

# PICMG 1.3

The PICMG 1.3 allows users to protect their investment in PCI technology while taking advantage of the speed and increased bandwidth of PCI Express

## What is PICMG 1.3 ?

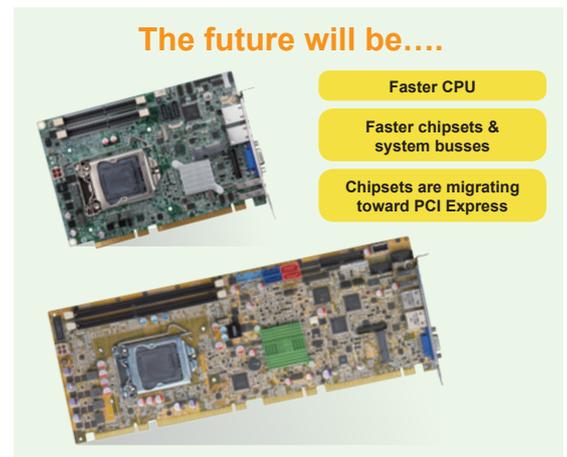
- Bringing PCI Express to your SBC with increased speed and bandwidth**  
 PICMG 1.3 is designed to interface with PCI Express peripherals on a backplane. The PCI Express interconnects with the backplane and can operate at x1, x4, x8, x16, and more, depending on the capabilities of both the SHB and the backplane.
- Support PCI on board with flexibility**  
 The optional PCI portion of the SHB interconnects with the backplane allows for 32-bit operation. The clock rate can be 33 MHz, 66 MHz, 100 MHz, and 133 MHz, depending on how the backplane and SHB are designed.
- Miscellaneous IO**  
 SATA, USB, IPMB, SMBus, Geographic Addressing, and PCI Wake Up to the backplane are specified, simplifying the cabling on SHB for the system.

## PICMG 1.3 Key Features

- PCI Express**  
 20 PCI Express lanes are supported, including PCI Express x16, x4 and x1 configurations
- ATX power signals are supported**  
 Provides AUX voltages for standby power and sleep states (soft starts, wake on LAN), supports PSON#, PWRGD, PWRRBT# and ACPI states

## Why PICMG 1.3?

- This new technology is expected to allow PCIe transmission rates to keep pace with processor and I/O advances for the next 10 years or more.
- Same basic mechanical dimensions are maintained to minimize chassis redesign expense
- Better host board power management and simplified I/O cabling
- Supports PCI Express and PCI option cards without driver changing

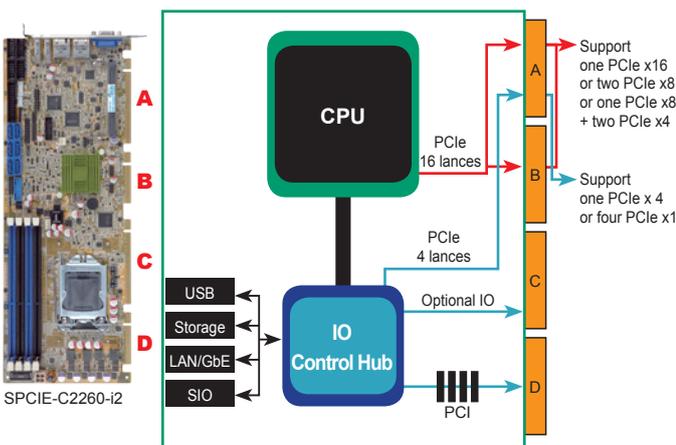


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## Graphic & Server Grade PICMG 1.3 Solutions

2 Video Capture Solutions

### Full-size PICMG 1.3 Solutions



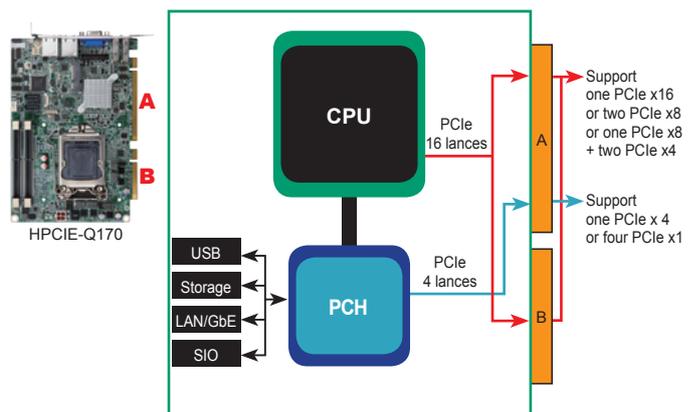
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### Half-size PICMG 1.3 Solutions



### Full-Size PICMG 1.3 PCIe Slot Configuration

Full-size SBC Type		Server & Graphic Grade		Server Grade			
Combination		A	B	C	D	E	F
PCIe Slots Available (Non-switch)	CPU or NB	x16	1	1	-	-	-
		x8	-	-	2	2	1
		x4	-	-	-	-	2
		x1	-	-	-	-	4
	PCH or SB	x4	-	1	-	1	-
		x1	4	-	4	-	-
Backplane Solution		IEI PE/PXE series		IEI SPE/SPXE series			

### Half-Size PICMG 1.3 PCIe Slot Configuration

Half-size SBC Type		Any Type		High Performance			
Combination		A	B	C	D	E	F
PCIe Slots Available (Non-switch)	CPU	x16	1	1	-	-	-
		x8	-	-	2	2	1
		x4	-	-	-	-	2
	PCH	x4	-	1	-	1	-
x1		4	-	4	-	4	

# PICMG 1.3 Selection Guide



Model Name	HPCIE-C236 <i>Preliminary</i>	HPCIE-Q170 <i>Preliminary</i>	SPCIE-C2260-i2	SPCIE-C2160
<b>CPU Socket</b>	LGA 1151	LGA 1151	LGA 1150	LGA 1155
<b>CPU Type</b>	Intel® Xeon® E3, Core™ i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Xeon® E3, Core™ i3, Pentium®, Celeron® processor	Intel® Xeon® E3, Core™ i3, Pentium®, Celeron® processor
<b>FSB</b>	N/A	N/A	N/A	N/A
<b>Chipset</b>	Intel® C236	Intel® Q170	Intel® C226	Intel® C216
<b>Memory</b>	Two 260-pin 2133/1867 MHz dual-channel DDR4 SO-DIMMs (system max. 32 GB)	Two 260-pin 2133/1867 MHz dual-channel DDR4 SO-DIMMs (system max. 32 GB)	Four 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 32 GB)	Two 240-pin 1600/1333 MHz dual-channel ECC and non-ECC unbuffered DDR3 SDRAM DIMMs supported (system max. 16 GB)
<b>Display Interface</b>	Dual display supported 1 x VGA 1 x iDP interface	Dual display supported 1 x VGA 1 x iDP interface	Dual display supported 1 x VGA 1 x iDP interface	1 x VGA 1 x DVI-D (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)
<b>Ethernet</b>	LAN1: Intel® I219-LM with Intel® AMT 11.0 support LAN2: Intel® I211-AT Ethernet controller	LAN1: Intel® I219-LM with Intel® AMT 11.0 support LAN2: Intel® I211-AT Ethernet controller	LAN1: Intel® I217LM with Intel® AMT 9.0 support LAN2: Intel® I210-AT PCIe controller with NCSI support	LAN1: Intel® 82574L PCIe controller LAN2: Intel® 82579 PHY with Intel® AMT 8.0 support
<b>iRIS Remote Management Module</b>	N/A	N/A	1 x iRIS-2400 slot	N/A
<b>I/O Interface</b>	1 x 6-pin wafer for KB/MS 2 x RS-232/422/485 2 x USB 3.0 4 x USB 2.0	1 x 6-pin wafer for KB/MS 2 x RS-232/422/485 2 x USB 3.0 4 x USB 2.0	1 x 6-pin wafer for KB/MS 1 x LPT 1 x RS-422/485 4 x RS-232 4 x USB 3.0 8 x USB 2.0	1 x 6-pin wafer for KB/MS 1 x LPT 1 x RS-422/485 4 x RS-232 8 x USB 2.0
<b>Drive Interface</b>	1 x mSATA 2 x SATA 6Gb/s (C236 supports RAID 0, 1)	1 x mSATA 2 x SATA 6Gb/s (Q170 supports RAID 0, 1)	1 x mSATA (colay SATA port 6) (supports SATA 6Gb/s signal only) 6 x SATA 6Gb/s (RAID 0, 1, 5, 10 supported)	2 x SATA 6Gb/s with RAID 0/1/5/10 support 4 x SATA 3Gb/s
<b>Audio</b>	Supports by IEI AC-KIT-892HD-R10 audio kit			
<b>Digital I/O</b>	8-bit digital I/O			
<b>Power Consumption</b>	5V@0.13A, 12V@7.89A, 3.3V@0.10A, 5VSB@0.20A (Intel® Xeon® E3-1275 v5 3.60 GHz with two 16 GB 2133 MHz DDR4 memory)	5V@0.15A, 12V@8.39A, 3.3V@0.11A, 5VSB@0.21A (Intel® Core™ i7-6700K 4.0GHz with two 16 GB 2133 MHz DDR4 memory)	5V@3.55A, 12V@0.37A, Vcore_12V@7.61A, 3.3V@1.55A, 5VSB@0.13A (Intel® E3-1240 v3 3.4GHz CPU with 16 GB (4x4 GB) 1333 MHz DDR3 memory)	5V@3.98A, 12V@0.38A, Vcore_12V@7.81A, 3.3V@1.61A, 5VSB@0.15A (3.4GHz Intel® Xeon® 2.2GHz with two 2 GB 1333 MHz DDR3 memory)
<b>Watchdog Timer</b>	Software programmable supports 1~255 sec. system reset			
<b>Operation Environment</b>	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing			Temperature Range: -10°C ~ 60°C (14°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing
<b>Expansion Slot</b>	1 x PCIe Mini supportss mSATA & USB 2.0	1 x PCIe Mini supports mSATA & USB 2.0	PCIe Mini slot	PCIe Mini slot
<b>CPU Cooler</b>	CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11	CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11	CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11 CF-1150SF-R10	CF-1156A-RS-R11 CF-1156C-RS CF-1156D-RS CF-1156E-R11

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# PICMG 1.3 Selection Guide








Model Name	SPCIE-C2060-R21	PCIE-H810	PCIE-Q870-i2
<b>CPU Socket</b>	LGA 1155	LGA 1150	LGA 1150
<b>CPU Type</b>	Intel® Xeon® E3, Core™ i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor
<b>FSB</b>	N/A	N/A	N/A
<b>Chipset</b>	Intel® C206	Intel® H81	Intel® Q87
<b>Memory</b>	Two 240-pin 1066/1333 MHz dual-channel ECC and non-ECC unbuffered DDR3 SDRAM DIMMs (system max. 16 GB)	Two 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 16 GB)	Four 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 32 GB)
<b>Display Interface</b>	1 x VGA 1 x DVI-D (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)	Dual display supported 1 x VGA 1 x iDP interface	Dual display supported 1 x VGA 1 x iDP interface
<b>Ethernet</b>	LAN1: Intel® 82574L PCIe controller LAN2: Intel® 82579 PHY with Intel® AMT 7.0 support	LAN1: Realtek RTTL8111E PCIe controller LAN: Realtek RTTL8111E PCIe controller	LAN1: Intel® I217LM with Intel® AMT 9.0 support LAN2: Intel® I210-AT PCIe controller with NCSI support
<b>iRIS Remote Management Module</b>	N/A	N/A	1 x iRIS-2400 slot
<b>I/O Interface</b>	1 x 6-pin wafer for KB/MS 1 x LPT 1 x RS-422/485 4 x RS-232 8 x USB 2.0	1 x 6-pin wafer for KB/MS 1 x LPT 1 x RS-422/485 2 x RS-232 2 x USB 3.0 8 x USB 2.0	1 x 6-pin wafer for KB/MS 1 x LPT 1 x RS-422/485 4 x RS-232 4 x USB 3.0 8 x USB 2.0
<b>Driver Interface</b>	2 x SATA 6Gb/s with RAID 0/1/5/10 support 4 x SATA 3Gb/s	1 x mSATA (colay SATA port 4) (supports SATA 3Gb/s signal only) 2 x SATA 3Gb/s 2 x SATA 6Gb/s	1 x mSATA (colay SATA port 6) (supports SATA 6Gb/s signal only) 6 x SATA 6Gb/s (RAID 0, 1, 5, 10 supported)
<b>Audio</b>	Supports by IEI AC-KIT-892HD-R10 audio kit		
<b>Digital I/O</b>	8-bit digital I/O		
<b>Power Consumption</b>	5V@3.98A, 12V@0.38A, Vcore_12V@7.81A, 3.3V@1.61A, 5VSB@0.15A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)	5V@3.41A, 12V@0.35A, Vcore_12V@7.52A, 3.3V@1.41A, 5VSB@0.12A (Intel® Core™ i7-4770K 3.90 GHz CPU with 8 GB (two 4 GB) 1333 MHz DDR3 memory)	5V@3.55A, 12V@0.37A, Vcore_12V@7.61A, 3.3V@1.55A, 5VSB@0.13A (3.4GHz Intel® Qual CoreCPU with four GB 1333 MHz DDR3 memory)
<b>Watchdog Timer</b>	Software programmable supports 1~255 sec. system reset		
<b>Operation Environment</b>	Temperature Range: -10°C ~ 60°C (14°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing
<b>Expansion Slot</b>	PCIe Mini slot	PCIe Mini slot colay mSATA	PCIe Mini slot
<b>CPU Cooler</b>	CF-1156A/C/D/E	CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11 CF-1150SF-R10	CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11 CF-1150SF-R10

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All-in-One System

# PICMG 1.3 Selection Guide



Model Name	PCIE-Q670-R20	PCIE-H610	PCIE-Q57A
<b>CPU Socket</b>	LGA 1155	LGA 1155	LGA 1156
<b>CPU Type</b>	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium® processor
<b>FSB</b>	N/A	N/A	N/A
<b>Chipset</b>	Intel® Q67	Intel® H61	Intel® Q57
<b>Memory</b>	Two 240-pin 1066/1333 MHz dual-channel DDR3 SDRAM DIMMs (system max. 16 GB)	Two 240-pin 1066/1333 MHz dual-channel DDR3/DDR3L (1.35V) SDRAM DIMMs (system max. 16 GB)	Two 240-pin 1066/1333 MHz dual-channel DDR3 SDRAM DIMMs (system max. 8 GB)
<b>Display Interface</b>	1 x VGA 1 x DVI-D (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)	1 x VGA 1 x DVI-D (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)	1 x VGA
<b>Ethernet</b>	LAN1: Intel® 82583V PCIe controller LAN2: Intel® 82579 PHY with Intel® AMT 7.0 support	LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E PCIe GbE controller	LAN1: Intel® 82583V PCIe GbE controller LAN2: Intel® 82578DM with Intel® AMT 6.0 supported by iEZman software UI
<b>iRIS Remote Management Module</b>	N/A		
<b>I/O Interface</b>	1 x 6-pin wafer for KB/MS 1 x LPT 1 x RS-422/485 4 x RS-232 8 x USB 2.0	1 x 6-pin wafer for KB/MS 1 x FDD 1 x LPT 1 x RS-422/485 2 x RS-232 10 x USB 2.0	1 x Infrared interface 1 x LPT 1 x PS/2 KB & MS 2 x RS-232 14 x USB 2.0
<b>Driver Interface</b>	2 x SATA 6Gb/s with RAID 0/1/5/10 support 4 x SATA 3Gb/s	4 x SATA 3Gb/s	1 x FDD 6 x SATA 3Gb/s (RAID 0/1/10/5)
<b>Audio</b>	Supports by IEI AC-KIT-892HD-R10 audio kit		IEI AC-KIT-892HD-R10 7.1-channel HD Audio kit via the on-board 10-pin header connector
<b>Digital I/O</b>	8-bit digital I/O		
<b>Power Consumption</b>	5V@3.98A, 12V@0.38A, Vcore_12V@7.81A, 3.3V@1.61A, 5VSB@0.15A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)	5V@4.41A, 12V@0.21A, Vcore_12V@7.72A, 3.3V@1.71A, 5VSB@0.16A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)	3.3V@0.89A, 5V@4.62A, 12V@4.35A, 5Vsb@0.14A (Intel® Core™ i5 660 3.3GHz CPU with two 2 GB 1066 MHz DDR3 memory)
<b>Watchdog Timer</b>	Software programmable supports 1~255 sec. system reset		
<b>Operation Environment</b>	Temperature Range: -10°C ~ 60°C (14°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing		Temperature Range: 0°C ~ 60°C (32°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing
<b>Expansion Slot</b>	PCIe Mini slot	N/A	
<b>CPU Cooler</b>	CF-1156A-RS-R11 CF-1156C-RS CF-1156D-RS CF-1156E-R11	CF-1156A-RS-R11 CF-1156C-RS CF-1156D-RS CF-1156E-R11	CF-1156A-RS-R11 CF-1156E-R11

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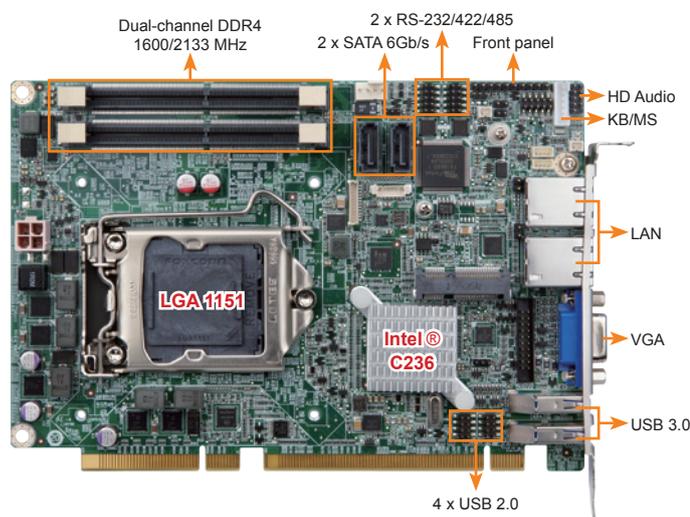
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All-in-One System

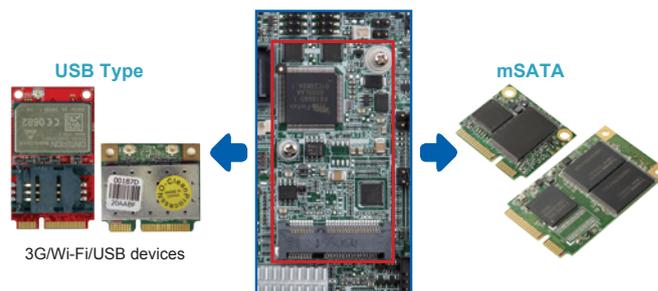
# HPCIE-C236

Half-size PICMG 1.3 CPU Card supports LGA 1151 Intel® Xeon® E3, Core™ i3/Pentium®/Celeron® CPU with Intel® C236, ECC & non-ECC DDR4 SO-DIMM, VGA, iDP, Dual Intel® PCIe GbE, USB 3.0, SATA 6Gb/s, mSATA, HD Audio, Intel® AMT and RoHS



PCIe Mini slot provides mSATA and USB signal for full-size or half-size mSATA SSD and wireless LAN card.

**Preliminary**



## Specifications

- ◆ CPU  
LGA 1151 Intel® 6th generation Intel® Xeon® E3-1200 v5, Core™ i3, Pentium® and Celeron® processor
- ◆ PCH  
Intel® C236
- ◆ Memory  
Two 260-pin 1867/2133 MHz dual-channel DDR4 ECC and non-ECC unbuffered SO-DIMMs support up to 32 GB memory
- ◆ BIOS  
UEFI BIOS
- ◆ Graphics Engine  
Intel® HD Graphics Gen 9 supports DX11/12, OpenCL 2.x and OpenGL 4.3/4.4 Decode/Encode for HEVC, VP8, VP9, VDENC
- ◆ Display Output  
1 x VGA (via Chronitel CH7517A, up to 1920x1200@60 Hz)  
1 x iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 3840x2160@60 Hz)
- ◆ Ethernet  
LAN1: Intel® I219LM Clarkville-V with Intel® AMT 11.0 support  
LAN2: Intel® I210 PCIe controller
- ◆ External I/O  
1 x VGA  
2 x RJ-45  
2 x USB 3.0
- ◆ Internal I/O  
1 x 6-pin wafer for KB/MS      1 x iDP  
2 x RS-232/422/485      4 x USB 2.0 (by pin header)  
2 x SATA 6Gb/s (SATA0, SATA1) (C236 supports RAID 0, 1)
- ◆ Front Panel  
1 x Front panel (power LED, HDD LED, speaker, power button, reset button)
- ◆ LAN LED  
2 x LAN LED (1x2 pin)
- ◆ Audio  
Support 7.1-channel HD Audio by IEI AC-KIT-892HD kit
- ◆ SMBus  
1 x SMBus (1x4 pin)
- ◆ I<sup>2</sup>C  
1 x I<sup>2</sup>C (1x4 pin)
- ◆ Expansion  
16-lane PCIe signal from CPU via golden finger (supports x16, or x8 + x8, or x4 + x4 + x8)  
4-lane PCIe signal from Q170 via golden finger  
1 x PCIe Mini supports mSATA & USB 2.0
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O  
1 x 8-bit digital I/O (2x5 pin)
- ◆ Fan Connector  
1 x 4-pin smart fan connector (CPU fan)
- ◆ Power Supply  
5V/12V, AT/ATX support
- ◆ Power Consumption  
5V@0.13A, 12V@7.89A, 3.3V@0.10A, 5VSB@0.20A  
(Intel® Xeon® E3-1275 v5 3.60 GHz with two 16 GB 2133 MHz DDR4 memory)
- ◆ Operating Temperature  
-20°C ~ 60°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Dimensions  
169 mm x 126 mm
- ◆ Weight  
GW: 1000g / NW: 420g

## Features

- PICMG 1.3 half-size CPU Card
- LGA 1151 Intel® 6th generation Intel® Xeon® E3, Core™ i3, Pentium® and Celeron® processor supported
- Two 260-pin 1867/2133 MHz dual-channel DDR4 ECC and non-ECC SO-DIMMs support up to 32 GB memory
- Supports dual independent display by VGA & internal DP pin header
- PCIe Mini support mSATA & USB 2.0
- Intel® PCIe GbE with Intel® AMT 11.0 supported
- Supports RAID 0, 1 function via SATA 6Gb/s
- IEI jumper-less function

## Packing List

- 1 x HPCIE-C236 single board computer
- 1 x SATA cable (P/N: 32000-062800-RS)
- 1 x QIG (Quick Installation Guide)
- 1 x Utility CD

## Ordering Information

Part No.	Description
HPCIE-C236-R10	Half-size PICMG 1.3 CPU card supports LGA 1151 Intel® Xeon® E3, Core™ i3/Pentium®/Celeron® CPU with Intel® C236, ECC & non-ECC DDR4 SO-DIMM, VGA, iDP, dual Intel® PCIe GbE, USB 3.0, SATA 6Gb/s, mSATA, HD Audio, Intel® AMT and RoHS
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32200-074800-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1156A-RS-R11	High-performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156C-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W
CF-1156D-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W
DP-DP-R10	DisplayPort to DisplayPort converter board (for IEI iDP connector)
DP-DVI-R10	DisplayPort to DVI-D converter board (for IEI iDP connector)
DP-HDMI-R10	DisplayPort to HDMI converter board (for IEI iDP connector)
DP-LVDS-R10	DisplayPort to LVDS converter board (for IEI iDP connector)
DP-VGA-R10	DisplayPort to VGA converter board (for IEI iDP connector)
SAIDE-KIT01-R10	SATA to IDE/CF converter board

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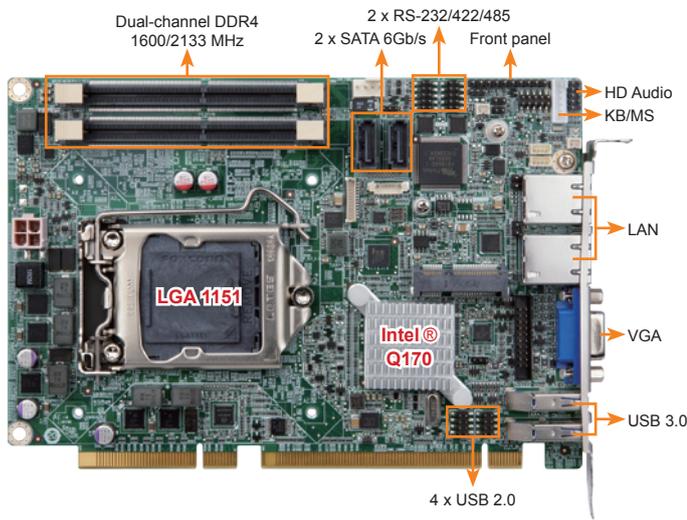
Power Supply/Peripherals

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All-in-One System

# HPCIE-Q170

Half-size PICMG 1.3 CPU Card supports LGA 1151 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® Q170, DDR4 SO-DIMM, VGA/iDP, Dual Intel® PCIe GbE, USB 3.0, SATA 6Gb/s, mSATA, HD Audio, Intel® AMT and RoHS



## Specifications

- ◆ CPU  
LGA 1151 Intel® 6th generation Core™ i7/i5/i3, Pentium® or Celeron® processor
- ◆ PCH  
Intel® Q170
- ◆ Memory  
Two 260-pin 1867/2133 MHz dual-channel DDR4 non-ECC unbuffered SO-DIMMs support up to 32 GB memory
- ◆ BIOS  
UEFI BIOS
- ◆ Graphics Engine  
Intel® HD Graphics Gen 9 supports DX11/12, OpenCL 2.x and OpenGL 4.3/4.4 Decode/Encode for HEVC, VP8, VP9, VDENC
- ◆ Display Output  
1 x VGA (via Chrontel CH7517A, up to 1920x1200@60 Hz)  
1 x iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 3840x2160@60 Hz)
- ◆ Ethernet  
LAN1: Intel® I219LM Clarkville-V with Intel® AMT 11.0 support  
LAN2: Intel® I211 PCIe controller
- ◆ External I/O  
1 x VGA  
2 x RJ-45  
2 x USB 3.0
- ◆ Internal I/O  
1 x 6-pin wafer for KB/MS 1 x iDP  
2 x RS-232/422/485 4 x USB 2.0 (by pin header)  
2 x SATA 6Gb/s (SATA0, SATA1) (Q170 supports RAID 0, 1)
- ◆ Front Panel  
1 x Front panel (power LED, HDD LED, speaker, power button, reset button)
- ◆ LAN LED  
2 x LAN LED (1x2 pin)
- ◆ Audio  
Support 7.1-channel HD Audio by IEI AC-KIT-892HD kit
- ◆ SMBus  
1 x SMBus (1x4 pin)
- ◆ I<sup>2</sup>C  
1 x I<sup>2</sup>C (1x4 pin)
- ◆ Expansion  
16-lane PCIe signal from CPU via golden finger (supports x16, or x8 + x8, or x4 + x4 + x8)  
4-lane PCIe signal from Q170 via golden finger  
1 x PCIe Mini supports mSATA & USB 2.0
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O  
1 x 8-bit digital I/O (2x5 pin)
- ◆ Fan Connector  
1 x 4-pin smart fan connector (CPU fan)
- ◆ Power Supply  
5V/12V, AT/ATX support
- ◆ Power Consumption  
5V@0.15A, 12V@8.39A, 3.3V@0.11A, 5VSB@0.21A  
(Intel® Core™ i7-6700K 4.0GHz with two 16 GB 2133 MHz DDR4 memory)
- ◆ Operating Temperature  
-20°C ~ 60°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Dimensions  
169 mm x 126 mm
- ◆ Weight  
GW: 1000g / NW: 420g

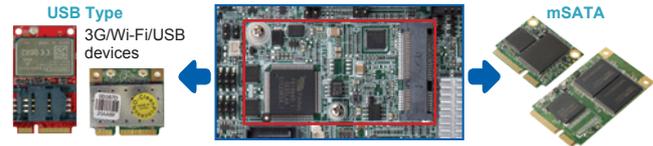
## Intel® 6th generation Core™ CPU + Intel® Q170 support 3 controllers of PCI Express Gen 3 Preliminary

Number of PCIe Controller	Configuration
1	PCIe x16
2	PCIe x8, PCIe x8
3	PCIe x4, PCIe x4, PCIe x8

Sets PCIe x16 signal via BIOS

PEG port configuration	
USB Power SW1	[1 x8, 2 x4 PCIe]
USB Power SW2	[+5V DUAL]

PCIe Mini slot provides mSATA and USB signal for full-size or half-size mSATA SSD and wireless LAN card.



