PL-10530

Networking Appliance

1U Rack-Mount Intel® Haswell Core i3/i5/i7/Pentium/Celeron and E3-1200 v3 Processor and C226 PCH Network System, 7 Copper GbE, SATA, CF, LCM, PCI-E, IPMI

User's Manual

Version 1.1

Reversion History			
Date	**Version**	**Modification**	**Editor**
2014/5/6	1.0	First Release	Allen Liu
2014/9/8	1.1	Jumper setting section update	Allen Liu

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For more information on PL-10530 or other WIN Enterprises products, please visit our website http://www.win-ent.com.

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Chapter 1. General Information

1.1 Introduction

The PL-10530 is a 1U rack-mounted hardware platform designed for high performance network service applications. Supporting Intel® 4th generation microprocessor architecture on 22nm process technology, the PL-10530 supports Intel® Haswell Xeon E3-1200 v3 and Core i7/i5/i3 processors with Intel® Advanced Vector Extensions and Turbo Boost Technology.

The platform supports four unbuffered ECC or non-ECC DDR3 1333/1600MHz DIMM sockets up to 32GB of memory and offers powerful storage interface supporting two 2.5" or one 3.5" SATA 3.0 6Gbps hard drives and CompactFlash™; thus granting the best network performance and maximum utilization. In order to enhance network security performance, PL-10530 offers optional add-on Cavium Nitrox PX CN16xx/CN35xx module to provide hardware level cryptographic acceleration hence reallocating abundant CPU computing power for higher layer packet processing. The optional IPMI module supports IPMI 2.0 and web-based UI for remote management that offers powerful function with KVM over IP, SoL, Virtual Storage Redirection, remote power control and hardware monitor.

This platform offers 7 GbE to 15 GbE Ethernet ports via PCI-E on the front-panel. To prevent network problems during unexpected shut down, PL-10530 supports two segments of LAN bypass function through WDT and GPIO pin definitions. For local system management, maintenance and diagnostics; the front panel is equipped with dual USB 3.0 ports, one RJ-45 console port and LED indicators that monitor power and storage device activities. Additionally the PL-10530 supports one PCI-E x8 slot for add-on Ethernet module and one PCI-E x8 golden finger for standard PCIe card via a riser card.

1.2 Specification

Processor System	CPU	Support Single Intel® Haswell Xeon E3-1200 v3 and Core i7/i5/i3 processors, LGA1150
	Chipset	Intel® C226 PCH
	DMI	Up to 5GT/s

	BIOS	AMI® UEFI BIOS
Memory	Technology	Dual-channel, ECC/Non-ECC, un-buffered, DDR3 1333/1600MHz memory
	Capacity	Up to 32GB with 4 DIMM sockets
Expansion	Expansion Slots	- one PCI-E x8 slot for expansion module - one PCI-E x8 golden finger for standard PCI-E slot (optional Riser card) - one PCI-E x1 slot (Option) - One SO-DIMM socket for R287 IPMI module only (Option)
Ethernet	GbE Ethernet	Seven Copper GbE ports, Intel I211, PCI-E x1 2~8 GbE ports (optional expansion module) LAN Bypass: two pairs bypass
H/W Acceleration	Security Processor	Optional module with Cavium NITROX PX CN16xx.
Remote Management	IPMI	Aspeed AST2150 Remote Management Module (optional)
Storage	SATA	Internal HDD bay support one 3.5" or two 2.5" SATA HDD
	mSATA	One mSATA socket for SSD
	Compact Flash Socket	One CompactFlash™ Type II
I/O	USB	One external USB 3.0 Dual port One internal USB 3.0 (5x2 pin header)
	Serial	One RJ45 Console port (COM1) One internal 5x2 pin header (COM2)
Power Supply	Watt	1U ATX single 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 Status LED (Green/ Yellow) One HDD LED (Yellow)

		Two Bypass LED (Red)
	Dimensions（W x D x H）	430mm (W) x 400mm (D) x 44mm (H) (16.9"W x 16.7"D x 1.7"H)
	Operating Temperature	Operating Temp: 0 ~ 40℃ (32 ~ 104℉)
	Storage Temperature	-20 ~ 75℃ (-4 ~ 167℉)
	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 Order Information

We offer some accessories for PL-10530appliance for customer need.

PL-1053A	1U rackmount Intel Haswell Processor and Lynx Point C226 PCH, LGA1150, 11 Copper GbE, Bypass, PCI-E (CB-8973A + R297A)
PL-1053B	1U rack-mount Intel Haswell Processor and Lynx Point C226 PCH, LGA1150, 7 Copper GbE, Bypass, PCI-E
PL-1053C	1U rack-mount Intel Haswell Processor and Lynx Point C226 PCH, LGA1150, 7 Copper GbE, Bypass, PCI-E, IPMI (CB-8973B + R287A)
Optional	
R168	Expansion module with 4 Copper GbE, Intel 82580EB, PCI-E 2.0 Two pair bypass function (option)
R169A	Expansion module with 4 SFP GbE, Intel 82580EB, PCI-E 2.0
R171A	Expansion module with 8 Copper GbE, Intel 82580EB, PCI-E 2.0
R175	Expansion module with 4 Copper GbE, Intel 82574L/82583V, PCI-E x1, 2 pair bypass
R175C	Expansion module with 4 Copper GbE, Intel 82574L/82583V, PCI-E x1
R186A	Expansion module with 4 SFP ports & 4 Copper GbE ports, Intel 82580EB
R186B	Expansion module with 4 SFP ports & 4 Copper GbE ports with two pair bypass, Intel 82580EB
R188A	Expansion module with Two 10GbE SFP+ ports, Intel 82599ES
R199A	IPMI Module, PCI-E x 1, Aspeed AST2150 Chip
R297	Expansion module with 4 Copper GbE ports, Intel I211AT Two pair bypass function (option)

R298	Expansion module with Cavium 1610 and 4 Copper GbE
DK002	Cable development kit: CB-CO5204-00 Cross over 2M CB-DB9200-01 Null modem cable 2M CB-EC5200-00 Ethernet cat.5 cable 2M CB-IPS200-00 KBMS cable, 15CM CB-IUSB2B-00 USB cable, 25CM CB-IVGA01-00 VGA cable, 20CM CB-RJDB91-00 RJ-45 to DB-9 cable 2M

1.4 Packaging

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

1. PL-10530 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-10530. Keep the box and carton when you probably ship or store PL-10530 in near future. After you unpack the goods, inspect and make sure the packaging is intact. Do not plug the power adapter to the appliance of PL-10530 if you find it appears damaged.

Note: Keep the PL-10530 in the original packaging until you start installation.

1.5 Precautions

Please make sure you properly ground yourself before handling the PL-10530 appliance or other system components. Electrostatic discharge can be easily damage the PL-10530 appliance.

