

NuIPC

cPCI-6760D series

**6U CompactPCI Highly Integrated Single Slot
Dual Bridge Low Power Pentium-III CPU Module
and Rear I/O Transition Module**

User's Guide

Includes cPCI-R6760S Super RTM Reference Guide



Recycled Paper

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Introduction

This manual is designed to give you information on the cPCI-6760D series CPU module and its related rear I/O transition modules, which include cPCI-R6760D the basic rear I/O transition module for cPCI-6760D and cPCI-R6760S the super rear I/O transition module (super RTM). The topics covered in this chapter are as follows:

- Checklist
- Descriptions
- Features
- Specifications
- Functional block diagram
- Mechanical outline drawing

1.1 Checklist

The cPCI-6760D series products comply PICMG 2.0 Rev. 3.0 CompactPCI specification with 6U single-slot (4 TE/HP) form factor. cPCI-6760D series products support both front panel I/O and rear panel I/O. It is not necessary to use the rear board if the application just requires only front panel I/O wiring or special backplane wiring. The front board (the CPU module) and the rear board (the rear I/O transition module, RTM) are sold separately. The standard models cPCI-6760D/P7 and cPCI-6760D/P8 are front boards. And the standard models cPCI-R6760D and cPCI-R6760S are rear boards.

1.1.1 Front Board

Front board is the CPU module. There are two standard versions available for cPCI-6760D series module (please see section 1.2 and the model variations comparison table.) The default version does not include any RAM

or HDD. However, the CPU module may be equipped with different capacity of RAM or HDD by request. Please check your configurations with your dealer and check that your package is complete and contains the items below. If you discover damaged or missing items, please contact with your dealer.

- The cPCI-6760D CPU module (May be equipped with different capacity of RAM or HDD. Those items may vary according to the different configuration request. The CPU is pre-soldered and the CPU heatsink is pre-mounted.)
- One 2.5" ATA HDD accessory pack (P/N: 58-00023-000) including special designed 44-wire connection cable and screws kit . (This accessory pack will not be available if 2.5" ATA HDD is pre-mounted by request.)
- One DB-6760CF removable CompactFlash socket adaptor (which is pre-mounted on the CPU module for the standard configuration delivery. The DB-6760CF may not be included if customer request pre-configuring 2.5" ATA HDD or by OEM project request.)
- Y cable for PS/2 keyboard and mouse connection. (P/N: 30-01016-000)
- This User's Manual
- ADLINK CD

Note: The delivery package of cPCI-6760D OEM version (non-standard configuration, functionality, customized logo, modified faceplate or package) may vary according to the different customization request.

1.1.2 Rear Board

Rear board is the rear I/O transition module (RTM). Different rear board could provide different I/O function combination or extension. There are two models for cPCI-6760D series module, named cPCI-R6760D and cPCI-R6760S. The cPCI-R6760D is designed for the standard rear panel I/O for cPCI-6760D. And the cPCI-R6760S is designed for the extra rear panel I/O functionality expansion for cPCI-6760D. Please see section 1.2 and the model variations comparison table. Please check your package is complete and contains the items below. If you discover damaged or missing items, please contact with your dealer.

- The cPCI-R6760D or R6760S rear I/O transition module
- One 40-wires EIDE cable and one 34-wires FDD cable (P/N: 58-00009-000)

- This User's Manual
- ADLINK CD

Note: The delivery package of cPCI-R6760 OEM version (non-standard configuration, functionality, customized logo, modified faceplate or package) may vary according to the different customization request.

1.2 Description

ADLINK cPCI-6760D is a powerful and flexible CompactPCI host slot processor board based on Intel BGA2 Mobile (or Low Voltage/ Ultra Low Voltage) Pentium III processor. This board is specially designed to add total system functional density to ADLINK's 6U CompactPCI platform for CTI and Telecom applications. It is also suitable for clustering high-availability, high-density and high-reliability embedded applications where performance and a rich feature set are mandatory.

The CPU module uses the well-proven Intel 440BX chipset which supports processor front side bus (FSB) running at 100MHz and PC-100 SDRAM up to 512MB with optional ECC capacity, makes cPCI-6760D performs outstanding in its peer. Moreover, the Embedded Intel Architecture guarantees the long time availability. Highly integration design makes cPCI-6760D provides fully functionality within only single slot space. User can access RS-232, AGP-VGA, USB, Keyboard, Mouse, Dual Ethernet ports and one PMC expansion slot on the front panel. There are two standard models available for cPCI-6760D numbering as cPCI-6760D/P7 and cPCI-6760D/P8 that provide different CPU speed for customized application.

cPCI-R6760D rear I/O transition module provides the rear panel I/O extension features for cPCI-6760D. It provides the I/O access of printer port, dual Ethernet ports, keyboard, mouse, USB, RS-232/422/485 and AGP-VGA on rear panel, also provides the interfaces for inner chassis connection of storage devices such as EIDE and FDD.

cPCI-R6760S rear I/O transition module, the super RTM, provides the extra functionality expansion for cPCI-6760D. It provides the I/O access of Ultra-160 SCSI, four Ethernet ports, keyboard, mouse, COM2 (RS-232/422/485) and one USB on rear panel, also provides the interfaces for inner chassis connection of EIDE, FDD. Reserved pin headers of printer port, COM1 and VGA port, will be used for customized application.

cPCI-6760D Model Variations Comparison Table

Model	cPCI-6760D/P7	cPCI-6760D/P8
Processor	Intel BGA2 Pentium-III 700MHz	Intel BGA2 Pentium-III 850MHz
Processor FSB	100 MHz	100 MHz
Chipset	Intel 440BX	Intel 440BX
Memory Size	Up to 512MB	Up to 512MB
Memory Type	PC-100 SDRAM in 144-pin SO-DIMM	PC-100 SDRAM in 144-pin SO-DIMM
Graphic	SMI SM721	SMI SM721
Video Memory	Build-in SM721 4MB VRAM	Build-in SM721 4MB VRAM
Serial Port	2 (one RS-232/422/485)*	2 (one RS-232/422/485)*
Parallel Port	1*	1*
USB	2*	2*
Ethernet Port	2 Ports (Intel 82559)	2 Ports (Intel 82559)
EIDE	2 UDMA-33 channels*	2 UDMA-33 channels*
FDD I/F	Yes*	Yes*
Flash Storage	Removable CompactFlash Socket or 2.5" Flash Drive	Removable CompactFlash Socket or 2.5" Flash Drive
PMC Socket	Single, 32-bit	Single, 32-bit
cPCI Slots Support	14 slots, all bus mastering	14 slots, all bus mastering

Table 1: cPCI-6760D model variations comparison table

Note: Some functional interfaces should be collocated with cPCI-R6760D or cPCI-R6760S. Please refer to the specification and peripheral connectivity table for more detail information.

cPCI-R6760D and cPCI-R6760S Comparison Table

Model	cPCI-R6760D	cPCI-R6760S
SCSI	None	External Ultra-160 SCSI Interface (HD-68)
Ethernet Ports (RJ-45)	Two ports support front and rear I/O	Two ports support front and rear I/O; two extra ports support rear I/O
VGA	DB-15 on faceplate	Reserved pin headers on board
COM1	Reserved pin headers on board (RS-232)	Reserved pin headers on board (RS-232)
COM2	DB-9 on faceplate (RS-232/422/485)	Reserved pin headers on board and DB-9 on faceplate (RS-232/422/485)
Parallel Port	DB-25 on faceplate	Reserved pin headers on board
USB	One connector on faceplate	One connector on faceplate
EIDE	Two 40-pin interfaces on board	Two 40-pin interfaces on board
FDD I/F	One 34-pin interface on board	One 34-pin interface on board
Keyboard	PS/2 on faceplate	PS/2 on faceplate
Mouse	PS/2 on faceplate	PS/2 on faceplate
14-slot support	Yes	No ^(Note)

Table 2: cPCI-R6760D and cPCI-R6760S comparison table

Note: Please refer to the specification and peripheral connectivity table for more detail information.

- When using cPCI-R6760S collocated with cPCI-6760D, please don't apply this combination into the "14-slot support" backplane such as cBP-6515R or cBP-6014R. The cPCI-R6760S utilizes the PCI bus from secondary bridge on J4 and J5. To use cPCI-R6760S with "14-slot support" backplane may cause add-on card's PCI bus mastering devices conflict with on-board PCI bus mastering devices such like Ultra-160 SCSI and fast Ethernet controller. It may result some add-on card or on-board devices malfunction.

1.3 Features

- PICMG 2.0 CompactPCI Specification R.3.0 Compliant
- PICMG 2.1 CompactPCI Hot Swap Specification R1.0 Compliant
- PICMG 2.7 CompactPCI Dual System Bus specification R1.0 compliant
- Standard 6U form factor, 1-slot (4TE/HP) width
- Design for low power or mobile BGA2 Pentium-III CPU running at FSB 100MHz
- Two 144-pin SO-DIMM socket supports up to 512MB PC-100 SD-RAM with optional ECC support
- Build-in housing for 2.5" low profile HDD
- Supports up to 2 USB ports, 2 serial port, 1 parallel port
- Supports 14 bus-master PCI devices on CompactPCI bus peripheral slots (not available with cPCI-R6760S)
- On-board high performance AGP 2x VGA display output by SMI SM721 controller
- Supports up to dual 10/100Mb Ethernet ports (up to four 10/100Mb Ethernet ports when collocated with cPCI-R6760S)
- Supports external Ultra-160 SCSI interface (only available when collocating with cPCI-R6760S)
- Supports Intel pre-boot execution environment (PXE) for boot from LAN
- Supports CompactFlash type-II socket via removable daughter board
- Supports rear I/O configuration
- Supports remote console on Serial ports
- Supports self-hot-swap operation by soft triggering system power off
- WDT status indication
- Self-hot-swap status indication

1.4 Specifications

1.4.1 Specifications of the front board (cPCI-6760D series)

General CompactPCI Features

- PCI Rev.2.1 compliant
- PICMG 2.0 CompactPCI Specification R.3.0 Compliant
- PICMG 2.1 CompactPCI Hot-swap specification R1.0 compliant
- PICMG 2.7 CompactPCI Dual System Bus specification R1.0 compliant

Form Factor

- Standard 6U CompactPCI (board size: 233.35mm x 160mm)
- 1-slot (4 TE/HP, 20.32mm) width, incl. housing of 2.5" HDD

CPU/Cache

- Intel BGA2 Low Voltage Pentium III with 256KB on-die L2 cache @ 700MHz speed & 100MHz FSB (for cPCI-6760D/P7)
- Intel BGA2 Mobile Pentium III with 256KB on-die L2 cache @ 850MHz speed & 100MHz FSB (for cPCI-6760D/P8)
- Intel BGA2 Low Voltage Celeron with 128KB on-die L2 cache @ 400MHz speed & 100MHz FSB (Only available for big quantity OEM project)

Chipset

- Intel 440BX AGPset
- Intel 82443BX and 82371EB(PIIX4E)

BIOS: Award PnP BIOS

- BIOS write protection, provide anti-virus capability
- On-board Ethernet disable selectable
- Customized power-on screen (for OEM project)
- DMI BIOS Support: Desktop Management Interface (DMI) allows users to download system hardware-level information such as CPU type, CPU speed, internal/external frequencies and memory size.
- Supports Intel pre-boot execution environment (PXE) for boot from LAN
- Remote Console: setup console redirection to serial ports (terminal mode) with CMOS setup access

Note: Due to the BIOS segment limitation, enable the remote console function may occupy the same memory space for other ROM-mapping add-on or boot-up devices such like Pre-boot Agent of Ethernet Boot ROM, SCSI Boot ROM or add-on EIDE Boot ROM. It is recommended to enable only one ROM-mapping add-on or boot-up device when enable the remote console function.

Host Memory

- Two 144-pin SO-DIMM sockets, Max. 512MB PC-100 un-buffered SDRAM
- Optional ECC support (for volume orders OEM project)

IDE Ports

- Bus Master IDE controller supports two EIDE interfaces by J3 and J5 rear I/O for up to four IDE devices, including HDD and ATAPI CD-ROM drives. Pin assignments on cPCI J3 and J5 support IDE direct connection feature on cBP-6108R, cBP-6105R, cBP-6515R, cBP-6402 and cBP-6309 backplane
- One 44-pin secondary EIDE connector on front CPU module, supports on-board 2.5" notebook size HDD or Flash2000™ flash disk
- One CompactFlash type-II socket on removable daughter board for front CPU module
- Two 40-pin EIDE connectors on rear transition module supports PIO Mode 3/4 and Ultra DMA/33 IDE devices

Note: CompactFlash daughter board (DB-6760CF) occupies the same space of 2.5" ATA HDD. cPCI-6760D supports on-module one 2.5" ATA HDD or one CompactFlash socket, but not both.

On Board Super I/O

- Winbond W83977EF
- Supports high-speed bi-directional SPP/EPP/ECP parallel ports with ESD protection to 4KV and downstream device protection to 30V. Rear I/O is routed through J3
- One floppy interface by J3 rear I/O, support two floppy drives (360KB, 720KB, 1.2MB, 1.44MB, 2.88MB.) One 34-pin floppy connector is available on rear I/O transition module
- One 16C550 UARTs compatible RS-232 COM1 port with ESD protection to 2KV on front CPU module

- One RS-232/422/485 selectable COM2 serial port by using of rear transition module

USB Interface

- Supports up to two USB ports, one port on front CPU module, another port on rear I/O transition module
- USB Specification Rev. 1.1. compliant
- Individual over-current protection

Watch-dog Timer

- Programmable I/O port 3F0h and 3F1h to configure watchdog timer, programmable timer 1~255 seconds or 1~255 minutes
- A LED indicator on front faceplate for watchdog timer status indication
- Bundled easy-programming library for DOS, Windows 95, 98, NT

Hardware Monitoring

- Winbond W83782D, monitoring CPU temperature, CPU fan, system temperature and DC Voltages

PMC module support

- On-board one 32-bit PMC module slot for functionality expansion
- The PMC slot provides +5V V(I/O) PCI signaling environment in default. +3.3V V(I/O) PCI signaling environment for volume orders is also available on request

On-board VGA Display

- AGP 2x VGA controller SMI Lynx3DM SM721, with build-in 4M VRAM
- VGA display supports both front and rear I/O
- High performance, 128-bit, single clock cycle 2D drawing engine
- High performance, power managed 3D acceleration engine
- AGP 2x, ACPI, VESA DPMS and VESA DDC 2b compliant
- Supports up to 1280x1024 VGA display resolution with 24-bit true color, non-interlaced
- Supports up to 1600x1200 VGA display resolution with 16-bit high color at 60Hz refresh rate under WindowsNT^(note)
- RAMDAC Latch-up protection
- Driver supporting: Windows95/98/ME/NT/2000, Linux, OS/2

Note: The 1600x1200 VGA display resolution is non-standard configuration that is available for volume orders on request. It needs special modified BIOS with driver, which can be ONLY supported under Windows NT operating system. This BIOS might cause incompatibility issues with other OS. The standard BIOS can support up to 1280x1024 resolution under all operating systems listed above.

On-board Ethernet supporting

- Two Ethernet ports featuring by two Intel 82559 Ethernet controller
- IEEE 802.3 10Base-T and 100Base-TX compatible
- IEEE 802.3u Auto-negotiation support
- IEEE 802.3x 100Base-TX flow control support
- Full duplex support at both 10 and 100 Mbps operation
- Supports Intel pre-boot execution environment (PXE) for boot from LAN
- Supports Intel adapter teaming functions including Fault Tolerance, Adaptive Load Balancing (ALB), Fast Ethernet Channel (FEC) and Link Aggregation

OS Compatibility

- MS-DOS 6.2+, Windows 95/98/ME, Windows NT 4.0, Windows 2000, Red Hat Linux 7.2 and VxWorks

Flash Disk Supporting

- Support CompactFlash type-II socket on front CPU module by removable transition daughter board
- On-board housing for Flash2000™ 2.5" flash disk on front CPU module
- Disk-On-Module via 40-pin IDE ports of rear I/O transition module

PCI Bus Bridge

- Dual TI PCI2050 transparent PCI to PCI bridge
- Supports up to 14 PCI bus mastering devices on CompactPCI bus peripheral slots

Front Panel LEDs and switch

- Power status (green)
- IDE activity indicator (red)
- Ethernet (integrated with RJ-45): 10/100Mb (amber), link and activity (green)
- Watchdog timer status indicator (amber)
- Self-hot-swap status indicator (blue)

- On-handle limit switch for soft power-off signal triggering
- Flush tact switch for system reset

Environment

- Operating temperature: 0 to 60°C ^(Note)
- Storage temperature: -20 to 80°C
- Humidity: 5% to 95% non-condensed
- Shock: 15G peak-to-peak, 11ms duration, non-operation
- Vibration:
 - ✓ Non-operation: 1.88Grms, 5-500Hz, each axis
 - ✓ Operation: 0.5Grms, 5-500Hz, each axis, with 2.5" HDD

Note: 1. System forced cooling airflow with 10 CFM is required for mobile Pentium-III running at 850MHz and 6 CFM is required for low voltage Pentium-III running at 700MHz.

