cPCI-6620 Series

6U CompactPCI Processor Blade
with 2nd Generation Intel® Core™ i7/Celeron®

User's Manual



Manual Rev. 2.00

Revision Date: November 7, 2012

Part No: 50-15083-1000

Recycled Paper

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Advance Technologies; Automate the World.

Revision History

Revision	Release Date	Description of Change(s)
2.00	2012/11/7	Initial release

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Preface

Copyright 2012 ADLINK Technology Inc.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

Disclaimer

The information in this document is subject to change without prior notice in order to improve reliability, design, and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

Environmental Responsibility

ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive and Waste Electrical and Electronic Equipment (WEEE) directive. Environmental protection is a top priority for ADLINK. We have enforced measures to ensure that our products, manufacturing processes, components, and raw materials have as little impact on the environment as possible. When products are at their end of life, our customers are encouraged to dispose of them in accordance with the product disposal and/or recovery programs prescribed by their nation or company.

Trademarks

Product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective companies.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Using this Manual

Audience and Scope

The cPCI-6620 User's Manual is intended for hardware technicians and systems operators with knowledge of installing, configuring and operating industrial grade CompactPCI modules.

Manual Organization

This manual is organized as follows:

Chapter 1, Overview: Introduces the cPCI-6620, its features, block diagrams, and package contents.

Chapter 2, Specifications: Presents detailed specification information, and power consumption.

Chapter 3, Functional Description: Describes the cPCI-6620's main functions.

Chapter 4, Board Interfaces: Describes the cPCI-6620 board interfaces, pin definitions, and jumper settings.

Chapter 5, Getting Started: Describes the installation instructions of the cPCI-6620.

Chapter 6, Drivers & Utilities: Describes the driver installation procedures.

Chapter 7, BIOS Setup Utility: Describes the AMI EFI BIOS setup utility.

Important Safety Instructions: Presents safety instructions all users must follow for the proper setup, installation and usage of equipment and/or software.

Getting Service: Contact information for ADLINK's worldwide offices.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Conventions

Take note of the following conventions used throughout this manual to make sure that users perform certain tasks and instructions properly.



NOTE:

Additional information, aids, and tips that help users perform tasks.



CAUTION:

Information to prevent ***minor*** physical injury, component damage, data loss, and/or program corruption when trying to complete a task.



WARNING:

Information to prevent ***serious*** physical injury, component damage, data loss, and/or program corruption when trying to complete a specific task.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table of Contents

Revision History ii

Preface iii

List of Tables ix

List of Figures xi

1 Overview 1

1.1 Introduction 1
1.2 Features 2
1.3 Block Diagram 2
1.4 Product List 3
1.5 Package Contents 4

2 Specifications 5

2.1 cPCI-6620 Specifications 5
2.2 I/O Connectivity 7
2.3 Power Requirements 8

3 Functional Description 11

3.1 Processors 11
3.2 Platform Controller Hub 13
3.3 Intel® Turbo Boost Technology 14
3.4 Intel® Hyper-Threading Technology 14
3.5 Battery 15

4 Board Interfaces 17

4.1 cPCI-6620 Series Board Layout 17
4.2 cPCI-6620 Assembly Layout 18
4.3 cPCI-6620 Front Panel 19
4.4 Connector Pin Assignments 20
4.5 Switches 26

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5 Getting Started 27
5.1 CPU and Heatsink 27
5.2 Memory Module Installation 27
5.3 SATA Drive Installation 28

6 Drivers & Utilities 31
6.1 Driver Installation Procedure 31

7 BIOS Setup Utility 37
7.1 Starting the BIOS 37
7.2 Main Setup 40
7.3 Advanced BIOS Setup 41
7.4 Chipset Configuration 54
7.5 Boot Configuration 61
7.6 Security Setup 62
7.7 Save & Exit 63

Important Safety Instructions 65

Getting Service 67

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

List of Tables

Table 2-1: cPCI-6620 Specifications 6
Table 2-2: cPCI-6620 I/O Connectivity 7
Table 2-3: CompactPCI Input Voltage Characteristics 8
Table 4-1: cPCI-6620 Front Panel Status LED Descriptions ... 19
Table 4-2: USB Connector Pin Definition 20
Table 4-3: GbE Connector Pin Definitions 21
Table 4-4: COM1~2 Connector Pin Definition 22
Table 4-5: DVI-D Connector Pin Definition 22
Table 4-6: SATA Direct Connector Pin Definition 23
Table 4-7: CompactPCI J1 Connector Pin Definition 24
Table 4-8: CompactPCI J2 Connector Pin Definition 25

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

List of Figures

Figure 1-1: cPCI-6620 Series Block Diagram 2
Figure 4-1: cPCI-6620 Series Board Layout 17
Figure 4-2: cPCI-6620 Assembly Layout 18
Figure 4-3: cPCI-6620 Front Panel Layout 19

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1 Overview

1.1 Introduction

The cPCI-6620 is a highly integrated 6U CompactPCI blade in dual slot width (8HP) form factor. Its design is based on the 2nd Generation Intel® Core™ i7 and Celeron® processors in FCBGA1023 package with Mobile Intel® HM65 Express Chipset. The cPCI-6620 is a value 6U CompactPCI blade that offers integrated graphics, I/O bandwidth, asset management capabilities, data transfer speed and reliability.

The cPCI-6620 supports dual-channel unbuffered DDR3-1066/1333 memory up to a maximum capacity of 16GB. Graphics is integrated in the processor and output is provided through one DVI-D port on the front panel.

The cPCI-6620 offers versatile I/O such as four Gigabit Ethernet ports, two DB-9 COM ports, four Type-A USB 2.0 ports, and one DVI-D port on the front panel. The blade supports a 32-bit/33MHz CompactPCI interface and integrates a Super I/O IT8718F to monitor CPU and system temperature, DC voltages and provide a watchdog timer.

Storage features of the cPCI-6620 include a SATA 6 Gb/s direct connector interface with mounting space for a 2.5" HDD/SSD.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.2 Features

- Supports dual-core Intel® Core™ i7-2655LE processor
- Up to 16GB DDR3-1333 memory in two DIMMs
- Supports real-time RTX on Windows
- Four Gigabit Ethernet egress ports
- 5V power input only

1.3 Block Diagram

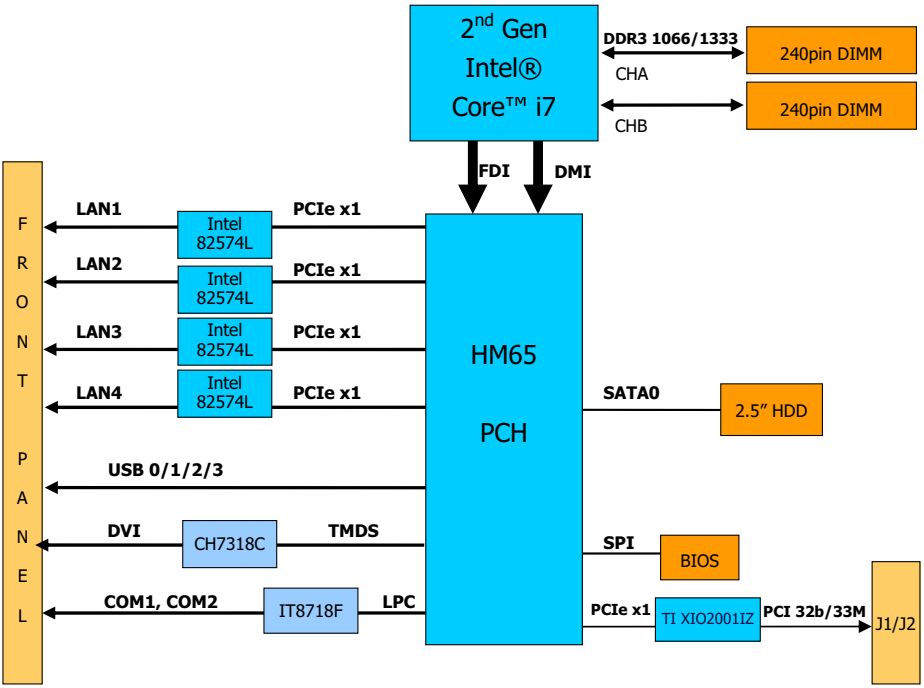


Figure 1-1: cPCI-6620 Series Block Diagram

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.4 Product List

Products in the cPCI-6620 Series include:

Processor Blade

- **cPCI-6620/655L:** 8HP (dual slot) 6U CompactPCI featuring Intel® Core™ i7-2655LE Processor; up to 16GB DDR-1066/1333; GbE x4, COM x2, DVI-D, USB x4, onboard SATA connector
- **cPCI-6620/847E:** 8HP (dual slot) 6U CompactPCI featuring Intel® Celeron™ 847E processor; up to 16GB DDR-1066/1333; GbE x4, COM x2, DVI-D, USB x4, onboard SATA connector
- **cPCI-6620/810E:** 8HP (dual slot) 6U CompactPCI featuring Intel® Celeron™ 810E Processor; up to 16GB DDR-1066/1333; GbE x4, COM x2, DVI-D, USB x4, onboard SATA connector

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.5 Package Contents

The cPCI-6620 is packaged with the components listed below. If any of the items in the contents list are missing or damaged, retain the shipping carton and packing material and contact the dealer for inspection. Please obtain authorization before returning any product to ADLINK. The packing contents of non-standard configurations may vary depending on customer requests.

Processor Blade

- The cPCI-6620 Series Processor Blade
  - CPU and memory specifications will differ depending on options selected
  - Thermal module is assembled onboard
- 2.5" SATA drive accessory pack
- ADLINK All-in-One DVD
- User's manual



The contents of non-standard cPCI-6620 Series configurations may vary depending on customer requests.



This product must be protected from static discharge and physical shock. Never remove any of the components except at a static-free workstation. Use the anti-static bag shipped with the product when putting the board on a surface. Wear an anti-static wrist strap properly grounded on one of the system's ESD ground jacks when installing or servicing system components.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2 Specifications

2.1 cPCI-6620 Specifications

CompactPCI Standard	PICMG® 2.0 CompactPCI® Rev. 3.0
Mechanical	Standard 6U CompactPCI®
	Board size: 233.23 mm x 160mm
	Dual slot (8HP, 40.64 mm) width
	CompactPCI® connectors J1, J2
Processor	2nd Generation Intel® Core™ processor in FCBGA1023 package with passive heatsink • Intel® Core™ i7-2655LE, 2.2GHz, 4MB LLC, 25W • Intel® Celeron® B810E, 1.6GHz, 2MB LLC, 35W • Intel® Celeron® 847E, 1.1GHz, 2MB LLC, 17W
Chipset	Intel® HM65 Platform Controller Hub (PCH)
Memory	Dual channel unbuffered DDR3-1066/1333 memory Two 240-pin DIMM sockets Up to 16GB
CompactPCI Bus	PCI 32-bit/33MHz; 3.3V, 5V universal V(I/O) Supports operation in system slot only
Ethernet	Four PCIe x1 Intel® 82574L Gigabit Ethernet controllers Four RJ-45 LAN ports on front panel
Graphics	Intel® HD Graphics integrated in processor One DVI-D port on front panel Supports DirectX 10.1, OpenGL 3.0
Serial Ports	Two DB-9 RS-232 ports from Super I/O ITE IT8718F
Storage	One 2.5" SATA 6 Gb/s direct connector onboard
Hardware Monitor	Integrated in Super I/O IT8718F Monitors CPU and system temperature, DC voltages
Watchdog Timer	System reset and NMI, with programmable interval, 1-65535 sec/min
BIOS	AMI® EFI BIOS 64Mbit SPI flash memory PXE Boot agent supported on front panel GbE ports