## Features

- PICMG 1.3 half-size CPU card
- LGA 1151 Intel® 6th generation Core™ i7/i5/i3, Pentium® or Celeron® processor supported
- Two 260-pin 1867/2133 MHz dual-channel DDR4 SO-DIMMs support up to 32 GB
- Supports dual independent display by VGA & internal DP pin header
- PCIe Mini supports mSATA & USB 2.0
- Intel® PCIe GbE with Intel® AMT 11.0 supported
- Supports RAID 0, 1 function via SATA 6Gb/s
- IEI jumper-less function

## Packing List

- 1 x HPCIE-Q170 single board computer
- 1 x SATA cable (P/N: 32000-062800-RS)
- 1 x QIG (Quick Installation Guide)
- 1 x Utility CD

## Ordering Information

Part No.	Description
HPCIE-Q170-R10	Half-size PICMG 1.3 CPU card supports LGA 1151 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® Q170, DDR4 SO-DIMM, VGA, iDP, dual Intel® PCIe GbE, USB 3.0, mSATA, SATA 6Gb/s, PCIe Mini, HD Audio, Intel® AMT and RoHS
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32200-074800-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1156A-RS-R11	High-performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156C-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W
CF-1156D-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W
DP-DP-R10	DisplayPort to DisplayPort converter board (for IEI iDP connector)
DP-DVI-R10	DisplayPort to DVI-D converter board (for IEI iDP connector)
DP-HDMI-R10	DisplayPort to HDMI converter board (for IEI iDP connector)
DP-LVDS-R10	DisplayPort to LVDS converter board (for IEI iDP connector)
DP-VGA-R10	DisplayPort to VGA converter board (for IEI iDP connector)
SAIDE-KIT01-R10	SATA to IDE/CF converter board

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

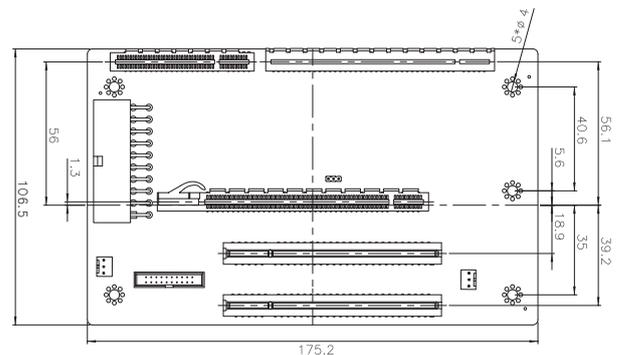
# PICMG 1.3 Passive Backplane for Half-Size CPU Card

## Selection Guide

 PAC series wall-mount chassis

PICMG 1.3 (PCIe+PCI)	Model	HPXE2-5S1	HPXE2-7S1
Total Slot		5	7
Expansion Slots	PCIe x16	1	
	PCIe x8		5
	PCIe x4		
	PCIe x1		
	PCI-X		
PSU Type		24+4-pin ATX	24+4-pin ATX
Chassis Option		PR-1500G RACK-500G	PAC-700G PAC-1700G
Note		ATX power	ATX power

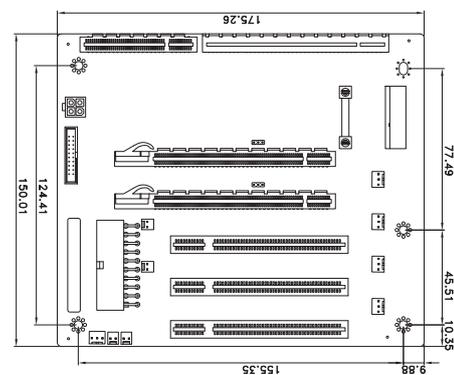
## HPXE2-5S1-R10



### Ordering Information

HPXE2-5S1-R10	5-slot PICMG 1.3 backplane for half-size SBC, with two PCI slots and one PCIe x16 slot (x16 signal)
PR-1500G	5-slot half-size compact chassis
RACK-500G	5U 5-slot full-size rackmount chassis

## HPXE2-7S1-R10



### Ordering Information

HPXE2-7S1-R10	7-slot PICMG 1.3 backplane for half-size SBC, with three PCI slots and two PCIe x16 slots (x8 signal)
PAC-700G	7-slot half-size compact chassis
PAC-1700G	7-slot full-size compact chassis

1

Industrial  
Computing  
Solutions

2

Video  
Capture  
Solutions

3

Industrial  
Computer  
Chassis

4

Open  
Frame  
Monitor

5

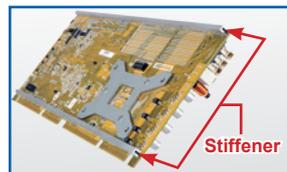
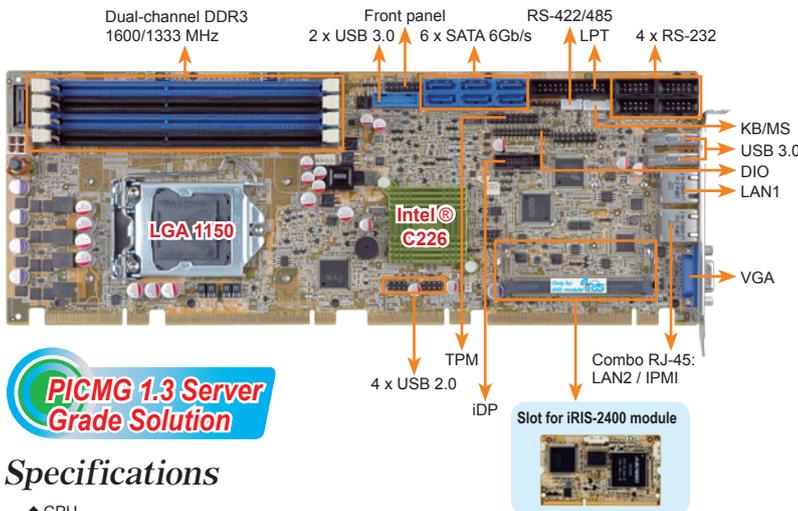
Power Supply/  
Peripherals

6

All-in-One  
System

# SPCIE-C2260-i2

Full-size PICMG 1.3 CPU Card supports LGA 1150 Intel® Xeon® E3, Core™ i3, Pentium® and Celeron® with Intel® C226, DDR3, VGA, iDP, Dual Intel® PCIe GbE, SATA 6Gb/s, mSATA, PCIe Mini, RS-232, HD Audio, iRIS-2400 and RoHS



### Enhance stability

Strengthen the mechanism  
Prevent PCB bending

### Four 240-pin DDR3 SDRAM Supported



The first IEI full-size server-grade CPU card that supports four 240-pin 1600/1333 MHz dual-channel DDR3 SDRAM ECC and non-ECC unbuffered DIMMs (system max. 32 GB).



## Specifications

- ◆ CPU  
LGA 1150 Intel® Xeon® E3, Core™ i3, Pentium® or Celeron® processor supported
- ◆ System Chipset  
Intel® C226
- ◆ Memory  
Four 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM ECC and non-ECC unbuffered DIMMs support up to 32 GB memory
- ◆ BIOS  
UEFI BIOS
- ◆ Graphics Engine  
Intel® HD Graphics Gen 7.5 supports DX11.1 and OpenCL 1.2, OpenGL 3.2 Full MPEG2, VC1, AVC Decode
- ◆ Display Output  
VGA (up to 1920x1200@60 Hz)  
iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 3840x2160@60 Hz)
- ◆ Ethernet  
LAN1: Intel® I217LM with Intel® AMT 9.0 support  
LAN2: Intel® I210-AT PCIe controller with NCSI support
- ◆ Super I/O  
Fintek F81866
- ◆ I/O Interface  
1 x 6-pin wafer for KB/MS 1 x LPT  
1 x RS-422/485 4 x RS-232  
1 x mSATA (colay SATA port 6) (supports SATA 6Gb/s signal only)  
4 x USB 3.0 (2 by rear IO, 2 by pin header)  
6 x SATA 6Gb/s (RAID 0, 1, 5, 10 supported)  
8 x USB 2.0 (4 by pin header, 4 by backplane pin header)
- ◆ Front Panel  
1 x Front panel (power LED, HDD LED, speaker, power button, reset button)
- ◆ LAN LED  
2 x 2-pin headers for LAN1 link LED, LAN2 link LED
- ◆ Audio  
Supported by IEI AC-KIT-892HD Audio kit
- ◆ TPM  
1 x TPM connector (2x10 pin)
- ◆ SMBus  
1 x 4-pin wafer
- ◆ I<sup>2</sup>C  
1 x 4-pin wafer
- ◆ Infrared Interface  
1 x 5-pin header
- ◆ iRIS Remote Management Module  
1 x iRIS-2400 slot
- ◆ Expansion  
PCIe signal and PCI signal via golden finger  
PCI signal by ITE IT 8892 (PCIe to PCI bridge)  
1 x Full-size PCIe Mini card slot (colay mSATA)
- ◆ Watchdog Timer  
Software programmable, supports 1~255 sec. system reset
- ◆ Digital I/O  
8-bit digital I/O
- ◆ Fan Connector  
1 x 3-pin fan connector (system fan)  
1 x 4-pin smart fan connector (CPU fan)
- ◆ Power Supply  
5V/12V, AT/ATX support
- ◆ Power Consumption  
5V@3.55A, 12V@0.37A, Vcore\_12V@7.61A, 3.3V@1.55A, 5VSB@0.13A (Intel® E3-1240 v3 3.4GHz CPU with 16 GB (4x4 GB) 1333 MHz DDR3 memory)
- ◆ Operating Temperature  
-20°C ~ 60°C
- ◆ Storage Temperature  
-30°C ~ 70°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Dimensions  
338 mm x 126 mm
- ◆ Weight  
GW 1200g / NW: 420g



## Features

- PICMG 1.3 full-size server grade solution
- LGA 1150 Intel® Xeon® E3, Core™ i3, Pentium® or Celeron® processor supported
- Four 240-pin 1600/1333 MHz dual-channel DDR3 DIMMs support up to 32 GB
- Supports dual independent display by VGA and iDP interfaces
- Supports PCIe Mini devices and mSATA via PCIe Mini socket
- Intel® PCIe GbE with Intel® AMT 9.0 support
- Supports RAID function via SATA 6Gb/s
- TPM V1.2 hardware security function supported by TPM module
- Stiffener bars
- IEI jumper-less function
- Supports IPMI 2.0 via iRIS-2400 module

## Packing List

1 x SPCIE-C2260-i2 single board computer	
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	
1 x USB 2.0 cable (P/N: 19800-003100-300-RS)	1 x QIG (Quick Installation Guide)
2 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
SPCIE-C2260-i2-R10	Full-size PICMG 1.3 CPU card supports LGA 1150 Intel® Xeon® E3, Core™ i3, Pentium® and Celeron® with Intel® C226, DDR3, VGA, iDP, Dual Intel® PCIe GbE, SATA 6Gb/s, mSATA, RS-232, PCIe Mini, HD Audio, iRIS-2400 and RoHS
iRIS-2400-R10	IPMI 2.0 adapter card with AST2400 BMC chip for DDR3 SO-DIMM socket interface
19800-000049-RS	LPT cable
19800-000075-RS	KB/MS cable with bracket
19800-010500-200-RS	USB 3.0 cable with bracket, 457mm
32102-000100-200-RS	SATA power cable, MOLEX 5264-4P to SATA15P
32205-003800-300-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1150SB-R11	Special cooler kit for LGA 1150, high-performance compatible, 65W
CF-1150SC-R20	Special cooler kit for LGA 115X, 1U chassis compatible, 65W, copper
CF-1150SE-R11	Special cooler kit for LGA 115X, high-performance compatible, 95W, copper
CF-1150SF-R10	Special cooler kit for LGA 115X Intel® CPU, 107x70x35, 54W
DP-DP-R10	DisplayPort to DisplayPort converter board (for IEI iDP connector)
DP-DVI-R10	DisplayPort to DVI-D converter board (for IEI iDP connector)
DP-HDMI-R10	DisplayPort to HDMI converter board (for IEI iDP connector)
DP-LVDS-R10	DisplayPort to LVDS converter board (for IEI iDP connector)
DP-VGA-R10	DisplayPort to VGA converter board (for IEI iDP connector)
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

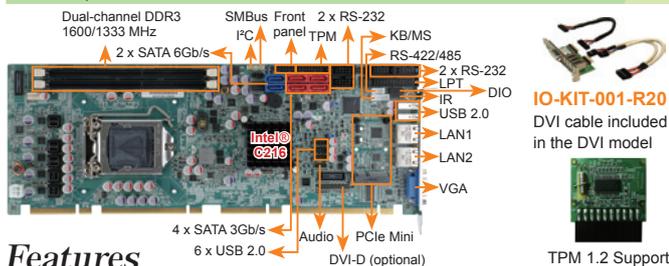
4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

# SPCIE-C2160

Full-size PICMG 1.3 CPU Card supports LGA 1155 Intel® Xeon® E3/Core™ i3/Pentium®/Celeron® CPU with Intel® C216, DDR3, VGA, DVI-D, Dual GbE, SATA, PCIe Mini, HD Audio and RoHS



## Features

- Full-size PICMG 1.3 server grade solution
- LGA 1155 Intel® Xeon® E3/Core™ i3/Pentium®/Celeron® processors supported
- Up to 16 GB 1600 MHz dual-channel DDR3 SDRAM
- Supports dual independent display by VGA and DVI-D (DVI model)
- Supports PCIe Mini expansion
- Intel® PCIe GbE with Intel® AMT 8.0 support
- Supports RAID function via SATA 6Gb/s and SATA 3Gb/s
- High-speed I/O interface provided through the 3rd gen PCIe add-on card and SATA 6Gb/s connectors
- TPM V1.2 hardware security provided by the TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU: LGA 1155 socket supports LGA 1155 Intel® Xeon® E3/Core™ i3/Pentium®/Celeron® processor
- ◆ System Chipset: Intel® C216
- ◆ Memory: Two 240-pin 1600/1333 MHz dual-channel ECC and non-ECC unbuffered DDR3 SDRAM DIMMs supported (system max. 16 GB)
- ◆ BIOS: UEFI BIOS
- ◆ Graphics Engine: Intel® HD Graphics Gen 7 supports DX11 and OpenCL 1.1 Full MPEG-2, VC1, AVC decoding
- ◆ Display Output: 1 x VGA, 1 x DVI-D (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)
- ◆ Ethernet: LAN1: Intel® 82574L PCIe controller, LAN2: Intel® 82579 PHY with Intel® AMT 8.0 support
- ◆ Super I/O: Fintek F81866
- ◆ I/O Interface: 1 x 6-pin wafer for KB/MS, 1 x LPT, 1 x RS-422/485, 4 x RS-232, 2 x SATA 6Gb/s (RAID 0/1/5/10 supported), 4 x SATA 3Gb/s (RAID 0/1/5/10 supported), 8 x USB 2.0 (2 by rear IO, 6 by on-board pin header)
- ◆ TPM: 1 x TPM connector (2x10 pin)
- ◆ SMBus: 1 x 4-pin wafer
- ◆ I²C: 1 x 4-pin wafer
- ◆ Infrared Interface: 1 x 5-pin header
- ◆ Front Panel: 1 x Front panel connector (power LED, HDD LED, speaker, power button, reset button)
- ◆ Audio: Supports by IEI AC-KIT-892HD-R10 audio kit
- ◆ Expansions: PCIe signal and PCI signal via golden finger, 1 x PCIe Mini slot (with USB 1.1/2.0 signal)
- ◆ Watchdog Timer: Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O: 8-bit digital I/O
- ◆ Fan Connector: 1 x 4-pin smart fan connector
- ◆ Power Supply: AT/ATX power supply supported
- ◆ Power Consumption: 5V@3.98A, 12V@0.38A, Vcore\_12V@7.81A, 3.3V@1.61A, 5VSB@0.15A (3.4GHz Intel® Xeon® 2.2GHz with two 2 GB 1333 MHz DDR3 memory)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 338 mm x 126 mm
- ◆ Weight: GW: 1200g/NW: 420g

## Packing List

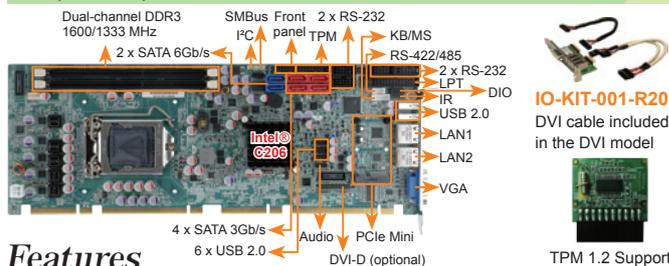
1 x SPCIE-C2160 single board computer	1 x One Key Recovery CD
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	1 x Mini jumper pack
1 x USB cable (P/N: 19800-003100-300-RS)	1 x QIG (Quick Installation Guide)
4 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
SPCIE-C2160-R10	Full-size PICMG 1.3 CPU card supports 32nm LGA 1155 Intel® Xeon® E3 and Intel® Core™ i3/Pentium®/Celeron® CPU with Intel® C216, DDR3, VGA, dual Intel® PCIe GbE, SATA 6Gb/s, PCIe Mini, HD Audio and RoHS
SPCIE-C2160-DVI-R10	Full-size PICMG 1.3 CPU card supports 32nm LGA 1155 Intel® Xeon® E3 and Intel® Core™ i3/Pentium®/Celeron® CPU with Intel® C216, DDR3, DVI-D, dual Intel® PCIe GbE, SATA 6Gb/s, PCIe Mini, HD Audio and RoHS
19800-000049-RS	LPT cable
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32205-003800-300-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1156A-RS-R11	High-performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156C-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W
CF-1156D-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W
CF-1156E-R11	High-performance LGA 1155/LGA 1156 cooler kit, 95W
SAIDE-KIT01-R10	SATA to IDE/CF converter board

# SPCIE-C2060-R21

Full-size PICMG 1.3 CPU Card supports LGA 1155 Intel® Xeon® E3/Core™ i3/Pentium®/Celeron® CPU with Intel® C206, DDR3, VGA, DVI-D, Dual GbE, SATA, PCIe Mini, HD Audio and RoHS



## Features

- Full-size PICMG 1.3 server grade solution
- LGA 1155 Intel® Xeon® E3/Core™ i3/Pentium®/Celeron® processors supported
- Up to 16 GB 1333 MHz dual-channel DDR3 SDRAM
- Supports dual independent display by VGA and DVI-D (DVI model)
- Supports PCIe Mini expansion
- Intel® PCIe GbE with Intel® AMT 7.0 support
- Supports RAID function via SATA 6Gb/s and SATA 3Gb/s
- High-speed I/O interface provided through the 2nd gen PCIe add-on card and SATA 6Gb/s connectors
- TPM V1.2 hardware security provided by the TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU: LGA 1155 socket supports LGA 1155 Intel® Xeon® E3/Core™ i3/Pentium®/Celeron® processor
- ◆ System Chipset: Intel® C206
- ◆ Memory: Two 240-pin 1066/1333 MHz dual-channel ECC and non-ECC unbuffered DDR3 SDRAM DIMMs supported (system max. 16 GB)
- ◆ BIOS: UEFI BIOS
- ◆ Graphics Engine: Intel® HD Graphics Gen 6 supports DX10.1 and OpenGL 3.0 Full MPEG-2, VC1, AVC decoding
- ◆ Display Output: 1 x VGA, 1 x DVI-D (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)
- ◆ Ethernet: LAN1: Intel® 82574L PCIe controller, LAN2: Intel® 82579 PHY with Intel® AMT 7.0 support
- ◆ Super I/O: Fintek F81866
- ◆ I/O Interface: 1 x 6-pin wafer for KB/MS, 1 x LPT, 1 x RS-422/485, 4 x RS-232, 2 x SATA 6Gb/s (RAID 0/1/5/10 supported), 4 x SATA 3Gb/s (RAID 0/1/5/10 supported), 8 x USB 2.0 (2 by rear IO, 6 by on-board pin header)
- ◆ TPM: 1 x TPM connector (2x10 pin)
- ◆ SMBus: 1 x 4-pin wafer
- ◆ I²C: 1 x 4-pin wafer
- ◆ Infrared Interface: 1 x 5-pin header
- ◆ Front Panel: 1 x Front panel connector (power LED, HDD LED, speaker, power button, reset button)
- ◆ Audio: Supports by IEI AC-KIT-892HD-R10 audio kit
- ◆ Expansions: PCIe signal and PCI signal via golden finger, 1 x PCIe Mini slot (with USB 1.1/2.0 signal)
- ◆ Watchdog Timer: Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O: 8-bit digital I/O
- ◆ Fan Connector: 1 x 4-pin smart fan connector
- ◆ Power Supply: AT/ATX power supply supported
- ◆ Power Consumption: 5V@3.98A, 12V@0.38A, Vcore\_12V@7.81A, 3.3V@1.61A, 5VSB@0.15A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 338 mm x 126 mm
- ◆ Weight: GW: 1200g/NW: 420g

## Packing List

1 x SPCIE-C2060 single board computer	1 x One Key Recovery CD
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	1 x Mini jumper pack
1 x USB cable (P/N: 19800-003100-300-RS)	1 x QIG (Quick Installation Guide)
4 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
SPCIE-C2060-R21	Full-size PICMG 1.3 CPU card supports 32nm LGA 1155 Intel® Xeon® E3 and Intel® Core™ i3/Pentium®/Celeron® CPU with Intel® C206, DDR3, VGA, dual Intel® PCIe GbE, SATA 6Gb/s, PCIe Mini, HD Audio and RoHS
SPCIE-C2060-DVI-R21	Full-size PICMG 1.3 CPU card supports 32nm LGA 1155 Intel® Xeon® E3 and Intel® Core™ i3/Pentium®/Celeron® CPU with Intel® C206, DDR3, DVI-D, dual Intel® PCIe GbE, SATA 6Gb/s, PCIe Mini, HD Audio and RoHS
19800-000049-RS	LPT cable
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32205-003800-300-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1156A-RS-R11	High-performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156C-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W
CF-1156D-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W
CF-1156E-R11	High-performance LGA 1155/LGA 1156 cooler kit, 95W
SAIDE-KIT01-R10	SATA to IDE/CF converter board

1

Industrial Computing Solutions

2

Video Capture Solutions

3

Industrial Computer Chassis

4

Open Frame Monitor

5

Power Supply/Peripherals

6

All-in-One System

# PICMG 1.3 Backplane

## Selection Guide

PAC series wall-mount chassis

4U rack-mount chassis

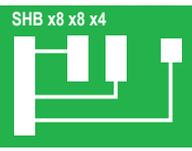
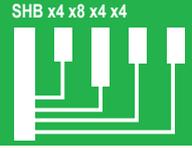
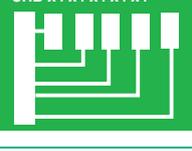
Backplane		SPE-4S	SPE-6S	SPE-9S	SPXE-14S
Total	Slot	4	6	7	14
PCIe	x16				
	x8	2 (x16 connector)		1 (x16 connector)	1 (x16 connector)
	x4	1	5	3	
	x1				12
	PCI-X				
	PCI			3	
PSU Type		24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+8-pin ATX
Chassis Option		PAC-106G PAC-1000G	PAC-106G PAC-1000G	PAC-125G	RACK-305G RACK-360G RACK-3000G

# IEI Server Grade Backplane Solution

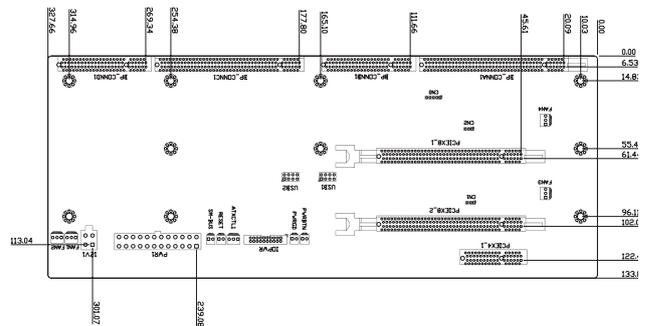
Server grade backplane accommodates PCIe x8 and multiple PCIe x4 add-on cards. It is specially designed for intensive data transfer applications such as server data storage and any application that requires more than one PCIe x4 or four PCIe x1 cards. Given the multiple PCIe x4 and x1 support, it provides a more cost effective solution for end-users by reducing the number of systems required.

## System Solution for options

Backplane	Total Slot	PCIe						PSU Type	Chassis Option
		x16	x8	x4	x1	PCI-X	PCI		
SPE-4S	4	-	2 (x16 connector)	1	-	-	24+4-pin ATX	PAC-106G, PAC-1000G	
SPE-6S	6	-		5	-	-	24+4-pin ATX	PAC-106G, PAC-1000G	
SPE-9S	7	-	1 (x16 connector)	3		3	24+4-pin ATX	PAC-125G	
SPXE-14S	14	-	1 (x16 connector)	-	12	-	24+4-pin ATX	RACK-305G, RACK-360G, RACK-3000G	

Server Grade Backplane	
Example	Corresponding Model
<b>EX1: 2 x8 &amp; 1 x4 slots</b> 	<b>SPE-4S</b> 
<b>EX2: 1 x8 &amp; 3 x4 slots</b> 	<b>SPE-9S</b> 
<b>EX3: 5 x4 slots</b> 	<b>SPE-6S</b> 

## SPE-4S-R10



### Ordering Information

SPE-4S-R10	4-slot PICMG 1.3 backplane with two PCIe x16 slots (x8 signal) and one PCIe x4 slot
PAC-106G	6-slot full-size compact chassis
PAC-1000G	6-slot full-size compact chassis

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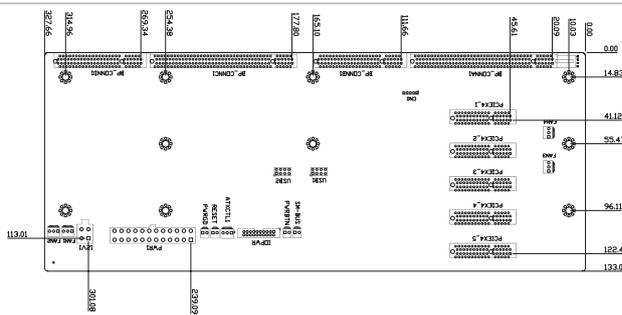
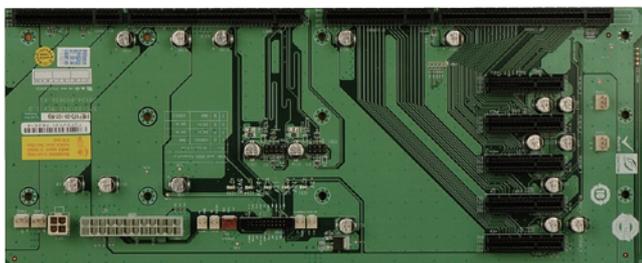
4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System



## SPE-6S-R10



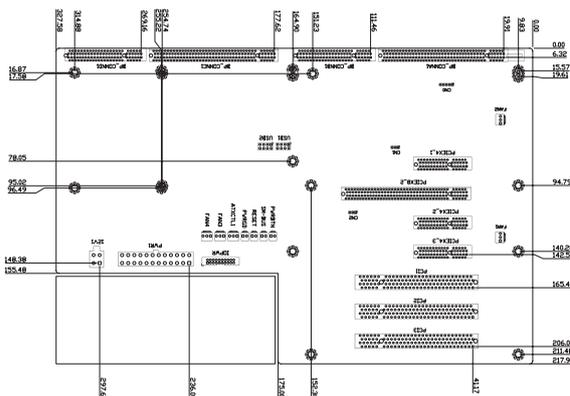
### Ordering Information

SPE-6S-R10	6-slot PICMG 1.3 backplane with five PCIe x4 slots
PAC-106G	6-slot full-size compact chassis
PAC-1000G	6-slot full-size compact chassis

Note: PCIeX4\_3 can not work with SPCIE-C2060.



## SPE-9S-R11

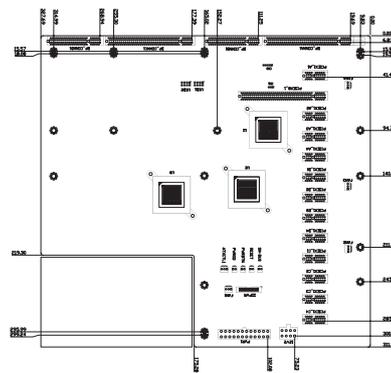


### Ordering Information

SPE-9S-R11	7-slot PICMG 1.3 backplane with one PCIe x16 slot (x8 signal), three PCIe x4 slots and three PCI slots
PAC-125G	10-slot full-size compact chassis



## SPXE-14S-R10



### Ordering Information

SPXE-14S-R10	14-slot PICMG 1.3 backplane with one PCIe x16 slot (x8 signal) and twelve PCIe x1 slots
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis
RACK-3000G	4U 14-slot full-size rack-mount chassis

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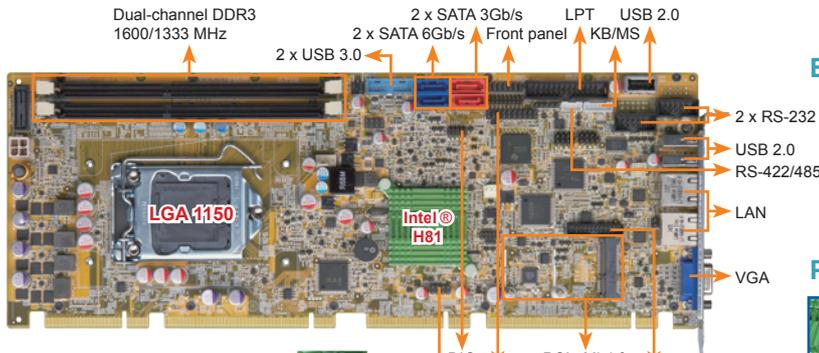
All-in-One System

# PCIE-H810

Full-size PICMG 1.3 CPU card supports LGA 1150 Intel® Core™ i7/i5/i3, Pentium® and Celeron® with Intel® H81, DDR3, VGA, iDP, Dual PCIe GbE, SATA 6Gb/s, mSATA, USB 3.0, RS-232, HD Audio and RoHS



**New**

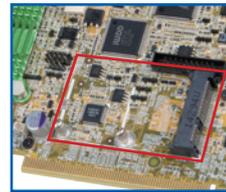


## Enhanced component protection

Prevent the damage of bottom components



## PCIe Mini & mSATA colay



The PCIe Mini interface provides PCIe x1, USB and mSATA signal for full-size or half-size PCIe Mini devices, such as SSD, mSATA and wireless LAN cards.



