6U8S CompactPCI Backplane User Manual

(P/N: CPCI20- 68VLR_2PS-A1)

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1. Key Features :

- Conforms to PICMG 2.0 R3.0 32/64-Bit.
- Supports Hot Swap feature of PICMG 2.1 R2.0
- Conforms to PICMG 2.9 R1.0
- VI/O are user selectable to a +5V or +3.3V
- Supports two 47-pin CPCI power supply connectors
- Supports one ATX power supply connector
- All signal lines characteristic impedance are set to 65Ω
- FR4 material PCB
- 2 m/m HM connector

2. Mechanical

The CompactPCI 64/32Bit 2.0 Series backplanes are 10-layer PCBs which are 6U (262.05 mm) tall, 3.2 mm thick, 202.20 mm width. Two layers are dedicated ground layers. The backplanes are attached to the subrack using a series of screws along the top and bottom edges of the backplanes.

3. Backplane Pattern Connection Specification

Slot1 (S1) : System + Node
Slot2 (S2) : Peripheral + Node
Slot3 (S3) : Peripheral + Node
Slot4 (S4) : Peripheral + Node
Slot5 (S5) : Peripheral + Node
Slot6 (S6) : Peripheral + Node
Slot7 (S7) : Peripheral + Node
Slot8 (S8) : Peripheral + Node

3.1 CLK line

Slot No.	S1	S2	S3	S4	S5	S6	S7	S8
CLK No.	System	CLK0	CLK1	CLK2	CLK3	CLK4	CLK5	CLK6

3.2 GNT/REQ line

Slot No.	S1	S2	S3	S4	S5	S6	S7	S8
GNT/ REQ	System	GNT0/ REQ0	GNT1/ REQ1	GNT2/ REQ2	GNT3/ REQ3	GNT4/ REQ4	GNT5/ REQ5	GNT6/ REQ6