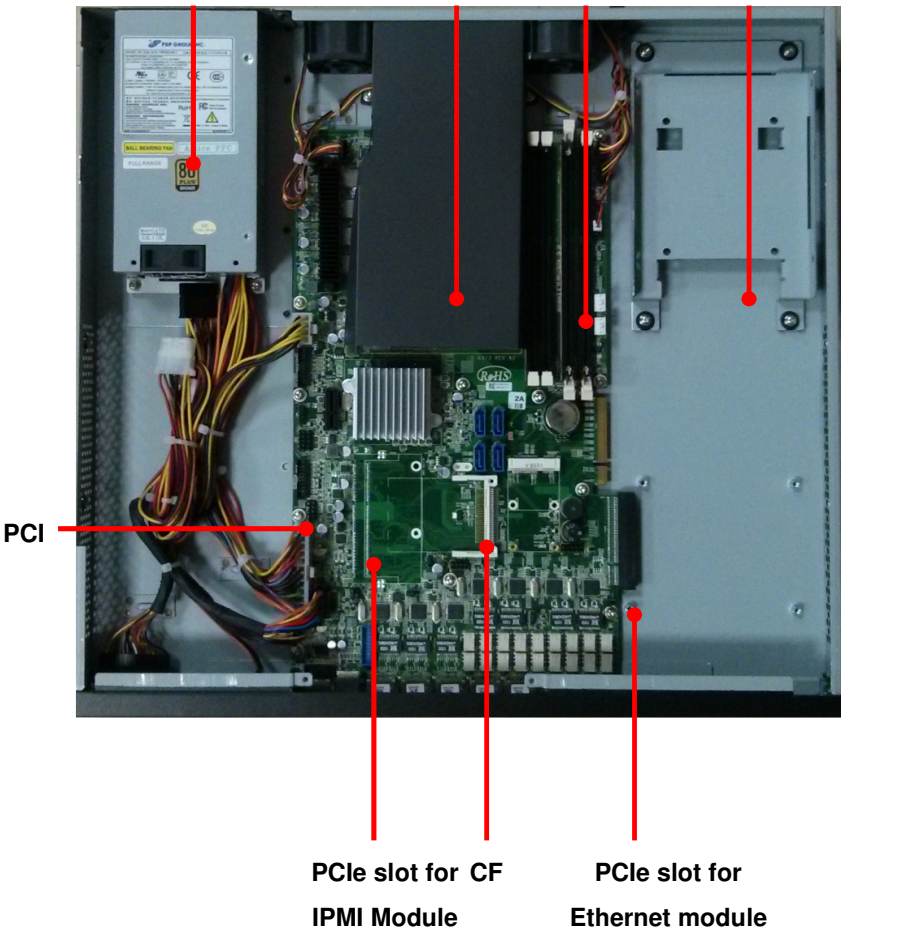
Do not remove the anti-static packing until you are ready to install the PL-10530 appliance.

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.

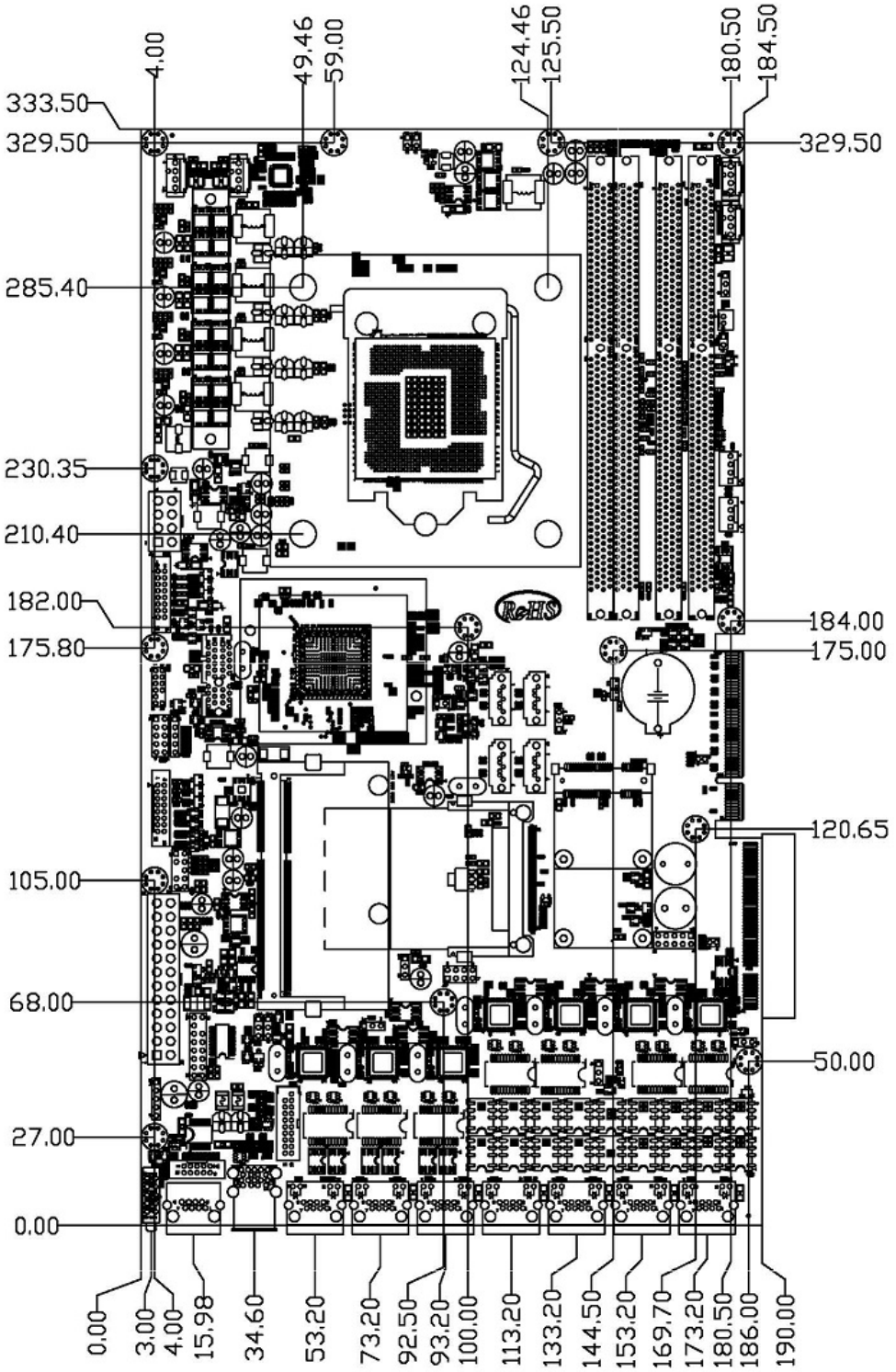
Handle the PL-10530 appliance by its edges and avoid touching its components.