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Faceplate I/O	4x USB 2.0 ports (Type-A) 4x RJ-45 LAN ports 1x DVI-D port 2x DB-9 COM ports HDD Status LED (yellow) Power Status LED (green) Reset button
Battery	BR2032 in battery socket
OS Support	Windows XP/7 Embedded + RTX extension
Environmental	Operating Temperature: 0°C to 60°C Storage Temperature: -40°C to 85°C Operating Humidity: 95% non-condensing Non-Operating Humidity: 95% non-condensing
Shock	15G peak-to-peak, 11ms duration, non-operating
Vibration[4]	Operating: 2Grms. 5 to 500Hz, each axis (without HDD)
Power Requirement	5V DC power only Power consumption: 18.5 W
Compliance	CE, FCC Class A

Table 2-1: cPCI-6620 Specifications


NOTE:

Specifications are subject to change without prior notice.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.2 I/O Connectivity

cPCI-6620 Processor Blade

Function	Faceplate	Board
COM (RS-232)	Y x2	—
LAN	Y x4	—
USB 2.0	Y x4	—
DVI-D	Y	—
SATA		Y[1]
LEDs[2]	Y x2	—
Reset Button	Y	—
Clear CMOS Button	—	Y

Table 2-2: cPCI-6620 I/O Connectivity

Notes:

1. One 22-pin direct connector for 2.5" SATA drive.
2. Power (green), Hard Disk (yellow)

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.3 Power Requirements

In order to guarantee a stable functionality of the system, it is recommended to provide more power than the system requires. **An industrial power supply unit should be able to provide at least twice as much power as the entire system requires of each voltage**. An ATX power supply unit should be able to provide at least three times as much power as the entire system requires.

The tolerance of the voltage lines described in the CompactPCI specification (PICMG 2.0 R3.0) is +5%/ -3% for 5, 3.3 V and ±5% for ±12V. This specification is for power delivered to each slot and it includes both the power supply and the backplane tolerance.

Voltage	Nominal Value	Tolerance	Max. Ripple (P - P)
5V	+5.0 VDC	+5% / -3%	50 mV
3.3V	+3.3 VDC	+5% / -3%	50 mV
+12V	+12 VDC	+5% / -5%	240 mV
-12V	-12 VDC	+5% / -5%	240 mV
V I/O (PCI I/O Buffer Voltage)	+3.3 VDC or +5 VDC	+5% / -3%	50 mV
GND			

Table 2-3: CompactPCI Input Voltage Characteristics

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Power Consumption

This section provides information on the power consumption of the cPCI-6620 Series with different CPUs, 2x 4GB DDR3-1066 SO-DIMM memory and onboard 160GB SATA hard disk. The cPCI-6620 is powered by 5V only. Power consumption at 100% CPU usage was measured by running the Intel Thermal Analysis Tool (TAT) and Turbo Boost and Hyper-Threading Technology were enabled.

Intel® Core i7-2655LE		
OS/Mode	**Current 5V**	**Total Power**
DOS/Idle mode	3.47 A	17.3 W
Windows XP/Idle mode	2.08 A	10.4 W
Windows® XP, CPU 100% Usage	6.11 A	30.5 W

Intel® Celeron® B810E		
OS/Mode	**Current 5v**	**Total Power**
DOS/Idle mode	3.40 A	17.0 W
Windows XP/Idle mode	2.20 A	11.0 W
Windows® XP, CPU 100% Usage	5.22 A	26.1 W

Intel® Celeron B847E		
OS/Mode	**Current 5V**	**Total Power**
DOS/Idle mode	2.37 A	11.9 W
Windows XP/Idle mode	1.94 A	9.7 W
Windows® XP, CPU 100% Usage	3.69 A	18.5 W


NOTE:

Measurements were made with Intel® Turbo Boost and Hyper-Threading Technology enabled

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3 Functional Description

The following sections describe the cPCI-6620 Series features and functions.

3.1 Processors

The 2nd Generation Intel® Core™ processor family mobile is the next generation of 64-bit, multi-core mobile processor built on 32-nanometer process technology. Based on a new micro-architecture, the processor is designed for a two-chip platform. The two-chip platform consists of a processor and Platform Controller Hub (PCH). The platform enables higher performance, lower cost, easier validation, and improved x-y footprint. The processor includes Integrated Display Engine, Processor Graphics and Integrated Memory Controller.

The cPCI-6620 Series supports the Intel® Core™ i7/Celeron® processors. The table below lists the general specifications and power ratings of the CPUs supported by the cPCI-6620 Series.

Features	Core™ i7-2655LE	Celeron® B810E	Celeron® 847E
Clock	2.2 GHz	1.6 GHz	1.1 GHz
Max. Single Core Turbo Freq.	2.9 GHZ	N/A	N/A
Last Level Cache	4 MB	2 MB	2 MB
No. of Cores/Threads	2/4	2/2	2/2
Max. Power (TDP[1])	25 W	35 W	17 W
$T_{junction, MAX}$[2]	100ºC	100ºC	100ºC

1. The highest expected sustainable power while running known power intensive applications. TDP is not the maximum power that the processor can dissipate.
2. The maximum supported operating temperature.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Supported Technologies

- Intel® Virtualization Technology for Directed I/O (Intel® VT-d)
- Intel® Virtualization Technology (Intel® VT-x)
- Intel® Hyper-Threading Technology
- Intel® 64 Architecture
- Execute Disable Bit
- Intel® Turbo Boost Technology
- Intel® Trusted Execution Technology

Interfaces

- Two channels of DDR3 memory with a maximum of one DIMM per channel
- Memory DDR3 data transfer rates of 1066 MT/s and 1333 MT/s
- 64-bit wide channels
- DDR3 I/O Voltage of 1.5 V
- 1Gb, 2Gb, and 4Gb DDR3 DRAM technologies are supported for x8 and x16 devices
- The PCI Express port(s) are fully-compliant with the PCI Express Base Specification, Revision 2.0.
- 5 GT/s point-to-point DMI interface to PCH is supported
- The Processor Graphics contains a refresh of the sixth generation graphics core enabling substantial gains in performance and lower power consumption.
- DX10.1, DX10, DX9 support
- OGL 3.0 support
- FDI carries display traffic from the Processor Graphics in the processor to the legacy display connectors in the PCH

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.2 Platform Controller Hub

The HM65 PCH provides extensive I/O support. Functions and capabilities include:

- PCI Express Base Specification, Revision 2.0 support for up to eight ports with transfers up to 5 GT/s
- ACPI Power Management Logic Support, Revision 4.0a
- Enhanced DMA controller, interrupt controller, and timer functions
- Integrated Serial ATA host controllers with independent DMA operation on up to six ports
- USB host interface with two EHCI high-speed USB 2.0 Host controllers and two rate
- matching hubs provide support for up to fourteen USB 2.0 ports
- Integrated 10/100/1000 Gigabit Ethernet MAC with System Defense
- System Management Bus (SMBus) Specification, Version 2.0 with additional support for I2C devices
- Supports Intel® High Definition Audio (Intel® HD Audio)
- Supports Intel® Rapid Storage Technology (Intel® RST)
- Supports Intel® Virtualization Technology for Directed I/O (Intel® VT-d)
- Integrated Clock Controller
- Analog and Digital Display ports
- Low Pin Count (LPC) interface
- Firmware Hub (FWH) interface support
- Serial Peripheral Interface (SPI) support

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.3 Intel® Turbo Boost Technology

Intel Turbo Boost Technology is a feature that allows the processor to opportunistically and automatically run faster than its rated operating core and/or render clock frequency when there is sufficient power headroom, and the product is within specified temperature and current limits. The Intel Turbo Boost Technology feature is designed to increase performance of both multi-threaded and single-threaded workloads. The processor supports a Turbo mode where the processor can use the thermal capacity associated with package and **run at power levels higher than TDP power for short durations**. This improves the system responsiveness for short, bursty usage conditions.

Turbo Mode availability is independent of the number of active cores; however, the Turbo Mode frequency is dynamic and dependent on the instantaneous application power load, the number of active cores, user configurable settings, operating environment, and system design. If the power, current, or thermal limit is reached, the processor will automatically reduce the frequency to stay with its TDP limit.

3.4 Intel® Hyper-Threading Technology

Intel® Hyper-Threading Technology allows an execution core to function as two logical processors. While some execution resources (such as caches, execution units, and buses) are shared, each logical processor has its own architectural state with its own set of general-purpose registers and control registers. This feature must be enabled using the BIOS and requires operating system support. Intel recommends enabling Hyper-Threading Technology with Microsoft Windows 7, Vista, and XP, and disabling Hyper-Threading Technology using the BIOS for all previous versions of Windows operating systems.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.5 Battery

The cPCI-6620 is equipped with a 3.0V "coin cell" lithium battery for the Real Time Clock (RTC). The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer. A Rayovac BR2032 is equipped on board by default.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

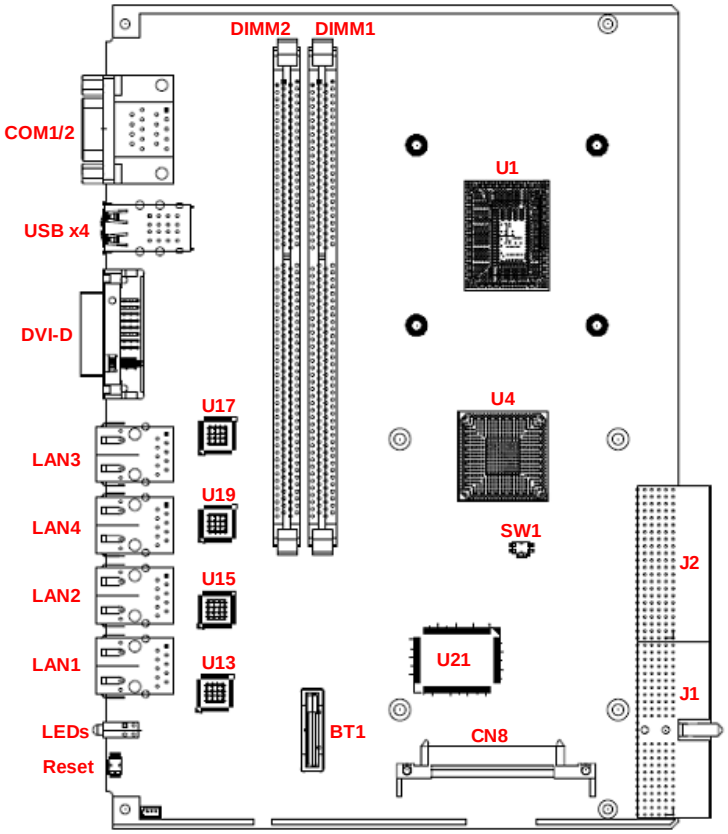
This page intentionally left blank.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4 Board Interfaces

This chapter describes the board layout, connector pin assignments, and jumper settings of the cPCI-6620 Series.

4.1 cPCI-6620 Series Board Layout



U1	CPU	**BT1**	Battery socket
U4	Intel HM65 PCH	**CN8**	SATA direct connector
U21	Super IO ITE IT8718F	**J1/J2**	CompactPCI connectors
U13-19	Intel 82574L controllers	**SW1**	Clear CMOS button
DIMM1/2	Memory sockets	**Reset**	Reset button

Figure 4-1: cPCI-6620 Series Board Layout

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4.2 cPCI-6620 Assembly Layout

This section illustrates the final assembly layout of the single slot cPCI-6620 blade.

