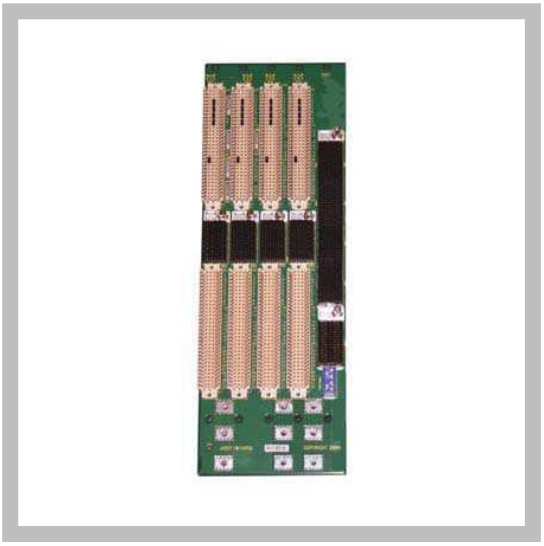
VXS BACKPLANES-SINGLE STAR

ELMA
Your Solution Partner



Features

- Conforms to VITA 41.0 VXS backplane specifications
- High-speed Multi-Gig RT-2 connector for up to 6.4 Gbps signals over P0
- One hub slot, 4 payload slots (5-slot)
- One switch slot, 7 payload slots, and 2 legacy VME64x slots (10-slot)
- Plenty of power bugs for 3.3V, 5V, 12V and GND
- Compatible with VME64x standard line cards
- Single Star, Dual Star, Mesh, and Hybrid versions available
- Various configurations of payload slots, switch card slots, etc.

Board Specifications

- 12-layer board, 14-layer board
- 2 oz. copper power and ground
- PCB UL listed 94V-0
- PCB FR-4 or equivalent
- PCB .159" thick (5-slot), .182" thick (8-slot) PCB .145" thick (10-slot)

Mechanical Specifications

- 5, 8 and 10 slots, other sizes available
- 7U height (5-slot), 6U height (8, 10-slot)
- 160-pin, class II VME connectors
- Multi-Gig RT-2 P0 connectors

Description

The 5-slot, 8-slot and 10-slot VXS backplanes from Elma Bustronic come in a Single Star configuration with one hub slot. The backplane offers plenty of power bugs for +3.3V, +5V, +/- 12V, V I/O and Ground. All Elma Bustronic VXS backplanes are designed to be compliant to the latest VITA 41 specifications.

The 5-slot has 4 payload slots andw one switch slot. Each payload slot (slots 1 to 4) has two fabric channels (a and b) which connect in a point to point topology to the
switch slot. The 8-slot has 7 payload slots and one switch slot. The 10-slot has 7 payload slots, 2 legacy VME64x slots, and one switch slot. The 7-row MultiGig connector in the P0 position of each payload slot also has pins assigned to rear I/O. I/O communication can be implemented via a rear transition module (FRU) or via front panel connectors.

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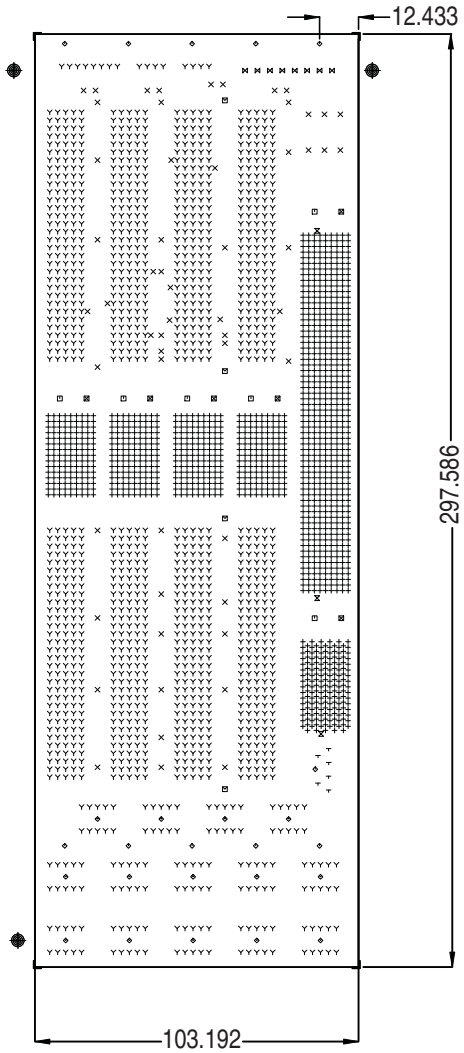
Line Drawing



Order Information

Slots	Description	Part Number
5	1 switch card slot, 4 payload slots	101VXSS705-0621
8	1 switch card slot, 7 payload slot	101VXSS608-0621R
10	1 switch card slot, 7 payload slots and 2 legacy VME64x slots	101VXSS610-0621