TPM 1.2 Support



## Features

- PICMG 1.3 full-size solution
- 4th generation LGA 1150 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor supported
- Two 1600/1333 MHz DDR3 SDRAM DIMMs support up to 16 GB
- Dual Realtek PCIe GbE supported
- TPM v1.2 hardware security function supported by TPM module
- IEI One Key Recovery solution allows you to create raid OS backup and recovery
- Stiffener bars
- IEI jumper-less function

## Specifications

- ◆ CPU  
4th generation LGA 1150 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor supported
- ◆ PCH  
Intel® H81
- ◆ Memory  
Two 240-pin 1600/1333 MHz dual-channel unbuffered DDR3 & DDR3L SDRAM DIMMs support up to 16 GB
- ◆ BIOS  
UEFI
- ◆ Graphics Engine  
Intel® HD Graphics Gen 7.5 supports DX11.1, OpenCL 1.2 and OpenGL 3.2 Full MPEG2, VC1, AVC Decode
- ◆ Display Output  
Dual independent display  
VGA (up to 1920x1200@60 Hz)  
iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 3840x2160@60 Hz)
- ◆ Ethernet  
Dual Realtek RTL8111E PCIe GbE controllers supported
- ◆ External I/O Interface  
1 x VGA  
2 x RJ-45  
2 x USB 2.0
- ◆ Internal I/O Interface  
1 x IR (1x5 pin) 1 x USB 2.0 (180 degree type A)  
1 x KB/MS (1x6 pin) 4 x USB 2.0 (2x4 pin, P=2.54)  
1 x LPT (2x13 pin) 4 x USB 2.0 (signal to backplane)  
1 x RS-422/485 (1x4 pin) 2 x USB 3.0 (2x10 pin)  
2 x RS-232 (2x5 pin, P=2.54)  
2 x SATA 6Gb/s, 2 x SATA 3Gb/s (H81 supports AHCI, no RAID)
- ◆ Audio  
Support 7.1-channel HD Audio by IEI AC-KIT-892HD kit
- ◆ Front Panel  
1 x Front panel (2x7 pin, power LED, HDD LED, speaker, power button, reset button)
- ◆ LAN LED  
2 x LAN LED (1x2 pin)
- ◆ SMBus  
1 x SMBus (1x4 pin)
- ◆ I<sup>2</sup>C  
1 x I<sup>2</sup>C (1x4 pin)
- ◆ Expansion  
1 x PCIe Mini slot (PCIe Mini & mSATA colay)  
One PCIe x16 & four PCIe x1 signal via golden finger  
PCI signal by ITE IT 8892 (PCIe to PCI bridge)
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O: 1 x 8-bit digital I/O (2x5 pin)
- ◆ Fan Connector  
1 x CPU smart fan (1x4 pin)  
1 x System smart fan (1x3 pin)
- ◆ Power Supply  
5V/12V, AT/ATX support
- ◆ Power Consumption  
5V@3.41A, 12V@0.35A, Vcore\_12V@7.52A, 3.3V@1.41A, 5VSB@0.12A  
(Intel® Core™ i7-4770K 3.90 GHz CPU with 8 GB (two 4 GB) 1333 MHz DDR3 memory)
- ◆ Operating Temperature: -20°C ~ 60°C
- ◆ Storage Temperature: -30°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 338 mm x 126 mm
- ◆ Weight: 1000g (GW) / 260g (NW)

## Packing List

- 1 x PCIE-H810 single board computer
- 2 x SATA cable
- 1 x One Key Recover CD
- 1 x QIG (Quick Installation Guide)
- 1 x Utility CD

## Ordering Information

Part No.	Description
PCIE-H810-R10	Full-size PICMG 1.3 CPU Card supports LGA 1150 Intel® Core™ i7/i5/i3, Pentium® and Celeron® CPU with Intel® H81, DDR3, VGA, iDP, dual PCIe GbE, SATA 6Gb/s, mSATA, USB 3.0, RS-232, HD Audio and RoHS
19800-000051-RS	Dual RS-232 cable, 230mm, P=2.54
19800-000075-RS	PS/2 KB/MS Y-cable with bracket, 220mm
19800-003100-300-RS	USB 2.0 cable, 300mm, P=2.54
19800-010500-200-RS	USB 3.0 cable with bracket, 457mm
32102-000100-200-RS	SATA power cable, MOLEX 5264-4P to SATA15P
32200-015100-RS	LPT flat cable, 280mm
32205-003800-300-RS	RS-422/485 cable, 200mm, P=2.0
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1150SB-R11	Special cooler kit for LGA 1150, high-performance compatible, 65W
CF-1150SC-R20	Special cooler kit for LGA 1150, 1U chassis compatible, 65W
CF-1150SE-R11	Special cooler kit for LGA 1150, high-performance compatible, 95W
CF-1150SF-R10	Special cooler kit for LGA 1150, high-performance compatible, 54W
DP-DP-R10	DisplayPort to DisplayPort converter board (for IEI iDP connector)
DP-DVI-R10	DisplayPort to DVI-D converter board (for IEI iDP connector)
DP-HDMI-R10	DisplayPort to HDMI converter board (for IEI iDP connector)
DP-LVDS-R10	DisplayPort to LVDS converter board (for IEI iDP connector)
DP-VGA-R10	DisplayPort to VGA converter board (for IEI iDP connector)
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

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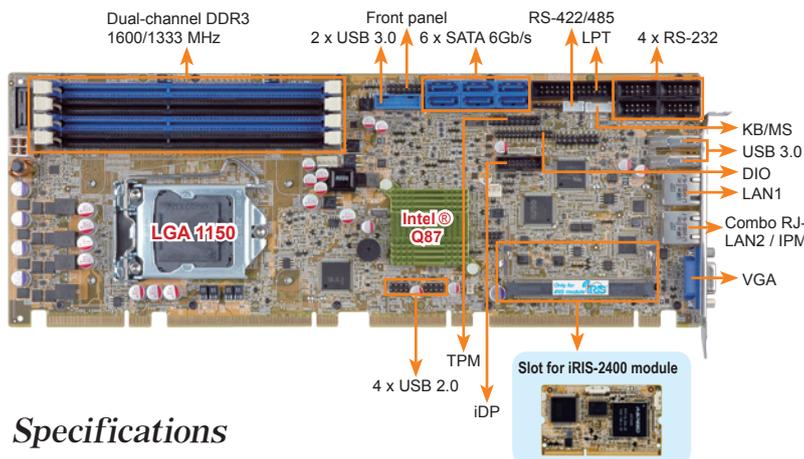
4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

# PCIE-Q870-i2

Full-size PICMG 1.3 CPU card supports LGA 1150 Intel® Core™ i7/i5/i3, Pentium® and Celeron® CPU per Intel® Q87, DDR3, VGA, iDP, Dual PCIe GbE, SATA 6Gb/s, mSATA, PCIe Mini, RS-232, Audio, iRIS-2400 and RoHS



**New**

### iRIS-2400 Key Features

- IPMI 2.0 Based Management
- Cross OS Platform Support
- Hardware Health Monitor
- Event Log
- KVM over IP
- Notifications
- Virtual Media Support
- Remote Power Control
- User Management
- Serial over LAN



**Enhance component protection**  
Prevent the damage of bottom side components

## Specifications

- ◆ CPU  
LGA 1150 Intel® 4th generation Core™ i7/i5/i3, Pentium® or Celeron® processor supported
- ◆ System Chipset  
Intel® Q87
- ◆ Memory  
Four 240-pin 1600/1333 MHz dual-channel unbuffered DDR3 & DDR3L SDRAM DIMMs support up to 32 GB
- ◆ BIOS  
UEFI BIOS
- ◆ Graphics Engine  
Intel® HD Graphics Gen 7.5 supports DX11.1, OpenCL 1.2 and OpenGL 3.2 Full MPEG2, VC1, AVC Decode
- ◆ Display Output  
VGA (up to 1920x1200@60 Hz)  
iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 3840x2160@60 Hz)
- ◆ Ethernet  
LAN1: Intel® I217LM with Intel® AMT 9.0 support  
LAN2: Intel® I210-AT PCIe controller with NCSI support
- ◆ Super I/O  
Fintek F81866
- ◆ I/O Interface
  - 1 x 6-pin wafer for KB/MS
  - 1 x LPT
  - 1 x RS-422/485
  - 4 x RS-232
  - 1 x mSATA (colay SATA port 6) (supports SATA 6Gb/s signal only)
  - 4 x USB 3.0 (2 by rear IO, 2 by pin header)
  - 6 x SATA 6Gb/s (RAID 0, 1, 5, 10 supported)
  - 8 x USB 2.0 (4 by pin header, 4 by backplane pin header)
- ◆ Front Panel
  - 1 x Front panel (power LED, HDD LED, speaker, power button, reset button)
- ◆ LAN LED
  - 2 x 2-pin headers for LAN1 link LED, LAN2 link LED
- ◆ Audio
  - Supported by IEI AC-KIT-892HD Audio kit
- ◆ TPM
  - 1 x TPM connector (2x10 pin)
- ◆ SMBus
  - 1 x 4-pin wafer
- ◆ I<sup>2</sup>C
  - 1 x 4-pin wafer
- ◆ Infrared Interface
  - 1 x 5-pin header
- ◆ iRIS Remote Management Module
  - 1 x iRIS-2400 slot
- ◆ Expansion
  - PCIe signal and PCI signal via golden finger
  - PCI signal by ITE 8892 (PCIe to PCI bridge)
  - 1 x Full-size PCIe Mini card slot (colay mSATA)
- ◆ Watchdog Timer
  - Software programmable, supports 1~255 sec. system reset
- ◆ Digital I/O
  - 8-bit digital I/O
- ◆ Fan Connector
  - 1 x 3-pin fan connector (system fan)
  - 1 x 4-pin smart fan connector (CPU fan)
- ◆ Power Supply
  - 5V/12V, AT/ATX support
- ◆ Power Consumption
  - 5V@3.55A, 12V@0.37A, Vcore\_12V@7.61A, 3.3V@1.55A, 5VSB@0.13A (Intel® Core™ i7-4770K 3.90 GHz CPU with 16 GB (4x4 GB) 1333 MHz DDR3 memory)
- ◆ Operating Temperature
  - 20°C ~ 60°C
- ◆ Storage Temperature
  - 30°C ~ 70°C
- ◆ Operating Humidity
  - 5% ~ 95%, non-condensing
- ◆ Dimensions
  - 338 mm x 126 mm
- ◆ Weight
  - GW: 1200g / NW: 420g



## Features

- PICMG 1.3 full-size graphic grade solution
- LGA 1150 Intel® 4th generation Core™ i7/i5/i3, Pentium® or Celeron® processor supported
- Four 240-pin 1600/1333 MHz dual-channel DDR3 DIMMs support up to 32 GB memory
- Supports dual independent display by VGA & iDP interfaces
- Supports PCIe Mini devices and mSATA via PCIe Mini socket
- Intel® PCIe GbE with Intel® AMT 9.0 support
- Supports RAID function via SATA 6Gb/s
- TPM v1.2 hardware security function supported by TPM module
- Stiffener bars
- IEI jumper-less function
- Supports IPMI 2.0 via iRIS-2400 module

## Packing List

1 x PCIE-Q870-i2 single board computer	
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	
1 x USB 2.0 cable (P/N: 19800-003100-300-RS)	1 x QIG (Quick Installation Guide)
2 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
PCIE-Q870-i2-R10	Full-size PICMG 1.3 CPU card supports LGA 1150 Intel® Core™ i7/i5/i3, Pentium® and Celeron® CPU with Intel® Q87, DDR3, VGA, iDP, dual Intel® PCIe GbE, SATA 6Gb/s, mSATA, RS-232, PCIe Mini, Audio, iRIS-2400 and RoHS
iRIS-2400-R10	IPMI 2.0 adapter card with AST2400 BMC chip for DDR3 SO-DIMM socket interface
19800-000049-RS	LPT cable
19800-000075-RS	KB/MS cable with bracket
19800-010500-200-RS	USB 3.0 cable with bracket, 457mm
32102-000100-200-RS	SATA power cable, MOLEX 5264-4P to SATA15P
32205-003800-300-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1150SB-R11	Special cooler kit for LGA 1150, high-performance compatible, 65W
CF-1150SC-R20	Special cooler kit for LGA 115X, 1U chassis compatible, 65W, copper
CF-1150SE-R11	Special cooler kit for LGA 115X, high-performance compatible, 95W, copper
CF-1150SF-R10	Special cooler kit for LGA 115X Intel® CPU, 107x70x35, 54W
DP-DP-R10	DisplayPort to DisplayPort converter board (for IEI iDP connector)
DP-DVI-R10	DisplayPort to DVI-D converter board (for IEI iDP connector)
DP-HDMI-R10	DisplayPort to HDMI converter board (for IEI iDP connector)
DP-LVDS-R10	DisplayPort to LVDS converter board (for IEI iDP connector)
DP-VGA-R10	DisplayPort to VGA converter board (for IEI iDP connector)
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

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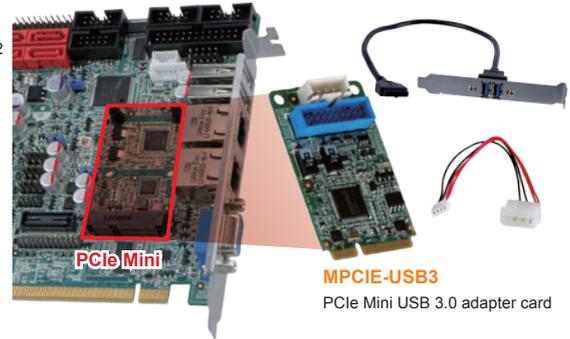
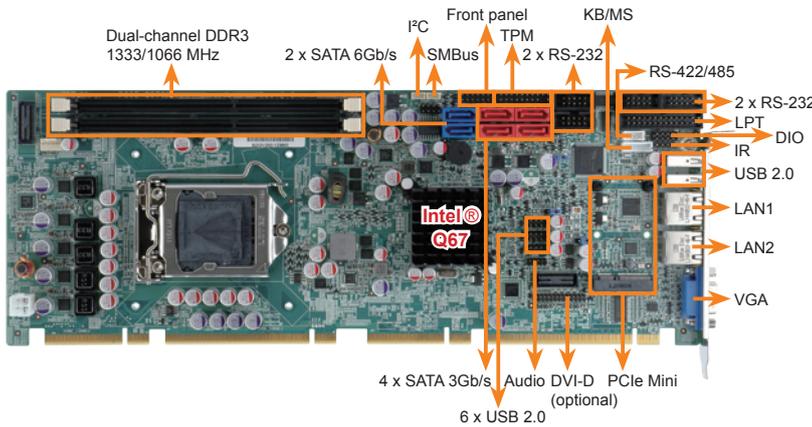
4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

# PCIE-Q670-R20

Full-size PICMG 1.3 CPU Card supports LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® Q67, DDR3, VGA, DVI-D, Dual Intel® PCIe GbE, SATA 6Gb/s, PCIe Mini, HD Audio and RoHS



The PCIe Mini interface provides PCIe x1 and USB 1.1/2.0 signal for full-size or half-size devices such as PCIe Mini USB 3.0 adapter card (MPCIE-USB3) or wireless LAN cards.



## Specifications

- ◆ CPU  
LGA 1155 socket supports Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor
- ◆ PCH  
Intel® Q67
- ◆ Memory  
Two 240-pin 1066/1333 MHz dual-channel unbuffered DDR3 SDRAM DIMMs supported (system max. 16 GB)
- ◆ BIOS  
UEFI BIOS
- ◆ Graphics Engine  
Intel® HD Graphics Gen 6 supports DX10.1 and OpenGL 3.0  
Full MPEG2, VC1, AVC Decode
- ◆ Display Output  
1 x VGA  
1 x DVI-D (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)
- ◆ Ethernet  
LAN1: Intel® 82583V PCIe controller  
LAN2: Intel® 82579 PHY with Intel® AMT 7.0 support
- ◆ Super I/O  
Fintek F81866
- ◆ I/O Interface  
1 x 6-pin wafer for KB/MS 1 x LPT  
1 x RS-422/485 2 x SATA 6Gb/s (RAID 0/1/5/10 supported)  
4 x RS-232 4 x SATA 3Gb/s (RAID 0/1/5/10 supported)  
8 x USB 2.0 (2 by rear IO, 6 by on-board pin header)
- ◆ Front Panel  
1 x Front panel connector (power LED, HDD LED, speaker, power button, reset button)
- ◆ Audio  
Supported by IEI AC-KIT-892HD-R10 audio kit
- ◆ TPM  
1 x TPM connector (2x10 pin)
- ◆ SMBus  
1 x 4-pin wafer
- ◆ Infrared Interface  
1 x 5-pin header
- ◆ Expansions  
PCIe signal and PCI signal via golden finger  
1 x PCIe Mini slot (with USB 1.1/2.0 signal)
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O  
8-bit digital I/O
- ◆ Fan Connector  
1 x 4-pin smart fan connector
- ◆ Power Supply  
AT/ATX power supply supported
- ◆ Power Consumption  
5V@3.45A, 12V@0.32A, Vcore\_12V@5.24A, 3.3V@1.69A, 5VSB@0.17A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)
- ◆ Operating Temperature  
-10°C ~ 60°C
- ◆ Storage Temperature  
-20°C ~ 70°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Dimensions  
338 mm x 126 mm
- ◆ Weight  
GW: 1200g/NW: 420g

## Features

- PICMG 1.3 full-size graphics grade solution
- LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processors supported
- Up to 16 GB 1333 MHz dual-channel DDR3 SDRAM
- Supports dual independent display by VGA and DVI-D (DVI model)
- Supports PCIe Mini expansion
- Intel® PCIe GbE with Intel® AMT 7.0 support
- Supports SATA 6Gb/s
- Supports RAID function via SATA 6Gb/s and SATA 3Gb/s
- TPM v1.2 hardware security provided by the TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Packing List

1 x PCIE-Q670 single board computer	
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	
1 x USB cable (P/N: 19800-003100-300-RS)	1 x Mini jumper pack
4 x SATA cable (P/N: 32000-062800-RS)	1 x QIG (Quick Installation Guide)
1 x One Key Recovery CD	1 x Utility CD

## Ordering Information

Part No.	Description
PCIE-Q670-R20	Full-size PICMG 1.3 CPU card supports LGA 1155 32nm Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® Q67, DDR3, VGA, dual Intel® PCIe GbE, SATA 6Gb/s, PCIe Mini, HD Audio and RoHS
PCIE-Q670-DVI-R20	Full-size PICMG 1.3 CPU card supports LGA 1155 32nm Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® Q67, DDR3, DVI-D, dual Intel® PCIe GbE, SATA 6Gb/s, PCIe Mini, HD Audio and RoHS
19800-000049-RS	LPT cable
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32205-003800-300-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1156A-RS-R11	High-performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156C-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W
CF-1156D-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W
CF-1156E-R11	High-performance LGA 1155/LGA 1156 cooler kit, 95W
CPU-DT-C-G440	Intel® Celeron® G440 processor, LGA 1155, single core 1.6GHz, 1M cache, 35W, compatible with CF-1156C-RS CPU cooler
CPU-DT-i3-2120T	Intel® Core™ i3-2120T processor, LGA 1155, dual core 2.6GHz, 3M cache, 35W, compatible with CF-1156C-RS CPU cooler
CPU-DT-i5-2390T	Intel® Core™ i5-2390T processor, LGA 1155, dual core 2.7GHz, 3M cache, 35W, AMT, compatible with CF-1156C-RS CPU cooler
CPU-DT-i5-2500T	Intel® Core™ i5-2500T processor, LGA 1155, quad core 2.3GHz, 6M cache, 45W, compatible with CF-1156C-RS CPU cooler
CPU-DT-P-G630T	Intel® Pentium® G630T processor, LGA 1155, dual core 2.3GHz, 3M cache, 35W, compatible with CF-1156C-RS CPU cooler
SAIDE-KIT01-R10	SATA to IDE/CF converter board

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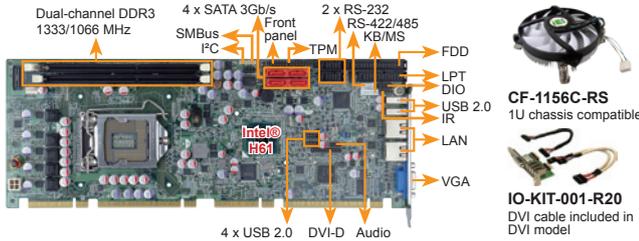
4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

# PCIE-H610

Full-size PICMG 1.3 CPU Card supports 32nm LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® H61, DDR3, VGA, USB 2.0, SATA 3Gb/s, Dual Realtek PCIe GbE, HD Audio and RoHS



CF-1156C-RS  
1U chassis compatible

IO-KIT-001-R20  
DVI cable included in DVI model



## Features

- Full-size PICMG 1.3 graphics grade solution
- LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor supported
- Dual-channel 1333/1066 MHz DDR3/DDR3L SDRAM supported up to 16 GB
- Intel® HD graphics technology integrates high-performance graphics and media processing
- TPM v1.2 hardware security function supported by TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU  
LGA 1155 socket supports Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor
- ◆ PCH: Intel® H61
- ◆ Memory  
Two 240-pin 1333/1066 MHz dual-channel DDR3 & DDR3L (1.35V) DIMMs supported (system max. 16 GB)
- ◆ BIOS: UEFI BIOS
- ◆ Graphics Engine  
Intel® HD Graphics Gen 6 supports DX10.1 and OpenGL 3.0  
Full MPEG2, VC1, AVC Decode
- ◆ Display Output  
1 x VGA (up to 2048x1536@75Hz)  
1 x DVI-D (up to 1920x1200@60Hz) (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)
- ◆ Ethernet  
LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support  
LAN2: Realtek RTL8111E PCIe GbE controller
- ◆ I/O Interface  
1 x FDD 1 x 6-pin wafer for KB/MS  
1 x LPT 1 x RS-422/485  
2 x RS-232 4 x SATA 3Gb/s  
4 x USB 2.0 (4 by backplane pin header via golden finger)  
6 x USB 2.0 (2 by rear IO, 4 by on-board pin header)
- ◆ Super I/O: Fintek F81866
- ◆ PCIe Switch: TI XIO3130
- ◆ PCIe-PCI Bridge: ITE IT8992E
- ◆ TPM: 1 x TPM connector (2x10 pin)
- ◆ SMBus: 1 x 4-pin wafer
- ◆ PC: 1 x 4-pin wafer
- ◆ Front Panel  
1 x Front panel (power LED, HDD LED, speaker, power button, reset button)
- ◆ Audio  
Supports by IEI AC-KIT-892HD-R10 audio kit
- ◆ Infrared Interface: 1 x 5-pin header
- ◆ Expansions  
PCIe signal and PCI signal via golden finger
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O: 8-bit programmable I/O
- ◆ Fan Connector: 1 x 4-pin smart fan connector
- ◆ Power Supply: 5V/12V, AT/ATX support
- ◆ Power Consumption  
5V@4.41A, 12V@0.21A, Vcore\_12V@7.72A, 3.3V@1.71A, 5VSB@0.16A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 338 mm x 126 mm
- ◆ Weight: 1200g (GW)/420G (NW)

## Packing List

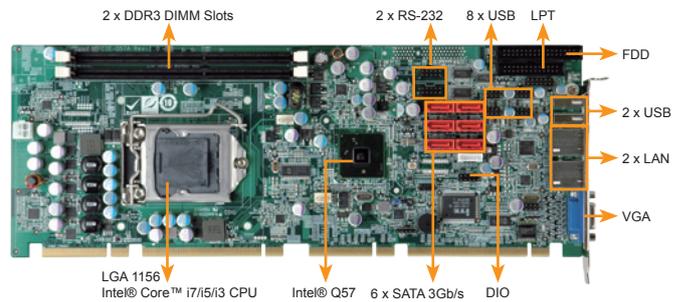
1 x PCIE-H610 single board computer	
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	
1 x USB cable (P/N: 19800-003100-300-RS)	1 x Mini jumper pack
4 x SATA cable (P/N: 32000-062800-RS)	1 x QIG (Quick Installation Guide)
1 x One Key Recovery CD	1 x Utility CD

## Ordering Information

Part No.	Description
PCIE-H610-R10	Full-size PICMG 1.3 CPU card supports 32nm LGA 1155 Intel® Core™ i7/i5/i3 CPU with Intel® H61, DDR3, VGA, dual Realtek PCIe GbE, USB 2.0, SATA 3Gb/s, HD Audio and RoHS
PCIE-H610-DVI-R10	Full-size PICMG 1.3 CPU card supports 32nm LGA 1155 Intel® Core™ i7/i5/i3 CPU with Intel® H61, DDR3, VGA, DVI-D, dual Realtek PCIe GbE, USB 2.0, SATA 3Gb/s, HD Audio and RoHS
19800-000049-RS	LPT cable
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32200-000017-RS	FDD flat cable
32205-003800-300-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1156A-RS-R11	High performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156C-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W
CF-1156D-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W
CF-1156E-R11	High performance LGA 1155/LGA 1156 cooler kit, 95W
CPU-DT-C-G440	Intel® Celeron® G440 processor, LGA 1155, single core 1.6GHz, 1M cache, 35W, compatible with CF-1156C-RS CPU cooler
CPU-DT-I3-2120T	Intel® Core™ i3-2120T processor, LGA 1155, dual core 2.6GHz, 3M cache, 35W, compatible with CF-1156C-RS CPU cooler
CPU-DT-I5-2390T	Intel® Core™ i5-2390T processor, LGA 1155, dual core 2.7GHz, 3M cache, 35W, AMT, compatible with CF-1156C-RS CPU cooler
CPU-DT-I5-2500T	Intel® Core™ i5-2500T processor, LGA 1155, quad core 2.3GHz, 6M cache, 45W, compatible with CF-1156C-RS CPU cooler
CPU-DT-P-G630T	Intel® Pentium® G630T processor, LGA 1155, dual core 2.3GHz, 3M cache, 35W, compatible with CF-1156C-RS CPU cooler
SAIDE-KIT01-R10	SATA to IDE/CF converter board
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

# PCIE-Q57A

PICMG 1.3 CPU Card with LGA 1156 socket for Intel® Core™ i7/i5/i3 or Pentium® CPU with VGA, Dual Intel® GbE, SATA 3Gb/s, COM, USB 2.0 and Audio, RoHS



LGA 1156 Cooler  
IEI P/N: CF-1156A-RS-R11



## Features

- PICMG 1.3 with LGA 1156 socket for Intel® Core™ i7/i5/i3 or Pentium® processor
- Supports 8 GB (max.) dual-channel 800/1066/1333 MHz DDR3 SDRAM
- Intel® GbE LAN controller with Intel® AMT 6.0 support
- Fourteen USB 2.0 ports and two COM ports
- Six SATA ports with RAID function
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU  
LGA 1156 socket supports Intel® Core™ i7/i5/i3 or Pentium® processor
- ◆ System Chipset: Intel® Q57
- ◆ BIOS: AMI BIOS
- ◆ Memory  
2 x 240-pin dual-channel DDR3 1333/1066/800 MHz DIMMs (up to 8 GB)
- ◆ Display Output  
1 x VGA  
*Note:*  
The Intel® quad-core processor (e.g., i7-860 and i5-750) is a discrete processor which does not integrate a graphics engine. If a quad-core processor is used on the motherboard, an additional graphics card must be installed in order to support display output. Otherwise, the display will show "No display output" when connected to the on-board VGA port.
- ◆ Ethernet  
LAN1: Intel® 82583V PCIe GbE controller  
LAN2: Intel® 82578DM with Intel® AMT 6.0 supported by IEI network software UI
- ◆ I/O Interfaces  
1 x FDD 1 x 6-pin wafer on board for KB/MS  
1 x LPT 2 x RS-232  
6 x SATA 3Gb/s (RAID 0, 1, 5 and 10)  
14 x USB 2.0 (2 on rear side, 12 on board by pin-header)
- ◆ Super I/O: ITE IT8718F
- ◆ Infrared Interface  
1 x 5-pin infrared connector
- ◆ Digital I/O  
8-bit Digital I/O
- ◆ Audio  
7.1-channel supports dual audio streams via Realtek ALC892 audio kit
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Fan Connector  
1 x 4-pin CPU fan connector  
1 x 4-pin PCH fan connector
- ◆ Power Supply  
ATX Power (supports AT/ATX mode)
- ◆ Power Consumption  
3.3V@0.89A, 5V@4.62A, 12V@0.51A, Vcore\_12V@4.35A, 5VSB@0.14A (Intel® Core™ i5 660 3.3GHz CPU with two 2 GB 1066 MHz DDR3 memory)
- ◆ Operating Temperature  
0°C ~ 60°C (32°F ~ 140°F)
- ◆ Storage Temperature: -10°C ~ 70°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Dimensions: 338 mm x 126 mm
- ◆ Weight: 1.1 kg (GW)

