cPCI-3600 Series

3U CompactPCI® Processor Blade with
AMD Geode™ LX 800 @ 0.9W

User's Manual



Manual Rev.: 2.05

Revision Date: June 11, 2008

Part Number: 50-15058-1000

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Revision History

Revision	Release Date	Description of Change(s)
2.00	2007/10/16	Document Created
2.01	2007/10/29	Revised ETX Module specifications section, corrected RTM connectivity chart, and revised RTM board and face-plate layout figures.
2.02	2007/10/30	Revised ETX Module VGA support information, RTM packaging description, and revised BIOS Advanced Chipset Images.
2.03	2007/10/31	Technical specification review, minor specification corrections.
2.04	2007/11/21	Revised Block Diagram & ETX Module Layout for soldered and top view with additional tables Revised SBC & RTM Connectivity chart Initial Release
2.05	2008/06/11	Correct address

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Preface

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Using this Manual

Audience and Scope

The cPCI-3600 Series User's Manual is intended for hardware technicians and systems operators with knowledge of installing, configuring and using CompactPCI® single board computers and ETX modules.

Manual Organization

This manual is organized as follows:

Preface: Presents important copyright notifications, disclaimers, trademarks, and associated information on the proper understanding and usage of this document and its associated product(s).

Chapter 1, Introduction: Introduces the cPCI-3600 Series, provides a general overview, its package contents, specifications, features, applications, and block diagram.

Chapter 2, Hardware Information: Presents layout information, technical drawings, jumper settings, and configuration.

Chapter 3, BIOS Settings: Provides basic information on BIOS setup and configuration.

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

Warranty Information: Presents important warranty information for users/manufacturers rights and responsibilities regarding ADLINK products and services.

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Conventions

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



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



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



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

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Reference Documentation

The following list of documents may be used as reference materials to support installation, configuration and/or the operation of the cPCI-3600. This list is prepared in alphabetical order (by vendor name, then by document title) for clarity.

Vendor(s)	Title	Rev.
ADLINK Technology, Inc.	ETX-GLX User's Manual	1.10
AMD	AMD Geode™ CS5535 Companion Device Data Book	2004/05
AMD	AMD Geode™ GX Processors Data Book	2004/07
Intel®	82551ER Fast Ethernet PCI Controller Data sheet	2.1
Intel®	82551QM	3.0
ITE	IT8888F PCI-to-ISA Bridge Chip	0.7.1
Kontron®	ETX® Component SBC™ ETX® Design Guide	1.8
Kontron®	ETX® Component SBC™ Specification	3.0
PICMG®	CompactPCI® Specification	2.0
PCI-SIG®	PCI Local Bus Specification	2.2
NS	DS90C387A Dual Pixel LVDS Display Interface / FPD-Link	2002/10
SMSC	SCH311X LPC IO with 8042 KBC, Reset Generation, HWM and Multiple Serial Ports Data sheet	0.2
Realtek®	ALC203 TWO CHANNEL AC'97 2.3 AUDIO CODEC Data sheet	1.20

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1 Introduction

This chapter introduces the cPCI-3600 Series, presents a general overview of its package contents, specifications, features, and applications.

1.1 Overview

The cPCI-3600 Series is a state-of-the-art single board computer in a 3U dual-slot CompactPCI® form factor featuring an extremely energy efficient AMD Geode™ LX 800 CPU operating at 500 MHz with 128 kB L2 cache.

Bundled with a powerful Geode™ CS5536 companion device, the cPCI-3600 is ideal for embedded systems and is optimized to work with AMD Geode LX processors to deliver an integrated solution with very low power consumption.

Along with optional 256 MB DDR soldered memory, support for two 10/100 Ethernet ports, a 2.5” IDE HDD and one Compact-Flash socket, the cPCI-3600 offers both I/O versatility and ample storage solutions. The module further incorporates an Intel based 10/100Base-T Ethernet port, an PATA EIDE controller supporting both PIO and UDMA modes, two USB v2.0 ports, two serial ports, one parallel port (SPP/ECP/EPP) shared with FDD, one PS2 keyboard/mouse interface, AC’97 audio interface and power management functionality.

The module supports advanced display features such as high resolution Analog CRT support up 1920 x 1440 resolution in the front or rear of the carrier.

The cPCI-3600 is a revision controlled product aimed at applications that require a guaranteed long production life support, intended for military, traffic, and automation applications. and is an RoHS compliant and lead free product.

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1.2 Package Contents

The cPCI-3600 Series is packaged with the following components.

- **cPCI-3600 SBC** (Carrier Board)

  cPCI-3600 Dual-slot 3U AMD Geode™ LX 800 SBC with dual-USB, dual-COM, and 10/100 LAN ports, PS/2 keyboard and mouse, as well as CRT output.

- **cPCI-3600 CPU** (ETX Module)

  RAM, and optional HDD will vary depending on options selected.

- **HDD Bracket** (attached to carrier board)
  - Four bracket screws for attaching optional HDD.
- **44-pin IDE Cable**
- **Y cable for PS/2 combo port**
- **cPCI-R3600** (Rear Transmission Module - ***Optional and packaged separately***)



If any of the items on 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 the cPCI-3600 Series are non-standard configurations and may vary depending on customer requests.



The cPCI-3600 Series equipment must be protected from static discharge and physical shock. Never remove any of the socketed parts except at a static-free workstation. Use the anti-static bag shipped with the product to handle the board. Wear a wrist strap grounded through one of the system's ESD Ground jacks when handling components.

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1.3 Specifications

cPCI-3600 SBC (Carrier Board)

- Compliant with PICMG® 2.0 Rev 3.0
- CompactPCI® Bus 32-bit/33 MHz
- PCI Bridge: PCI2050
- Peripheral Connectivity
  - 44-pin IDE connector on Board
  - CompactFlash® slot
  - Two USB ports
  - Fast LAN port
  - Two COM ports
  - VGA Port
  - PS/2 Keyboard and Mouse port
  - LED display
  - Reset Button
- Form Factor: 3U 8HP compactPCI®
- Dimensions: 100 mm x 160 mm (L x W)


NOTE:

The CompactFlash® slot should be set to master by JP2 jumper only if a CompactFlash® card is installed without an installed hard drive.

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cPCI-3600 CPU (ETX Module)

- Embedded Processor: AMD Geode™ LX 800 CPU 500 MHz.
- Chipset: Geode™ CS5536 companion device
- Memory: 256 MB of soldered onboard DDR 400 memory and one 200-pin socket for additional, up to 1 GB DDR 400 SODIMM. (Maximum soldered onboard memory plus socket memory is 1 GB.)
- Cache: 128 KB L2 cache
- BIOS: AWARD 4 Mb Flash BIOS with ACPI 2.0 and APM power management with console redirection and CMOS backup in onboard EEPROM
- Hardware Monitor: integrated in Winbond W83627HG monitors supply voltages and CPU temperature
- Watchdog Timer: 255-level timer generates RESET
- VGA: (integrated in AMD Geode™ LX 800 CPU companion device)
  - Supports up to 16.8 million colors (24-bit)
  - Supports resolution up to 1920 x 1440
  - Supports vertical refresh rate up to 85 Hz
- Super I/O Chipset: Winbond W83627HG
- Serial Ports: two high speed RS-232C
  - COM1 - 16550 UART: up to 115 Kbits/sec
  - COM2 - 16550 UART: up to 115 Kbits/sec
- Parallel: SPP, EPP and ECP mode (pins shared with FDD)
- FDD: single FDD (pins shared with LPT1)
- IrDA: supports SIR IrDA 1.1 compliant (Not Available on Carrier)
- Enhanced IDE: two ports: one port supports two devices that can operate in PIO modes 0 to 4, MDMA modes 0 to 2, or UDMA modes 0 to 5 (up to 100 MB/s); another port from VIA 6421A, for two enhanced IDE devices, supports ATA

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PIO mode 4, multi-word DMA mode 2 drivers and Ultra DMA-mode 6.

- USB: supports up to four ports ver 2.0
- Audio Chipset: included on CS5536
- Audio Codec: AC'97 specification v2.3 compliant interface to multiple audio codecs
- LAN Chipset: Intel® 82551
- LAN Interface: 10BASE-T/100BASE-TX with TCP/UDP/IP checksum offloading; PXE booting support only for 82551QM version
- ETX® Board Dimensions: 95 mm x 114 mm (3.7" x 4.5")
- Weight: 72 grams without memory board, 74 grams with soldered memory

cPCI-3600 (Assembly)

- Power Requirements

Load	+5V (mA)	+5 V (W)	Total (W)
AMD Geode™ LX 800 with 1 GB socket memory & 40 GB IDE HDD			
Light	1104	5.52	5.52
Full	1383	6.92	6.92

- Operating Temperature: 0 °C to 60 °C (32 °F to 140 °F)
- Storage temperature: -20°C to 80°C
- Relative humidity: 10% to 90%, non-condensing at 55°C

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1.4 Features

- ETX® based 3U CompactPCI® Blade
- Low Power AMD Geode™ LX 800 Processor
- DDR 333/400 SODIMM Socket
- Optional 256 MB DDR Soldered Memory
- Supports two USB 2.0, two Fast LAN and AC'97 Audio
- IDE and CompactFlash® Storage
- Compliant with CompactPCI® Standard PICMG® 2.0 Rev 3.0
- Compliant with PCI Local Bus Specification, Revision 3.0
- Intel PXE pre-boot on Ethernet
- Serial Console
- EEPROM CMOS Backup
- USB Boot/Legacy
- Supports Windows® 2000/XP and Red Hat® Linux®

