

cPCI-3970 Series

3U CompactPCI/PlusIO 2nd Generation Intel® Core™ i7 Processor Blade with ECC



CompactPCI/PlusIO

EXTENDED TEMPERATURE

Features

- Quad/dual-core 2nd Generation Intel® Core™ i7 processor
- Up to 16GB DDR3-1333 SDRAM with ECC via SODIMM
- IPMI for system health monitoring
- DisplayPort, VGA, DVI, HDMI graphics interfaces
- Operation in system or peripheral slot



cPCI-3970 cPCI-3970D cPCI-3970G cPCI-3970L cPCI-3970M

Specifications

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Processor & System

CPU	<p>µFC-BGA quad-core Intel® Core™ i7-2715QE Processor 2.1GHz (Turbo boost to 3.0GHz), 6MB LLC cache, 45W TDP</p> <p>µFC-BGA dual-core Intel® Core™ i7-2655LE Processor 2.2GHz (Turbo boost to 2.9GHz), 4MB LLC cache, 25W TDP</p> <p>µFC-BGA dual-core Intel® Core™ i7-2610UE Processor 1.5GHz (Turbo boost to 2.4GHz), 4MB LLC cache, 17W TDP</p> <p>Supports Intel® Hyper-Threading and Turbo Boost Technology</p>
Chipset	Intel® QM67 PCH
Memory	Dual channel DDR3-1067/1333 SDRAM with ECC via two SODIMM sockets, up to 16GB capacity (dependent on availability of memory modules)
BIOS	AMI® EFI BIOS, 64Mbit SPI flash memory
CompactPCI Bus	PCI 32-bit/33 MHz, 3.3V or 5V universal V(I/O)
PICMG Standards	<p>Supports operation in system slot as master or in peripheral slot as stand-alone blade without connectivity to CompactPCI bus (Satellite mode)</p> <p>PICMG 2.0 CompactPCI R3.0</p> <p>PICMG 2.1 Hot Swap R2.0</p> <p>PICMG 2.9 System Management R1.0</p>

Connectivity

PMC/XMC	One optional PCI 32-bit/66 MHz PMC site or PCI-Express x1 XMC site on 2nd or 3rd layer
Ethernet	<p>Four PCIe Intel® 82574L Gigabit Ethernet controllers on SBC for four 10/100/1000BASE-T ports on front panel</p> <p>RTM cPCI-R3P00: two GbE on I/O panel switched from SBC</p> <p>RTM cPCI-R3P00T: two GbE on I/O panel from onboard Intel® 82580DB GbE controller</p>
Graphics	<p>Integrated in Intel® processor, 3D engine</p> <p>DB-15 VGA port on front panel, switchable to rear, supports up to QXGA 2048x1536 pixels @75Hz, 32-bits</p> <p>Two DisplayPorts on front panel, support up to 2560x1600 pixels @60Hz; DVI, VGA and HDMI interfaces available by adapter cable (cPCI-3970G only)</p> <p>Dual independent display</p>
Serial Port	<p>Up to four serial ports</p> <p>One RS-232/422/485 port on front panel</p> <p>One RS-232/422/485 10-pin header on DB-3970L2</p> <p>Two serial ports on rear panel: one with Tx, Rx signal only, one converted from USB port supporting RS-232/422/485</p>
PS/2	Front panel PS/2 Keyboard Mouse port (8/12 HP version only)
USB	<p>Up to four USB 2.0 front panel ports</p> <p>Three USB ports to rear, two on RTM panel</p>
Audio	Line-in and Line-out ports on front panel (cPCI-3970D only)

Storage

Blade	<p>One SATA 6 Gb/s direct connector for 2.5" onboard HDD (8HP & 12HP version only)</p> <p>CompactFlash socket</p> <p>Optional CFast socket (site shared with CF adapter board)</p>
RTM	<p>Three 7-pin SATA signal connectors</p> <p>Supports SATA RAID 0/1/5/10</p>

Operating System

OS	<p>Microsoft Windows® XP Professional</p> <p>Microsoft Windows® 7, 64bit version</p> <p>Red Hat Enterprise Linux 6 32/64-bit</p> <p>Fedora™ 14</p> <p>Wind River VxWorks 6.8, 6.9</p> <p>(Please contact ADLINK for other OS support)</p>
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Miscellaneous