PRODUCT CONFIGURATIONS

VXS Backplanes - Single Star

(Example: 101VXSS705-0621R)

101	Product	Form	Slots	-_ _ _ _ _Configuration

Product
VXS = VITA 41 Compatible 7U

Topology
S = Single Star

02-21 = Slots

Configuration

Power Interface
0 = 10 pin power tap with 6/32 screw
1 = M4 threaded stud
2 = 10 pin power taps with busbar kit
9 = Custom [9 _ _ _ sequential numbers]
X = Not applicable

J1 Connectors and Shrouds
0 = Not applicable
1 = Not applicable
2 = 160 pin 17mm with shrouds, all slots
3 = 160 pin 13mm with shrouds, all slots
4 = 160 pin 13mm without shrouds, all slots
5 = 160 pin 17mm without shrouds, all slots
6 = 160 pin 5mm without shrouds, all slots
7 = Not applicable
8 = 160 pin 17mm slot 1, 5mm all other slots
X = Not applicable

J2 Connectors and Shrouds
0 = Not applicable
1 = Not applicable
2 = 160 pin 17mm with shrouds, all slots
3 = 160 pin 13mm with shrouds, all slots
4 = 160 pin 13mm without shrouds, all slots
5 = 160 pin 17mm without shrouds, all slots
6 = 160 pin 5mm without shrouds, all slots
X = Not applicable

J0 Connectors and Shrouds
0 = No J0 connector
1 = J0 [9 x 15 connector]
X = Not applicable
5 = J2, first and last slots

RoHS Compliance
R = RoHS compliant

Common Configuration Examples

-0621 **-0621R**

Switch Board Power 1 Connector

Blade	Signal
1	VPC
2	+5V
3	+5V
4	+5V
5	GND
6	GND

Rated at 10A per contact @ 95 C.

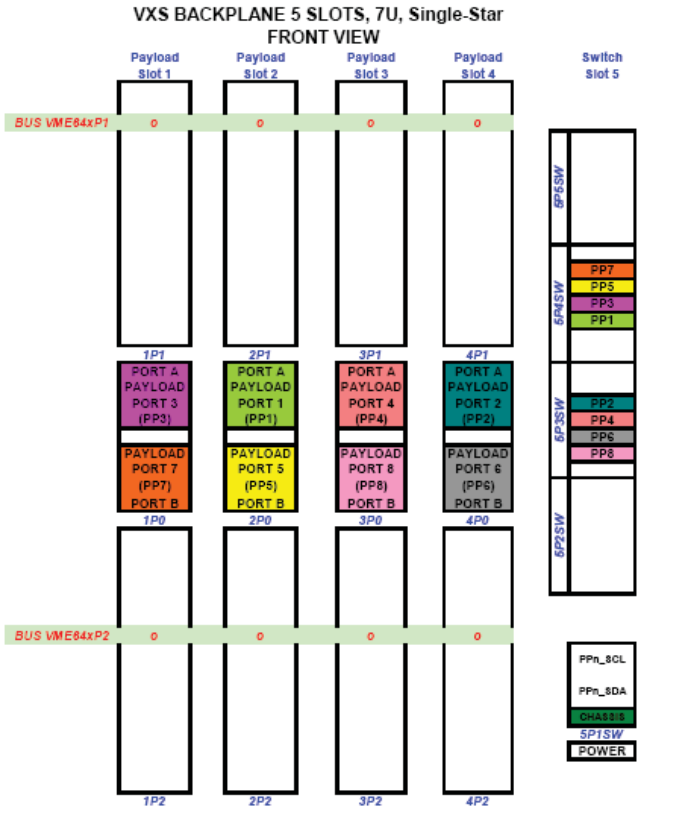
5 Slot Star Connectivity

Slots	1	2	3	4	5
Port A	3	1	4	2	Switch Ports
Port B	7	5	8	6	Port 1
					Port 2
					Port 3
					Port 4
					Port 5
					Port 6
					Port 7
					Port 8

8 Slot Star Connectivity

Slots	1	2	3	4	5	6	7	8
Port A	13	10	9	3	1	4	2	Switch Ports
Port B	14	12	11	7	5	8	6	Port 1
								Port 2
								Port 3
								Port 4
								Port 5
								Port 6
								Port 7
								Port 8
								Port 9
								Port 10
								Port 11
								Port 12
								Port 13
								Port 14

5-Slot



Legend:

1. The PP links are routed from the Switch Slot to the Payload Slots at Port A and Port B.
e.g.: Port A from Slot 1 is connected through PP3 with the Switch Slot and Port B from Slot 1 is connected through PP7 with the Switch Slot.