1.5 Applications

The ADLINK cPCI-3600 Series is suitable for:

- Electronics manufacturing testing
- Industrial automation and control
- Military and aerospace
- Traffic and public transportation system

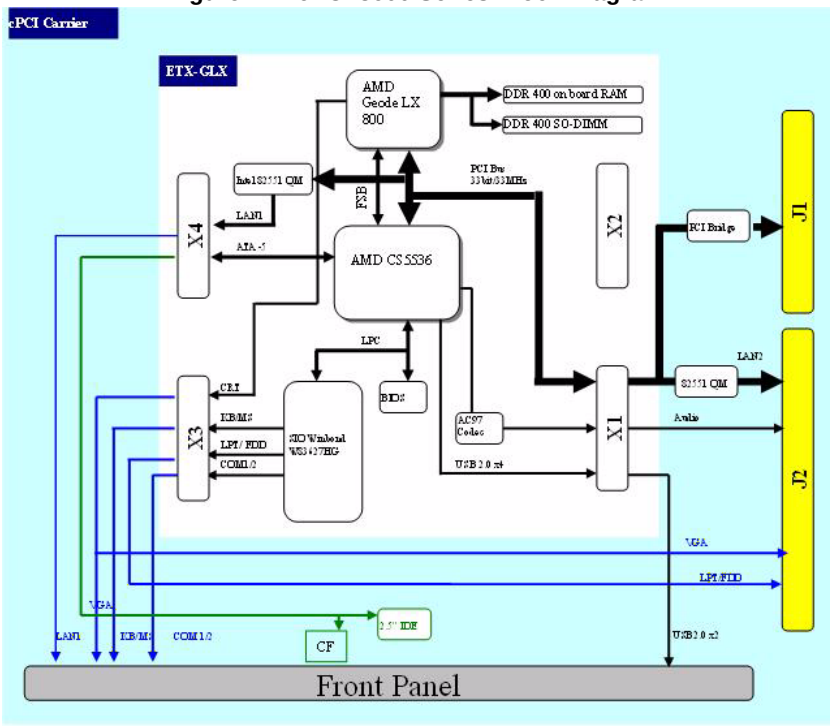
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2 Hardware Information

This chapter presents detailed cPCI-3600 Series layout information, technical drawings, pin-out settings, and jumper settings.

2.1 Functional Block Diagram

Figure 2-1: cPCI-3600 Series Block Diagram



2.2 cPCI-3600 CPU (ETX Module) Layout

Figure 2-2: ETX Module Layout Top View

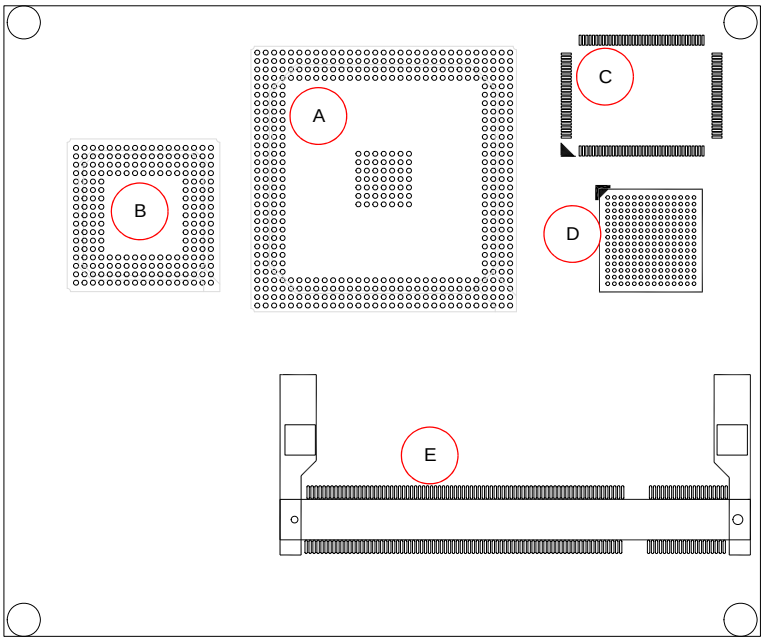


Table 2-1: ETX Module Layout Top View Description

Connector/ Device	Description	Connector/ Device	Description
A	AMD Geode™ LX 800 Processor	D	LAN Controller
B	AMD Geode™ CS5536 Companion Device	E	SODIMM
C	Super I/O		

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Figure 2-3: ETX Module Layout Soldered Side

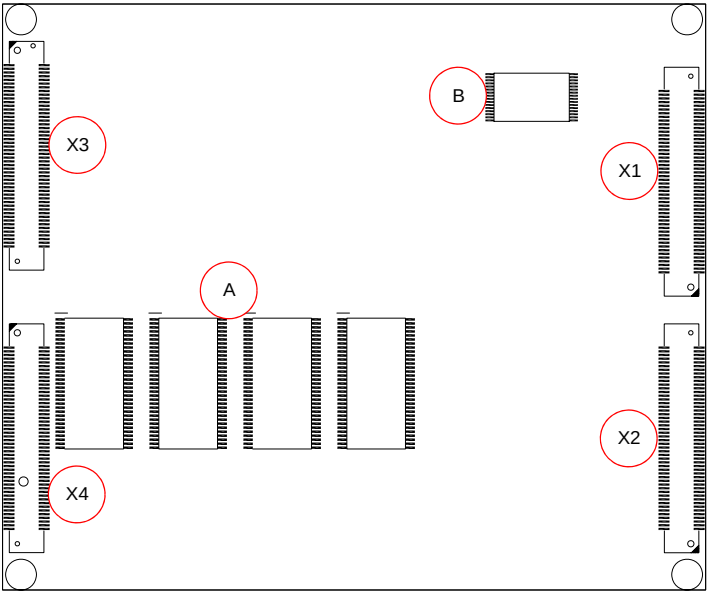


Table 2-2: ETX Module Layout Soldered Side Description

Connector/ Device	Description	Connector/ Device	Description
A	DDR Soldered Memory (Optional)	B	BIOS
X1	ETX Connector (32-bit PCI bus USB/Audio)	X2	ETX Connector (ISA Bus)
X3	ETX Connector (VGA/LCD/Video COM1/COM2 LPT1/IrDA Mouse/Keyboard)	X4	ETX Connector (Ethernet IDE1/IDE2 Power Signals Speaker/Battery I^2C/SMB Bus)

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Pin-Out Compatibility

All pins on X1, X2, X3, and X4 of the cPCI-3600 ETX module comply with pin and signal descriptions used in the original: "ETX® Specification ver. 2.6". This document contains a description of pins, signal descriptions, and mechanical characteristics of the ETX® form factor.

An additional document, "ETX® Design Guide" gives a general introduction to carrier board designs for ETX® modules.

Table 2-3: X1 Connector: PCI-bus, USB, & Audio

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	GND	51	5VCC	52	5VCC
3	PCICLK3	4	PCICLK4	53	PAR	54	SERR#
5	GND	6	GND	55	GPERR	56	RSV
7	PCICLK1	8	PCICLK2	57	PME#	58	USB2-
9	REQ3#	10	GNT3#	59	LOCK#	60	DEVSEL#
11	GNT2#	12	3V[1]	61	TRDY#	62	USB3-
13	REQ2#	14	GNT1#	63	IRDY#	64	STOP#
15	REQ1#	16	3V[1]	65	FRAME#	66	USB2+
17	GNT0#	18	RSV	67	GND	68	GND
19	5VCC	20	5VCC	69	AD16	70	CBE2#
21	SERIRQ	22	REQ0#	71	AD17	72	USB3+
23	AD0	24	3V[1]	73	AD19	74	AD18
25	AD1	26	AD2	75	AD20	76	USB0N
27	AD4	28	AD3	77	AD22	78	AD21
29	AD6	30	AD5	79	AD23	80	USB1-
31	CBE0#	32	AD7	81	AD24	82	CBE3#
33	AD8	34	AD9	83	5VCC	84	5VCC
35	GND	36	GND	85	AD25	86	AD26
37	AD10	38	AUXAL	87	AD28	88	USB0+
39	AD11	40	MIC	89	AD27	90	AD29
41	AD12	42	AUXAR	91	AD30	92	USB1+
43	AD13	44	ASVCC	93	PCIRST#	94	AD31
45	AD14	46	SDNL	95	INTC#	96	INTD#
47	AD15	48	ASSGND	97	INTA#	98	INTB#
49	CBE1#	50	SNDR	99	GND	100	GND



NOTE:

The 3 V (3.3 V ± 5%) is generated onboard. Pins may be used to power devices on the carrier board up to a maximum load of 500 mA.