## Packing List

1 x PCIE-Q57A single board computer	1 x Mini jumper pack
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	1 x One Key Recovery CD
1 x USB cable (P/N: 19800-003100-300-RS)	1 x QIG
6 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
PCIE-Q57A-R10	PICMG 1.3 CPU card with LGA 1156 socket for Intel® Core™ processor with VGA, dual Intel® GbE, SATA 3Gb/s, USB 2.0, COM, Audio and RoHS
19800-000049-RS	LPT cable
19800-000075-RS	KB/MS cable with bracket
19800-000100-200-RS	4-port USB cable
32102-000100-200-RS	SATA power cable
32200-000017-RS	FDD flat cable
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 codec and dual audio streams
CF-1156A-RS-R11	High performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156E-R11	High performance LGA 1155/LGA 1156 cooler kit, 95W

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

# PICMG 1.3 Passive Backplane

## Selection Guide

PAC series wall-mount chassis

4U/5U rack-mount chassis

1U/2U rack-mount chassis

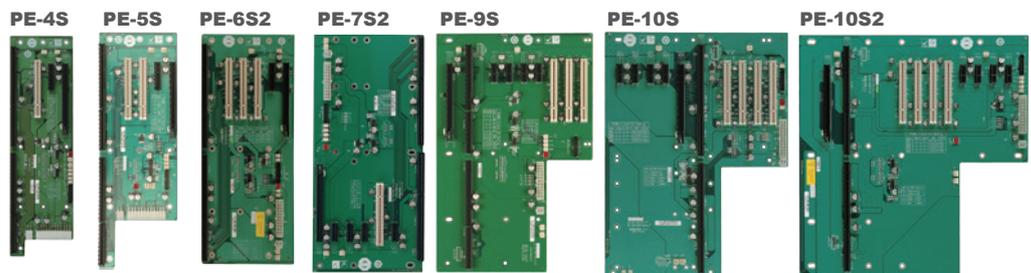
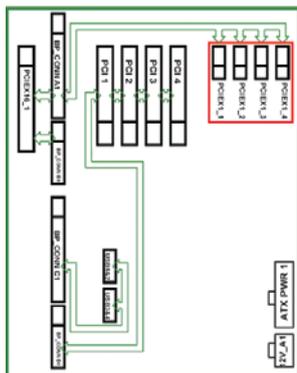
PICMG 1.3 (PCIe+PCI)	Model	PE-2SD1	PE-2SD2	PE-4S	PE-4S2	PE-6S	PE-6S2	PE-6S	PE-6S2	PE-6SD	PE-6SD3
Total Slot		2	2	4	4	5	5	6	6	5	5
Expansion Slots	PCIe Slots	x16 *	1		1	1	1	1	1	1	1
		x4			1		1		1		1
		x1						3	2		3
	PCI-X Slots										
PCI Slots		1	1	2	2	2	2	3		2	
USB Connectors by Pin Header		4	4	4	4	4	4	4	4	4	4
PSU Type		24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX						
Chassis		RACK-1150-PE	RACK-1150-PE	N/A	N/A	RACK-500G	RACK-500G	RACK-305G RACK-360G RACK-3000G PAC-1700G PAC-125	PAC-106G PAC-1000G	N/A	N/A
Note		1U Type	1U Type							2U Type	2U Type

PICMG 1.3 (PCIe+PCI)	Model	PE-7S	PE-7S2	PE-8S	PE-9S	PE-10S	PE-10S2	PE-13SD	PXE-9S2	PXE-12S	PXE-13S	PXE-19S2
Total Slot		7	7	8	9	10	10	13	9	12	13	19
Expansion Slots	PCIe Slots	x16 *	1	1	1	1	1	1/1	1	1	1	1
		x4							3			
		x1	2	4	3	4	4	4	0		3	1
	PCI-X Slots								0	4		
PCI Slots		3	1	3	3	4	4	2/2	4	4	8	16
USB Connectors by Pin Header		4	4	4	4	4	4	8	4	4	4	4
PSU Type		24+4-pin ATX	24+4-pin ATX	Dual 24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX	24+4-pin ATX				
Chassis		PAC-1700G	PAC-1700G	PAC-125G	N/A	RACK-305G RACK-360G RACK-3000G	RACK-3000G RACK-305G RACK-360G	RACK-3000G RACK-305G RACK-360G	RACK-3000G RACK-305G RACK-360G	RACK-3000G RACK-305G RACK-360G	RACK-3000G RACK-305G RACK-360G	N/A
Note								Dual System Backplane	PCIe to PCIe Switch Backplane	PCIe to PCI-X Bridge Backplane	PCIe to PCI Bridge Backplane	

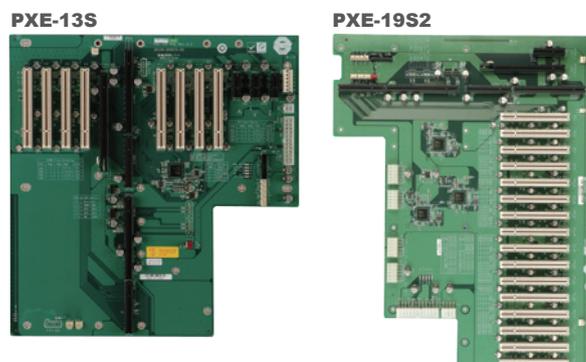
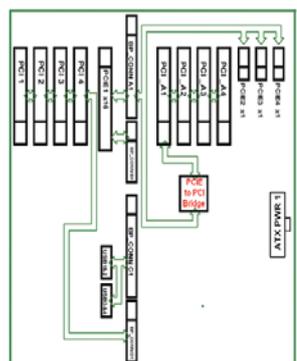
\*When using a PCIe x16 add-on card, the length of the card must not exceed 167mm or 6.57 inches.

## IEI Graphics Grade Backplane Solution

The graphics grade backplane solution targets the applications which concern system speed and performance. It has higher performance over cost ratio than the previous PICMG 1.0 solution.



- Twenty PCIe lanes in total
- One PCIe x16 slot
- Up to four PCIe x1 or one PCIe x4 slot
- Up to four local PCI slots (w/o bridge)

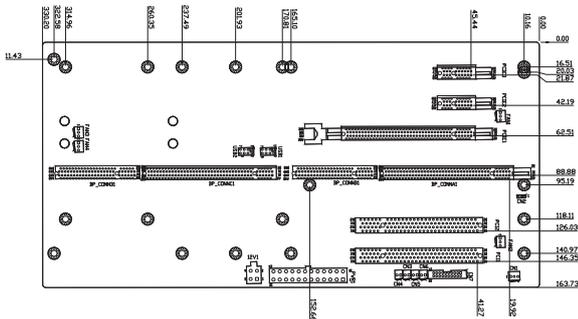
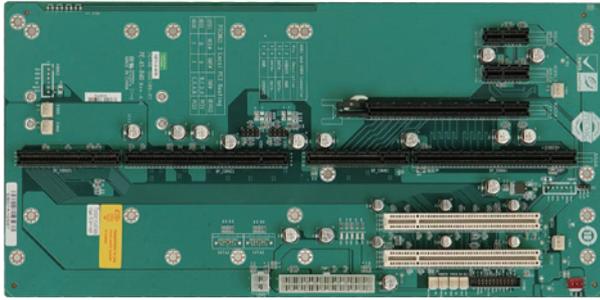


- Twenty PCIe lanes in total
- One PCIe x16 slot
- Up to four PCIe x1 slots
- PCI slots expandable via PCIe to PCI bridge



## PE-6S-R41

Mounting holes compatible with PCI-7S

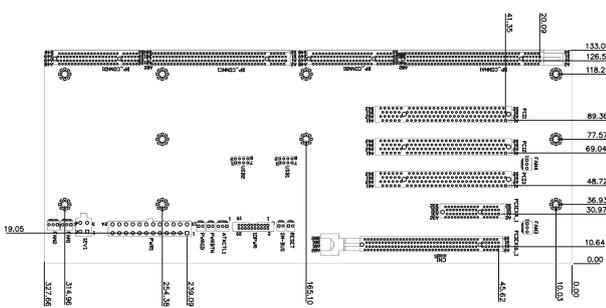


### Ordering Information

PE-6S-R41	6-slot backplane with one PCIe x16 slot, two PCIe x1 slots and two PCI slots
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis
RACK-3000G	4U 14-slot full-size rack-mount chassis
PAC-1700G	7-slot full-size compact chassis
PAC-125G	10-slot full-size compact chassis

## PE-6S2-R40

Mounting holes compatible with PCI-6S



### Ordering Information

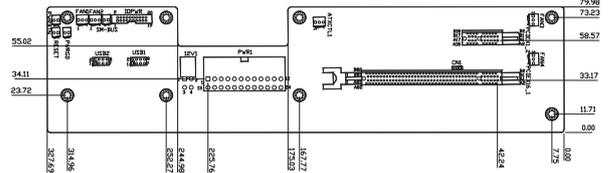
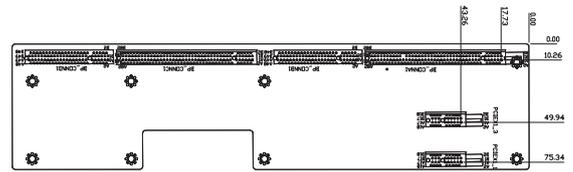
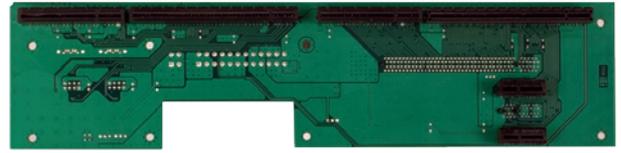
PE-6S2-R40	6-slot backplane with one PCIe x16 slot, one PCIe x4 slot and three PCI slots
PAC-106G *	6-slot full-size compact chassis
PAC-1000G	6-slot full-size compact chassis

\* When using a PCIe x16 add-on card, the length of the card must not exceed 167mm or 6.57 inches.

## PE-6SD-R40

Mounting holes compatible with PCI-6SD

2U Type



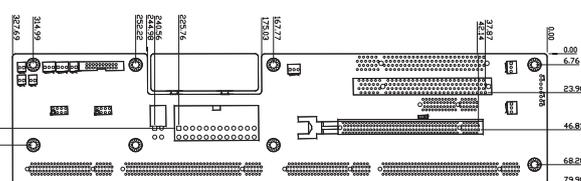
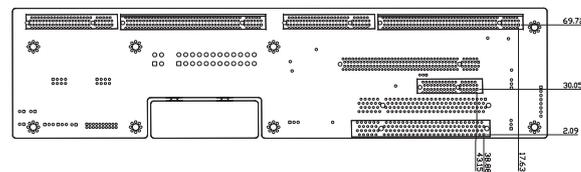
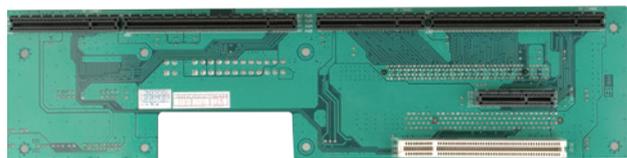
### Ordering Information

PE-6SD-R40	5-slot backplane with one PCIe x16 slot and three PCIe x1 slots
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## PE-6SD3-R40

Mounting holes compatible with PCI-6SD

2U Type



### Ordering Information

PE-6SD3-R40	5-slot backplane with one PCIe x16 slot, one PCIe x4 slot and two PCI slots
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1

Industrial Computing Solutions

2

Video Capture Solutions

3

Industrial Computer Chassis

4

Open Frame Monitor

5

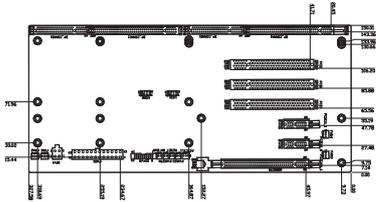
Power Supply/Peripherals

6

All-in-One System

## PE-7S-R40

Mounting holes compatible with PCI-7S

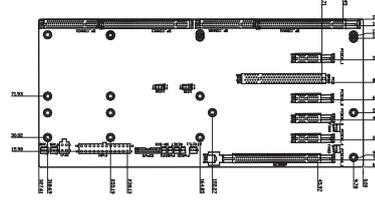


### Ordering Information

PE-7S-R40	7-slot backplane with one PCIe x16 slot, two PCIe x1 slots and three PCI slots
PAC-1700G	7-slot full-size compact chassis

## PE-7S2-R40

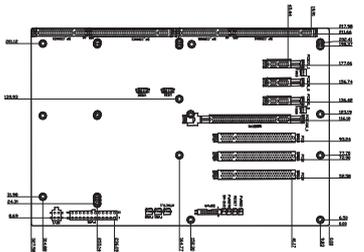
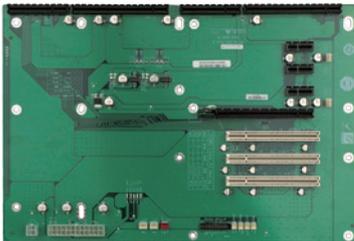
Mounting holes compatible with PCI-7S



### Ordering Information

PE-7S2-R40	7-slot backplane with one PCIe x16 slot, four PCIe x1 slots and one PCI slot
PAC-1700G	7-slot full-size compact chassis

## PE-8S-R40

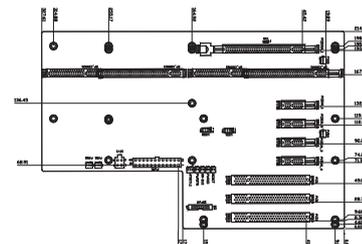
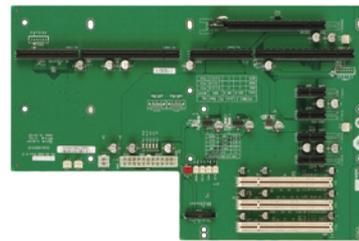


### Ordering Information

PE-8S-R40	8-slot backplane with one PCIe x16 slots, three PCIe x1 slots and three PCI slots
PAC-125G	10-slot full-size compact chassis

## PE-9S-R40

Mounting holes compatible with PCI-10S2

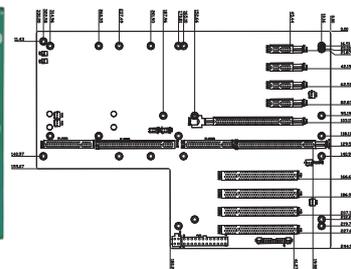
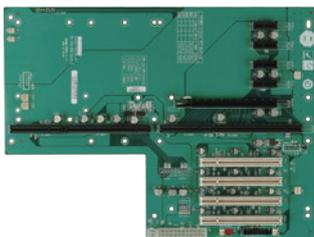


### Ordering Information

PE-9S-R40	9-slot backplane with one PCIe x16 slot, four PCIe x1 slots and three PCI slots
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## PE-10S-R40

Mounting holes compatible with PCI-14S

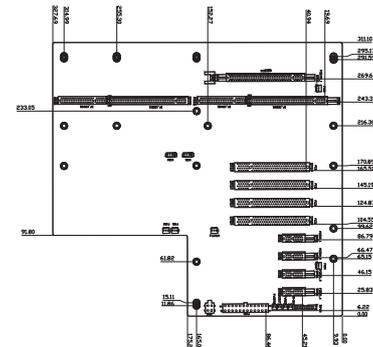
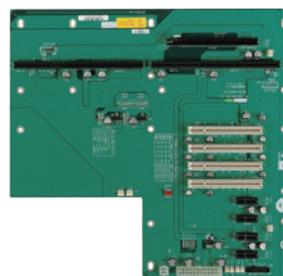


### Ordering Information

PE-10S-R40	10-slot backplane with one PCIe x16 slot, four PCIe x1 slots and four PCI slots
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis
RACK-3000G	4U 14-slot full-size rack-mount chassis

## PE-10S2-R40

Mounting holes compatible with PCI-14S



### Ordering Information

PE-10S2-R40	10-slot backplane with one PCIe x16 slot, four PCIe x1 slots and four PCI slots
RACK-3000G	4U 14-slot full-size rack-mount chassis
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis

1

Industrial Computing Solutions

2

Video Capture Solutions

3

Industrial Computer Chassis

4

Open Frame Monitor

5

Power Supply/Peripherals

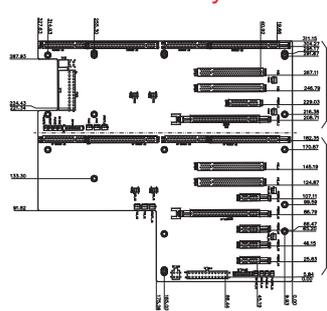
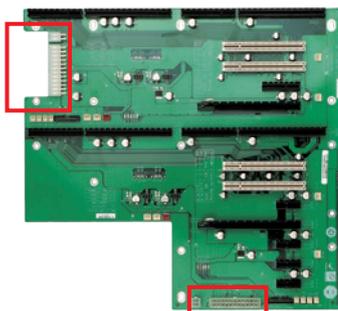
6

All-in-One System

## PE-13SD-R40

Mounting holes compatible with PCI-14S

Dual system



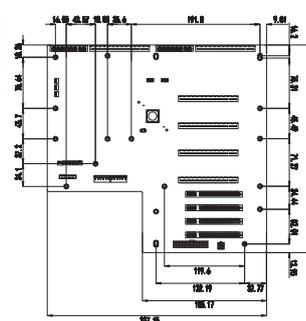
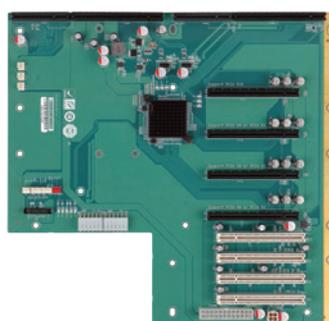
2 independent power resources

### Ordering Information

PE-13SD-R40	13-slot backplane with two PCIe x16 slots, one PCIe x4 slot, four PCIe x1 slot and four PCI slots
RACK-3000G	4U 14-slot full-size rack-mount chassis
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis

## PXE-9S2-R10

Mounting holes compatible with PCI-14S



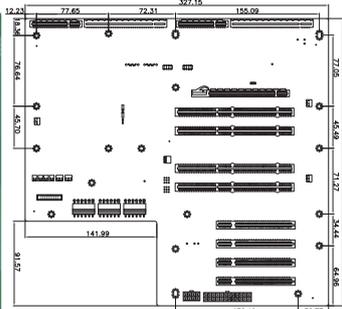
### Ordering Information

PXE-9S2-R10	9-slot PICMG 1.3 backplane, one PCIe x16 with x16 slot, 3 PCIe x4 with x16 slots, four PCI slots RoHS
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis
RACK-3000G	4U 14-slot full-size rack-mount chassis

## PXE-12S-R11

Mounting holes compatible with PCI-14S

(PCIe to PCI-X Bridge)



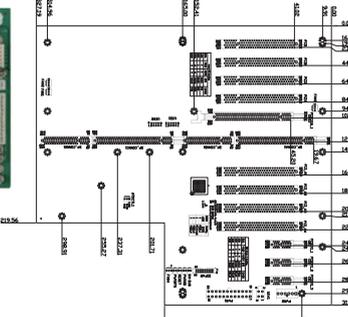
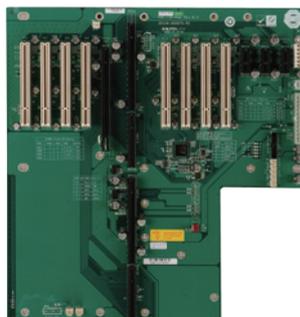
### Ordering Information

PXE-12S-R11	12-slot backplane with one PCIe x16 slot, four PCI-X slots and four PCI slots
RACK-3000G	4U 14-slot full-size rack-mount chassis
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis

## PXE-13S-R50

Mounting holes compatible with PCI-14S

(PCIe to PCI Bridge)



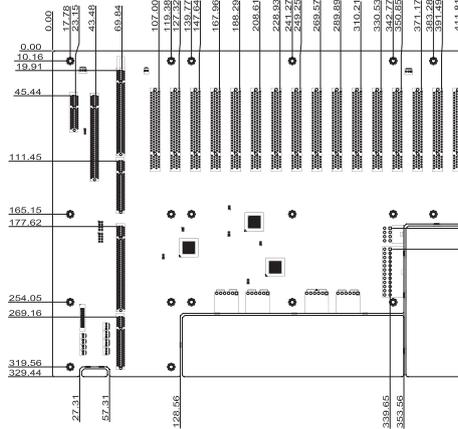
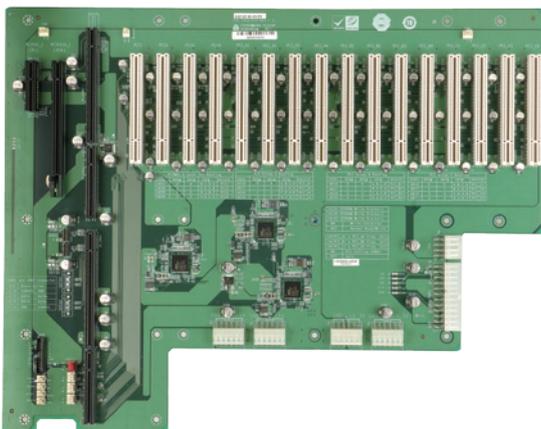
### Ordering Information

PXE-13S-R50	13-slot backplane with one PCIe x16 slot, three PCIe x1 slots and eight PCI slots
RACK-3000G	4U 14-slot full-size rack-mount chassis
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis

## PXE-19S2-R10

Mounting holes compatible with PCI-19S

(PCIe to PCI Bridge)



### Ordering Information

PXE-19S2-R10	19-slot backplane with one PCIe x16 slot, one PCIe x1 slot and sixteen PCI slots
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1

Industrial Computing Solutions

2

Video Capture Solutions

3

Industrial Computer Chassis

4

Open Frame Monitor

5

Power Supply/Peripherals

6

All-in-One System

# Full-size PICMG 1.0 Selection Guide




Model Name	WSB-H810	WSB-H610	WSB-PV-D4251/D5251
<b>CPU Socket</b>	LGA 1150	LGA 1155	On board
<b>CPU Type</b>	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Core™ i7/i5/i3, Pentium®, Celeron® processor	Intel® Atom™ D525 1.8GHz Intel® Atom™ D425 1.8GHz
<b>FSB</b>	N/A	NA	N/A
<b>Chipset</b>	Intel® H81	Intel® H61	Intel® ICH8M
<b>Memory</b>	Two 240-pin 1600/1333 MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs (system max. 16 GB)	Two 240-pin 1333/1066 MHz dual-channel DDR3 & DDR3L (1.35V) DIMMs supported (system max. 16 GB)	Two 204-pin 800 MHz DDR3 SDRAM SO-DIMMs (system max. 4 GB)
<b>Display Interface</b>	Dual display supported 1 x VGA 1 x iDP interface	1 x VGA 1 x DVI-D (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)	Dual display supported 1 x VGA 1 x 18-bit single-channel LVDS
<b>Ethernet</b>	LAN1: Intel® I217-V LAN PHY LAN2: Intel® I211-AT Ethernet controller	LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E PCIe GbE controller	LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E PCIe GbE controller
<b>I/O Interface</b>	1 x 6-pin wafer for KB/MS 1 x LPT 1 x RS-422/485 2 x USB 3.0 4 x RS-232 8 x USB 2.0	1 x 6-pin wafer for KB & MS 1 x FDD 1 x LPT 1 x PS/2 KB/MS 1 x RS-422/485 2 x RS-232 7 x USB 2.0	1 x 6-pin wafer for PS/2 KB/MS 1 x LPT 1 x PS/2 KB & MS 4 x RS-232 7 x USB 2.0
<b>Drive Interface</b>	1 x mSATA (supports SATA 3Gb/s signal only) 1 x SATA 3Gb/s 2 x SATA 6Gb/s	4 x SATA 3Gb/s	1 x CF Type II 1 x FDD 1 x IDE 3 x SATA 3Gb/s
<b>Audio</b>	Supports by IEI AC-KIT-892HD-R10 audio kit		IEI AC-KIT-892HD-R10 7.1-channel HD Audio kit via the on-board 10-pin header connector
<b>Digital I/O</b>	8-bit digital I/O		
<b>Power Consumption</b>	5V@3.41A, 12V@0.35A, Vcore_12V@7.52A, 3.3V@1.41A, 5VSB@0.12A (Intel® Core™ i7-4770K 3.90 GHz CPU with 8 GB (two 4 GB) 1333 MHz DDR3 memory)	5V@4.53A, 12V@0.19A, Vcore_12V@7.81A, 5VSB@0.18A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)	5V@5.16A, 12@0.55A (Intel® Dual Core Atom™ D525 1.80GHz with two 2 GB 1066 MHz DDR3 memory)
<b>Watchdog Timer</b>	Software programmable and supports 1~255 sec. system reset		
<b>Operation Environment</b>	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 65°C (-4°F ~ 149°F) with free air for D425 CPU -20°C ~ 60°C (-4°F ~ 140°F) with free air for D525 CPU -20°C ~ 70°C (-4°F ~ 158°F) with force air for D425/D525 CPU Relative Humidity: 5% ~ 95%, non-condensing
<b>Expansion Slot</b>	1 x mSATA (SATA 3Gb/s) 1 x PCIe Mini slot PCI and ISA signal via golden finger	PCIe Mini	N/A
<b>CPU Cooler</b>	CF-1150SB-R11 CF-1150SC-R20 CF-1150SE-R11 CF-1150SF-R10	CF-1156A/C/D/E	Heatsink (fanless) (optional CPU fan by 19FFD124010HB2A7-000001-RS)

1

Industrial  
Computing  
Solutions

2

Video  
Capture  
Solutions

3

Industrial  
Computer  
Chassis

4

Open  
Frame  
Monitor

5

Power Supply/  
Peripherals

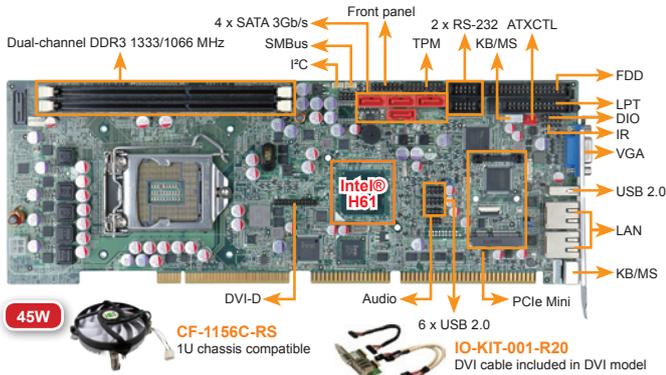
6

All-in-One  
System



# WSB-H610-R11

Full-size PICMG 1.0 CPU Card supports 32nm LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® H61, DDR3, VGA, DVI-D, Dual Realtek PCIe GbE, USB 2.0, SATA 3Gb/s, COM, HD Audio and RoHS



## Features

- Full-size PICMG 1.0 CPU card with LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor supported
- Two DDR3 & DDR3L 1333/1066 MHz DIMM SDRAM supported up to 16 GB
- Embedded controller on board supports infrared and PECEI 2.0 technologies
- Dual Realtek PCIe GbE and LAN1 with ASF 2.0 support
- TPM V1.2 hardware security function supported by TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU: LGA 1155 socket supports Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor
- ◆ PCH: Intel® H61
- ◆ Memory: Two 240-pin 1333/1066 MHz dual-channel DDR3 & DDR3L (1.35V) DIMMs supported (system max. 16 GB)
- ◆ BIOS: UEFI
- ◆ Graphics Engine Intel® HD Graphics Gen 6 supports DX10.1 and OpenGL 3.0
- ◆ Full MPEG2, VC1, AVC Decode
- ◆ Display Output
  - 1 x VGA (up to 2048x1536@75Hz)
  - 1 x DVI-D (up to 1920x1200@60Hz) (via header to IO-KIT-001-R20 DVI-D/USB module) (optional)
- ◆ Ethernet LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E PCIe GbE controller
- ◆ Super I/O: Fintek F81866
- ◆ PCI-PCI Bridge: ITE IT8892E
- ◆ PCI-ISA Bridge: ITE IT8888G
- ◆ I/O Interface
  - 1 x 6-pin wafer for KB & MS
  - 1 x FDD
  - 1 x LPT
  - 1 x PS/2 KB/MS
  - 1 x RS-422/485
  - 2 x RS-232
  - 4 x SATA 3Gb/s (H61 doesn't support AHCI & RAID)
  - 7 x USB 2.0 (1 on rear, 6 by pin header)
- ◆ Embedded Controller: ITE IT8519E
- ◆ Audio: Supports 7.1-channel HD Audio by IEI AC-KIT-892HD-R10 kit
- ◆ Front Panel
  - 1 x Front panel (power LED, HDD LED, speaker, power button, reset button)
- ◆ TPM: 1 x TPM connector (2x10 pin)
- ◆ SMBus: 1 x 4-pin wafer
- ◆ I²C: 1 x 4-pin wafer
- ◆ Expansions
  - PCI signal and ISA signal via golden finger
- ◆ Watchdog Timer Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O: 8-bit digital I/O
- ◆ Fan Connector
  - 1 x 4-pin smart fan connector
  - 1 x 4-pin system fan connector
- ◆ Power Supply: 5V/12V, AT/ATX support
- ◆ Power Consumption
  - 5V@4.53A, 12V@0.19A, Vcore\_12V@7.81A, 5VSB@0.18A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)
  - ◆ Operating Temperature: -10°C ~ 60°C
  - ◆ Storage Temperature: -20°C ~ 70°C
  - ◆ Operating Humidity 5% ~ 95%, non-condensing
  - ◆ Dimensions: 338 mm x 122 mm
  - ◆ Weight: 1000 g (GW)/260 g (NW)