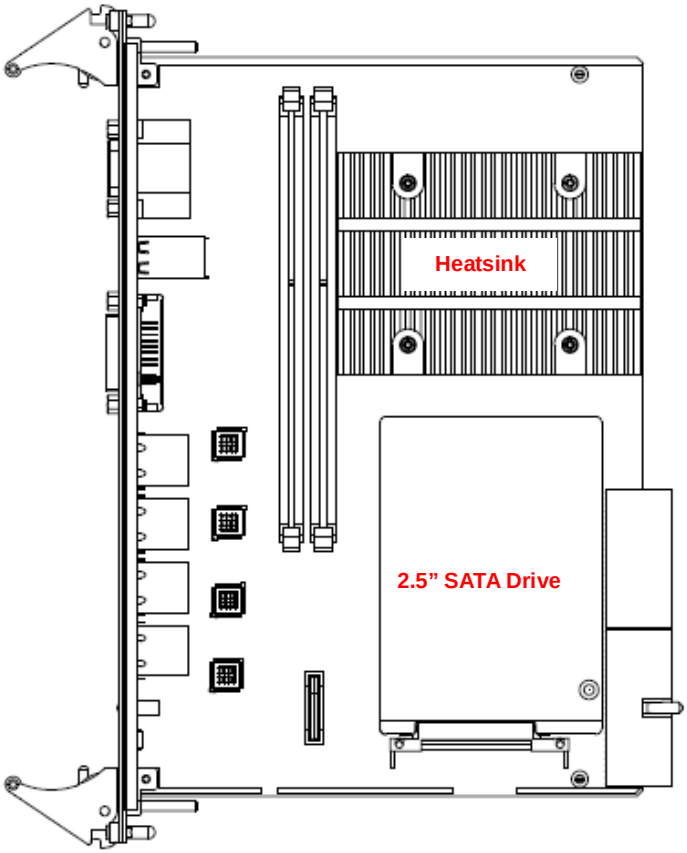


Figure 4-2: cPCI-6620 Assembly Layout

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4.3 cPCI-6620 Front Panel

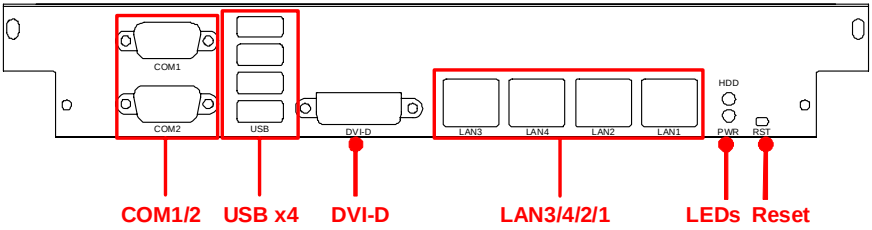


Figure 4-3: cPCI-6620 Front Panel Layout

Status LEDs

LED	Color	Condition	Indication
Power (PWR)	Green	Off	System is off
		On	System is on
HDD (HDD)	Red	Off	No drive activity
		Blinking	SATA drive read/write in process

Table 4-1: cPCI-6620 Front Panel Status LED Descriptions

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4.4 Connector Pin Assignments

Refer to "cPCI-6620 Series Board Layout" on page 17 and "cPCI-6620 Front Panel Layout" on page 19 for connector locations

USB Connectors

Pin #	Signal Name
1	Vcc
2	UV0-
3	UV0+
4	GND

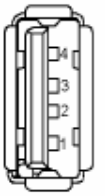


Table 4-2: USB Connector Pin Definition

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

RJ-45 Gigabit Ethernet Connectors

Pin #	10BASE-T/ 100BASE-TX	1000BASE-T
1	TX+	LAN1/2/3/4_TX0+
2	TX-	LAN1/2/3/4_TX0-
3	RX+	LAN1/2/3/4_TX1+
4	--	LAN1/2/3/4_TX2+
5	--	LAN1/2/3/4_TX2-
6	RX-	LAN1/2/3/4_TX1-
7	--	LAN1/2/3/4_TX3+
8	--	LAN1/2/3/4_TX3+

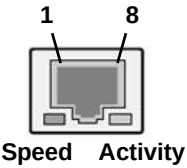


Table 4-3: GbE Connector Pin Definitions

Status		Speed LED (Green/Amber)	Activity LED (Amber)
Network link is not established or system powered off		OFF	OFF
10 Mbps	Link	OFF	ON
	Active	OFF	Blinking
100 Mbps	Link	Green	ON
	Active	Green	Blinking
1000 Mbps	Link	Amber	ON
	Active	Amber	Blinking

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

COM1~2 Connectors (DB-9)

Pin #	RS-232
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

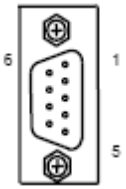
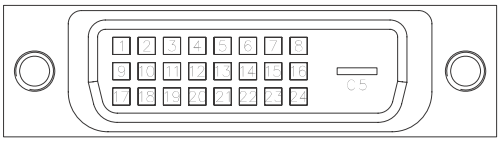


Table 4-4: COM1~2 Connector Pin Definition

DVI-D Connector (CN1-L)



Pin #	Signal	Pin #	Signal
1	DVI_TDC2-N	14	P5V
2	DVI_TDC2-P	15	GND
3	GND	16	DVI_HTPLG
4	NC	17	DVI_TDC0-N
5	NC	18	DVI_TDC0-P
6	DDCCLK_5V	19	GND
7	DDCDAT_5V	20	NC
8	NC	21	NC
9	DVI_TDC1-N	22	GND
10	DVI_TDC1-P	23	DVI_TLC-P
11	GND	24	DVI_TLC-N
12	NC	C5	GND
13	NC		

Table 4-5: DVI-D Connector Pin Definition

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

SATA Direct Connector

Pin #	Signal
S1	GND
S2	TX+
S3	TX-
S4	GND
S5	RX-
S6	RX+
S7	GND
P1	NC
P2	NC
P3	NC
P4	GND
P5	GND
P6	GND
P7	5V
P8	5V
P9	5V
P10	GND
P11	NC
P12	GND
P13~P15	NC

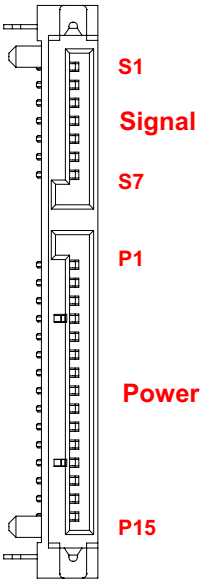


Table 4-6: SATA Direct Connector Pin Definition

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

CompactPCI J1 Connector Pin Assignment

Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM#	+3.3V	+5V	GND
24	GND	AD1	+5V	V(I/O)	AD0	ACK64#	GND
23	GND	P3V3	CPCI_AD4	CPCI_AD3	P5V	CPCI_AD2	GND
22	GND	CPCI_AD7	GND	P3V3	CPCI_AD6	CPCI_AD5	GND
21	GND	P3V3	CPCI_AD9	CPCI_AD8	CPCI_M66EN	CPCI_CBE-L0	GND
20	GND	CPCI_AD12	GND	VIO	CPCI_AD11	CPCI_AD10	GND
19	GND	P3V3	CPCI_AD15	CPCI_AD14	GND	CPCI_AD13	GND
18	GND	CPCI_SERR-L	GND	P3V3	CPCI_PAR	CPCI_CBE-L1	GND
17	GND	P3V3	IPMB_CLK	IPMB_DAT	GND	CPCI_PERR-L	GND
16	GND	CPCI_DEVSEL-L	GND	VIO	CPCI_STOP-L	CPCI_LOCK-L	GND
15	GND	P3V3	CPCI_FRAME-L	CPCI_IRDY-L	CPCI_BDSEL-L	CPCI_TRDY-L	GND
12-14	GND	Key Area					Key
11	GND	CPCI_AD18	CPCI_AD17	CPCI_AD16	GND	CPCI_CBE-L2	GND
10	GND	CPCI_AD21	GND	P3V3	CPCI_AD20	CPCI_AD19	GND
9	GND	CPCI_CBE-L3	CPCI_IDSEL	CPCI_AD23	GND	CPCI_AD22	GND
8	GND	CPCI_AD26	GND	VIO	CPCI_AD25	CPCI_AD24	GND
7	GND	CPCI_AD30	CPCI_AD29	CPCI_AD28	GND	CPCI_AD27	GND
6	GND	CPCI_REQ-L0	GND	P3V3	CPCI_CLK0	CPCI_AD31	GND
5	GND	NC	NC	CPCI_RESET-L	GND	CPCI_GNT-L0	GND
4	GND	P5V_IPMB	CPCI_HEALTHY-L	VIO	NC	NC	GND
3	GND	CPCI_IRQA-L	CPCI_IRQB-L	CPCI_IRQC-L	P5V	CPCI_IRQD-L	GND
2	GND	cPCI_TCK-L	P5V	cPCI_TMS-L	NC	cPCI_TDI-L	GND
1	GND	P5V	N12V	cPCI_TRST-L	P12V	P5V	GND

Table 4-7: CompactPCI J1 Connector Pin Definition

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

CompactPCI J2 Connector Pin Assignment

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	CLK6	GND	NC	NC	NC	GND
20	GND	CLK5	GND	NC	GND	NC	GND
19	GND	GND	GND	NC	NC	NC	GND
18	GND	NC	NC	NC	GND	NC	GND
17	GND	NC	GND	RSTBTN#	REQ6#	GNT6#	GND
16	GND	NC	NC	DEG#	GND	NC	GND
15	GND	NC	GND	FAL#	REQ5#	GNT5#	GND
14	GND	AD35	AD34	AD33	GND	AD32	GND
13	GND	AD38	GND	V(I/O)	AD37	AD36	GND
12	GND	AD42	AD41	AD40	GND	AD39	GND
11	GND	AD45	GND	V(I/O)	AD44	AD43	GND
10	GND	AD49	AD48	AD47	GND	AD46	GND
9	GND	AD52	GND	V(I/O)	AD51	AD50	GND
8	GND	AD56	AD55	AD54	GND	AD53	GND
7	GND	AD59	GND	V(I/O)	AD58	AD57	GND
6	GND	AD63	AD62	AD61	GND	AD60	GND
5	GND	CBE5#	GND	V(I/O)	CBE4#	PAR64	GND
4	GND	V(I/O)	NC	CBE7#	GND	CBE6#	GND
3	GND	CLK4	GND	GNT3#	REQ4#	GNT4#	GND
2	GND	CLK2	CLK3	SYSEN#	GNT2#	REQ3#	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND

Table 4-8: CompactPCI J2 Connector Pin Definition

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4.5 Switches

Refer to “cPCI-6620 Series Board Layout” on page 17 for switch locations.

Reset Button (SW2)

Press Reset Button to reset the system.



Clear CMOS Switch (SW1)

Press switch SW1 to clear CMOS and reset the BIOS values to default.



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5 Getting Started

This chapter describes the installation of the following components to the cPCI-6620 and rear transition modules:

- Memory modules
- 2.5” SATA hard drive
- 2.5" SATA storage drive

5.1 CPU and Heatsink

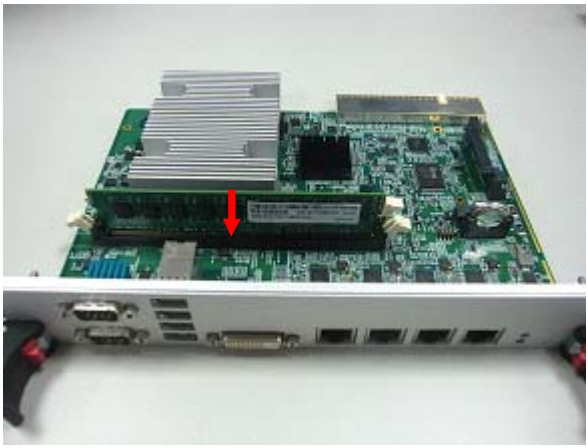
The cPCI-6620 Series comes with CPU and heatsink pre-installed. Removal of heatsink/CPU by users is not recommended. Please contact your ADLINK service representative for assistance.