2. Due to the environment limitations are different from one component to another component; please refer to the component specification when user wishes to mount HDD or PMC module into cPCI-6760D. The operating temperature was tested when the HDD is cabling outside the testing chamber, also with the Mobile Pentium-III 850MHz CPU.

3. The vibration limitation of operation is caused by 2.5" ATA HDD. If customer will deploy cPCI-6760D into high vibration environment, we suggest user to adopt Flash2000 Flash Disk (FFD series) or CompactFlash Card to replace the usage of 2.5" ATA HDD.

Safety Certificate and Test

- CE, FCC Class B
- HALT (temperature and vibration stress)

Power Consumption

Configurations	+5V	+3.3V	+12V	-12V
Low Power Pentium III 700MHz, 256MB with cPCI-R6760D	3.8A	4.5A	228mA	0mA
Mobile Pentium III 850MHz, 512MB with cPCI-R6760S	6.4A	4.5A	228mA	0mA

Note: The above values are the measured power consumption for SBC with CPU and RAM only; the CPU is running at 100% loading with HCT, Kpower and burn-in test programs under Windows 2000 Professional. The powers for all the other peripheral devices such as add-on cards, HDD, or CD-ROM are not included.

1.4.2 Specifications of the rear board cPCI-R6760D

General CompactPCI Features

- PICMG 2.0 CompactPCI Specification R3.0 compliant
- IEEE 1101.11 rear transition module mechanism compliant

Form Factor

- Standard 6U CompactPCI (board size: 233.35mm x 80mm)
- 1-slot (4TE/HP, 20.32mm) width

Storage Devices Ports

- One 34-pin floppy interface on board
- Two 40-pin EIDE connectors on board support PIO Mode 3/4 and Ultra DMA/33 IDE devices

Multi-I/O Ports

- DB-25 printer port on rear faceplate
- DB-9 COM2 port for selectable RS-232/422/485 on rear faceplate
- Reserved one 10-pin interface for COM1 (RS-232) on board for customized application
- Separated PS/2 type keyboard and mouse connectors on rear faceplate

USB Interface

- One USB type A connector on rear faceplate

VGA Interface

- One DB-15 VGA interface on rear faceplate

Ethernet Ports

- Two RJ-45 Ethernet ports with integrated transformer and LED indicators on rear faceplate, which support 10BASE-T or 100BASE-TX Ethernet.

Driver Installation

- No extra driver necessary for using cPCI-R6760D

Miscellaneous

- System buzzer on board
- Ethernet activity indicator (green LED) for each port
- Ethernet speed (10/100Mb) indicator (amber LED) for each port

-
- IDE2, COM1, Keyboard, Mouse, VGA and dual LAN ports support wiring by either front I/O or rear I/O. However, please connect device either by front I/O or by rear I/O for one I/O function. Don't connect devices to one I/O function port on front panel and rear panel at the same time. It may cause I/O device damage or the system module damage and the warranty will be void.
-

1.4.3 Specifications of the rear board cPCI-R6760S

General CompactPCI Features

- PICMG 2.0 CompactPCI R3.0 compliant
- PICMG 2.7 CompactPCI R1.0 secondary CompactPCI bus pin definitions compliant
- IEEE 1101.11 rear transition module mechanism compliant

Form Factor

- Standard 6U CompactPCI (board size: 233.35mm x 80mm)
- 1-slot (4TE/HP, 20.32mm) width

Ultra-160 SCSI

- One external Ultra-160 SCSI interface by HD-68 connector on rear panel.
- LSI 53C1000R single channel Ultra-160 SCSI controller supports up to 15 SCSI devices

Generic Storage Devices Ports

- One 34-pin floppy interface on board
- Two 40-pin EIDE connectors on board support PIO Mode 3/4 and Ultra DMA/33 IDE devices.

Multi-I/O Ports

- Reserved one 26-pin interface for printer port on board for customized application
- Reserved one 10-pin interface for COM1 (RS-232) on board for customized application
- One DB-9 connector on rear faceplate and reserved one 10-pin interface on board for selectable RS-232/422/485 COM2 port
- Separated PS/2 type keyboard and mouse connectors on rear faceplate

USB Interface

- One USB type A connector on rear faceplate

VGA Interface

- Reserved one 14-pin VGA interface on board for customized application

Ethernet Ports

- Total four RJ-45 Ethernet ports with integrated LED indicators on rear faceplate, which support 10BASE-T or 100BASE-TX Ethernet.

- Two RJ-45 Ethernet ports are designed for supporting both front and rear I/O. Other two RJ-45 Ethernet ports are the extra expansion function by on board Intel 82559 controller, which support only rear panel I/O.

Driver Installation

- Need to install driver for on board LSI 53C1000R Ultra-160 SCSI and install the driver for on board Intel 82559 Ethernet.

Miscellaneous

- System buzzer on board
- Ethernet activity indicator (green LED) for each port
- Ethernet speed (10/100Mb) indicator (amber LED) for each port


● IDE2, COM1, Keyboard, Mouse, VGA and dual LAN ports support wiring by either front I/O or rear I/O. However, please connect device either by front I/O or by rear I/O for one I/O function. Don't connect devices to one I/O function port on front panel and rear panel at the same time. It may cause I/O device damage or the system module damage and the warranty will be void.

1.4.4 Peripheral Connectivity for Front Board and Rear Board

Peripheral Connectivity for cPCI-6760D with cPCI-R6760D

I/O	Front (cPCI-6760D)		Rear (cPCI-R6760D)	
	Faceplate	Board	Faceplate	Board
Serial Port (COM1)	Y (DB-9)	---	---	Y(J3, 10-pin)
Serial Port (COM2, RS-232/422/485)	---	---	Y(J5, DB-9)	---
Parallel Port	---	---	Y(J3, DB-25)	---
PS/2 Keyboard and Mouse	Y (PS/2)	---	Y(J3, PS/2)	---
Floppy	---	---	---	Y(J3, 34-pin)
Ultra DMA 33 Primary EIDE	---	---	---	Y(J3, 40-pin)
Ultra DMA 33 Secondary EIDE	---	Y (44-pin)	---	Y(J5, 40-pin)
USB A	Y	---	---	---
USB B	---	---	Y (J5)	---
PC Beeper	---	---	---	Buzzer
10/100Mb Ethernet Port 1	Y (RJ-45)	---	Y (J3, RJ-45)	---
10/100Mb Ethernet Port 2	Y (RJ-45)	---	Y (J3, RJ-45)	---
VGA	Y (DB-15)	---	Y (J5, DB-15)	---
LEDs	Y	---	---	Y (Ethernet)
Reset button	Y	---	---	---
CompactFlash (via daughter board)	---	Y (CF-II)	---	---

Table 3: Peripheral Connectivity for cPCI-6760D with cPCI-R6760D

-
-  Please use the proper rear I/O transition module to enable the functions (I/O interfaces) on rear side. The board or system will be damaged if use the improper rear I/O transition module. Please refer to Chapter 2 for Ethernet front I/O or rear I/O connecting selection switch setting and refer to Chapter 3 for the usage notice of rear I/O transition module.
-

Peripheral Connectivity for cPCI-6760D with cPCI-R6760S

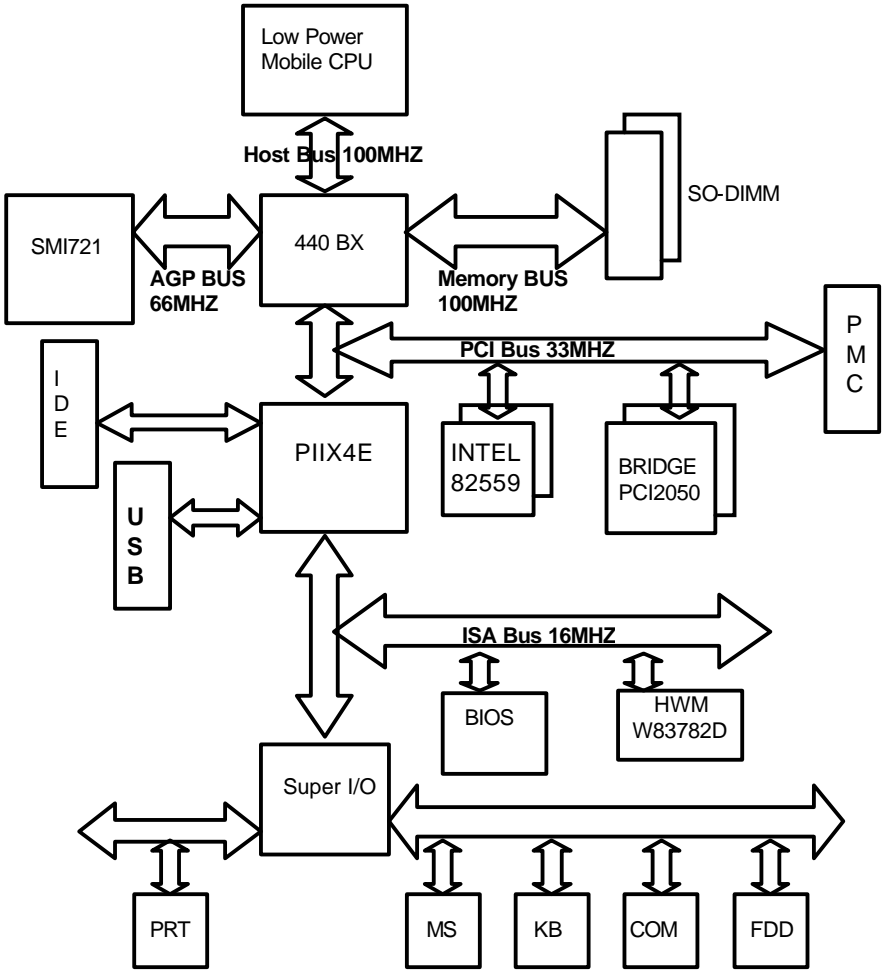
I/O	Front (cPCI-6760D)		Rear (cPCI-R6760S)	
	Faceplate	Board	Faceplate	Board
Serial Port (COM1)	Y (DB-9)	---	---	Y(J3, 10-pin)
Serial Port (COM2, RS-232/422/485)	---	---	Y(J5, DB-9)	Y (10-pin)
Parallel Port	---	---	---	Y (J3, 26-pin)
PS/2 Keyboard and Mouse	Y (PS/2)	---	Y(J3, PS/2)	---
Floppy	---	---	---	Y(J3, 34-pin)
Ultra DMA 33 Primary EIDE	---	---	---	Y(J3, 40-pin)
Ultra DMA 33 Secondary EIDE	---	Y (44-pin)	---	Y(J5, 40-pin)
USB A	Y	---	---	---
USB B	---	---	Y (J5)	---
PC Beeper	---	---	---	Buzzer
10/100Mb Ethernet Port 1	Y (RJ-45)	---	Y (J3, RJ-45)	---
10/100Mb Ethernet Port 2	Y (RJ-45)	---	Y (J3, RJ-45)	---
10/100Mb Ethernet Port 3*	---	---	Y (RJ-45)	---
10/100Mb Ethernet Port 4*	---	---	Y (RJ-45)	---
Ultra-160 SCSI*	---	---	Y (HD-68)	---
VGA	Y (DB-15)	---	---	Y (J5, 14-pin)
LEDs	Y	---	---	Y (Ethernet)
Reset button	Y	---	---	---
CompactFlash (via daughter board)	---	Y (CF-II)	---	---

Table 4: Peripheral Connectivity for cPCI-6760D with cPCI-R6760S

- Please use the proper rear I/O transition module to enable the functions (I/O interfaces) on rear side. The board or system will be damaged if use the improper rear I/O transition module. Please refer to Chapter 2 for Ethernet front I/O or rear I/O connecting selection switch setting and refer to Chapter 3 for the usage notice of rear I/O transition module.

Note: Ethernet port 3, 4 and Ultra-160 SCSI are add-on functions with on-board controller in cPCI-R6760S. Those functional I/Os support only rear panel I/O.

1.5 Functional Block Diagram



2

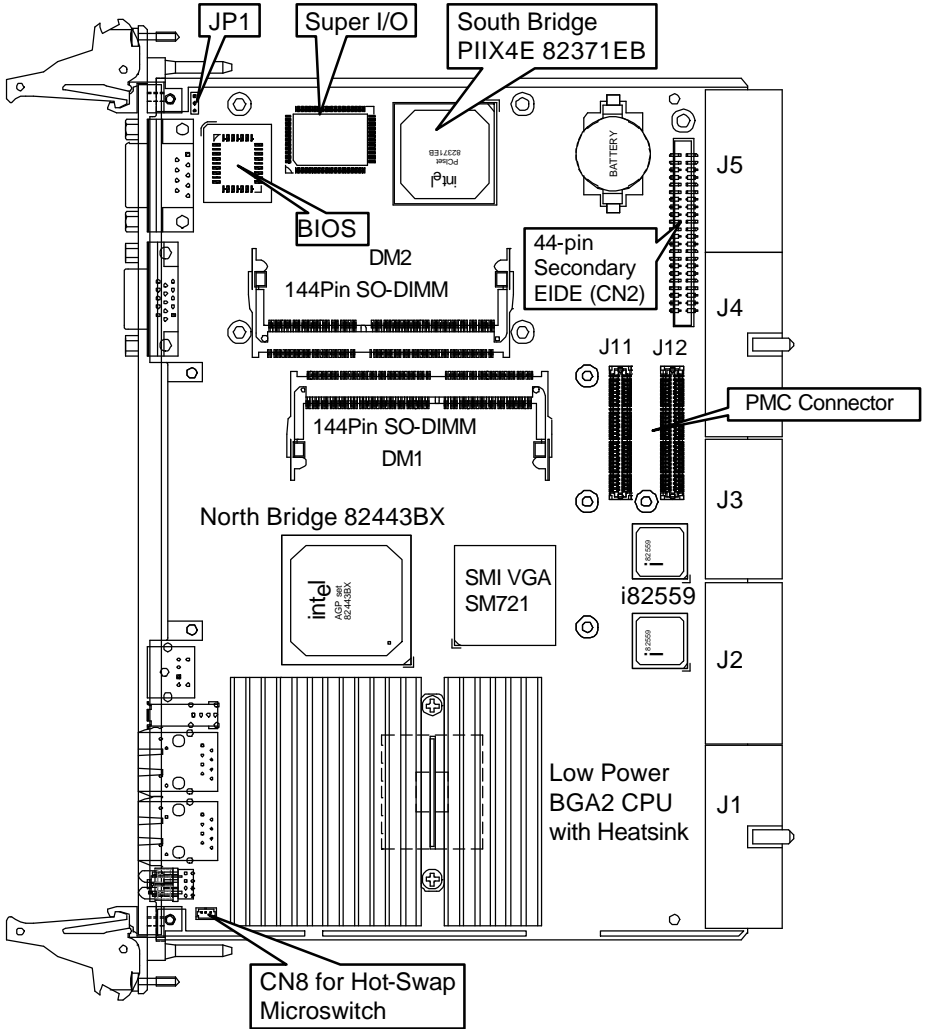
Jumpers and Connectors

This chapter provides information on how to use the jumpers and connectors on the cPCI-6760D in order to set up a workable system. We also describe the meaning of each LED indicators. The topics covered are:

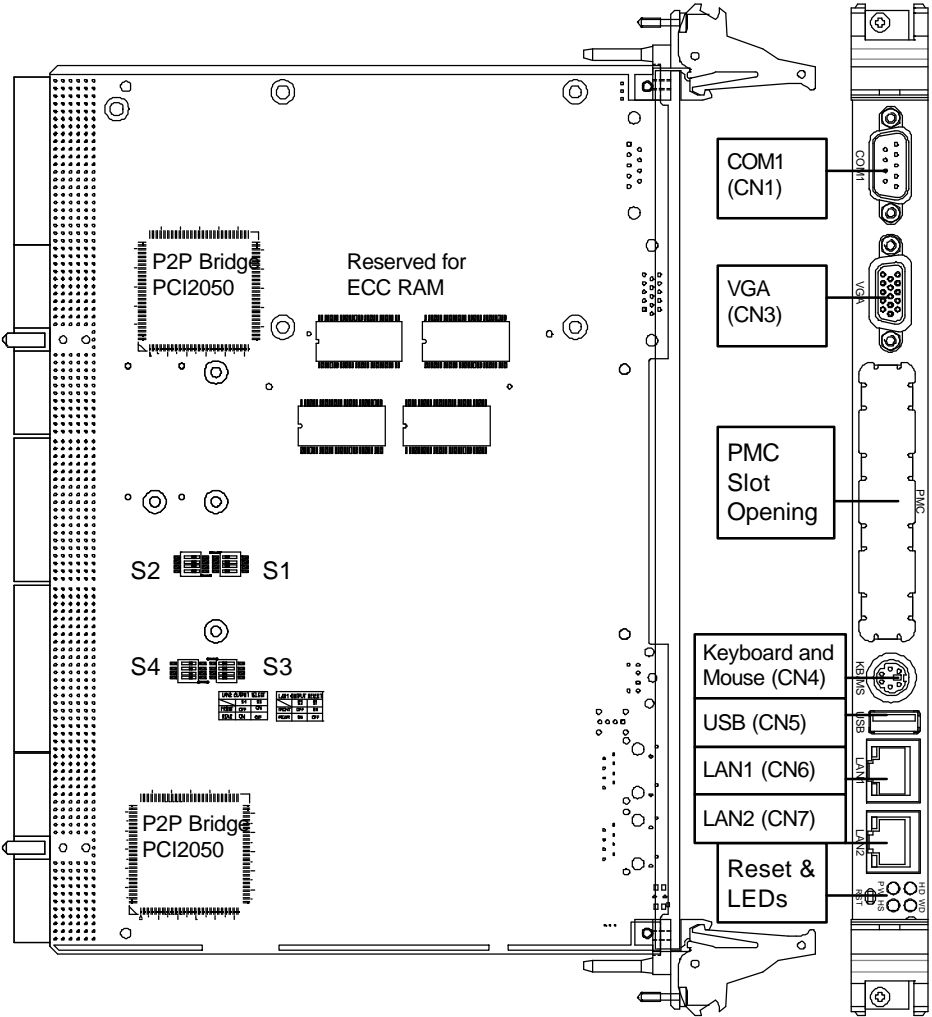
- Jumpers, Connectors and LED indicators on the cPCI-6760D
- Jumpers, Connectors and LED indicators on the cPCI-R6760D
- Jumpers, Connectors and LED indicators on the cPCI-R6760S

Jumpers and connectors map of cPCI-6760D series front board.

