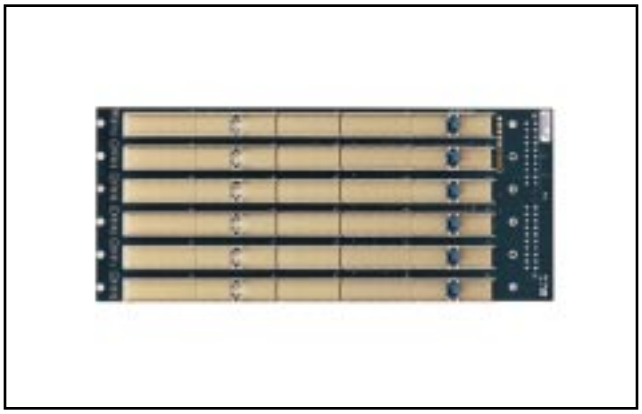
VMICPCI-P301
CompactPCI 6U Backplanes with ATX Power Connector

- Up to 16 slots, 6U single wide (4 HP) CompactPCI® (CPCI) slots
- +5 V, 33 MHz PCI bus interface
- 32-/64-bit buses
- User-settable geographic address for each physical slot
- ATX-compliant power connectors
- Host slot on the right
- PICMG 2.0 R2.1 CPCI
- PICMG 2.1 R1.0 CPCI hot-swap specification compliant

INTRODUCTION — VMIC provides backplane assemblies to allow customers to customize their CPCI systems. These backplanes may be used with VMIC's line of modular CPCI power plane assemblies (VMICPCI-7458). The ATX power connectors may be on the bottom or side depending on the Ordering Options. Figure 1 depicts the outline of an 8-slot backplane with ATX power connector on the bottom (B=0). Figure 2 depicts the outline of an 8-slot backplane with ATX power connector on the right (B=2).

MECHANICAL — The backplanes are attached to the subrack using a series of screws along the top and bottom edges of the backplanes. Approximately every other mounting hole along the top and bottom is connected to the digital ground. These holes provide a return to the subrack from the digital PCI ground planes. They are identified by a ground symbol on the rear of the backplane. In situations where connecting the digital ground to the subrack is not desired, the grounded mounting screws can be left uninstalled. On all the backplanes, the mounting holes in the four corners of the board are not grounded, so these screws may always be installed.

POWER INPUTS — Each of the backplanes has at least one ATX header, located on the rear side, for providing power and measuring voltages on the backplane. The backplanes may either be used with a standard **PC ATX** supply, or they may be used with the modular series of power backplanes. The B = 0 option provides power connector on the bottom (rear side). The B = 2 option provides power connector on the right (rear side). Power taps are also provided.



REAR CARD I/O — Additional connectors have been loaded for each slot of the backplanes to provide rear I/O capability. J3, J4, and J5 have contacts that extend through the backplane for user I/O. J3, J4, and J5 are not routed, except for the pins in rows **Z** and **F** which are grounded.

16-SLOT BACKPLANE — The VMICPCI-P301-109 is a 16-slot backplane configuration consisting of two 6-slot backplanes, one 4-slot backplane, and two bridges. The beginning and middle backplanes are the two 6-slot backplanes. The ending segment is the 4-slot backplane. The system host is the far right slot of the 6-slot backplane when viewed from the front. The two bridges connect the backplanes on the rear side of the backplane (see Figure 3).

The bridge module is always mated to the rear side of the backplanes in a parallel fashion. The bridge module covers the rear side of the J1 and J2 connectors of the CPCI backplanes.

Ordering Options

August 28, 2000 800-650385-000 B	A	B	C	–	D	E	F
VMICPCI-P301 –				–			

A = Size
0 = Reserved
1 = 64-bit

B = Power Connector Position (See Note Below)
0 = Bottom
1 = Reserved
2 = Right Side (Only with C = 8)

C = Number of Slots
5 = 5 Slots
6 = 6 Slots
8 = 8 Slots
9 = Reserved

Note

B = 0 option is 6.5 U (see mechanical specifications)

For Ordering Information, Call:
1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859
E-mail: info@vmic.com Web Address: www.vmic.com

The bridge plugs into the long tail connectors on the rear side of the backplanes. It will only allow the user to install it in the correct fashion.

The bridge allows front slots to be operational. There are no dead slots when the bridge is used. The bridge supports a 64-bit. Rear I/O on J3-J5 connectors on theVMICPCI-P301 are not obstructed by the bridge, however, the mechanical specification of the 1101.xx series of specifications for rear mating cards may be violated.

