

# GAOLIN ELECTRONICS

## CPCI 3U14SLOTS BACKPLANE

### Technology Specification

CB3114122-100

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## CPCI 3U 14Slots Backplane Technology Specification

### DESIGN ACCORDING TO:

- CPCI Specification PICMG 2.0 R3.0 (October 1, 1999)
- CPCI Hot Swap Specification PICMG 2.1 R1.0 (August 3, 1998)
- CPCI System Management Specification PICMG 2.9 R1.0 (February 2, 2000)
- Keying of CPCI Boards and Backplanes PICMG 2.10 R1.0 (October 1, 1999)
- CPCI Power Interface Specification PICMG 2.11 R1.0 (October 1, 1999)

### BUS STRUCTURES:

P2	32bit/33MHz CPCI with Bridge												Two PCIH47 Connectors	32bit/33MHz	
P1														14	
Slot	1	2	3	4	5	6	7	BM	8	9	10	11		12	13
SPEC	Peripheral						System1		Peripheral						System 2

### TECHNICAL DATA:

- 14 Slots: 2 System slots + 12 Peripheral Slots with bridge
- All Peripheral slots support 32bit/33MHz CPCI bus
- Mechanical dimension: 425.72 × 128.7 × 4.0mm (width × height × thickness), support 3U card
- PCB Type: 10 layer
- Power connector: Two PCIH47 Power Receptacle
- Maximum voltage drop on backplane power: <20mV
- V(I/O): +3.3V / +5V selectable
- Impedance: 65ohm ± 10% for trace
- Operating temperature: -40°C ~ +85°C
- Storage temperature: -55°C ~ +85°C
- MTBF: 700,000h

**PIN ASSIGNMENT:**

See following tables.

**P1 of Slot7 (系统槽 1)**

25	GND	5V	REQ64#	ENUM#	3.3V	5V	GND
24	GND	AD1	5V	V(I/O)	AD0	ACK64#	GND
23	GND	3.3V	AD4	AD3	5V	AD2	GND
22	GND	AD7	GND	3.3V	AD6	AD5	GND
21	GND	3.3V	AD9	AD8	M66EN	C/BE0#	GND
20	GND	AD12	GND	V(I/O)	AD11	AD10	GND
19	GND	3.3V	AD15	AD14	GND	AD13	GND
18	GND	SERR#	GND	3.3V	PAR	C/BE1#	GND
17	GND	3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O)	STOP#	LOCK#	GND
15	GND	3.3V	FRAME#	IRDY#	BD_SEL	TRDY#	GND
14	<b>KEY AREA</b>						
13							
12							
11	GND	AD18	AD17	AD16	GND	C/BE2#	GND
10	GND	AD21	GND	3.3V	AD20	AD19	GND
9	GND	C/BE3#	IDSEL	AD23	GND	AD22	GND
8	GND	AD26	GND	V(I/O)	AD25	AD24	GND
7	GND	AD30	AD29	AD28	GND	AD27	GND
6	GND	REQ#	GND	3.3V	CLK	AD31	GND
5	GND	Reserved	Reserved	PCIRST#	GND	GNT#	GND
4	GND	IPMB_PWR	HEALTHY#	V(I/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
<b>Pin</b>	<b>Z</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>

**P2 of Slot7 (系统槽 1)**

22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	CLK6	GND	NC	NC	NC	GND
20	GND	CLK5	GND	NC	NC	NC	GND
19	GND	GND	GND	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	PRST#	REQ6#	GNT6#	GND
16	GND	NC	NC	DEG#	NC	NC	GND
15	GND	NC	NC	FAL#	REQ5#	GNT5#	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	V(I/O)	NC	NC	NC	NC	GND
3	GND	CLK4	GND	GNT3#	REQ4#	GNT4#	GND
2	GND	CLK2	CLK3	GND	GNT2#	REQ3#	GND
1	GND	CLK1	GND	REQ1#	GNT1#	REQ2#	GND
<b>Pin</b>	<b>Z</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>