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Table 2-4: X2 Connector: ISA Bus

Signal	Pin	Signal	Pin	Signal	Pin	Signal
GND	2	GND	51	VCC	52	VCC
SD14	4	SD15	53	SA6	54	IRQ5
SD13	6	MASTER#	55	SA7	56	IRQ6
SD12	8	DREQ7	57	SA8	58	IRQ7
SD11	10	DACK7#	59	SA9	60	SYSCLK
SD10	12	DREQ6	61	SA10	62	REFSH#
SD9	14	DACK6#	63	SA11	64	DREQ1
SD8	16	DREQ5	65	SA12	66	DACK1#
MEMW#	18	DACK5#	67	GND	68	GND
MEMR#	20	DREQ0	69	SA13	70	DREQ3
LA17	22	DACK0#	71	SA14	72	DACK3#
LA18	24	IRQ14	73	SA15	74	IOR#
LA19	26	IRQ15	75	SA16	76	IOW#
LA20	28	IRQ12[1]	77	SA18	78	SA17
LA21	30	IRQ11	79	SA19	80	SMEMR#
LA22	32	IRQ10	81	IOCHRDY	82	AEN
LA23	34	IO16#	83	VCC	84	VCC
GND	36	GND	85	SD0	86	SMEMW#
SBHE#	38	M16#	87	SD2	88	SD1
SA0	40	OSC	89	SD3	90	NOWS#
SA1	42	BALE	91	DREQ2	92	SD4
SA2	44	TC	93	SD5	94	IRQ9
SA3	46	DACK2#	95	SD6	96	SD7
SA4	48	IRQ3	97	IOCHK#	98	RSTDRV
SA5	50	IRQ4	99	GND	100	GND



NOTE:

IRQ12 is reserved for a PS/2 mouse

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Table 2-5: X3 Connector: CRT, LCD (LVDS), & Video

Pin	Signal	Pin	Signal
1	GND	2	GND
3	R	4	B
5	HSY	6	G
7	VSY	8	DDCK
9	NC	10	DDDA
11	LCD16	12	LCD18
13	LCD17	14	LCD19
15	GND	16	GND
17	LCD13	18	LCD15
19	LCD12	20	LCD14
21	GND	22	GND
23	LCD8	24	LCD11
25	LCD9	26	LCD10
27	GND	28	GND
29	LCD4	30	LCD7
31	LCD5	32	LCD6
33	GND	34	GND
35	LCD1	36	LCD3
37	LCD0	38	LCD2
39	5VCC	40	5VCC
41	JILI_SDA	42	LTGO0
43	JILI_SCL	44	BLON#
45	NC	46	DIGON
47	COMP	48	Y
49	NC	50	C

First LVDS Channel

Signal	LVDS Signal
LCD0	Txout 0-
LCD1	Txout 0+
LCD2	Txout 1-
LCD3	Txout 1+
LCD4	Txout 2-
LCD5	Txout 2+
LCD6	Txclk -
LCD7	Txclk +
LCD8	Txout 3-
LCD9	Txout 3+

Second LVDS Channel

Signal	LVDS Signal
LCD10	Txout 0-
LCD11	Txout 0+
LCD12	Txout 1-
LCD13	Txout 1+
LCD14	Txout 2-
LCD15	Txout 2+
LCD16	Txclk -
LCD17	Txclk +
LCD18	Txout 3-
LCD19	Txout 3+

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Table 2-6: X3 Connector: COM 1/2, LPT1 or FDD, IrDA, Mouse, & Keyboard

Pin	Signal	Pin	Signal
51	LPT/FLPY#	52	RESERVED
53	5VCC	54	GND
55	STB#	56	AFD#
57	RESERVED	58	PD7
59	IRRX	60	ERR#
61	IRTX	62	PD6
63	RXD2	64	INIT#
65	GND	66	GND
67	RTS2#	68	PD5
69	DTR2#	70	SLIN#
71	DCD2#	72	PD4
73	DSR2#	74	PD3
75	CTS2#	76	PD2
77	TXD2	78	PD1
79	RI2#	80	PD0
81	5VCC	82	5VCC
83	RXD1	84	ACK#
85	RTS1#	86	BUSY
87	DTR1#	88	PE
89	DCD1#	90	SLCT#
91	DSR1#	92	MSCLK
93	CTS1#	94	MSDAT
95	TXD1	96	KBCLK
97	RI1#	98	KBDAT
99	GND	100	GND

Pin	Signal	Pin	Signal
51	LPT/FLPY#	52	RESERVED
53	5VCC	54	GND
55	RESERVED	56	DENSEL
57	RESERVED	58	RESERVED
59	IRRX	60	HDSEL#
61	IRTX	62	RESERVED
63	RXD2	64	DIR#
65	GND	66	GND
67	RTS2#	68	RESERVED
69	DTR2#	70	STEP#
71	DCD2#	72	DSKCHG#
73	DSR2#	74	RDATA#
75	CTS2#	76	WP#
77	TXD2	78	TRK0#
79	RI2#	80	INDEX#
81	5VCC	82	5VCC
83	RXD1	84	DRV
85	RTS1#	86	MOT
87	DTR1#	88	WDATA#
89	DCD1#	90	WGATE#
91	DSR1#	92	MSCLK
93	CTS1#	94	MSDAT
95	TXD1	96	KBCLK
97	RI1#	98	KBDAT
99	GND	100	GND

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Table 2-7: X4 Connector: IDE 1, IDE 2, Ethernet, & Miscellaneous

Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	GND	51	S_IOW#	52	P_IOR#
3	5V_SB	4	PWGIN	53	S_DRQ	54	P_IOW#
5	PS_ON	6	SPEAKER	55	S_D15	56	P_DRQ
7	PWRBTN#	8	BATT	57	S_D0	58	P_D15
9	KBINH	10	LILED#	59	S_D14	60	P_D0
11	RSMRST#[1]	12	ACTLED#	61	S_D1	62	P_D14
13	ROMKBCS#[2]	14	SPDLED#	63	S_D13	64	P_D1
15	EXT_PRG[2]	16	I2CLK[3]	65	GND	66	GND
17	5VCC	18	5VCC	67	S_D2	68	P_D13
19	OVCR#	20	NC	69	S_D12	70	P_D2
21	EXTSMI#	22	I2DAT[3]	71	S_D3	72	P_D12
23	SMBCLK[3]	24	SMBDATA[3]	73	S_D11	74	P_D3
25	S_CS3#	26	SMBALRT#	75	S_D4	76	P_D11
27	S_CS1#	28	NC	77	S_D10	78	P_D4
29	S_A2	30	P_CS3#	79	S_D5	80	P_D10
31	S_A0	32	P_CS1#	81	5VCC	82	5VCC
33	GND	34	GND	83	S_D9	84	P_D5
35	PDIAG_S	36	P_A2	85	S_D6	86	P_D9
37	S_A1	38	P_A0	87	S_D8	88	P_D6
39	S_INTRQ	40	P_A1	89	GPE2#[2]	90	CBLID_P#
41	BATLOW#[2]	42	GPE1#[2]	91	RXD#	92	P_D8
43	S_AK#	44	P_INTRQ	93	RXD	94	S_D7
45	S_RDY	46	P_AK#	95	TXD#	96	P_D7
47	S_IOR#	48	P_RDY	97	TXD	98	HDRST#
49	5VCC	50	5VCC	99	GND	100	GND



NOTE:

1) May be affected by external circuitry to reset the power management logic of the ETX® module. Most designs do not use and pin is not connected.
2) Reserved, do not connect
3) I^2C-compatible
4) Available, but not supported on the ETX® module

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2.3 cPCI-3600 Series SBC & RTM Connectivity

Table 2-8: SBC & RTM Connectivity

	cPCI-3600 (8HP)		cPCI-R3600 (8HP)	
	Face-plate	Board	Face-plate	Board
Audio (Mic In, Line Out)			✓	
IDE		44-PIN		
CF		✓		
USB 2.0	✓ x 2			
Fast LAN	✓		✓	
COM	✓ x 2			
Floppy				✓(1)
LPT			✓(1)	
VGA	✓(2)		✓(2)	
PS/2 KB/MS	✓			
LED	✓			
Reset Button	✓			

NOTE:

(1) Floppy and LPT ports cannot be used simultaneously. The jumper must be set to select the desired device.
(2) Selected by DIP switch.

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Table 2-9: PCI Interrupt Connections

Onboard Device	PCI slot interrupt Pin INTA#	PCI slot interrupt Pin INTB#	PCI slot interrupt Pin INTC#	PCI slot interrupt Pin INTD#	IDSEL
cPCI Slot 1	X1_INTAJ	X1_INTDJ	X1_INTCJ	X1_INTBJ	AD19
cPCI Slot 2	X1_INTBJ	X1_INTAJ	X1_INTDJ	X1_INTCJ	AD20
cPCI Slot 3	X1_INTCJ	X1_INTBJ	X1_INTAJ	X1_INTDJ	AD21
cPCI Slot 4	X1_INTDJ	X1_INTCJ	X1_INTBJ	X1_INTAJ	AD22

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2.4 cPCI-3600 SBC (Carrier) Board Layout

