

cPCI-6860 Series
6U CompactPCI Dual Xeon™ SBC
and Rear I/O Transition Modules
User's Guide



Recycled Paper

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Questions			
Product Model			
Environment to Use	OS: Computer Brand: M/B: CPU: Chipset: BIOS: Video Card: Network Interface Card: Other:		
Detail Description			
Suggestions to ADLINK			

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Outline of Chapters

This manual is intended to assist users with understanding and configuring the cPCI-6860 6U *CompactPCI* Dual Xeon™ SBC and Rear I/O Transition Modules. It is divided into 4 chapters.

- Chapter 1, “Introduction”**, gives an overview of the product features, specifications and a checklist of components that should be included with the package.
- Chapter 2, “Jumpers and Connectors”**, outlines all the connectors and its pin assignment on the cPCI-6860/cPCI-R6860, this chapter also explains how to set the jumpers on the cPCI-6860/cPCI-R6860 in order to optimize the operation of the boards.
- Chapter 3, “Getting Started”**, gives a summary of what is required to be installed to setup an operational system using the cPCI-6860/cPCI-R6860.
- Chapter 4, “Device Driver Installation”**, provides instructions of how to install the software drivers necessary successfully for the system to run with minimal error.

Introduction

This manual provides information for the ADLINK cPCI-6860 series Single Board Computer (SBC) and its corresponding Rear I/O Transition Module (RTM) cPCI-R6860. The cPCI-6860 series products comply with PICMG 2.0 Rev. 3.0 CompactPCI specifications for 6U 2-slot (8 TE/HP) form factor boards.

The cPCI-6860 is the state-of-the-art system master processor board in a 6U dual-slot CompactPCI form factor. It features a single Intel® 2.4GHz Xeon™ processor with 512KB L2 cache, or single/dual Intel® low voltage 1.6 or 2.0 GHz Xeon™ processor(s). An Intel® E7501 chipset provides support for up to 4Gbytes of 144-bit wide PC1600 registered ECC DDR and a processor front side bus speed of 400MHz. The cPCI-6860 also features an Intel® 82546EB dual port gigabit Ethernet controller on the local high-speed 133MHz 64bit PCI-X bus. The Ethernet connections can be access through the front faceplate or switched to the backplane for PICMG 2.16 compliant applications.

With the cPCI-R6860 rear transition module (RTM), the cPCI-6860 can support an extra two-gigabit Ethernet ports, an Ultra 160 SCSI controller, and two ATA100 channels which can support either a 2.5 inch IDE HDD or CompactFlash (CF) memory card for non-volatile flash storage applications.

In addition to high computing performance and communication capabilities, the cPCI-6860 supports Intelligent Platform Management IPMI v1.5 using an optional Baseboard Management Controller (BMC) for applications that require high reliability and serviceability. ADLINK's cPCI-6860 is simply the best solution for telecom, data center and Internet applications.

The topics covered in this chapter are as follows:

- Checklist
- Features
- Specifications
- Block diagram

1.1 Checklist

The cPCI-6860 series product supports both front and rear panel I/O. The front board and the cPCI-R6860 RTM are sold separately. The board can be configured with either a single or dual CPU. The CPU frequency is specified when an order is placed, therefore a thermal solution (heat sink with fans) is dependent on the configuration. ADLINK provides two thermal solutions: one for single and one for dual CPU. The heat sinks and processors are optional and are sold separately.

1.1.1 cPCI-6860 Front Board

The cPCI-6860 can be shipped with or without CPU's, memory and heatsink depending on the options ordered. Please check possible configurations with your dealer. Check the following items are included in the package, if there is any missing items, contact your dealer:

- This User's Manual
- cPCI-6860 board
- ADLINK CD
- Y cable for PS/2 keyboard and mouse connection. (P/N: 30-01016-000)

Note: The package of the cPCI-6860 OEM version non-standard configuration, functionality or package may vary according to the different configuration requests.

CAUTION: This board must be protected from static discharge and physical shock. Never remove any of the socketed parts except at a static-free workstation. Use the anti-static bag shipped with the product to handle the board. Wear a wrist strap grounded through one of the system's ESD Ground jacks when servicing system components.

1.1.2 cPCI-R6860 RTM

The cPCI-R6860 is designed to provide additional I/O functionality and rear I/O connectivity for the cPCI-6860. The cPCI-6860 can be shipped with or without a storage devices (IDE HDD or CF card) depending on the options ordered. Please check the possible configurations with your dealer. As shipped, the product package should contain the following item.

- The cPCI-R6860 RTM

Note: The delivery package for OEM versions of the RTM may vary slightly from the standard product.

1.3 Features

- Support dual low voltage Xeon 1.6G, 2.0G; or single Xeon processor 2.0G, 2.4G or higher frequency forward compatible CPU
- Compliant with CompactPCI specifications includes PICMG 2.0 R3.0, PICMG 2.1 R1.0, PICMG 2.16 R1.0 and optional PICMG 2.9 R1.0
- Two DDR DIMM sockets supporting PC-1600 registered ECC DRR-266 SDRAM up to 4Gbyte maximum
- High communication bandwidth with up to four Gigabit Ethernet ports (GbE). Two GbE are switch-selectable for front or rear access, two optional GbE are supported on the rear transition module (RTM). A single 10/100 Ethernet is available on the front panel.
- High data transfer rate SCSI-160 storage interface is optional on the RTM
- Support for generic PC features include VGA, IDE, COM ports, USB, keyboard, mouse and hardware monitoring

1.4 Specifications

1.4.1 cPCI-6860 front board

CompactPCI Compliancy

- PICMG 2.0 CompactPCI core specification R3.0
- PICMG 2.1 CompactPCI hot swap R1.0
- PICMG 2.16 CompactPCI packet switching backplane R1.0
- Optional PICMG 2.9 System Management R1.0

Form Factor

- Standard 6U CompactPCI (board size: 233.35 x160mm²)
- 2-slot width (8HP = 40.64 mm)

CPU / Cache

- Dual Xeon architecture. CPU sockets support both FC-mPGA2-604 and INT-mPGA-603 CPU packages
- No need to install termination in the empty CPU socket in single processor configurations
- Supports low power Intel[®] Xeon with 512KB L2 cache @ 1.6G / 2.0G & 400 MHz FSB
- Supports single Intel[®] Xeon with 512KB L2 cache @ 1.8G / 2.0G / 2.2G / 2.4G / 2.8G & 400 MHz FSB
- Supports single Intel[®] Xeon with 512KB L2 cache @ 2.0G / 2.8G / 3.06G & 533 MHz FSB

Chipset

- Intel[®] E7500 or E7501 Memory Control Hub (MCH)
- Intel[®] 82801CA I/O Control Hub 3 (ICH3-S)
- Intel[®] 82870P2 PCI/PCI-X 64-bit Hub 2 (P64H2)

Host Memory

- Two DDR DIMM sockets, supports PC-1600 registered ECC DDR200/DDR266 SDRAM
- Capacity up to 4 Gigabyte (note: It is dependent on the availability of the DIMM.)
- Memory enhanced OEM version can provide 4 DDR DIMM sockets, which occupies 3-slot width space. The memory capacity reach 8GB maximum.

BIOS: ADLINK Enhanced Award / Phoenix BIOS

- Support Intel® Pre-boot Execution Environment (PXE) version 2.x, WFM 2.0. Include BIOS setup options and boot from LAN
- Support DMI / SMBIOS 2.3
- BIOS write protection, provide anti-virus capability
- Bootable from USB storage devices including USB-Floppy, USB-ZIP USB-CD-ROM and USB-HDD.
- CMOS Backup to on-board I2C EEPROM to record VPD (Vital Product Data)
- Option OEM BIOS features
 - ✓ Customized OEM splash image / power on screen
 - ✓ Serial remote-console redirected to serial COM1 port

Gigabit Ethernet

- Two Gigabit Ethernet (GbE) ports with Intel® 82546EB Ethernet controller, based on 133MHz/64-bit PCI-X bus
- Support 1000Base-T, 100Base-TX and 10Base-T (IEEE 802.3, 802.3u, and 802.3ab).
- IEEE802.3x compliant flow control, support auto-negotiation and link setup
- The GbE can be either front access or rear access selectable by on-board switch
- PICMG 2.16 PSB when configured for rear access
- Speed and connect LEDs on the front panel
- Optional two Gigabit Ethernet ports on the RTM cPCI-R6860.

