

**PICMG 1.3 Half size SBC 8-slot backplane with 4 PCI slots  
and 2 PCIe x 16 (x8 signal)**

# **HPXE2-8S1-R10**

## **Quick Installation Guide**

**Version 1.0**

Sep 13, 2017

### **Package List**

HPXE2-8S1-R10 package includes the following items:

- 1 x HPXE2-8S1-R10 module
- 1x QIG



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## Specifications

- System Type: PICMG 1.3 Backplane
- Dimension: 218 mm x 175 mm
- PICMG 1.3: 1 ea (Half size)
- CPU: 1 ea PICMG 1.3
- PCI-E x 16: 2 ea from BP CONN\_A & BP CONN\_B (1 \* X16)  
Slot type: X8 signal with X16 slot
- PCI: 4 ea PCI  
PCIe to PCI bridge IC : ITE 8892
- Chassis: Mounting hole compatible with HPE-8S1-R40  
Mounting hole compatible with PAC-125G

## Ordering Information

- **HPXE2-8S1-R10:**  
8-slot PICMG 1.3 backplane for half-size SBC, with four PCI slots and two PCIe x 16 slot (x8 signal)
- **PAC-125G:**  
10-slot full-size compact chassis
- **RACK-360G:**  
4U 14-slot full-size rack-mount chassis
- **RACK-3000G:**  
4U 14-slot full-size rack-mount chassis

## Jumpers setting and connectors

LABEL	FUNCTION
ATXPWR1	Backplane to mainboard ATX Power Control Connector
PWRBTN	External Power On Button Connector
RESET	External Reset Button Connector
PWRGD	External Power Good Connector
SM_BUS	External System Management Connector
FAN1-4	Fan Connector
CN8	PCIE MINI Card Connector
BP_CONNA1 BP_CONNB1	PCIE, PCI, POWER through Connector
PCIEX16_1 PCIEX16_2	PCIE X8 Connector
PCI_A1 PCI_A2 PCI_A3 PCI_A4	PCI Connector
ATXCTL1	Backplane to Mainboard Connector

ATXPWR1: ATX Power Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PSON#
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	PWRGD	18	NC
9	+5VSB	19	+5V
10	+12V	20	+5V

<b>PWRBTN: Power on Button</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	GND	2	PWRBT#

<b>RESET: Reset Button</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	GND	2	SHB_RST#

<b>PWRGD: Power Good Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	GND	2	PWRGD

<b>SM_BUS: System Management BUS Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	SMDAT	2	SMCLK

<b>FAN1, FAN2, FAN3, FAN4: Fan Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	GND	2	+12V
3	NC		

<b>CN8: PCIE MINI Card Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	PCIE_WAKE	2	+3.3V
3	N/C	4	GND
5	N/C	6	1.5V
7	N/C	8	N/C
9	GND	10	N/C
11	PCIE_CLK#	12	N/C
13	PCIE_CLK	14	N/C
15	GND	16	N/C
17	PLTRST_N	18	GND
19	N/C	20	+3.3V
21	GND	22	PLTRST_N
23	PCIE_RX+	24	+3.3V
25	PCIE_RX-	26	GND
27	GND	28	1.5V
29	GND	30	SMB_CLK
31	PCIE_TX-	32	SMB_DATA
33	PCIE_TX+	34	GND
35	GND	36	N/C
37	GND	38	N/C
39	+3.3V	40	GND
41	+3.3V	42	N/C
43	+3.3V	44	N/C
45	N/C	46	N/C
47	N/C	48	1.5V
49	N/C	50	GND
51	N/C	52	+3.3V

<b>BP_CONNA1</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
B1	SMBCLK	A1	SMDATA
B2	GND	A2	GND

B3	NOJTAG	A3	N/C
B4	NOJTAG	A4	N/C
B5	N/C	A5	I_WAKE-
B6	SHBPWBT-	A6	PCI_PME-
B7	ATXPWROK	A7	PS_ON-
B8	EXTRST-	A8	PCIRST2-
B9	CFG0	A9	CFG1
B10	CFG2	A10	CFG3
B11	N/C	A11	GND
B12	GND	A12	N/C
B13	PETP0	A13	GND
B14	PETN0	A14	GND
B15	GND	A15	PERP0
B16	GND	A16	PERN0
B17	PETP1	A17	GND
B18	PETN1	A18	GND
B19	GND	A19	PERP1
B20	GND	A20	PERN1
B21	N/C	A21	GND
B22	N/C	A22	GND
B23	GND	A23	N/C
B24	GND	A24	N/C
B25	N/C	A25	GND
B26	N/C	A26	GND
B27	GND	A27	N/C
B28	GND	A28	N/C
B29	PCIECLK0+	A29	GND
B30	PCIECLK0-	A30	GND
B31	GND	A31	PCIECLK1+
B32	N/C	A32	PCIECLK1-
B33	N/C	A33	GND
B34	N/C	A34	GND
B35	GND	A35	N/C