## Packing List

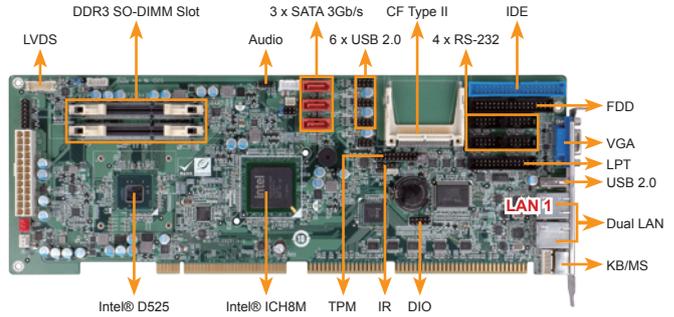
1 x WSB-H610 single board computer	
1 x Dual RS-232 cable with bracket (P/N: 19800-000051-RS)	
1 x KB/MS Y cable (P/N: 32006-000300-100-RS)	
1 x USB cable (P/N: 19800-003100-300-RS)	1 x Mini jumper pack
2 x SATA cable (P/N: 32000-062800-RS)	1 x QIG (Quick Installation Guide)
1 x One Key Recovery CD	1 x Utility CD

## Ordering Information

Part No.	Description
WSB-H610-R11	Full-size PICMG 1.0 CPU card supports 32nm LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® H61, DDR3, VGA, dual Realtek PCIe GbE, USB 2.0, SATA 3Gb/s, COM, HD Audio and RoHS
WSB-H610-DVI-R11	Full-size PICMG 1.0 CPU card supports 32nm LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® H61, DDR3, VGA, DVI-D, dual Realtek PCIe GbE, USB 2.0, SATA 3Gb/s, COM, HD Audio and RoHS
19800-000049-RS	LPT cable
19800-000075-RS	PS/2 KB/MS Y-cable with bracket, 6-pin header, 220mm
32006-000300-100-RS	Male PS/2 KB/MS Y-cable w/o bracket, 12cm (KB)+14cm (MS)
32102-000100-200-RS	SATA power cable
32200-000017-RS	FDD cable
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1156A-RS-R11	High performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156C-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W
CF-1156D-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W
CF-1156E-R11	High performance LGA 1155/LGA 1156 cooler kit, 95W
SAIDE-KIT01-R10	SATA to IDE/CF converter board
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

# WSB-PV-D4251/D5251

Full-size PICMG 1.0 CPU Card with Intel® Atom™ D425/D525, DDR3, VGA, LVDS, Dual PCIe GbE, SATA 3Gb/s, COM, USB 2.0, Audio and RoHS



## Features

- PICMG 1.0 form factor and RoHS compliant
- Supports Intel® Atom™ D425/D525 1.80GHz processor
- Supports 800 MHz DDR3 SDRAM SO-DIMM up to 4 GB
- Dual PCIe Ethernet, three SATA 3Gb/s, and four RS-232 serial port connectors
- VGA and 18-bit single-channel LVDS for dual independent display support
- TPM V1.2 hardware security function supported by TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU Intel® Atom™ D525 dual-core processor (1.80GHz/1MB L2 cache) Intel® Atom™ D425 single-core processor (1.80GHz/512KB L2 cache)
- ◆ System Chipset: ICH8M
- ◆ BIOS: UEFI BIOS
- ◆ System Memory Two 204-pin 800 MHz DDR3 SDRAM SO-DIMMs supported (system max. 4 GB)
- ◆ Graphics Engine GMA 3150 Gen3.5 DX9, 400 MHz
- ◆ Ethernet LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E PCIe GbE controller
- ◆ Display Interface Analog CRT up to 2048x1536 for D525/D425 Supports CRT hot plug 18-bit single-channel LVDS, resolution support up to WXGA 1366x768 or XGA 1024x768
- ◆ Super I/O: Fintek F81865
- ◆ TPM: 1 x TPM connector (2x10 pin)
- ◆ SMBus: 1 x 4-pin wafer connector
- ◆ Digital I/O: 8-bit digital I/O
- ◆ Infrared Interface: 1 x 5-pin infrared by pin header
- ◆ I/O Interface
  - 1 x FDD
  - 1 x IDE
  - 1 x LPT
  - 1 x PS/2 connector for KB/MS
  - 4 x RS-232
  - 3 x SATA 3Gb/s
  - 7 x USB 2.0 (1 on bracket, 6 on board by pin header)
- ◆ Audio 1 x 10-pin on-board header connects to the IEI audio kit
- ◆ Watchdog Timer Software programmable supports 1~255 sec. system reset
- ◆ Power Supply: AT/ATX power
- ◆ Power Consumption 5V@5.16A, 12@0.55A (Intel® dual core Atom™ D525 1.80GHz with two 2 GB 1066 MHz DDR3 memory)
- ◆ Operating Temperature -20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor -20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
- ◆ Storage Temperature: -30°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 338 mm x 122 mm
- ◆ Weight (GW): 1100g

## Packing List

1 x WSB-PV-D4251/D5251 single board computer	1 x Mini jumper pack
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	1 x One Key Recovery CD
1 x USB cable (P/N: 19800-003100-300-RS)	1 x QIG
2 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
WSB-PV-D5251-R10	Full-size PICMG 1.0 CPU card with Intel® dual-core Atom™ D525 1.80GHz/1MB L2 cache, DDR3, VGA, LVDS, dual PCIe GbE, SATA 3Gb/s, COM, USB 2.0, audio, RoHS
WSB-PV-D4251-R10	Full-size PICMG 1.0 CPU card with Intel® single-core Atom™ D425 1.80GHz/512KB L2 cache, DDR3, VGA, LVDS, dual PCIe GbE, SATA 3Gb/s, COM, USB 2.0, audio, RoHS
19800-000049-RS	LPT cable
19800-000100-200-RS	4-port USB cable
19FFDD124010HB2A7-000001-RS	CPU fan
32006-000300-100-RS	KB/MS Y cable
32102-000100-200-RS	SATA power cable
32200-000017-RS	FDD cable
32225-002000-200-RS	ATA 66 flat cable
34000-000510-RS	30mm higher heatsink
AC-KIT-892HD-R10	7.1-channel HD audio kit with Realtek ALC892 supports dual audio streams
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

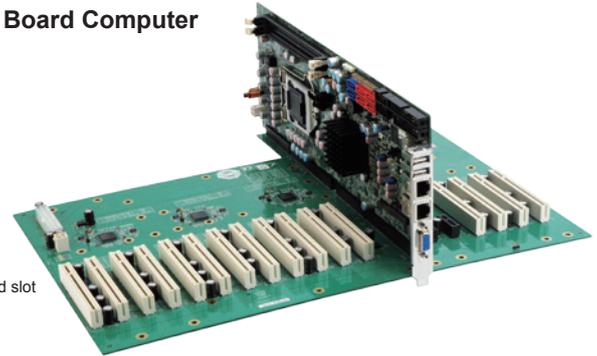
4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

# PCI/PX Backplane

Supports PCI and ISA slot on one backplane! For PICMG 1.0 Single Board Computer



The advantages of using the PICMG 1.0 card are numerous:

1. Supports standard PICMG version 1.0 slot on the PCI/PX series passive backplane
2. Compatible with all available PCI/ISA cards. PCI/PX backplane is also integrated with the ROCKY series card slot

## Selection Guide

PAC series wall-mount chassis

4U/5U rack-mount chassis

1U/2U rack-mount chassis

RoHS Ready



RoHS Ready



RoHS Ready



RoHS Ready



RoHS Ready



RoHS Ready



Model	PCI-4S-RS-R40	PCI-5S-RS-R40	PCI-5S2A-RS-R40 PCI-5S2-RS-R40	PCI-6S-RS-R40	PCI-7S-RS-R41	PCI-8S-RS-R40
Total Slot	4	5	5	6	7	8
PCI Slot	3	3	4	4	4	4
ISA Slot	1	2	1	2	3	4
PSU Type	ATX/AT	ATX/AT	ATX/AT	ATX/AT	ATX/AT	ATX/AT
Chassis	N/A	PAC-1000G	RACK-500G	PAC-106G PAC-1000G	PAC-1700G	N/A

RoHS Ready



RoHS Ready



RoHS Ready



RoHS Ready



RoHS Ready



RoHS Ready



Model	PCI-10S-RS-R41	PCI-10S2-RS-R41	PX-10S-RS-R50	PCI-12S-RS-R40	PCI-13SD-RS-R40	PCI-14S-RS-R40
Total Slot	10	10	10	12	13	14
PCI Slot	4	4	7	4	3+4	4
ISA Slot	5	5	3	7	3+3	9
PSU Type	ATX/AT	ATX/AT	ATX/AT	ATX/AT	ATX/AT	ATX/AT
Chassis	PAC-125G	N/A	PAC-125G	RACK-3000G	RACK-305G RACK-360G RACK-3000G	N/A
Note					For Dual System	

RoHS Ready



RoHS Ready



RoHS Ready



RoHS Ready



Model	PCI-14S2-RS-R40	PCI-14S3-RS-R40	PX-14S3-RS-R50	PX-14S5-RS-R50
Total Slot	14	14	14	14
PCI Slot	4	4	12	7
ISA Slot	8	9	2	6
PSU Type	ATX/AT	ATX/AT	ATX/AT	ATX/AT
Chassis	RACK-305G RACK-360G RACK-3000G	RACK-305G RACK-360G RACK-3000G	RACK-305G RACK-360G RACK-3000G	RACK-305G RACK-360G RACK-3000G

RoHS Ready



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Model	PCI-2SD2-RS-R41	PCI-5SD6-RS-R40	PCI-5SDA-RS-R40	PCI-6SD-RS-R40/PCI-6SR-RS-R30
Total Slot	2	6	6	6
PCI Slot	R2	L2+R2	L2+R2	L1+R1 L1+R1
ISA Slot				
PSU Type	ATX/AT	ATX	ATX/AT	ATX
Chassis	RACK-1150G	RACK-220G	RACK-220G	RACK-220G

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/Peripherals

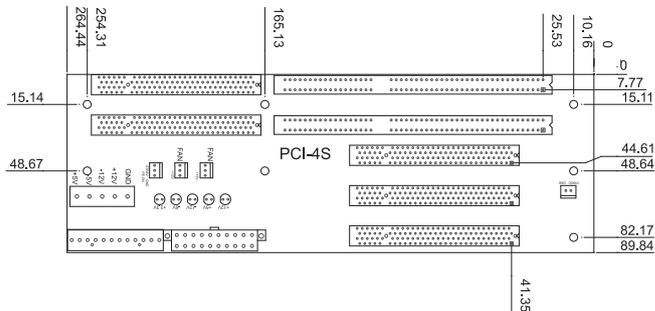
6 All-in-One System

## PCI-4S-RS-R40



### Ordering Information

PCI-4S-RS-R40 4-slot backplane with three PCI slots and one ISA slot



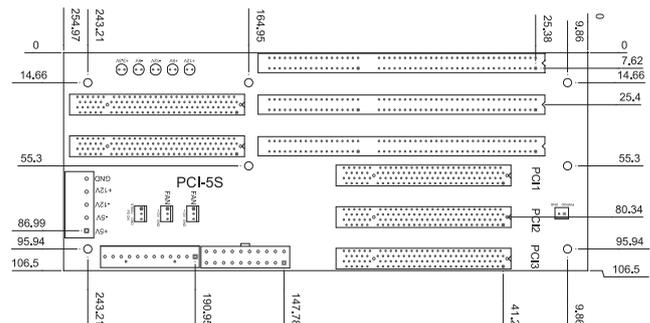
## PCI-5S-RS-R40



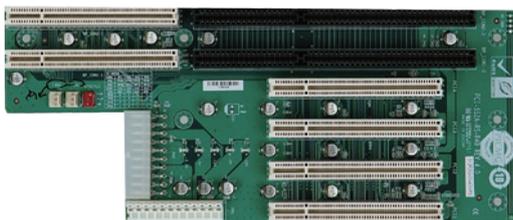
### Ordering Information

PCI-5S-RS-R40 5-slot backplane with three PCI slots and two ISA slots

PAC-1000G 6-slot full-size compact chassis



## PCI-5S2-RS-R40/PCI-5S2A-RS-R40

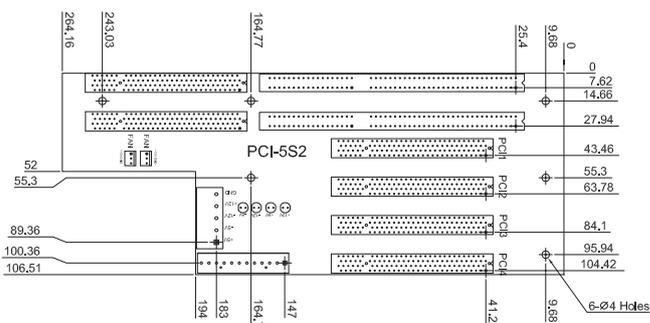


### Ordering Information

PCI-5S2-RS-R40 5-slot AT power backplane with four PCI slots and one ISA slot

PCI-5S2A-RS-R40 5-slot ATX power backplane with four PCI slots and one ISA slot

RACK-500G 5-slot full-size compact chassis



## PCI-6S-RS-R40

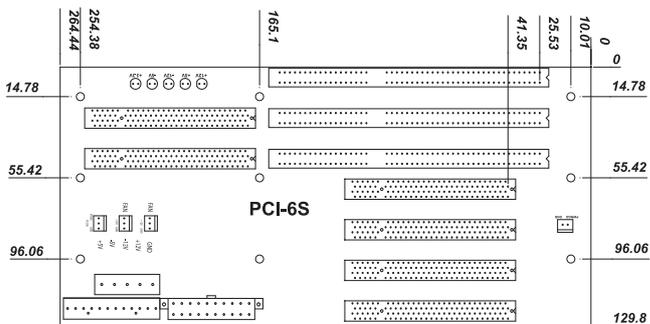


### Ordering Information

PCI-6S-RS-R40 6-slot backplane with four PCI slots and two ISA slots

PAC-106G 6-slot full-size compact chassis

PAC-1000G 6-slot full-size compact chassis



1 Industrial Computing Solutions

2 Video Capture Solutions

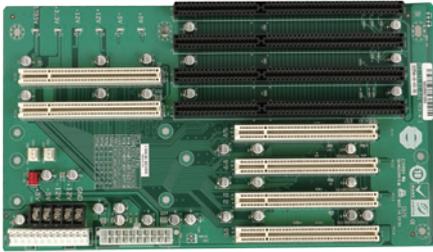
3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/Peripherals

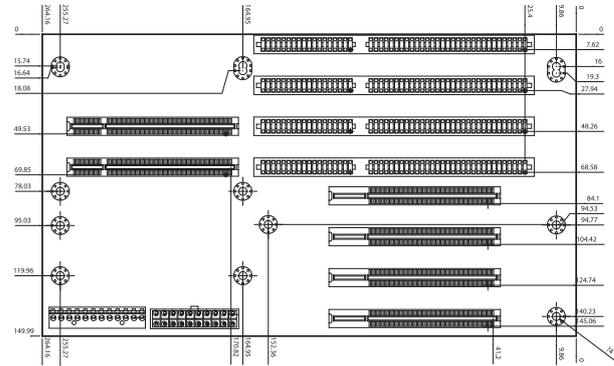
6 All-in-One System

## PCI-7S-RS-R41



### Ordering Information

PCI-7S-RS-R41	7-slot backplane with four PCI slots and three ISA slots
PAC-1700G	7-slot full-size compact chassis

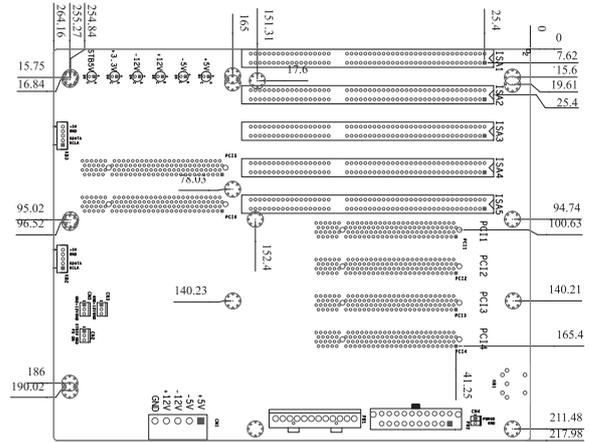


## PCI-8S-RS-R40



### Ordering Information

PCI-8S-RS-R40	8-slot backplane with four PCI slots and four ISA slots
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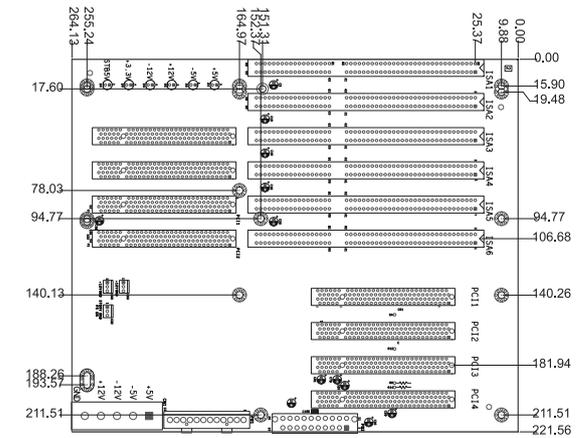


## PCI-10S-RS-R41



### Ordering Information

PCI-10S-RS-R41	10-slot backplane with four PCI slots and five ISA slots
PAC-125G	10-slot full-size compact chassis

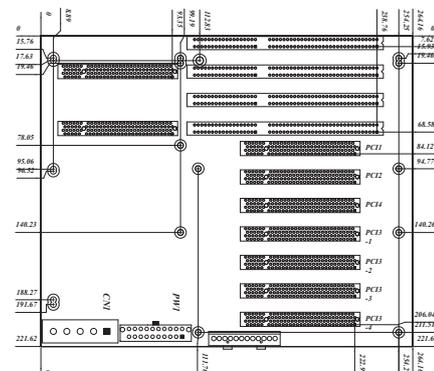


## PX-10S-RS-R50



### Ordering Information

PX-10S-RS-R50	10-slot backplane with seven PCI slots and three ISA slots
PAC-125G	10-slot full-size compact chassis



1 Industrial Computing Solutions

2 Video Capture Solutions

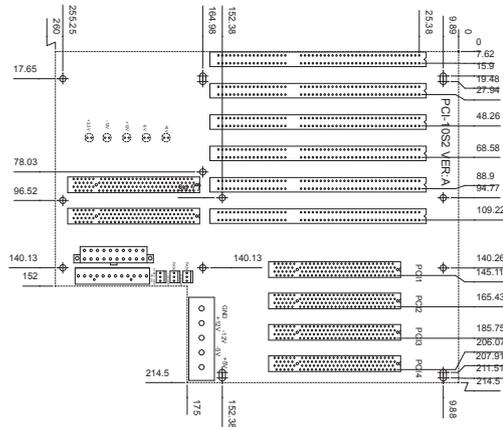
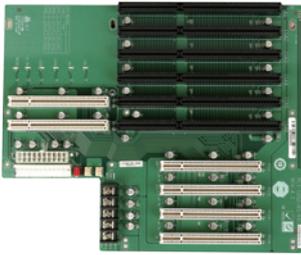
3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

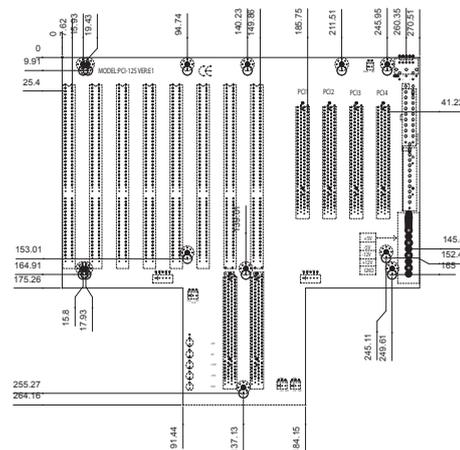
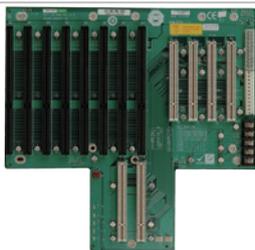
## PCI-10S2-RS-R41



### Ordering Information

PCI-10S2-RS-R41 10-slot backplane with four PCI slots and five ISA slots

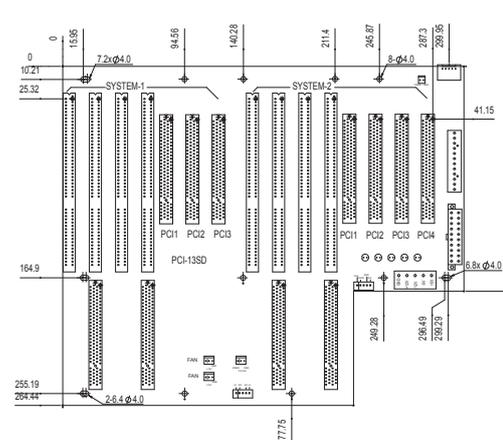
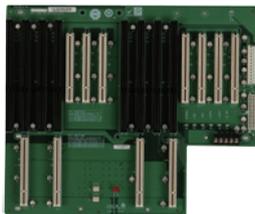
## PCI-12S-RS-R40



### Ordering Information

PCI-12S-RS-R40 12-slot backplane with four PCI slots and seven ISA slots  
 RACK-3000G 4U 14-slot full-size rack-mount chassis

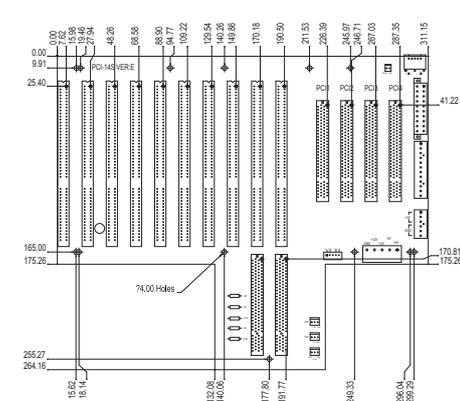
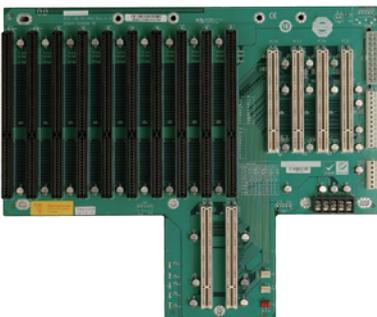
## PCI-13SD-RS-R40 Dual System



### Ordering Information

PCI-13SD-RS-R40 13-slot dual-system backplane with system 1 having three PCI slots and three ISA slots and system 2 having four PCI slots and three ISA slots  
 RACK-305G 4U 14-slot full-size rack-mount chassis  
 RACK-360G 4U 14-slot full-size rack-mount chassis  
 RACK-3000G 4U 14-slot full-size rack-mount chassis

## PCI-14S-RS-R40

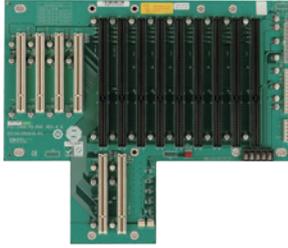


### Ordering Information

PCI-14S-RS-R40 14-slot backplane with four PCI slots and nine ISA slots

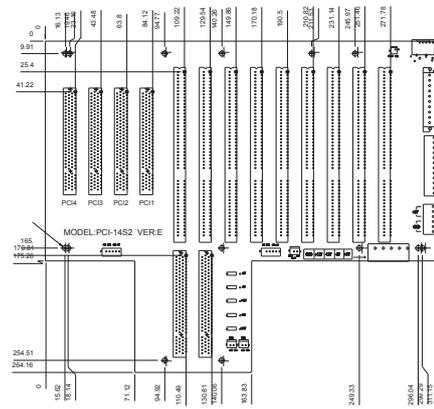
- 1 Industrial Computing Solutions
- 2 Video Capture Solutions
- 3 Industrial Computer Chassis
- 4 Open Frame Monitor
- 5 Power Supply/Peripherals
- 6 All-in-One System

## PCI-14S2-RS-R40

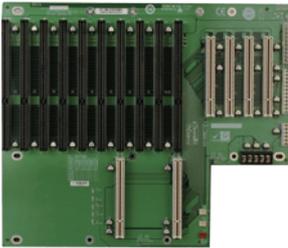


### Ordering Information

PCI-14S2-RS-R40	14-slot backplane with four PCI slots and eight ISA slots
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis
RACK-3000G	4U 14-slot full-size rack-mount chassis

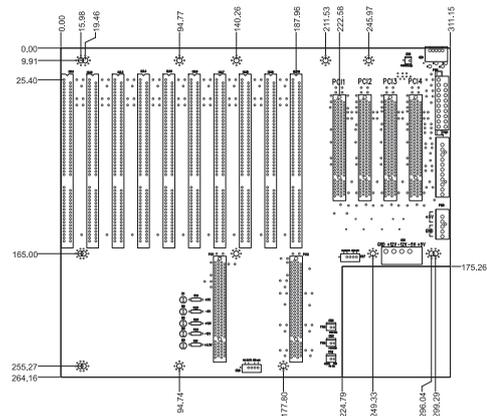


## PCI-14S3-RS-R40

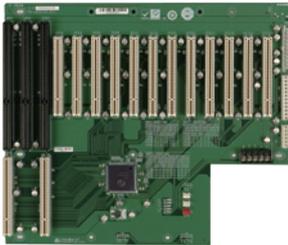


### Ordering Information

PCI-14S3-RS-R40	14-slot backplane with four PCI slots and nine ISA slots
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis
RACK-3000G	4U 14-slot full-size rack-mount chassis

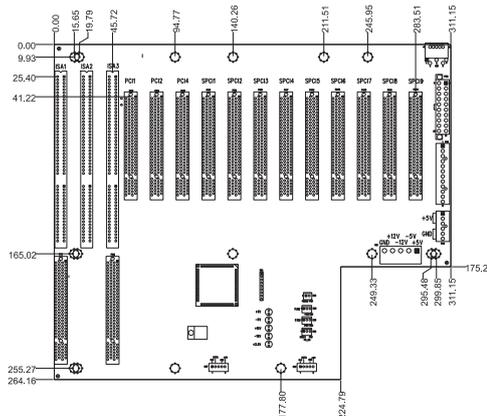


## PX-14S3-RS-R50

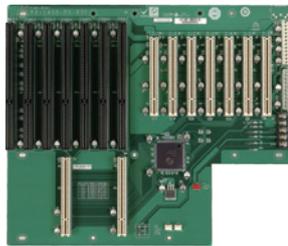


### Ordering Information

PX-14S3-RS-R50	14-slot backplane with twelve PCI slots and two ISA slots
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis
RACK-3000G	4U 14-slot full-size rack-mount chassis

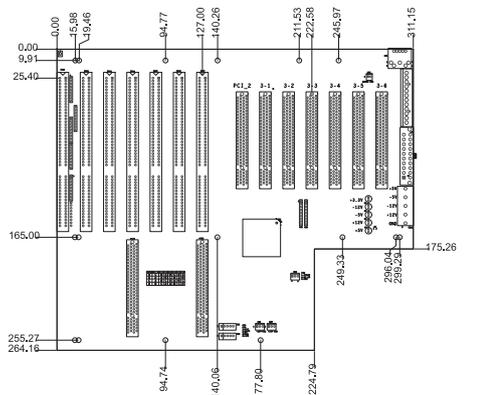


## PX-14S5-RS-R50



### Ordering Information

PX-14S5-RS-R50	14-slot backplane with seven PCI slots and six ISA slots
RACK-305G	4U 14-slot full-size rack-mount chassis
RACK-360G	4U 14-slot full-size rack-mount chassis
RACK-3000G	4U 14-slot full-size rack-mount chassis



1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

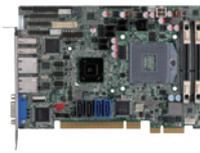
4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System