10/100 Ethernet

- One 10/100 Mbps Ethernet port by integrated Ethernet MAC in ICH3 and Intel® 82562EM PHY
- Access on the front panel with speed and connect LEDs

Graphic Display

- ATI Rage-XL graphic chip based on 33MHz/32bit PCI with external 8Mbyte SDRAM
- VGA DB-15 connectors on both front and rear I/O
- Support up to 1280 x 1024 VGA display resolution with 24-bit true color, non-interlaced

USB Interface

- Supports up to four USB version 1.1 ports with integrated USB host controller in ICH3. Two USB ports are front access and two ports are rear access
- USB ports provide 0.5A @ 5V power for peripheral devices with over current protection

IDE Ports

- Bus master IDE controller supports two ultra ATA-100 / 66 / 33 interfaces. Primary IDE is on J3; secondary IDE is on J4. IDE devices are installed on the RTM.

Super I/O, WDT and Hardware Monitoring

- Chipset: Winbond W83627HF
- Two 16C550 UART compatible RS-232 COM ports. COM1 on the front ESD protected up to 2KV. COM2 is on the J3 and can be accessed on the RTM
- Floppy interface on J3.
- PS2 keyboard and mouse supported on both front and rear panels
- W82782D built-in monitoring CPU temperatures, FAN speed, system temperature, V core and DC voltages.
- Watchdog timer: Programmable I/O port on addresses 02Eh and 02FH. Programmable timer 1~255 seconds or 1~ 255 minutes. Easy-programming libraries for DOS, Windows 95/98/NT are included

Optional Baseboard Management Controller (BMC)

- Support PICMG 2.9 secondary system managing bus
- Implements IPMI functions as defined in the IPMI specification v1.5
- Connect to external controller by local serial port COM3 on the RTM

LED Indicators

- 3 LEDs on the front panel including storage access LED (RED), Power LED (GREEN), integrated Ethernet status LEDs, and Watchdog LED (Yellow)

PCI Bus and CompactPCI connectors

- Support 64-bit/66MHz PCI bus with Intel® 21154BE bridge
- Hub-link interface on J4 provides local RTM PCI bus for RTM mounted PCI devices

1.4.2 cPCI-R6860 RTM

Form Factor

- Standard 6U CompactPCI rear I/O (board size: 233.35x80mm²)
- 2-slot width (8HP = 40.64 mm)

Local Bus

- Interface with cPCI-6860 via Hub-Link 2.0 interface
- P64H4 provide two PCI-X local buses: Bus-A is 64MHz/64bit PCI bus for SCSI interface; Bus-B is 133MHz/64bit PCI-X bus for dual GbE ports

Gigabit Ethernet

- Two additional Gigabit Ethernet ports with Intel® 82546EB Ethernet controller, based on 133MHz/64-bit PCI-X bus
- Supports 1000Base-T, 100Base-TX and 10Base-T (IEEE 802.3, 802.3u, and 802.3ab)
- Provide two additional RJ-45 connectors for the GbE ports on the cPCI-6860 front board

SCSI

- Wide Ultra160 SCSI interface with synchronous transfer rate up to 160MBps on a LVD SCSI bus
- LSI 53C1000R chip based on 66MHz/64bit PCI bus, integrated LVDlink™ transceivers support both LVD and single-ended signals
- Fast SCSI, Ultra SCSI, Ultra2 SCSI and Ultra 160 SCSI are all supported

IDE Connectors

- Primary IDE with 40-pin connector for 2 IDE devices
- Secondary IDE supported on one 40-pin connector; or one 2.5 inch drive; or a CompactFlash type-II socket which can be rear panel accessed.

Flash Storage Support Options:

- DiskOnModule via the 40-pin IDE, 16~256MB
- CompactFlash card via the CF socket, 8~512MB
- 2.5 inches Flash disk drive, 32MB ~ 2GB

1.4.3 cPCI-6860 and RTM Common Specifications

OS Compatibility

- Microsoft® Windows 98/ME, Windows NT, Windows 2000, Windows XP, Red Hat Linux 7.x
- Other OS support upon request

Environment

- Operating temperature: 0 ~ 50 °C (Note)
- Storage temperature: -20 ~ 80 °C
- Humidity: 5% ~ 95% non-condensed
- Shock: 15G peak-to-peak, 11 ms duration, non-operation
- Vibration:
 - ✓ None-operation: 1.88G rms, 5~500Hz, each axis
 - ✓ Operation: 0.5G rms, 5~500Hz, each axis with 2.5 Flash disk drive

Note:

1. Certified with ADLINK thermal design. The thermal performance is dependent on the cooling design
 2. Forced air-cooling with 50 CFM is required for both single 2.4G Xeon or dual low-voltage 1.6G Xeon configurations.
 3. The temperature limit of optional mass storage devices can impact the thermal specification of the board.
 4. The operational vibration is limited due to the 2.5 inch HDD. When application requires higher definition for anti-vibration, we recommend using Flash2000 Flash Disk (FFD series) or CompactFlash to avoid using a hard disk drive.
-

Safety Certificate and Test

- CE, FCC
- HALT (temperature and vibration stress) verified
- All plastic material, PCB and Battery used are all UL-94V0 certified
- Designed for NEBS 3.0 requirement

Power Requirement (Maximum)

Configurations	+5V	+3.3V	+12V	-12V	Total
Single Xeon 2.0G 2GB RAM, 4GbE	11.0A	13.5A	0.6A	10 mA	107W
Dual low power Xeon 2.0G 2GB RAM, 4GbE	15.5A	11.8A	0.6A	10 mA	124W

Test conditions: The above values are the measured power consumption for the SBC with CPU, RAM, HDD and GbE enabled. The test items include CPU Math, MMX/SSE, RAM, 2D Graphics, 3D Graphics, Hard Disk tests, and one GbE port Network test. Hyper-threading is enabled.

1.4.4 I/O Connectivity

I/O	cPCI-6860	RTM (cPCI-R6860)	
	Faceplate	Faceplate	Board
Serial Port (COM1)	Y (DB-9)	--	--
Serial Port (COM2)	--	Y (J3, DB-9)	
Serial Port (COM3)	--	Y (J3, DB-9)	
PS2 Keyboard	Y (PS2)	Y (J3, PS2)	
PS2 Mouse		Y (J3, PS2)	
VGA	Y (DB-15)	Y (DB-15)	--
USB A (port 1, port 2)	Y (dual USB)	--	--
USB B (port 3, port 4)	--	Y (J3, dual USB)	--
Gigabit Ethernet Port 1	Y (RJ-45, LED)	Y (RJ-45, LED)	--
Gigabit Ethernet Port 2	Y (RJ-45, LED)	Y (RJ-45, LED)	--
Gigabit Ethernet Port 3	--	Y (RJ-45, LED)	--
Gigabit Ethernet Port 4	--	Y (RJ-45, LED)	--
ATA-100 Primary IDE	--	Y (J3, CF)	Y (J3, 40-pin and 44-pin)
ATA-100 Secondary IDE	--	--	Y (J4, 40-pin)
SCSI	--	Y (SCSI-68)	Y (SCSI-68)
Floppy	--	--	Y (J3,34-pin)
PC Beeper	--	--	Buzzer
General Purpose LED	Y	--	--
Reset button	Y	--	--