Figure 2-4: Carrier Connector Layout

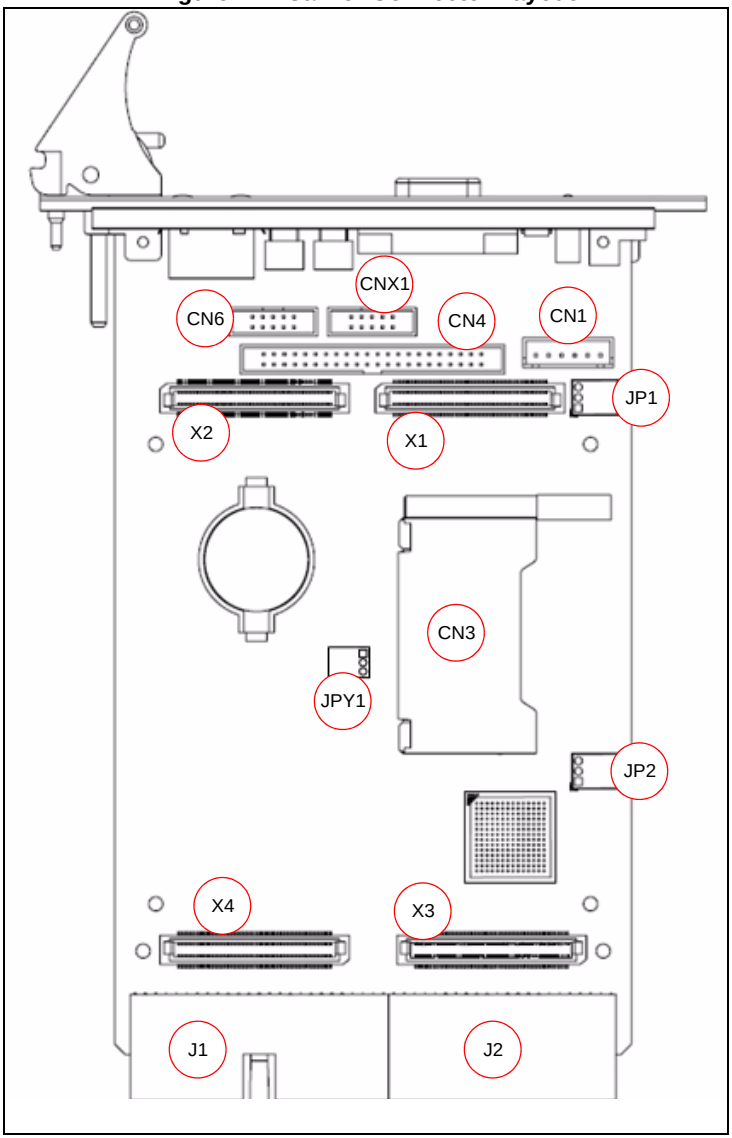


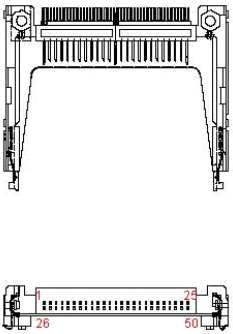
Table 2-10: Carrier Board Connectors & Jumpers

Connector/ Jumper	Description	Connector/ Jumper	Description
CN1	PS/2 KB/MS	JP1	Clears CMOS
CN3	CF Card Socket	JP2	CF Master/Slave Switch
CN4	IDE Connector	JPY1	VGA Front/Rear Switch
CN6	COM 1	X1	ETX Connector
CNX1	COM 2	X2	ETX Connector
J1	CompactPCI Connector	X3	ETX Connector
J2	CompactPCI Connector	X4	ETX Connector

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2.5 cPCI-3600 SBC (Carrier) Connectors & Jumpers on Board

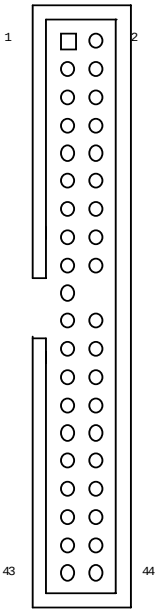
Table 2-11: CN3: CompactFlash type I/II



Signal Name	Pin	Pin	Signal Name
GND	1	26	GND
SDD3	2	27	SDD11
SDD4	3	28	SDD12
SDD5	4	29	SDD13
SDD6	5	30	SDD14
SDD7	6	31	SDD15
SDCS#1	7	32	SDCS#3
GND	8	33	GND
GND	9	34	SDIOR#
GND	10	35	SDIOW#
GND	11	36	+5V
GND	12	37	IDEIRQ15
+5V	13	38	+5V
GND	14	39	PCSEL
GND	15	40	NC
GND	16	41	SIDERST#
GND	17	42	SIORDY
SDA2	18	43	NC
SDA1	19	44	SDDACK#
SDA0	20	45	IDEACT#
SDD0	21	46	S66DECT
SDD1	22	47	SDD8
SDD2	23	48	SDD9
IOIS16#	24	49	SDD10
GND	25	50	GND

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Table 2-12: CN4: 44-pin IDE



Signal Name	Pin	Pin	Signal Name
Reset IDE	1	2	GND
IDE Data 7	3	4	IDE Data 8
IDE Data 6	5	6	IDE Data 9
IDE Data 5	7	8	IDE Data 10
IDE Data 4	9	10	IDE Data 11
IDE Data 3	11	12	IDE Data 12
IDE Data 2	13	14	IDE Data 13
IDE Data 1	15	16	IDE Data 14
IDE Data 0	17	18	IDE Data 15
Ground	19	20	KEY
DREQ0	21	22	GND
IDEIOW#	23	24	GND
IDEIOR#	25	26	GND
IDEIORDY	27	28	CBSEL
DACK0#	29	30	GND
IDEIRQ14	31	32	NC
IDE Address 1	33	34	PDIAG#
IDE Address 0	35	36	IDE Address 2
IDE Chip select 1#	37	38	IDE Chip select 3#
IDE activity	39	40	GND
P5V	41	42	P5V
Ground	43	44	NC

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Table 2-13: J1: CompactPCI® Pin Assignments

Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#	ENUM# (4)	+3.3V	+5V	GND
24	GND	AD [1]	+5V	V (I/O) (1)	AD [0]	ACK64#	GND
23	GND	+3.3V	AD [4]	AD [3]	+5V	AD [2]	GND
22	GND	AD [7]	GND	+3.3V	AD [6]	AD [5]	GND
21	GND	+3.3V	AD [9]	AD [8]	M66EN	C/BE [0]#	GND
20	GND	AD [12]	GND	V (I/O) (1)	AD [11]	AD [10]	GND
19	GND	+3.3V	AD [15]	AD [14]	GND	AD [13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE [1]#	GND
17	GND	+3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V (I/O) (1)	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	BDSEL	TRDY#	GND
12-14	Key						
11	GND	AD [18]	AD [17]	AD [16]	GND	C/BE [2]#	GND
10	GND	AD [21]	GND	+3.3V	AD [20]	AD [19]	GND
9	GND	C/BE[3]#	IDSE	AD [23]	GND	AD [22]	GND
8	GND	AD [26]	GND	V (I/O) (1)	AD[25]	AD [24]	GND
7	GND	AD [30]	AD [29]	AD [28]	GND	AD [27]	GND
6	GND	REQ#	GND	+3.3V	CLK	AD [31]	GND
5	GND	Reserved (1)	Reserved (1)	PCIRST#	GND	GNT#	GND
4	GND	IPMB_PWR	HEALTHY#	V (I/O) (1)	INTP (1)	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK (3)	+5V	TMS (2)	TDO (1)	TDI (2)	GND
1	GND	+5V	-12V	TRST# (3)	+12V	+5V	GND
Pin	Z	A	B	C	D	E	F

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Table 2-14: J2: CompactPCI® Pin Assignments

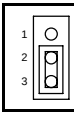
Pin	Z	A	B	C	D	E	F
22	GND	GA4 (2)	GA3(2)	GA2 (2)	GA1 (2)	GA0 (2)	GND
21	GND	CLK6	GND	LAN82551_TX-P	LAN82551_TX-N	BRSV(1)	GND
20	GND	CLK5	GND	VGA_HSY_J2	GND	VGA_R_J2	GND
19	GND	GND	GND	ICMBSDA(1)	ICMBSCL(1)	ICMBALR (1)	GND
18	GND	BRSV(1)	LAN82551_RX-P	LAN82551_RX-N	GND	VGA_VSY_J2	GND
17	GND	VGA_B_J2	GND	PRST#	REQ6#	GNT6#	GND
16	GND	VGA_DDCK_J2	BRSV(1)	DEG#	GND	VGA_G_J2	GND
15	GND	VGA_DDDA_J2	GND	FAL#	REQ5#	GNT5#	GND
14	GND	LAN82551_LINK	LAN82551_SPEED	LAN82551_ACT	GND	X1_SNDL	GND
13	GND	X3_SNDR	GND	V (I/O)(1)	P5V_STB	P5V_STB	GND
12	GND	X3_PD5	X3_PD6	X3_INIT-L	GND	X3_MIC	GND
11	GND	X3_PD7	GND	V (I/O)(1)	X3_AFD-L	X3_SLIN-L	GND
10	GND	X3_PD2	X3_PD3	X3_PD4	GND	X3_ERR-L	GND
9	GND	X3_STB-L	GND	V (I/O)(1)	X3_LPT/FLPY-L	X3_PD1	GND
8	GND	X1_USB3-P	X1_USB3-N	AD [54]	GND	X3_PD0	GND
7	GND	X3_PE	GND	V (I/O)(1)	X3_BUSY-L	X3_ACK-L	GND
6	GND	X1_USB2-P	X1_USB2-P	AD [61]	GND	X3_SLCT-L	GND
5	GND	C/BE [5]#	GND	V (I/O)(1)	C/BE [4]#	PAR 64	GND
4	GND	V (I/O)(1)	P5V_STB	C/BE [7]#	GND	C/BE [6]#	GND
3	GND	CLK4	GND	GNT3#	REQ#4	GNT4#	GND
2	GND	CLK2	CLK3	SYSEN#	GNT2#	REQ3#	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND
Pin	Z	A	B	C	D	E	F

NOTE:

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

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Table 2-15: JP1: CMOS Selection



Jumper	Status
1-2	**Normal**
2-3	**Clear CMOS**

Table 2-16: JP2: CF Mode Selection



Jumper	Status
1-2	**Master**
2-3	**Slave**

Table 2-17: JPY1: VGA Selection



Jumper	Status
1-2	**RTM**
2-3	**Front Panel**

X1: PCI-Bus, USB, & Audio

See section 2.3.2.

X2: ISA-Bus

See section 2.3.3.

X3: VGA, LCD, COM 1, COM 2, LPT, IrDA, Mouse, & Keyboard

See sections 2.3.4 & 2.3.5.