1.6 System Layout

PL-10530 Front Side



1.7 Board Dimensions



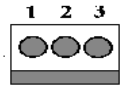
Chapter 2. Connector/Jumper Configurations

2.1 Connector/Jumper Locations and Definitions

Connector	Define	Connector	Define
FAN 1	FAN Connector	CN23	KEYPAD Pin Header
FAN 2	FAN Connector	CN24	USB 3.0 Pin Header
FAN 3	FAN Connector	CN25	COM2 Box Pin Header
FAN 4	FAN Connector	CN26	USB 3.0 Connector
FAN 5	FAN Connector	CN27	1GbE LAN RJ45 Connector
FAN 6	FAN Connector	CN28	1GbE LAN RJ45 Connector
CN1	Reset Pin Header	CN29	1GbE LAN RJ45 Connector
CN4	4-Pin HDD Power Connector	CN30	1GbE LAN RJ45 Connector
CN5	4-Pin HDD Power Connector	CN31	1GbE LAN RJ45 Connector
CN6	+12V Power Connector(8Pin)	CN32	1GbE LAN RJ45 Connector
CN7	VGA Pin Header	CN33	1GbE LAN RJ45 Connector
CN8	80-Port Pin Header	CN34	COM1 RJ45 Connector
CN9	SATA Connector	CN35	Power Switch Pin Header
CN10	SATA Connector	JP3	Clear CMOS
CN11	GPIO Pin Header	JP4	5V voltage input for pin A19 of PCI-E x8 Golden Finger
CN13	PCI-E x8 Golden Finger	JP5	5V voltage input for pin A19 of PCI-E x8 Slot
CN14	SATA Connector	JP6	ATX/AT mode selection
CN15	SATA Connector	JP7	Watchdog function selection
CN16	VGA Pin Header (Option, from IPMI VGA)	JP8	Power On type selection
CN17	mSATA Connector	JP9	LAN4/5 Bypass selection
CN18	PS2 KB/MS Pin Header	JP10	LAN6/7 Bbypass selection
CN19	PCI-E x8 Slot	JP11	DDR 1.5V/1.35V selection
CN20	SPI Pin Header	PCIE1	PCIE x1 slot
CN21	ATX Power Connector(20Pin)	CF1	CF Socket
CN22	LCM Pin Header		

2.2 Connector and Jumper Setting

FAN1/FAN2/FAN3/FAN4/FAN5/FAN6: FAN Connector

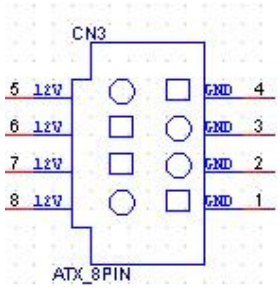


Pin	Define
1	Ground
2	+12V
3	Speed Detect

CN1：Reset Pin Header

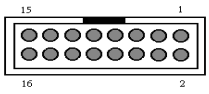
Pin	Define
1	Ground
2	Reset #

CN6：+12V Power Connector (8Pin)



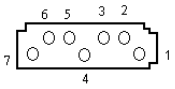
Pin	Define	Pin	Define
1	Ground	5	+12V
2	Ground	6	+12V
3	Ground	7	+12V
4	Ground	8	+12V

CN7: VGA Pin Header (No function for some Xeon E3-1200 v3 series CPUs)



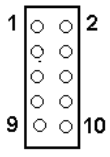
Pin	Define	Pin	Define
1	RED	2	GREEN
3	BLUE	4	+5V
5	Ground	6	Ground
7	Ground	8	Ground
9	+5V	10	Ground
11	+5V	12	SDA
13	HSYNC	14	VSYNC
15	SCL	16	NC

CN9/CN10/CN14/CN15: SATA Connector



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

CN11: GPO Pin Header



Pin	Define	Pin	Define
1	GPO4-	2	GPO4+

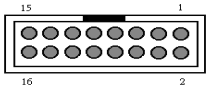
3	GPO5-	4	GPO5+
5	GPO6-	6	GPO6+
7	GPO7-	8	GPO7+
9	NC	10	NC

CN13: PCI-E x8 Golden Fingers

Pin	Define	Pin	Define
A1	GND	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	+12V
A4	GND	B4	GND
A5	VCC3	B5	SMB_CLK_RESUME
A6	VCC3	B6	SMB_DATA_RESUME
A7	VCC3	B7	GND
A8	VCC3	B8	VCC3
A9	VCC3	B9	NC
A10	VCC3	B10	VCC3_STBY
A11	RESET	B11	PE_WAKE
A12	GND	B12	LAN_PWROK
A13	PCI_E4_P1	B13	GND
A14	PCI_E4_N1	B14	TX_0_DP
A15	GND	B15	TX_0_DN
A16	RX_0_DP	B16	GND
A17	RX_0_DN	B17	VCC5
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	BYPASS
A31	GND	B31	GPIO27
A32	GPIO34	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	GPIO28
A49	PCIE_SLOT0_1_SEL	B49	GND

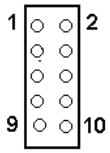
CN16: VGA Pin Header (Option, from IPMI VGA)



Pin	Define	Pin	Define
1	RED	2	GREEN
3	BLUE	4	+5V
5	Ground	6	Ground
7	Ground	8	Ground
9	+5V	10	Ground
11	+5V	12	SDA
13	HSYNC	14	VSYNC

15	SCL	16	NC

CN18: PS/2 KB/MS Pin Header



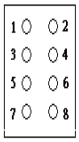
Pin	Define	Pin	Define
1	KCLK	2	MCLK
3	KDAT	4	MDAT
5	NC	6	NC
7	PS2_GND	8	PS2_GND
9	PS2_VCC	10	PS2_VCC

CN19: PCIE x8 Slot (proprietary for WIN Enterprises' module)

Pin	Define	Pin	Define
A1	GND	B1	+12V
A2	+12V	B2	+12V
A3	+12V	B3	+12V
A4	GND	B4	GND
A5	VCC3	B5	SMB_CLK_ RESUME
A6	VCC3	B6	SMB_DATA_ RESUME
A7	GND	B7	GND
A8	VCC3	B8	VCC3
A9	VCC3	B9	NC
A10	VCC3	B10	VCC3_STBY
A11	RESET	B11	PE_WAKE
A12	GND	B12	LAN_PWRO K
A13	PCI_E3_P2	B13	GND
A14	PCI_E3_N2	B14	TX_0_DP
A15	GND	B15	TX_0_DN

