

GAOLIN ELECTRONICS

CPCI/ PSB 6U16SLOTS BACKPLANE

Technology Specification

CB61161B0-310

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CPCI/PSB 6U16SLOTS 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)
- CPCI Packet Switching Backplane Specification PICMG 2.16 R1.0 (September 5, 2001)

BUS STRUCTURES:

P5	I/O														PSB		Four CPCI Power Socket
P4	I/O																
P3	10/100/1000M PSB																
P2	64bit/33MHz																
P1																	
Slot	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
SPEC	System	Peripheral slots + Dual Node slots													Fabric slots		

TECHNICAL DATA:

- 16 Slots: 1 System Slot + 15 Peripheral slots
- All Peripheral slots support 64bit/33MHz CPCI bus
- Mechanical dimension: 425.72 × 262.05 × 4.0mm (width × height × thickness), support 6U card.
- PCB Type: 10 layers
- Power connector: Four CPCI Power Receptacle for Redundant PSU
- Maximum voltage drop on backplane power: <20mV
- V(I/O): +3.3V / +5V selectable
- Impedance: 65ohm ±10% for PCI Bus trace, 100ohm ±10% for differential PSB signal.
- Operating temperature: -40°C ~ +85°C
- Storage temperature: -55°C ~ +85°C
- MTBF: 700,000h

PIN ASSIGNMENT:

See following tables.

P1 of Slot1, 8

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	GND	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	KEY AREA						
13							
12							
11	GND	AD18	AD17	AD16	GND	C/BE2#	GND
10	GND	AD21	GND	3.3V	AD20	AD19	GND
9	GND	C/BE3#	GND	AD23	GND	AD22	GND
8	GND	AD26	GND	V(I/O)	AD25	AD24	GND
7	GND	AD30	AD29	AD28	GND	AD27	GND
6	GND	REQO#	GND	3.3V	CLK0	AD31	GND
5	GND	BRSVPA15	BRSVP1B5	RST#	GND	GNT0#	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
Pin	Z	A	B	C	D	E	F

P1 of Slot2~7,9~14

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	KEY AREA						
13							
12							
11	GND	AD18	AD17	AD16	GND	C/BE2#	GND
10	GND	AD21	GND	3.3V	AD20	AD19	GND
9	GND	C/BE3#	GND	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	BRSVPA15	BRSVP1B5	RST#	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
Pin	Z	A	B	C	D	E	F

P1 of Slot15,16

25	GND	5V			3.3V	5V	GND
24	GND		5V	V(I/O)			GND
23	GND	3.3V			5V		GND
22	GND		GND	3.3V			GND
21	GND	3.3V					GND
20	GND		GND	V(I/O)			GND
19	GND	3.3V			GND		GND
18	GND		GND	3.3V			GND
17	GND	3.3V			GND		GND
16	GND		GND	V(I/O)			GND
15	GND	3.3V					GND
14	KEY AREA						
13							
12							
11	GND				GND		GND
10	GND		GND	3.3V			GND
9	GND		GND		GND		GND
8	GND		GND	V(I/O)			GND
7	GND				GND		GND
6	GND		GND	3.3V			GND
5	GND				GND		GND
4	GND			V(I/O)			GND
3	GND				5V		GND
2	GND		5V				GND
1	GND	5V	-12V		+12V	5V	GND
Pin	Z	A	B	C	D	E	F

P2 of Slot1, 8

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	SMB_SDA	SMB_SCL	SMB_ALERT	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	AD35	AD34	AD33	GND	AD32	GND
13	GND	AD38	GND	V(I/O)	AD37	AD36	GND
12	GND	AD42	AD41	AD40	GND	AD39	GND
11	GND	AD45	GND	V(I/O)	AD44	AD43	GND
10	GND	AD49	AD48	AD47	GND	AD46	GND
9	GND	AD52	GND	V(I/O)	AD51	AD50	GND
8	GND	AD56	AD55	AD54	GND	AD53	GND
7	GND	AD59	GND	V(I/O)	AD58	AD57	GND
6	GND	AD63	AD62	AD61	GND	AD60	GND
5	GND	C/BE5#	GND	V(I/O)	C/BE4#	PAR64	GND
4	GND	V(I/O)	BRSVP2B4	C/BE7#	GND	C/BE6#	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
Pin	Z	A	B	C	D	E	F