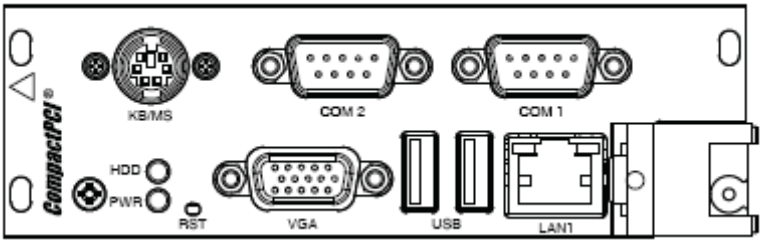
X4: IDE 1, IDE 2, Ethernet, & Miscellaneous

See section 2.3.6.

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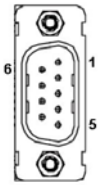
2.6 cPCI-3600 SBC (Carrier) Face-plate Layout

Figure 2-5: Carrier Face-plate Layout



2.7 cPCI-3600 SBC (Carrier) Connectors on Face-plate

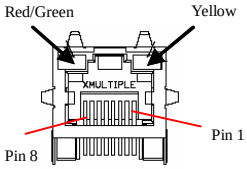
Table 2-18: COM 1 & COM 2 (CN6 & CNX1)



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

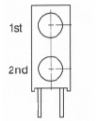
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Table 2-19: LAN: RJ-45 Connector (CN8)



Pin	Signal	Function
1	TXDP	Transmit Data(+)
2	TXDN	Transmit Data(-)
3	RXDP	Receive Data(+)
4	LANCT1	Termination
5	LANCT2	Termination
6	RXDN	Receive Data(-)
7	LANCT3	Termination
8	LANCT4	Termination

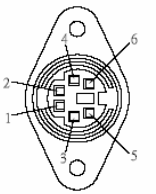
Table 2-20: LED Definition



Jumper	Status
Red (1st)	IDE data transfer
Green (2nd)	Power on

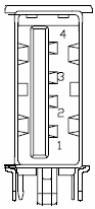
Table 2-21: PS/2, KB/MS (CN1 Connector)

PIN	SIGNAL	FUNCTION	COMMENTS
1	KBDAT	Keyboard Data	Keyboard Interface
2	MSDAT	Mouse Data	
3	GND	Ground	
4	KB5V	Power	
5	KBCLK	Keyboard Clock	
6	MSCLK	Mouse Clock	



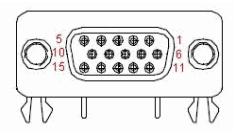
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Table 2-22: USB 2.0 (CN5 & CN7 Right Angle Connector)



Pin	Signal Name
1	VCC
2	USB-
3	USB+
4	Ground

Table 2-23: VGA/CRT (CN2 Connector)

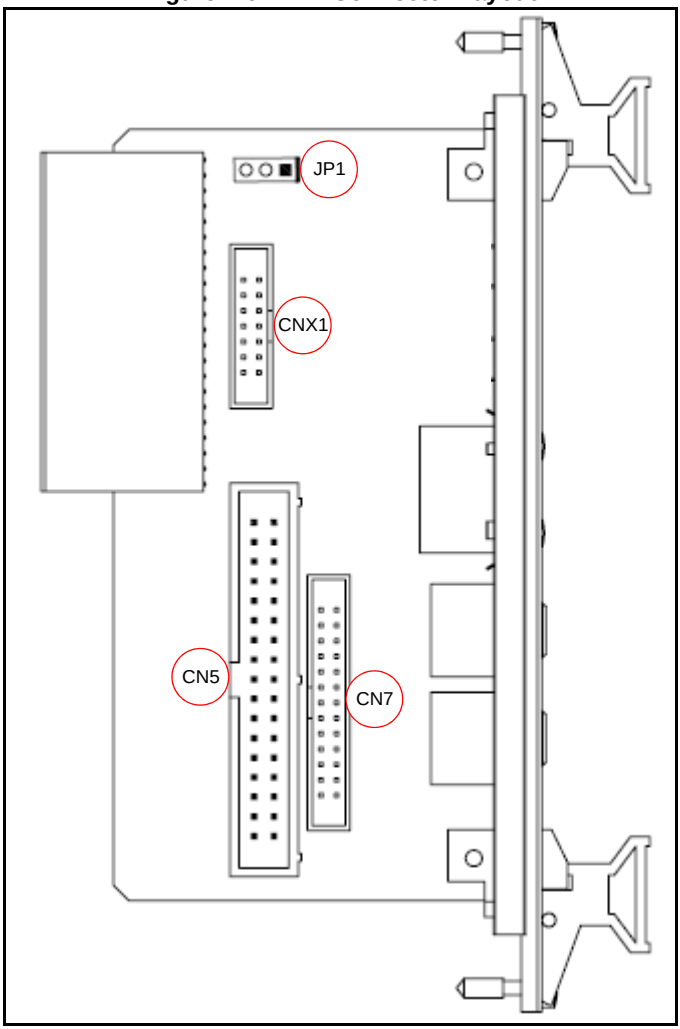


Signal Name	Pin	Pin	Signal Name
Red	1	2	Green
Blue	3	4	VCC pull-up
GND	5	6	GND
GND	7	8	GND
VCC	9	10	GND
VCC pull-up	11	12	DDC2B data
HSYNC	13	14	VSYNC
DDC2B clock	15		

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2.8 cPCI-3600 RTM Board Layout

Figure 2-6: RTM Connector Layout



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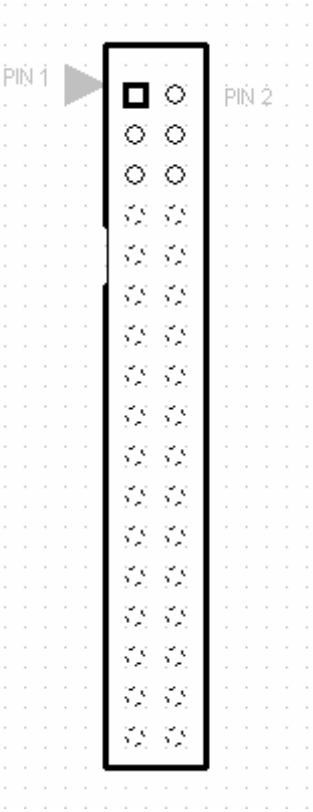
Table 2-24: RTM Board Connectors & Jumpers

Connector/ Jumper	Description	Connector/ Jumper	Description
CN5	Floppy	CNX1	VGA
CN7	LPT	JP1	FDD/LPT Select

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2.9 cPCI-3600 RTM Connectors & Jumpers on Board

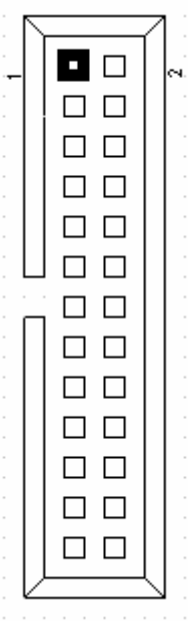
Table 2-25: CN5: FDD Connector



Pin #	Signal	Pin#	Signal
1	Ground	2	X3_AFD-L
3	Ground	4	N.C.
5	Ground	6	X3_PD5
7	Ground	8	X3_PD0
9	Ground	10	X3_PD6
11	Ground	12	X3_ACK-L
13	Ground	14	X3_PD7
15	Ground	16	X3_BUSY-L
17	Ground	18	X3_INIT-L
19	Ground	20	X3_SLIN-L
21	Ground	22	X3_PE
23	Ground	24	X3_SLCT-L
25	Ground	26	X3_PD1
27	Ground	28	X3_PD2
29	Ground	30	X3_PD3
31	Ground	32	X3_ERR-L
33	Ground	34	X3_PD4

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Table 2-26: CN7: LPT Connector



Pin #	Signal	Pin#	Signal
1	RPSTROBJ	2	X3_AFD-L
3	RPP0	4	X3_ERR-L
5	RPP1	6	X3_INIT-L
7	RPP2	8	X3_SLIN-L
9	RPP3	10	Ground
11	RPP4	12	Ground
13	RPP5	14	Ground
15	RPP6	16	Ground
17	RPP7	18	Ground
19	X3_ACK-L	20	Ground
21	X3_BUSY-L	22	Ground
23	X3_PE	24	Ground
25	X3_SLCT-L	26	Ground

Table 2-27: JP1: FDD/LPT Selection

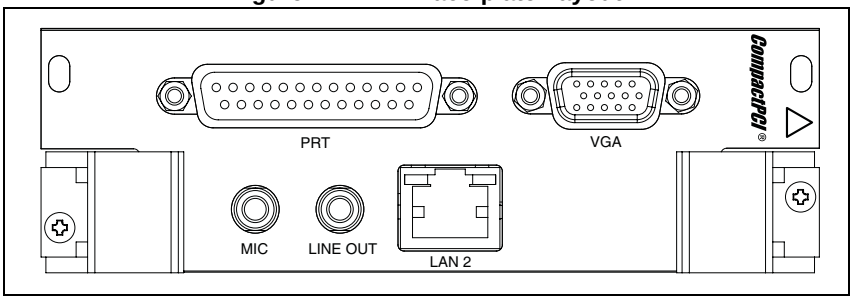


Jumper	Status
1-2	FDD
2-3	LPT

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2.10 cPCI-3600 RTM Face-plate Layout

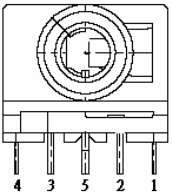
Figure 2-7: RTM Face-plate Layout



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2.11 cPCI-3600 RTM Connectors on Face-plate

Table 2-28: Audio Port (PH 1 & PH 2 Connector)



Pin #	RS-232
1	Right-Channel
2	Right-Ground
3	Left-Ground
4	Left-Channel
5	Ground

All other connectors (LAN, USB 2.0 & VGA), signals and pin-outs are identical to Carrier Face-plate specifications.