Table 1: I/O Connectivity Table

2

Jumpers and Connectors

This chapter provides information about the board's outline, connector definitions and jumper setup; this allows user to be familiar with the cPCI-6860 series board before getting start. This chapter includes the following information:

- cPCI-6860 board outline and illustration
- cPCI-6860 connectors pin assignments
- cPCI-R6860 board outline and illustration
- cPCI-R6860 connectors pin assignments

2.1 cPCI-6860 Board Outline and Illustration

2.1.1 cPCI-6860 Top View

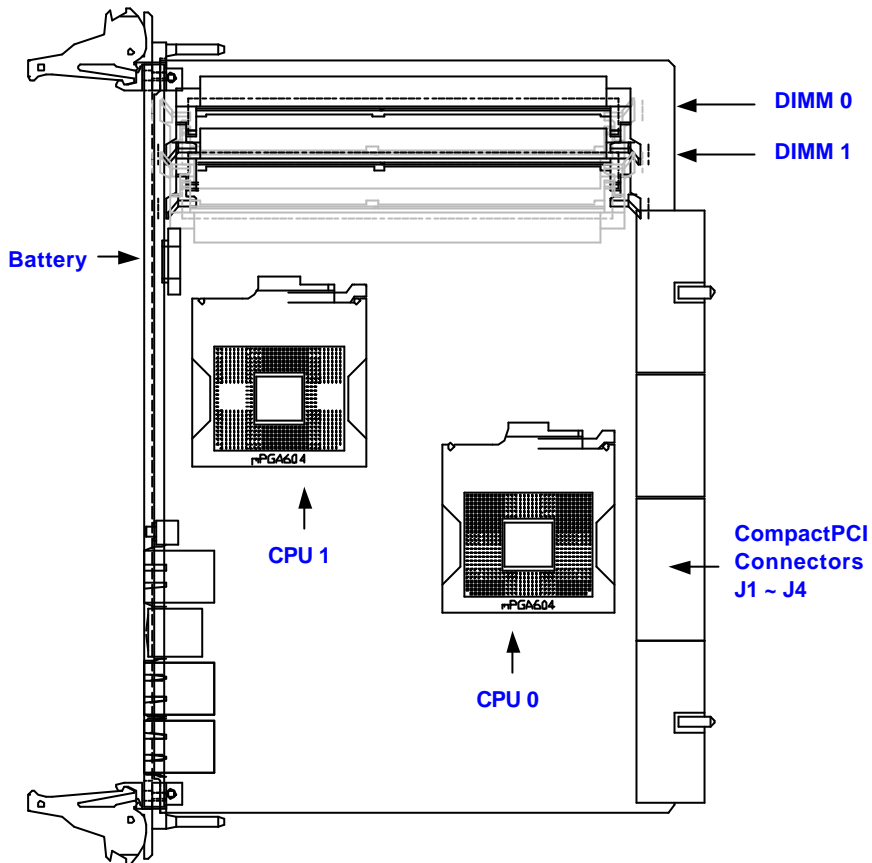


Figure 2: Top View of cPCI-6860

2.1.2 cPCI-6860 Front View

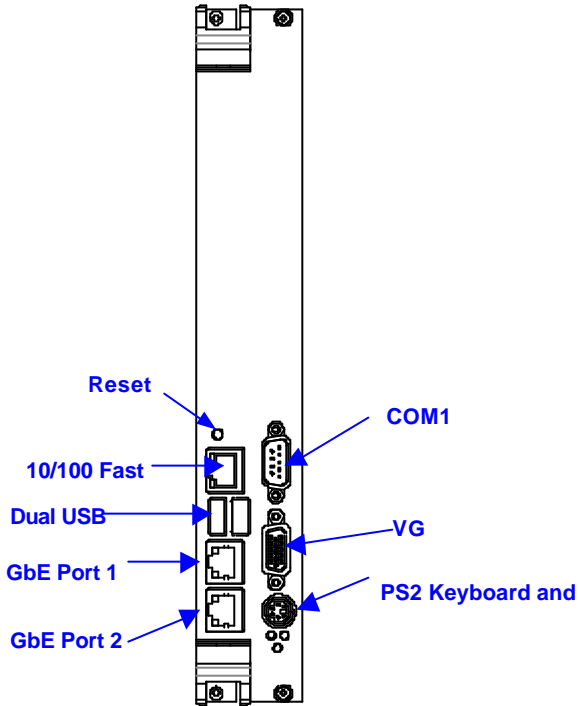
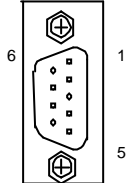


Figure 3: Front View of cPCI-6860

2.2 cPCI-6860 Connectors Pin Assignment

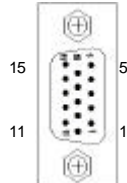
2.2.1 Serial Port COM1 Connector



Pin #	Signal Name
1	DCD, Data carrier detect
2	RXD, Receive data
3	TXD, Transmit data
4	DTR, Data terminal ready
5	GND, ground
6	DSR, Data set ready
7	RTS, Request to send
8	CTS, Clear to send
9	RI, Ring indicator

Table 2: Serial Port COM1 on faceplate

2.2.2 VGA Connector



Signal Name	Pin	Pin	Signal Name
Red	1	2	Green
Blue	3	4	N.C.
GND	5	6	GND
GND	7	8	GND
+5V.	9	10	GND
N.C.	11	12	N.C.
HSYNC	13	14	VSYNC
NC	15		

Table 3: VGA Connector on faceplate

2.2.3 General Purpose LED definitions

LED	Color	Status	Description
IDE Media Access	Red	OFF	IDE idle
		ON	IDE access
Power OK	Green	OFF	System is not power-on or power failed
		ON	Power ON
Watchdog timer status	Yellow	OFF	WDT is not enable
		ON	WDT Time out
		Blinking	WDT is enable

Table 4: General Purpose LED definitions

2.2.4 Keyboard and Mouse Combo Connector

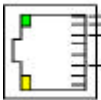


Pin #	Signal	Function
1	KBDATA	Keyboard Data
2	MSDATA	Mouse Data
3	GND	Ground
4	+5V	Power
5	KBCLK	Keyboard Clock
6	MSCLK	Mouse Clock

Table 5: Keyboard/Mouse Combo Connector on faceplate

Note: A Y-cable can be used to connect a PS/2 keyboard and mouse at the same time. Direct connection of a PS/2 keyboard to the port is supported for applications that do not require a mouse.

2.2.5 10/100 Fast Ethernet Connector



TD+ (Pin#1)
TD- (Pin#2)
RD+ (Pin#3)
RD- (Pin#6)

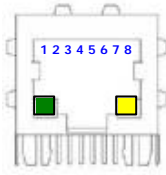
Pin	Signal	Function
1	TDP	Transmit Data (+)
2	TDN	Transmit Data (-)
3	RDP	Receive Data (+)
4	LANCT1	Termination
5	LANCT2	Termination
6	RDN	Receive Data (-)
7	NC	No Connect
8	GND	Ground

Table 6: 10/100 Fast Ethernet Connector LAN1 on faceplate

LED	Color	Status	Description
Link Speed LED	Amber	OFF	10Mbps transfer rate
		ON	100Mbps transfer rate
Link / Activity LED	Green	OFF	No link
		ON	Connecting
		Blinking	Active/Data transferring

Table 7: LED indicators on the Fast Ethernet port

2.2.6 Gigabit Ethernet Ports



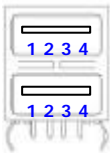
Pin #	Signal Name
1	MDI0+
2	MDI0-
3	MDI1+
4	MDI2+
5	MDI2-
6	MDI1-
7	MDI3+
8	MDI3-