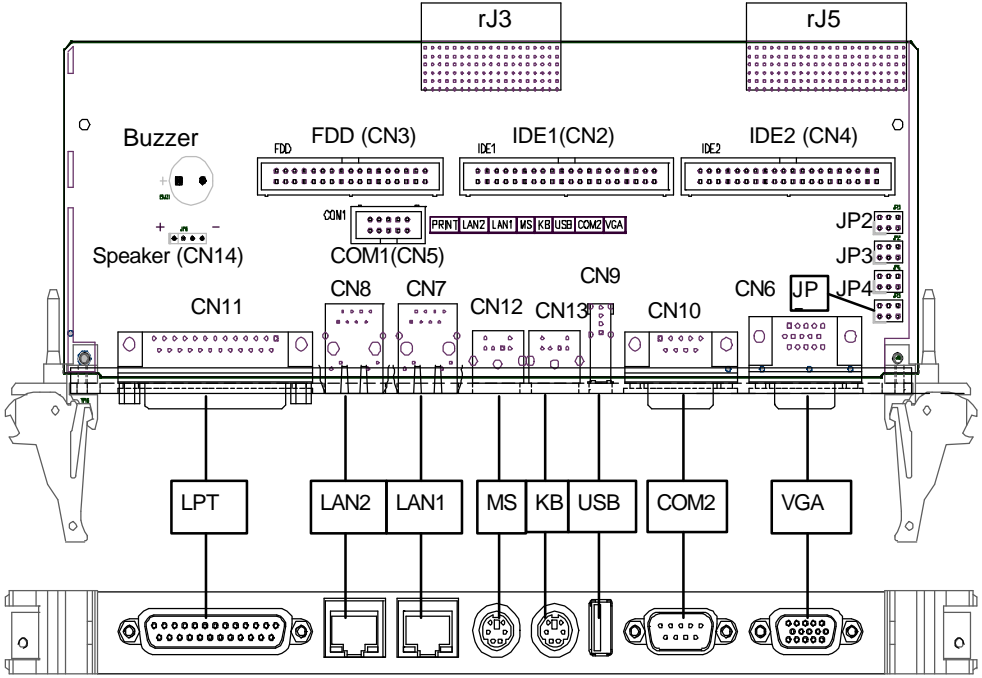
TOP View



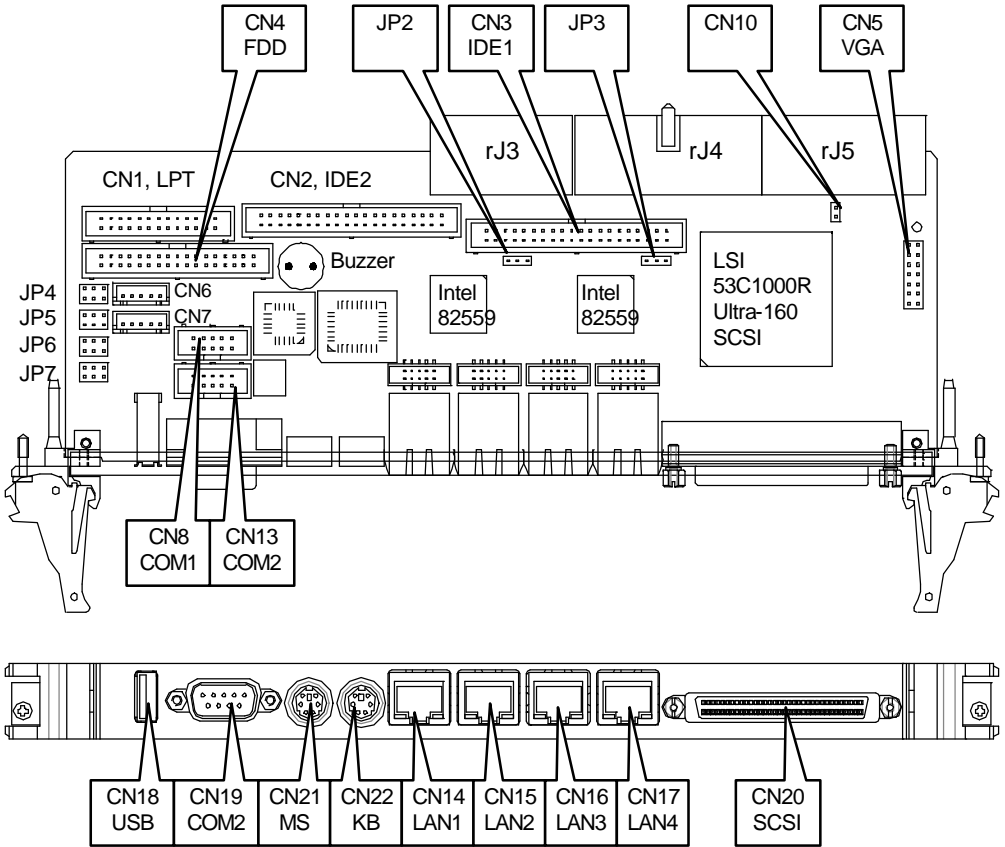
Jumpers and connectors map of cPCI-6760D series front board.
Bottom and Front Panel View



Jumpers and connectors map of cPCI-R6760D board.



Jumpers and connectors map of cPCI-R6760S series board.



2.1 Jumpers, Connectors and LED Indicators on the cPCI-6760D

The jumpers on the cPCI-6760D front board allow you to configure your CPU module according to the needs of your applications. If you have doubts about the best jumper configuration for your needs, contact your dealer or sales representative.

The connectors on the cPCI-6760D front board allows you to connect devices such as keyboard, mouse, VGA, COM port, Ethernet etc.

The LED indicators on the cPCI-6760D front board show you the information regarding to your system's status.

The following information lists the jumpers, connectors and LEDs on cPCI-6760D front board and their respective functions.

Jumper Setting Information for cPCI-6760D Front Board

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Connector Pin Assignments Information for cPCI-6760D Front Board

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LED and Switch Setting Information for cPCI-6760D Front Board

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2.1.20	Self-Hot-Swap LED Indication.....	42

2.1.21 LAN1, LAN2 Front and Rear I/O Connecting Selection.....43

Note There is no jumper for front side bus (FSB) and CPU speed selection. Due to cPCI-6760D equipped with BGA2 pre-soldered CPU that is mounted during SMT process on manufacturing.

- Some I/O ports support connection either by front I/O or rear I/O. However, please connect device either by front I/O or by rear I/O for one I/O function. Don't connect devices to one I/O function port on front panel and rear panel at the same time. It may cause I/O device damage or the system module damage and the warranty will be void.
-

2.1.1 JP1 on cPCI-6760D



JP1	Setting	Function
	Pin 1-2 Short/Closed	Clear CMOS Content
	Pin 2-3 Short/Closed	Normal Operation (Default)

Table 5: JP1 Clear CMOS content

2.1.2 Keyboard and Mouse Combo Connector (CN4) on cPCI-6760D

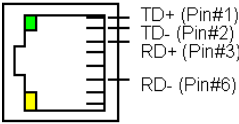


Pin #	Signal	Function
1	KBDATA	Keyboard Data
2	MSDATA	Mouse Data
3	GND	Ground
4	+5V	Power
5	KBCLK	Keyboard Clock
6	MSCLK	Mouse Clock

Table 6: Keyboard/Mouse Combo Connector (CN4) on cPCI-6760D front board

Note: User can use a Y-cable for connecting PS/2 keyboard and mouse on this connector. User also can directly connect PS/2 keyboard on this connector when user does not need the mouse.

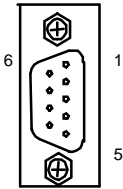
2.1.3 Ethernet Connectors (CN6, 7)



Pin #	Signal Name
1	TD+
2	TD-
3	RD+
6	RD-

Table 7: Ethernet Connector LAN1 (CN6) and LAN2 (CN7) on cPCI-6760D front board

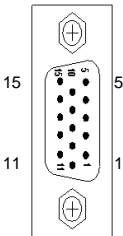
2.1.4 Serial Port COM1 Connector (CN1)



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 8: Serial Port COM1 (CN1) on cPCI-6760D front board

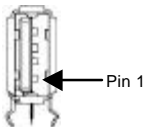
2.1.5 VGA Connector (CN3)



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 9: VGA Connector (CN3) on cPCI-6760D front board

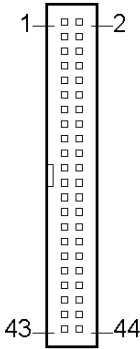
2.1.6 SB (Port A) Connector (CN5)



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

Table 10: USB Connector (CN5) on cPCI-6760D front board

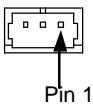
2.1.7 DE Connectors (44-pin, CN2)



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	(keypin)
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 11: Secondary IDE channel (CN2) on cPCI-6760D front board

2.1.8 Micro-Switch Connector (CN8)



Pin #	Signal Name
1	Power Button
2	+5V
3	GND

Table 12: Micro-Switch Connector CN8 on cPCI-6760D

2.1.9 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 ⁽⁶⁾	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#	BDSSEL ⁽⁷⁾	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 ⁽⁸⁾	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 13: CompactPCI J1 pin assignments

2.1.10 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 ⁽¹⁾	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 14: CompactPCI J2 Pin Assignments

2.1.11 CompactPCI J3 Pin Assignments

Pin	Z	A	B	C	D	E	F
19	GND	PDRST#	PDCS16# ⁽¹⁾	PDIORDY	Reserved	PDIRQ14	GND
18	GND	PDACT#	Reserved	PDCS3#	PDCS1#	PPDIAG ⁽¹⁾	GND
17	GND	PDD15	PDD14	PDD13	PDD12	Reserved	GND
16	GND	PDD11	PDD10	PDD9	PDD8	PDDACK#	GND
15	GND	PDA0	PDA1	+5V ⁽⁴⁾	PDA2	PDDREQ	GND
14	GND	PDD7	PDD6	PDD5	PDD4	PDIOW#	GND
13	GND	PDD3	PDD2	PDD1	PDD0	PDIOR#	GND
12	GND	DS0#	DRV DEN1	MTR0#	INDEX#	WDATA#	GND
11	GND	DS1#	DSKCHG	MTR1#	DRV DEN0	RDATA#	GND
10	GND	WRTPRT#	HDSEL#	FDIR#	TRACK0#	STEP#	GND
9	GND	WGATE#	ERRORP#	AUTOFD	PBUSY	Reserved	GND
8	GND	PE	SLCTIN#	+5V ⁽⁴⁾	PSTROB#	Reserved	GND
7	GND	PPD7	PPD6	PPD5	PPD4	PINIT3	GND
6	GND	PPD3	PPD2	PPD1	PPD0	PACK#	GND
5	GND	Reserved	MSDATA	PCBEEP	KBDATA	SLCT	GND
4	GND	Reserved	MSCLK	+5V ⁽⁴⁾	KBCLK	RXD1	GND
3	GND	CTS1#	RTS1#	DSR1#	DCD1#	TXD1	GND
2	GND	TDP1	TDN1	RI1#	DTR1#	TDN2	GND
1	GND	RDP2	RDN2	RDP1	RDN1	TDP2	GND
Pin	Z	A	B	C	D	E	F

Table 15: CompactPCI J3 pin assignments

2.1.12 CompactPCI J4 Pin Assignments

Pin	Z	A	B	C	D	E	F
25	GND	+5V ⁽⁴⁾	REQ64# ⁽²⁾	ENUM# ⁽²⁾	+3.3V ⁽⁴⁾	+5V ⁽⁴⁾	GND
24	GND	S2AD[1]	+5V ⁽⁴⁾	Reserved	S2AD[0]	ACK64#	GND
23	GND	+3.3V ⁽⁴⁾	S2AD[4]	S2AD[3]	+5V ⁽⁴⁾	S2AD[2]	GND
22	GND	S2AD[7]	GND	+3.3V ⁽⁴⁾	S2AD[6]	S2AD[5]	GND
21	GND	+3.3V ⁽⁴⁾	S2AD[9]	S2AD[8]	M66EN ⁽⁴⁾	S2C/BE[0]#	GND
20	GND	S2AD[12]	GND	Reserved	S2AD[11]	S2AD[10]	GND
19	GND	+3.3V ⁽⁴⁾	S2AD[15]	S2AD[14]	GND	S2AD[13]	GND
18	GND	S2SERR#	GND	+3.3V ⁽⁴⁾	S2PAR	S2C/BE[1]#	GND
17	GND	+3.3V ⁽⁴⁾	IPMB_SCL ⁽¹⁾	IPMB_SDA ⁽¹⁾	GND	S2PERR#	GND
16	GND	S2DEVSEL#	GND	Reserved	S2STOP#	S2LOCK#	GND
15	GND	+3.3V ⁽⁴⁾	S2FRAME#	S2IRDY#	GND	S2TRDY#	GND
12-14	KEY						
11	GND	S2AD[18]	S2AD[17]	S2AD[16]	GND	S2C/BE[2]#	GND
10	GND	S2AD[21]	GND	+3.3V ⁽⁴⁾	S2AD[20]	S2AD[19]	GND
9	GND	S2C/BE[3]#	GND	S2AD[23]	GND	S2AD[22]	GND
8	GND	S2AD[26]	GND	Reserved	AD[25]	AD[24]	GND
7	GND	S2AD[30]	S2AD[29]	S2AD[28]	GND	S2AD[27]	GND
6	GND	S2REQ0#	GND	+3.3V ⁽⁴⁾	S2CLK	S2AD[31]	GND
5	GND	Reserved	Reserved	S2PCIRST#	GND	S2GNT0#	GND
4	GND	IPMB_PWR ⁽¹⁾	HEALTHY# ⁽¹⁾	Reserved	INTP ⁽¹⁾	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V ⁽⁴⁾	INTD#	GND
2	GND	TCK ⁽²⁾	+5V ⁽⁴⁾	TMS ⁽²⁾	TDO ⁽¹⁾	TDI ⁽²⁾	GND
1	GND	+5V ⁽⁴⁾	Reserved	TRST# ⁽²⁾	Reserved	+5V ⁽⁴⁾	GND
Pin	Z	A	B	C	D	E	F

Table 16: CompactPCI J4 pin assignments

2.1.13 CompactPCI J5 Pin Assignments

Pin	Z	A	B	C	D	E	F
22	GND	Reserved	Reserved	Reserved	Reserved	Reserved	GND
21	GND	S2PCLK6	GND	LANLED2	Reserved	Reserved	GND
20	GND	S2PCLK5	GND	SDD7	GND	SIDERST#	GND
19	GND	GND	GND	SDD9	SDD6	SDD8	GND
18	GND	SDD4	SDD11	SDD10	GND	SDD5	GND
17	GND	SDD12	GND	Reserved	S2REQ6#	S2GNT6#	GND
16	GND	SDD3	SDD13	Reserved	GND	SDD2	GND
15	GND	SDD1	GND	Reserved	S2REQ5#	S2GNT5#	GND
14	GND	SDDREQ	SDD14	SDD0	GND	SDD15	GND
13	GND	SDIORDY	GND	Reserved	SDIOW#	SDIOR#	GND
12	GND	SPDIAG	SDCS16#	SDDACK#	GND	SDIRQ15	GND
11	GND	SDA0	GND	Reserved	SDA2	SDA1	GND
10	GND	GREEN	SDACT#	SDCS3#	GND	SDCS1#	GND
9	GND	HSYNC	GND	Reserved	RED	BLUE	GND
8	GND	DDCCLK	DDCDAT	SPDLED2	GND	VSYNC	GND
7	GND	OCJ1	GND	Reserved	LANLED1	SPDLED1	GND
6	GND	USBP1M	USBP1P	DTR2#	GND	RXD2	GND
5	GND	DCD2#	GND	Reserved	TXD2	RI2#	GND
4	GND	Reserved	CTS2#	RTS2#	GND	DSR2#	GND
3	GND	S2CLK4	GND	S2GNT3#	S2REQ4#	S2GNT4#	GND
2	GND	S2CLK2	S2CLK3	Reserved	S2GNT2#	S2REQ3#	GND
1	GND	S2CLK1	GND	S2REQ1#	S2GNT1#	S2REQ2#	GND
Pin	Z	A	B	C	D	E	F