P2 of Slot2~7, 9~14

22	GND	GA4	GA3	GA2	GA1	GA0	GND
21	GND						GND
20	GND				GND		GND
19	GND						GND
18	GND	BRSVP2A18	BRSVP2B18	BRSVP2C18	GND	BRSVP2E18	GND
17	GND	BRSVP2A17	GND				GND
16	GND	BRSVP2A16	BRSVP2B16		GND	BRSVP2E16	GND
15	GND	BRSVP2A15	GND				GND
14	GND	AD35	AD34	AD33	GND	AD32	GND
13	GND	AD38	GND	V(I/O)	AD37	AD36	GND
12	GND	AD42	AD41	AD40	GND	AD39	GND
11	GND	AD45	GND	V(I/O)	AD44	AD43	GND
10	GND	AD49	AD48	AD47	GND	AD46	GND
9	GND	AD52	GND	V(I/O)	AD51	AD50	GND
8	GND	AD56	AD55	AD54	GND	AD53	GND
7	GND	AD59	GND	V(I/O)	AD58	AD57	GND
6	GND	AD63	AD62	AD61	GND	AD60	GND
5	GND	C/BE5#	GND	V(I/O)	C/BE4#	PAR64	GND
4	GND	V(I/O)	BRSVP2B4	C/BE7#	GND	C/BE6#	GND
3	GND		GND				GND
2	GND						GND
1	GND		GND				GND
Pin	Z	A	B	C	D	E	F

P2 of Slot15,16

22	GND						GND
21	GND						GND
20	GND				GND		GND
19	GND						GND
18	GND				GND		GND
17	GND		GND				GND
16	GND				GND		GND
15	GND		GND				GND
14	GND				GND		GND
13	GND		GND	V(I/O)			GND
12	GND				GND		GND
11	GND		GND	V(I/O)			GND
10	GND				GND		GND
9	GND		GND	V(I/O)			GND
8	GND				GND		GND
7	GND		GND	V(I/O)			GND
6	GND				GND		GND
5	GND		GND	V(I/O)			GND
4	GND	V(I/O)			GND		GND
3	GND		GND				GND
2	GND						GND
1	GND		GND				GND
Pin	Z	A	B	C	D	E	F

P3 of Slot1 ~ 14

19	GND						GND
18	GND	LPA_DBn+	LPA_DBn-	GND	LPA_DDn+	LPA_DDn-	GND
17	GND	LPA_DAn+	LPA_DAn-	GND	LPA_DCn+	LPB_DCn-	GND
16	GND	LPB_DBn+	LPB_DBn-	GND	LPB_DDn+	LPB_DDn-	GND
15	GND	LPB_DAn+	LPB_DAn-	GND	LPB_DCn+	LPB_DCn-	GND
14	GND	I/O	I/O	I/O	I/O	I/O	GND
13	GND	I/O	I/O	I/O	I/O	I/O	GND
12	GND	I/O	I/O	I/O	I/O	I/O	GND
11	GND	I/O	I/O	I/O	I/O	I/O	GND
10	GND	I/O	I/O	I/O	I/O	I/O	GND
9	GND	I/O	I/O	I/O	I/O	I/O	GND
8	GND	I/O	I/O	I/O	I/O	I/O	GND
7	GND	I/O	I/O	I/O	I/O	I/O	GND
6	GND	I/O	I/O	I/O	I/O	I/O	GND
5	GND	I/O	I/O	I/O	I/O	I/O	GND
4	GND	I/O	I/O	I/O	I/O	I/O	GND
3	GND	I/O	I/O	I/O	I/O	I/O	GND
2	GND	I/O	I/O	I/O	I/O	I/O	GND
1	GND	I/O	I/O	I/O	I/O	I/O	GND
Pin	Z	A	B	C	D	E	F