Table 8: Gigabit Ethernet Connectors on front board

LED	Color	Status	Description
Link Speed LED	Green	OFF	10 or 100 Mbps
		ON	1000 Mbps
Link / Activity LED	Amber	OFF	No Link
		ON	Linked
		Blinking	Port Accessing

Table 9: LED indicators on the GbE ports

2.2.7 Dual USB Connector



Pin #	Signal Name
1	Vcc
2	USB-
3	USB+
4	Ground
1	Vcc
2	USB-
3	USB+
4	Ground

Table 10: USB Connector on front board

2.2.8 CompactPCI J1 Pin Assignments

Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64# ⁽²⁾	ENUM# ⁽²⁾	+3.3V	+5V	GND
24	GND	S1AD[1]	+5V	V(I/O) ⁽¹⁾	S1AD[0]	ACK64#	GND
23	GND	+3.3V	S1AD[4]	S1AD[3]	+5V	S1AD[2]	GND
22	GND	S1AD[7]	GND	+3.3V	S1AD[6]	AD[5]	GND
21	GND	+3.3V	S1AD[9]	S1AD[8]	M66EN	S1C/BE[0]#	GND
20	GND	S1AD[12]	GND	V(I/O) ⁽¹⁾	S1AD[11]	S1AD[10]	GND
19	GND	+3.3V	S1AD[15]	S1AD[14]	GND	S1AD[13]	GND
18	GND	S1SERR#	GND	+3.3V	S1PAR	S1C/BE[1]#	GND
17	GND	+3.3V	IPMB_SCL ⁽¹⁾	IPMB_SDA ⁽¹⁾	GND	S1PERR#	GND
16	GND	S1DEVSEL#	GND	V(I/O) ⁽¹⁾	S1STOP#	S1LOCK#	GND
15	GND	+3.3V	S1FRAME#	S1IRDY#	BSEL	S1TRDY#	GND
12-14	Key						
11	GND	S1AD[18]	S1AD[17]	S1AD[16]	GND	S1C/BE[2]#	GND
10	GND	S1AD[21]	GND	+3.3V	S1AD[20]	S1AD[19]	GND
9	GND	S1C/BE[3]#	IDSEL ⁽⁵⁾	S1AD[23]	GND	S1AD[22]	GND
8	GND	S1AD[26]	GND	V(I/O) ⁽¹⁾	AD[25]	S1AD[24]	GND
7	GND	S1AD[30]	S1AD[29]	S1AD[28]	GND	S1AD[27]	GND
6	GND	REQ#	GND	+3.3V	S1CLK	S1AD[31]	GND
5	GND	Reserved ⁽¹⁾	Reserved ⁽¹⁾	S1PCIRST#	GND	S1GNT#	GND
4	GND	IPMB_PWR ⁽¹⁾	HEALTHY# ⁽¹⁾	V(I/O) ⁽¹⁾	INTP ⁽¹⁾	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK ⁽²⁾	+5V	TMS ⁽²⁾	TDO ⁽¹⁾	TDI ⁽²⁾	GND
1	GND	+5V	-12V	TRST# ⁽²⁾	+12V	+5V	GND
Pin	Z	A	B	C	D	E	F

Table 11: CompactPCI J1 pin assignments

Note:

1. These signals are not connected.
2. These signals are pulled high on the board.
3. These signals are pulled low on the board.
4. ENUM# can be routed to IRQ 3 or IRQ 9 based on the hardware configuration. There is a BIOS setting to Enable/Disable the ENUM# function. The default BIOS setting is disabled and the factory default hardware configuration is IRQ 9. To support PICMG 2.1 Hot Swap for peripheral boards, backplane should bus all peripheral slots ENUM# together to the system slot and users should enable the ENUM# function
5. IDSEL is tied to ground.

2.2.9 CompactPCI J2 Pin Assignments

Pin	Z	A	B	C	D	E	F
22	GND	GA4# ⁽¹⁾	GA3# ⁽¹⁾	GA2# ⁽¹⁾	GA1# ⁽¹⁾	GA0# ⁽¹⁾	GND
21	GND	S1CLK6	GND	Reserved	Reserved	Reserved	GND
20	GND	S1CLK5	GND	Reserved	GND	Reserved	GND
19	GND	GND	GND	Reserved	Reserved	Reserved	GND
18	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
17	GND	Reserved	GND	PRST#	S1REQ6#	S1GNT6#	GND
16	GND	Reserved	Reserved	DEG# ⁽²⁾	GND	Reserved	GND
15	GND	Reserved	GND	FAL# ⁽²⁾	S1REQ5#	S1GNT5#	GND
14	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
13	GND	Reserved	GND	V(I/O) ⁽¹⁾	Reserved	Reserved	GND
12	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
11	GND	Reserved	GND	V(I/O) ⁽¹⁾	Reserved	Reserved	GND
10	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
9	GND	Reserved	GND	V(I/O) ⁽¹⁾	Reserved	Reserved	GND
8	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
7	GND	Reserved	GND	V(I/O) ⁽¹⁾	Reserved	Reserved	GND
6	GND	Reserved	Reserved	Reserved	GND	Reserved	GND
5	GND	Reserved	Reserved	V(I/O) ⁽¹⁾	Reserved	Reserved	GND
4	GND	V(I/O) ⁽¹⁾	Reserved	Reserved	GND	Reserved	GND
3	GND	S1CLK4	GND	S1GNT3#	S1REQ#4	S1GNT4#	GND
2	GND	S1CLK2	S1CLK3	SYSEN# ⁽²⁾	S1GNT2#	S1REQ3#	GND
1	GND	S1CLK1	GND	S1REQ1#	S1GNT1#	S1REQ2#	GND
Pin	Z	A	B	C	D	E	F

Table 12: CompactPCI J2 pin assignments

Note:

1. These signals are not connected.
 2. These signals are pulled high on the board.
 3. These signals are pulled low on the board.
-

2.2.10 CompactPCI J3 Pin Assignments

Pin	Z	A	B	C	D	E	F
19	GND	GND	GND	GND	GND	GND	GND
18	GND	LPa_DA+	LPa_DA-	GND	LPa_DC+	LPa_DC-	GND
17	GND	LPa_DB+	LPa_DB-	GND	LPa_DD+	LPa_DD-	GND
16	GND	LPb_DA+	LPb_DA-	GND	LPb_DC+	LPb_DC-	GND
15	GND	LPb_DB+	LPb_DB-	GND	LPb_DD+	LPb_DD-	GND
14	GND	GND	GND	GND	GND	GND	GND
13	GND	PDACT#	PDCS1#	PDCS3#	PDA0	PDA2	GND
12	GND	PPDIAG	PDCS16#	PDIRQ14	PDA1	PDDACK#	GND
11	GND	PDDREQ	PDIOW#	GND	PDIORDY	PDIOR#	GND
10	GND	PDD13	PDD1	PDD14	PDD0	PDD15	GND
9	GND	PDD4	PDD11	PDD3	PDD12	PDD2	GND
8	GND	PDD8	PDD6	PDD9	PDD5	PDD10	GND
7	GND	PDRST#	PDD7	USB_OC1#	USB_D1-	USB_D1+	GND
6	GND	TRACK#	WRTprt#	RDATA#	HdSEL#	DSKCHG#	GND
5	GND	MTR1#	FDIR#	STEP#	WDATA#	WGATE#	GND
4	GND	DRVDEN1	INDEX#	MTR0#	DS1#	DS0#	GND
3	GND	MSDAT	MSCLK	KBDAT	KBCLK	DRVDEN0	GND
2	GND	RI1#	DTR1#	CTS1#	PCBEEP	5V ⁽¹⁾	GND
1	GND	TXD1	RTS1#	RXD1	DSR1#	DCD1#	GND
Pin	Z	A	B	C	D	E	F

Table 13: CompactPCI J3 pin assignments

Note:

1. 5V power is supplied by the cPCI-6860 to the RTM.
-

2.2.11 CompactPCI J4 Pin Assignments

Pin	Z	A	B	C	D	E	F
25	GND	CLK66	GND	HI21	GND	HI7	GND
24	GND	GND	HI6	GND	HI5	GND	GND
23	GND	HI4	GND	HI3	GND	HI2	GND
22	GND	GND	HI1	GND	HI0	GND	GND
21	GND	PSTBF	GND	PSTBS	GND	HI20	GND
20	GND	GND	HI15	GND	HI14	GND	GND
19	GND	HI13	GND	HI12	GND	HI11	GND
18	GND	GND	HI10	GND	HI9	GND	GND
17	GND	HI8	GND	PSTBF	GND	PSTBS	GND
16	GND	3.3V ⁽¹⁾	3.3V ⁽¹⁾	3.3V ⁽¹⁾	3.3V ⁽¹⁾	3.3V ⁽¹⁾	GND
15	GND	HI16	5V ⁽¹⁾	HI17	5V ⁽¹⁾	HI18	GND
12-14	KEY						
11	GND	RIO_RST#	SDA0	SDA1	SDA2	SDDRQ	GND
10	GND	SDACK#	SDD0	SDD1	SDD2	SDD3	GND
9	GND	SDD4	SDD5	SDD6	SDD7	SDD8	GND
8	GND	SDD9	SDD10	SDD11	SDD12	SDD13	GND
7	GND	SDD14	SDD15	SDCS1#	SDCS3#	SDIOR#	GND
6	GND	SDIOW#	SDIORDY	SDDIAG#	SDACT#	SDIRQ	GND
5	GND	RIOPWOK	INT#	SMD_RIO	SMC_RIO	USB_OC2#	GND
4	GND	CRT_R	CRT_G	CRT_B	DDC_CLK	USB_D2+	GND
3	GND	CRT_HS	CRT_VS	DDC_DAT	DSR3#	USB_D2-	GND
2	GND	RTS3#	CTS3#	SIN3	SOUT3	DTR3#	GND
1	GND	ICMB_DIN	ICMB_DOUT	ICMB_TXEN	RI3#	DCD3#	GND
Pin	Z	A	B	C	D	E	F

Table 14: CompactPCI J4 pin assignments

Note:

1. The 3.3V and 5V power lines are supplied from the cPCI-6860 front board to the RTM.

2.3 Jumpers

There are no jumpers on the cPCI-6860.

2.3.1 Clear CMOS Pad

A reserved pad is used to clear the CMOS; the “open pad” allows users to reset the CMOS values to default. If clearing the CMOS is required, apply a conductor to short the “open pad” **G3** on the solder side of the PCB.

2.4 cPCI-R6860 Board Outline and Illustration

2.4.1 cPCI-R6860 Board Outline

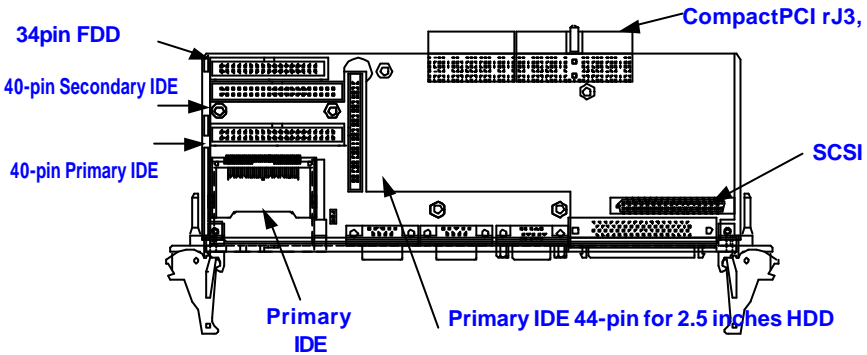


Figure 4: Top View of the cPCI-R6860

2.4.2 cPCI-R6860 Rear View

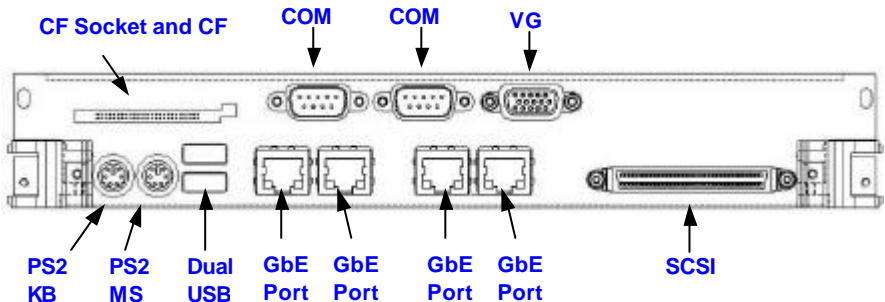


Figure 5: View of the cPCI-R6860 faceplate

2.5 cPCI-R6860 Connectors Pin Assignment

Connectors on the RTM with the same functionality as the cPCI-6860 and having the same pin definition will not be highlighted in the proceeding section. Below is a list of common front and rear interfaces with the same pin definitions. Refer to the section indicated for more detail.

COM2, COM3	Section 2.2.1 COM1
VGA	Section 2.2.2 VGA
Dual USB	Section 2.2.6 Dual USB
GbE Port 3, 4	Section 2.2.5 GbE Port 1,2
CompactPCI rJ3, rJ4	Section 2.2.10 / 2.2.11 CompactPCI J3 / J4

Other uncommon interfaces are outlined below.

2.5.1 PS2 Keyboard



Pin #	Signal	Function
1	KBDATA	Keyboard Data
2	NC	No Connect
3	GND	Ground
4	+5V	Power
5	KBCLK	Keyboard Clock
6	NC	No connect

Table 15: Keyboard Connector on RTM

2.5.2 PS2 Mouse Connector



Pin #	Signal	Function
1	MSDATA	Mouse Data
2	NC	No Connect
3	GND	Ground
4	+5V	Power
5	MSCLK	Mouse Clock
6	NC	No Connect

Table 16: Mouse Connector on RTM

2.5.3 Ultra 160 SCSI

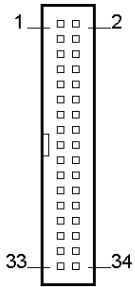
CN10



Signal	Pin #	Pin #	Signal
LVDP12	1	2	LVDM12
LVDP13	3	4	LVDM13
LVDP14	5	6	LVDM14
LVDP15	7	8	LVDM15
LVDPHP	9	10	LVDPHM
LVDP0	11	12	LVDM0
LVDP1	13	14	LVDM1
LVDP2	15	16	LVDM2
LVDP3	17	18	LVDM3
LVDP4	19	20	LVDM4
LVDP5	21	22	LVDM5
LVDP6	23	24	LVDM6
LVDP7	25	26	LVDM7
LVDPPLP	27	28	LVDPPLM
GROUND	29	30	GROUND
DFFSENSE	31	32	LVEXT68
LVTRMPWR	33	34	LVTRMPWR
LVTRMPWR	35	36	LVTRMPWR
N.C.	37	38	N.C.
GROUND	39	40	GROUND
LVATNP	41	42	LVATNM
GROUND	43	44	GROUND
LVBSYP	45	46	LVBSYM
LVACKP	47	48	LVACKM
LVRSTP	49	50	LVRSTM
LVMSGP	51	52	LVMSGM
LVSELP	53	54	LVSELM
LVCDP	55	56	LVCDM
LVREQP	57	58	LVREQM
LVIOP	59	60	LVIOM
LVDP8	61	62	LVDM8
LVDP9	63	64	LVDM9
LVDP10	65	66	LVDM10
LVDP11	67	68	LVDM11