Table 17: CompactPCI J5 pin assignments

Note:

- (1) These signals are not connected.
 - (2) These signals are pulled high on board.
 - (3) These signals are pulled low on board.
 - (4) These power pins are used for cPCI-R6760S and cPCI-R6760D. If backplane has any power pins connected to those pins, it will not allow operators to remove or insert cPCI-6760D front board in live system.
-

-
- (5) ENUM# is connected to a BIOS programmable circuitry then connected to IRQ 3 or IRQ 9 according to the hardware configuration. There is a BIOS setting to Enable/Disable this 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 system slot. And customer should enable ENUM# function in cPCI-6760D BIOS setting. (When R283 and R284 are installed with 0-ohm resistors, ENUM# is routed through IRQ9. If R283, R284 are removed and R281 and R282 are installed with 0-ohm resistors, ENUM# is routed through IRQ3.)
 - (6) M66EN are tied to ground. PCI bus just can run in 33MHz.
 - (7) In backplane, BSEL must tie to ground to enable "self-hot-swap" controller.
 - (8) IDSEL are tied to ground.
-

2.1.14 PMC Slot Pin Assignments J11

J11 pin assignment			
Signal	Pin	Pin	Signal
TCK ⁽³⁾	1	2	-12V
GND	3	4	INTA#
INTB#	5	6	INTC#
BUSMODE1# ⁽¹⁾	7	8	+5V
INTD#	9	10	RESERVED ⁽¹⁾
GND	11	12	+3.3V
CLOCK	13	14	GND
GND	15	16	GNT#
REQ#	17	18	+5V
PMCVIO ⁽⁴⁾	19	20	AD[31]
AD[28]	21	22	AD[27]
AD[25]	23	24	GND
GND	25	26	C/BEJ[3]#
AD[22]	27	28	AD[21]
AD[19]	29	30	+5V
PMCVIO ⁽⁴⁾	31	32	AD[17]
FRAME#	33	34	GND
GND	35	36	IRDY#
DEVSEL#	37	38	+5V
GND	39	40	LCOK#
RESERVED ⁽¹⁾	41	42	RESERVED ⁽¹⁾
PAR	43	44	GND
PMCVIO ⁽⁴⁾	45	46	AD[15]
AD[12]	47	48	AD[11]
AD[9]	49	50	+5V
GND	51	52	C/BEJ[0]#
AD[6]	53	54	AD[5]
AD[4]	55	56	GND
PMCVIO ⁽⁴⁾	57	58	AD[3]
AD[2]	59	60	AD[1]
AD[0]	61	62	+5V
GND	63	64	REQ64 # ⁽²⁾

Table 18: PMC Slot Pin Assignments J11

2.1.15 PMC Slot Pin Assignments J12

J12 pin assignment			
Signal	Pin	Pin	Signal
+12V	1	2	TRST# ⁽³⁾
TMS ⁽²⁾	3	4	RESERVED ⁽¹⁾
TDI ⁽²⁾	5	6	GND
GND	7	8	RESERVED ⁽¹⁾
RESERVED ⁽¹⁾	9	10	RESERVED ⁽¹⁾
BUSMODE2	11	12	+3.3V
PCIREST#	13	14	BUSMODE3# ⁽³⁾
+3.3V	15	16	BUSMODE4# ⁽³⁾
PME#	17	18	GND
AD[30]	19	20	AD[29]
GND	21	22	AD[26]
AD[24]	23	24	+3.3V
IDSEL#	25	26	AD[23]
+3.3V	27	28	AD[20]
AD[18]	29	30	GND
AD[16]	31	32	C/BEJ2#
GND	33	34	RESERVED ⁽¹⁾
TRDY#	35	36	+3.3V
GND	37	38	STOP#
PERR#	39	40	GND
+3.3V	41	42	SERR#
C/BEJ1	43	44	GND
AD[14]	45	46	AD13
M66EN	47	48	AD10
AD[8]	49	50	+3.3V
AD[7]	51	52	RESERVED ⁽¹⁾
+3.3V	53	54	RESERVED ⁽¹⁾
RESERVED ⁽¹⁾	55	56	GND
RESERVED ⁽¹⁾	57	58	RESERVED ⁽¹⁾
GND	59	60	RESERVED ⁽¹⁾
ACK64#	61	62	GND
GND	63	64	RESERVED ⁽¹⁾

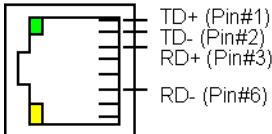
Table 19: PMC Slot Pin Assignments J12

Note:

- (1) These signals are not connected.
 - (2) These signals are pulled high on board.
 - (3) These signals are pulled low on board.
 - (4) PMC VIO power lines are resistors selectable. The default factory setting is tight to 5V by 0-ohm resistors R46 and R48. When the R46 and R48 are removed, and R47 and R49 are installed with 0-ohm resistors, the PMC VIO is 3.3V.
 - (5) M66EN are tied to ground. PCI bus just can run in 33MHZ.
-

2.1.16 LAN Port Indicators (Integrated in LAN1 (CN6) and LAN2 (CN7))

Green LED



Amber LED

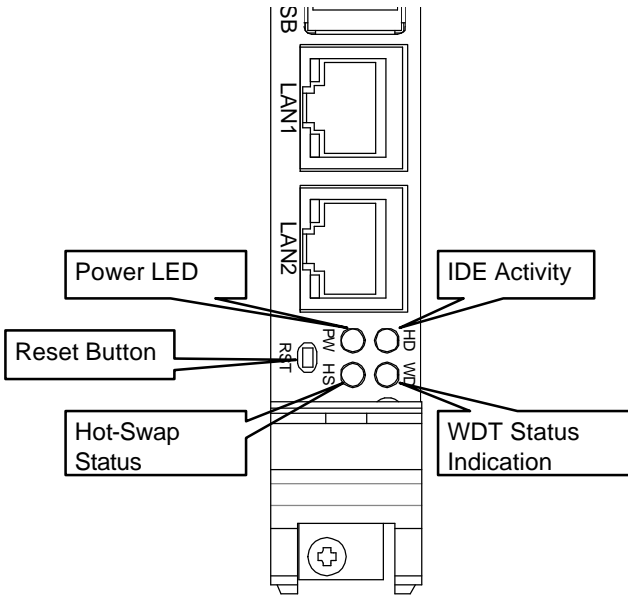
Amber LED 10/100Mbps Status	Description
OFF	10Mbps transfer rate
ON	100Mbps transfer rate

Table 20: Amber LED indication in LAN port

Green LED Link/Activity Status	Description
OFF	No link
ON	Connecting
Blinking	Active/Data transferring

Table 21: Green LED indication in LAN port

2.1.17 IDE Activity LED Indication



Red LED	Description
OFF	EIDE is not active
ON	Any one EIDE device is active

Table 22: IDE Activity LED indication

2.1.18 Power LED Indication

Green LED	Description
OFF	System is not power-on or power failed
ON	System is power-on

Table 23: Power LED indication

2.1.19 WDT LED Indication

Amber LED	Description
OFF	WDT is not enable
Blinking	WDT is enable

Table 24: WDT LED indication

2.1.20 Self-Hot-Swap LED Indication

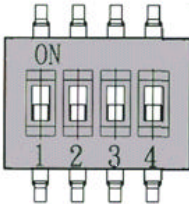
Blue LED	Description
OFF	Normal operation
ON	System is in hot swap mode, is safe to remove

Table 25: Self-hot-swap LED indication

2.1.21 LAN1, LAN2 Front and Rear I/O Connecting Selection

cPCI-6760D supports dual Ethernet connection by front I/O and rear I/O, which provides user the benefit of wiring flexibility. However, for the best signal integrity, it is not allowed to wire more than one connection interface from one Ethernet controller, otherwise, it will result in network instability, poor connectivity, poor compatibility, shorter wiring distance and lower performance. We design a circuitry that allow customer can choose either front I/O or rear I/O for the most suitable wiring by setting the mini switch. There are four mini switch located on the bottom side (solder side) of cPCI-6760D. Please refer to the following information to choose either front I/O or rear I/O Ethernet connection.

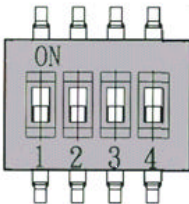
S1, S2: LAN1 Connecting Selection



LAN 1 Connecting	Switch S1		Switch S2	
	Pin#	State	Pin#	State
Front I/O	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 I/O	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 26: LAN1 Connecting Selection

S3, S4: LAN2 Connecting Selection



LAN 2 Connecting	Switch S3		Switch S4	
	Pin#	State	Pin#	State
Front I/O	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 I/O	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 27: LAN2 Connecting Selection

- ⚠ Don't set both S1 and S2 with "ON" or set both S3 and S4 with "ON" at the same time. It may cause Ethernet malfunction or damage the board or devices.

2.2 Jumpers, Connectors and LED Indicators on the cPCI-R6760D

The jumpers on the cPCI-R6760D rear board allow you to configure your CPU module according to the needs of your applications. If you have doubts about the best jumper configuration for your needs, contact your dealer or sales representative.

The connectors on the cPCI-R6760D rear board allows you to connect devices such as keyboard, mouse, VGA, COM port, Ethernet, USB and printer port etc.

The LED indicators on the cPCI-R6760D rear board show you the information regarding to your system's status.

The following information lists the jumpers, connectors and LEDs on cPCI-R6760D rear board and their respective functions.

Jumper Setting Information for cPCI-R6760D Rear Board

2.2.1	JP2~5 COM2 Mode Selection on cPCI-R6760D Rear Board.....	46
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Connector Pin Assignments Information for cPCI-R6760D Rear Board

2.2.2	Keyboard Connector (CN13).....	47
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2.2.9	USB (Port B) Connector (CN9).....	49
2.2.10	IDE Interface (40-pin, CN2, CN4).....	50
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2.2.12	CompactPCI rJ3 Pin Assignments.....	52
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LED Information for cPCI-R6760D Rear Board

2.2.14	LAN Port Indicators (Integrated in LAN1 (CN7) and LAN2 (CN8)).....	54
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- Some I/O ports support connection either by front I/O or rear I/O. However, please connect device either by front I/O or by rear I/O for one I/O function. Don't connect devices to one I/O function port on front panel and rear panel at the same time. It may cause I/O device damage or the system module damage and the warranty will be void.
-

2.2.1 JP2~5 COM2 Mode Selection on cPCI-R6760D Rear Board

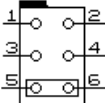
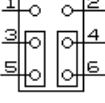
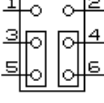
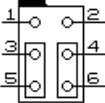
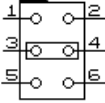
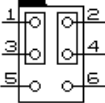
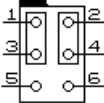
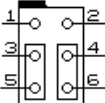
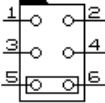
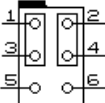
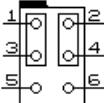
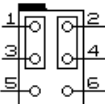
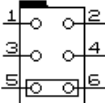
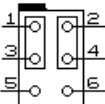
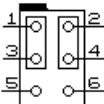
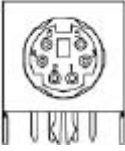
Type	JP5	JP4	JP3	JP2
RS-232 (Default)	unused	 5-6	 3-5 4-6	 3-5 4-6
RS-422	 3-5 4-6	 3-4	 1-3 2-4	 1-3 2-4
RS-485	 3-5 4-6	 1-2	 1-3 2-4	 1-3 2-4
RS-485+	 1-3 2-4	 1-2	 1-3 2-4	 1-3 2-4

Table 28: JP2~5 COM2 Mode Selection on cPCI-R6760D rear board

Note: RS-485+ is an advanced feature that enable the hardware auto-redirection function on RS-485 network. For the conventional RS-485 network connection, user has to define the RS-485 port as transmission or receiving by software.

2.2.2 Keyboard Connector (CN13)



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 29: Keyboard Connector (CN13) on cPCI-R6760D rear board

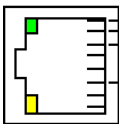
2.2.3 Mouse Connector (CN12)



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 30: Mouse Connector (CN12) on cPCI-R6760D rear board

2.2.4 Ethernet Connectors (CN7, CN8)

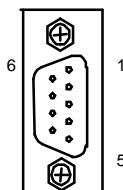


TD+ (Pin#1)
 TD- (Pin#2)
 RD+ (Pin#3)
 RD- (Pin#6)

Pin #	Signal Name
1	TD+
2	TD-
3	RD+
6	RD-

Table 31: Ethernet Connector LAN1 (CN7) and LAN2 (CN8) on cPCI-R6760D rear board

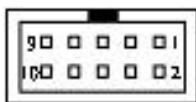
2.2.5 Serial Port COM2 Connector (CN10)



Pin #	RS-232 Mode	RS-422	RS-485
1	DCD, Data carrier detect	TX-	DATA-
2	RXD, Receive data	TX+	DATA+
3	TXD, Transmit data	RX+	NC
4	DTR, Data terminal ready	RX-	NC
5	GND, ground	GND	GND
6	DSR, Data set ready	NC	NC
7	RTS, Request to send	NC	NC
8	CTS, Clear to send	NC	NC
9	RI, Ring indicator	NC	NC

Table 32: Serial Ports COM2 (CN10) on cPCI-R6760D rear board faceplate

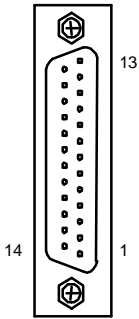
2.2.6 Serial Port COM1 Pin Headers (CN5)



Pin #	Signal Name
1	DCD, Data carrier detect
3	RXD, Receive data
5	TXD, Transmit data
7	DTR, Data terminal ready
9	GND, ground
2	DSR, Data set ready
4	RTS, Request to send
6	CTS, Clear to send
8	RI, Ring indicator
10	NC, No connection

Table 33: Serial Ports COM1 (CN5) pin headers on cPCI-R6760D rear board

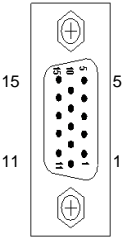
2.2.7 Parallel Port Connector (CN11)



Signal Name	Pin #	Pin #	Signal Name
Line printer strobe	1	14	AutoFeed
PD0, parallel data 0	2	15	Error
PD1, parallel data 1	3	16	Initialize
PD2, parallel data 2	4	17	Select
PD3, parallel data 3	5	18	Ground
PD4, parallel data 4	6	19	Ground
PD5, parallel data 5	7	20	Ground
PD6, parallel data 6	8	21	Ground
PD7, parallel data 7	9	22	Ground
ACK, acknowledge	10	23	Ground
Busy	11	24	Ground
Paper empty	12	25	Ground
Select	13	N/A	N/A

Table 34: Parallel Ports LPT1 (CN11) on cPCI-R6760D rear board faceplate

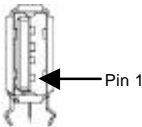
2.2.8 VGA Connector (CN6)



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 35: VGA Connector (CN6) on cPCI-6760D front board

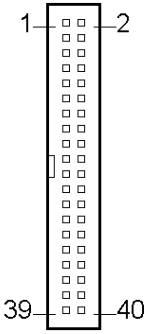
2.2.9 USB (Port B) Connector (CN9)



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

Table 36: USB Connector (CN9) on cPCI-R6760D rear board faceplate

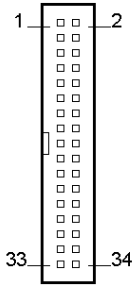
2.2.10 IDE Interface (40-pin, CN2, CN4)



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
DLOW-	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 37: Primary IDE channel (CN2) and secondary IDE channel (CN4) on cPCI-R6760D rear board

2.2.11 FDD Interface (34-pin, CN3)



Signal	Pin #	Pin #	Signal
Ground	1	2	DRV DEN0
Ground	3	4	NC
NC	5	6	DRV DEN1
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 38: FDD Interface (CN3) on cPCI-R6760D