Backplanes are butted tightly (1 mm of space) together when using multiple backplanes. There is no lost slot width, 16 electrical slots would use 16 physical slot widths.

Each backplane must be supplied with power. Power is not distributed across the bridge module. Ground is distributed across the bridging module. In a multibackplane configuration, power should *star* out from the power supply to each backplane. Any ATX connector which can accept a cable may be used. An example of a 16-slot system is shown in Figure 3. See the VMICPCI-7458 and -PS351 specifications for power handling capabilities.

SPECIFICATIONS

Electrical:

PCI Local Bus Specification Rev. 2.1

PICMG 2.0 R2.1 CompactPCI Specification

PICMG 2.1 R1.0 CompactPCI Hot Swap Specification

Mechanical:

IEEE 1101.1-1991

IEEE 1101.10-1996

Option B = 0: 6.5U tall

Option B = 2: 6U tall

TRADEMARKS

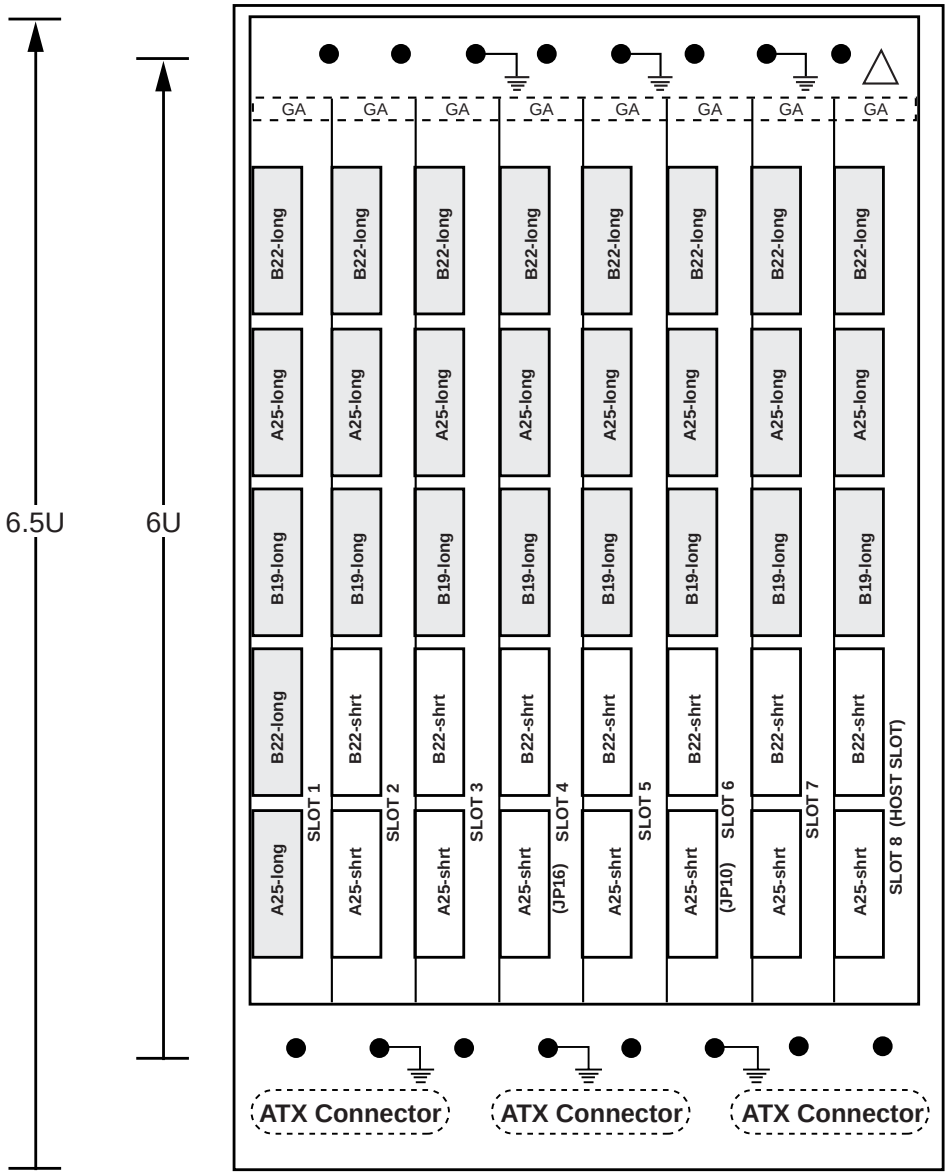


Figure 1. VMICPCI-P301-108 Backplane

Legend for Figures 1 and 2:

1. Solid outlined, white-filled components are on the front side of the backplane.
2. Dashed outlined, white-filled components are on the back side of the backplane.
3. Solid outlined, grey-filled components are on both sides of the backplane. The grey components designate long tail 2 mm connectors with shrouds.