Table 17: External and Internal Ultra-160 SCSI Interface on RTM

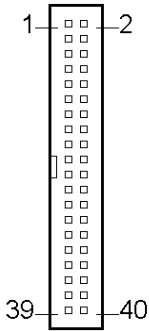
2.5.4 FDD Interface



Signal	Pin #	Pin #	Signal
Ground	1	2	DRVDEN0
Ground	3	4	NC
NC	5	6	DRVDEN1
Ground	7	8	INDEX#
Ground	9	10	MTR0#
Ground	11	12	DS1#
Ground	13	14	DS0#
Ground	15	16	MTR1#
Ground	17	18	FDIR#
Ground	19	20	STEP#
Ground	21	22	WDATA#
Ground	23	24	WGATE#
Ground	25	26	TRACK0#
Ground	27	28	WPT#
Ground	29	30	RDATA#
Ground	31	32	HDSEL#
Ground	33	34	DSKCHG#

Table 18: FDD Interface on RTM

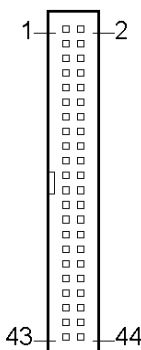
2.5.5 40-pin IDE Port



Signal	Pin #	Pin #	Signal
RESET-	1	2	Ground
DD7	3	4	DD8
DD6	5	6	DD9
DD5	7	8	DD10
DD4	9	10	DD11
DD3	11	12	DD12
DD2	13	14	DD13
DD1	15	16	DD14
DD0	17	18	DD15
Ground	19	20	+5V (for DOM)
DMARQ	21	22	Ground
DIOW-	23	24	Ground
DIOR-	25	26	Ground
IORDY	27	28	CSEL
DMACK-	29	30	Ground
INTRQ	31	32	Reserved
DA1	33	34	PDIAG-
DA0	35	36	DA2
CS0-	37	38	CS1-
DASP-	39	40	Ground

Table 19: 40-pin Primary and Secondary IDE pin-header on RTM

2.5.6 44-pin IDE Port



Signal	Pin #	Pin #	Signal
RESET-	1	2	Ground
DD7	3	4	DD8
DD6	5	6	DD9
DD5	7	8	DD10
DD4	9	10	DD11
DD3	11	12	DD12
DD2	13	14	DD13
DD1	15	16	DD14
DD0	17	18	DD15
Ground	19	20	N.C (key pin)
DMARQ	21	22	Ground
DIOW-	23	24	Ground
DIOR-	25	26	Ground
IORDY	27	28	CSEL
DMACK-	29	30	Ground
INTRQ	31	32	Reserved
DA1	33	34	PDIAG-
DA0	35	36	DA2
CS0-	37	38	CS1-
DASP-	39	40	Ground
+5V	41	42	+5V
Ground	43	44	TYPE-

Table 20: 44-pin Primary IDE pin-header (CN8) on RTM

2.6 Jumpers and switches on the RTM

2.6.1 Primary IDE Jumper Setting on RTM

The compact flash card socket on the RTM can either be set to master or slave. Jumper CN3 to the left of the CF card socket is used to set the Primary IDE channel.

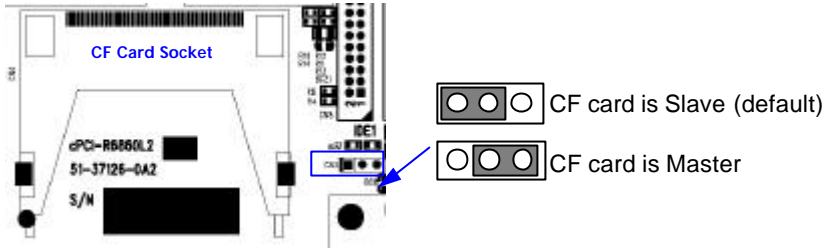


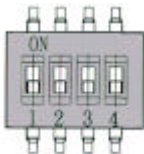
Figure 6: Location of CN3 for setting the Primary IDE channel

2.6.2 GbE Connection Selection

The cPCI-6860 supports dual Ethernet connection on front and rear I/O, allowing the user the benefit of wiring flexibility. However, front and rear I/O operations are not allowed to operate simultaneously.

There are four mini switches that controls the GbE routing located on the bottom side (solder side) of the RTM. Refer to the following information to choose between PICMG 2.16 or rear panel Ethernet connection.

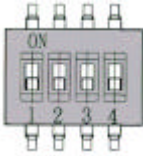
S1, S2: LAN1 Connecting Selection



LAN 1 Connecting	Switch S1		Switch S2	
	Pin#	State	Pin#	State
PICMG 2.16 Backplane	S1-1	ON	S2-1	OFF
	S1-2	ON	S2-2	OFF
	S1-3	ON	S2-3	OFF
	S1-4	ON	S2-4	OFF
Rear Panel (Default)	S1-1	OFF	S2-1	ON
	S1-2	OFF	S2-2	ON
	S1-3	OFF	S2-3	ON
	S1-4	OFF	S2-4	ON

Table 21: LAN1 Connecting Selection

S3, S4: LAN2 Connecting Selection



LAN 2 Connecting	Switch S3		Switch S4	
	Pin#	State	Pin#	State
PICMG 2.16 Backplane	S3-1	ON	S4-1	OFF
	S3-2	ON	S4-2	OFF
	S3-3	ON	S4-3	OFF
	S3-4	ON	S4-4	OFF
Rear Panel (Default)	S3-1	OFF	S4-1	ON
	S3-2	OFF	S4-2	ON
	S3-3	OFF	S4-3	ON
	S3-4	OFF	S4-4	ON

Table 22: LAN2 Connecting Selection

Warning: DO NOT set both S1 and S2 to “ON” or set both S3 and S4 to “ON” at the same time. It may cause damage to the Ethernet controller or other devices attached to the board.



3

Getting Started

This chapter provides information on how to install peripherals onto the cPCI-6860 and cPCI-R6860 RTM. The topics covered are:

- CPU cooler(s) Installation
- CPU(s) Installation
- Memory Installation
- HDD Installation
- CF Installation
- Notice for Rear I/O Connection

3.1 CPU Cooler Installation

The CPU cooler is made of copper and is pre-installed with a fan. If the product comes with the CPU cooler (heatsink) installed, then this section maybe skipped.

Before installing the CPU cooler, ensure that the CPU is completely seated in the CPU socket and that the retention clip on the CPU socket is locked.

While installing the cooler, check that the surface of the cooler is in contact with the CPU. Fix the cooler to the CPU using the 5 screws supplied from the bottom side of the SBC.

After installing the cooler, connect the fan power cable to the on-board fan connector.

3.2 CPU Installation

The cPCI-6860 supports single or dual Intel Xeon CPU with FC-mPGA2-604 and INT-mPGA-603 packages. If the product comes with CPU(s) and heatsink options, this section maybe skipped. If your product comes without CPU(s) and heatsink(s), then you will need to install these components. Before installing the CPU(s), make sure none of the CPU pins are bent.

3.2.1 Single CPU Installation

When the application requires only a single CPU, install the CPU in CPU1 Socket only. Refer to the Figure 7 for location of CPU1.

-
- **DO NOT** install single CPU configuration with the CPU in the CPU0 Socket. This is an invalid configuration and the board will not operate.
-

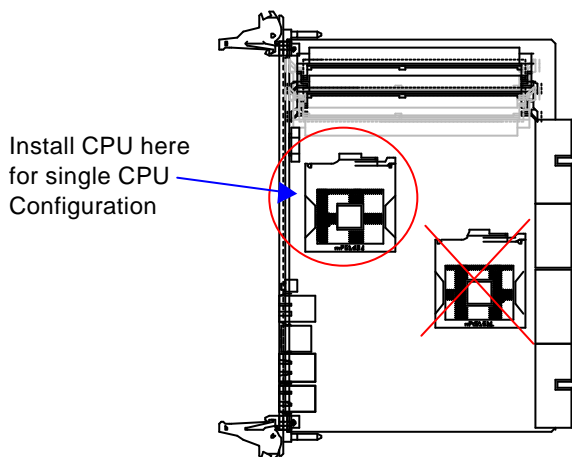


Figure 7: Illustration of Single CPU Installation

3.2.2 Dual CPU Installation


When using dual CPU configuration, be sure to use the **same Low-Voltage Xeon CPU models**. Do not mix different type/frequency CPU's. It may damage the CPU chip and/or the cPCI-6860 board.