B36	N/C	A36	N/C
B37	EX_PCIECLK0+	A37	GND
B38	EX_PCIECLK0-	A38	GND
B39	GND	A39	EX_PCIECLK1+
B40	N/C	A40	EX_PCIECLK1-
B41	N/C	A41	GND
B42	N/C	A42	GND
B43	GND	A43	N/C
B44	GND	A44	N/C
B45	EX_TXP0	A45	GND
B46	EX_TXN0	A46	GND
B47	GND	A47	EX_RXP0
B48	GND	A48	EX_RXN0
B49	EX_TXP1	A49	GND
B50	EX_TXN1	A50	GND
B51	GND	A51	EX_RXP1
B52	GND	A52	EX_RXN1
B53	EX_TXP2	A53	GND
B54	EX_TXN2	A54	GND
B55	GND	A55	EX_RXP2
B56	GND	A56	EX_RXN2
B57	EX_TXP3	A57	GND
B58	EX_TXN3	A58	GND
B59	GND	A59	EX_RXP3
B60	GND	A60	EX_RXN3
B61	EX_TXP4	A61	GND
B62	EX_TXN4	A62	GND
B63	GND	A63	EX_RXP4
B64	GND	A64	EX_RXN4
B65	EX_TXP5	A65	GND
B66	EX_TXN5	A66	GND
B67	GND	A67	EX_RXP5
B68	GND	A68	EX_RXN5

B69	EX_TXP6	A69	GND
B70	EX_TXN6	A70	GND
B71	GND	A71	EX_RXP6
B72	GND	A72	EX_RXN6
B73	EX_TXP7	A73	GND
B74	EX_TXN7	A74	GND
B75	GND	A75	EX_RXP7
B76	GND	A76	EX_RXN7
B77	N/C	A77	GND
B78	VCC3	A78	VCC3
B79	VCC3	A79	VCC3
B80	VCC3	A80	VCC3
B81	VCC3	A81	VCC3
B82	3VDU-SHB	A82	3VDU-SHB

<b>BP_CONNB1</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
B1	5VSB	A1	5VSB
B2	GND	A2	N/C
B3	EX_TXP8	A3	GND
B4	EX_TXN8	A4	GND
B5	GND	A5	EX_RXP8
B6	GND	A6	EX_RXN8
B7	EX_TXP9	A7	GND
B8	EX_TXN9	A8	GND
B9	GND	A9	EX_RXP9
B10	GND	A10	EX_RXN9
B11	N/C	A11	GND
B12	GND	A12	N/C
B13	EX_TXP10	A13	GND
B14	EX_TXN10	A14	GND
B15	GND	A15	EX_RXP10
B16	GND	A16	EX_RXN10
B17	EX_TXP11	A17	GND



B18	EX_TXN11	A18	GND
B19	GND	A19	EX_RXP11
B20	GND	A20	EX_RXN11
B21	EX_TXP12	A21	GND
B22	EX_TXN12	A22	GND
B23	GND	A23	EX_RXP12
B24	GND	A24	EX_RXN12
B25	EX_TXP13	A25	GND
B26	EX_TXN13	A26	GND
B27	GND	A27	EX_RXP13
B28	GND	A28	EX_RXN13
B29	EX_TXP14	A29	GND
B30	EX_TXN14	A30	GND
B31	GND	A31	EX_RXP14
B32	GND	A32	EX_RXN14
B33	EX_TXP15	A33	GND
B34	EX_TXN15	A34	GND
B35	GND	A35	EX_RXP15
B36	GND	A36	EX_RXN15
B37	N/C	A37	GND
B38	N/C	A38	N/C
B39	GND	A39	GND
B40	GND	A40	GND
B41	GND	A41	GND
B42	GND	A42	GND
B43	GND	A43	GND
B44	VCC12	A44	VCC12
B45	VCC12	A45	VCC12
B46	VCC12	A46	VCC12
B47	VCC12	A47	VCC12
B48	VCC12	A48	VCC12
B49	VCC12	A49	VCC12