3.3 IDSEL line

Slot No.	S1	S2	S3	S4	S5	S6	S7	S8
IDSEL	System	AD31	AD30	AD29	AD28	AD27	AD26	AD25

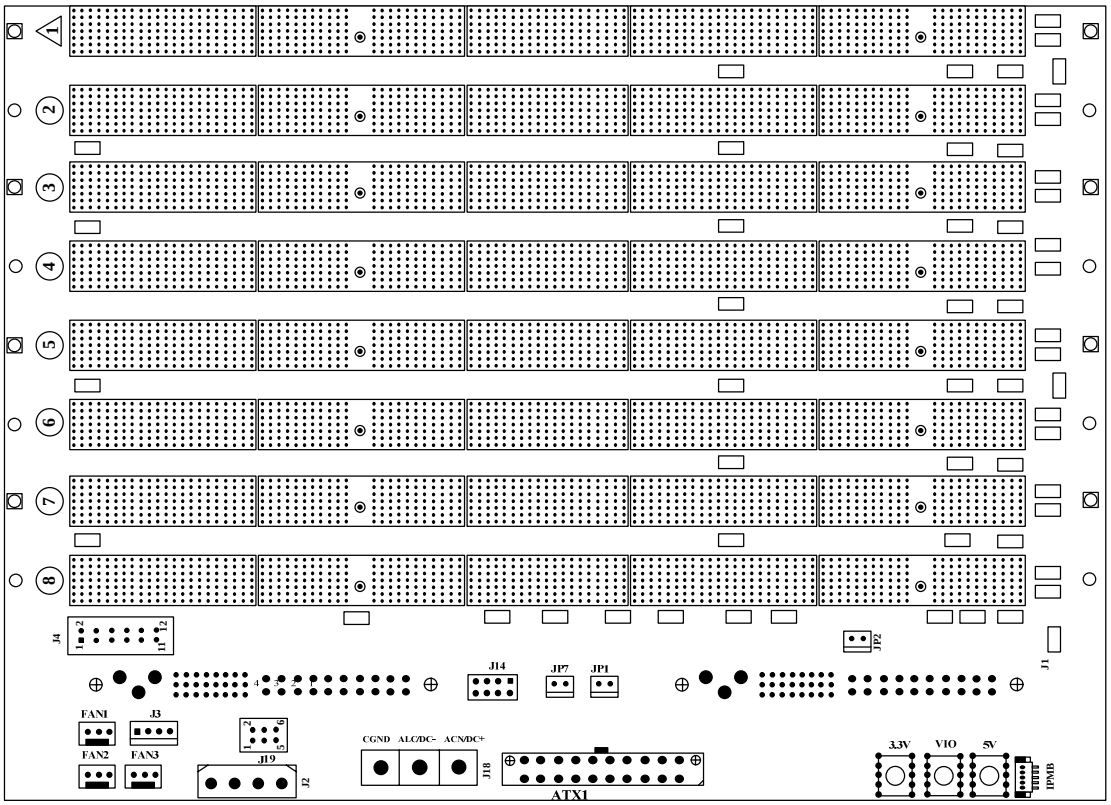
3.4 Interrupt line

Slot No.	S1	S2	S3	S4	S5	S6	S7	S8
Interrupt line	INTA#	INTD#	INTC#	INTB#	INTA#	INTD#	INTC#	INTB#
	INTB#	INTA#	INTD#	INTC#	INTB#	INTA#	INTD#	INTC#
	INTC#	INTB#	INTA#	INTD#	INTC#	INTB#	INTA#	INTD#
	INTD#	INTC#	INTB#	INTA#	INTD#	INTC#	INTB#	INTA#

4. Connectors and Jumpers

The relative position of connectors and jumpers on the backplane are shown as the following Figure.

Rear Side

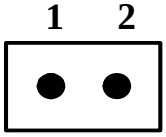


4.1 JP1 jumper

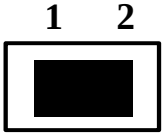
Power switch function.

4.2 JP2 jumper

M66EN, the 66MHz Enabling line, is defined as GND for 33 MHz backplane.



66 MHz

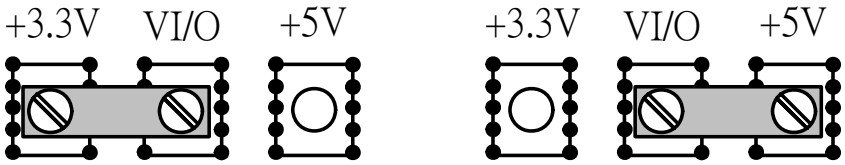


33 MHz

4.3 JP7 jumper

System reset function.

4.4 VI/O Connector



+3.3V **+5V**

4.5 J1 Connector

IPMB Extension connector.

Pin No.	1	2	3	4	5
Signals	SCL	GND	SDA	PWR	ALERT

4.6 J2 Connector

Power connector

Pin No.	1	2	3	4
Signals	+12V	GND	GND	+5V

4.7 J3 Connector

Power connector

Pin No.	1	2	3	4
Signals	+12V	GND	GND	+5V

4.8 J4 Connector

Alarm connector

Signals	FAN1	FAN2	FAN3	-	-	DEG
Pin No.	1	3	5	7	9	11
Pin No.	2	4	6	8	10	12
Signals	+12V	5V	GND	3.3V	-12V	GND

4.9 J14 Connector

Power sense connector

Pin No.	1	3	5	7
Signals	+5V SENSE	RTN SENSE	+3.3V SENSE	+12V SENSE
Signals	+5V	GND	+3.3V	+12V
Pin No.	2	4	6	8

4.10 J18 Connector

AC Power connector

Pin No.	1	2	3
Signals	ACN/DC+	ACL/DC-	CGND

4.11 J19 Connector

Inhibition control (INH#) for each power module.