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3 BIOS Settings

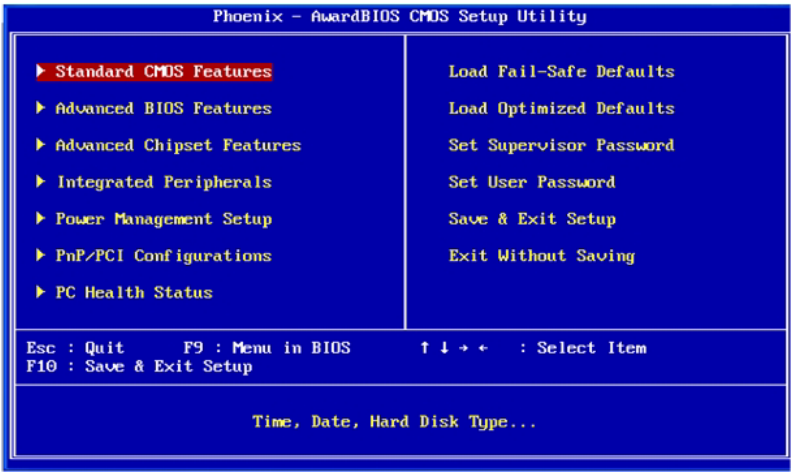
3.1 Description

The cPCI-3600 Series GLX module uses a Phoenix Award PCI/ ISA BIOS ver 6.0 for system configuration. The Award BIOS setup program is designed to provide maximum flexibility in configuring the system by offering various selectable options to meet end-user requirements. This chapter is written to assist you in the proper usage of these features.

To access the Phoenix AWARD PCI/ISA BIOS Setup program, during initial system power up;

Press the < Del > key

The Main Menu will be displayed.



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3.2 Main Menu Setup Items

The main menu includes the following setup categories. Recall that some systems may not include all entries.

Standard CMOS Features (see section 3.3)

Sets basic system configuration.

Advanced BIOS Features (see section 3.4)

Sets advanced features available on the system.

Advanced Chipset Features (see section 3.5)

Changes values in the chipset registers and optimizes system performance.

Integrated Peripherals (see section 3.6)

Specifies settings for integrated peripherals.

Power Management Setup (see section 3.7)

Specifies settings for power management.

PnP/PCI Configuration (see section 3.8)

Specifies settings for PnP/PCI. (Only applicable if your system supports PnP/PCI)

PC Health Status (see section 3.9)

Monitors CPU and system temperatures.

Frequency/Voltage Control

Specifies frequency/voltage control settings.

Load Fail-Safe Defaults

Loads the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults

Loads BIOS default values (factory settings) for optimal system performance.

Supervisor/User Password

Sets User and Supervisor Passwords.

Save & Exit Setup

Saves CMOS value changes to CMOS and exits setup.

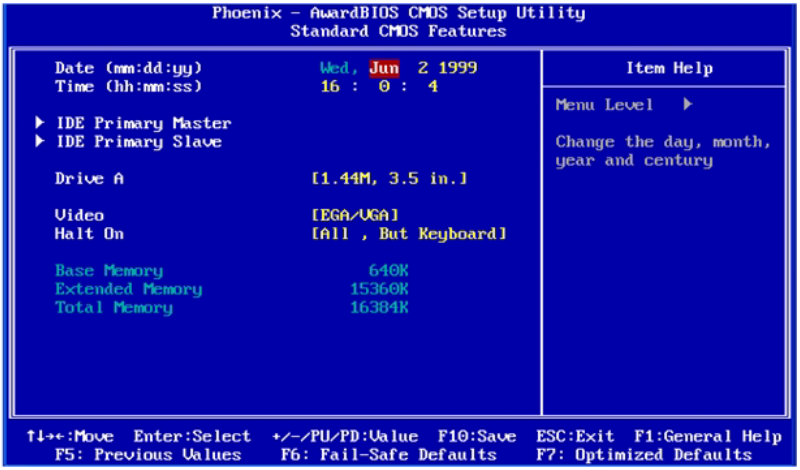
Exit Without Saving

Abandons all CMOS value changes and exits setup.

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3.3 Standard CMOS Features

The main menu includes the following setup categories. Recall that some systems may not include all entries.



Date

The BIOS determines the day of the week from other date information.

Time

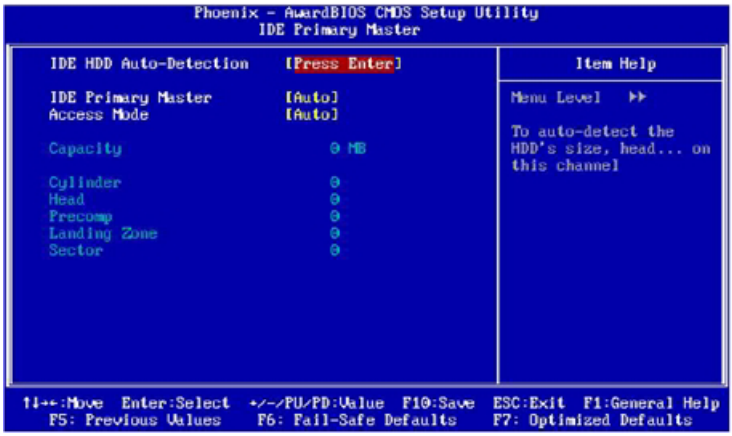
The time format is based on the 24-hour military-time clock. For example, 1 P.M. is 13:00:00. Press the LEFT arrow key "⇦" or (appropriate key to move to the desired field). Press the <PgUp> or <PgDn> keys to increment the setting, or type the desired value directly into the field.

IDE Primary Master/Slave Items

This selection brings up a configuration menu of the designated Drive.

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IDE HDD Auto-detection: Press Enter Press Enter to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.



IDE Primary Master: None/Auto/Manual Selecting 'manual' allows the user to set the remaining fields on this screen. Selects the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc.

NOTE:

PRECOMP=65535 which means NONE.

Capacity: Auto display disk size Disk drive capacity (approximated).

NOTE:

Disk size is usually slightly greater than the size of a formatted disk given by a disk checking program.

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Access Mode: CHS/LBA/Large/Auto Selects the access mode for a hard disk The following options are selectable only if the 'IDE Primary Master' item is set to 'Manual'

Cylinder: Min = 0 Max = 65535 Sets the number of cylinders for a hard disk.

Head: Min = 0 Max = 255 Sets the number of read/write heads

Precomp: Min = 0 Max = 65535



Setting a value of 65535 means no hard disk

Landing zone: Min = 0 Max = 65535



Setting a value of 65535 means no hard disk

Sector: Min = 0 Max = 255 Number of sectors per track

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Drive A

The GLX 800 supports one FDD drive. Because the FDD and LPT1 share the same pins on the X3 connector, only one may be used at a time. Either LPT1 or FDD can be enabled in the following BIOS menu:

- Integrated Peripherals
- Onboard parallel Port / FDD

Allows enabling/disabling of LPT1 resources or switching to FDD mode. After enabling the FDD, select the correct specifications for the diskette drive:

- None: No diskette drive installed
- 360 KB: 5.25 inch PC-type standard drive
- 1.2 MB: 5.25 inch AT-type high-density drive
- 720 KB: 3.5 inch double-sided drive
- 1.44 MB: 3.5 inch double-sided drive
- 2.88 MB: 3.5 inch double-sided drive/IDE Primary and Secondary Master/Slave Items

Video

Selects the type of primary video subsystem in your computer. The BIOS usually detects the correct video type automatically. The BIOS supports a secondary video subsystem, but is not selected in Setup.

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Halt On

During the Power On Self Test (POST), the computer stops if the BIOS detects a hardware error.

The BIOS can be instructed to ignore certain errors during POST and continue the bootup process. The options are as follows:

- ***No errors:*** POST does not stop for any errors.
- ***All errors:*** POST stops for any nonfatal error and will prompt the user to take any corrective measures.
- ***All, But Keyboard:*** POST does not stop for a keyboard error, but stops for all other errors.
- ***All, But Diskette:*** POST does not stop for diskette drive errors, but stops for all other errors.
- ***All, But Disk/Key:*** POST does not stop for a keyboard or disk errors, but stops for all other errors.

Base Memory

Displays the amount of conventional memory detected during boot up.

Extended Memory

Displays the amount of extended memory detected during boot up.

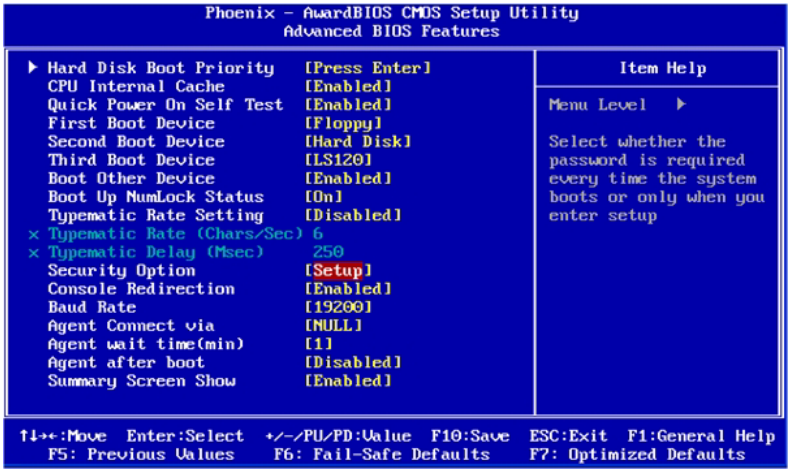
Total Memory

Displays the total memory available on the system.