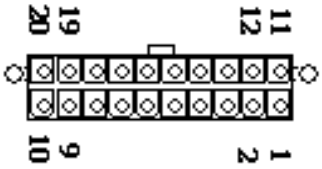
A16	RX_0_DP	B16	GND
A17	RX_0_DN	B17	VCC5
A18	GND	B18	GND
A19	VCC5	B19	TX_1_DP
A20	GND	B20	TX_1_DN
A21	RX_1_DP	B21	GND
A22	RX_1_DN	B22	GND
A23	GND	B23	TX_2_DP
A24	GND	B24	TX_2_DN
A25	RX_2_DP	B25	GND
A26	RX_2_DN	B26	GND
A27	GND	B27	TX_3_DP
A28	GND	B28	TX_3_DN
A29	RX_3_DP	B29	GND
A30	RX_3_DN	B30	BYPASS
A31	GND	B31	GPIO35
A32	GPIO33	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	NC
A49	GND	B49	GND

CN20: SPI (reserved for manufactory test)



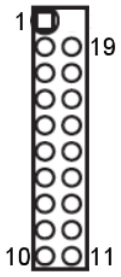
Pin	Define	Pin	Define
1	VCC3	2	GND
3	SPI_CS0	4	SPI_CLK
5	SPI_MISO	6	SPI_MOSI
7	NC	8	FLASH_IO

CN21: ATX Power Connector



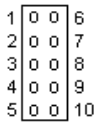
Pin	Define	Pin	Define
11	+3.3V	1	+3.3V
12	-12V	2	+3.3V
13	Ground	3	Ground
14	PS_ON*	4	+5V
15	Ground	5	Ground
16	Ground	6	+5V
17	Ground	7	Ground
18	RSVD	8	POWER GOOD
19	+5V	9	5VSB
20	+5V	10	+12V

CN24: USB3.0 Pin Header



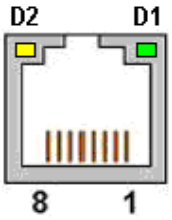
Pin	Define	Pin	Define
1	+5V	20	NC
2	USB3_RX5-	19	USB3_RX6-
3	USB3_RX5+	18	USB3_RX6+
4	GND	17	GND
5	USB3_TX5-	16	GND
6	USB3_TX5+	15	USB3_TX6-
7	GND	14	USB3_TX6+
8	USB_PN2	13	GND
9	USB_PP2	12	USB_PN3
10	NC	11	USB_PP3

CN25: COM2 Box Header



Pin	Define	Pin	Define
1	DCD#	6	DSR#
2	RXD#	7	RTS#
3	TXD#	8	CTS#
4	DTR#	9	RI#
5	Ground	10	NC

CN27/CN28/CN29/CN30/CN31/CN32/CN33: 1GbE 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	Green
1000Mbps	Yellow

CN35：Power Switch Pin Header

Pin	Define
1	Switch On
2	GND

JP6: Clear CMOS

Pin		Setting
	1-2	Normal(Default)

	2-3	Clear CMOS

JP4: 5V voltage input for pin A19 of PCI-E x8 Golden Finger
JP5 : 5V voltage input for pin A19 of PCI-E x8 Slot

	
Open	NC (Default)
Shorted	+5V IN

JP6: ATX/AT mode selection

Pin		Setting
	1-2	ATX (Default)
	2-3	AT

JP7: Watchdog function selection

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

JP8: Power On Type Selection

Pin	Setting

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

JP9/JP10: LAN4/5 & LAN6/7 Bypass function selection

Pin		Setting
	1-2	Normal, LAN bypass is controlled by software. (Default)
	2-3	Bypass Always Disable

JP11 : DDR 1.5V/1.35V selection

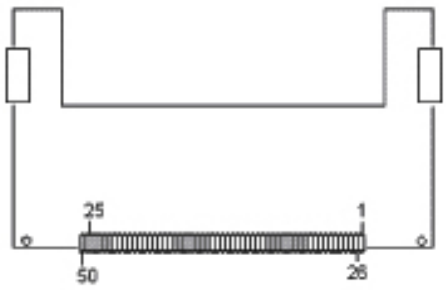
	
Open	1.35V
Shorted	1.5V (Default)

2.3 CompactFlash™ 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



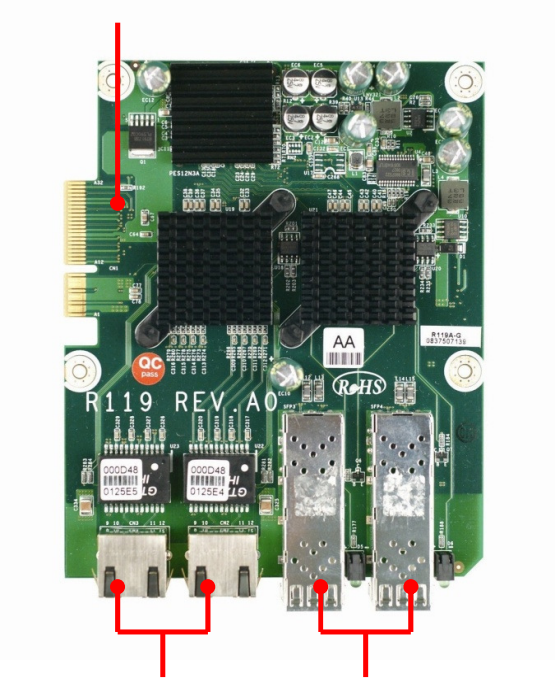
Chapter 3. Optional GbE Module & Riser Card Settings

The PL-10530 offers various GbE module combinations to match various applications and market demands.

3.1 R119: Ethernet module with two GbE Copper and two GbE SFP

R119A is a two GbE Copper and two GbE SFP Ethernet module. The golden edge fingers are connected with the CN17 proprietary connector of the PL-10530 board.

Golden Edge Fingers to be connected with CN17 of MB-80310. (or PCI-E x8 slot of R117A)

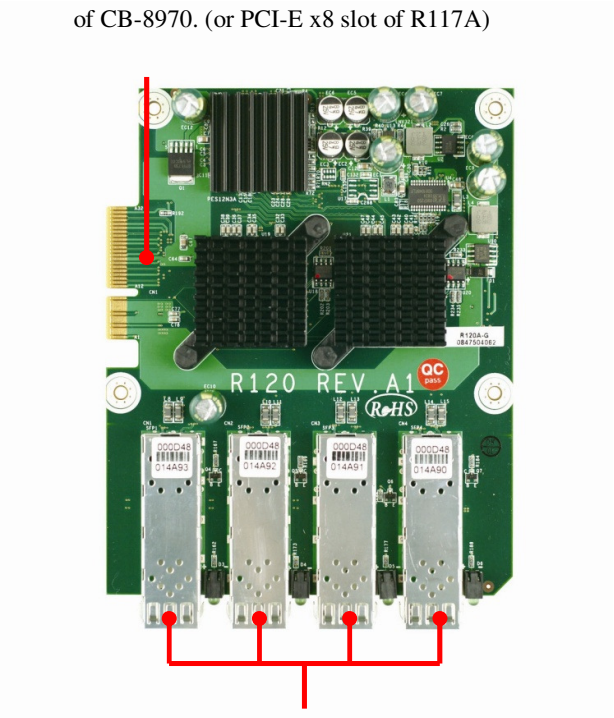


2 x GbE Copper ports 2 x GbE SFP ports

3.2 R120: Ethernet module with four GbE SFP

R120A is a four GbE SFP Ethernet module. The golden edge fingers to be connected with CN17 proprietary connector of PL-10530 board.