<b>PCIEX16_1, PCIEX16_2: PCIe X8 Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
B1	VCC12	A1	N/C
B2	VCC12	A2	VCC12
B3	VCC12	A3	VCC12
B4	GND	A4	GND
B5	SMBCLK	A5	N/C
B6	SMDATA	A6	N/C
B7	GND	A7	N/C
B8	VCC3	A8	N/C
B9	N/C	A9	VCC3
B10	3VDU	A10	VCC3
B11	I_WAKE-	A11	PCIRST2-
B12	N/C	A12	GND
B13	GND	A13	EX_PCIECLK0+
B14	EX_TXP0	A14	EX_PCIECLK0-
B15	EX_TXN0	A15	GND
B16	GND	A16	EX_RXP0
B17	SDVO_CLK0	A17	EX_RXN0
B18	GND	A18	GND
B19	EX_TXP1	A19	N/C
B20	EX_TXN1	A20	GND
B21	GND	A21	EX_RXP1
B22	GND	A22	EX_RXN1
B23	EX_TXP2	A23	GND
B24	EX_TXN2	A24	GND
B25	GND	A25	EX_RXP2
B26	GND	A26	EX_RXN2
B27	EX_TXP3	A27	GND
B28	EX_TXN3	A28	GND
B29	GND	A29	EX_RXP3
B30	N/C	A30	EX_RXN3
B31	SDVO_DAT0	A31	GND

B32	GND	A32	N/C
B33	EX_TXP4	A33	N/C
B34	EX_TXN4	A34	GND
B35	GND	A35	EX_RXP4
B36	GND	A36	EX_RXN4
B37	EX_TXP5	A37	GND
B38	EX_TXN5	A38	GND
B39	GND	A39	EX_RXP5
B40	GND	A40	EX_RXN5
B41	EX_TXP6	A41	GND
B42	EX_TXN6	A42	GND
B43	GND	A43	EX_RXP6
B44	GND	A44	EX_RXN6
B45	EX_TXP7	A45	GND
B46	EX_TXN7	A46	GND
B47	GND	A47	EX_RXP7
B48	EXP_EN0	A48	EX_RXN7
B49	GND	A49	GND
B50	N/C	A50	N/C
B51	N/C	A51	GND
B52	GND	A52	N/C
B53	GND	A53	N/C
B54	N/C	A54	GND
B55	N/C	A55	GND
B56	GND	A56	N/C
B57	GND	A57	N/C
B58	N/C	A58	GND
B59	N/C	A59	GND
B60	GND	A60	N/C
B61	GND	A61	N/C
B62	N/C	A62	GND
B63	N/C	A63	GND
B64	GND	A64	N/C

B65	GND	A65	N/C
B66	N/C	A66	GND
B67	N/C	A67	GND
B68	GND	A68	N/C
B69	GND	A69	N/C
B70	N/C	A70	GND
B71	N/C	A71	GND
B72	GND	A72	N/C
B73	GND	A73	N/C
B74	N/C	A74	GND
B75	N/C	A75	GND
B76	GND	A76	N/C
B77	GND	A77	N/C
B78	N/C	A78	GND
B79	N/C	A79	GND
B80	GND	A80	N/C
B81	N/C	A81	N/C
B82	N/C	A82	GND

