
- 2. Choose the Drivers file to click the Autorun icon.
- 3. Follow the procedures to finish the installation.

# Appendix A : Programming the Watchdog Timer

The PL-10510 provides a watchdog timer that resets the CPU or enables LAN bypass mode. This function ensures greater system reliability in industrial stand-alone and unmanned environments.

In order to enable the watchdog timer, you have to output the value of the watchdog timer interval to the controller. The value range is from 01H to FFH, and the related time watchdog timer interval is 1 sec to 255 sec.

Data	Timer interval	
00	Disabled	
01	1 sec	
02	2 sec	
*	*	
*	*	
FF	255 sec	

If you want to disable the watchdog timer, just set the timer interval value to 00H.

After setting the timer interval value, the watchdog timer begins to count down. You have to refresh the watchdog timer, so that the watchdog timer will return to its initial value; otherwise, your system will reset after a time-out. Please reference the sample code (includes in CD) that shows how to set the watchdog timer.

# AppendixB : LAN Bypass Function(optional)

The power on default for CN24 & CN25 (CN26 & CN27) LAN ports is set to normal state.

#### How to control LAN 1&2 (LAN 3&4) bypass function by watchdog timer

Please follow below steps to set the LAN bypass function control by watchdog timer:

- 1. Setup jumper JP2 (JP3) to 1-2 shorted to enable bypass function.
- 2. Setup JP5 to 2-3 to enable bypass function by watchdog timer.
- 3. Refer to Appendix A to set timer interval value and enable watchdog timer.

After setting the timer interval value, the watchdog timer begins to count down. You have to refresh the watchdog timer, so that the watchdog timer will return to its initial value; otherwise, your system will set CN24 & CN25 (CN26 & CN27) LAN ports to bypass state after a time out.

*Note:* Once the watchdog timer time-out you need to restart the system to reset the timer.

#### How to control LAN 1&2 (LAN 3&4) bypass function by GPIO

Please follow below steps to set the LAN bypass function control by GPIO:

- 1. Setup jumper JP2 (JP3) to 1-2 shorted to enable bypass mode.
- 2. Please reference the sample code (includes in CD) and set CN24 & CN25 (CN26 & CN27) LAN ports to Bypass state or Normal state.

# Appendix C: Cable Development Kit

The PL-10510 offers various cables for development use.

# <u>DK001</u>

Item & Description	Part No.	Qty
Ethernet Cat.5 Cable 2M/ RoHS	CB-EC5200-01	1
Cross Over 2M Color/ RoHS	CB-CO5204-01	1
RJ45 to DB9 2M Cable/ RoHS	CB-RJDB91-01	1
VGA CABLE (2mm) 15CM/ RoHS	CB-IVGA01-00	1
2m null modem cable/ RoHS	CB-DB9200-01	1
KB/MS CABLE 15CM/ RoHS	CB-IPS200-00	1
USB CABLE/ RoHS	CB-IUSB01-00	1

CB-EC5200-01



CB-DB9200-01









CB-IVGA01-00



CB-IPS200-00







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