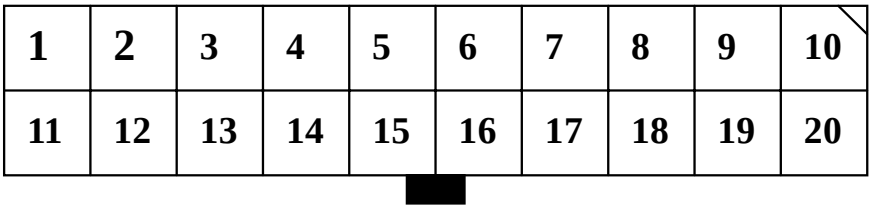
Pin No.	1	2	3	4	5	6
Signals	INH#1	GND	INH#2	GND	-	GND

4.12 FAN1、FAN2 and FAN3 Connectors

Supply fans source (+12V).

Pin	1	2	3
Signal	FAN#	+12V	GND

4.13 ATX1 power connector



Pin	Power	Pin	Power
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	FAL-	18	-5V
9	DEG-	19	+5V

10	+12V	20	+5V

5. Backplane Pin Assignment Table

Table 5.1 CompactPCI System Slot P1 Connector Pin assignments

Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#(1)	ENUM#(2)	+3.3V	+5V	GND
24	GND	AD[1]	+5V	VI/O	AD[0]	ACK64#(1)	GND
23	GND	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND
22	GND	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND
21	GND	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND
20	GND	AD[12]	GND	VI/O	AD[11]	AD[10]	GND
19	GND	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND
17	GND	+3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	VI/O	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	GND	TRDY#	GND
J1-12~14 Keying Area							
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	GND	AD[23]	GND	AD[22]	GND
8	GND	AD[26]	GND	VI/O	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ0#	GND	+3.3V	CLK0	AD[31]	GND
5	GND	BRSVP1A5	BRSVP1B5	PCIRST#	GND	GNT0#	GND
4	GND	IPMB_PWR	HEALTHY#	VI/O	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK	+5V	TMS	TDO	TDI	GND
1	GND	+5V	-12V	TRST#	+12V	+5V	GND
Pin	Z	A	B	C	D	E	F

Table 5.2 CompactPCI System Slot P2 Connector Pin assignments

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	CLK6	GND	RSV	RSV	RSV	GND
20	GND	CLK5	GND	RSV	GND	RSV	GND
19	GND	GND	GND	RSV	RSV	RSV	GND

18	GND	BRSVP2A18	BRSVP2B18	BRSVP2C18	GND	BRSVP2E18	GND
17	GND	BRSVP2A17	GND	PRST#	REQ6#	GNT6#	GND
16	GND	BRSVP2A16	BRSVP2B16	DEG#	GND	BRSVP2E16	GND
15	GND	BRSVP2A15	GND	FAL#	REQ5#	GNT5#	GND
14	GND	AD[35]	AD[34]	AD[33]	GND	AD[32]	GND
13	GND	AD[38]	GND	VI/O	AD[37]	AD[36]	GND
12	GND	AD[42]	AD[41]	AD[40]	GND	AD[39]	GND
11	GND	AD[45]	GND	VI/O	AD[44]	AD[43]	GND
10	GND	AD[49]	AD[48]	AD[47]	GND	AD[46]	GND
9	GND	AD[52]	GND	VI/O	AD[51]	AD[50]	GND
8	GND	AD[56]	AD[55]	AD[54]	GND	AD[53]	GND
7	GND	AD[59]	GND	VI/O	AD[58]+	AD[57]	GND
6	GND	AD[63]	AD[62]	AD[61]	GND	AD[60]	GND
5	GND	C/BE[5]#	GND	VI/O	C/BE[4]#	PAR64	GND
4	GND	VI/O	BRSVP2B4	C/BE[7]#	GND	C/BE[6]#	GND
3	GND	CLK4	GND	GNT3#	REQ4#	GNT4#	GND
2	GND	CLK2	CLK3	SYSEN#	GNT2#	REQ3#	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND
Pin	Z	A	B	C	D	E	F