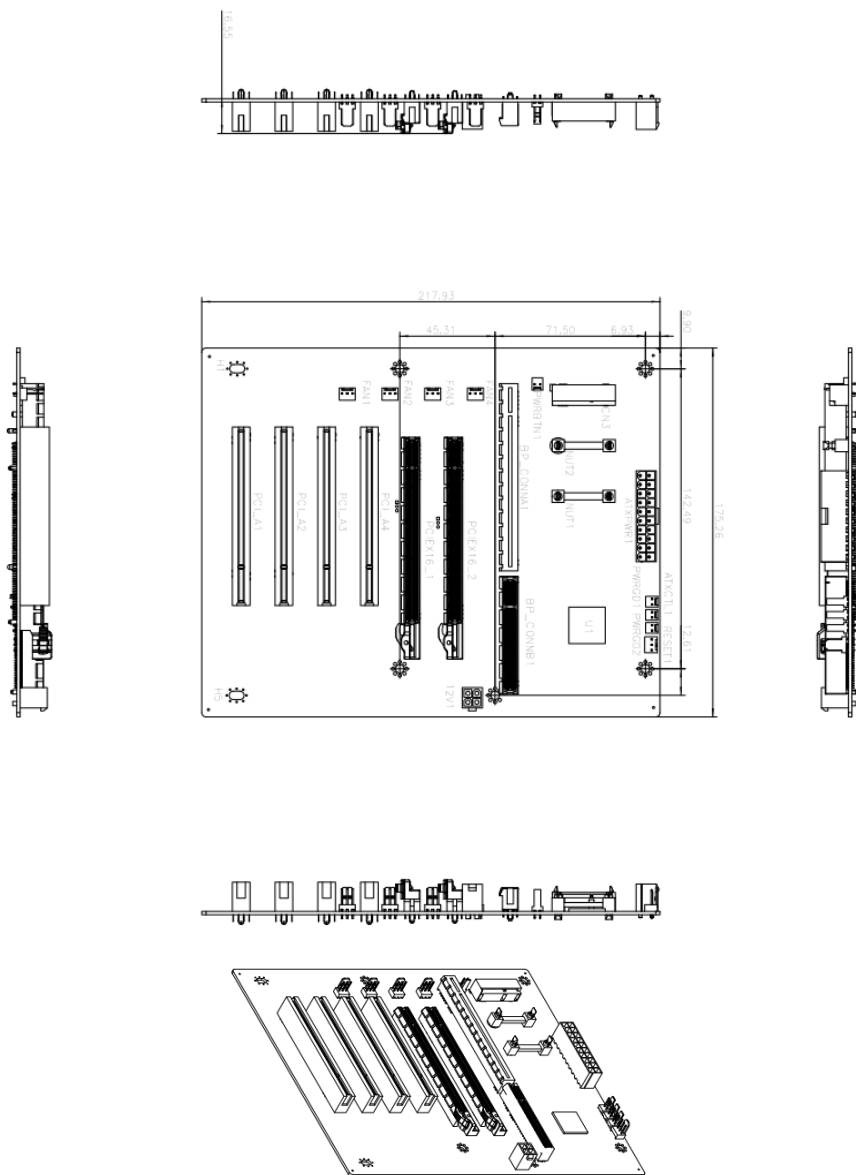
<b>PCI_A1, PCI_A2, PCI_A3, PCI_A4: PCI Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
B1	-VCC12	A1	TRST#
B2	TCK	A2	+12V
B3	GND	A3	TMS
B4	TDO	A4	TDI
B5	+5V	A5	+5V
B6	+5V	A6	INTA#
B7	INTB#	A7	INTC#
B8	INTD#	A8	+5V
B9	PRSNT#	A9	RSVD
B10	RSVD	A10	+5V
B11	PRSNT#	A11	RSVD
B12	GND	A12	GND
B13	GND	A13	GND

B14	RSVD	A14	+3.3VAUX
B15	GND	A15	RST#
B16	CLK	A16	+5V
B17	GND	A17	GNT#
B18	REQ#	A18	GND
B19	+5V	A19	PME#
B20	AD31	A20	AD30
B21	AD29	A21	+3.3V
B22	GND	A22	AD28
B23	AD27	A23	AD26
B24	AD25	A24	GND
B25	+3.3V	A25	AD24
B26	C/BE3#	A26	IDSEL
B27	AD23	A27	+3.3V
B28	GND	A28	AD22
B29	AD21	A29	AD30
B30	AD19	A30	GND
B31	+3.3V	A31	AD18
B32	AD17	A32	AD16
B33	C/BE2#	A33	+3.3V
B34	GND	A34	FRAME
B35	IRDY#	A35	GND
B36	+3.3V	A36	TRDY
B37	DEVSEL	A37	GND
B38	GND	A38	STOP#
B39	LOCK#	A39	+3.3V
B40	PERR#	A40	SMBCLK
B41	+3.3V	A41	SMDATA
B42	SERR#	A42	GND
B43	+3.3V	A43	PAR
B44	C/BE1#	A44	AD15
B45	AD14	A45	+3.3V
B46	GND	A46	AD13

B47	AD12	A47	AD11
B48	AD10	A48	GND
B49	GND	A49	AD9
B52	AD8	A52	C/BE0#
B53	AD7	A53	+3.3V
B54	+3.3V	A54	AD6
B55	AD5	A55	AD4
B56	AD3	A56	GND
B57	GND	A57	AD2
B58	AD1	A58	AD0
B59	+5V	A59	+5V
B60	ACK64#	A60	REQ64#
B61	+5V	A61	+5V
B62	+5V	A62	+5V

<b>ATXCTL1: Backplane to Mainboard Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	GND	2	PERSON#
3	5VSB		

# Board Layout: Jumper and Connector Locations



(Unit: mm)