5.2 Memory Module Installation

The cPCI-6620 provides two 240-pin DIMM sockets for DDR3-1066/1333 memory modules.

Installing a memory module

1. Insert the memory module until it properly seated shown as below.



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2. Secure the memory module by pushing the white latches on both sides of the socket..



5.3 SATA Drive Installation

The cPCI-6620 provides space to install a slim type 2.5" SATA storage drive. Storage drive standoffs and mounting screws are provided in the accessory kit.

Installing a SATA Drive

1. Turn the slim type 2.5" SATA drive bottom side up and secure the four standoffs provided to the four corners of the drive.

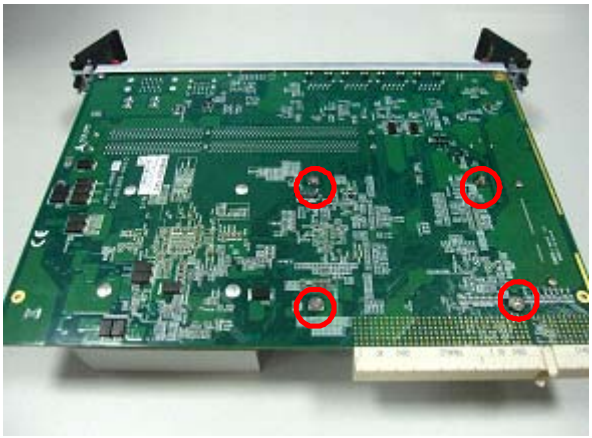


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2. Turn the drive top side up and align the drive with the onboard SATA connector as shown. Insert the drive until it is properly seated in the connector.



3. Turn the cPCI-6620 solder side up, being careful to support the SATA drive. Secure the drive with four M3 screws as shown below.



CAUTION:

Support the hard drive assembly to avoid damaging the SATA connectors when turning the board over to proceed with Step 3.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6 Drivers & Utilities

The cPCI-6620 drivers can be found on the ADLINK All-In-One DVD at **X:\cPCI\cPCI-6620** or from the ADLINK website (**http://www.adlinktech.com**). ADLINK provides validated drivers for Windows XP Professional and Windows 7. We recommend using these drivers to ensure compatibility.

6.1 Driver Installation Procedure

The following describes the driver installation procedures for Windows XP.

1. Install the Windows operating system before installing any driver. Most standard I/O device drivers are installed during Windows installation.


NOTE:

In order to enable AHCI mode, you must pre-install the Intel® Rapid Storage Technology driver using the F6 installation method described in the file **F6Readme.txt**, located here: **…\AHCI\Intel RST Driver Files_F6 Install_ 32bit_10.1.0.1008.zip** (not required for Windows 7).

---

2. Install the **chipset driver** by extracting and running the program in **...\Chipset\Intel_Chipset_Device_Software _AllOS_9.2.0.1015.zip**.
3. Install the Microsoft .NET Framework utilities (required for the graphics utility) by extracting and running the program in **...\Chipset\Microsoft_Net_Framework_v3.5_SP1.zip.**
4. Install the **graphics driver** and utilities by extracting and running the program in **...\Graphics\Intel_HD_Graphics _Family_WinXP_6.14.10.5313.zip**.
5. Install the **LAN drivers** by extracting and running the program in **…\LAN\Intel_82574L_Gigabit_Network_WINXP _11.4.7.0.zip**.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Sample Code

The sample program written in C shown below offers an interactive way to test the Watchdog Timer under DOS.

```
#include<stdio.h>
#include<dos.h>

#define IT8783_ID1 0x87
#define IT8783_ID2 0x83

static unsigned int IT8783_ioPort = 0x2e;

//Check index port
void Enter_IT8783_Config(unsigned int flag)
{
        if(flag) IT8783_ioPort = 0x4e;

        switch(IT8783_ioPort)
        {
                case 0x2E:  //Address port = 0x2E, enter
     keys = 0x87, 0x01, 0x55, 0x55
                        outportb(0x2E, 0x87);
                        outportb(0x2E, 0x01);
                        outportb(0x2E, 0x55);
                        outportb(0x2E, 0x55);
                        break;
                case 0x4E:  //Address port = 0x4E, enter
     keys = 0x87, 0x01, 0x55, 0xAA
                        outportb(0x4E, 0x87);
                        outportb(0x4E, 0x01);
                        outportb(0x4E, 0x55);
                        outportb(0x4E, 0xAA);
                        break;
                default:
                        break;
           }
}

//Exit index port
void Exit_IT8783_Config(unsigned int flag)
{
        if(flag) IT8783_ioPort = 0x4e;
```

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

```
        outportb(IT8783_ioPort, 0x02);
        outportb(IT8783_ioPort+1, 0x02);
}

//Check chip
void Get_IT8783_ID(unsigned int &ID1, unsigned int &ID2)
{
        outportb(IT8783_ioPort, 0x20);
        ID1 = inportb(IT8783_ioPort+1);
        outportb(IT8783_ioPort, 0x21);
        ID2 = inportb(IT8783_ioPort+1);
}

//WDT and LED program
void IT8783_3_WDTRun(unsigned int count_value, unsigned
     int PLEDflag)           //for cPCI-6510
{
        unsigned long tempCount;
        unsigned int registerValue;


        outportb(IT8783_ioPort, 0x07);
       outportb(IT8783_ioPort+1, 0x07);        // Device
     7

        outportb(IT8783_ioPort, 0xf8);
        outportb(IT8783_ioPort+1, 0x00);        // PLED
     mapping to nothing, disable PLED function

        if(PLEDflag == 1)
        {
                outportb(IT8783_ioPort, 0x2D);
                registerValue = inportb(IT8783_ioPort +
     1);
                registerValue |= 0x01;       // set
     Pin109 is GPIO function GP60
                outportb(IT8783_ioPort+1, registerValue);

                outportb(IT8783_ioPort, 0xC5);
                registerValue = inportb(IT8783_ioPort +
     1);
```

```
            registerValue &= 0xfe;      // set GP60
is alternate function
           outportb(IT8783_ioPort+1, registerValue);

            outportb(IT8783_ioPort, 0xCD);
            registerValue = inportb(IT8783_ioPort +
1);
            registerValue |= 0x01;          // set
GP60 is output
           outportb(IT8783_ioPort+1, registerValue);

            outportb(IT8783_ioPort, 0xf8);
          outportb(IT8783_ioPort+1, 0x30);       //
PLED mapping to GP60

            outportb(IT8783_ioPort, 0xf9);
            registerValue = inportb(IT8783_ioPort +
1);
            registerValue |= 0x02;
            registerValue &= 0xfb;
           outportb(IT8783_ioPort+1, registerValue);
   }
   outportb(IT8783_ioPort, 0x71);
   registerValue = inportb(IT8783_ioPort + 1);
   registerValue |= 0xD0;                  // set
Mouse & Keyboard interrupt Enable
   outportb(IT8783_ioPort+1, registerValue);

   outportb(IT8783_ioPort, 0x73);
   outportb(IT8783_ioPort+1, count_value); // set
WDT count LSB
   tempCount = tempCount >> 8;
   outportb(IT8783_ioPort, 0x74);
   outportb(IT8783_ioPort+1, count_value); // set
WDT count MSB

   if(count_value >= 60)
   {
            outportb(IT8783_ioPort, 0x72);
            registerValue = inportb(IT8783_ioPort+1);
            registerValue &= 0x8f;
          registerValue |= 0x10; //enable WDT output
through PowerOK!
```

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

```
                outportb(IT8783_ioPort+1, registerValue);
        // set WDT count is minute

                tempCount = count_value / 60;
                if((count_value%60) > 30)
                        tempCount++;
                if(tempCount > 65535)
                        tempCount = 65535;
                printf("WDT timeout in %d minutes.\n",
        tempCount);
           }
           else
           {
                outportb(IT8783_ioPort, 0x72);
                registerValue = inportb(IT8783_ioPort+1);
                registerValue |= 0x80;

                tempCount = count_value;
                if(tempCount != 0)
                {
                        printf("WDT timeout in %d
        seconds.\n", tempCount);
                        registerValue |= 0x40; //Enable
        WDT output through KBRST
                }
                else
                {
                        printf("WDT is Disabled.\n");
                        registerValue &= 0xbf; //Disable
        WDT output through KBRST
                }

                outportb(IT8783_ioPort+1, registerValue);
        // set WDT count is second
           }

}
```

This page intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7 BIOS Setup Utility

The following chapter describes basic navigation for the AMIBIOS®8 BIOS setup utility.

7.1 Starting the BIOS

To enter the setup screen, follow these steps:

1. Power on the motherboard
2. Press the < Delete > key on your keyboard when you see the following text prompt:
   < Press DEL to run Setup >
3. After you press the < Delete > key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu.



Note: In most cases, the < Delete > key is used to invoke the setup screen. There are several cases that use other keys, such as < F1 >, < F2 >, and so on.

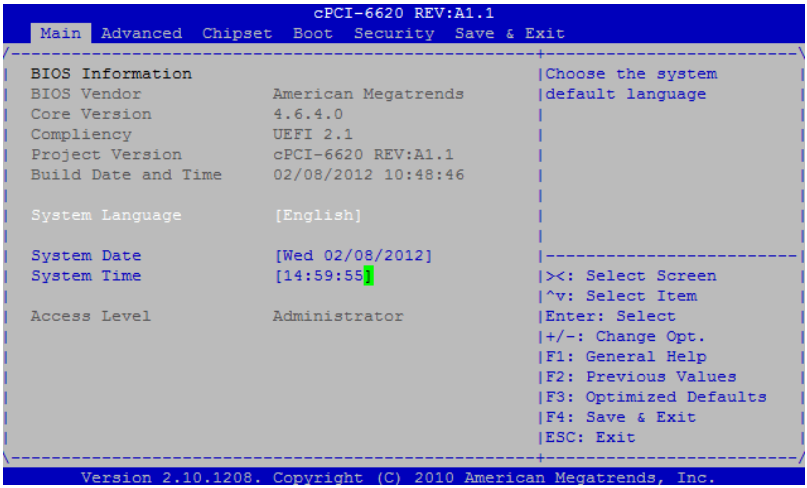
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Setup Menu

The main BIOS setup menu is the first screen that you can navigate. Each main BIOS setup menu option is described in this user's guide.