2.2.12 CompactPCI rJ3 Pin Assignments

Pin	Z	A	B	C	D	E	F
19	GND	PDRST#	PDCS16#	PDIORDY	Reserved	PDIRQ14	GND
18	GND	PDACT#	Reserved	PDCS3#	PDCS1#	PPDIAG	GND
17	GND	PDD15	PDD14	PDD13	PDD12	Reserved	GND
16	GND	PDD11	PDD10	PDD9	PDD8	PDDACK#	GND
15	GND	PDA0	PDA1	+5V	PDA2	PDDREQ	GND
14	GND	PDD7	PDD6	PDD5	PDD4	PDIOW#	GND
13	GND	PDD3	PDD2	PDD1	PDD0	PDIOR#	GND
12	GND	DS0#	DRV DEN1	MTR0#	INDEX#	WDATA#	GND
11	GND	DS1#	DSKCHG	MTR1#	DRV DEN0	RDATA#	GND
10	GND	WRTPRT#	HDSEL#	FDIR#	TRACK0#	STEP#	GND
9	GND	WGATE#	ERRORP#	AUTOFD	PBUSY	Reserved	GND
8	GND	PE	SLCTIN#	+5V	PSTROB#	Reserved	GND
7	GND	PPD7	PPD6	PPD5	PPD4	PINIT3	GND
6	GND	PPD3	PPD2	PPD1	PPD0	PACK#	GND
5	GND	Reserved	MSDATA	PCBEEP	KBDATA	SLCT	GND
4	GND	Reserved	MSCLK	+5V	KBCLK	RXD1	GND
3	GND	CTS1#	RTS1#	DSR1#	DCD1#	TXD1	GND
2	GND	TDP1	TDN1	RI1#	DTR1#	TDN2	GND
1	GND	RDP2	RDN2	RDP1	RDN1	TDP2	GND
Pin	Z	A	B	C	D	E	F

Table 39: CompactPCI rJ3 pin assignments on cPCI-R6760D rear board

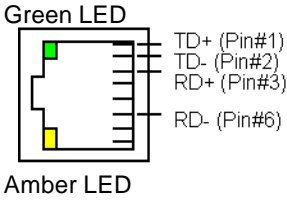
2.2.13 CompactPCI rJ5 Pin Assignments (AB type connector)

Pin	Z	A	B	C	D	E	F
22	GND	Reserved ⁽¹⁾	Reserved ⁽¹⁾	Reserved ⁽¹⁾	Reserved ⁽¹⁾	Reserved ⁽¹⁾	GND
21	GND	S2PCLK6	GND	LANLED2	+5V	+5V	GND
20	GND	S2PCLK5	GND	SDD7	GND	SIDERST#	GND
19	GND	GND	GND	SDD9	SDD6	SDD8	GND
18	GND	SDD4	SDD11	SDD10	GND	SDD5	GND
17	GND	SDD12	GND	Reserved ⁽¹⁾	S2REQ6#	S2GNT6#	GND
16	GND	SDD3	SDD13	Reserved ⁽¹⁾	GND	SDD2	GND
15	GND	SDD1	GND	Reserved ⁽¹⁾	S2REQ5#	S2GNT5#	GND
14	GND	SDDREQ	SDD14	SDD0	GND	SDD15	GND
13	GND	SDIORDY	GND	V(I/O) ⁽¹⁾	SDIOW#	SDIOR#	GND
12	GND	SPDIAG	SDCS16#	SDDACK#	GND	SDIRQ15	GND
11	GND	SDA0	GND	V(I/O) ⁽¹⁾	SDA2	SDA1	GND
10	GND	GREEN	SDACT#	SDCS3#	GND	SDCS1#	GND
9	GND	HSYNC	GND	V(I/O) ⁽¹⁾	RED	BLUE	GND
8	GND	DDCCLK	DDCDAT	SPDLED2	GND	VSYNC	GND
7	GND	OCJ1	GND	V(I/O) ⁽¹⁾	LANLED1	SPDLED1	GND
6	GND	USBP1M	USBP1P	DTR2#	GND	RXD2	GND
5	GND	DCD2#	GND	V(I/O) ⁽¹⁾	TXD2	RI2#	GND
4	GND	V(I/O)	CTS2#	RTS2#	GND	DSR2#	GND
3	GND	S2CLK4	GND	S2GNT3#	S2REQ4#	S2GNT4#	GND
2	GND	S2CLK2	S2CLK3	Reserved ⁽¹⁾	S2GNT2#	S2REQ3#	GND
1	GND	S2CLK1	GND	S2REQ1#	S2GNT1#	S2REQ2#	GND
Pin	Z	A	B	C	D	E	F

Table 40: CompactPCI J5 pin assignments on cPCI-R6760D rear board

Note: (1) These signals are not connected.

2.2.14 LAN Port Indicators (Integrated in LAN1 (CN7) and LAN2 (CN8))



Amber LED 10/100Mbps Status	Description
OFF	10Mbps transfer rate
ON	100Mbps transfer rate

Table 41: Amber LED indication in LAN port on cPCI-R6760D rear board

Green LED Link/Activity Status	Description
OFF	No link
ON	Connecting
Blinking	Active/Data transferring

Table 42: Green LED indication in LAN port on cPCI-R6760D rear board

2.3 Jumpers, Connectors and LED Indicators on the cPCI-R6760S

The jumpers on the cPCI-R6760S rear board allow you to configure your CPU module according to the needs of your applications. If you have doubts about the best jumper configuration for your needs, contact your dealer or sales representative.

The connectors on the cPCI-R6760S rear board allow you to connect devices such as keyboard, mouse, COM port, Ethernet, USB and SCSI etc.

The LED indicators on the cPCI-R6760S rear board show you the information regarding to your system's status.

The following information lists the jumpers, connectors and LEDs on cPCI-R6760S rear board and their respective functions.

Jumper Setting Information for cPCI-R6760D Rear Board

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Connector Pin Assignments Information for cPCI-R6760D Rear Board

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LED and Switch Setting Information for cPCI-6760D Front Board

2.3.19 LAN Port Indicators (Integrated in LAN1 to LAN4)..... 69

-
- Some I/O ports support connection either by front I/O or rear I/O. However, please connect device either by front I/O or by rear I/O for one I/O function. Don't connect devices to one I/O function port on front panel and rear panel at the same time. It may cause I/O device damage or the system module damage and the warranty will be void.
-

2.3.1 JP2 cPCI-R6760S LAN3 Enable/Disable


LAN3	JP2
Disable	3 2 1 
Enable (Default)	3 2 1 

Table 43: JP2 cPCI-R6760S LAN3 Enable/Disable

2.3.2 JP3 cPCI-R6760S LAN4 Enable/Disable



LAN4	JP3
Disable	3 2 1 
Enable (Default)	3 2 1 

Table 44: JP3 cPCI-R6760S LAN4 Enable/Disable

2.3.3 JP4~7 COM2 Mode Selection on cPCI-R6760S Rear Board

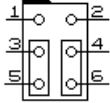
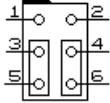
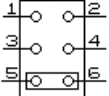
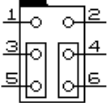
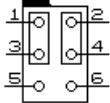
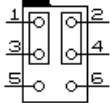
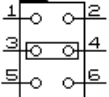
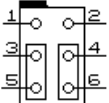
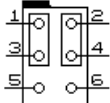
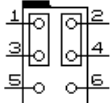
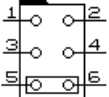
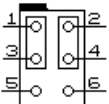
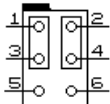
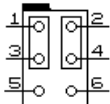
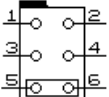
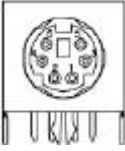
Type	JP7	JP6	JP5	JP4
RS-232 (Default)	unused	 3-5 4-6	 3-5 4-6	 5-6
RS-422	 3-5 4-6	 1-3 2-4	 1-3 2-4	 3-4
RS-485	 3-5 4-6	 1-3 2-4	 1-3 2-4	 1-2
RS-485+	 1-3 2-4	 1-3 2-4	 1-3 2-4	 1-2

Table 45: JP4~7 COM2 Mode Selection on cPCI-R6760S rear board

Note: RS-485+ is an advanced feature that enable the hardware auto-redirection function on RS-485 network. For the conventional RS-485 network connection, user has to define the RS-485 port as transmission or receiving by software.

2.3.4 Keyboard Connector (CN22)



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 46: Keyboard Connector on cPCI-R6760S rear board

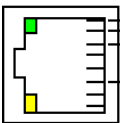
2.3.5 Mouse Connector (CN21)



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 47: Mouse Connector on cPCI-R6760S rear board

2.3.6 Ethernet Connectors (CN14~17)

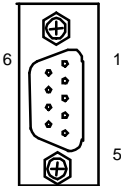


TD+ (Pin#1)
 TD- (Pin#2)
 RD+ (Pin#3)
 RD- (Pin#6)

Pin #	Signal Name
1	TD+
2	TD-
3	RD+
6	RD-

Table 48: Ethernet Connector LAN1 ~ LAN4 on cPCI-R6760S rear board

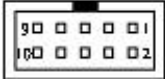
2.3.7 Serial Port COM2 Connector (CN19)



Pin #	RS-232 Mode	RS-422	RS-485
1	DCD, Data carrier detect	TX-	DATA-
2	RXD, Receive data	TX+	DATA+
3	TXD, Transmit data	RX+	NC
4	DTR, Data terminal ready	RX-	NC
5	GND, ground	GND	GND
6	DSR, Data set ready	NC	NC
7	RTS, Request to send	NC	NC
8	CTS, Clear to send	NC	NC
9	RI, Ring indicator	NC	NC

Table 49: Serial Ports COM2 (CN19) on cPCI-R6760S rear board faceplate

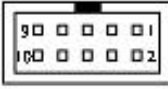
2.3.8 Serial Port COM2 Pin Headers (Reserved, CN13)



Pin #	Signal Name	RS-422	RS-485
1	DCD, Data carrier detect	TX-	DATA-
3	RXD, Receive data	TX+	DATA+
5	TXD, Transmit data	RX+	NC
7	DTR, Data terminal ready	RX-	NC
9	GND, ground	GND	GND
2	DSR, Data set ready	NC	NC
4	RTS, Request to send	NC	NC
6	CTS, Clear to send	NC	NC
8	RI, Ring indicator	NC	NC
10	NC, No connection	NC	NC

Table 50: Serial Ports COM2 pin headers (CN13) on cPCI-R6760S rear board

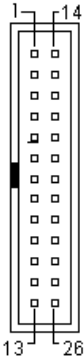
2.3.9 Serial Port COM1 Pin Headers (Reserved, CN8)



Pin #	Signal Name
1	DCD, Data carrier detect
3	RXD, Receive data
5	TXD, Transmit data
7	DTR, Data terminal ready
9	GND, ground
2	DSR, Data set ready
4	RTS, Request to send
6	CTS, Clear to send
8	RI, Ring indicator
10	NC, No connection

Table 51: Serial Ports COM1 pin headers (CN8) on cPCI-R6760S rear board

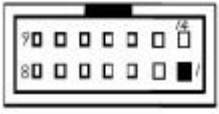
2.3.10 Parallel Port Pin Headers (Reserved, CN1)



Signal Name	Pin #	Pin #	Signal Name
Line printer strobe	1	14	AutoFeed
PD0, parallel data 0	2	15	Error
PD1, parallel data 1	3	16	Initialize
PD2, parallel data 2	4	17	Select
PD3, parallel data 3	5	18	Ground
PD4, parallel data 4	6	19	Ground
PD5, parallel data 5	7	20	Ground
PD6, parallel data 6	8	21	Ground
PD7, parallel data 7	9	22	Ground
ACK, acknowledge	10	23	Ground
Busy	11	24	Ground
Paper empty	12	25	Ground
Select	13	N/A	N/A

Table 52: Parallel Ports Pin Headers (CN1) on cPCI-R6760S rear board

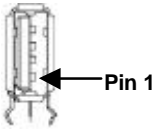
2.3.11 VGA Pin Headers (Reserved, CN5)



Pin #	Signal Name	Description
1	DDCDAT	DDC Data for CRT
2	DDCCLK	DDC CLK for CRT
3	RED	Analog RED
4	GREEN	Analog GREEN
5	BLUE	Analog BLUE
6	HSYNC	Horizontal sync
7	VSYNC	Vertical sync
8	+5V	+5V
9	NC	No Connect
10	GND	Ground
11	GND	Ground
12	GND	Ground
13	GND	Ground
14	GND	Ground

Table 53: VGA pin headers (CN5) on cPCI-R6760S rear board

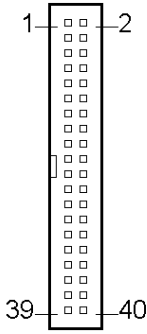
2.3.12 USB (Port B) Connector (CN18)



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

Table 54: USB Connector (CN18) on cPCI-R6760S rear board faceplate

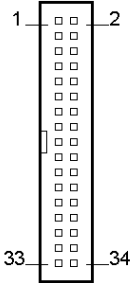
2.3.13 IDE Interface (40-pin, CN2, CN3)



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	(keypin)
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 55: Primary IDE channel (CN3) and secondary IDE channel (CN2) on cPCI-R6760S rear board

2.3.14 FDD Interface (34-pin, CN4)



Signal	Pin #	Pin #	Signal
Ground	1	2	DRVDE#0
Ground	3	4	NC
NC	5	6	DRVDE#1
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 56: FDD Interface (CN4) on cPCI-R6760S

2.3.15 External Ultra-160 SCSI Interface (CN20)

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
LVDPLP	27	28	LVDPLM
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 57: External Ultra-160 SCSI Interface (CN20) on cPCI-R6760S faceplate

2.3.16 CompactPCI rJ3 Pin Assignments (cPCI-R6760S)

CompactPCI rJ3: COM1, KB, MS, FDD, PRT, IDE1, LAN (Direct Rear I/O)							
PIN	Z	A	B	C	D	E	F
19	GND	PDRST#	PDCS16#	PDIORDY	-12V	PDIRQ14	GND
18	GND	PDACT#	Reserved	PDCS3#	PDCS1#	PPDIAG	GND
17	GND	PDD15	PDD14	PDD13	PDD12	Reserved	GND
16	GND	PDD11	PDD10	PDD9	PDD8	PDDACK#	GND
15	GND	PDA0	PDA1	+5V	PDA2	PDDREQ	GND
14	GND	PDD7	PDD6	PDD5	PDD4	PDIOW#	GND
13	GND	PDD3	PDD2	PDD1	PDD0	PDIOR#	GND
12	GND	DS0#	DRV DEN1	MTR0#	INDEX#	WDATA#	GND
11	GND	DS1#	DSKCHG	MTR1#	DRV DEN0	RDATA#	GND
10	GND	WRTPRT#	HDSEL#	FDIR#	TRACK0#	STEP#	GND
9	GND	WGATE#	ERRORP#	AUTOFD	PBUSY	Reserved	GND
8	GND	PE	SLCTIN#	+5V	PSTROB#	Reserved	GND
7	GND	PPD7	PPD6	PPD5	PPD4	PINIT3	GND
6	GND	PPD3	PPD2	PPD1	PPD0	PACK#	GND
5	GND	Reserved	MSDATA	PCBEEP	KBDATA	SLCT	GND
4	GND	Reserved	MSCLK	+5V	KBCLK	RXD1	GND
3	GND	CTS1#	RTS1#	DSR1#	DCD1#	TXD1	GND
2	GND	TDP1	TDN1	RI1#	DTR1#	TDN2R	GND
1	GND	RDP2	RDN2	RDP1	RDN1	TDP2	GND

Table 58: CompactPCI rJ3 pin assignments on cPCI-R6760S rear board

2.3.17 CompactPCI rJ4 Pin Assignments (cPCI-R6760S)

CompactPCI rJ4:32-bit PCI (From 2 nd Bridge)							
PIN	Z	A	B	C	D	E	F
25	GND	+5V	Reserved ⁽¹⁾	Reserved ⁽¹⁾	+3.3V	+5V	GND
24	GND	S2AD[1]	+5V	Reserved ⁽¹⁾	S2AD[0]	Reserved ⁽¹⁾	GND
23	GND	+3.3V	S2AD[4]	S2AD[3]	+5V	S2AD[2]	GND
22	GND	S2AD[7]	GND	+3.3V	S2AD[6]	S2AD[5]	GND
21	GND	+3.3V	S2AD[9]	S2AD[8]	GND	S2C/B3[0]#	GND
20	GND	S2AD[12]	GND	Reserved ⁽¹⁾	S2AD[11]	S2AD[10]	GND
19	GND	+3.3V	S2AD[15]	S2AD[14]	GND	S2AD[13]	GND
18	GND	S2SERR#	GND	+3.3V	S2PAR	S2C/BE[1]#	GND
17	GND	+3.3V	Reserved ⁽¹⁾	Reserved ⁽¹⁾	GND	S2PERR#	GND
16	GND	S2DEVSEL#	GND	Reserved ⁽¹⁾	SS2TOP#	S2LOCK#	GND
15	GND	+3.3V	S2FRAME#	S2IRDY#	GND	S2TRDY#	GND
12-14	KEY						
11	GND	S2AD[18]	S2AD[17]	S2AD[16]	GND	S2C/BE[2]#	GND
10	GND	S2AD[21]	GND	+3.3V	S2AD[20]	S2AD[19]	GND
9	GND	S2C/BE[3]#	GND	S2AD[23]	GND	S2AD[22]	GND
8	GND	S2AD[26]	GND	V(I/O)	AD[25]	AD[24]	GND
7	GND	S2AD[30]	S2AD[29]	S2AD[28]	GND	S2AD[27]	GND
6	GND	S2REQ0#	GND	+3.3V	S2CLK	S2AD[31]	GND
5	GND	Reserved ⁽¹⁾	Reserved ⁽¹⁾	S2PCIRST#	GND	S2GNT0#	GND
4	GND	Reserved ⁽¹⁾	HEALTHY#	V(I/O)	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	Reserved ⁽¹⁾	GND
2	GND	TCK ⁽²⁾	+5V	TMS ⁽²⁾	TDO ⁽¹⁾	TDI ⁽²⁾	GND
1	GND	+5V	Reserved ⁽¹⁾	TRST# ⁽²⁾	Reserved ⁽¹⁾	+5V	GND