Golden Edge Fingers to be connected with CN17
of CB-8970. (or PCI-E x8 slot of R117A)

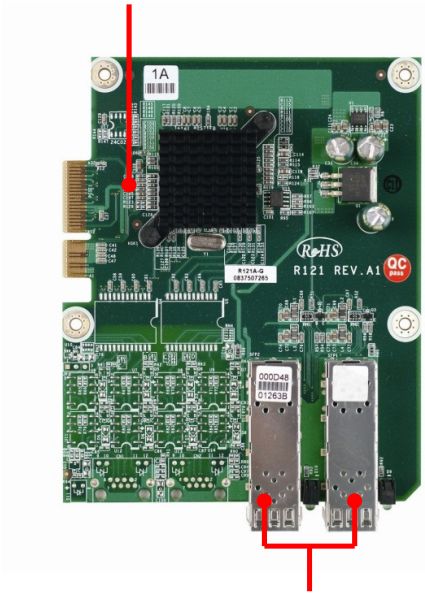


4 x GbE SFP ports

3.3 R121: Ethernet module with two GbE Copper or SFP

R121B is a two GbE Copper Ethernet module and designed reserved one pair bypass function for optional (ODM project). The golden edge fingers must be connected with CN17 proprietary connector of MB-10530 board. The alternative R121A is a two GbE SFP Ethernet module.

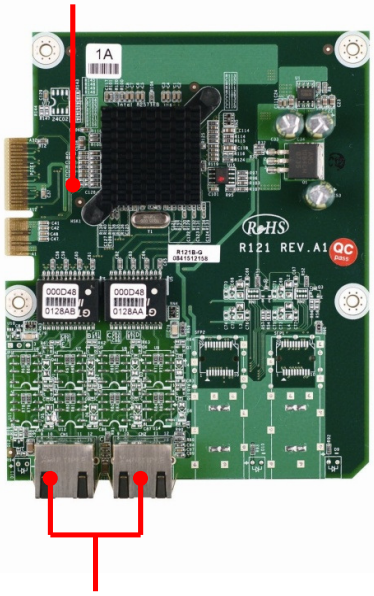
Golden Edge Fingers to be connected with CN17 of MB-80310. (or PCI-E x8 slot of R117A)



2 x GbE SFP ports

Picture-1: R121A

Golden Edge Fingers to be connected with CN17 of MB-80310. (or PCI-E x8 slot of R117A)



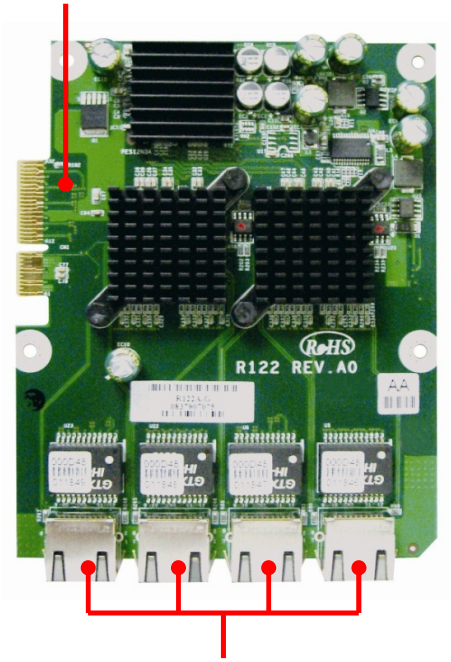
2 x GbE Copper ports

Picture-2: R121B

3.4 R122: Ethernet module with four GbE Copper

R122A is a four GbE Copper Ethernet module. The golden edge fingers to be connected with CN17 proprietary connector of PL-10530 board.

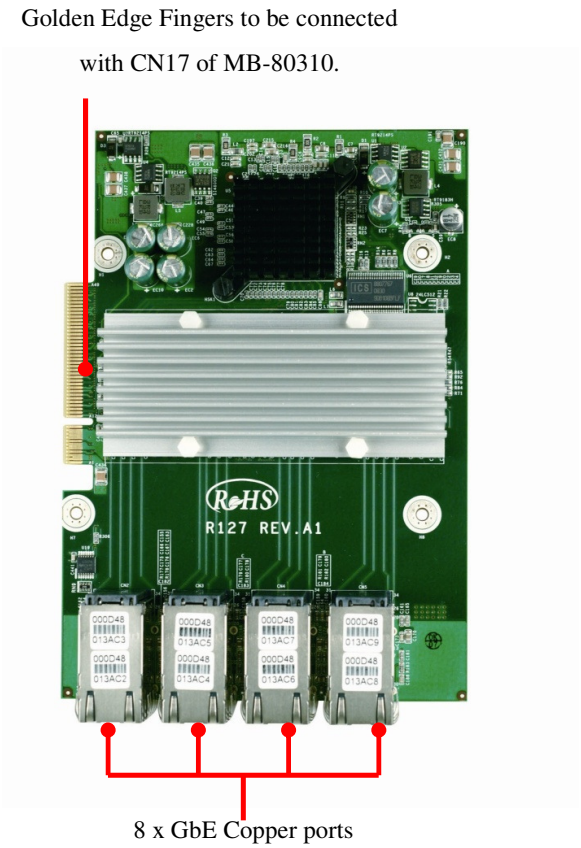
Golden Edge Fingers to be connected with CN17 of CB-8970. (or PCI-E x8 slot of R117A)



4 x GbE Copper ports

3.5 R127: Ethernet module with eight GbE Copper

R127A is a four GbE Copper Ethernet module. The golden edge fingers to be connected with CN17 proprietary connector of PL-10530 board.