# Half-size PICOe, ISA Selection Guide



Model Name	PICOe-B650	PICOe-HM650	PICOe-PV-D4251/N4551/D5251-R11
<b>CPU Socket</b>	LGA 1155	Socket G2	On board
<b>CPU Type</b>	Socket LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU	Socket 988B Intel® Mobile Core™ i7/i5/i3 or Celeron® CPU	Intel® Atom™ D525 1.80GHz Intel® Atom™ D425 1.80GHz Intel® Atom™ N455 1.66GHz
<b>FSB</b>	NA	NA	N/A
<b>Chipset</b>	Intel® B65	Intel® HM65	Intel® ICH8M
<b>Memory</b>	One 204-pin 1333/1066 MHz DDR3/DDR3L (1.35V) SO-DIMM supported (system max. 8 GB)	Two 204-pin 1333/1066 MHz dual-channel DDR3 SO-DIMMs supported (system max. 16 GB)	One 204-pin 800 MHz DDR3 SDRAM SO-DIMM (system max. 4 GB for D525/D425, 2 GB for N455) (compatible with 128MB*8 SDRAM) On-board 1 GB 800 MHz DDR3 memory
<b>Display Interface</b>	1 x VGA	Dual display supported 1 x VGA 1 x 18/24-bit dual-channel LVDS	Dual display supported 1 x VGA 1 x 18/24-bit single-channel LVDS
<b>Ethernet</b>	LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E PCIe GbE controller	LAN1: Realtek RTL8111E GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E GbE controller	LAN1: Realtek RTL8111E GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E GbE controller
<b>I/O Interface</b>	1 x 6-pin wafer for KB & MS 2 x RS-232 4 x USB 2.0	1 x 6-pin wafer for KB & MS 1 x LPT 1 x RS-422/485 2 x RS-232 8 x USB 2.0	1 x 6-pin wafer for PS/2 KB & MS 1 x LPT 1 x PS/2 KB & MS 1 x RS-232/422/485 3 x RS-232 7 x USB 2.0
<b>Driver Interface</b>	1 x SATA 3Gb/s 1 x SATA 6Gb/s	2 x SATA 3Gb/s 2 x SATA 6Gb/s	1 x CF Type II 3 x SATA 3Gb/s
<b>Audio</b>	Supports by IEI AC-KIT-892HD-R10 audio kit		IEI AC-KIT-892HD-R10 7.1-channel HD Audio kit via the on-board 10-pin header connector
<b>Digital I/O</b>	8-bit digital I/O		
<b>Power Consumption</b>	5V@3.17A, 12V@0.46A, Vcore_12V@7.26A, 5VSB@0.18A (3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)	5V@3.99A, 12V@0.43A, Vcore_12V@3.80A, 5VSB@0.06A (2.70GHz Intel® Core™ i7-2620M with two 2 GB 1333 MHz DDR3 memory)	5V@3.38A, 12V@0.54A (Intel® dual-core Atom™ D525 1.80GHz CPU with 1 GB 800 MHz DDR3 on-board memory) 5V@3.28A, 12V@0.43A (Intel® single-core Atom™ D425 1.80GHz CPU with 1 GB 800 MHz DDR3 on-board memory) 5V@3.13A, 12V@0.32A (Intel® single-core Atom™ N455 1.66GHz CPU with 1 GB 800 MHz DDR3 on-board memory)
<b>Watchdog Timer</b>	Software programmable supports 1~255 sec. system reset		
<b>Operation Environment</b>	Temperature Range: -10°C ~ 60°C Relative Humidity: 5% ~ 95%, non-condensing		Temperature Range: -20°C ~ 65°C (-4°F ~ 149°F) with free air for D425 CPU -20°C ~ 60°C (-4°F ~ 140°F) with free air for D525 CPU -20°C ~ 70°C (-4°F ~ 158°F) with free air for D525 CPU -20°C ~ 70°C (-4°F ~ 158°F) with force air for D425/D525 CPU -20°C ~ 75°C (-4°F ~ 167°F) with force air for N455 CPU Relative Humidity: 5% ~ 95%, non-condensing
<b>Expansion Slot</b>	NA	NA	PCI/PCIe
<b>CPU Cooler</b>	CF-1156A/C/D/E	CF-989A-RS-R12	Heatsink (fanless) (optional CPU fan by 19FFD124010HB2A7-000001-RS)

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Industrial  
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Solutions

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Computer  
Chassis

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Frame  
Monitor

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Power Supply/  
Peripherals

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All-in-One  
System

# Half-size PICOe, ISA Selection Guide

**New**

Model Name	PCISA-BT	PCISA-PV-D5251	IOWA-LX
<b>CPU Socket</b>	On board	On board	On board
<b>CPU Type</b>	Intel® Atom™ E3845 on-board SoC (1.91GHz, quad-core, 2MB cache, TDP=10W) Intel® Atom™ E3825 on-board SoC (1.33GHz, dual-core, 1MB cache, TDP=6W)	Intel® Atom™ D525 1.80GHz	AMD Geode™ LX600
<b>FSB</b>	N/A	N/A	N/A
<b>Chipset</b>	N/A	Intel® ICH8M	AMD Geode™ CS5536
<b>Memory</b>	One 204-pin 1066/1333 MHz single-channel DDR3L SDRAM unbuffered DIMM (system max. 8 GB)	One 204-pin 800 MHz DDR3 SDRAM SO-DIMM (system max. 4 GB)	On-board 128MB 200/266 MHz DDR SDRAM One 200-pin 200/266 MHz DDR SO-DIMM (system max. 512MB)
<b>Display Interface</b>	Dual display supported 1 x VGA 1 x iDP interface	Dual display supported 1 x VGA 1 x 18-bit single-channel LVDS	1 x VGA
<b>Ethernet</b>	LAN1: Intel® I211-AT PCIe controller LAN2: Intel® I211-AT PCIe controller	LAN1: Realtek RT8111E with ASF 2.0 support LAN2: Realtek RT8111E	10/100Mbps Realtek RTL8100C Ethernet controller
<b>I/O Interface</b>	1 x 6-pin wafer for KB/MS 1 x LPT 1 x RS-422/485 2 x RS-232 2 x USB 3.0 8 x USB 2.0	1 x Infrared interface 1 x LPT 1 x PS/2 KB & MS 1 x RS-232/422/485 3 x RS-232 6 x USB 2.0	1 x Infrared interface 1 x LPT 1 x PS/2 KB/MS 1 x RS-422/485 2 x RS-232 4 x USB 2.0 (by pin header)
<b>Driver Interface</b>	1 x mSATA (colay SATA2, supports SATA 3Gb/s signal only) 2 x SATA 3Gb/s	1 x CF Type II 1 x FDD 1 x IDE 3 x SATA 3Gb/s	1 x CF Type II 1 x FDD 1 x IDE 2 x SATA (RAID 0, 1)
<b>Audio</b>	Supports by IEI AC-KIT-892HD Audio kit	IEI AC-KIT-892HD-R10 7.1-channel HD Audio kit via the on-board 10-pin header connector	Realtek ALC203 with AC'97 codec
<b>Digital I/O</b>	8-bit digital I/O		
<b>Power Consumption</b>	5V@1.55A, 12V@0.74A (Intel® Atom™ E3845 1.91GHz CPU, one 8 GB 1600 MHz memory)	5V@3.36A, 12V@0.57A (Intel® dual-core Atom™ D525 1.80GHz with 1 GB 1066 MHz DDR3 memory)	5V@1.51A, 5VSb@0.09A (On-board AMD Geode™ LX600 CPU 366 MHz with on-board 128MB 200 MHz DDR memory and 512MB 333 MHz DDR memory)
<b>Watchdog Timer</b>	Software programmable and supports 1~255 sec. system reset		
<b>Operation Environment</b>	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: -20°C ~ 60°C (-4°F ~ 140°F) with free air for D525 CPU -20°C ~ 70°C (-4°F ~ 158°F) with free air for D525 CPU -20°C ~ 70°C (-4°F ~ 158°F) with force air for D525 CPU Relative Humidity: 5% ~ 95%, non-condensing	Temperature Range: 0°C ~ 60°C (32°F ~ 140°F) Relative Humidity: 5% ~ 95%, non-condensing
<b>Expansion Slot</b>	1 x mSATA (SATA 3Gb/s) 1 x PCIe Mini slot PCI and ISA signal via golden finger	PCI/ISA	ISA
<b>CPU Cooler</b>	NA	Heatsink (fanless) (optional CPU fan by 19FFD124010HB2A7-000001-RS)	Heatsink (fanless)

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Industrial  
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Video  
Capture  
Solutions

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Computer  
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Power Supply/  
Peripherals

6

All-in-One  
System

# PIC0e CPU Card

The Future of Half-sized CPU Cards

ISA → PCISA → PCI → PIC0e

1990~

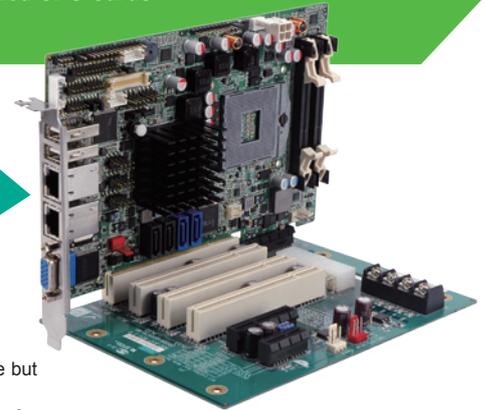
ISA

1996~

PCISA  
ISA + PCI

2016~

PIC0e  
PCI + PCIe x4



PIC0e-HM650

IEI Patent No CN.: 200986704Y

From SIPO (State Intellectual Property Office of The P.R.C)

## The advantages of PIC0e

PIC0e = PCI + PCIe x4

- PCIe has excellent I/O bandwidth and performance
- Backwards compatible with half-sized CPU cards
- Backplane design for half-size PCIe CPU cards is easy

## The benefits of PIC0e

- Same dimensions, backwards compatible but half the size of PCI SBC
- Higher performance as PCI only solution for the same price
- More configuration options for the same price

## The advantages of PIC0e

### Increasing I/O bandwidth with leading technology

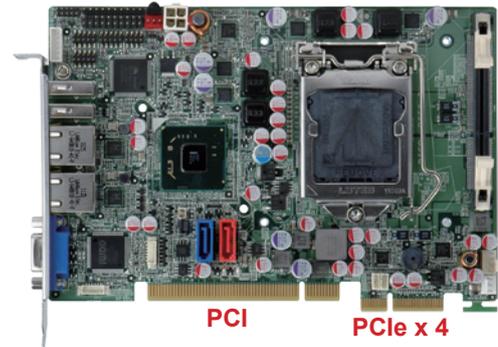
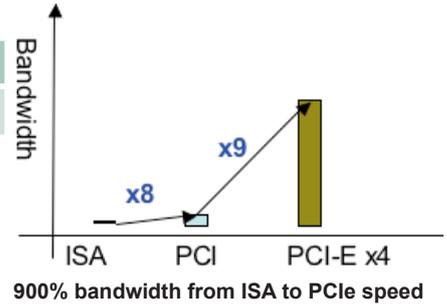
Specifications	ISA	PCI 33	PCIe x4
Support	(16 MB/s)	(132 MB/s)	(1250 MB/s)

### Backwards compatible with half-size PCI backplane and chassis

1. Dimensions: 185 mm x 122 mm  
= All half-size CPU cards  
Share the same chassis & I/O design
2. PCI pin definition same as PICMG 1.0 PCI  
= All half-size PCI CPU cards  
Share all half-size PCI backplanes

### Quick design backplane

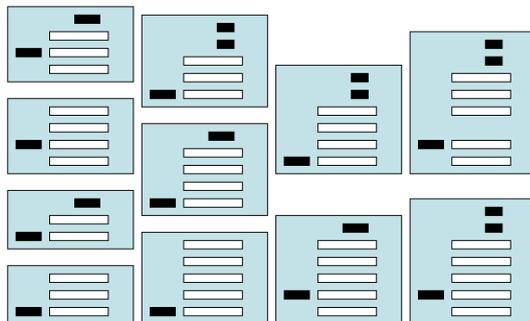
1. Four PCI slots and one PCIe x4 or four PCIe x1 lanes  
More configuration options on the backplane with a PCI and PCIe slot
2. PCIe switches and bridges such as PLX or TI solutions



PIC0e-B650

## IEI PIC0e backplane solutions

Complete PIC0e backplane solutions fully support all kinds of chassis and power modes. PIC0e is the easiest way to upgrade current systems from slow ISA+PCI architecture to the latest high performance PCIe+PCI solution.



### CPU card (located on the right side of the first slot)

Model Name	PCI	PCIe x4	PCIe x1	PSU Type	Note
HPE-3S1	2			ATX/AT	CPU on R1st
HPE-3S2	1	1		ATX/AT	CPU on R1st
HPE-4S1	3			ATX/AT	CPU on R2nd
HPE-4S2	2	1		ATX/AT	CPU on R2nd
HPE-5S1	4			ATX/AT	CPU on R2nd
HPE-5S2	3	1		ATX/AT	CPU on R2nd
HPE-5S3	2	0	2	ATX/AT	CPU on R2nd
HPE-6S1	4	1		ATX/AT	CPU on R1st
HPE-7S1	4	0	2	ATX/AT	CPU on R2nd
HPE-8S0	4	0	2	ATX/AT	Reserved 1 Slot

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

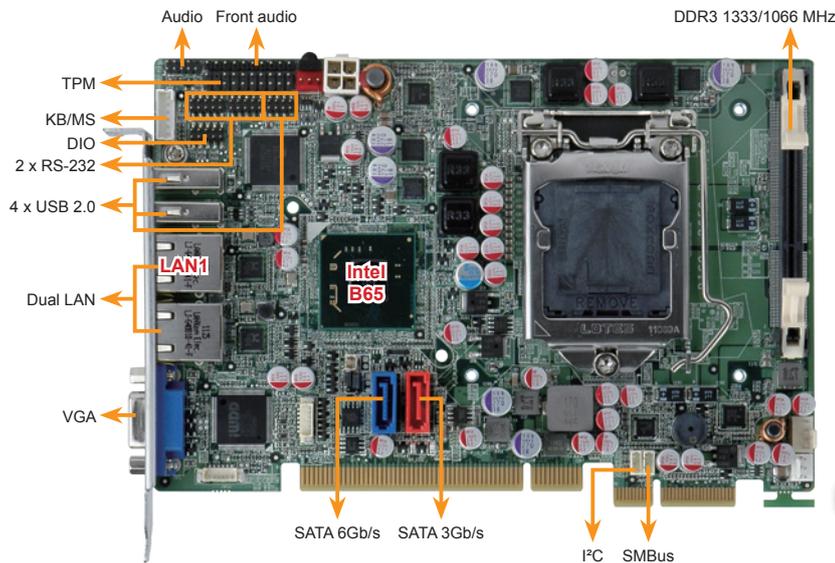
4 Open Frame Monitor

5 Power Supply/ Peripherals

6 All-in-One System

# PIC0e-B650

Half-size PCIe CPU Card supports LGA 1155 32nm Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® B65, DDR3, VGA, Dual Realtek PCIe GbE, USB 2.0, SATA 6Gb/s, HD Audio and RoHS



## 2nd Gen Intel® Core™ Processors (TDP=35W) Recommended List

CPU No.	Clock speed	Core	Smart cache	TDP
i5-2390T	2.7GHz	2	3M	35W
i3-2120T	2.6GHz	2	3M	35W
G630T	2.3GHz	2	3M	35W
G530T	2.0GHz	2	2M	35W
G440	1.6GHz	1	1M	35W



The 2nd generation Intel® processors provide advanced technology and intelligent performance.

## Specifications

- ◆ CPU  
LGA 1155 socket supports Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor
- ◆ System Chipset  
Intel® B65
- ◆ Memory  
One 204-pin 1333/1066 MHz DDR3 & DDR3L (1.35V) SO-DIMM supported (system max. 8 GB)
- ◆ BIOS  
UEFI
- ◆ Graphics Engine  
Intel® HD Graphics Gen 6 supports DX10.1 and OpenGL 3.0  
Full MPEG2, VC1, AVC decoding
- ◆ Display Output  
1 x VGA (up to 2048x1536@75Hz)
- ◆ Ethernet  
LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support  
LAN2: Realtek RTL8111E PCIe GbE controller
- ◆ Super I/O  
Fintek F81866
- ◆ Embedded Controller  
ITE IT8519E
- ◆ I/O Interface
  - 1 x 6-pin wafer for KB & MS
  - 1 x SATA 3Gb/s
  - 2 x RS-232
  - 1 x SATA 6Gb/s
  - 4 x USB 2.0 (2 on rear, 2 by pin header)
- ◆ Audio  
Supports 7.1-channel HD Audio by IEI AC-KIT-892HD-R10 kit
- ◆ Front Panel  
1 x Front panel connector (power LED, HDD LED, speaker, power button, reset button)
- ◆ TPM  
1 x TPM connector (2x10 pin)
- ◆ SMBus  
1 x 4-pin wafer
- ◆ iPC  
1 x 4-pin wafer
- ◆ Expansions  
PCIe signal and PCI signal via golden finger
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O  
8-bit digital I/O
- ◆ Fan Connector  
1 x 4-pin smart fan connector  
1 x 3-pin system fan connector
- ◆ Power Supply  
5V/12V, AT/ATX support
- ◆ Power Consumption  
5V@3.17A, 12V@0.46A, Vcore\_12V@7.26A, 5VSB@0.18A  
(3.4GHz Intel® Core™ i7-2600K with two 2 GB 1333 MHz DDR3 memory)
- ◆ Operating Temperature  
-10°C ~ 60°C
- ◆ Storage Temperature  
-20°C ~ 70°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Dimensions  
185 mm x 122 mm
- ◆ Weight  
GW: 1000g/NW: 260g



## Features

- Half-size PCIe CPU card with LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® processor supported
- One 1333/1066 MHz DDR3/DDR3L (1.35V) SDRAM SO-DIMM supports up to 8 GB
- On-board embedded controller supports infrared and PECI 2.0 technologies
- One SATA 6Gb/s and dual Realtek PCIe GbE
- TPM V1.2 hardware security provided by the TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Packing List

1 x PIC0e-B650 single board computer	
1 x Dual RS-232 cable with bracket (P/N: 19800-000112-RS)	
1 x USB cable (P/N: CB-USB02A-RS)	1 x Mini jumper pack
2 x SATA cable (P/N: 32000-062800-RS)	1 x QIG (Quick Installation Guide)
1 x One Key Recovery CD	1 x Utility CD

## Ordering Information

Part No.	Description
PIC0e-B650-R10	Half-size PCIe CPU card supports 32nm LGA 1155 Intel® Core™ i7/i5/i3, Pentium® or Celeron® CPU with Intel® B65, DDR3, VGA, dual Realtek PCIe GbE, USB 2.0, SATA 6Gb/s, HD Audio and RoHS
19800-000075-RS	PS/2 KB/MS Y-cable with bracket, 220mm
32102-000100-200-RS	SATA power cable
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-1156A-RS-R11	High-performance LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 73W
CF-1156C-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 45W
CF-1156D-RS	LGA 1155/LGA 1156 cooler kit, 1U chassis compatible, 65W
CPU-C-G440	Intel® Celeron® G440 processor, LGA -1155, single core 1.6GHz, 1M cache, 35W, compatible with CF-1156C-RS CPU cooler
CPU-DT-i3-2120T	Intel® Core™ i3-2120T processor, LGA 1155, dual core 2.6GHz, 3M cache, 35W, compatible with CF-1156C-RS CPU cooler
CPU-DT-i5-2390T	Intel® Core™ i5-2390T processor, LGA -1155, dual core 2.7GHz, 3M cache, 35W, AMT, compatible with CF-1156C-RS CPU cooler
CPU-DT-i5-2500T	Intel® Core™ i5-2500T processor, LGA -1155, quad core 2.3GHz, 6M cache, 45W, compatible with CF-1156C-RS CPU cooler
CPU-DT-P-G630T	Intel® Pentium® G630T processor, LGA 1155, dual core 2.3GHz, 3M cache, 35W, compatible with CF-1156C-RS CPU cooler
SAIDE-KIT01-R10	SATA to IDE/CF converter board
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

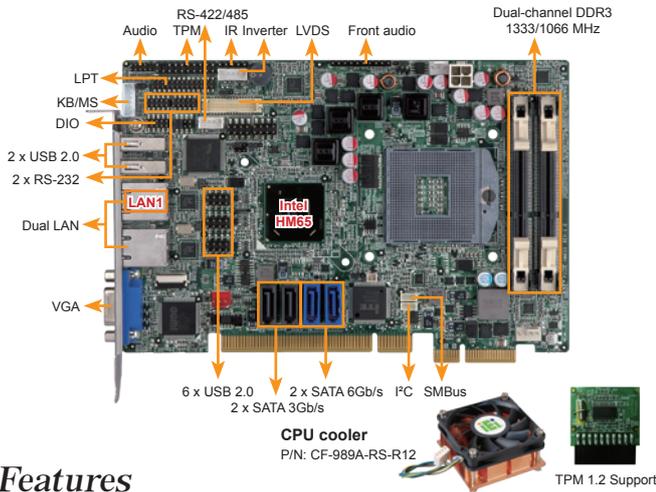
4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

# PIC0e-HM650

Half-size PCIe CPU Card supports Socket 988B Intel® Mobile Core™ i7/i5/i3 or Celeron® CPU with Intel® HM65, DDR3, VGA, LVDS, Dual PCIe GbE, SATA 6Gb/s, HD Audio and RoHS



## Features

- Half-size PCIe CPU card supports Socket G2 32nm Intel® Core™ i7/i5/i3 or Celeron® processor
- Up to 16 GB 1333/1066 MHz dual-channel DDR3 SDRAM
- Supports 18/24-bit dual-channel LVDS and analog CRT output
- High-speed I/O interface provided through the 2nd gen PCIe add-on card and SATA 6Gb/s connectors
- Rich media acceleration for hardware encoding and decoding
- TPM V1.2 hardware security provided by the TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU: Socket 988B Intel® Mobile Core™ i7/i5/i3 or Celeron® CPU
- ◆ System Chipset: Intel® HM65
- ◆ Memory Two 204-pin 1333/1066 MHz dual-channel DDR3 SO-DIMMs supported (system max. 16 GB)
- ◆ BIOS: UEFI
- ◆ Graphics Engine Intel® HD Graphics Gen 6 supports DX10.1 and OpenGL 3.0 Full MPEG2, VC1, AVC Decode
- ◆ Display Output Dual display supported 1 x VGA (up to 2048x1536@75Hz) 1 x 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz)
- ◆ Ethernet LAN1: Realtek RTL8111E GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E GbE controller
- ◆ Super I/O: Fintek F81866
- ◆ I/O Interface 1 x 6-pin wafer for KB & MS 2 x RS-232 1 x LPT 2 x SATA 3Gb/s 1 x RS-422/485 2 x SATA 6Gb/s 8 x USB 2.0 (2 on rear, 6 by pin header)
- ◆ Audio: Supports 7.1-channel HD Audio by IEI AC-KIT-892HD-R10 kit
- ◆ Embedded Controller: ITE IT8519E
- ◆ Front Panel 1 x Front panel connector (power LED, HDD LED, speaker, power button, reset button)
- ◆ TPM: 1 x TPM connector (2x10 pin)
- ◆ SMBus: 1 x 4-pin wafer
- ◆ PC: 1 x 4-pin wafer
- ◆ PCIe to PCI Bridge IC: ITE IT8892E
- ◆ Expansions PCIe signal and PCI signal via golden finger
- ◆ Watchdog Timer Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O: 8-bit digital I/O
- ◆ Fan Connector 1 x 4-pin smart fan connector 1 x 3-pin system fan connector
- ◆ Power Supply: 5V/12V, AT/ATX support
- ◆ Power Consumption 5V@3.99A, 12V@0.43A, Vcore\_12V@3.80A, 5VSUB@0.06A (2.70GHz Intel® Core™ i7-2620M with two 2 GB 1333 MHz DDR3 memory)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity 5% ~ 95%, non-condensing
- ◆ Dimensions: 185 mm x 122 mm
- ◆ Weight: 1000 g (GW)/260 g (NW)

## Packing List

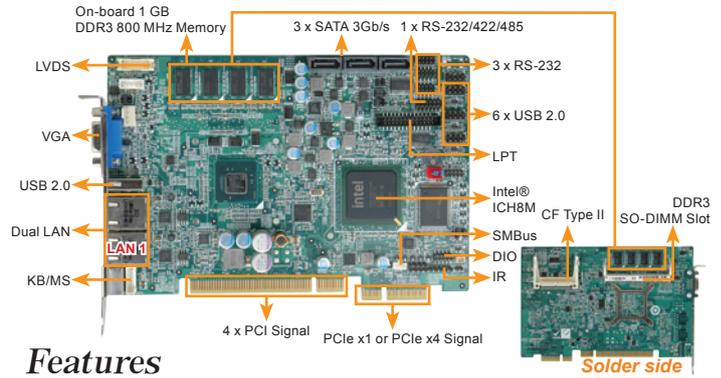
1 x PIC0e-HM650 single board computer	1 x Mini jumper pack
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	1 x One Key Recovery CD
1 x USB cable (P/N: 19800-003100-300-RS)	1 x QIG (Quick Installation Guide)
2 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
PIC0e-HM650-R10	Half-size PCIe CPU card supports Socket 988B Intel® Mobile Core™ i7/i5/i3 or Celeron® CPU with Intel® HM65, DDR3, VGA, LVDS, dual PCIe GbE, SATA 6Gb/s, HD Audio and RoHS
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32200-015100-RS	LPT cable
32205-003800-300-RS	RS-422/485 cable, 200mm
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams
CF-989A-RS-R12	CPU cooler for mobile socket 989 and 55W CPU
CF-989B-RS-R11	CPU cooler for mobile socket 989 and 50W CPU
SAIDE-KIT01-R10	SATA to IDE/CF converter board
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

# PIC0e-PV-D4251/N4551/D5251

Half-size PCIe CPU Card with Intel® Atom™ D425/N455/D525, DDR3, 1 GB Memory on Board, VGA, LVDS, Dual PCIe GbE, USB 2.0, SATA 3Gb/s, Audio and RoHS



## Features

- PCIe CPU card supports four PCIe x1 or one PCIe x4, and four PCI expansions
- Intel® Atom™ D525/D425/N455 processor
- 1 GB of DDR3 800 MHz SDRAM on board and one expansion SO-DIMM slot support
- Supports VGA and 18-bit single-channel LVDS with dual display support
- I/O includes three RS-232, one RS-232/422/485, seven USB 2.0 and three SATA 3Gb/s
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU Intel® Atom™ Dual Core D525 processor (1.80GHz with 1MB L2 cache) Intel® Atom™ Single Core N455 processor (1.66GHz with 512K L2 cache) Intel® Atom™ Single Core D425 processor (1.80GHz with 512K L2 cache)
- ◆ System Chipset: ICH8M
- ◆ BIOS: UEFI BIOS
- ◆ Memory One 204-pin 800 MHz DDR3 SDRAM SO-DIMM supported (system max. 4 GB for D525/D425, 2 GB for N455) (compatible with 128MB\*8 SDRAM) On-board 1 GB DDR3 800 MHz memory
- ◆ Graphics Engine GMA 3150 Gen3.5 DX9, 400 MHz for D525/D425 Gen3.5 DX9, 200 MHz for N455
- ◆ Ethernet LAN1: Realtek RTL8111E GbE controller with ASF 2.0 support LAN2: Realtek RTL8111E GbE controller
- ◆ Display Interface Analog CRT up to 2048x1536 for D525/D425, 1400x1050 for N455 Supports CRT hot plug Single-channel 18-bit LVDS supports resolution up to XGA (1024x768) & WXGA (1366x768)
- ◆ I/O Interfaces 1 x CF Type II 1 x LPT 3 x RS-232 3 x SATA 3Gb/s 1 x PS/2 for KB/MS 1 x 6-pin wafer connector for KB/MS 1 x RS-232/422/485 with auto flow control 7 x USB 2.0 (6 by header, 1 on rear side)
- ◆ Digital I/O 8-bit digital I/O
- ◆ Super IO: Fintek F81866
- ◆ Infrared Interface: 1 x 5-pin header
- ◆ SMBus: 1 x 4-pin wafer connector
- ◆ Fan Connector: 1 x 4-pin fan connector
- ◆ Expansion 4 x PCI 4 x PCIe x1 or 1 x PCIe x4
- ◆ Audio Supports 7.1-channel HD Audio by IEI AC-KIT-892HD-R10 kit
- ◆ Watchdog Timer Software programmable supports 1~255 sec. system reset
- ◆ Power Consumption 5V@3.38A, 12V@0.54A (Intel® Dual Core Atom™ D525 1.80GHz with 1 GB DDR3 800 MHz memory on board) 5V@3.28A, 12V@0.43A (Intel® Single Core Atom™ D425 1.80GHz with 1 GB DDR3 800 MHz memory on board) 5V@3.13A, 12V@0.32A (Intel® Single Core Atom™ N455 1.66GHz with 1 GB DDR3 800 MHz memory on board)
- ◆ Power Supply: 5V/12V, AT/ATX support
- ◆ Operating Temperature -20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor -20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor -20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Storage Temperature: -30°C ~ 80°C
- ◆ Operating Humidity 5% ~ 95%, non-condensing
- ◆ Dimensions: 185 mm x 122 mm
- ◆ Weight: 1000 g (GW)/ 250 g (NW)