Table 59: CompactPCI rJ4 pin assignments on cPCI-R6760S rear board

2.3.18 CompactPCI rJ5 Pin Assignments (cPCI-R6760S)

CompactPCI rJ5: 32-bit PCI(From 2 nd Bridge), IDE2, LAN, USB2, VGA, COM2 (R I/O)							
PIN	Z	A	B	C	D	E	F
22	GND	Reserved ⁽¹⁾	Reserved ⁽¹⁾	Reserved ⁽¹⁾	Reserved ⁽¹⁾	Reserved ⁽¹⁾	GND
21	GND	S2PCLK6	GND	LANLED2	+5V	+5V	GND
20	GND	S2PCLK5	GND	SDD7	GND	SIDERST#	GND
19	GND	GND	GND	SDD9	SDD6	SDD8	GND
18	GND	SDD4	SDD11	SDD10	GND	SDD5	GND
17	GND	SDD12	GND	Reserved ⁽¹⁾	S2REQ6#	S2GNT6#	GND
16	GND	SDD3	SDD13	Reserved ⁽¹⁾	GND	SDD2	GND
15	GND	SDD1	GND	Reserved ⁽¹⁾	S2REQ5#	S2GNT5#	GND
14	GND	SDDREQ	SDD14	SDD0	GND	SDD15	GND
13	GND	SDIORDY	GND	V(I/O) ⁽¹⁾	SDIOW#	SDIOR#	GND
12	GND	SPDIAG	SDCS16#	SDDACK#	GND	SDIRQ15	GND
11	GND	SDA0	GND	V(I/O) ⁽¹⁾	SDA2	SDA1	GND
10	GND	GREEN	SDACT#	SDCS3#	GND	SDCS1#	GND
9	GND	HSYNC	GND	V(I/O) ⁽¹⁾	RED	BLUE	GND
8	GND	DDCCLK	DDCDAT	SPDLED2	GND	VSYNC	GND
7	GND	OCJ1	GND	V(I/O) ⁽¹⁾	LANLED1	SPDLED1	GND
6	GND	USBP1M	USBP1P	DTR2#	GND	RXD2	GND
5	GND	DCD2#	GND	V(I/O) ⁽¹⁾	TXD2	R12#	GND
4	GND	V(I/O)	CTS2#	RTS2#	GND	DSR2#	GND
3	GND	S2CLK4	GND	S2GNT3#	S2REQ4#	S2GNT4#	GND
2	GND	S2CLK2	S2CLK3	Reserved ⁽¹⁾	S2GNT2#	S2REQ3#	GND
1	GND	S2CLK1	GND	S2REQ1#	S2GNT1#	S2REQ2#	GND

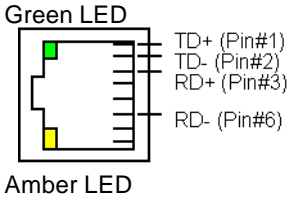
Table 60: CompactPCI rJ5 pin assignments on cPCI-R6760S rear board

Note: (1) These signals are not connected.

(2) These signals are pulled high on board.

(3) These signals are pulled low on board.

2.3.19 LAN Port Indicators (Integrated in LAN1 to LAN4)



Amber LED 10/100Mbps Status	Description
OFF	10Mbps transfer rate
ON	100Mbps transfer rate

Table 61: Amber LED indication in LAN port

Green LED Link/Activity Status	Description
OFF	No link
ON	Connecting
Blinking	Active/Data transferring

Table 62: Green LED indication in LAN port

3

Getting Start

This chapter provides information on how to install necessary components on the cPCI-6760D in order to set up a workable system. The topics covered are:

- CPU Installation
- Memory Installation
- CF Installation
- HDD Installation
- Device Connection for OS Installation
- Notice for Rear I/O Connection

3.1 CPU Installation

The cPCI-6760D CPU module supports Intel BGA2 Low Power Pentium-III/Celeron processors of 100 MHz front side bus (FSB) frequency.

The CPU on cPCI-6760D series products is soldered on the PCB (printed circuit board) in the factory. User doesn't need to install any CPU before to get the system start. The heatsink is also pre-mounted in the factory. We don't suggest user trying to remove the heatsink or CPU. It may cause system un-recoverable damage and the warranty will be void.

-
- Please do not try to replace the CPU on field or remove the heatsink. It will cause board defect and the warranty will be invalid.
-

3.2 Memory Installation

The cPCI-6760D CPU module supports two PC-100 144-pin SO-DIMM sockets for a maximum total memory of 512MB with optional ECC support. The memory type must be 3.3V SDRAM. The memory module can come with size of 32MB, 64MB, 128MB or 256MB PC-100 144-pin SO-DIMM. The 256MB SO-DIMM should be constructed by 16Mx8 SDRAM chips.

ADLINK's factory also provides the pre-mounting memory service for volume orders of OEM project on request. Please contact your dealer or ADLINK's sales representatives.

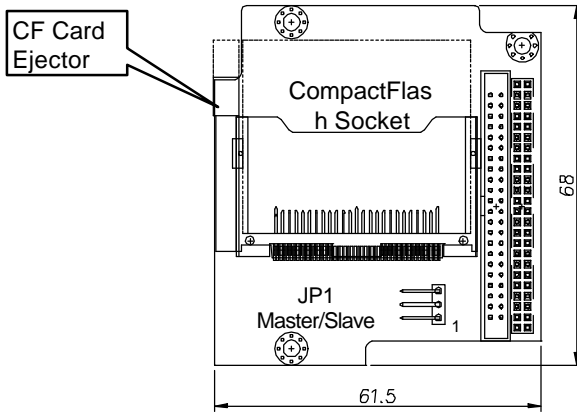
-
- Note:** Ensure that the RAM modules are firmed in the SO-DIMM sockets and not over height limitation, otherwise the components might be damaged when the CPU module is inserting into the chassis.
-

3.3 CF Installation

The CompactFlash Card (or called CF storage card) is widely applied on digital consumer devices like PDA, Digital Camera and MP3 player. However, the CF features anti-shock, anti-vibration, better environment tolerance, low power consumption, small form factor and higher reliability, plus standard interface with cost-effectiveness, it has been also widely accepted in the industrial and mission critical embedded application field. In cPCI-6760D, it is very easy to use CF card, user can find the CF card socket on DB-6760CF, which is the removable daughter board can be attached on cPCI-6760D by directly connecting the adaptor board to on-board 44-pin IDE (CN2) connector. DB-6760CF is designed for exchange with 2.5" ATA HDD on IDE interface. DB-6760CF supports both type-I and type-II CompactFlash storage device such as CF card or IBM MicroDrive.

If user purchases the OEM model, non-standard, customized or special configuration model, it may not come with DB-6760CF in the package. User can purchase the CF card adaptor (by the model name: DB-6760CF) as the optional kit to convert the IDE interface to CF card socket. Due to the CF card adaptor utilize the same IDE interface and the same space that 2.5" ATA HDD might use. So, user should aware to remove 2.5" ATA HDD (if any) first then install the CF card adaptor. Please refer to the section of HDD installation for the instruction of removing 2.5" ATA HDD.

3.3.1 DB-6760CF Outline, Jumper and Connectors



M/S Selection	JP1
Master (Default)	<p>3 2 1</p> <p>Pin 2 & 3 Short</p>
Slave	<p>3 2 1</p> <p>Jumper Open</p>

Table 63: JP1 DB-6760CF Master/Slave Setting

3.3.2 DB-6760CF Installation for cPCI-6760D and CF card notice

- Mount the DB-6760CF on cPCI-6760D's IDE connector (CN2). Please aware that pin 1 on DB-6760CF should be aligned with the pin 1 of cPCI-6760D's CN2.
- Fix the DB-6760CF & cPCI-6760D by screwing three hexagonal pillars between them. Let the hole in front of the CF socket unscrewed.
- Set the CF card as master or slave upon application request.
- Insert CF card into socket, then check the CF card is fixed enough
- Mount the third screw on the upper side of CF card to prevent CF card drop out during heavy vibration.

Note: The CF card on front board utilize Secondary EIDE interface (IDE2) which is also wiring to rear board via CompactPCI connector J5. User need to pay attention to the master/slave setting to avoid conflicting between devices. The default jumper setting on DB-6760CF is set on master. Because each EIDE interface can only supports up to two IDE devices, the IDE2 interface on rear I/O could only apply another one IDE device, and suggest to be set on slave.

3.3.3 Removing DB-6760CF from cPCI-6760D

- Remove the upper screw which prevents CF card drop out
- Remove the CF card by push ejector
- Remove all screws & hexagonal pillars on the DB-6760CF
- Remove DB-6760CF carefully from the 44-pin IDE connector (CN2) of cPCI-6760D

3.4 HDD Installation

In cPCI-6760D, user can install one 2.5" ATA HDD or flash drive (e.g. FLASH2000 flash disk, FFD) which is 2.5" ATA HDD form factor. The factory default bare model are equipped with DB-6760CF, the removable CF card adaptor, not equipped with any HDD or FFD. If user want to install 2.5" ATA HDD for larger storage capacity or want to install FFD for more vibration tolerant, user can purchase the off-the-shelf 2.5" ATA HDD or FFD from the market. However, we recommend to use the product which is approved by ADLINK to ensure the best system stability. Due to the space limitation with better ventilation concern, it is only allowed to use low profile (or called slim type) 2.5" ATA HDD or FFD that thickness is not over than 9.5mm. Because of the CF card adaptor (DB-6760CF) utilize the same IDE interface and the same housing that 2.5" ATA HDD might use. So, user should aware to remove CF card adaptor (if any) first then install the 2.5" ATA HDD or FFD. Please refer to the section of "CF installation" for the instruction of removing CF card adaptor.

3.4.1 HDD/FFD Installation for cPCI-6760D

- Find the HDD accessory pack inside your original package. (If user purchases the OEM model, non-standard, customized or special configuration model, it may not come with HDD accessory pack inside the package. Please contact with ADLINK dealer or sales representative to purchase this accessory pack P/N: 58-00023-000.)
- Remove the DB-6760CF if exist, please refer to the section "CF Installation"
- Check the master/slave setting of your 2.5" ATA HDD
- Screw four copper hexagonal stand-offs on the bottom side of 2.5" ATA HDD
- Mount the HDD by using four M3 screws from cPCI-6760D's bottom side
- Connect the HDD and cPCI-6760D (CN2) by flat cable which included in the HDD accessory pack
- Check pin1 of the IDE connector, flat cable and HDD are all matched
- Reconfirm the flat cable, HDD and HDD supporting stand-off are all well fixed & connected

Note: The 2.5" ATA HDD on front board utilize Secondary EIDE interface (IDE2) which is also wiring to rear board via CompactPCI connector J5. User need to pay attention to the master/slave setting to avoid conflicting between devices. If user applies one 2.5" ATA HDD on front board and setting on master, the IDE2 interface on rear I/O could only apply one IDE device which is set on slave.

3.4.2 Removing HDD/FFD from cPCI-6760D

- Remove the four screws from bottom side that mounting on the copper stand-off
- Remove the 44-pin flat cable from the CN2 of cPCI-6760D and remove the cable from HDD
- Remove the copper stand-off from HDD

3.5 Device Connection for OS Installation

This section describe how to get start to install the OS into the 6U CompactPCI platform for the cPCI-6760D CPU module. The easiest way to install OS is by connecting ATAPI CD-ROM.

3.5.1 Using cPCI-6760D on ADLINK's cBP-6108, 6105, 6515 and 6402 series backplane

Due to cBP-6108 series backplane has the direct connection feature for J3/P3 and J5/P5 rear I/O of IDE interfaces, and the pin assignments are compatible with cPCI-6760D series product. user can easily connect 40-pin flat cable into IDE interface on the rear side of backplane. Then connect the flat cable into an ATAPI CD-ROM. If user has installed 2.5" ATA HDD or CF card on the front board, it is recommend to connect ATAPI CD-ROM to Primary IDE port on the cBP-6108 series backplane to avoid the possibility of master/slave confliction.

3.5.2 Using cPCI-6760D on other backplanes

For the usage of backplanes which are not compatible with the pin assignments for J3/P3 and J5/P5 rear I/O of IDE interfaces of cPCI-6760D, user can connect 40-pin flat cable into the IDE interface on cPCI-R6760 series rear board. Then connect the flat cable into an ATAPI CD-ROM. If user has installed 2.5" ATA HDD or CF card on the front board, it is recommend to connect ATAPI CD-ROM to Primary IDE port on the rear board to avoid the possibility of master/slave confliction. Please aware those backplane should support P3 to P5 (the CompactPCI sockets) with direct through I/O on system slot.

Note: The 2.5" ATA HDD or CF card on front board utilize Secondary EIDE interface (IDE2). Due to the cPCI-6760D front board supports rear I/O, the IDE2 interface is also wiring to rear I/O from CompactPCI connector J5. User have to pay attention that it only supports up to two IDE devices on each EIDE interface, and the master/slave setting should not conflict with each other. Due to almost the default setting of 2.5" ATA HDD or CF card is setting on master, if user want to connect ATAPI CD-ROM to the IDE2 interface on rear I/O, (including the rear I/O port on cBP-6108 backplane and cPCI-R6760 series rear board,) please check the master/slave setting does not conflict with the setting of the front board's HDD or CF card.

3.6 Notice for Rear I/O Connection

cPCI-6760D features fully integrated functionality with AGP-VGA display, dual Ethernet ports, 2S1P, 2USB, UDMA-33 IDE and driving Ultra-160 SCSI and two more Fast Ethernet. Some of them are implemented for rear I/O only and some of them are implemented to support both front I/O and rear I/O. This section describes the important notice for using the rear I/O connection. Please refer to Chapter 1 section 1.4 peripheral connectivity for the detailed information of each I/O.

3.6.1 The I/O implementation is only supported by rear I/O board

Several I/Os are only supported by rear I/O including COM2, LPT, FDD interface, USB2, speaker (buzzer), LAN3, LAN4 and SCSI. User should apply the proper rear I/O board to get those rear I/O functionality. Please refer to the cPCI-6760D Model Variations Comparison Table in Chapter 1 section 1.2 for the proper front board and rear board combinations.

-
- Please use the proper rear I/O transition module to enable the functions (I/O interfaces) on rear side. The board or system will be damaged if use the improper rear I/O transition module.
-

3.6.2 The I/O implementation is supported by both rear I/O and front I/O

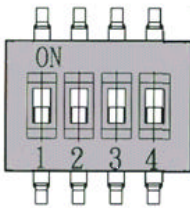
Several I/Os are supported by rear I/O and front I/O including keyboard, mouse, VGA display and Ethernet connection. User should apply the proper rear I/O board to get those rear I/O functionality. Please refer to the cPCI-6760D Model Variations Comparison Table in Chapter 1 section 1.2 for the proper front board and rear board combinations. However, user should keep it in mind that those I/Os can be either connected via front or rear side, not both.

-
- Please use the proper rear I/O transition module to enable the functions (I/O interfaces) on rear side. The board or system will be damaged if use the improper rear I/O transition module.
 - Please connect device either by front I/O or by rear I/O for one I/O function. Don't connect devices to one I/O function port on front panel and rear panel at the same time. It may cause I/O device damage or the system module damage and the warranty will be void.
-

3.6.3 LAN1, LAN2 Front and Rear I/O Connecting Selection

cPCI-6760D supports dual Ethernet connection by front I/O and rear I/O, which provides user the benefit of wiring flexibility. However, for the best signal integrity, it is not allowed to wire more than one connection interface from one Ethernet controller, otherwise, it will result in network instability, poor connectivity, poor compatibility, shorter wiring distance and lower performance. We design a circuitry that allow customer can choose either front I/O or rear I/O for the most suitable wiring by setting the mini switch. There are four mini switch located on the bottom side (solder side) of cPCI-6760D. Please refer to the following information to choose either front I/O or rear I/O Ethernet connection.