n=1~14

P3 of Slot15

19	GND	SGA4	SGA3	SGA2	SGA1	SGA0	GND
18	GND	LPF_DA+	LPF_DA-	GND	LPF_DC+	LPF_DC-	GND
17	GND	LPF_DB+	LPF_DB-	GND	LPF_DD+	LPF_DD-	GND
16	GND	LPA_DA8+	LPA_DA6-	GND	LPA_DC8+	LPA_DC8-	GND
15	GND	LPA_DB8+	LPA_DB6-	GND	LPA_DD8+	LPA_DD8-	GND
14	GND	LPA_DA7+	LPA_DA7-	GND	LPA_DC7+	LPA_DC7-	GND
13	GND	LPA_DB7+	LPA_DB7-	GND	LPA_DD7+	LPA_DD7-	GND
12	GND	LPA_DA6+	LPA_DA6-	GND	LPA_DC6+	LPA_DC6-	GND
11	GND	LPA_DB6+	LPA_DB6-	GND	LPA_DD6+	LPA_DD6-	GND
10	GND	LPA_DA5+	LPA_DA5-	GND	LPA_DC5+	LPA_DC5-	GND
9	GND	LPA_DB5+	LPA_DB5-	GND	LPA_DD5+	LPA_DD5-	GND
8	GND	LPA_DA4+	LPA_DA4-	GND	LPA_DC4+	LPA_DC4-	GND
7	GND	LPA_DB4+	LPA_DB4-	GND	LPA_DD4+	LPA_DD4-	GND
6	GND	LPA_DA3+	LPA_DA3-	GND	LPA_DC3+	LPA_DC3-	GND
5	GND	LPA_DB3+	LPA_DB3-	GND	LPA_DD3+	LPA_DD3-	GND
4	GND	LPA_DA2+	LPA_DA2-	GND	LPA_DC2+	LPA_DC2-	GND
3	GND	LPA_DB2+	LPA_DB2-	GND	LPA_DD2+	LPA_DD2-	GND
2	GND	LPA_DA1+	LPA_DA1-	GND	LPA_DC1+	LPA_DC1-	GND
1	GND	LPA_DB1+	LPA_DB1-	GND	LPA_DD1+	LPA_DD1-	GND
Pin	Z	A	B	C	D	E	F

P3 of Slot16

19	GND	SGA4	SGA3	SGA2	SGA1	SGA0	GND
18	GND	LPF_DB+	LPF_DB-	GND	LPF_DD+	LPF_DD-	GND
17	GND	LPF_DA+	LPF_DA-	GND	LPF_DC+	LPF_DC-	GND
16	GND	LPB_DA8+	LPB_DA8-	GND	LPB_DC8+	LPB_DC8-	GND
15	GND	LPB_DB8+	LPB_DB8-	GND	LPB_DD8+	LPB_DD8-	GND
14	GND	LPB_DA7+	LPB_DA7-	GND	LPB_DC7+	LPB_DC7-	GND
13	GND	LPB_DB7+	LPB_DB7-	GND	LPB_DD7+	LPB_DD7-	GND
12	GND	LPB_DA6+	LPB_DA6-	GND	LPB_DC6+	LPB_DC6-	GND
11	GND	LPB_DB6+	LPB_DB6-	GND	LPB_DD6+	LPB_DD6-	GND
10	GND	LPB_DA5+	LPB_DA5-	GND	LPB_DC5+	LPB_DC5-	GND
9	GND	LPB_DB5+	LPB_DB5-	GND	LPB_DD5+	LPB_DD5-	GND
8	GND	LPB_DA4+	LPB_DA4-	GND	LPB_DC4+	LPB_DC4-	GND
7	GND	LPB_DB4+	LPB_DB4-	GND	LPB_DD4+	LPB_DD4-	GND
6	GND	LPB_DA3+	LPB_DA3-	GND	LPB_DC3+	LPB_DC3-	GND
5	GND	LPB_DB3+	LPB_DB3-	GND	LPB_DD3+	LPB_DD3-	GND
4	GND	LPB_DA2+	LPB_DA2-	GND	LPB_DC2+	LPB_DC2-	GND
3	GND	LPB_DB2+	LPB_DB2-	GND	LPB_DD2+	LPB_DD2-	GND
2	GND	LPB_DA1+	LPB_DA1-	GND	LPB_DC1+	LPB_DC1-	GND
1	GND	LPB_DB1+	LPB_DB1-	GND	LPB_DD1+	LPB_DD1-	GND
Pin	Z	A	B	C	D	E	F