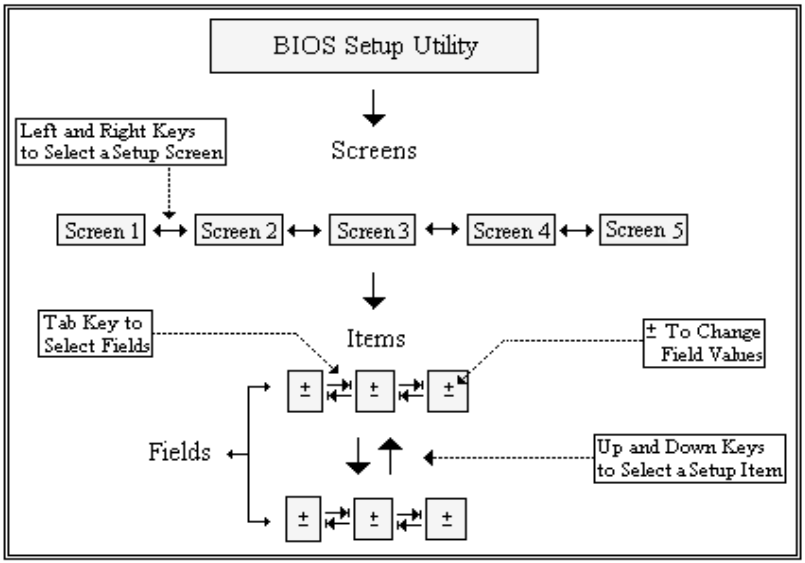
The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured. "Grayed" options cannot be configured, "Blue" options can be.

The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white. Often a text message will accompany it.



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Navigation



Note: There is a hot key legend located in the right frame on most setup screens.

Keyboard Commands

Enter Selects the highlighted option or submenu.

< > The *Left* and *Right* "Arrow" keys allow you to select a setup screen.

^ v The *Up* and *Down* "Arrow" keys allow you to select a setup screen.

+ - The *Plus* and *Minus* keys allow you to change the field value of a particular setup item.

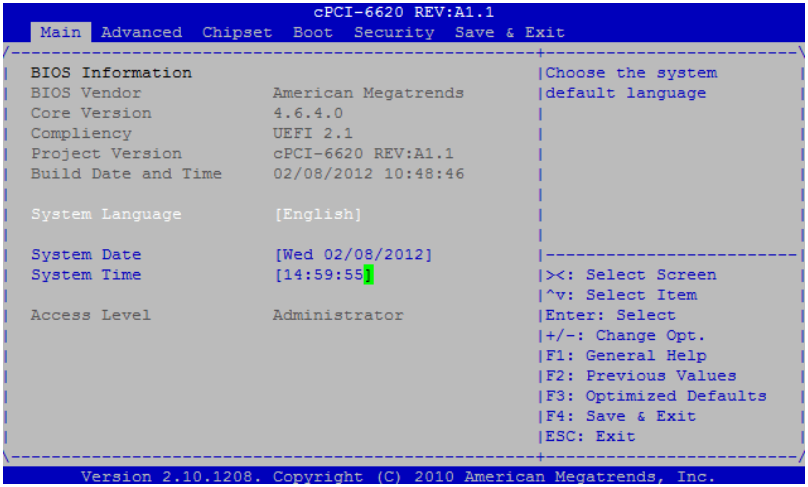
Tab Moves the cursor to the next configurable item or to the next field.

Esc The *Esc* key allows you to discard any changes you have made and exit the Setup menu. Press the *Esc* key to exit the Setup menu without saving your changes. Press the *Enter* key to discard changes and exit. You can also use the "Arrow" keys to select Cancel and then press the *Enter* key to abort this function and return to the previous screen.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.2 Main Setup

When you first enter the Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.



BIOS Information

Project Version

Displays the current BIOS revision.

Build Data

Displays the BIOS build data.

System Date/Time

Use this option to change the system time and date. Highlight System Time or System Date using the < Arrow > keys. Enter new values using the keyboard. Press the < Tab > key or the < Arrow > keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

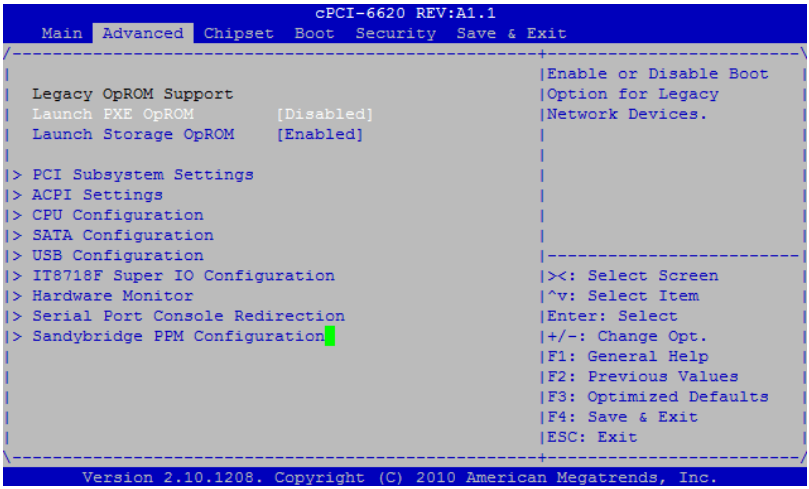
Note: The time is in 24-hour format. For example, 5:30 A.M. appears as 05:30:00, and 5:30 P.M. as 17:30:00.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3 Advanced BIOS Setup

Select the Advanced tab from the setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as SuperIO Configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the < Arrow > keys. The Advanced BIOS Setup screen is shown below.

The sub menus are described on the following pages.



Launch PXE OpROM

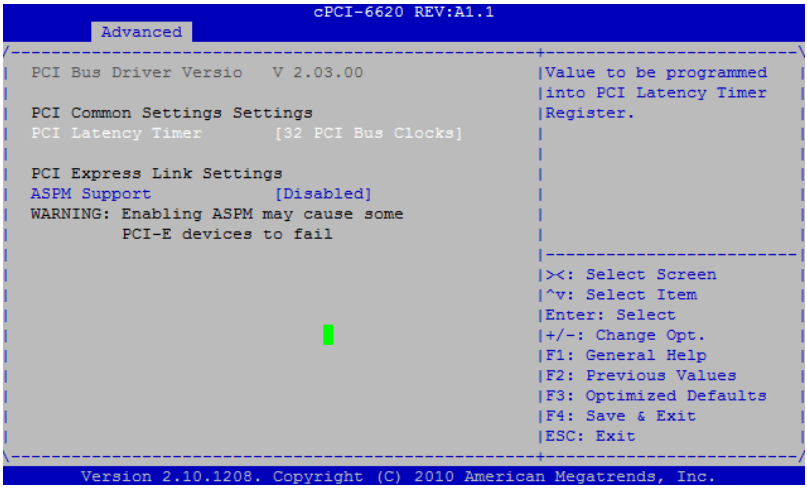
Boot option for legacy network devices. Options: Enabled, Disabled.

Launch Storage OpROM

Boot option for legacy mass storage devices with Option ROM. Options: Enabled/Disabled.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.1 PCI Subsystem Settings



PCI Latency Timer

Value to be programmed into PCI Latency Timer Register. Options: 32 PCI Bus Clocks, 64 PCI Bus Clocks, 96 PCI Bus Clocks, 128 PCI Bus Clocks, 160 PCI Bus Clocks, 192 PCI Bus Clocks, 224 PCI Bus Clocks, 248 PCI Bus Clocks.

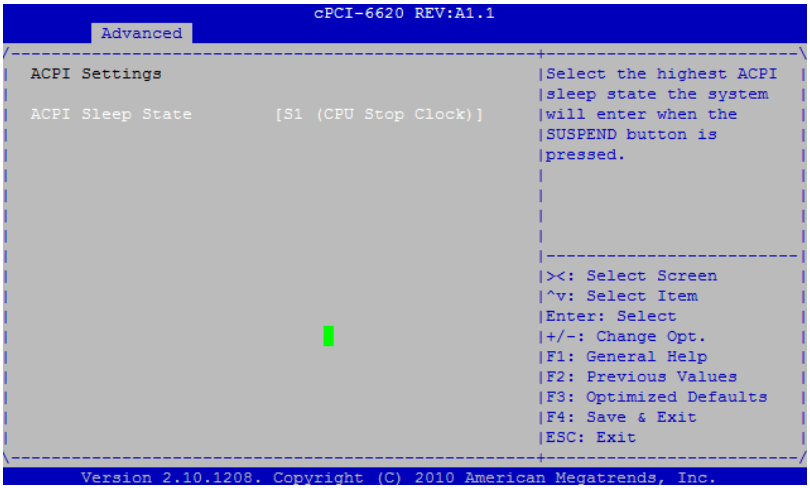
ASPM Support

Set the ASPM (Active State Power Management) level. Options:

- **Disabled:** Disable ASPM
- **Auto:** BIOS auto configure
- **Force L0:** Force all links to L0 State

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.2 ACPI Settings

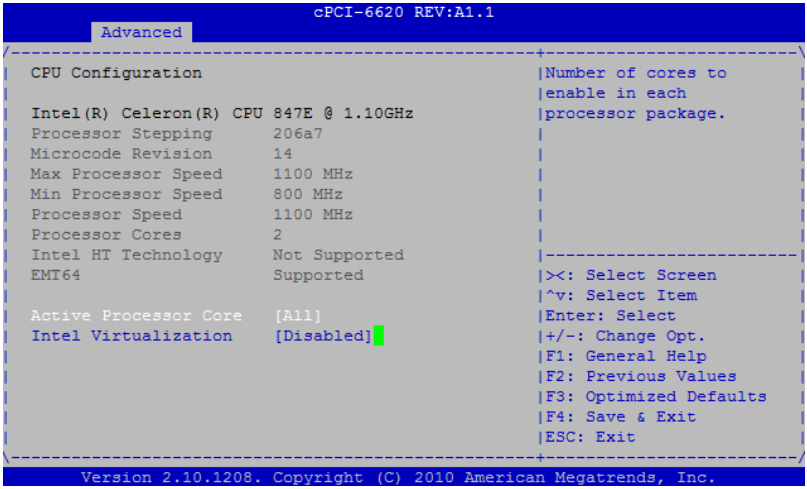


ACPI Sleep State

Select the highest ACPI sleep state the system will enter, when the Suspend button is pressed. Options: S1(CPU Stop Clock), Suspend Disable.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.3 CPU Configuration



Active Processor Cores

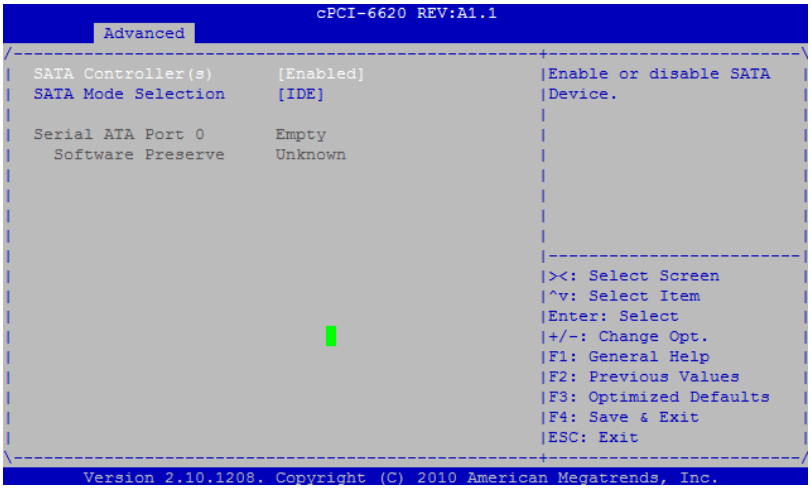
Number of cores to enable in each processor package. Options: All, 1.