**P1 of Slot 1~6&8~13 (外围槽)**

25	GND	5V	REQ64#	ENUM#	3.3V	5V	GND
24	GND	AD1	5V	V(I/O)	AD0	ACK64#	GND
23	GND	3.3V	AD4	AD3	5V	AD2	GND
22	GND	AD7	GND	3.3V	AD6	AD5	GND
21	GND	3.3V	AD9	AD8	M66EN	C/BE0#	GND
20	GND	AD12	GND	V(I/O)	AD11	AD10	GND
19	GND	3.3V	AD15	AD14	GND	AD13	GND
18	GND	SERR#	GND	3.3V	PAR	C/BE1#	GND
17	GND	3.3V	IPMB_SCL	IPMB_SDA	GND	PERR#	GND
16	GND	DEVSEL#	GND	V(I/O)	STOP#	LOCK#	GND
15	GND	3.3V	FRAME#	IRDY#	GND	TRDY#	GND
14	<b>KEY AREA</b>						
13							
12							
11	GND	AD18	AD17	AD16	GND	C/BE2#	GND
10	GND	AD21	GND	3.3V	AD20	AD19	GND
9	GND	C/BE3#	IDSEL	AD23	GND	AD22	GND
8	GND	AD26	GND	V(I/O)	AD25	AD24	GND
7	GND	AD30	AD29	AD28	GND	AD27	GND
6	GND	REQ#	GND	3.3V	CLK	AD31	GND
5	GND	NC	NC	PCIRST#	GND	GNT#	GND
4	GND	IPMB_PWR	HEALTHY#	V(I/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
<b>Pin</b>	<b>Z</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>

**P2 of Slot 1~6&8~13**

22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	NC	NC	NC	NC	NC	GND
20	GND	NC	NC	NC	NC	NC	GND
19	GND	NC	NC	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	NC	NC	NC	GND
16	GND	NC	NC	NC	NC	NC	GND
15	GND	NC	NC	NC	NC	NC	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	NC	NC	NC	NC	NC	GND
3	GND	NC	NC	NC	NC	NC	GND
2	GND	NC	NC	NC	NC	NC	GND
1	GND	NC	NC	NC	NC	NC	GND
<b>Pin</b>	<b>Z</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>

备注：中断信号

槽位号	A3	B3	C3	E3
1	INTB#	INTC#	INTD#	INTA#
2	INTC#	INTD#	INTA#	INTB#
3	INTD#	INTA#	INTB#	INTC#
4	INTA#	INTB#	INTC#	INTD#
5	INTB#	INTC#	INTD#	INTA#
6	INTC#	INTD#	INTA#	INTB#
7	INTA#	INTB#	INTC#	INTD#
8	INTC#	INTD#	INTA#	INTB#
9	INTB#	INTC#	INTD#	INTA#

10	INTA#	INTB#	INTC#	INTD#
11	INTD#	INTA#	INTB#	INTC#
12	INTC#	INTD#	INTA#	INTB#
13	INTB#	INTC#	INTD#	INTA#

## P1 of Slot14 (系统槽 2)

25	GND	5V	REQ64#	ENUM#	3.3V	5V	GND
24	GND	SAD1	5V	V(I/O)	SAD0	SACK64	GND
23	GND	3.3V	SAD4	SAD3	5V	SAD2	GND
22	GND	SAD7	GND	3.3V	SAD6	SAD5	GND
21	GND	3.3V	SAD9	SAD8	SM66EN	SC/BE0#	GND
20	GND	SAD12	GND	V(I/O)	SAD11	SAD10	GND
19	GND	3.3V	SAD15	SAD14	GND	SAD13	GND
18	GND	SSERR#	GND	3.3V	SPAR	SC/BE1#	GND
17	GND	3.3V	SIPMB_SCL	SIPMB_SDA	GND	SPERR#	GND
16	GND	SDEVSEL#	GND	V(I/O)	SSTOP#	SLOCK#	GND
15	GND	3.3V	SFRAME#	SIRDY#	GND	STRDY#	GND
14	<b>KEY AREA</b>						
13							
12							
11	GND	SAD18	SAD17	SAD16	GND	SC/BE2#	GND
10	GND	SAD21	SGND	3.3V	AD20	SAD19	GND
9	GND	SC/BE3#	IDSEL	SAD23	GND	SAD22	GND
8	GND	SAD26	GND	V(I/O)	SAD25	SAD24	GND
7	GND	SAD30	SAD29	SAD28	GND	SAD27	GND
6	GND	SREQ#	GND	3.3V	SCLK	SAD31	GND
5	GND	Reserved	Reserved	SPCIRST#	GND	SGNT#	GND
4	GND	SIPMB_PW	SHEALTHY#	V(I/O)	SINTP	SINTS	GND
3	GND	SINTA#	SINTB#	SINTC#	5V	SINTD#	GND
2	GND	STCK	5V	STMS	STDO	STDI	GND
1	GND	5V	-12V	STRST#	+12V	5V	GND
Pin	Z	A	B	C	D	E	F

