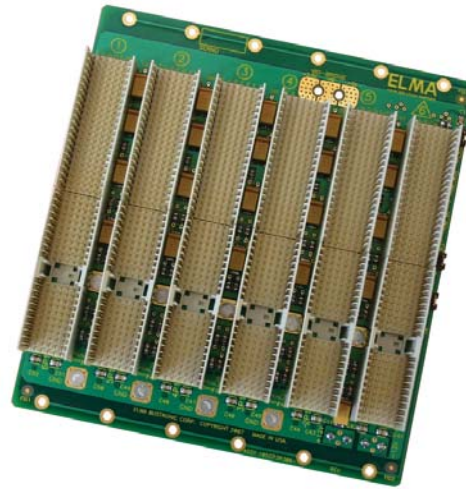


32-Bit CompactPCI Backplane



Description

The Elma Bustronic CompactPCI backplane series is designed to be fully compliant with PICMG standards. The 32-bit cPCI line offers hundreds of I/O pins across the backplane that on the 64-bit version are defined and therefore unavailable. We have provided all the standard features required for full compatibility, including all pin connections for bussed signal lines and all defined power and ground pins connected to their respective planes. User defined VI/O is standard.

All of Bustronic's standard cPCI backplanes conform to the PICMG basic specification 2.0 R2.1 and Hot Swap specification 2.1 R2.0. They are designed to maximize performance, minimize noise, and give the customer the most reliable, cost-effective products possible. To achieve superior performance, we construct the board in eight layers—three signal layers, five power ground planes. We incorporate a full stripline design, generously distributed decoupling capacitors, and 2 oz. power and ground planes. Our standard design with two 2oz. copper ground planes fully shield the backplane, minimize EMI/RFI emissions susceptibility, minimize crosstalk, and maximize power distribution.

Two 2 oz. copper voltage planes allow us to maximize power distribution while they act as virtual ground planes for the signals in order to minimize noise and crosstalk. There is also a full VI/O plane. We use stripline construction to assure the highest possible performance. By exclusively utilizing stripline construction, we eliminate a significant source of EMI/RFI radiation and give all the signals similar characteristic impedances, virtually identical propagation delays, and minimal signal skew. All these items allow for significantly higher data transfer rates, as signal skew factors into the data transfer rate calculations four times.

Features

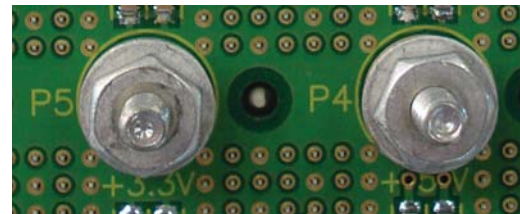
- Conforms to PICMG basic specification 2.0 R3.0
- Conforms to PICMG Hot Swap specification 2.1 R2.0
- 32-bit design
- 8-layer controlled impedance stripline design
- Virtually zero crosstalk
- Logical slot #1 (system controller) is right or left justified
- Comes in EasyCable and Low Profile versions

Board Specifications

- 8-layer board
- 2 oz. copper power and ground
- PCB UL recognized 94V-0
- PCB FR-4 or equivalent
- PCB .125" thick (.128" for 3U 3-slot)

Mechanical Specifications

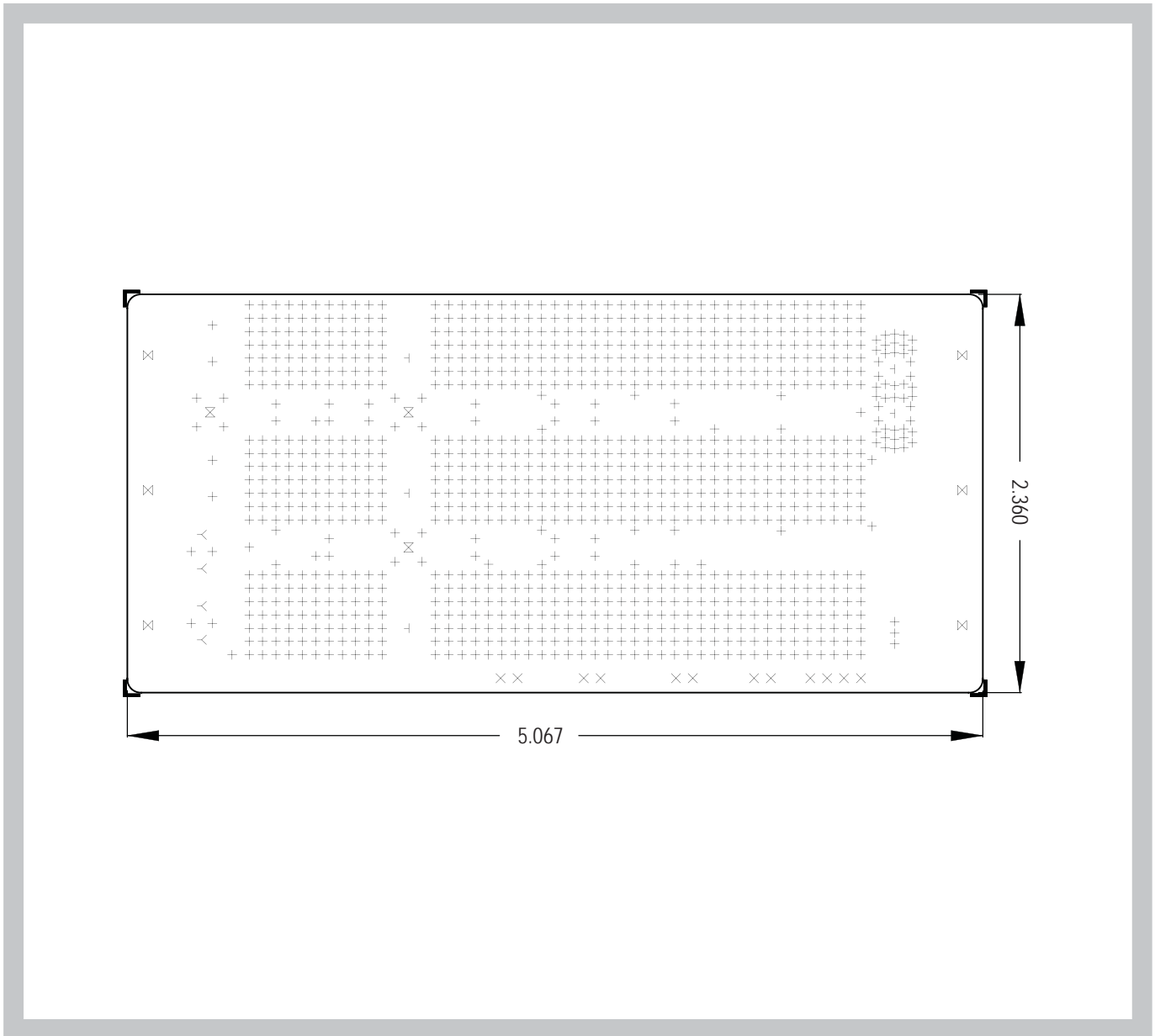
- 3U – 3, 8 slots
- 6U – 6, 8 slots
- 32-bit