P4 of Slot1~16

25	GND						GND
24	GND						GND
23	GND						GND
22	GND						GND
21	GND						GND
20	GND						GND
19	GND						GND
18	GND						GND
17	GND						GND
16	GND						GND
15	GND						GND
14	KEY AREA						
13							
12							
11	GND						GND
10	GND						GND
9	GND						GND
8	GND						GND
7	GND						GND
6	GND						GND
5	GND						GND
4	GND						GND
3	GND						GND
2	GND						GND
1	GND						GND
Pin	Z	A	B	C	D	E	F

P5 of Slot1~14

22	GND						GND
21	GND						GND
20	GND						GND
19	GND						GND
18	GND						GND
17	GND						GND
16	GND						GND
15	GND						GND
14	GND						GND
13	GND						GND
12	GND						GND
11	GND						GND
10	GND						GND
9	GND						GND
8	GND						GND
7	GND						GND
6	GND						GND
5	GND						GND
4	GND						GND
3	GND						GND
2	GND						GND
1	GND						GND
Pin	Z	A	B	C	D	E	F

P5 of Slot15

22	GND	I/O	I/O	I/O	I/O	I/O	GND
21	GND	I/O	I/O	I/O	I/O	I/O	GND
20	GND	I/O	I/O	I/O	I/O	I/O	GND
19	GND	I/O	I/O	I/O	I/O	I/O	GND
18	GND	I/O	I/O	I/O	I/O	I/O	GND
17	GND	I/O	I/O	I/O	I/O	I/O	GND
16	GND	I/O	I/O	I/O	I/O	I/O	GND
15	GND	I/O	I/O	I/O	I/O	I/O	GND
14	GND	I/O	I/O	I/O	I/O	I/O	GND
13	GND	I/O	I/O	I/O	I/O	I/O	GND
12	GND	LPA_DA14+	LPA_DA14-	GND	LPA_DC14+	LPA_DC14-	GND
11	GND	LPA_DB14+	LPA_DB14-	GND	LPA_DD14+	LPA_DD14-	GND
10	GND	LPA_DA13+	LPA_DA13-	GND	LPA_DC13+	LPA_DC13-	GND
9	GND	LPA_DB13+	LPA_DB13-	GND	LPA_DD13+	LPA_DD13-	GND
8	GND	LPA_DA12+	LPA_DA12-	GND	LPA_DC12+	LPA_DC12-	GND
7	GND	LPA_DB12+	LPA_DB12-	GND	LPA_DD12+	LPA_DD12-	GND
6	GND	LPA_DA11+	LPA_DA11-	GND	LPA_DC11+	LPA_DC11-	GND
5	GND	LPA_DB11+	LPA_DB11-	GND	LPA_DD11+	LPA_DD11-	GND
4	GND	LPA_DA10+	LPA_DA10-	GND	LPA_DC10+	LPA_DC10-	GND
3	GND	LPA_DB10+	LPA_DB10-	GND	LPA_DD10+	LPA_DD10-	GND
2	GND	LPA_DA9+	LPA_DA9-	GND	LPA_DC9+	LPA_DC9-	GND
1	GND	LPA_DB9+	LPA_DB9-	GND	LPA_DD9+	LPA_DD9-	GND
Pin	Z	A	B	C	D	E	F