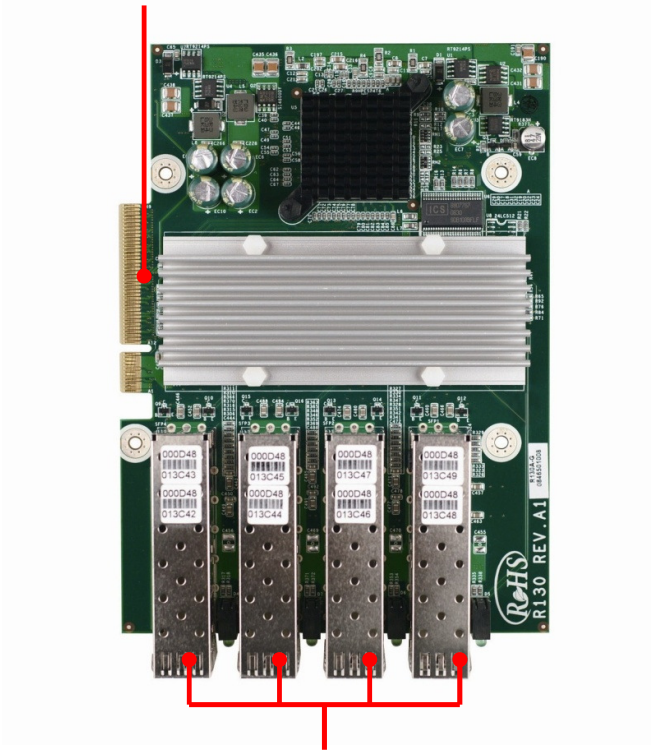


3.6 R130: Ethernet module with eight GbE SFP

R130A is a four GbE Copper Ethernet module. The golden edge fingers to be connected with CN17 proprietary connector of PL-10530 board.

Golden Edge Fingers to be connected

with CN17 of CB-8970.

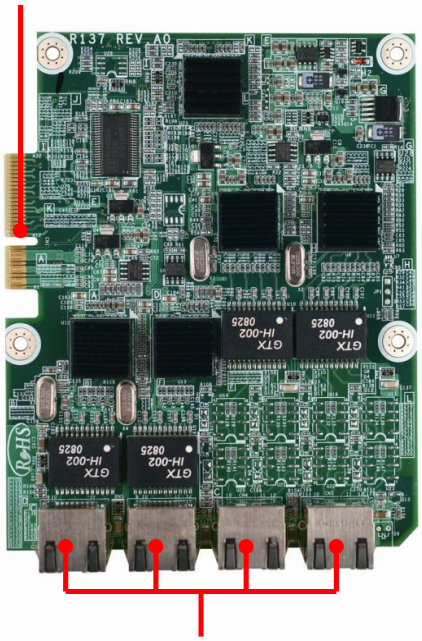


8 x GbE SFP ports

3.7 R137: Ethernet module with four GbE Copper

R137A is a four GbE Copper module and designed reserved one pair bypass function for optional (ODM project). The golden edge fingers must be connected with CN17 proprietary connector of PL-10530board.

Golden Edge Fingers to be connected with CN17
of MB-80310. (or PCI-E x8 slot of R117A)

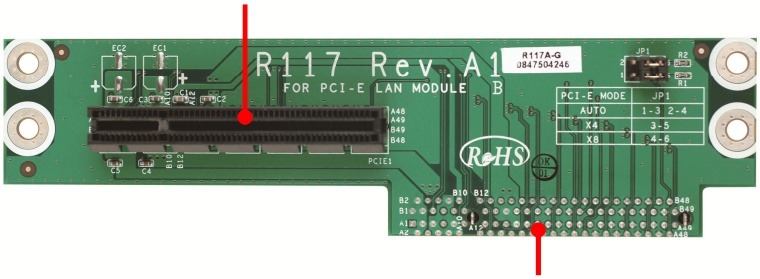


4 x GbE Copper ports

3.8 R117: Riser card for expansion module PCI-E x8

R117A is one PCI-E x8 to PCI-E x8(proprietary) riser card for expansion Ethernet module. It must be connected to CN32 (PCI-E x8 Golden Finger) of PL-10530appliance.

PCI-E x8 slot to proprietary Ethernet module

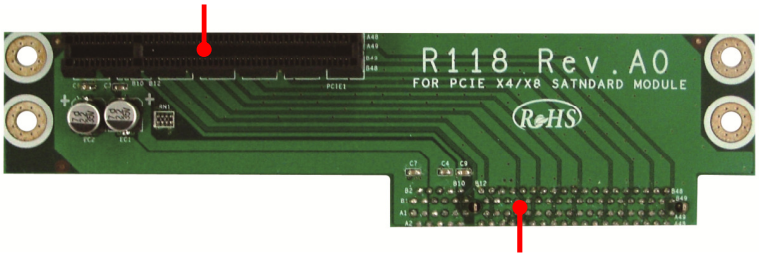


PCI-E x8 slot to be Golden Edge Fingers of CB-8970

3.9 R118: Riser card for PCI-E x8 add-on card

R118A is one PCI-E x8 to PCI-E x8 riser card for standard PCI-E x8/x4/x1 add-on card. It must be connected to CN32 (PCI-E x8 Golden Finger) of PL-10530appliance.

PCI-E x8 slot to standard Add-on card

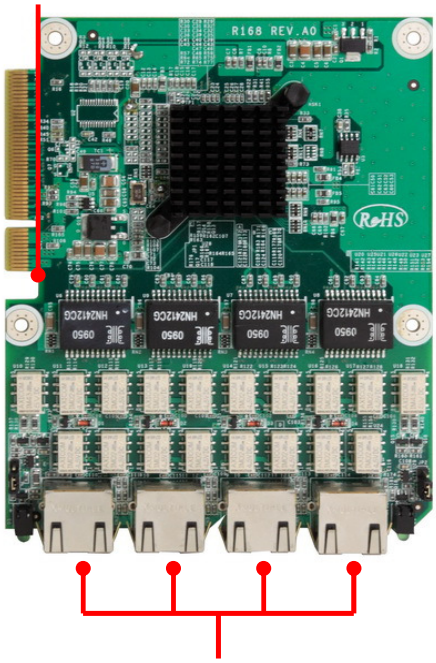


PCI-E x8 slot to be Golden Edge Fingers of CB-8970

3.10 R168: Ethernet module with four GbE Copper and bypass

R168 is a four GbE Copper Ethernet module with bypass. The golden edge fingers must be connected with CN17 proprietary connector of PL-10530 board.

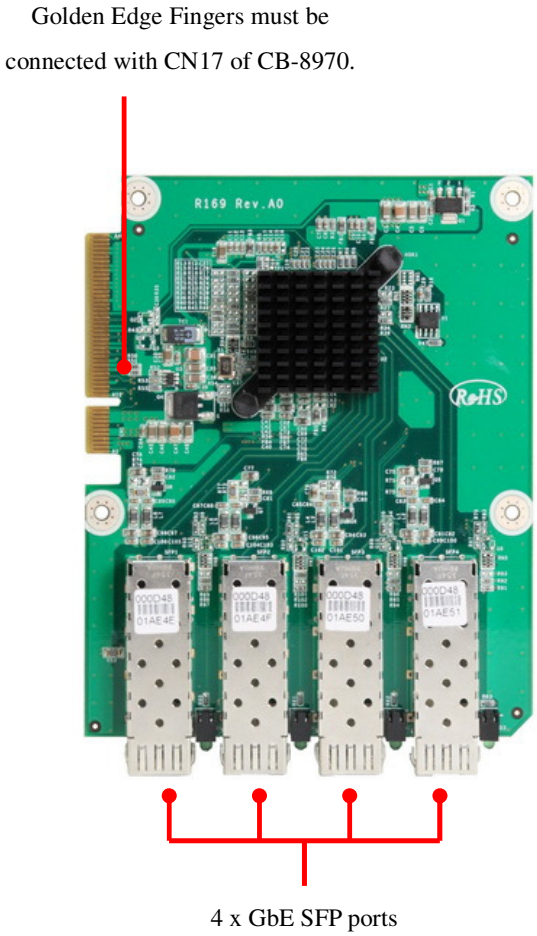
Golden Edge Fingers must be
connected with CN17 of CB-8970.