Close-up of Power Studs

32-Bit CompactPCI Backplane

Line Drawing



ORDER INFORMATION

Height	Slots	Width in	Width mm	Description	Part Number
3U	3	2.361	59.969	Low Profile, rt. justified	105CP3R303
3U	8	7.203	182.956	EasyCable, rt. justified	102CP3R308
6U	6	4.777	121.336	Low Profile, lt. justified	105CP3L606
6U	8	6.377	161.976	Low Profile, lt. justified	105CP3L608

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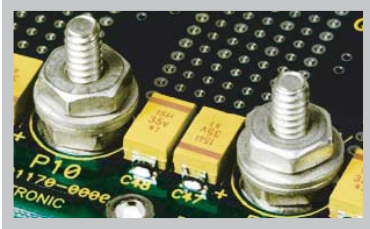
(Example: 105CP3R303-10X0)

105	Product	Form	Slots	-----Configuration
	Product CP3R = 32 Bit, System Slot Right CP3L = 32 Bit, System Slot Left			
	Form 3 = 3U height 6 = 6U height			
	02-21 = Slots			
	Configuration			
	Power Interface _____ 0 = Power taps on GND, +5V, +3.3V, faston blades for +/- 12V 1 = Studs 2 = Custom (9XXX sequential numbers) X = Not applicable			
	Connectors for P1 & P2 _____ 0 = P1 short, P2 long 1 = P1 short, P2 short 2 = P1 short, No P2 X = Not applicable			
	Connectors for P3, P4 & P5 _____ 0 = Not applicable 1 = Not applicable 2 = Not applicable 3 = P3 long type AB, P4 short (slot 1 long), P5 long type AB for CTEL 4 = P3 long type AB, P4 long all slots, P5 long type AB for CTEL 5 = P3 & P5 long type AB, P4 long type A X = Not applicable			
	Shrouds _____ 0 = P2 only 1 = Not applicable 2 = Not applicable 3 = Not applicable 4 = Not applicable 5 = P2 if long tail, P4 type A all slots, P3 & P5 type AB for CTEL 6 = P2 if long tail, P4 slot 1 type A, P3 & P5 type AB for CTEL 7 = P2 if long tail, P4 type A, P3 & P5 type AB X = Not applicable			
	RoHS _____ R = RoHS compliant			

Common Configuration Examples

-10X0	-11XX	-20X0
-10X0R	-11XXR	-20X0R

32-Bit CompactPCI Backplane



Power Studs



Power Nuts

Design Elements

Power Distribution

The Elma Bustronic 32-bit cPCI backplane series come in various power option styles. The Low Profile versions use 6/32 PEM studs distributed between the slots throughout the backplane. The EasyCable style uses 6/32 power nuts. Adequate numbers of power studs or nuts and faston blades are available to accommodate more power than the 28 amps required per slot.

Signal Layout

The Elma Bustronic design conforms to the PICMG basic specification 2.0 R3.0 and basic Hot Swap specifications 2.0 R2.0. Some 6U versions comply with the PICMG 2.5 R 1.0 Computer Telephony and/or PICMG 2.16 Packet Switching specifications. A minimum stub length is utilized in routing and interconnecting to the signal traces. Our design techniques avoid crosstalk and noise caused by inadequate ground and power.

Jumpering

Jumpers can be installed to close a circuit. The backplane has labeled areas for jumper installation. The following applies to all of Elma Bustronic's CompactPCI and H.110 backplanes in 2-8 slot sizes. Configurations with 2-5 slots have an additional jumper consideration, the M66EN# jumper.

2-5 Slot Backplane Only

M66EN# Jumper

If the jumper is installed M66EN# P1-D21 is ground and the backplane operates in 33MHz mode. If the jumper is not installed M66EN# is bussed and the backplane operates in 66MHz mode.

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- System Platforms – need a chassis for your backplane?
- cPCI Embedded Computing Products – SBCs, Switches, Storage, and More



Did you know we also offer with this cPCI backplane?

- cPCI Extenders, load boards, RTMs, test modules
- Customization, integration

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