-
- If two none Low-voltage Xeon is installed, the thermal and power design limits of the unit maybe exceeded and may result in damages to the board
-

3.3 Memory Installation

The cPCI-6860 SBC supports 144-bit wide registered DDR, which is provided using two 72-bit ECC DIMM sockets. The maximum memory capacity is 4GB. If memory is pre-installed with the product package, this section maybe skipped.

The memory must be installed in pairs, that is, ***you must install TWO identical memory modules in the two DIMM sockets. DO NOT*** install only one or two DIMM of different RAM type.

 The board will not work if the DIMMs are improperly installed.

The chipset supports 64-Mb, 128-Mb, 256-Mb, and 512-Mb memory technology. The supported DIMM configurations are listed in the following table.

RAM Density	64Mbit		128Mbit		256Mbit		512Mbit	
Device Width (bit)	4	8	4	8	4	8	4	8
# of memory chips on a memory module	16 + 2	8 + 1	16 + 2	8 + 1	16 + 2	8 + 1	16 + 2	8 + 1
Capacity per DIMM (Single Side) M Bytes	128M	64M	256M	128M	512M	256M	1G	512M
Capacity per DIMM (Double Side) M Bytes	256M	128M	512M	256M	1G	512M	2G	1G
Total capacity for 2 double side DIMM	512M	256M	1G	512M	2G	1G	4G	2G

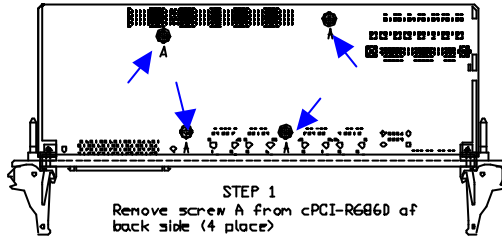
Table 23: cPCI-6860 Supported DIMM Configurations

The cPCI-6860 is designed with an OEM option that allows for support of up to 4 DIMMs or 8GB of memory. However, the 2 additional DIMMs are mounted on the bottom side of the SBC, hence occupying an extra one or two slot space (4HP or 8HP) depending on the height of the DIMM. Contact ADLINK for further information about this feature.

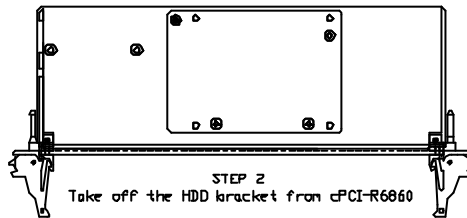
3.4 HDD Installation

A 2.5 inch HDD can either be installed on the cPCI-R6860 RTM or in the chassis. If a HDD comes pre-installed with the cPCI-R6860 product package, this section may be skipped.

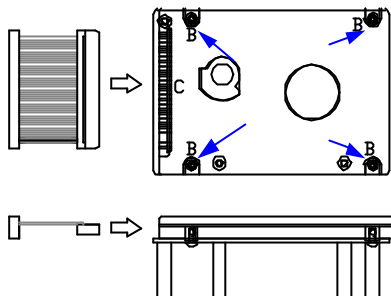
Step 1: Remove the 4 screws from the bottom side of the RTM that holds the HDD mounting bracket in place.



Step 2: Remove the HDD bracket from the topside of the RTM.



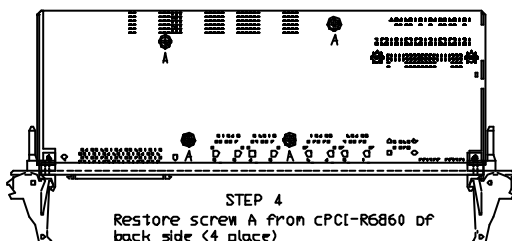
Step 3: Attach and fix the HDD to the bracket using the four screws that come with the HDD mounting kit at the locations marked B in the diagram below. Attach the 44-pin IDE cable.



STEP 3

1. Put Harddisk on the bracket and lock M2.5 screw by plus drive in B(4 place)
2. Insert flat cable into harddisk of socket (C)

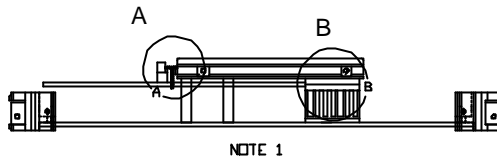
Step 4: Re-mount the bracket back onto the RTM using the 4 screws originally removed to detach the mounting bracket at the same location on the opposite side of the board.



STEP 4

- Restore screw A from cPCI-R6860 DF back side (4 place)

Before tightening the HDD bracket to the RTM, please refer to the notes and drawing below.



Note A: The IDE cable should be folded away as shown in the above drawing and way from obstruction during insertion and extraction of the board from its slot.

Note B: The HDD mounting bracket is also used as a heat dissipater for the HDD and other active devices on the RTM. When seating the HDD bracket onto the RTM, make sure the bottom side of HDD bracket touches the Silicon Glue Plate which presses onto the chipset heatsink.

3.5 CF Installation

A standard CompactFlash (CF) card has an ATA interface that is fully compatible with that of the IDE HDD. The RTM supports both type-I and type-II CF cards. The CF can be inserted or removed from the rear panel. The CF socket is on the Primary IDE port. Before inserting the CF card, ensure that any devices on the Primary IDE port are configured properly for either master or slave operation. Refer to section 2.6.1 for more information about Master/Slave jumper setting, the CF port is set to Slave when it is shipped.

3.6 Notice for Rear I/O Connection

This section outlines important information regarding the use of the rear I/O connection. Refer to section 1.1.4 for peripheral connectivity of all I/O ports on the RTM. When installing the cPCI-6860 and its RTM, make sure they are paired and are align behind one another.

-
- Please uses the proper RTM to enable all functions (I/O interfaces) on rear side. The RTM or system board maybe damaged if the improper RTM is used.
-

Some I/O ports are supported on both front board and RTM, including Keyboard, Mouse, VGA, GbE LAN1 and GbE LAN2. These I/O ports can be connected via either front or rear side. DO NOT access these ports on both front and rear simultaneously.

Device Driver Installation

4.1 Intel® E7500 Chipset

This section describes the installation procedure for the Intel E7500 chipset device driver under Windows 2000 and Windows XP.

4.1.1 System Requirements

One of the following operating systems must be fully installed on the system before installing any other driver, utilities or software:

- Windows® 2000 5.00
- Windows® XP 5.10

4.1.2 Hardware Configuration File Installation

This section describes how to install the hardware configuration files into a system operating Windows 2000 or Windows XP.

1. Check the System Requirements. Windows 2000/XP must be fully installed and running on the system prior to running this software.
2. Close any running applications.
3. The files are stored in an integrated application setup program. This program is designed for a Windows 2000/XP and can be executed from the **Run** command prompt.
4. Place the ADLINK CD into the CD-ROM drive. Run the Setup.exe under X:\CHIPDRV\Chipset\E7500. Where X is the CD drive letter
5. You will be prompted with a license agreement. If you do not agree with the terms and conditions of using the software, the Installer will exit before extracting any files.
6. Follow the on-screen instructions and use the default settings to complete the setup, once the operating system has rebooted. This completes the installation of the Intel® Chipset Software Installation Utility.

4.2 Driver Installation Under Windows 2000

This section describes installation procedures for all software drivers under Windows 2000. Please follow the instructions carefully to avoid any problems after installation.