## Packing List

1 x PIC0e-PV-D4251/N4551/D5251 single board computer	1 x Mini jumper pack
1 x Dual RS-232 cable (P/N: 19800-000112-RS)	1 x One Key Recovery CD
1 x KB/MS Y cable (P/N: 32006-000300-100-RS)	1 x QIG
1 x USB cable (P/N: 19800-003100-300-RS)	1 x Utility CD
3 x SATA cable (P/N: 32000-062800-RS)	

## Ordering Information

Part No.	Description
PIC0e-PV-D5251-R11	Half-size PCIe CPU card with Intel® Atom™ dual-core D525 1.80GHz/1MB L2, 1 GB memory on board, VGA, LVDS, dual PCIe GbE, USB 2.0, SATA 3Gb/s, audio and RoHS
PIC0e-PV-N4551-R11	Half-size PCIe CPU card with Intel® Atom™ single-core N455 1.66GHz/512K L2, 1 GB memory on board, VGA, LVDS, dual PCIe GbE, USB 2.0, SATA 3Gb/s, audio and RoHS
PIC0e-PV-D4251-R11	Half-size PCIe CPU card with Intel® Atom™ single-core D425 1.80GHz/512K L2, 1 GB memory on board, VGA, LVDS, dual PCIe GbE, USB 2.0, SATA 3Gb/s, audio and RoHS
19800-000075-RS	KB/MS cable with bracket
19800-004300-100-RS	RS-232/422/485 cable with bracket
19FFD124010HB2A7-000001-RS	CPU fan
32102-000100-200-RS	SATA power cable
32200-015100-RS	LPT cable
34000-000510-RS	30mm higher heatsink
AC-KIT-892HD-R10	7.1-channel HD Audio kit with Realtek ALC892 supports dual audio streams

# PCI/PIC0e Backplane

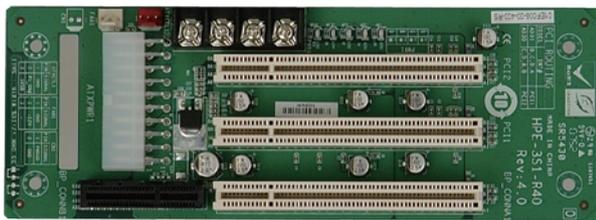
## Selection Guide

PAC series wall-mount chassis

4U rack-mount chassis

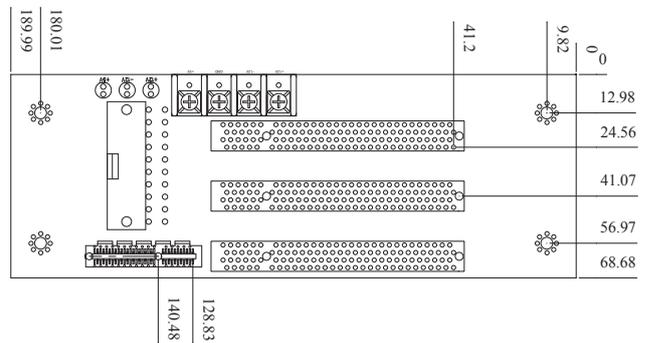
	PCIe/PCI	PCIe/PCI	HPE-3S1	HPE-3S2	HPE-4S1	HPE-4S2	HPE-5S1	HPE-5S2	HPE-5S3	HPE-6S1	HPE-8S
Total Slot			3	3	4	4	5	5	5	6	7
Expansion Slots	PCI		2	1	3	2	4	3	2	4	4
	PCIe	x4		1		1		1		1	
		x1							2		2
Chassis			N/A	N/A	PAC-42GH PAC-400G	PAC-42GH PAC-400G	PR-1500G RACK-500G	PR-1500G RACK-500G	PR-1500G RACK-500G	N/A	N/A

### HPE-3S1-R41



#### Ordering Information

HPE-3S1-R41 3-slot backplane with two PCI slots



1

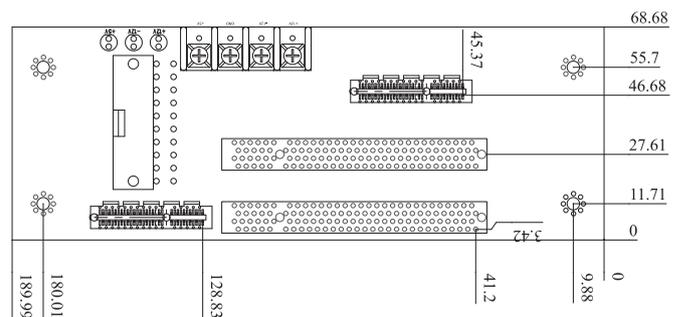
Industrial Computing Solutions

### HPE-3S2-R41



#### Ordering Information

HPE-3S2-R41 3-slot backplane with one PCI slot and one PCIe x4 slot



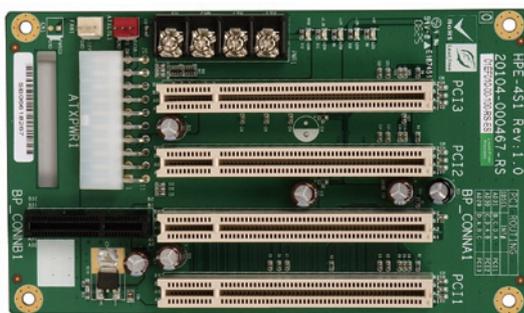
2

Video Capture Solutions

3

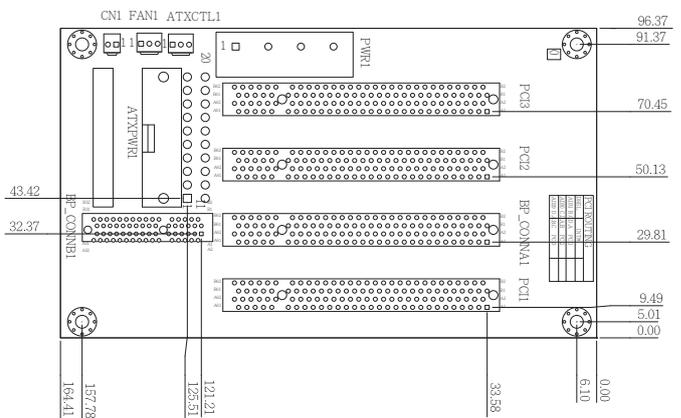
Industrial Computer Chassis

### HPE-4S1-R41



#### Ordering Information

HPE-4S1-R41 4-slot backplane with three PCI slots  
 PAC-42GH 4-slot half-size compact chassis  
 PAC-400G 4-slot half-size compact chassis



4

Open Frame Monitor

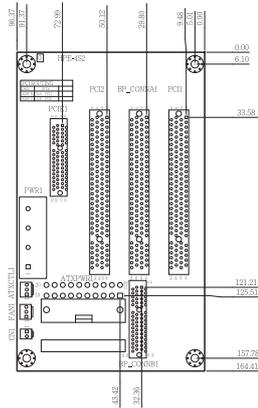
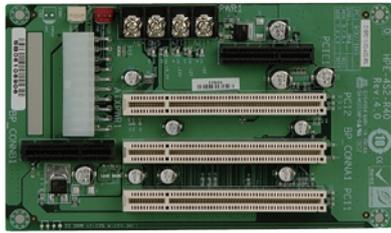
5

Power Supply/Peripherals

6

All-in-One System

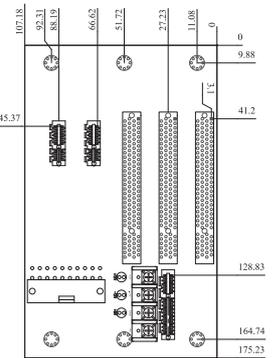
## HPE-4S2-R41



### Ordering Information

HPE-4S2-R41	4-slot backplane with two PCI slots and one PCIe x4 slot
PAC-42GH	4-slot half-size compact chassis
PAC-400G	4-slot half-size compact chassis

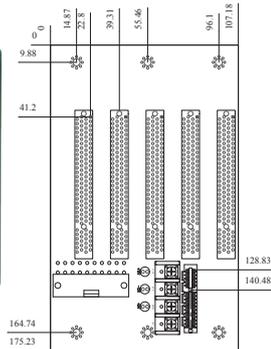
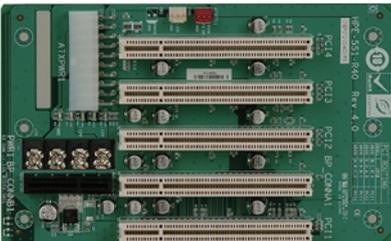
## HPE-5S3-R40



### Ordering Information

HPE-5S3-R40	5-slot backplane with two PCI slots and two PCIe x1 slots
PR-1500G	5-slot half-size compact chassis
RACK-500G	5U 5-slot full-size rack-mount chassis

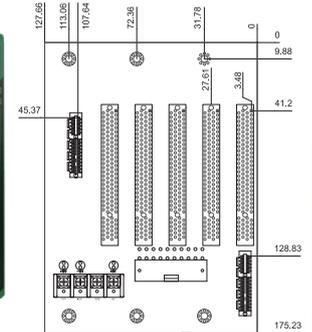
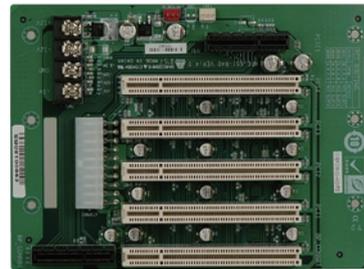
## HPE-5S1-R51



### Ordering Information

HPE-5S1-R51	5-slot backplane with four PCI slots
PR-1500G	5-slot half-size compact chassis
RACK-500G	5U 5-slot full-size rack-mount chassis

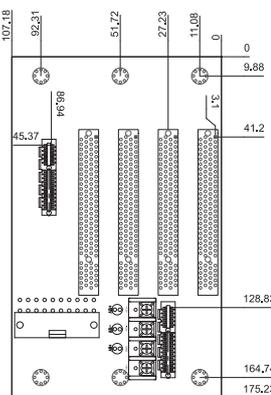
## HPE-6S1-R41



### Ordering Information

HPE-6S1-R41	6-slot backplane with four PCI slots and one PCIe x4 slot
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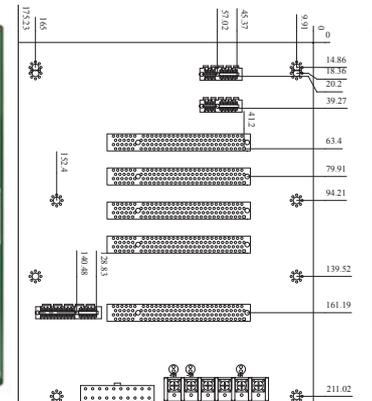
## HPE-5S2-R40



### Ordering Information

HPE-5S2-R40	5-slot backplane with three PCI slots and one PCIe x4 slot
PR-1500G	5-slot half-size compact chassis
RACK-500G	5U 5-slot full-size rack-mount chassis

## HPE-8S0-R41



### Ordering Information

HPE-8S0-R41	7-slot backplane with four PCI slots and two PCIe x1 slots
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1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/Peripherals

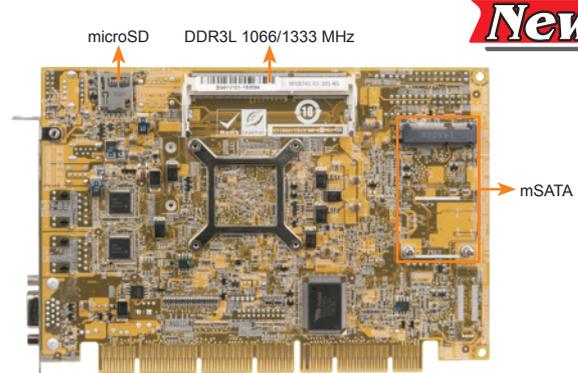
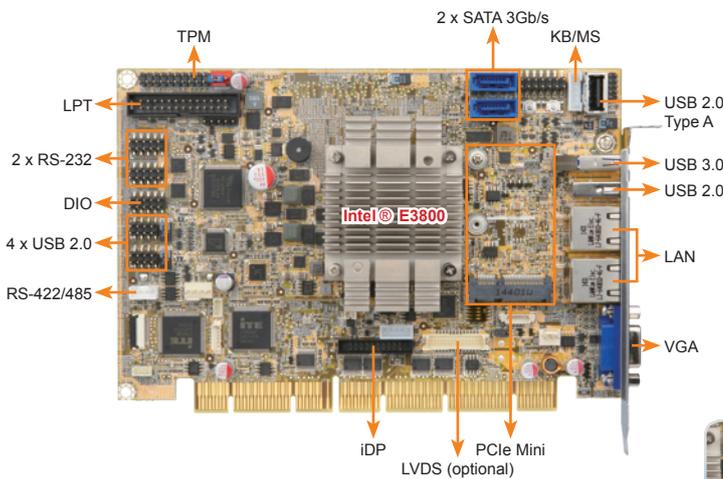
6 All-in-One System

# PCISA-BT

Half-size PCISA CPU Card supports Intel® 22nm Atom™ On-board SoC with VGA, iDP, Dual Intel® PCIe GbE, USB 3.0, PCIe Mini, SATA, mSATA, COM, Audio and RoHS



**New**



**PCIe Mini slot**

PCIe Mini slot for full-size or half-size devices



**mSATA**

mSATA slot for full-size mSATA



## Specifications

- ◆ SoC
  - Intel® Atom™ E3845 on-board SoC (1.91GHz, quad-core, 2MB cache, TDP=10W)
  - Intel® Atom™ E3827 on-board SoC (1.75GHz, dual-core, 1MB cache, TDP=8W)
  - Intel® Atom™ E3826 on-board SoC (1.46GHz, dual-core, 1MB cache, TDP=7W)
  - Intel® Atom™ E3825 on-board SoC (1.33GHz, dual-core, 1MB cache, TDP=6W)
  - Intel® Atom™ E3815 on-board SoC (1.46GHz, single-core, 512KB cache, TDP=5W)
- ◆ Memory
  - One 204-pin 1066/1333 MHz single-channel DDR3L SDRAM unbuffered DIMM (system max. 8 GB)
- ◆ Graphics
  - Intel® HD Graphics Gen 7 Engines with 4 execution units, supporting DX11.1, OpenGL 4.2 and OpenCL1.2
- ◆ Display Output
  - Dual independent display
  - VGA (up to 2560x1600@60Hz)
  - 18/24-bit dual-channel LVDS by CH7511B DP to LVDS converter (up to 1920x1200@60Hz) (optional, MOQ: 100 pcs/lot)
  - iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 2560x1600@60Hz)
- ◆ Ethernet
  - LAN1: Intel® I211-AT PCIe controller
  - LAN2: Intel® I211-AT PCIe controller
- ◆ External I/O Interface
  - 1 x USB 2.0
  - 1 x USB 3.0
  - 1 x VGA
  - 2 x RJ-45
- ◆ Internal I/O Interface
  - 1 x IR
  - 1 x KB/MS (1x6 pin)
  - 1 x LPT (2x13 pin)
  - 2 x SATA 3Gb/s
  - 4 x USB 2.0 (2x4 pin, P=2.54)
  - 1 x mSATA (SATA 3Gb/s, shares with SATA1)
  - 1 x USB 2.0 (180 degree type A)
  - 1 x RS-422/485 (1x4 pin, P=2.0)
  - 2 x RS-232 (2x5 pin, P=2.54)
- ◆ Audio
  - Supports 7.1-channel HD Audio by IEI AC-KIT-892HD kit
  - 1 x Analog audio (2x5 pin)
- ◆ TPM
  - 1 x TPM (2x10 pin)
- ◆ SMBus
  - 1 x SMBus (1x4 pin)
- ◆ I<sup>2</sup>C
  - 1 x I<sup>2</sup>C (1x4 pin)
- ◆ Expansion
  - 1 x microSD socket
  - 1 x PCIe Mini slot
  - PCIe-PCI bridge: ITE8892E
  - LPC-ISA bridge: F85226FG
  - PCI and ISA signal via golden finger
- ◆ Watchdog Timer
  - Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O
  - 1 x 8-bit digital I/O (2x5 pin)
- ◆ Fan Connector
  - 1 x Smart fan connector (1x4 pin)
  - 1 x System fan connector (1x3 pin)
- ◆ Power Supply
  - 5V/12V, AT/ATX support
- ◆ Power Consumption
  - 5V@1.55A, 12V@0.74A (Intel® Atom™ E3845 1.91GHz CPU with one 8 GB 1333 MHz memory)
- ◆ Operating Temperature
  - 20°C ~ 60°C
- ◆ Storage Temperature
  - 30°C ~ 70°C
- ◆ Dimensions
  - 185 mm x 128 mm
- ◆ Weight
  - GW: 1000g/NW: 250g

## Features

- Half-size PCISA CPU card supports Intel® 22nm Atom™ or Celeron® on-board SoC
- Supports dual LAN by Intel® I211-AT PCIe controllers
- Supports 1.35 V 1333/1066 MHz DDR3L SDRAM up to 8 GB
- Supports dual independent display with one analog CRT, iDP and one 24-bit dual-channel LVDS (optional)
- COM, USB 3.0, SATA 3Gb/s, PCIe Mini, mSATA and HD Audio support
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Packing List

- 1 x PCISA-BT single board computer
- 1 x SATA cable
- 1 x QIG (Quick Installation Guide)
- 1 x Utility CD

## Ordering Information

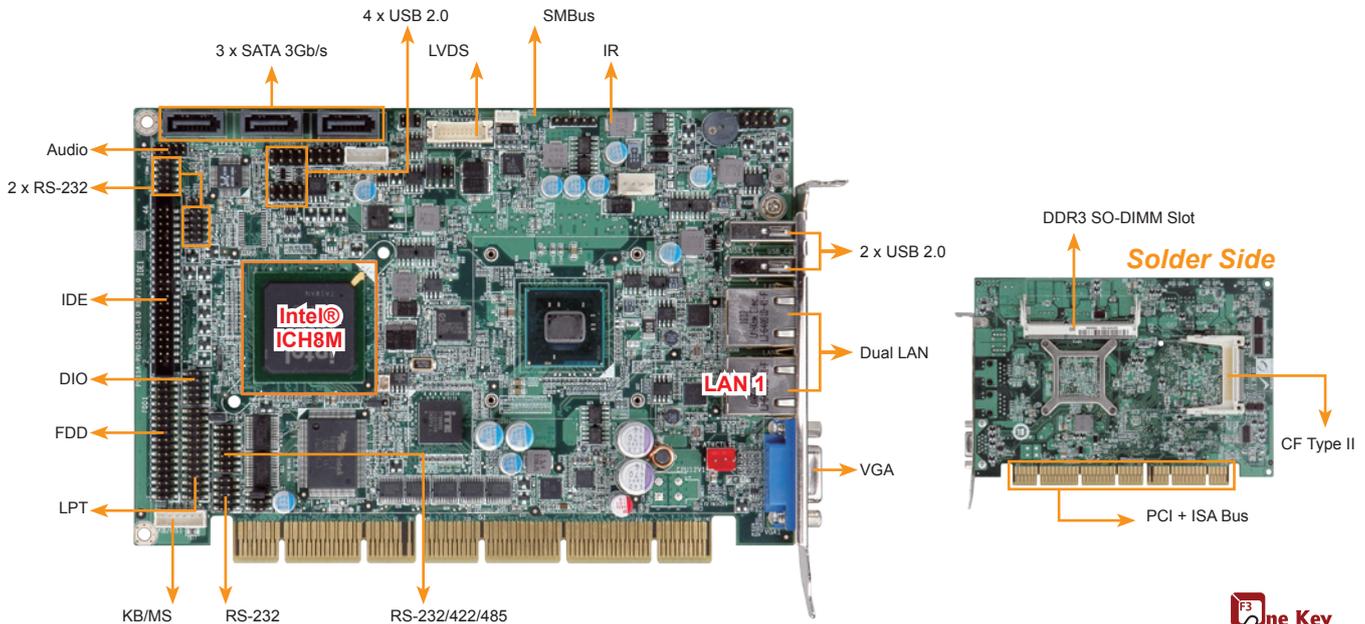
Part No.	Description
PCISA-BT-E38451-R10	Half-size PCISA CPU card supports Intel® Atom™ E3845 (10W) on-board SoC with VGA, iDP, dual Intel® PCIe GbE, USB 3.0, PCIe Mini, SATA, mSATA, COM, Audio and RoHS
PCISA-BT-E38251-R10	Half-size PCISA CPU card supports Intel® Atom™ E3825 (6W) on-board SoC with VGA, iDP, dual Intel® PCIe GbE, USB 3.0, PCIe Mini, SATA, mSATA, COM, Audio and RoHS
19800-000049-RS	LPT flat cable, 240mm
19800-000051-RS	Dual RS-232 cable, 230mm, P=2.54
19800-000075-RS	PS/2 KB/MS Y-cable with bracket, 220mm
32102-000100-200-RS	SATA power cable, MOLEX 5264-4P to SATA15P
32205-003800-300-RS	RS-422/485 cable, 200mm, P=2.0
AC-KIT-892HD-R10	Realtek ALC892 7.1-channel HD Audio peripheral board
DP-DP-R10	DisplayPort to DisplayPort converter board (for IEI iDP connector)
DP-DVI-R10	DisplayPort to DVI-D converter board (for IEI iDP connector)
DP-HDMI-R10	DisplayPort to HDMI converter board (for IEI iDP connector)
DP-LVDS-R10	DisplayPort to LVDS converter board (for IEI iDP connector)
DP-VGA-R10	DisplayPort to VGA converter board (for IEI iDP connector)
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware v3.17

Note: Models with other CPUs not listed in the table are requested by MOQ - 100 pcs/lot.

- Industrial Computing Solutions
- Video Capture Solutions
- Industrial Computer Chassis
- Open Frame Monitor
- Power Supply/Peripherals
- All-in-One System

# PCISA-PV-D5251

Half-size PCISA CPU Card with Intel® Atom™ D425/N455/D525, DDR3, VGA, LVDS, Dual PCIe GbE, USB 2.0, Four COM, Three SATA 3Gb/s, Audio and RoHS



## Specifications

- ◆ CPU  
Intel® Atom™ D525 dual-core processor (1.80GHz/1MB L2 cache)
- ◆ Chipset  
Intel® ICH8M
- ◆ BIOS  
UEFI BIOS
- ◆ Memory  
One 204-pin 800 MHz DDR3 SDRAM SO-DIMM supported (system max. 4 GB)
- ◆ Graphics Engine  
GMA 3150  
Gen 3.5 DX9, 400 MHz for D525
- ◆ Display Interface  
Analog CRT up to 2048x1536 for D525  
Supports for CRT hot plug  
18-bit single-channel LVDS supports resolution up to WXGA 1366x768 or XGA 1024x768
- ◆ Ethernet  
LAN1: Realtek RT8111E with ASF 2.0 support  
LAN2: Realtek RT8111E
- ◆ I/O Interface
 

1 x CF Type II	1 x KB/MS
1 x FDD	1 x LPT
1 x IDE	3 x RS-232
1 x Infrared	3 x SATA 3Gb/s
1 x RS-232/422/485 with auto flow control	
6 x USB 2.0 (4 by pin-header, 2 on rear side)	
- ◆ Super IO  
Fintek F81865
- ◆ Audio  
Realtek ALC888 HD codec
- ◆ SMBus  
1 x 4-pin wafer connector
- ◆ Expansions  
4 x PCI bus support  
ISA bus support by ITE IT8888G PCI to ISA bridge
- ◆ Digital I/O  
8-bit digital I/O
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Fan Connector  
1 x 4-pin fan connector (smart fan)
- ◆ Power Supply  
5V/12V by PCISA bus, AT/ATX mode support
- ◆ Power Consumption  
5V@3.36A, 12V@0.57A (Intel® dual-core Atom™ D525 1.80GHz with 1 GB 1066 MHz DDR3 memory)
- ◆ Operating Temperature  
-20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
- ◆ Storage Temperature  
-30°C ~ 80°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Weight  
1000g (GW)/250g (NW)

## Features

- PCISA CPU card supports PCI and ISA bus expansion
- Supports Intel® Atom™ D525 processor
- Supports VGA and 18-bit single-channel LVDS with dual display
- Supports 800 MHz DDR3 SDRAM SO-DIMM up to 4 GB
- Supports four COM, six USB 2.0, three SATA 3Gb/s, IDE and CF Type II
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Packing List

1 x PCISA-PV-D5251 single board computer
1 x LPT/RS-232 cable (P/N: 19800-002300-200-RS)
1 x USB cable (P/N: 19800-003100-300-RS)
1 x Audio cable (P/N: 19800-000111-RS)
3 x SATA cable (P/N: 32000-062800-RS)
1 x Mini jumper pack
1 x One Key Recovery CD
1 x QIG
1 x Utility CD

## Ordering Information

Part No.	Description
PCISA-PV-D5251-R10	PCISA CPU card with Intel® Atom™ D525 1.80GHz, VGA, LVDS, dual PCIe GbE, USB 2.0, 4 COM, 3 SATA 3Gb/s, audio and RoHS
19800-000075-RS	KB/MS cable with bracket
19800-004300-100-RS	RS-232/422/485 cable with bracket
19FFD124010HB2A7-000001-RS	CPU fan
32102-000100-200-RS	SATA power cable
32200-000009-RS	IDE cable 44 to 44 pin (pitch: 2.0-2.0)
32221-001700-100-RS	IDE cable 44 to 40 pin to 40 pin (pitch: 2.0-2.54-2.54)
32229-000400-100-RS	FDD cable
34000-000510-RS	30mm higher heatsink

1 Industrial Computing Solutions

2 Video Capture Solutions

3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

# IP/IPX Series Backplane

**Supports PCI and ISA slot on one backplane!**  
**For half-size PCISA series single board computers**

The advantages of using the PCISA card are numerous:

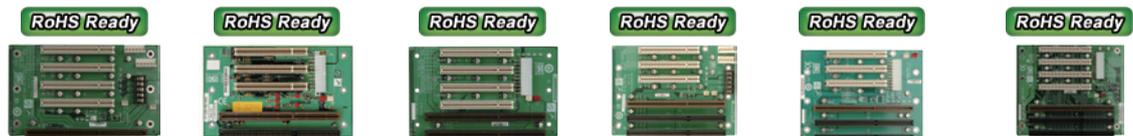
1. Supports standard PISA version 1.0 slot on the IP/IPX series passive backplane.
2. Compatible with all available PCI/ISA cards. IP/IPX backplane is also integrated with the PCISA series card slot.