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3.4 Advanced BIOS Features

This section allows users to configure the system for basic operation. The following features can be selected: system default speed, boot-up sequence, keyboard operation, shadowing, security, CPU internal cache, and CPU external cache.



Hard Disk Boot Priority

Allows Hard Disk Boot Device Priority.

CPU Internal Cache

Enables/disables CPU internal Cache.

Quick Power On Self Test

Speeds up the Power On Self Test (POST). If enabled, the BIOS will shorten the test time or skip some check items during POST (default setting: Enabled).

First/Second/Third Boot Device

Pressing < `Enter` > displays the Boot Device Menu. The BIOS will attempt to load the operating system from the selected device (see menu for options).

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Boot Other Device

Enables the BIOS to boot from a second or third device if booting from the first device fails. When disabled the BIOS will not attempt booting from alternative devices.



Boot Up Floppy Seek

If enabled, the system will search for disk drives during boot up. Disabling will speed up boot up.

Boot-Up NumLock Status

Selects the power on state for system NumLock. Options: On/Off

Typematic Rate Setting

Manually sets the Typematic Rate or the Typematic Delay.

Typematic Rate (Chars/Sec.)

Sets number of characters that can be typed per second on the keyboard.

Typematic Delay (Msec)

The time (in milliseconds) needed before accepting a keystroke on the keyboard.

Security Option

Selects whether a password is required every time the system boots or only when setup is entered. Options include:

- ***System:*** The system will not boot without password access and access to Setup will be denied if an incorrect password is entered at the prompt.
- ***Setup:*** The system will boot, but access to Setup will be restricted without password access.

To disable security, select PASSWORD SETTINGS in the Main Menu. The user will then be prompted to enter a password. To disable security, ***DO NOT*** type anything, only press < `Enter` >. Once

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security is disabled, the system will boot and setup can be accessed.

Remote Console Function

Enables remote access through POST messages and commands through serial-port access.


NOTE:

Remote Console is a character-based terminal application. It supports either VT100 or ANSI terminals. It does not support graphics or graphical user interfaces.

Console Redirection

Enables/Disables the remote Console Function: The default value is Enabled.

Baud Rate

When Console Redirection is Enabled, the BIOS will allow users to set the serial port's operating baud rate. Options: 9600 bps, 19200 bps, 38400 bps, 57600 bps, and 115200 bps


NOTE:

The Baud Rate settings between the ETX-GLX and its monitoring computer must be the same. If they are different, an error message, "Award Preboot Agent Installation Failed" will display and the equipment will not properly communicate.

Agent Connect via

Enables direct connection mode. The ETX-GLX BIOS only supports NULL mode (connecting two computers to a null modem for direct connection).

Agent Wait Time (min.)

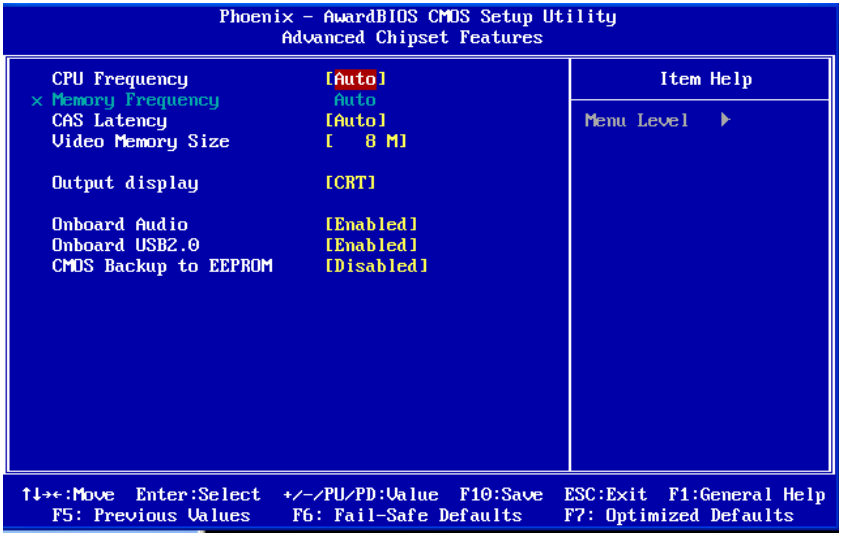
Select the amount of time (min.) to wait for a successful connection. If the time limit is exceeded, the ETX-GLX will not communicate with its remote host.

Agent After Boot

Monitors text-based applications (such as DOS) after POST. The default setting is Disabled.

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3.5 Advanced Chipset Features



CPU Frequency

Selects the CPU frequency.

Options: 200 MHz, 333 MHz, 400 MHz, 433 MHz, and 500 MHz

Memory Frequency

Selects the memory frequency.

Options: Auto, 200 MHz, 266 MHz, 333 MHz, and 400 MHz

CAS Latency

When synchronous DRAM is installed, the number of CAS latency clock cycles depend on the DRAM timing.

Options: Auto, 1.5, 2, 2.5, 3, and 3.5 micro sec.

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Video Memory Size

Selects the video memory size.

Options: None/0 MB, 8 MB, 16 MB, 32 MB, 64 MB, 128 MB, and 254 MB

Onboard Audio

Turns on/of the onboard audio.

Onboard USB 2.0

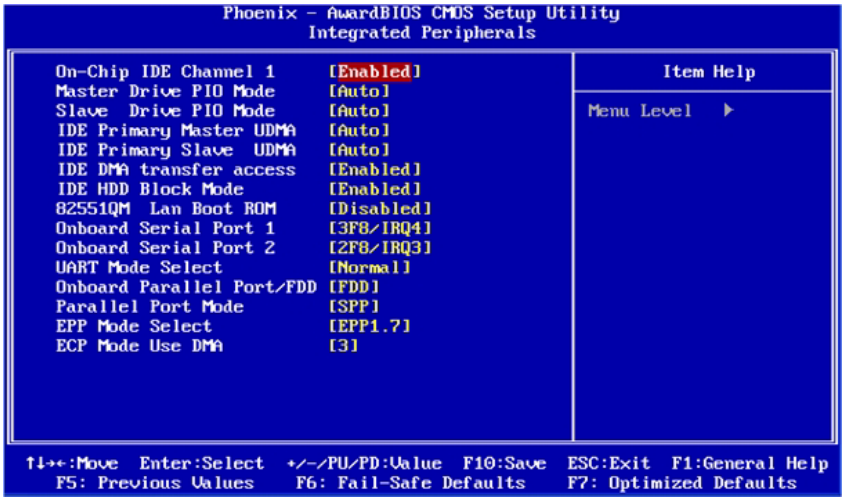
Turns on/of the onboard USB2.0.

CMOS Backup to EEPROM

The System BIOS uses CMOS to store user BIOS settings. The CMOS Backup to EEPROM saves BIOS settings for use even if system power is shut down. If the BIOS settings are lost due to unexpected power failure, etc. the BIOS settings will automatically reset to its default values.

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3.6 Integrated Peripherals



OnChip IDE Channel 1

The integrated peripheral controller contains an IDE interface with support for one IDE channel.

Master/Slave Drive PIO Mode

The four IDE PIO (Programmed Input/Output) fields allow users to set a PIO mode (0 to 4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. Options: Auto, Mode 0, Mode 1, Mode 2, Mode 3, and Mode 4.

IDE Primary & Secondary Master/Slave UDMA

Ultra DMA implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver. If your hard drive and your system software both support Ultra DMA, select Auto to enable BIOS support.

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IDE DMA Transfer Access

Enables/Disables IDE DMA Transfer Access

IDE HDD Block Mode

Enhances disk performance by allowing multi-sector data transfers and eliminates the interrupt handling time for each sector.

82551 Lan Boot ROM

Enables/Disables PXE functions. The PXE function allows system boot from a network environment. A DHCP server connection is required for this function.

Onboard Serial Port 1/2

Selects the address and interrupt for serial ports.

UART Mode Select

Selects the IR (Infra-Red) mode. The onboard serial port 2 offers IrDA and ASKIR modes. Use this menu to select the mode supported by your external IR device.


NOTE:

Choosing the wrong IR mode will prevent your computer from communicating with an external IR device.

Onboard Parallel Port/FDD

Assigns resources to LPT1 or an FDD drive. LPT1 and FDD share the same pins on the X3 connector and only one may be used at a time.

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EPP Mode Select

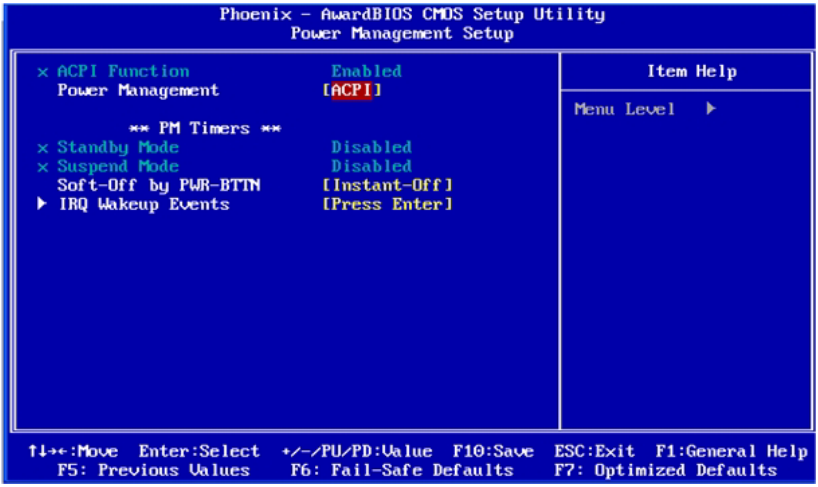
Selects the version of EPP transfer protocol that the parallel port should use. Users may choose the EPP 1.7 or EPP 1.9 version. Generally, EPP 1.9 is the preferred setting because it supports newer EPP 1.9 devices and most EPP 1.7 devices, while offering other advantages such as support for longer cables. However, certain EPP 1.7 devices can not work properly with an EPP 1.9 port. EPP 1.9 is recommended for general use, however, if there are problems connecting to parallel port devices, switch to EPP 1.7

ECP Mode Use DMA

Determines which DMA channel the parallel port should use when it is in ECP mode. The ECP mode uses the DMA protocol to achieve data transfer rates of up to 2.5 Mbits/s and provides symmetric bidirectional communications.