Table 5.3 CompactPCI Peripheral Slot P1 Connector Pin assignments

Pin	Z	A	B	C	D	E	F
25	GND	+5V	REQ64#(1)	ENUM#(2)	+3.3V	+5V	GND
24	GND	AD[1]	+5V	VI/O	AD[0]	ACK64#(1)	GND
23	GND	+3.3V	AD[4]	AD[3]	+5V	AD[2]	GND
22	GND	AD[7]	GND	+3.3V	AD[6]	AD[5]	GND
21	GND	+3.3V	AD[9]	AD[8]	M66EN	C/BE[0]#	GND
20	GND	AD[12]	GND	VI/O	AD[11]	AD[10]	GND
19	GND	+3.3V	AD[15]	AD[14]	GND	AD[13]	GND
18	GND	SERR#	GND	+3.3V	PAR	C/BE[1]#	GND
17	GND	+3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	VI/O	STOP#	LOCK#	GND
15	GND	+3.3V	FRAME#	IRDY#	BD_SEL#	TRDY#	GND
J1-12~14 Keying Area							
11	GND	AD[18]	AD[17]	AD[16]	GND	C/BE[2]#	GND
10	GND	AD[21]	GND	+3.3V	AD[20]	AD[19]	GND
9	GND	C/BE[3]#	IDSEL	AD[23]	GND	AD[22]	GND

8	GND	AD[26]	GND	VI/O	AD[25]	AD[24]	GND
7	GND	AD[30]	AD[29]	AD[28]	GND	AD[27]	GND
6	GND	REQ#	GND	+3.3V	CLK	AD[31]	GND
5	GND	BRSVP1A5	BRSVP1B5	PCIRST#	GND	GNT#	GND
4	GND	IPMB_PWR	HEALTHY#	VI/O	INTP	INTS	GND
3	GND	INTA#	INTB#	INTC#	+5V	INTD#	GND
2	GND	TCK	+5V	TMS	TDO	TDI	GND
1	GND	+5V	-12V	TRST#	+12V	+5V	GND
Pin	Z	A	B	C	D	E	F

Table 5.4 CompactPCI Peripheral Slot P2 Connector Pin assignments

Pin	Z	A	B	C	D	E	F
22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	RSV	RSV	RSV	RSV	RSV	GND
20	GND	RSV	RSV	RSV	GND	RSV	GND
19	GND	RSV	RSV	RSV	RSV	RSV	GND
18	GND	BRSVP2A18	BRSVP2B18	BRSVP2C18	GND	BRSVP2E18	GND
17	GND	BRSVP2A17	GND	RSV	RSV	RSV	GND
16	GND	BRSVP2A16	BRSVP2B16	RSV	GND	BRSVP2E16	GND
15	GND	BRSVP2A15	GND	RSV	RSV	RSV	GND
14	GND	AD[35]	AD[34]	AD[33]	GND	AD[32]	GND
13	GND	AD[38]	GND	VI/O	AD[37]	AD[36]	GND
12	GND	AD[42]	AD[41]	AD[40]	GND	AD[39]	GND
11	GND	AD[45]	GND	VI/O	AD[44]	AD[43]	GND
10	GND	AD[49]	AD[48]	AD[47]	GND	AD[46]	GND
9	GND	AD[52]	GND	VI/O	AD[51]	AD[50]	GND
8	GND	AD[56]	AD[55]	AD[54]	GND	AD[53]	GND
7	GND	AD[59]	GND	VI/O	AD[58]+	AD[57]	GND
6	GND	AD[63]	AD[62]	AD[61]	GND	AD[60]	GND
5	GND	C/BE[5]#	GND	VI/O	C/BE[4]#	PAR64	GND
4	GND	VI/O	BRSVP2B4	C/BE[7]#	GND	C/BE[6]#	GND
3	GND	RSV	GND	RSV	RSV	RSV	GND
2	GND	RSV	RSV	UNC	RSV	RSV	GND
1	GND	RSV	GND	RSV	RSV	RSV	GND
Pin	Z	A	B	C	D	E	F