**P2 of Slot14 (系统槽 2)**

22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND	SCLK6	GND	NC	NC	NC	GND
20	GND	SCLK5	GND	NC	NC	NC	GND
19	GND	GND	GND	NC	NC	NC	GND
18	GND	NC	NC	NC	NC	NC	GND
17	GND	NC	NC	SPRST#	SREQ6#	SGNT6#	GND
16	GND	NC	NC	SDEG#	NC	NC	GND
15	GND	NC	NC	SFAL#	REQ5#	SGNT5#	GND
14	GND	NC	NC	NC	NC	NC	GND
13	GND	NC	NC	NC	NC	NC	GND
12	GND	NC	NC	NC	NC	NC	GND
11	GND	NC	NC	NC	NC	NC	GND
10	GND	NC	NC	NC	NC	NC	GND
9	GND	NC	NC	NC	NC	NC	GND
8	GND	NC	NC	NC	NC	NC	GND
7	GND	NC	NC	NC	NC	NC	GND
6	GND	NC	NC	NC	NC	NC	GND
5	GND	NC	NC	NC	NC	NC	GND
4	GND	V(I/O)	NC	NC	NC	NC	GND
3	GND	SCLK4	GND	SGNT3#	SREQ4#	SGNT4#	GND
2	GND	SCLK2	SCLK3	GND	SGNT2#	SREQ3#	GND
1	GND	SCLK1	GND	SREQ1#	SGNT1#	SREQ2#	GND
<b>Pin</b>	<b>Z</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>



## Backplane Connector Description

### Optional VI/O Taps (JP1&JP2 ):

设置 CPCI 总线的 VI/O 电压: +3.3V / +5V selectable, 出厂默认+5V.

### Optional Power Taps :

The optional power taps are for GND, +5V, +12V, +3.3V.

### PWR\_ON:

When using ATX power supply, this connector could be used to turn the power supply on if shorted the header of it.

### RESET&RESET1:

This connector can reset the system board by shorting the headers of it.

### Volt:

All the alarm signals and various power supply are connected to it. It is used to connect external monitor module.

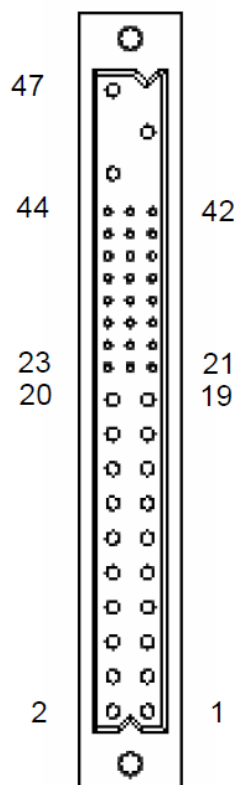
Pin	Signal	Pin	Signal
1	-12V	2	PRST#
3	+12V	4	DEG#
5	3.3V	6	FAL#
7	5V	8	GND
9	INH#	10	GND

### LED: 指示灯座子

Pin	Signal	Pin	Signal
1	+12V	2	GND

### IN PUT: 输入端

Pin	Signal	Pin	Signal	Pin	Signal
1	ACL/-DC	2	ACN/+DC	3	CGND

**POWER\_1~2:**

Pin	Signal	Pin	Signal
47	ACL/-DC IN	31	GA2
46	ACN/+DC IN	30	V1 SENSE
45	CGND	29	V1ADJ
44	V3 SHARE	28	GA1
43	IPMB_PWR	27	EN#
42	+FAL#	26	RESERVED
41	V2 SHARE	25	GA0
40	IPMB_SDA	24	RTN
39	INH#	23	RESERVED
38	DEG#	22	RTN
37	IPMB_SCL	21	V4
36	V3 SENSE	20	V3
35	V1 SHARE	19	RTN
34	S RTN	13-18	V2
33	V2 SENSE	5-12	RTN
32	V2ADJ	1-4	V1

### BACKPLANE TOP VIEW