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3.7 Power Management Setup



ACPI Function

Enabled only if the operating system supports ACPI (Advanced Configuration and Power Interface) specifications.

Power Management

This item allows you to select the type of Power Management: Options: Disabled, Legacy, APM, or ACPI.

Standby Mode (**PM Timers**): This Submenu appears only when "Legacy" is enabled in the Power Management menu. Standby mode conserves power by turning off the display and the hard drive after a predetermined period of inactivity (a time-out). When the computer exits standby mode, it returns to the same operating state it was in before entering standby mode. Options: 1 sec, 5 sec, 10 sec, 15 sec, 30 sec, 45 sec, 1 min, 5 min, 10 min, 15 min, 30 min, 45 min, 60 min, 90 min, and 120 min

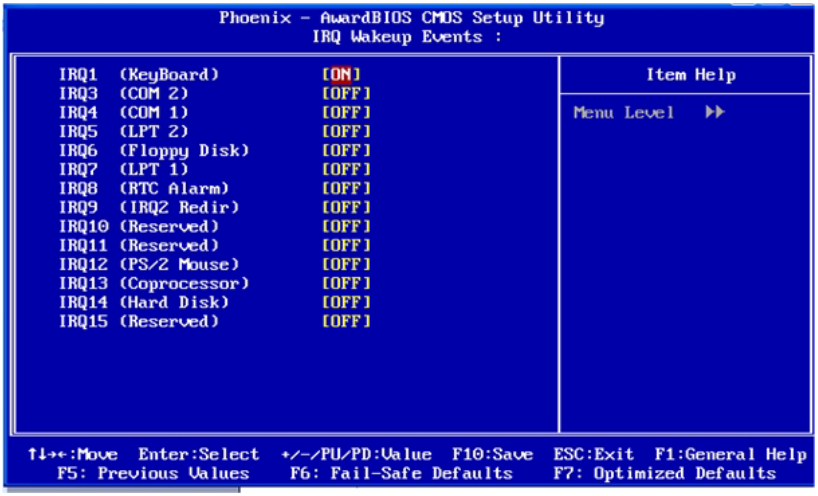
Suspend Mode (**PM Timers**): Sets the period of time after which the suspend mode activates. Options: 1 sec, 5 sec, 10 sec, 15 sec, 30 sec, 45 sec, 1 min, 5 min, 10 min, 15 min, 30 min, 45 min, 60 min, 90 min, and 120 min

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Soft-Off by PWR-BTTN: Configures the power button:

- Instant-Off: The power button functions as a normal power-on/-off button.
- Delay 4 Sec: The system is turned off if the power button is pressed for more than four seconds.

IRQ Wakeup Events:

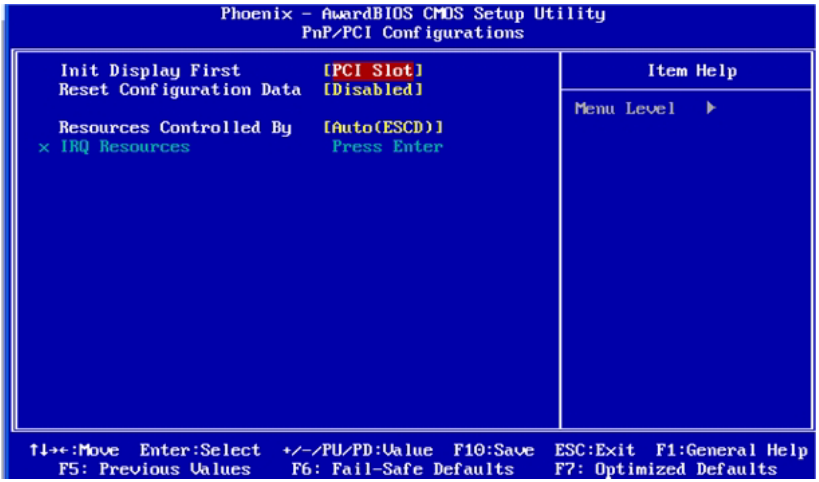


IRQ1-15: Enables or disables IRQ Wakeup Events.

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3.8 PnP/PCI Configurations

This section describes configuring the PCI (Personal Computer Interconnect) bus system. PCI is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own components.



Init Display First

Selects whether to first activate the PCI slot or on-chip VGA.

Reset Configuration Data

Resets the Extended System Configuration Data (ESCD). The default is set to Disabled. Enable if system does not properly function or communicate with add-ons/peripherals or in the event of a system crash where the operating system cannot boot. Options: Enabled/Disabled.

Resources Controlled By

Automatically configures all boot, and Plug and Play compatible devices. If set to Auto, all interrupt requests (IRQ) and DMA

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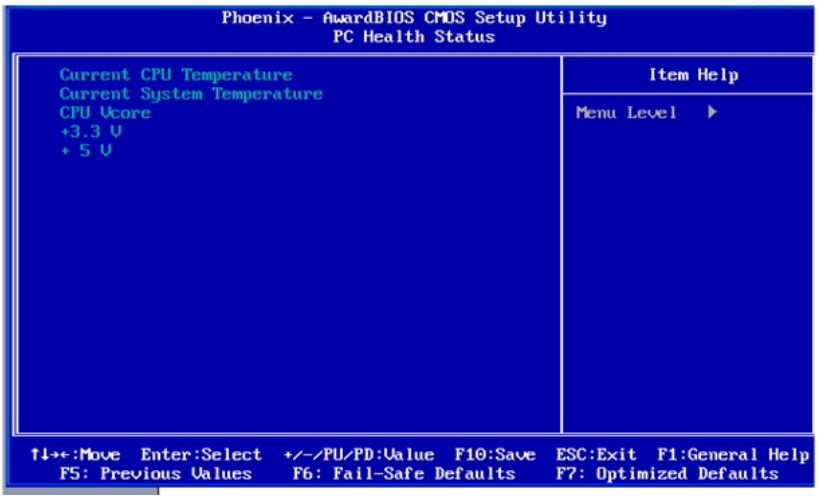
assignment fields are cleared, as the BIOS automatically assigns them.

- ***IRQ Resources:***

  When controlling resources manually, assign each system interrupt specifically, depending on the type of device (PCI or ISA) using the interrupt. Options: (IRQ´s) PCI device, Reserved (for ISA-Devices).

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3.9 PC Health Status



Current CPU Temp.

Displays the current CPU temperature.

Current System Temp.

Displays the current system temperature.

CPU VCORE, +3.3 V, +5 V

Displays the actual voltage levels on the board

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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.

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- 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 BY AN INCORECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THEIR INSTRUCTIONS.

- 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.

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Warranty Policy

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

1. Before using ADLINK's products please read the user manual and follow the instructions exactly. When sending in damaged products for repair, please attach an RMA application form which can be downloaded from: http://rma.adlinktech.com/policy/

2. All ADLINK products come with a limited two-year warranty, one year for products bought in China:

- The warranty period starts on the day the product is shipped from ADLINK's factory.
- Peripherals and third-party products not manufactured by ADLINK will be covered by the original manufacturers' warranty.
- For products containing storage devices (hard drives, flash cards, etc.), please back up your data before sending them for repair. ADLINK is not responsible for any loss of data.
- Please ensure the use of properly licensed software with our systems. ADLINK does not condone the use of pirated software and will not service systems using such software. ADLINK will not be held legally responsible for products shipped with unlicensed software installed by the user.
- For general repairs, please do not include peripheral accessories. If peripherals need to be included, be certain to specify which items you sent on the RMA Request & Confirmation Form. ADLINK is not responsible for items not listed on the RMA Request & Confirmation Form.

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3. Repair service is not covered by ADLINK's two-year guarantee in the following situations:

- ▶ Damage caused by not following instructions in the User's Manual.
- ▶ Damage caused by carelessness on the user's part during product transportation.
- ▶ Damage caused by fire, earthquakes, floods, lightening, pollution, other acts of God, and/or incorrect usage of voltage transformers.
- ▶ Damage caused by inappropriate storage environments such as high temperatures, high humidity, or volatile chemicals.
- ▶ Damage caused by leakage of battery fluid during or after change of batteries by customer/user.
- ▶ Damage from improper repair by unauthorized technicians.
- ▶ Products with altered and/or damaged serial numbers are not entitled to our service.
- ▶ This warranty is not transferable or extendable.
- ▶ Other categories not protected under our warranty.

4. Customers are responsible for all fees necessary to transport damaged products to ADLINK.

5. To ensure the speed and quality of product repair, please download an RMA application form from our company website: http://rma.adlinktech.com/policy/ Products with attached RMA forms receive priority.

For further questions, please e-mail our FAE staff: service@adlinktech.com.

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