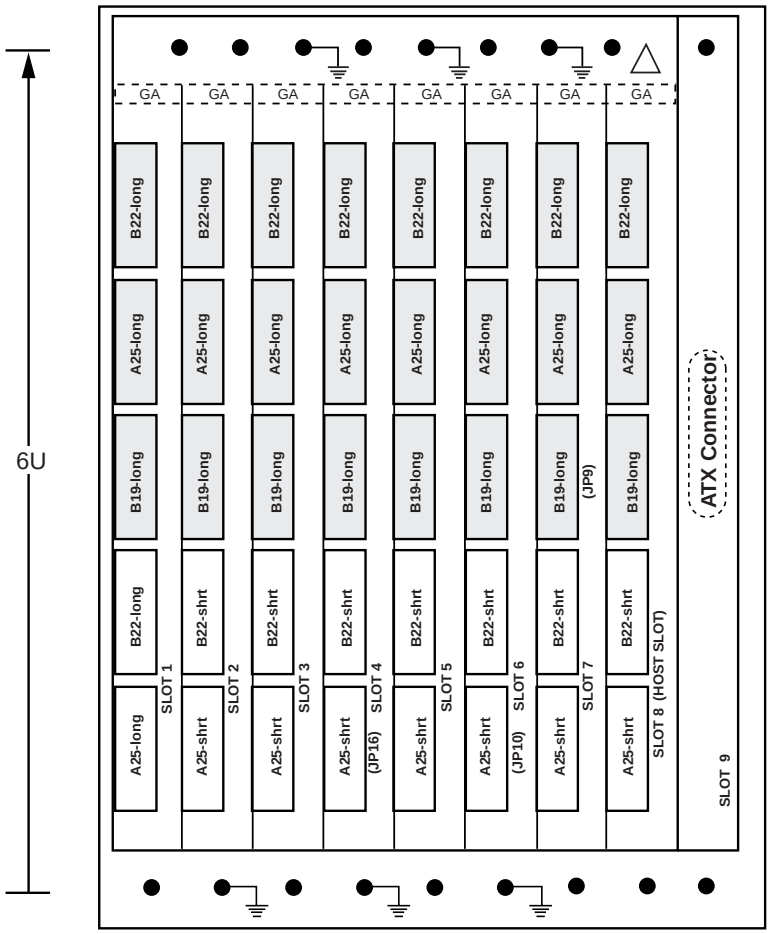


Figure 2. VMICPCI-P301-128 Backplane

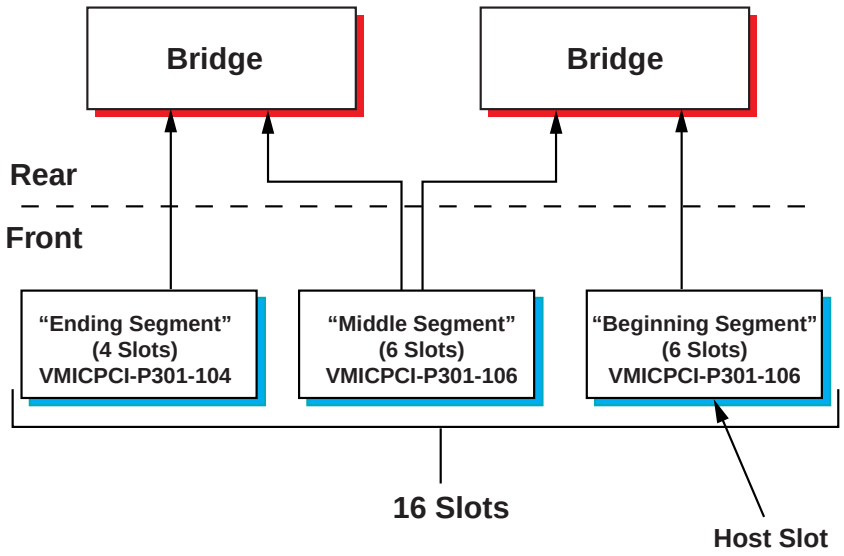


Figure 3. Backplane Configurations with Bridging