Intel Virtualization

Enables/disables Intel Virtualization Technology.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.4 SATA Configuration



SATA Controller(s)

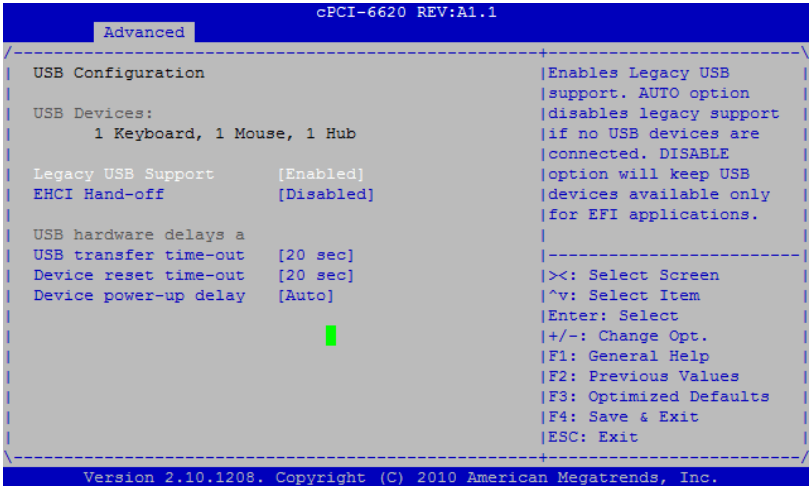
This item enables/disables the SATA Controllers.

SATA Mode Selection

The SATA interface can be configured as legacy IDE or AHCI mode.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.5 USB Configuration



Legacy USB Support

Legacy USB Support refers to USB mouse and keyboard support. Normally if this option is not enabled, any attached USB mouse or keyboard will not become available until a USB compatible operating system is fully booted with all USB drivers loaded. When this option is enabled, any attached USB device (such as mouse or keyboard) can function even when there is no USB driver loaded on the system (e.g. during boot and while using DOS). Set this value to enable or disable the Legacy USB Support.

EHCI Hand-off

This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should be claimed by the EHCI driver. Options: Enable, Disable.

USB transfer time-out

This item sets the time-out value for Control, Bulk and Interrupt transfers. Options: 1 sec, 5 sec, 10 sec, 20 sec.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Device Reset Timeout

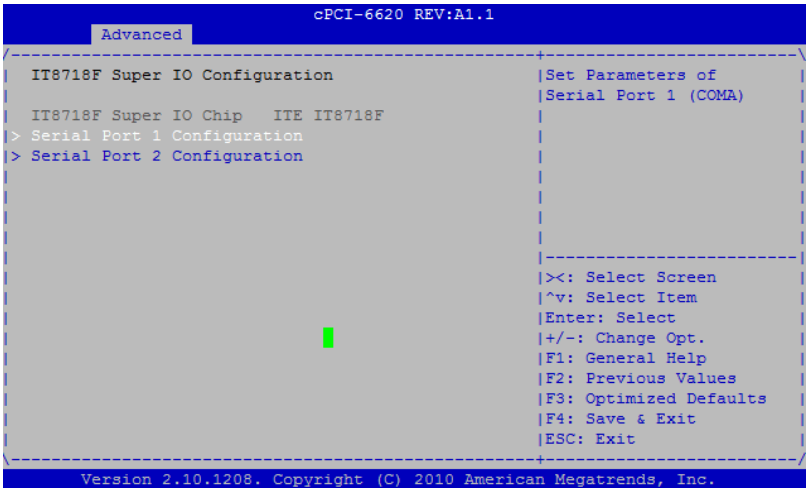
USB mass storage device Start Unit command timeout. Options: 10 sec, 20 sec, 30 sec, 40 sec.

Device Power-up Delay

Maximum time the device will take before it properly reports itself to the Host Controller. "Auto" uses these default values: for a Root port it is 100ms, for a Hub port the delay is taken from the Hub descriptor. Options: Auto, Manual

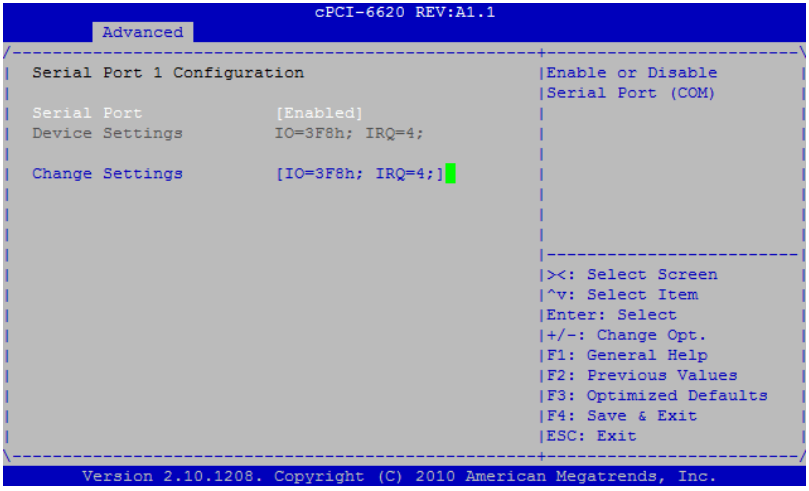
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.6 Super IO Configuration



Serial Port 1/2 Configuration

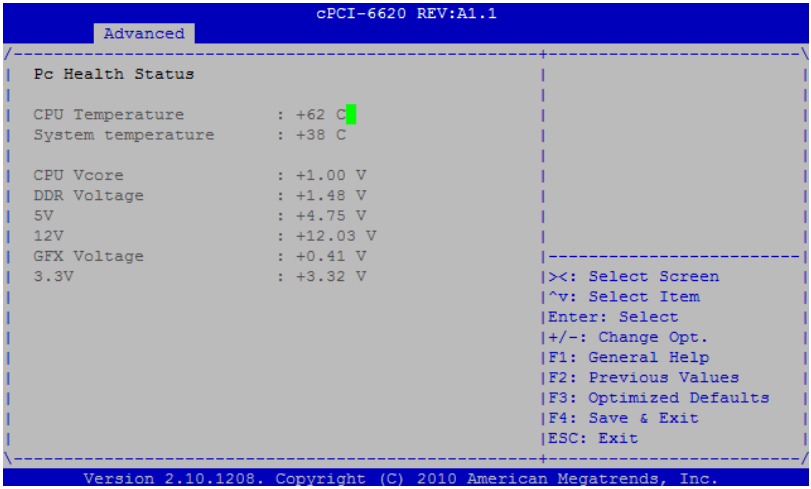
Each sub-menu allows you to enable/disable Serial Ports 1, 2.



NOTE: Serial port address and IRQ are not configurable.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

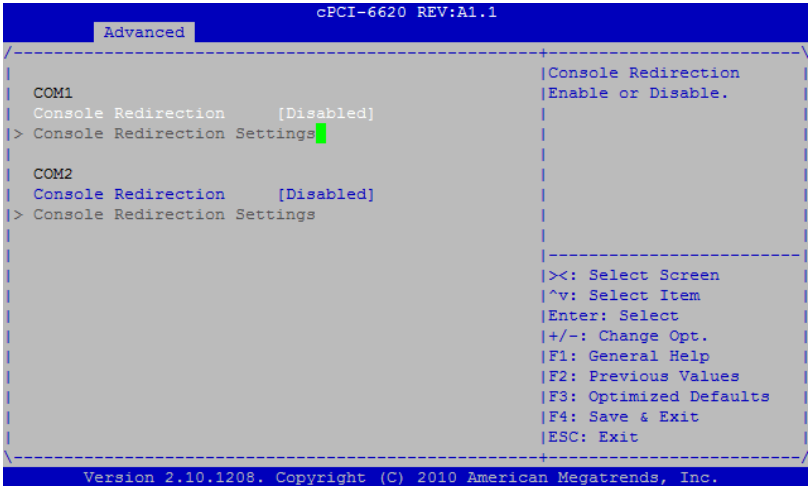
7.3.7 Hardware Monitor



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.8 Serial Port Console Redirection

The settings specify how the host computer and the remote computer will exchange data. Both computers should have the same or compatible settings.

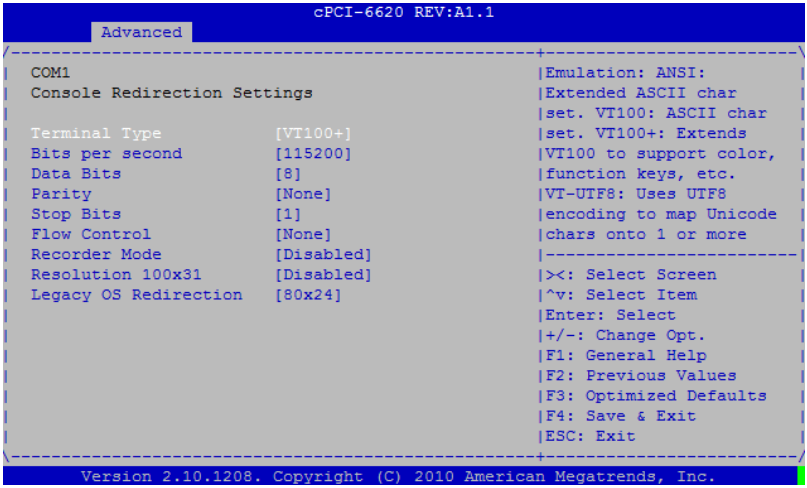


Console Redirection

Enable or disable Console Redirection.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Console Redirection Settings



Terminal Type

VT-UTF8 is the preferred terminal type for out-of-band management. The next best choice is VT100+ and then VT100. Options: VT100, VT100+, VT-UTF8, ASNI.

Bits per Second

Select the bit rate (bits/second) you want the serial port to use for console redirection. Options: 115200, 57600, 19200, 9600.

Data Bits

Select the data bits you want the serial port to use for console redirection. Set this value to 7 or 8.

Parity

Set this option to select Parity for console redirection. The settings for this value are None, Even, Odd, Mark, Space.

Stop Bits

Stop bits indicate the end of a serial data packet. (A start bit indicates the beginning). The standard setting is 1 stop bit.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Communication with slow devices may require more than 1 stop bit. Set this value to 1 or 2.

Flow Control

Set this option to select Flow Control for console redirection. The settings for this value are Noneand Hardware RTS/CTS. Flow control can prevent data loss from buffer overflow. When sending data, if the receiving buffers are full, a 'stop' signal can be sent to stop the data flow. Once the buffers are empty, a 'start' signal can be sent to re-start the flow. Hardware flow control uses two wires to send start/stop signals. Software flow control uses start/stop ASCII chars, which slows down the data flow and can be problematic if binary data is being sent.

Recorder Mode

When enabled, only text will be sent. This is to capture terminal data.

Resolution 100x31

Enables or disables extended terminal resolution.