## Selection Guide

 PAC series wall-mount chassis  4U rack-mount chassis



Model	IP-3S-RS	IP-3SA-RS	IP-4S-RS	IP-4S2-RS	IP-4S2A-RS	IP-4S4-RS
Total Slot	3	3	4	4	4	4
PCI Slot	2	2	3	2	3	
ISA Slot				1		3
PSU Type	AT	ATX	AT	AT	ATX	AT
Chassis	PAC-53GH	N/A	PAC-400G PAC-42GH	PAC-400G PAC-42GH	PAC-400G	PAC-400G PAC-42GH



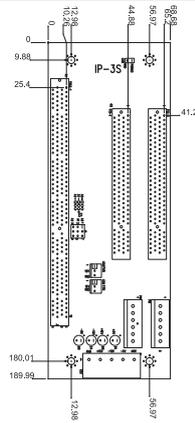
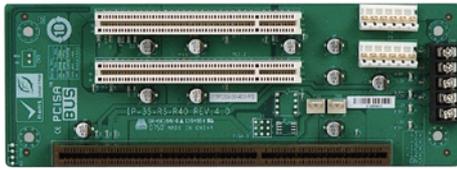
Model	IP-5S2-RS	IP-5SA-RS	IP-5SA2-RS	IP-6S-RS	IP-6SA-RS	IP-7SA-RS
Total Slot	5	5	5	6	6	7
PCI Slot	4	3	4	3	3	4
ISA Slot		1		2	2	2
PSU Type	AT	ATX	ATX	AT	ATX	ATX
Chassis	PR-1500G	PR-1500G	PR-1500G	PAC-1000G	PAC-106G PAC-1000G	PAC-700G PAC-1700G



Model	IP-8S-RS	IPX-9S-RS	IP-10S-RS	IPX-13S-RS
Total Slot	8	9	10	13
PCI Slot	4	8	4	12
ISA Slot	3		5	
PSU Type	ATX/AT	ATX/AT	ATX/AT	ATX/AT
Chassis	PAC-125G	PAC-125G	PAC-125G	RACK-305G RACK-360G RACK-3000G

- 1 Industrial Computing Solutions
- 2 Video Capture Solutions
- 3 Industrial Computer Chassis
- 4 Open Frame Monitor
- 5 Power Supply/Peripherals
- 6 All-in-One System

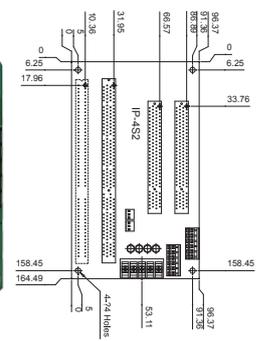
## IP-3S-RS-R40



### Ordering Information

IP-3S-RS-R40	3-slot backplane with two PCI slots
PAC-53GH	3-slot half-size compact chassis

## IP-4S2-RS-R40

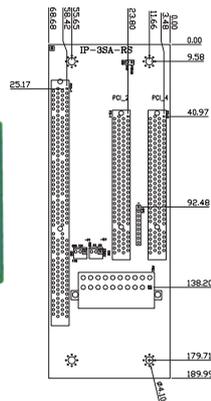


### Ordering Information

IP-4S2-RS-R40	4-slot backplane with two PCI slots and one ISA slot
PAC-400G	4-slot half-size compact chassis
PAC-42GH	4-slot half-size compact chassis

## IP-3SA-RS-R40

ATX power

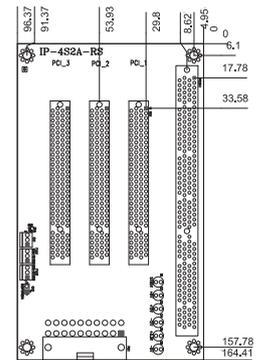


### Ordering Information

IP-3SA-RS-R40	3-slot backplane with two PCI slots
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## IP-4S2A-RS-R40

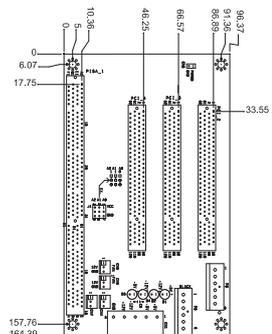
ATX power



### Ordering Information

IP-4S2A-RS-R40	4-slot backplane with three PCI slots
PAC-400G	4-slot half-size compact chassis

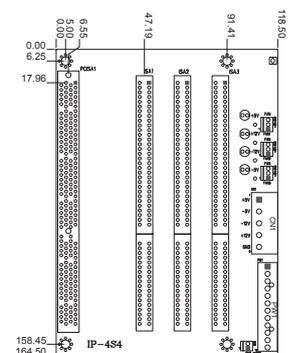
## IP-4S-RS-R40



### Ordering Information

IP-4S-RS-R40	4-slot backplane with three PCI slots
PAC-400G	4-slot half-size compact chassis
PAC-42GH	4-slot half-size compact chassis

## IP-4S4-RS-R40



### Ordering Information

IP-4S4-RS-R40	4-slot backplane with three ISA slots
PAC-400G	4-slot half-size compact chassis
PAC-42GH	4-slot half-size compact chassis

1  
Industrial  
Computing  
Solutions

2  
Video  
Capture  
Solutions

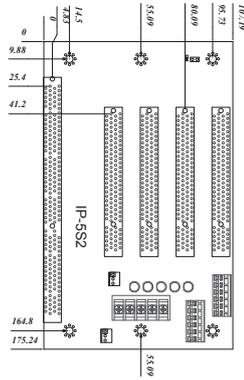
3  
Industrial  
Computer  
Chassis

4  
Open  
Frame  
Monitor

5  
Power Supply/  
Peripherals

6  
All-in-One  
System

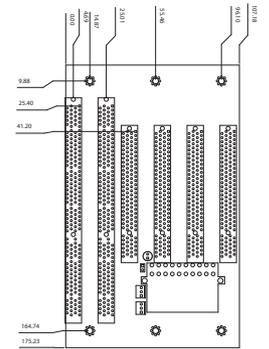
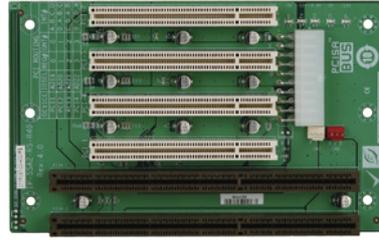
## IP-5S2-RS-R40



### Ordering Information

IP-5S2-RS-R40	5-slot backplane with three PCI slots
PR-1500G	5-slot half-size compact chassis

## IP-5SA2-RS-R40

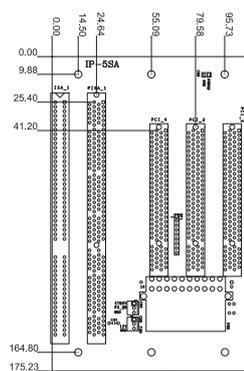
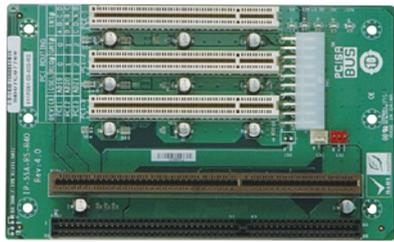


### Ordering Information

IP-5SA2-RS-R40	5-slot backplane with four PCI slots
PR-1500G	5-slot half-size compact chassis

## IP-5SA-RS-R40

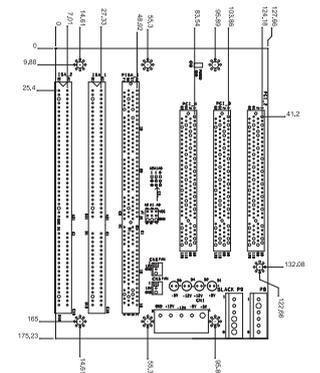
ATX power



### Ordering Information

IP-5SA-RS-R40	5-slot backplane with three PCI slots and one ISA slot
PR-1500G	5-slot half-size compact chassis

## IP-6S-RS-R40

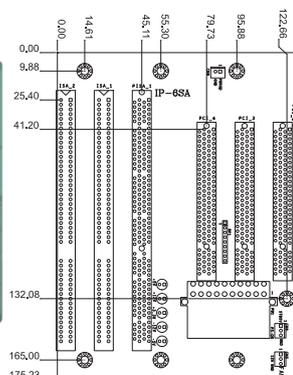
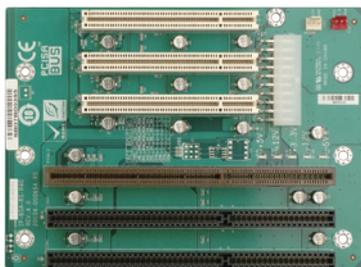


### Ordering Information

IP-6S-RS-R40	6-slot backplane with three PCI slots and two ISA slots
PAC-1000G	6-slot full-size compact chassis

## IP-6SA-RS-R40

ATX power

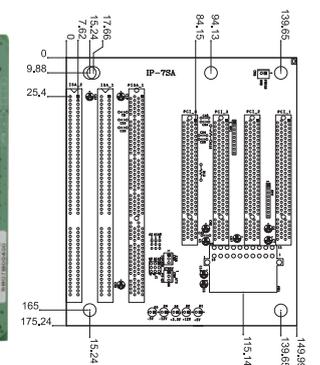
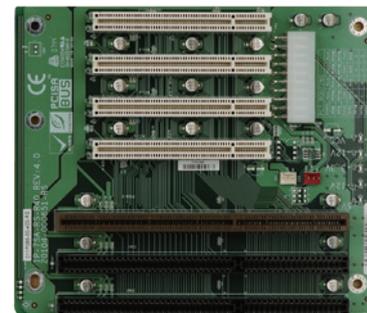


### Ordering Information

IP-6SA-RS-R40	6-slot backplane with three PCI slots and two ISA slots
PAC-106G	6-slot full-size compact chassis
PAC-1000G	6-slot full-size compact chassis

## IP-7SA-RS-R40

ATX power



### Ordering Information

IP-7SA-RS-R40	7-slot backplane with three PCI slots and two ISA slots
PAC-700G	7-slot half-size compact chassis
PAC-1700G	7-slot full-size compact chassis

1 Industrial Computing Solutions

2 Video Capture Solutions

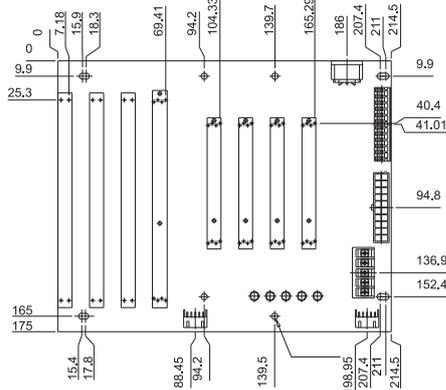
3 Industrial Computer Chassis

4 Open Frame Monitor

5 Power Supply/Peripherals

6 All-in-One System

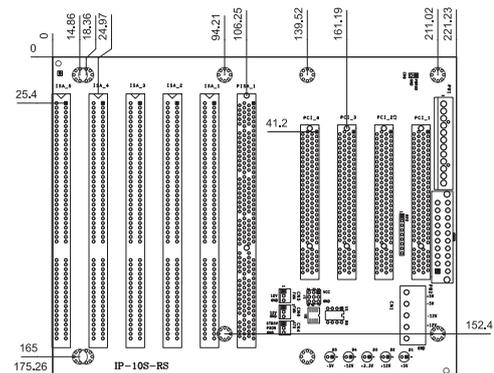
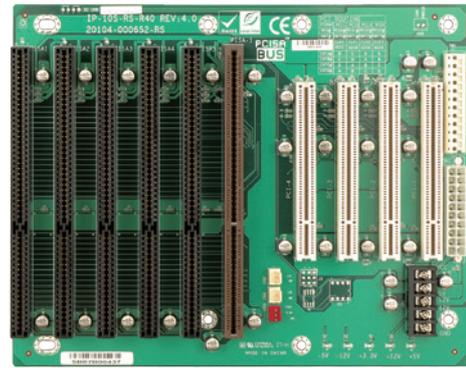
## IP-8S-RS-R40



### Ordering Information

IP-8S-RS-R40	8-slot backplane with four PCI slots and three ISA slots
PAC-125G	10-slot full-size compact chassis

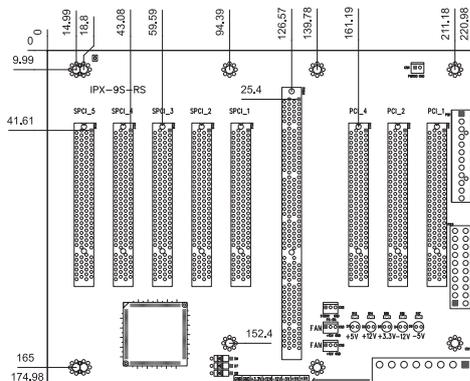
## IP-10S-RS-R40



### Ordering Information

IP-10S-RS-R40	10-slot backplane with four PCI slots and five ISA slots
PAC-125G	10-slot full-size compact chassis

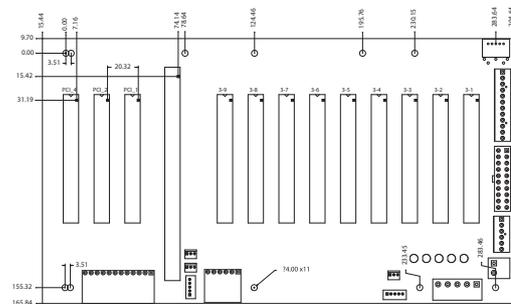
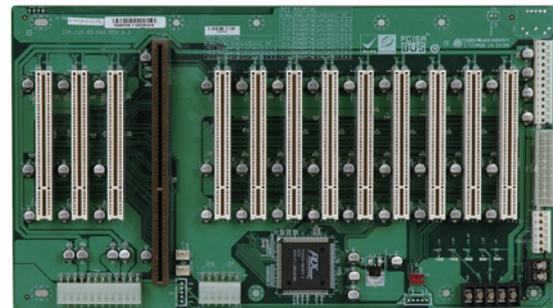
## IPX-9S-RS-R41



### Ordering Information

IPX-9S-RS-R41	9-slot backplane with eight PCI slots
PAC-125G	10-slot full-size compact chassis

## IPX-13S-RS-R40



### Ordering Information

IPX-13S-RS-R40	13-slot backplane with twelve PCI slots
RACK-305G	4U 14-slot rack-mount chassis
RACK-360G	4U 14-slot rack-mount chassis
RACK-3000G	4U 14-slot rack-mount chassis

1

Industrial Computing Solutions

2

Video Capture Solutions

3

Industrial Computer Chassis

4

Open Frame Monitor

5

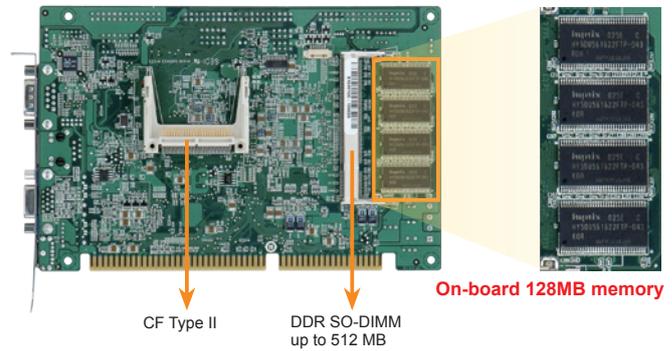
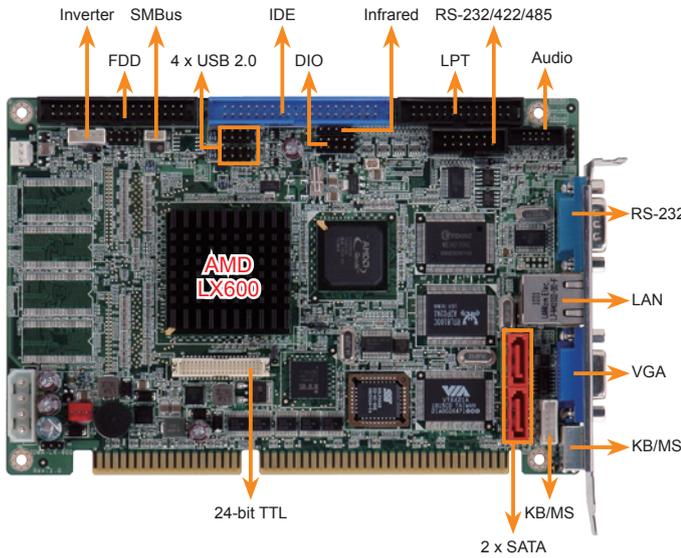
Power Supply/Peripherals

6

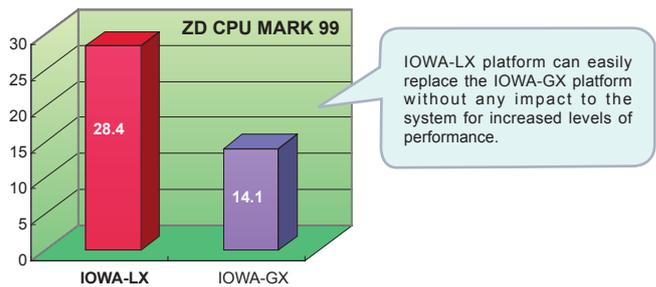
All-in-One System

# IOWA-LX

Half-size Pure ISA CPU Card with On-board AMD Geode™ LX600 Processor (366 MHz), 128KB L2 cache, On-board 128MB Memory, VGA, LAN, USB 2.0, CF, COM, LPT, Audio and RoHS



## Performance Comparison Chart



## Specifications

- ◆ CPU  
On-board AMD Geode™ LX600 processor (366 MHz), 128KB L2 cache
- ◆ Chipset  
AMD Geode™ CS5536
- ◆ BIOS  
Award BIOS
- ◆ Memory  
On-board 128MB (max.) 200/266 MHz DDR SDRAM supported  
One 200-pin 512MB (max.) 200/266 MHz DDR SDRAM supported
- ◆ Graphics Engine  
VGA integrated in the AMD Geode™ LX600
- ◆ Display Output  
Single HD VOP 2.0 output  
1920x1440 CRT output  
1600x1200 TFT output
- ◆ Super I/O  
Winbond W83627EHG
- ◆ I/O interface
 

1 x CF Type II	1 x LPT
1 x FDD	1 x PS/2 KB/MS
1 x IDE	1 x RS-422/485
1 x IrDA	2 x RS-232
- ◆ Ethernet  
10/100Mbps Realtek RTL8100C Ethernet controller
- ◆ Audio  
Realtek ALC203 with AC'97 codec
- ◆ Expansion Bus  
ISA bus supported via golden finger
- ◆ Digital I/O  
8-bit digital I/O
- ◆ WDT  
Software programmable supports 1~255 sec. system reset
- ◆ FAN connector  
1x 3-pin fan connector (smart fan)
- ◆ Power supply  
5V/12V via ISA bus, AT/ATX mode supported
- ◆ Power Consumption  
5V@1.51A, 5Vsb@0.09A  
(On-board AMD Geode™ LX 600 CPU 366 MHz with 128MB 200 MHz on-board DDR memory and 512MB 333 MHz DDR memory)
- ◆ Operating Temperature  
-10°C ~ 60°C
- ◆ Storage Temperature  
-20°C ~ 70°C
- ◆ Operating Humidity  
5% ~ 95%, non-condensing
- ◆ Weight  
GW: 1.0kg/NW: 250g



## Features

- ISA CPU card with on-board AMD Geode™ LX600 processor (366 MHz), 128KB L2 cache
- Flexible on-board DDR SDRAM and one SO-DIMM slot
- Enhanced TTL, RS-232, RS-422/485 and USB 2.0 interfaces for extended connectivities
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Packing List

1 x IOWA-LX-600 single board computer
1 x Audio cable (P/N: 19800-000111-RS)
1 x IDE flat cable (P/N: 32225-002000-200-RS)
1 x KB/MS Y cable (P/N: 32006-000300-100-RS)
1 x USB cable (P/N: 19800-003100-300-RS)
1 x Mini jumper pack
1 x One Key Recovery CD
1 x QIG (Quick Installation Guide)
1 x Utility CD

## Ordering Information

Part No.	Description
IOWA-LX-600-R10	Half-size pure ISA CPU card with on-board AMD Geode™ LX600 processor (366 MHz), 128KB L2 cache, on-board 128MB memory VGA, LAN, USB 2.0, COM, CF, LPT, audio and RoHS
IOWA-LX-600S-R10	Half-size pure ISA CPU card with on-board AMD Geode™ LX600 processor (366 MHz), 128KB L2 cache, on-board 128MB memory VGA, LAN, USB 2.0, SATA, CF, COM, LPT, Audio and RoHS
19800-000049-RS	LPT cable
19800-004400-200-RS	RS-232/422/485 cable
32000-062800-RS	SATA cable
32200-000017-RS	FDD cable

- 1 Industrial Computing Solutions
- 2 Video Capture Solutions
- 3 Industrial Computer Chassis
- 4 Open Frame Monitor
- 5 Power Supply/Peripherals
- 6 All-in-One System

# BP Series Backplane

**Supports ISA slot on one backplane!**  
**For half-size ISA only single board computer**

The advantages of using this ISA card series are numerous:

1. Supports standard ISA slot on the BP series passive backplane.
2. Compatible with all available ISA cards. BP backplane is also integrated with the ROCKY series ISA Card slot.

## Selection Guide

 PAC series wall-mount chassis  4U rack-mount chassis

RoHS Ready



RoHS Ready



RoHS Ready



RoHS Ready



Model	BP-3S-RS-R40	BP-4S-RS-R40	BP-5S-RS-R40	BP-6S-RS-R40
Total Slot	3	4	5	6
ISA Slot	3	4	5	6
PSU Type	AT	AT	AT	AT
Chassis	PAC-53GH	PAC-400G PAC-42GH	PR-1500G	PAC-106G PAC-1000G

RoHS Ready



RoHS Ready



RoHS Ready



Model	BP-7S-RS-R40	BP-8S-RS-R41	BP-10S-RS-R40
Total Slot	7	8	10
ISA Slot	7	8	10
PSU Type	AT	AT	AT
Chassis	PAC-700G PAC-1700G	N/A	PAC-125G



1  
Industrial  
Computing  
Solutions

2  
Video  
Capture  
Solutions

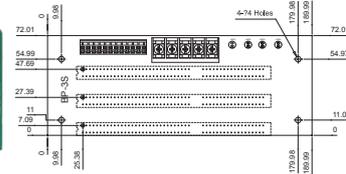
3  
Industrial  
Computer  
Chassis

4  
Open  
Frame  
Monitor

5  
Power Supply/  
Peripherals

6  
All-in-One  
System

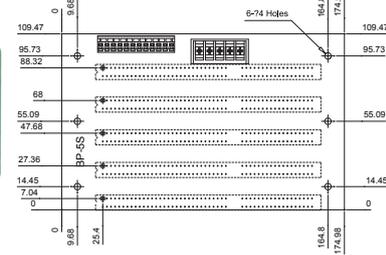
## BP-3S-RS-R40



### Ordering Information

BP-3S-RS-R40	3-slot backplane with three ISA slots
PAC-53GH	3-slot half-size compact chassis

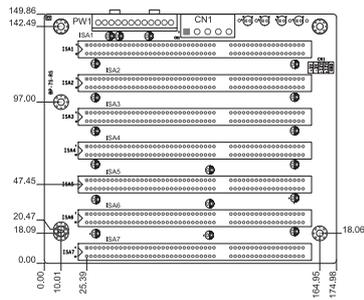
## BP-5S-RS-R40



### Ordering Information

BP-5S-RS-R40	5-slot backplane with five ISA slots
PR-1500G	5-slot half-size compact chassis

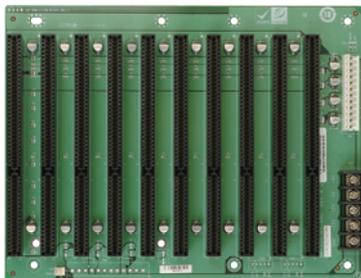
## BP-7S-RS-R40



### Ordering Information

BP-7S-RS-R40	7-slot backplane with seven ISA slots
PAC-700G	7-slot half-size compact chassis
PAC-1700G	7-slot full-size compact chassis

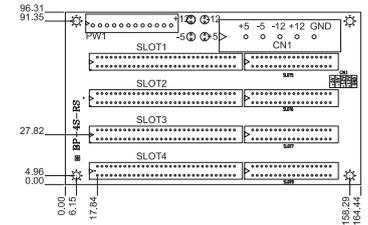
## BP-10S-RS-R40



### Ordering Information

BP-10S-RS-R40	10-slot backplane with ten ISA slots
PAC-125G	10-slot full-size compact chassis

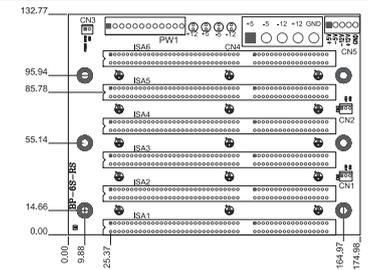
## BP-4S-RS-R40



### Ordering Information

BP-4S-RS-R40	4-slot backplane with four ISA slots
PAC-400G	4-slot half-size compact chassis
PAC-42GH	4-slot half-size compact chassis

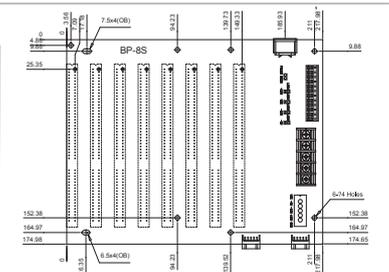
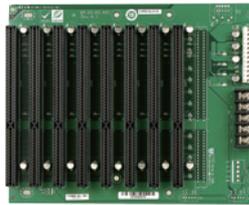
## BP-6S-RS-R40



### Ordering Information

BP-6S-RS-R40	6-slot backplane with six ISA slots
PAC-106G	6-slot full-size compact chassis
PAC-1000G	6-slot full-size compact chassis

## BP-8S-RS-R41



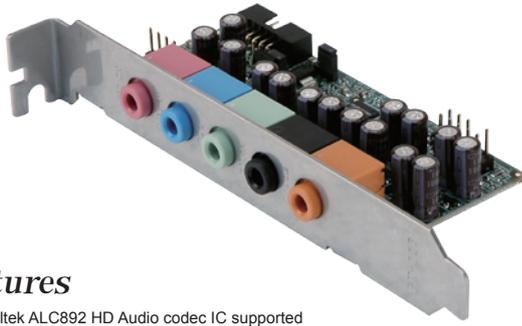
### Ordering Information

BP-8S-RS-R41	8-slot backplane with eight ISA slots
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- 1 Industrial Computing Solutions
- 2 Video Capture Solutions
- 3 Industrial Computer Chassis
- 4 Open Frame Monitor
- 5 Power Supply/Peripherals
- 6 All-in-One System

# AC-KIT-892HD

Realtek ALC892 7.1-Channel HD Audio Peripheral Board, RoHS



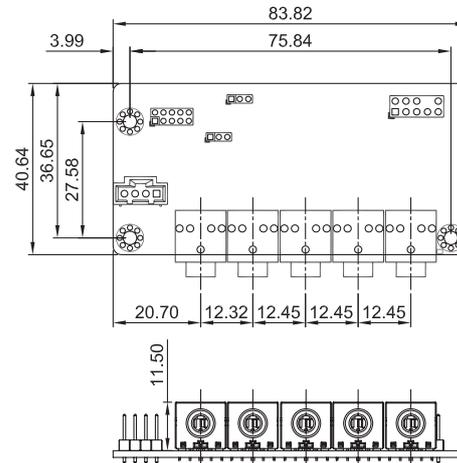
## Features

- Realtek ALC892 HD Audio codec IC supported
- Five audio jacks for microphone, 7.1+2-channel high definition audio input and output
- High performance 7.1+2-channel high definition audio board provides 7.1-channel sound playback and multiple streaming through the front panel stereo outputs
- Digital to Analog Converter (DAC) with 97dB Signal to Noise Ratio (SNR)
- Analog to Digital Converter (ADC) with 90dB Signal to Noise Ratio (SNR)
- All the Digital to Analog Converter (DAC) supports 44.1k/48k/96k/192kHz sampling rate
- All the Analog to Digital Converter (ADC) supports 44.1k/48k/96kHz sampling rate
- Driver supports Windows® 2000/2003/XP/VISTA/7 (32/64 bits) and Linux (Ubuntu or Debian)

## Packing List

1 x AC-KIT-892HD audio peripheral board	
1 x Audio cable	1 x QIG

## Dimensions (Unit: mm)



## Ordering Information

AC-KIT-892HD-R10	Realtek ALC892 7.1-channel HD Audio peripheral board
32107-001100-100-RS	Audio cable with length of 200 mm, 2 x 5-pin, pitch=2.0 mm

# AC-KIT08R

Audio Converter Card via Realtek ALC665 AC'97 5.1-Channel Audio Daughter Board, RoHS



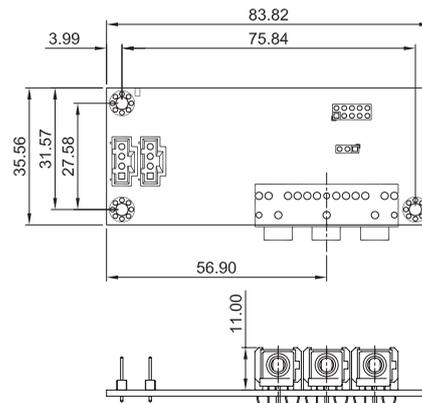
## Features

- Realtek ALC665 AC'97 audio codec IC supported
- Three audio jacks for microphone, 5.1-channel AC'97 audio input and output
- Full duplex AC'97 2.3 compatible 5.1-channel audio codec designed for PC multimedia system
- Supports double sampling rate (96kHz) of DVD audio playback
- Driver supports Windows® 2000/2003/XP/VISTA/7 (32/64 bits) and Linux (Ubuntu or Debian)

## Packing List

1 x AC-KIT08R audio peripheral board	
1 x Audio cable	1 x QIG

## Dimensions (Unit: mm)

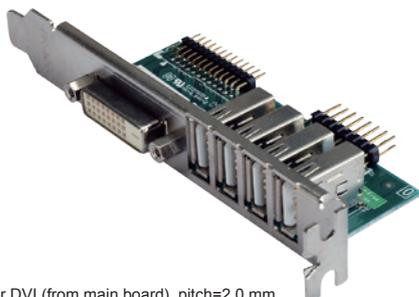


## Ordering Information

AC-KIT08R-R10	Realtek ALC665 AC'97 5.1-channel audio peripheral board
32107-001100-100-RS	Audio cable with length of 200 mm, 2 x 5-pin, pitch=2.0 mm

# IO-KIT-001-R20

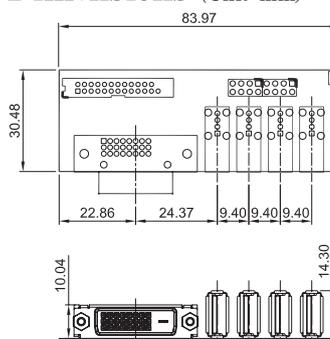
DVI and 4 x USB 1.1/2.0 Translation Daughter Board with Bracket, RoHS



## Features

- 26-pin header for DVI (from main board), pitch=2.0 mm
- 2 x 8-pin header for USB 1.1/2.0 (from main board, four sets), pitch=2.54 mm
- DVI-D connector on edge
- Four USB 1.1/2.0 connectors on edge

## Dimensions (Unit: mm)



## Packing List

1 x IO-KIT-001-R20 (DVI and four USB 1.1/2.0 translation daughter board)
1 x DVI cable
1 x USB cable
1 x QIG

## Ordering Information

IO-KIT-001-R20	DVI and four USB 1.1/2.0 translation daughter board
32001-009900-100-RS	USB cable with length of 200 mm, 2 x 8-pin, pitch=2.54 mm
32104-000100-100-RS	DVI cable with length of 200 mm, 2 x 13-pin, pitch=2.0 mm