4.2.1 VGA Driver Installation

This section describes how to install the ATI 3D Rage XL VGA driver that comes with the ADLINK CD. Use the following procedure to install the display drivers under Windows 2000.

1. The driver is included in the ADLINK CD. Place the ADLINK CD into CD-ROM drive. Run the **w2k-ragexl-5-0-2195-5012.exe** file under the directory: **X:\CHIPDRV\WGA\ATI 3D Rage XL\Win2k**.
2. Click **Next** to begin the self-extraction process. The extracted files are stored to the default location:
C:\ATI\support\w2k-ragexl-5-0-2195-5012.
3. Click **Yes** to agree to the license and the driver will be installed.
4. Finish the installation and reboot the system.

4.2.2 LAN Driver Installation

This section describes the LAN driver installation process for the **Intel 82562EM** and **82546EB** Gigabit Ethernet controller under Windows 2000. The Intel® software utilities package include Diagnostics utility; Makedisk utility; and 10/100/1000Mbps Ethernet device drivers. All drivers and utilities are stored in the ADLINK CD under the directory: **X:\CHIPDRV\LAN\82546EB**, where X: is the location of the CD-ROM drive. For the driver installation of other OS, please refer the **readme** file in the CD.

During Windows 2000 installation, the operating system will install a LAN driver automatically. We recommend that the most updated LAN driver be installed, which is shipped with the ADLINK CD. This will ensure total compatibility. After installing the OS, update to the newer driver using the following steps.

1. Run the self-extracting **pro2kxpm.exe** file. The extracted files are stored to the default location **C:\IntelPRO**.
2. To install or update the Ethernet drivers for the system, click '**Install Now**'. All Ethernet devices in the computer will be updated.
3. Reboot the system to enable the new driver

4.2.3 SCSI driver Installation

This section describes the SCSI driver installation for the SCSI controller **LSI (SYMBIOS) 53C1000R** for the optional RTM. All related drivers are stored in the ADLINK CD under the directory: **X:\CHIPDRV\SCSI\53C10xx**, where X: is the location of the CD-ROM drive.

The 53C1000R driver in the ADLINK CD only supports Windows 2000. The installation procedure for this driver under Windows 2000 is outlined in this section. For driver installation of other operating systems, refer to the README file under its respective directory of the ADLINK CD.

NOTE: The most updated SCSI drivers can be downloaded from the LSI Logic web site at URL: <http://www.lsilogic.com>.

During Windows 2000 installation, a SCSI driver will be automatically installed. We recommend you manually update to the most updated driver, which is shipped with the ADLINK CD to ensure total compatibility. After Windows 2000 installation is completed, update to the new driver using the following steps.

1. Boot up Windows 2000.
2. Right click on **My Computer** and click on the **Properties** option. Click on the **Hardware** tab, and then the **Device Manager** button.
3. Click the "+" symbol to the left of the SCSI and RAID controller option to expand the directory. Find the device (or adaptor) for the driver upgrade and **double-click the entry**. Click on the **Driver** tab.
4. Click the **"Update Driver"** button. The Upgrade Device Driver Wizard starts, click the **Next** button to continue.
5. Make sure to select **"Search for a suitable driver for my device"** is selected and then click **Next**.
6. Insert the ADLINK CD and then click the **"Have Disk"** button.
7. Browse the 53C10xx driver at the following location:
X:\CHIPDRV\SCSI\53C10xx\WIN2000\winnt\miniport, highlight **oemsetup.inf**, click **OPEN**, and then click **NEXT>**.
8. Highlight the model: **Symbios Ultra3 PCI SCSI Adapter; 53C1010-66** Device.

9. Click the **NEXT** button. Windows 2000 may report, “**Digital Signature Not Found**”, just click **Yes** to continue.
10. Click the **Finish** button, and then click **CLOSE** button.
11. Reboot the system to activate the new driver

4.3 Driver Installation Under Windows XP

This section describes installation procedures for all software drivers under Windows 2000. Please follow the instructions carefully to avoid any problems after installation

4.3.1 VGA Driver Installation

This section describes how to install the ATI 3D Rage XL VGA driver that comes with the ADLINK CD. Use the following procedure to install the display drivers under Windows XP.

1. The driver is included in the ADLINK CD. Place the ADLINK CD into CD-ROM drive. Run the **wxp-ragexl-5-10-2600-6009.exe** file under directory: **X:\CHIPDRV\VGA\ATI 3D Rage XL\Win2K**.
2. Click **Next** to begin the self-extraction process. The extracted files are stored to the default location:
C:\ATI\support\wxp-ragexl-5-10-2600-6009.
3. Click **Yes** to agree to the license and the driver will be installed.
4. Finish the installation and reboot the system.

4.3.2 LAN Driver Installation

This section describes the LAN driver installation process for the **Intel 82562EM** and **82546EB** Gigabit Ethernet controller under Windows XP. The Intel® software utilities package include Diagnostics utility; Makedisk utility; and 10/100/1000Mbps Ethernet device drivers. All drivers and utilities are stored in the ADLINK CD under the directory: **X:\CHIPDRV\LAN\82546EB**, where X: is the location of the CD-ROM drive. For the driver installation of other OS, please refer the **readme** file in the CD.

During Windows XP installation, the operating system will install a LAN driver automatically. We recommend that the most updated LAN driver be installed, which is shipped with the ADLINK CD. This will ensure total compatibility. After installing the OS, update to the newer driver using the following steps.

1. Run the self-extracting **pro2kxpm.exe** file. The extracted files are stored to the default location **C:\IntelPRO**.
2. To install or update the Ethernet drivers for the system, click '**Install Now**'. All Ethernet devices in the computer will be updated.
3. Reboot the system to enable the new driver

4.3.3 SCSI driver Installation

This section describes the SCSI driver installation for the SCSI controller **LSI (SYMBIOS) 53C1000R** for the optional RTM. All related drivers are stored in the ADLINK CD under the directory: **X:\CHIPDRV\SCSI\53C10xx**, where X: is the location of the CD-ROM drive.

The 53C1000R driver for Windows XP is included in the standard Windows XP package and is installed automatically during installation of the operating system. For driver installation of other operating systems, refer the README file under its respective directory in the ADLINK CD.

NOTE: The most updated SCSI drivers can be downloaded from the LSI Logic web site at URL: <http://www.lsillogic.com>.

Warranty Policy

Thank you for choosing ADLINK. To understand your rights and enjoy all the after-sales services we offer, please read the following carefully.

1. Before using ADLINK's products, please read the user manual and follow the instructions carefully. When sending in damaged products for repair, please attach an RMA application form.
2. All ADLINK products come with a two-year guarantee, free of repair charge.
 - The warranty period starts from the product's shipment date from ADLINK's factory
 - Peripherals and third-party products not manufactured by ADLINK will be covered by the original manufacturers' warranty
 - End users requiring maintenance services should contact their local dealers. Local warranty conditions will depend on the local dealers
3. Our repair service does not cover the two-year guarantee, if damages are caused by the following:
 - a. Damage caused by not following instructions in the user manuals.
 - b. Damage caused by carelessness on the users' part during product transportation.
 - c. Damage caused by fire, earthquakes, floods, lightning, pollution and incorrect usage of voltage transformers.
 - d. Damage caused by unsuitable storage environments with high temperatures, high humidity or volatile chemicals.
 - e. Damage caused by leakage of battery fluid when changing batteries.
 - f. Damages from improper repair by unauthorized technicians.
 - g. Products with altered and damaged serial numbers are not entitled to our service.
 - h. Other categories not protected under our guarantees.

4. Customers are responsible for the fees regarding transportation of damaged products to our company or to the sales office.
5. To ensure the speed and quality of product repair, please download an RMA application form from our company website www.adlinktech.com. Damaged products with RMA forms attached receive priority.

For further questions, please contact our FAE staff.

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Automation Product Segment: Automation@adlinktech.com

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