4 x GbE Copper ports

3.11 R169: Ethernet module with four GbE SFP

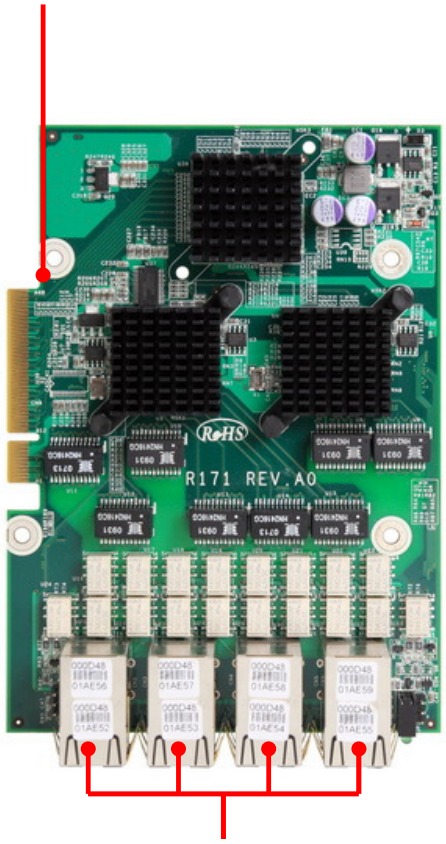
R168 is a four GbE SFP Ethernet module. The golden edge fingers must be connected with CN17 proprietary connector of PL-10530board.



3.12 R171: Ethernet module with eight GbE Copper

R168 is an eight GbE Copper Ethernet module. The golden edge fingers must be connected with CN17 proprietary connector of PL-10530board.

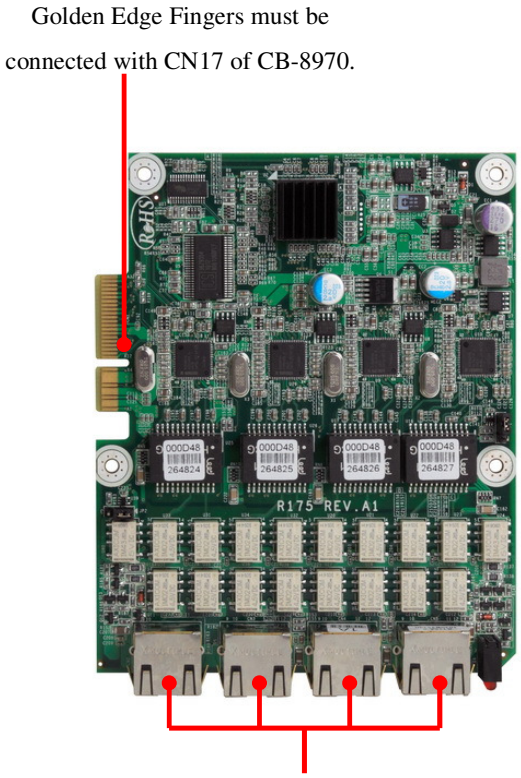
Golden Edge Fingers must be
connected with CN17 of CB-8970.



8 x GbE Copper ports

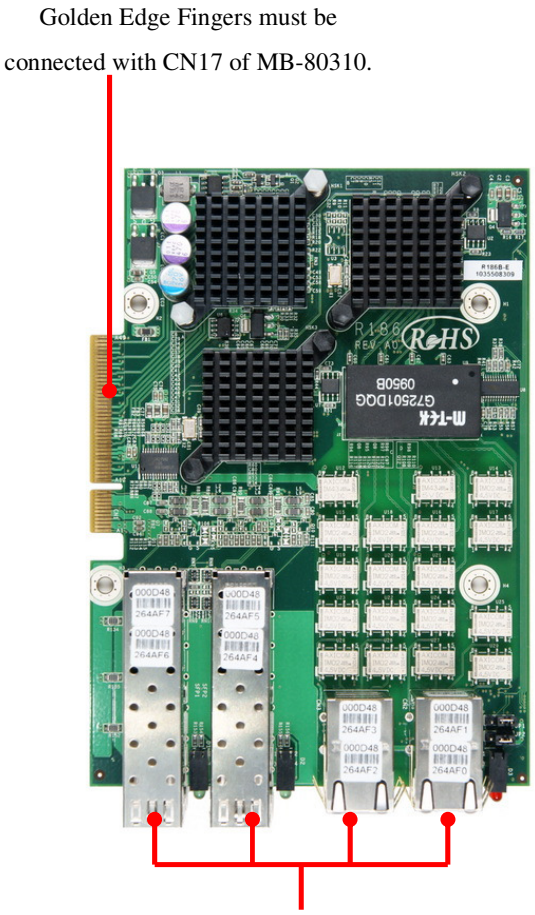
3.13 R175: Ethernet module with four GbE Copper and bypass

R175 is a four GbE Copper Ethernet module with bypass. The golden edge fingers must be connected with CN17 proprietary connector of PL-10530board.