LED	Power (green/red), WDT (amber), HDD (blue), Overheat (red)
Battery	Coin cell lithium battery onboard for RTC CMOS RAM
Watchdog Timer	System Reset and NMI, with programmable interval, 1-65535 sec or 1-65535 minutes
Hardware Monitor	Monitors CPU temperature, system temperature, and DC voltages by IPMI
TPM	Infineon SLB 9635 TT1.2 (optional, support upon request)

Mechanical & Environmental

Form Factor	3U 4HP/8HP/12HP CompactPCI
Operating Temperature	<p>100mm x 160mm (LxW)</p> <p>0°C to +60°C</p> <p>-20°C to +70°C extended temperature (cPCI-ET3970, CPUs with TDP 25W or lower)</p> <p>-40°C to +80°C extreme extended temperature (cPCI-EX3970, Core i7-2610UE only)</p>
Storage Temperature	-40°C to +85°C
Rel. Humidity	95% non-condensing
Shock	20g peak-to-peak, 11ms duration, non-operating
Vibration	2g random vibration, 5 to 500Hz in 3 axes, operating
Power Consumption	<p>Core i7-2655LE, 4GB DDR3-1333 SODIMM under Windows XP with 100% CPU loading:</p> <p>0.71A@3.3V, 6.97A@5V, total 37.2W</p>
Weight	Net weight 389g with heatsink
Certifications	CE/ FCC

I/O Table

		GbE	USB 2.0	COM	Display	PS/2 KB/MS	Storage	CFast	Audio	PMC/XMC
cPCI-3970 (4HP)	Faceplate Onboard	2 (RJ-45)	2		1 (VGA)		1 (CF)	Optional ⁽³⁾		
cPCI-3970D (8HP)	Faceplate	2 (RJ-45)	4	1 (DB9)	1 (VGA)	1			1 (Line-in) 1 (Line-out)	
	Onboard						1 (SATA) 1 (CF)	Optional ⁽³⁾		
cPCI-3970G (8HP)	Faceplate	2 (RJ-45)	3	1 (RJ-45)	1 (VGA) 2 (DP)	1				
	Onboard			1 (10-pin)			1 (SATA) 1 (CF)	Optional ⁽³⁾		
cPCI-3970L (8HP)	Faceplate	4 (RJ-45)	3	1 (DB9)	1 (VGA)					
	Onboard						1 (SATA) 1 (CF)	Optional ⁽³⁾		
cPCI-3970M (8HP)	Faceplate	2 (RJ-45)	4 ⁽⁴⁾	2 (DB9) ⁽⁴⁾	1 (VGA) 2 (DVI-D)	2 ⁽⁴⁾			1 (Line-in) 1 (Line-out)	
	Onboard						1 (SATA) 1 (CF)			
cPCI-3970P (12HP)	Faceplate	2 (RJ-45)	4	1 (DB9)	1 (VGA)	1			1 (Line-in) 1 (Line-out)	
	Onboard						1 (SATA) 1 (CF)	Optional ⁽³⁾		1
cPCI-3970Q (8HP)	Faceplate	2 (RJ-45)	2		1 (VGA)					
	Onboard						1 (CF)	Optional ⁽³⁾		
cPCI-3970U (12HP)	Faceplate	2 (RJ-45)	3	1 (RJ-45)	1 (VGA) 2 (DP)	1				
	Onboard			1 (10-pin)			1 (SATA) 1 (CF)	Optional ⁽³⁾		1
cPCI-R3P00 (T)	Faceplate	2 (RJ-45) ⁽¹⁾	2	2 (DB9)	1 (VGA)					
	Onboard						3 (SATA) (7-pin)			

(1) Switched from front ports for cPCI-R3P00, independent ports for cPCI-R3P00T

(2) Switched from front port

(3) Available by replacing CF socket adapter board with CFast socket adapter board (DB-3CFAST)

(4) Two USB Type A connectors, two COM RS-232/422/485, two DVI-D, two PS/2 KB/MS, Line-in/Line-out are integrated in 100-pin high density connector on layer two daughter board.