P5 of Slot16

22	GND	I/O	I/O	I/O	I/O	I/O	GND
21	GND	I/O	I/O	I/O	I/O	I/O	GND
20	GND	I/O	I/O	I/O	I/O	I/O	GND
19	GND	I/O	I/O	I/O	I/O	I/O	GND
18	GND	I/O	I/O	I/O	I/O	I/O	GND
17	GND	I/O	I/O	I/O	I/O	I/O	GND
16	GND	I/O	I/O	I/O	I/O	I/O	GND
15	GND	I/O	I/O	I/O	I/O	I/O	GND
14	GND	I/O	I/O	I/O	I/O	I/O	GND
13	GND	I/O	I/O	I/O	I/O	I/O	GND
12	GND	LPB_DA14+	LPB_DA14-	GND	LPB_DC14+	LPB_DC14-	GND
11	GND	LPB_DB14+	LPB_DB14-	GND	LPB_DD14+	LPB_DD14-	GND
10	GND	LPB_DA13+	LPB_DA13-	GND	LPB_DC13+	LPB_DC13-	GND
9	GND	LPB_DB13+	LPB_DB13-	GND	LPB_DD13+	LPB_DD13-	GND
8	GND	LPB_DA12+	LPB_DA12-	GND	LPB_DC12+	LPB_DC12-	GND
7	GND	LPB_DB12+	LPB_DB12-	GND	LPB_DD12+	LPB_DD12-	GND
6	GND	LPB_DA11+	LPB_DA11-	GND	LPB_DC11+	LPB_DC11-	GND
5	GND	LPB_DB11+	LPB_DB11-	GND	LPB_DD11+	LPB_DD11-	GND
4	GND	LPB_DA10+	LPB_DA10-	GND	LPB_DC10+	LPB_DC10-	GND
3	GND	LPB_DB10+	LPB_DB10-	GND	LPB_DD10+	LPB_DD10-	GND
2	GND	LPB_DA9+	LPB_DA9-	GND	LPB_DC9+	LPB_DC9-	GND
1	GND	LPB_DB9+	LPB_DB9-	GND	LPB_DD9+	LPB_DD9-	GND
Pin	Z	A	B	C	D	E	F

Backplane Connector Description

Optional Power Taps :

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

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.

PWR_ON:

This connector is used for ATX power supply by shorting it with cap.

RESET:

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

I2C:

System Management.

Pin	Signal	Pin	Signal
1	IPMB_PWR	2	SMB_ALERT
3	IPMB_SDA	4	SMB_SDA
5	IPMB_SCL	6	SMB_SCL
7	GND	8	GND
9	GND	10	GND

Volt:

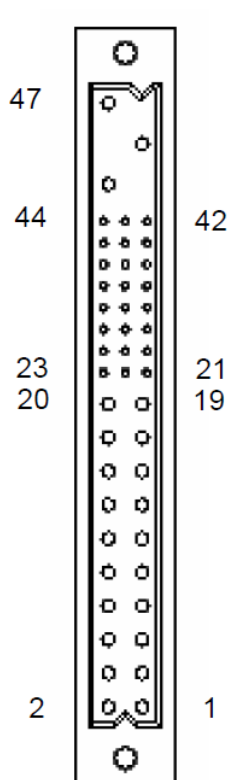
All the alarm signals and various power supply are connected to it. It is used to connect external monitor module.

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

IN PUT1&IN PUT2: 输入端

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

POWER_1&POWER_2&POWER_3&POWER_4:Modular Power 47P Connector



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

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NOTE:

The position from slot 5 to slot 8 can't support rear-plane I/Os , as the segment is occupied by the bridge.

BACKPLANE TOP VIEW