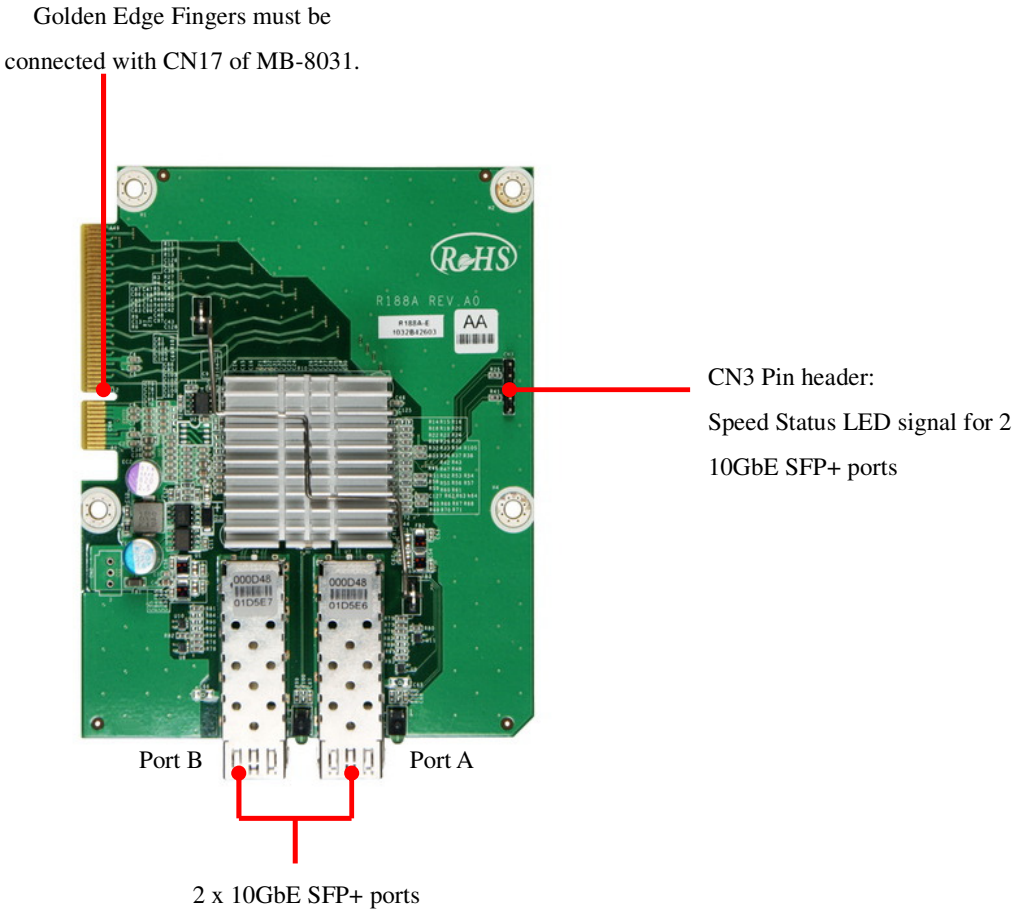
3.14 R186: Ethernet module with four GbE Copper & four GbE SFP

R186 is a four GbE Copper and four GbE SFP Ethernet module with bypass. The golden edge fingers must be connected with CN17 proprietary connector of PL-10530 board.

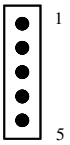


3.15 R188: Ethernet module with two 10GbE SFP+

R188 is a two 10GbE SFP+ Ethernet module. The golden edge fingers must be connected with CN17 proprietary connector of PL-10530 board.



CN3 Pin header:



Pin	Define
1	10G Speed Status (+) for Port A
2	1G Speed Status (+) for Port A
3	10G Speed Status (+) for Port B
4	1G Speed Status (+) for Port B
5	Ground

Chapter 4. Utility & Driver Installation

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

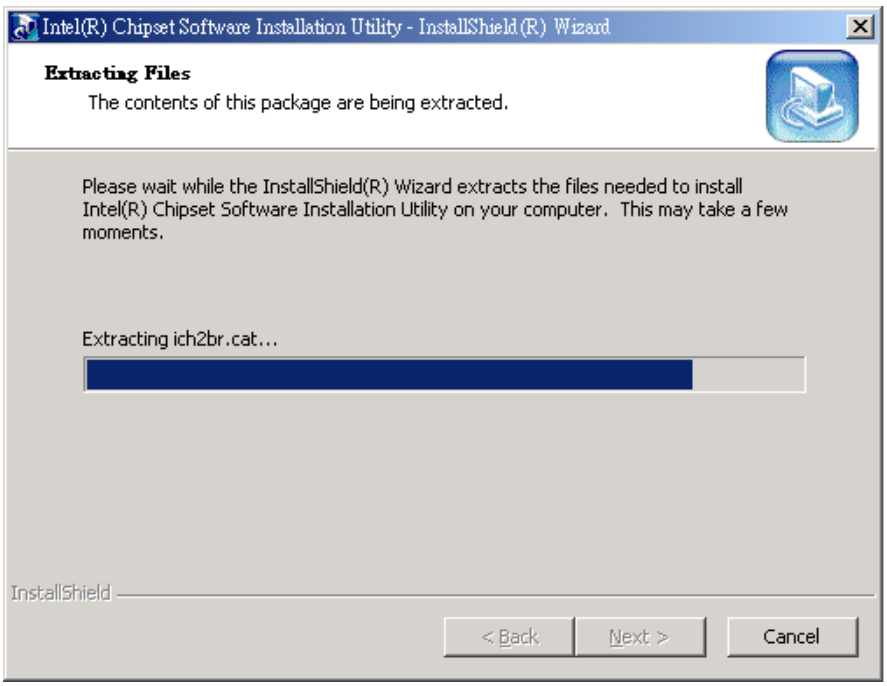
4.1 Operation System Support

PL-10530 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 Server 2003 Windows Server 2008 Windows XP SP2 Windows XP SP3 Windows 7/8
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-10530 offers the system driver in the setup CD. Please install the driver following the procedures.



4.3 LAN Driver Installation

PL-10530 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-10530 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: Watchdog Timer Programming Guide

The PL-10530 provides a watchdog timer that resets the board or enable 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. Win provides the sample code for customer to program the watchdog timer.

Appendix B: LAN Bypass Programming Guide

The default state for CN30/CN31 (LAN4/LAN5) and CN32/CN33 (LAN6/LAN7) Ethernet ports is set to normal mode.

How to control LAN4/LAN5 and LAN6/LAN7 bypass function by watchdog timer

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

1. Set jumper JP9/JP10 to 1-2 shorted [default] to switch LAN bypass function to normal mode.
2. Set JP7 to 2-3 to switch watchdog function, and let bypass function is controlled by watchdog.
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 LAN4/LAN5 and LAN6/LAN7 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 LAN4/LAN5 and LAN6/LAN7 bypass function by GPIO

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

1. Set jumper JP9/JP10 to 1-2 shorted [default] to switch LAN bypass function to normal mode.
2. Refer to the LAN bypass sample code and set LAN4/LAN5 and LAN6/LAN7 ports to bypass state or normal state.

Appendix C: Cable Development Kit

The PL-10530 offers the following 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

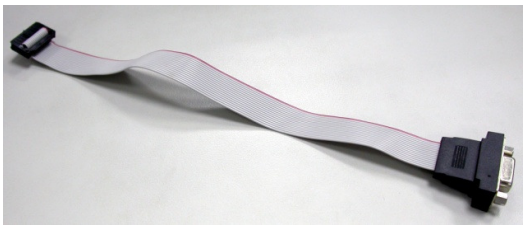
CB-EC5200-00

CB-CO5202/4-00

CB-RJDB91-00

CB-DB9200-00

CB-IVGA01-00



CB-IPS200-00

CB-IUSB01-00