Ordering Information

Model Number	Description/Configuration
Processor Blades	
cPCI-3970/655L/M4	1-slot (4HP) 3U CompactPCI Blade with Intel® i7-2655LE processor and 2 x 2GB DDR3-1333, 2 x GbE, VGA, 2 x USB 2.0, CF socket
cPCI-3970D/655L/M4	2-slot (8HP) 3U CompactPCI® Blade with Intel® i7-2655LE processor and 2 x 2GB DDR3-1333, 2 x GbE, VGA, 4 x USB 2.0, Line-in, Line-out, PS/2 KB/MS, COM, SATA connector, CF socket
cPCI-3970D/610U/M4	2-slot (8HP) 3U CompactPCI® Blade with Intel® i7-2610UE processor and 2 x 2GB DDR3-1333, 2 x GbE, VGA, 4 x USB 2.0, Line-in, Line-out, PS/2 KB/MS, COM, SATA connector, CF socket
cPCI-3970G/610U/M4	2-slot (8HP) 3U CompactPCI® Blade with Intel® i7-2610UE processor and 2 x 2GB DDR3-1333, 2 x GbE, VGA, 3 x USB 2.0, PS/2 KB/MS, COM, 2 x DP, SATA connector, CF socket (one DP to DVI cable is included)
cPCI-3970L/655L/M4	2-slot (8HP) 3U CompactPCI blade with Intel® Core™ i7-2655LE processor and 2 x 2GB DDR3-1333, VGA, 4 x GbE, 3 x USB 2.0, COM, CF socket and SATA connector
cPCI-3970Q/715Q/M8	2-slot (8HP) 3U CompactPCI® Blade with Intel® i7-2715QE processor and 2 x 4GB DDR3-1333, 2 x GbE, VGA, 2 x USB 2.0, CF socket
cPCI-3970P/655L/M4	3-slot (12HP) 3U CompactPCI® Blade with Intel® i7-2655LE processor and 2 x 2GB DDR3-1333, 2 x GbE, VGA, 4 x USB 2.0, Line-in, Line-out, PS/2 KB/MS, COM, SATA connector, CF socket, PMC/XMC
cPCI-ET3970D/610U/M4	-20°C to +70°C extended temperature cPCI-3970D/610U/M4G (no TPM)
cPCI-EX3970G/610U/M4	-40°C to +80°C extreme extended temperature cPCI-3970D/610U/M4G (no TPM)
cPCI-3970M/610U/M8	2-slot (8HP) 3U CompactPCI® Blade with Intel® i7-2610UE processor and 2 x 4GB DDR3-1333, 2 x GbE, VGA, 2 x USB 2.0, SATA connector, CF socket; additional high density 100-pin connector with Line-in/Line-out, 2 x DVI, 2 x type A USB, PS/2 KB/MS, 2 x DB-9 COM

Note: All specifications are subject to change without further notice.

cPCI-3970U/655L/M4	3-slot (12HP) 3U CompactPCI Blade with Intel i7-2655LE processor and 2 x 2GB DDR3-1333, 2 x GbE, VGA, 2 x DP, 3 x USB 2.0, PS/2 KB/MS, COM, CF socket, SATA connector, PMC/XMC
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Rear Transition Modules

cPCI-R3P00	8 HP Rear I/O module for cPCI-3970 with 2 x GbE, 2 x COM, 2 x USB 2.0, 3 x SATA connectors, VGA, 50mm depth
cPCI-R3P00T	8 HP Rear I/O module for cPCI-3970 with 2 x GbE, 2 x COM, 2 x USB 2.0, 3 x SATA connectors, VGA, 80mm depth

Accessories

DB-3CFAST	CFast socket adapter board
DP-DVI cable*	DisplayPort to DVI adapter cable
DP-VGA cable	DisplayPort to VGA adapter cable
DP-HDMI cable	DisplayPort to HDMI adapter cable

Contact us for different CPU, memory, HDD and CFast combinations.

*One DP-DVI cable is included with the cPCI-3970G.