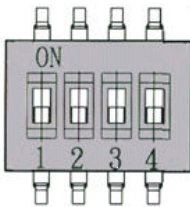
S1, S2: LAN1 Connecting Selection



LAN 1 Connecting	Switch S1		Switch S2	
	Pin#	State	Pin#	State
Front I/O	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 I/O	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 64: LAN1 Connecting Selection

S3, S4: LAN2 Connecting Selection



LAN 2 Connecting	Switch S3		Switch S4	
	Pin#	State	Pin#	State
Front I/O	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 I/O	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 65: LAN2 Connecting Selection

- ⚠ Don't set both S1 and S2 with "ON" or set both S3 and S4 with "ON" at the same time. It may cause Ethernet malfunction or damage the board or devices.

3.6.4 The FDD and IDE interfaces

If user needs only rear I/O connection of FDD and IDE interfaces, the user can consider apply cPCI-6760D with the backplane support FDD and IDE direct connection features (such as cBP-6108, 6105, 6309 or 6402 series backplane) for floppy drive and IDE devices connection. For this kind of application, user does not need to purchase rear board. If user uses other backplane which does not support FDD and IDE direct connection, the proper rear I/O board is required. However, user might wish to connect drives from backplane and also use the I/O function on rear I/O board. Please refer the following notices:

- ◆ For FDD connection: connect FDD cable either to backplane or to rear I/O board, don't connect both at the same time
- ◆ For IDE1 connection: user can connect 40-wire IDE cable to **both** backplane and rear board when the total cable length is not over 45 cm. User should aware the master/slave setting to prevent the setting confliction
- ◆ For IDE2 connection, when there is **no** IDE device on front board: user can connect 40-wire IDE cable to **both** backplane and rear board when the total cable length is not over 45 cm. User should aware the master/slave setting to prevent the setting confliction
- ◆ For IDE2 connection, when there is **one** IDE device on front board: user can connect 40-wire IDE cable to **either** backplane **or** rear board, **not both** at the same time. User should aware the master/slave setting to prevent the setting confliction

⚠ Please use the proper rear I/O transition module to enable the functions (I/O interfaces) on rear side. The board or system will be damaged if use the improper rear I/O transition module.

4

Driver Installation

To install the drivers and utility for the cPCI-6760D, please refer the detail installation information from this Chapter. We provide the basic information in this manual, however, for more detail installation information, such as non-Windows OS installation, please refer the extensive explanation inside the ADLINK CD. We put the chip drivers in the following directories:

Chipset driver	\\CHIPDRV\Chipset\440BX
VGA/AGP relative driver	\\CHIPDRV\VGA\SM721
LAN relative driver	\\CHIPDRV\LAN\100PDISK
Ultra-160 SCSI driver	\\CHIPDRV\SCSI\53C10XX
Watchdog relative library	\\CHIPDRV\WDT
Hardware Doctor Utility	\\Utility\HWDoctor\W8378X

In this users manual, the Bus-mastering IDE driver installation is not described because most of the Windows based OS will install those drivers automatically.

Due to the Windows NT is a none plug-and-play OS, we remind you some tips for installing the Windows NT here:

1. We suggest installing the LAN driver before installing any service pack.
2. We suggest installing the VGA/AGP driver after installing the service pack. Please make sure your service pack does support AGP, service pack 6 or higher is recommend.

3. Once your NT booting procedure is with warning, please check the Event Viewer to make sure what is the really problem. Once the Windows NT is with strange phenomenal which can not be solved, we suggest to re-install the Windows NT service pack, then install the driver in different sequence again.

4.1 VGA Drivers Installation

This chapter describes VGA driver installation for the onboard VGA controller **SM721**. The relative drivers are in the following ADLINK CD directory: **X:\CHIPDRV\VGA\SM721**, where X: is the location of the CD-ROM drive. The VGA drivers for Windows 98/95, Windows NT and Windows 2000 are included.

4.1.1 Driver Installation on Windows 2000

The Windows 2000 may install the standard VGA driver. We recommend you to manually installed the most updated driver, which shipped with ADLINK CD to guarantee the compatibility. After installing the Windows 2000, please update the new drivers by the following procedures.

1. Boot Windows 2000, Click **Start**. Select **Settings** then double-click the **Control Panel**.
2. Double-click on the **System** icon, click **Hardware** tab, click **Device Manager** button.
3. Double-click either on the *Display Adapters* or *Other Devices* entry, Double-click the *Video Controller* or Silicon Motion Lynx3DM entry.
4. Click on the **Driver** tab, then click **Update Driver...** button.
5. An Upgrade Device Driver Wizard windows, click **NEXT>**.
6. Select *Display a list of ...* and click **NEXT**.
7. The next window may show a list of hardware type, then select **Display Adapters**, then click **OK**.
8. This window may show a list of VGA model numbers.
9. Insert ADLINK CD and click **Have Disk**.
10. **Browse** the SM721 driver in the following path: **X:\CHIPDRV\VGA\SM721\WIN2K**, highlight **smisetup.inf**, click **OPEN**, then click **NEXT>**.

11. Highlight the model: **Silicon Motion Lynx3DM**, then click **NEXT>**.
12. Click **NEXT>** button, The Windows 2000 may report Digital Signature Not Found, then click **Yes** to continue.
13. Click **Finish** button, then click **CLOSE** button.

4.1.2 Driver Installation on Windows 98

The Windows 98 may install the standard VGA driver. We recommend you to manually installed the most updated driver, which shipped with ADLINK CD to guarantee the compatibility. After installing Windows 98, please update the new drivers by the following procedures.

1. Boot Windows 98, Click **Start**. Select **Settings** then double-click the **Control Panel**.
2. Double-click **System** icon, click on the **Device Manager** tab.
3. Double-click **Display Adapters** entry, select the **Standard PCI Graphics Adapter (VGA)** entry. Click the **Properties** button.
4. Click on the **Driver** button, then click **Update Driver...** button.
5. An Upgrade Device Driver Wizard windows, click **NEXT>**.
6. Select **Display a list of ...** and click **NEXT>**. The next window allows the user to specify a specific path. Insert the ADLINK CD and click **Have Disk**.
7. **Browse** the SM721 driver in the following path: **X:\CHIPDRV\VGA\SM721\WIN9XME**, highlight **smi.inf**, click **OPEN**. Click **OK**.
8. Click **NEXT>** button, then the Wizard summary window appears.
9. Click **Finish** button, then restart the computer to active the new driver.

4.1.3 Driver Installation on Windows NT

The Windows NT may install the standard VGA driver while. We recommend you to manually installed the most updated driver, which shipped with ADLINK CD to guarantee the compatibility. After installing Windows NT, please update the new drivers by the following procedures.

1. From the **Control Panel**, double-click the **Display** icon.
2. Click the **Settings** tab, click **Display Type...**, click **Change...** button.
3. Insert ADLINK CD and click **Have Disk**.
4. **Browse** the SM721 driver in the following path: **X:\CHIPDRV\VGA\SM721\WINNT40**, highlight **smisetup.inf**, click **OPEN**. Click **OK**.
5. A windows shows the Display is Silicon Motion Lynx Family, click **OK**, then click **Yes** to continue.
6. An Installing Driver window shows successful installing, click **OK** to continue.
7. Click **Close** button.
8. Click **Close** button, then restart the computer to active the new driver.

Note: After installing the VGA/AGP drivers, you may find the driver does not work. This may due to you do not install the NT service pack in advance. We suggest installing the NT service pack 4 or higher version to enable APG capability.

4.2 LAN Drivers Installation

This chapter describes LAN driver installation for the onboard Ethernet controller **Intel 82559**. The relative drivers are under the following ADLINK CD directory: **X:\CHIPDRV\LAN\100PDISK**, where X: is the location of the CD-ROM drive.

4.2.1 Software and Drivers Support

The 82559 drivers support the following OS or platforms:

- Windows 98, Windows 95, Windows 2000, Windows NT
- Novell Netware, DOS Setup for Novell NetWare DOS
- UNIX, OS2, Linux

All the above drivers are included in the ADLINK CD. In the following section, we will describe the driver installation for Windows 98, Windows 2000, and Windows NT. For the driver installation of the other OS, please refer the readme file inside the CD.

4.2.2 Driver Installation on Windows 2000

The Windows 2000 may install the LAN driver. We recommend you to manually installed the most updated LAN driver, which shipped with ADLINK CD to guarantee the compatibility. After installing the Windows 2000, please update the new drivers by the following procedures.

1. Boot Windows 2000, Click **Start**. Select **Settings** then double-click the **Control Panel**.
2. Double-click **System** icon, click **Hardware** tab, click **Device Manager** button.
3. Double-click Network Adapters entry, Double-click the Intel 8255x-based PCI Ethernet Adapter (10/100) entry.
4. Click **Driver** tab, then click **Update Driver...** button.
5. An Upgrade Device Driver Wizard windows, click **Next>**.
6. Select **Display a list of ...** and click **Next>**. The next window may show a list of hardware models.
7. Insert the CD and click **Have Disk**.

8. Browse the Intel 82559 driver in the following path: **X:\CHIPDRV\LAN\100PDISK**, highlight **oemsetup.inf**, click **Open**, then click **OK**.
9. Highlight the model: **Intel 8255x- based PCI Ethernet Adapter (10/100)**, then click **NEXT>**. An Update Driver Warning window may pop up, click **Yes** to continue.
10. Click **NEXT>** button, then the Wizard summary window appears.
11. Click **Finish** button, then click **CLOSE** button.

4.2.3 Driver Installation on Windows 98

The Windows 98 will install the LAN driver automatically. We recommend you to manually updated the LAN, which on the ADLINK CD to guarantee the compatibility. After installing Windows 98, please update the new drivers by the following procedures.

1. Boot Windows 98, Click **Start**. Select **Settings** then double-click the **Control Panel**.
2. Double-click on the **System** icon, click on the **Device Manager** tab.
3. Either Double-click on the **Network Adapters** entry, select the **Intel 8255x-based PCI Ethernet Adapter (10/100)** entry. Click the **Properties** button.
4. Click on the **Driver** button, then click **Update Driver...** button.
5. **Update Device Driver Wizard** starts, click **NEXT**.
6. Select **Display a list of ...** and click **NEXT**. The next window allows the user to specify a specific path. Insert the CD and click **Have Disk**.
7. Browse the Intel 82559 driver in the following path: **X:\CHIPDRV\LAN\100PDISK**, highlight **net82557.inf**, click **OK**. The Update Wizard displays the message that it has found the driver. Click OK again to update the driver. Note: Windows 98 may ask you to insert the original Windows 98 CD to install the LAN protocols.

8. Click **NEXT** button, then the Wizard summary window appears.
9. Click **Finish** button, then restart the computer to activate the new driver.

4.2.4 Driver Installation on Windows NT

Before install the LAN driver on Windows NT, please copy the LAN driver in the CD to a floppy diskette. You have to put a new disk into drive A, then type the following batch command under DOS environment to copy the relative NT drivers.

```
X:\CHIPDRV\LAN\100PDISK\Makedisk\Makedisk NT
```

where X is the CD-ROM drive.

Windows NT may ask to installs a LAN driver from its own library of drivers. We recommend you to manually updated the LAN, which on the ADLINK CD to guarantee the compatibility. After installing Windows 98, please update the new drivers by the following procedures.

1. From the **Control Panel**, double-click the **Netwrok** icon, a Network Configuration window pop up, click **Yes**.
2. In Netwrok Setup Wizard, click **Next>**, click **Select From List...** button.
3. Insert LAN driver floppy diskette into A drive and click **Have Disk**.
4. In the dialog box of Insert Disk window, type in **A:**, Click **OK**.
5. A Select OEM Option window pop up, click **OK**, then click **Next>**.
6. Select necessary Network Protocols, click **Next>**.
7. Select necessary Network Services, click **Next>**.
8. Click **Next>** until Window NT Setup dialog box pop up. Type in **D:\V386** in the dialog box, then insert the original Windows NT CD, click **Continue**.
9. Then click **OK** until the setup completed.
10. Restart the computer to reboot.

4.3 SCSI Drivers Installation

This chapter describes SCSI driver installation for the onboard SCSI controller **LSI (Symbios) 53C1000R**. The relative drivers are under the following ADLINK CD directory: *X:\CHIPDRV\SCSI\53C10xx*, where X: is the location of the CD-ROM drive.

4.3.1 Software and Drivers Support

The 53C1000R drivers support the following OS or platforms:

- Windows 98, Windows 95, Windows 2000, Windows NT 4.0
- Novell Netware, DOS Setup for Novell NetWare DOS
- UNIX, OS2, Linux

All the above drivers are included in the ADLINK CD. In the following sections, we will describe the driver installation for Windows 98, Windows 2000, and Windows NT. For the driver installation of the other OS, please refer the README file under the respective directory.

Note: The most updated SCSI drivers can be downloaded from the LSI Logic web site at URL:

<http://www.lsilogic.com>

4.3.2 Driver Installation on Windows 2000

The Windows 2000 may install the SCSI driver. We recommend you to manually installed the most updated driver, which shipped with ADLINK CD to guarantee the compatibility. After installing the Windows 2000, please update the new drivers by the following procedures.

1. Boot Windows 2000, Click **Start**. Select **Settings** then double-click the **Control Panel**.
2. Double-click **System** icon, click **Hardware** tab, click **Device Manager...** button.
3. Double-click **SCSI and RAID controllers** entry, Double-click the **Symbios XXX PCI SCSI Adapter** entry.
4. Click **Driver** tab, then click **Update Driver...** button.

5. An Upgrade Device Driver Wizard window starts, click **NEXT>**.
6. Select **Display a list of the known drivers for this device so that I can choose a specific driver**, then click **NEXT>**.
7. Insert the ADLINK CD and click **Have Disk**.
8. **Browse...** the LSI 53C10xx driver in the following path: **X:\CHIPDRV\SCSI\53C10xx\WIN2000\winnt\miniport**, highlight **oemsetup.inf**, click **OPEN**, then click **OK**.
9. Highlight the model: **Symbios Ultra3 PCI SCSI Adapter; 53C1010-66 Device**, then click **NEXT>**.
10. Click **NEXT** button. The Windows 2000 may report Digital Signature Not Found. Then click **Yes** to continue.
11. Click **Finish** button, then click **Close** button.

4.3.3 Driver Installation on Windows 98

The Windows 98 will automatically install the SCSI driver. However, we recommend you to manually installed the most updated driver, which shipped with ADLINK CD to guarantee the compatibility. After installing the Windows 98, please update the new drivers by the following procedures.

1. Boot Windows 98, Click **Start**. Select **Settings** then double-click the **Control Panel**.
2. Double-click **System** icon, click **Device Manager** tab.
3. Double-click **SCSI Adapters** entry, select the **Symbios Logic xxxxx SCSI PCI Host Adapter** entry. Click the **Properties** button.
4. Click **Driver** button, then click **Update Driver...** button.
5. An Upgrade Device Driver Wizard window pops up, click **NEXT>**.
6. Select **Display a list of...** and click **NEXT>**. The next window allows the user to specify a specific path. Insert the ADLINK CD and click **Have Disk**.

7. **Browse** the 53C1000R driver in the following path: **X:\CHIPDRV\SCSI\53C10xx\win95,98**, highlights **sym_u3.inf**, click **Open**, and click **OK**. The previous window appears with the selected driver displayed as the driver to install.
8. Click **NEXT>** button, then the Wizard summary window appears.
9. Click **Finish** button, then restart the computer to active the new driver.

4.3.4 Driver Installation on Windows NT

Before install the SCSI driver on Windows NT, please copy the contents in the following directory **X:\CHIPDRV\SCSI\53C10xx\WT4** into a new formatted floppy diskette. Please note that all the content in the sub-directory must be copied too.

When install the Windows NT into a SCSI HDD, we recommend you to use IDE CD-ROM as CD reader. Before installing the NT, we have to install the SCSI driver from the floppy diskette you made. Please use the following procedure to install the SCSI driver with Windows NT.

1. Start the Windows NT 4.0 installation by booting from the Windows NT CD or floppy diskettes.
2. Press **Enter** when the Welcome to Setup screen appears.
3. The Windows NT 4.0 Setup window appears next.
4. A screen displays the message: **Setup has recognized the following mass storage devices in your computer.**
5. Choose **S** to configure additional SCSI adapters when a screen displays the SCSI adapters found. Move the highlight bar to **Other** and press **Enter**.
6. The system prompts for the Manufacturer-supplied hardware support disk. Insert the appropriate Symbios Driver diskette, and press Enter.
7. Select **Symbios Ultra3 PCI SCSI Driver** to be shown highlighted. Press **Enter** to proceed.
8. The Windows NT setup window reappears, then click **Enter**.