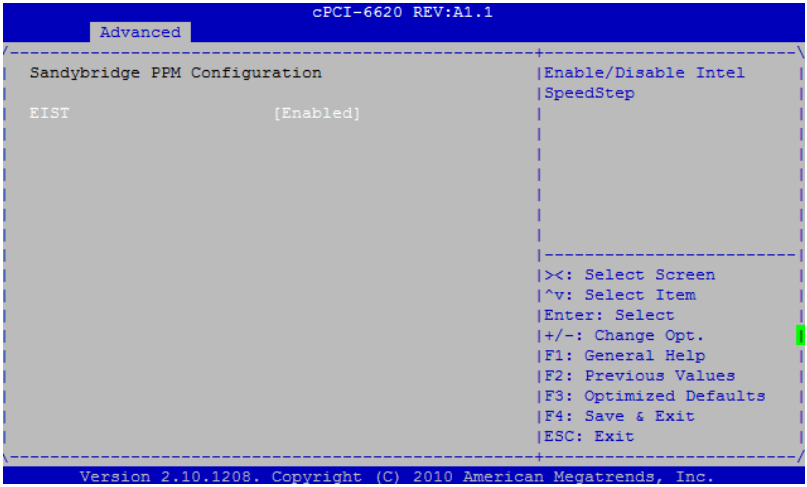
Legacy OS Redirection Resolution

In legacy OSes, the number of rows and columns supported by redirection. The settings for this value are: 80x24, 80x25.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.3.9 Sandy Bridge PPM Configuration

(Processor Power Management)



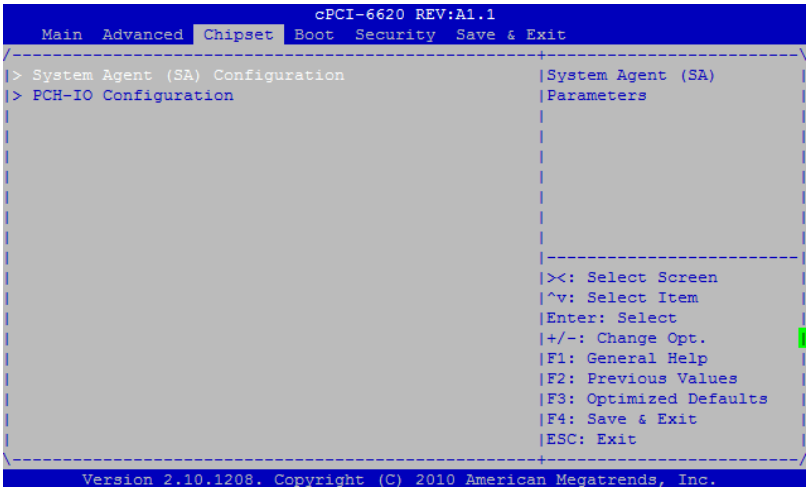
EIST

Enables/disables Enhanced Intel SpeedStep® Technology (EIST)

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

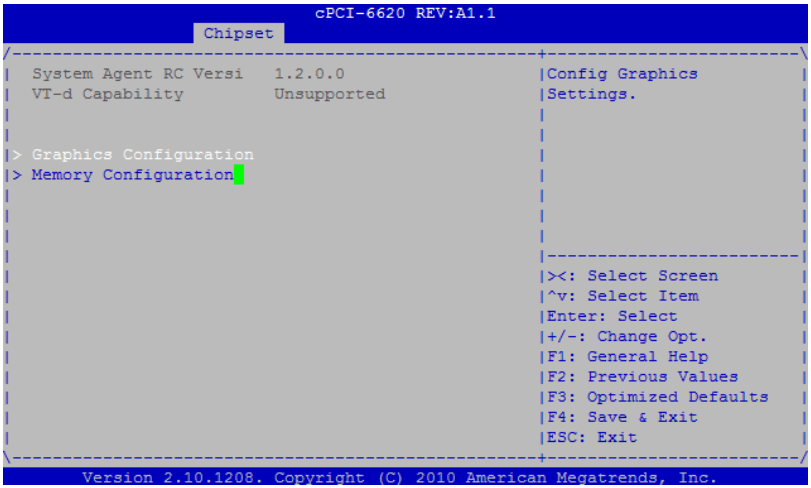
7.4 Chipset Configuration

Select the Chipset tab from the setup screen to enter the Chipset BIOS Setup screen. You can select any of Chipset BIOS Setup options by highlighting it using the < Arrow > keys. The Chipset BIOS Setup screen is shown below.

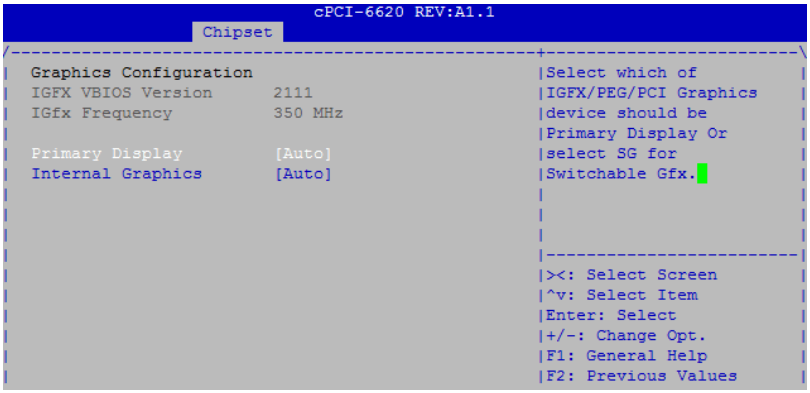


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.4.1 System Agent (SA) Configuratio



Graphics Configuration



Primary Display

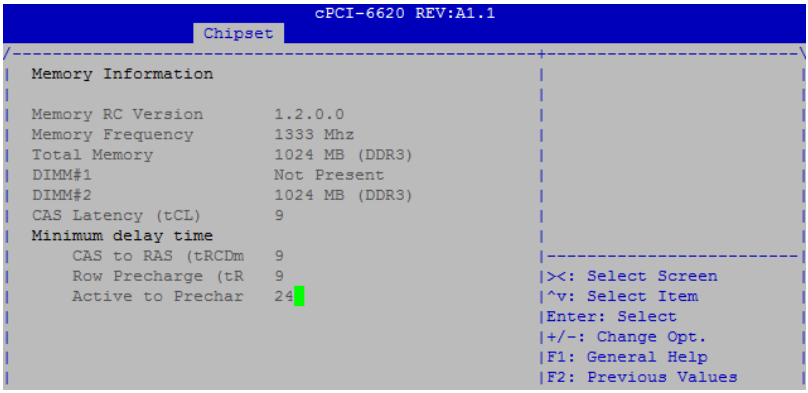
Allows you to select which graphics controller to use as the primary boot device. Options: Auto, IGFX, PEG, PCI.

Internal Graphics

Allows you to select enable/disable.the internal graphics. Options: Auto, Enabled or Disabled

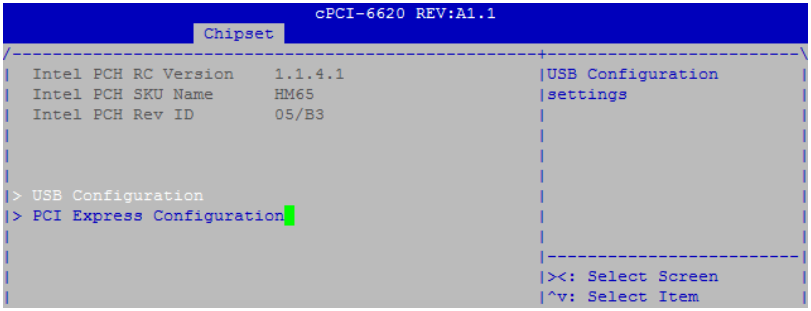
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Memory Information

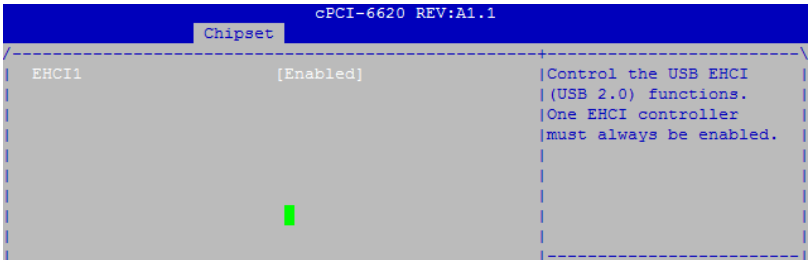


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.4.2 PCH-IO Configuration



USB Configuration

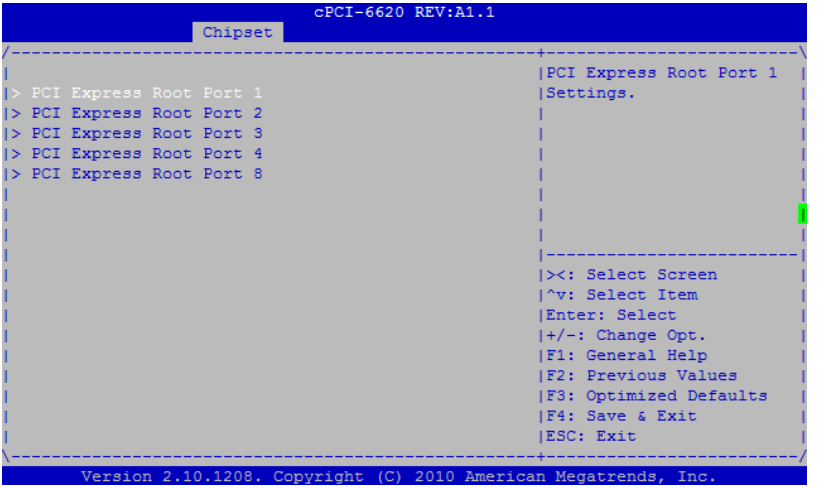


EHCI1 Controller 1

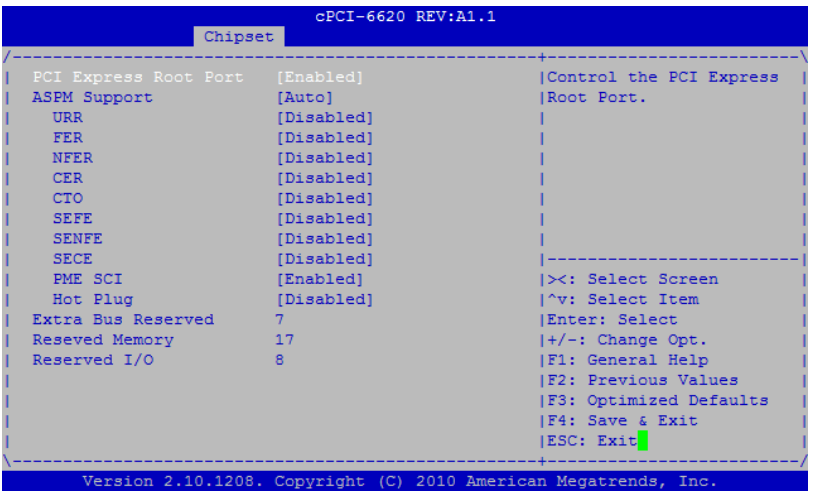
USB 2.0 (EHCI) support. Set this value to Enable/Disable.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

PCI Express Configuration

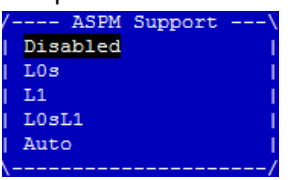


Use the submenus to configure the PCI Express Root Ports.



ASPM Support

Set the ASPM level. Options are as in the screen below:



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

URR

Enable or disable PCI Express Unsupported Request Reporting. Set this value to Enabled/Disabled.

FER

Enable or disable PCI Express device Fatal Error Reporting. Set this value to Enabled/Disabled.

NFER

Enable or disable PCI Express device Non-Fatal Error Reporting. Set this value to Enabled/Disabled.

CER

Enable or disable PCI Express device Correctable Error Reporting. Set this value to Enabled/Disabled.

CTO

Enable or disable PCI Express Completion Timer TO. Set this value to Enabled/Disabled.

SEFE

Enable or disable root PCI Express System Error on Fatal Error. Set this value to Enabled/Disabled.

SENFE

Enable or disable root PCI Express System Error on Non-Fatal Error. Set this value to Enabled/Disabled.

SECE

Enable or disable root PCI Express System Error on Correctable Error. Set this value to Enabled/Disabled.

PME SCI

Enable or disable PCI Express PME SCI. Set this value to Enabled/Disabled.

Hot Plug

Enable or disable PCI Express Hot Plug. Set this value to Enabled/Disabled.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Extra Bus Reserved

Extra Bus Reserved (0-7) for bridges behind this root bridge.