2. The System Management Links, PPn_SCL & PPn_SDA are routed radially between the Switch Slot and each of the Payload Slots according to the upper diagram, following the Payload Port allocation (n=1 to 8 Payload Ports).

The power insertion area is below the signal slots above the bottom-mounting rail.

Power bugs

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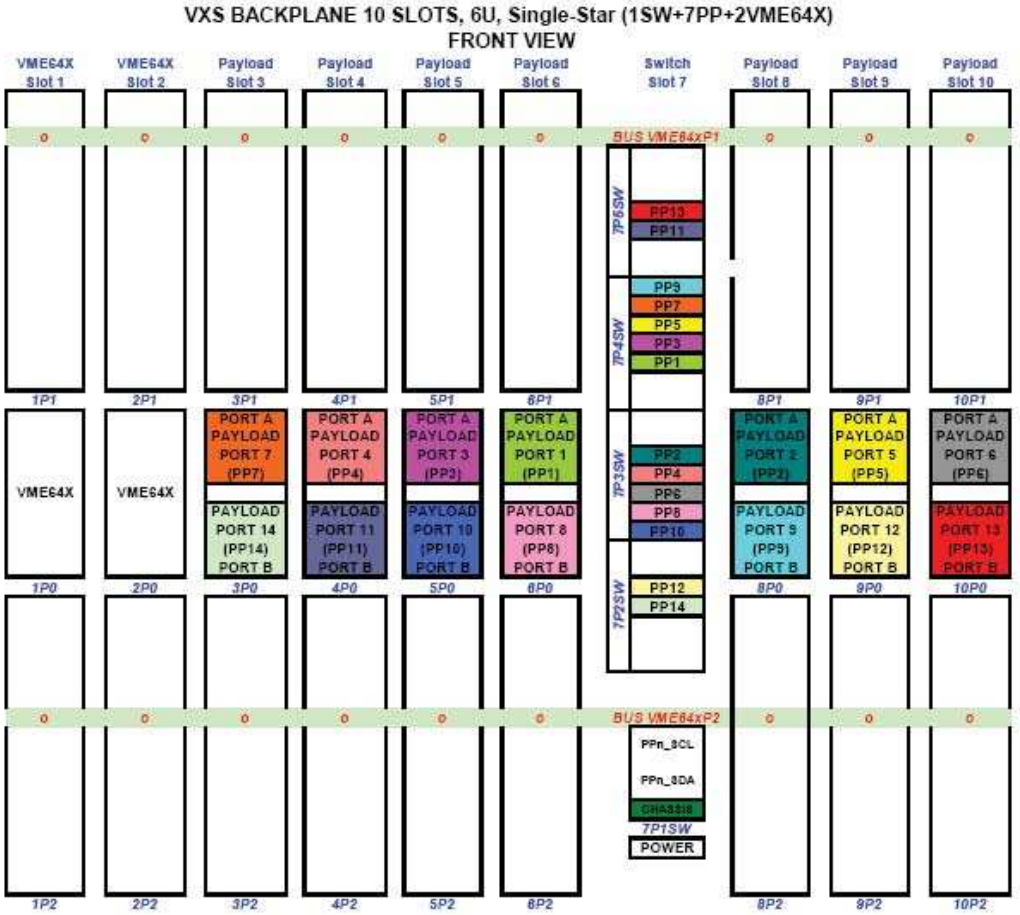
10-Slot



Legend:

1. The PP links are routed from the Switch Slot to the Payload Slots at Port A and Port B.

2. The System Management Links, PPn_SCL & PPn_SDA are routed radially between the Switch Slot and each of the Payload Slots according to the upper diagram (n=1 to 14 Payload Ports).
   e.g.: Port A from Slot 3 is connected through PP7 with the Switch Slot and Port B from Slot 3 is connected through PP14 with the Switch Slot.

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5-Slot

System Monitoring : P1 (8-way Header) having the pin assignment according to the figure below.

P1	
1	GND
2	+5V
3	ACFAIL
4	SYSFAIL
5	SYSRESET
6	+3.3V
7	+12V
8	-12V

Specifications

- VITA 1.7-2003 Increased Current Level for 96 Pin & 160 Pin DIN/IEC Connector
- VITA 41.0-200x VXS VMEbus Switched Serial Standard
- VITA 41.10-2003 Live Insertion System Requirements for VITA 41 Boards Trial Use Standard
- VITA 41.11-2005 Rear Transition Module Standard for VXS VMEbus Switched Serial Payload
- ANSI/VITA 38-2003 System Management Draft Standard
- ANSI/VITA 1.1-1997 VME64x Standard as modified by VITA 41.0 (P0/J0 connector and Switch Slots)
- ANSI/VITA 1.5-2003 2eSST (Source Synchronous Transfer)