9. At this point, simply follow the Microsoft Windows NT installation procedure.

The Windows NT may already install with a SCSI driver. We recommend you to manually upgrade the driver, which shipped with ADLINK CD to guarantee the compatibility. After installing Windows NT, please update the new drivers by the following procedures.

1. From the **Control Panel**, double-click the **SCSI Adapters** icon.
2. Click **Drivers** tab, click **Add...** button.
3. Insert the floppy diskette into drive A: and click **Have Disk**.
4. **Browse...** the 53C1000R driver in the following path: **A:\wint\miniport**, highlight **oemsetup.inf**, clicks **Open**, click **OK**. The previous window appears with the selected driver displayed as the driver to install.
5. In Window NT Setup window, type in **A:WINNTMINIPOINT** driver in the dialog box, then click **Continue** button.
6. An Install Driver window shows that the SCSI adapter is **Symbios Ultra3 PCI SCSI Driver**, click **OK** to continue.
7. System Settings Change appears, then click **Yes** to restart.

5

Watchdog and Utilities

5.1 Watchdog Timer Configuration

The Watch Dog Timer (WDT) can monitor the system's status. Once you give a value to WDT, the timer will begin to count down. To re-program a new value to WDT, or move keyboard can restart the WDT. If the system is idle or hang, it will reboot when the timer timeout.

The function of the watchdog timer is to reset the system automatically. It contains a one-second (or one-minute) resolution down counter (in CRF2 of logical device 8 of super I/O chip) and two Watchdog control registers (CRF4 and CRF3 of logical device 8).

We provide the WDT function calls for easy use under DOS, Windows 95/98/2000, and Windows NT, please refer the information under ***X:\CHIPDRV\WDT***.

5.1.1 WDT Programming

In order to simplify the programming code, we provide a sub function for the programmers to implement their software. For DOS, Windows 95 or 98 and Window NT, the sub function format is as follow:

```
out_port (int IOport_number, int Counter_value)
        IOport_number:0x3F0 -->W83977EF's configuration port.
        0x2E -->W83627HF's configuration port.
        Counter_value: 0 ~ 15300 (255 minutes)
```

(write a zero to disable the timer)

Under DOS, Windows 95 or 98

Make a project program with `wdt . cpp` under Turbo C/C++.

Under Windows NT

The library installation procedure:

- (1) run the setup program under NT environment.
- (2) reboot the system.

You can also write your own DLL by referring the DOS source we provide.

5.1.2 How to Test the WDT?

Under DOS, Windows 95 or 98

Open a DOS command prompt and execute the following utility on the CD.

```
X:\CHIPDRV\WDT\ttest <n>
```

```
/* n = second value. This program can auto detect which Super
   I/O chip you use. */
```

Under Windows NT

Before you executing the program under NT, you must run the setup program under Windows NT in advance. Open a DOS command prompt window and execute the following command.

```
test977 <n> : n = second value. For W83977EF
```

5.2 Hardware Doctor Utility

This chapter introduces Hardware Doctor Utility that comes with the CPU board in conjunction with the onboard hardware monitoring function. The section describes the functions of the utility.

Hardware Doctor is a self-diagnostic system for PC and must be used with Winbond's W83781D/W83782D or W83627HF IC series products. It will protect PC Hardware by monitoring several critical items including Power Supply Voltage, CPU Fan speed, and CPU & System temperature. These items are important to the operation of system; errors may result in permanent hurt of PC. Once any item is out of its normal range, an obvious warning message will pop up and remind user to make a proper treatment.

The Hardware Doctor utility supports the Windows 98 and Windows NT. The software is stored on the ADLINK CD under the following directory:
X:\Utility\HWDoctor\W8378X\WIN98

and

X:\Utility\HWDoctor\W8378X\NT40.

Please install the Hardware Doctor by executing the HWM-98.exe or HWM-NT.exe respectively under Windows 98 or Windows NT.

For detail user's manual, please refer the HWDoctor.PDF under the
X:\Utility\HWDoctor\W8378X.

5.3 Intel Preboot Execution Environment (PXE)

cPCI-6760D series support Intel Preboot Execution Environment (PXE) which provides the capability of boot-up from Ethernet even executing OS installation from Ethernet. There should be a DHCP server in the network with one or more servers running PXE service and MTFTP service. It could be a Windows NT or Windows 2000 server running DHCP, PXE and MTFTP service or a dedicated DHCP server with one or more additional server running PXE and MTFTP service. The section describes the major items for building up a network environment with PXE support.

1. Setup a DHCP server with PXE tag configuration.
2. Install the PXE and MTFTP services
3. Make boot image file on PXE server (that is the boot server).
4. Enable the PXE boot function on the client computer.

For more detailed information, please refer to [pdkrel30.pdf](#) under the directory *X:Utility***PXE_PDK**.

5.4 Intel Adapter Teaming

cPCI-6760D series support Intel Adapter Teaming which provides several options for increasing throughput and fault tolerance when running Windows 2000, Windows NT 4.0, or NetWare 4.1x or newer. There are four options can be supported by cPCI-6760D as the following:

1. **Adapter Fault Tolerance:** provides automatic redundancy for your Ethernet port (adapter). If the primary port (adapter) fails, the secondary takes over. You can create up to eight Fault Tolerance teams. Each team can have 2 - 8 ports (or adapters).
2. **Adaptive Load Balancing (ALB):** creates a team of two to eight Ethernet ports (or adapters) to increase transmission throughput. Also includes Fault Tolerance option. Works with most switches.
3. **Fast Ethernet Channel (FEC):** creates a team of two, four or eight ports (adapters) to increase transmission and reception throughput. Also includes Fault Tolerance option. Requires a switch with FEC capability. You can create up to four teams.
4. **Link Aggregation:** creates a team of two, four or eight ports (adapters) to increase transmission and reception throughput. Also includes Fault Tolerance option. Requires a switch with Link Aggregation capability. You can create up to four teams.

For more detailed information, please refer to **prosetp.hlp** under the directory **X:\CHIPDRVLAN\100PDISK**

5.5 PICMG 2.1 Hot Swap Support

The cPCI-6760D Hot-Swap capability allows non-system slot boards to be added or removed while the system is powered up. Individual clocks for each slot and access to the ENUM# signal on the backplane are compatible to PICMG 2.1 Hot Swap Specification. While hot swap of non-system boards is supported, the cPCI-6760D itself cannot be inserted to or removed from a powered system.

A signal (ENUM#) is provided to notify the cPCI-6760D that either a board has been freshly inserted or is about to be extracted. This signal drives a interrupt (IRQ9 or IRQ3, according to hardware configuration) to inform the cPCI-6760D that the existence of a peripheral board has changed. The cPCI-6760D then performs any necessary maintenance such as installing a device driver upon board insertion, or quiescing a device driver and the board, prior to the board's extraction. The CompactPCI Hot-Plug System Driver manages the ENUM# sensing.

Hot Swap Software builds on the PCI Hot-Plug architecture. The Hot-Plug Service, Hot-Plug System Driver, and the Device Drivers are common elements with the Hot-Plug architecture. The Device Drivers for Hot-Swap boards must be Hot-Plug capable. The Hot-Plug Service provides for the Dynamic Configuration of the system as the resources are added or removed. The PCI Hot-Plug Specification defines these services.

To support Hot Swap capability, the peripheral board shall be fully compliant with PICMG 2.0 R3.0 and PICMG 2.1 R2.0. The board insertion and extraction processes are summarized as follows.

Insertion process:

1. The peripheral board is not installed
2. The physical connection process begins.
3. The operator picks a peripheral board in order to install it in the system.
4. The peripheral board enters the card guide.
5. The peripheral board front panel is discharged to chassis ground through a bleed resistor.

6. The peripheral board logic ground is discharged to chassis ground through a bleed resistor.
7. The bleed resistor breaks contact with chassis ground. Logic ground is again isolated.
8. The front panel makes low resistance contact with chassis ground through the card guide.
9. The peripheral board contacts long pins on backplane, and begins to contact ground, +5V, +3V, and V(I/O) pins.
10. The peripheral board is in an unstable state while pins are first mated. This duration can potentially be infinite if the board is just marginally connecting the longest pins.
11. Enough pins are connected that a stable early power can be achieved. Hardware puts the Hot Swap (blue) LED on the peripheral board to the ON state.
12. The peripheral board contacts the medium length pins on the backplane. The peripheral board is now receiving the PCI clock.
13. The peripheral board contacts the short BD_SEL# pin. This pin is grounded on the backplane and pulled high by a pull-up resistor on the peripheral board. Its assertion indicates that the peripheral board has been fully inserted into the backplane.

Extraction Process:

1. The peripheral board is installed.
2. The operator starts to withdraw the peripheral board.
3. The BD_SEL# pin disconnects. The hardware connection layer turns on the blue LED if it hasn't been turned on by software.
4. Medium length CompactPCI pins disengage.
5. Long length CompactPCI pins disengage. Early power goes away. The peripheral board is in an unstable state while pins are first

disconnecting. This duration can potentially be infinite if the board is just marginally connecting the longest pins.

6. Board logic ground is connected to chassis ground through a bleed resistor.
7. The board front panel is connected to chassis ground through a bleed resistor.
8. Board leaves the ESD card guide.
9. The board is not installed.

If it is not necessary to support Hot Swap Capability, user could disable the function in BIOS setting and release IRQ9 or IRQ3 for other resource. Please refer to cPCI-6760D BIOS manual for operational instruction.

Note: Normally, IRQ9 will be occupied by ACPI. Please disable ACPI function when enable the ENUM# function in BIOS setting to route ENUM# through IRQ9 for supporting PICMG 2.1 Hot Swap for peripheral boards. If the hot swap drivers of the peripheral boards use only “polling algorithm” , it may not use ENUM# to inform system board for the existence of peripheral boards, then user can enable ACPI and disable the ENUM# function.

5.6 Self Hot Swap Support

cPCI-6760D supports “self hot swap”, with this feature, cPCI-6760D can be hot inserted and extracted in live system. Operators don’t need turn off power to replace the board. It is great helpful especially in high-density server (or blade server) application. Although the board can be inserted or extracted in live system anytime and will not crash, operators must pay more attention about the data saving. So operators must know the settings in the BIOS and OS. And the blue led will indicate the timing that operators can insert or extract with safety.

Note: When cPCI-6760D supports PICMG 2.1 Hot Swap for peripheral boards, user may enable the ENUM# function by routing through IRQ9 and ACPI function cannot be enabled due to IRQ9 confliction. Please disable ENUM# function when enable ACPI for supporting self hot swap feature.

BIOS and OS Setting for Self Hot Swap

	BIOS Setting	OS Setting
Item	ACPI Function	When I press the power button on my computer
Setting Value	Enable	Power OFF
Note	Factory Default	

Table 66: BIOS and OS setting for self Hot Swap

5.6.1 BIOS Setting Process

1. Power ON the computer.
2. Press “Delete” Key.
3. Under BIOS Menu choose **Power Management Setup**.
4. Choose **ACPI Function**, setting this item to **Enable**.
5. Press **F10**, Save and Exit.

5.6.2 Windows 98 and 2000 Setting Process

1. From Start Menu, choose Setting, then choose **Control Panel**.
2. Click **Power Option**.
3. Click **Advanced Sheet**.
4. Choose **When I press the power button on my computer**, set it to **Power OFF**.
5. Click **OK** then exit.

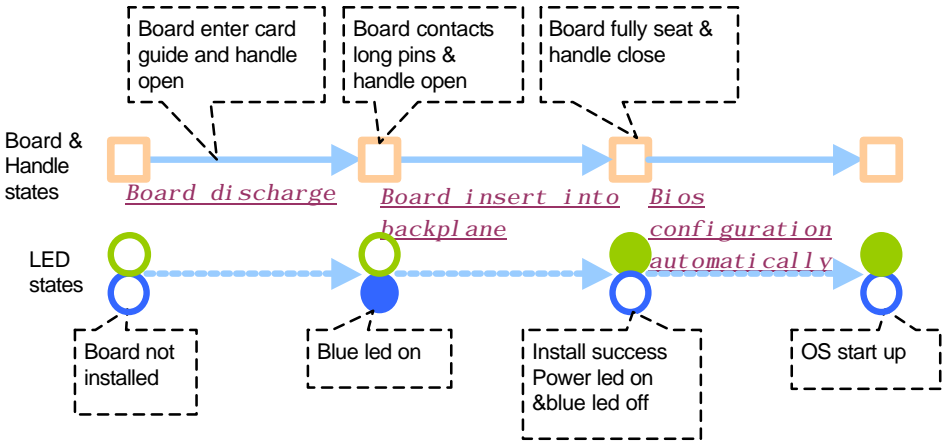
Note: If operators want use the handle as power button and shut down OS automatically. The operating system must be installed in ACPI mode.

5.6.3 Insertion Process

This section describes the operational principle during insertion process when self hot-swap feature is enabled.

1. The cPCI-6760D enters the card guide.
2. The board is discharged to chassis ground through bleed resistors and card guide.
3. The board contacts long pins on backplane, and begins to contact ground, +5V, +3.3V , and VIO pins.
4. Enough pins are connected that a stable Early Power can be achieved. And the **BLUE LED** is in the **ON** state.
5. The board contacts the medium length pins one the backplane. Medium length power pins contact and short out the current limiting resistors.
6. The board contacts the short BD_SEL# pin. And the handle is fully closed.

7. If hot insertion is success. The board is power on and flushes the blue led. If the board insertion is fail, the blue led is still on. And operator must extract the board and reinsert again.
8. The system BIOS start up the board and configuration automatically.

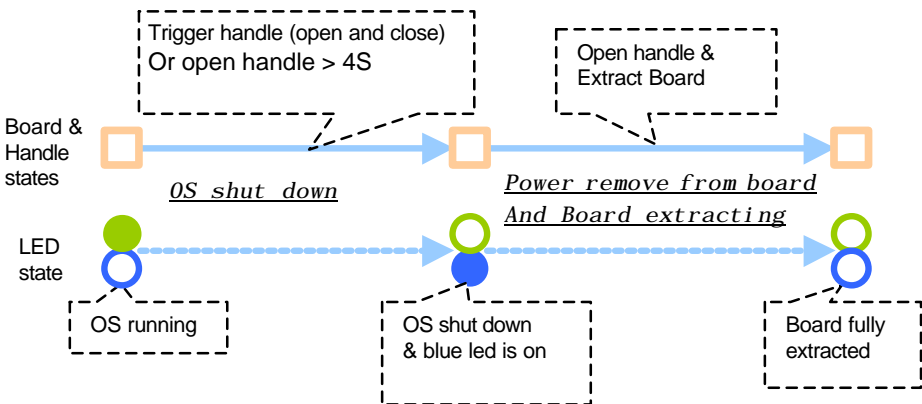


Note: If the board fully seat and handle close. But the blue led is still on. It indicates the board installs to the live system fail. And operators must extract the board and insert again.

5.6.4 Extraction Process

In the extraction process, the handle can be treated as a power button. In the Win2000, Win98 or other operating systems that support ACPI. Trigger the handle once (open handle then close handle,) the operating system will shut down automatically. In other states open the handle over 4secs, the board will turn off.

1. Trigger or open the handle.
2. In the OS that supports ACPI. The OS will shut down automatically by trigger the handle. Or the OS shut down on un-saving data status by open the handle over 4 seconds.
3. The blue led is on indicates the OS shut down properly if operators trigger the button (the handle still closed.) Or the operators force OS shut down and handle opened.
4. Open handle and the blue led is still on. Operators can extract the board.
5. Extract the board and the BD_SEL# pin disconnects.
6. Medium length CompactPCI pins disengage.
7. Long length CompactPCI pins disengage. And early power goes away.
8. Board leaves the ESD card guide.



Note: In non-ACPI OS, operators must make sure data have saved properly. Else trigger the handle will cause OS and board improperly instant.

- When operators want hot insert or extract the board. Please check the backplane's power all come from P1. This will ensure all power be isolated and controlled when card be inserted and extracted in live system. Please refer to CompactPCI's pin definition of user's manual can get more detail information and restriction about cPCI-6760D.
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Product Warranty/Service

ADLINK warrants that equipment furnished will be free from defects in material and workmanship for a period of one year from the date of shipment. During the warranty period, we shall, at our option, either repair or replace any product that proves to be defective under normal operation.

This warranty shall not apply to equipment that has been previously repaired or altered outside our plant in any way as to, in the judgment of the manufacturer, affect its reliability. Nor will it apply if the equipment has been used in a manner exceeding its specifications or if the serial number has been removed.

ADLINK does not assume any liability for consequential damages as a result from our product uses, and in any event our liability shall not exceed the original selling price of the equipment. The remedies provided herein are the customer's sole and exclusive remedies. In no event shall ADLINK be liable for direct, indirect, special or consequential damages whether based on contract of any other legal theory.

The equipment must be returned postage-prepaid. Package it securely and insure it. You will be charged for parts and labor if the warranty period is expired or the product is proves to be misuse, abuse or unauthorized repair or modification.