Reserved Memory

Reserved memory and prefetchable memory (1-20MB) range for this root bridge.

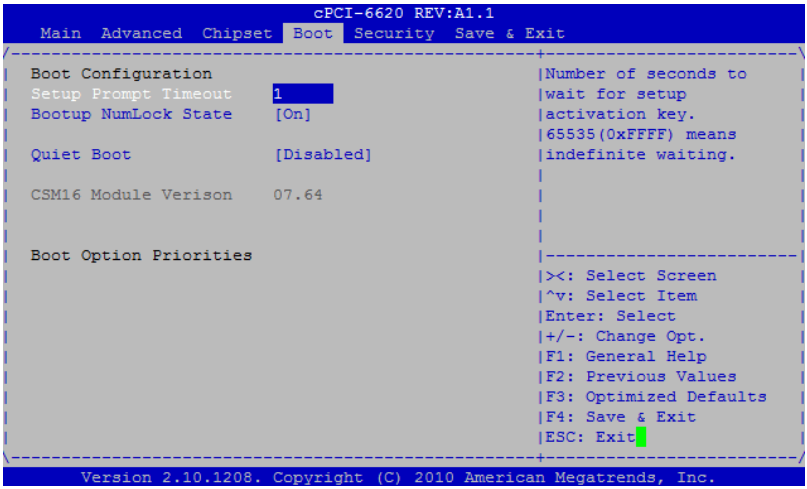
Reserved I/O

Reserved I/O (4K, 8K, 12K, 16K, 20K) range for this root bridge.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.5 Boot Configuration

Select the Boot tab from the setup screen to enter the Boot Configuration screen. You can select any of the items in the left frame of the screen to go to the sub menu for that item. You can display a Boot Configuration option by highlighting it using the < Arrow > keys. The Boot Configuration screen is shown below:



Setup Prompt Timeout

Number of seconds to wait for setup activation key. 65535 (0xFFFF) means indefinite waiting. Use the <+> and <-> keys to change the value of the selected option.

Bootup Num-Lock

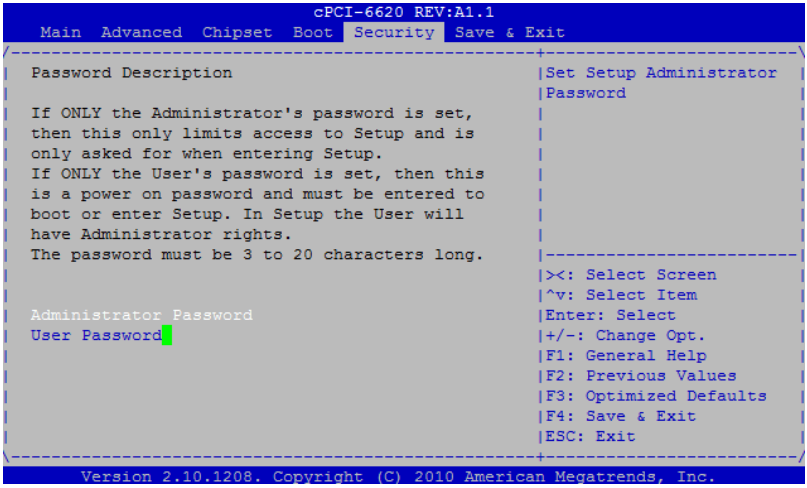
This option sets the Num Lock status when the system is powered on. Setting it to On will turn on the Num Lock key when the system is booted up. Setting it to Off will not enable the Num Lock key on bootup.

Quiet Boot

When this feature is **enabled**, the BIOS will hide normal POST messages during the boot-up sequence. When it is **disabled**, the BIOS will display the normal POST messages.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.6 Security Setup



Administrator Password

Use this option to set a password for administrators with full control of the BIOS setup utility.

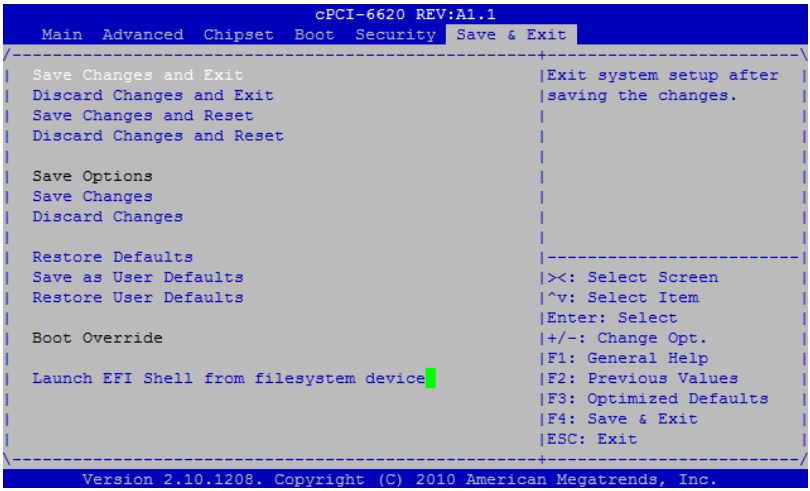
User Password

Use this option to set a password for users with limited access to the BIOS setup utility.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

7.7 Save & Exit

Select the Save & Exit tab from the setup screen to enter the Save & Exit setup screen. You can display a Save & Exit BIOS setup option by highlighting it using the < Arrow > keys. The Save & Exit BIOS setup screen is shown below.



Save Changes and Exit

When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect.

Discard Changes and Exit

Select this option to quit Setup without making any permanent changes to the system configuration.

Save Changes and Reset

Reset the system after saving the changes.

Discard Changes and Reset

Reset the system without saving any changes.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Save Changes

Save changes made so far to any of the setup options.

Discard Changes

Discard changes made so far to any of the setup options.

Restore Defaults

Restore/Load Defaults values for all the setup options.

Save as User Defaults

Save changes made so far as User Defaults.

Restore User Defaults

Restore the User Defaults to all setup options

Boot Override

Use the up/down arrow keys to highlight a boot device to immediately exit the BIOS Setup and boot from the selected device.

Launch EFI Shell from file system device

Attempts to Launch EFI Shell application (Shellx64.efi) from one of the available file system devices.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Important Safety Instructions

For user safety, please read and follow all **instructions**, **WARNINGS**, **CAUTIONS,** and **NOTES** marked in this manual and on the associated equipment before handling/operating the equipment.

- Read these safety instructions carefully.
- Keep this user's manual for future reference.
- Read the specifications section of this manual for detailed information on the operating environment of this equipment.
- When installing/mounting or uninstalling/removing equipment:
  - Turn off power and unplug any power cords/cables.
- To avoid electrical shock and/or damage to equipment:
  - Keep equipment away from water or liquid sources;
  - Keep equipment away from high heat or high humidity;
  - Keep equipment properly ventilated (do not block or cover ventilation openings);
  - Make sure to use recommended voltage and power source settings;
  - Always install and operate equipment near an easily accessible electrical socket-outlet;
  - Secure the power cord (do not place any object on/over the power cord);
  - Only install/attach and operate equipment on stable surfaces and/or recommended mountings; and,
  - If the equipment will not be used for long periods of time, turn off and unplug the equipment from its power source.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

- Never attempt to fix the equipment. Equipment should only be serviced by qualified personnel.

A Lithium-type battery may be provided for uninterrupted, backup or emergency power.



Risk of explosion if battery is replaced with one of an incorrect type. Dispose of used batteries appropriately.

- Equipment must be serviced by authorized technicians when:
  - The power cord or plug is damaged;
  - Liquid has penetrated the equipment;
  - It has been exposed to high humidity/moisture;
  - It is not functioning or does not function according to the user's manual;
  - It has been dropped and/or damaged; and/or,
  - It has an obvious sign of breakage.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Getting Service

Contact us should you require any service or assistance.

ADLINK Technology, Inc.
Address: 9F, No.166 Jian Yi Road, Zhonghe District
New Taipei City 235, Taiwan
新北市中和區建一路 166 號 9 樓
Tel: +886-2-8226-5877
Fax: +886-2-8226-5717
Email: service@adlinktech.com

Ampro ADLINK Technology, Inc.
Address: 5215 Hellyer Avenue, #110, San Jose, CA 95138, USA
Tel: +1-408-360-0200
Toll Free: +1-800-966-5200 (USA only)
Fax: +1-408-360-0222
Email: info@adlinktech.com

ADLINK Technology (China) Co., Ltd.
Address: 上海市浦东新区张江高科技园区芳春路 300 号 (201203)
300 Fang Chun Rd., Zhangjiang Hi-Tech Park,
Pudong New Area, Shanghai, 201203 China
Tel: +86-21-5132-8988
Fax: +86-21-5132-3588
Email: market@adlinktech.com

ADLINK Technology Beijing
Address: 北京市海淀区上地东路 1 号盈创动力大厦 E 座 801 室(100085)
Rm. 801, Power Creative E, No. 1,
Shang Di East Rd., Beijing, 100085 China
Tel: +86-10-5885-8666
Fax: +86-10-5885-8626
Email: market@adlinktech.com

ADLINK Technology Shenzhen
Address: 深圳市南山区科技园南区高新南七道 数字技术园
A1 栋 2 楼 C 区 (518057)
2F, C Block, Bldg. A1, Cyber-Tech Zone, Gao Xin Ave. Sec. 7,
High-Tech Industrial Park S., Shenzhen, 518054 China
Tel: +86-755-2643-4858
Fax: +86-755-2664-6353
Email: market@adlinktech.com

LiPPERT ADLINK Technology GmbH
Address: Hans-Thoma-Strasse 11, D-68163, Mannheim, Germany
Tel: +49-621-43214-0
Fax: +49-621 43214-30
Email: emea@adlinktech.com

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

ADLINK Technology, Inc. (French Liaison Office)
Address: 15 rue Emile Baudot, 91300 Massy CEDEX, France
Tel: +33 (0) 1 60 12 35 66
Fax: +33 (0) 1 60 12 35 66
Email: france@adlinktech.com

ADLINK Technology Japan Corporation
Address: 〒101-0045 東京都千代田区神田鍛冶町 3-7-4
神田 374 ビル 4F
KANDA374 Bldg. 4F, 3-7-4 Kanda Kajicho,
Chiyoda-ku, Tokyo 101-0045, Japan
Tel: +81-3-4455-3722
Fax: +81-3-5209-6013
Email: japan@adlinktech.com

ADLINK Technology, Inc. (Korean Liaison Office)
Address: 서울시 서초구 서초동 1675-12 모인터빌딩 8 층
8F Mointer B/D,1675-12, Seocho-Dong, Seocho-Gu,
Seoul 137-070, Korea
Tel: +82-2-2057-0565
Fax: +82-2-2057-0563
Email: korea@adlinktech.com

ADLINK Technology Singapore Pte. Ltd.
Address: 84 Genting Lane #07-02A, Cityneon Design Centre,
Singapore 349584
Tel: +65-6844-2261
Fax: +65-6844-2263
Email: singapore@adlinktech.com

ADLINK Technology Singapore Pte. Ltd. (Indian Liaison Office)
Address: 1st Floor, #50-56 (Between 16th/17th Cross) Margosa Plaza,
Margosa Main Road, Malleswaram, Bangalore-560055, India
Tel: +91-80-65605817, +91-80-42246107
Fax: +91-80-23464606
Email: india@adlinktech.com

ADLINK Technology, Inc. (Israeli Liaison Office)
Address: 6 Hasadna St., Kfar Saba 44424, Israel
Tel: +972-9-7446541
Fax: +972-9-7446542
Email: israel@adlinktech.com

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000