

## User Guide VPX 3U Backplanes

- Applicable specifications:
  - VITA 46.0 VPX Base Standard
  - VITA 46.10 Rear Transition Module on VPX
  - VITA 46.11 System Management on VPX
- All connectors are shock & vibration suited
- Backplane topology: specific to item number

### Vs-Power input (Vs1, Vs2, Vs3, GND)

Power input of Vs voltages with M4-Powerstuds, rated at 70A each. A minimum of 22A per Slot per voltage (Vs1, Vs2, Vs3) and 36A per Slot for GND is realized.



### System Management Connections SM[3:0] (X100, X150)

Connector Molex 5pin PicoBlade (SM0 und SM1)

Pinout X100, X150:

Pin 1: - I2C\_SCL

Pin 2: - GND

Pin 3: - I2C\_SDA

Pin 4: - I2C\_PWR

Pin 5: - not connected



### JTAG (X200)

The JTAG connector is a 10-pin (2x5pin) socketstrip with 2.54mm pitch

Signal	Pin	Pin	Signal
TCK	1	2	GND
TDO	3	4	JTAG_PWR
TMS	5	6	-
-	7	8	TRST*
TDI	9	10	GND



JTAG\_PWR is connected to 3,3V\_AUX. With a 0 Ohm resistor JTAG\_PWR can be connected to VS3. The JTAG-Signals are not bussed but only routed to slot 1.

### AUX-Power input (X300)

6-pin Microfit with 5A / Pin. Minimum power :1A per Slot per AUX-voltage

Signal	Pin	Pin	Signal
+12V_AUX	4	1	+12V_AUX
-12V_AUX	5	2	-12V_AUX
+3,3V_AUX	6	3	+3,3V_AUX



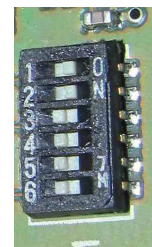
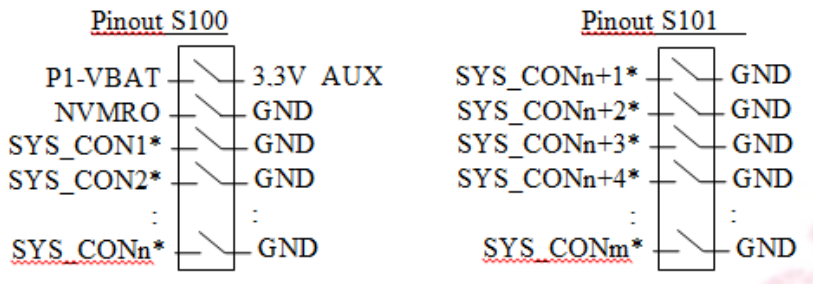
**Utility and Sense (X400)**

8-pin Microfit connector

Signal	Pin	Pin	Signal
P1-VBAT	5	1	SYSRESET*
GND	6	2	NVMRO
Vs1_sense	7	3	Vs3_sense
Vs2_sense	8	4	GND_sense



**SMD-Switch for P1\_VBAT, NVMRO, SYS\_CON\* (S100, S101 ...)**



**Optional Chassis-GND connection**

The typical mounting holes are unplated for isolation between chassis and digital GND. To realize a connection between chassis and digital GND an extra plated mounting hole is located at each backplane corner. On larger backplanes additional plated mounting holes are in between each 3-4 Slots



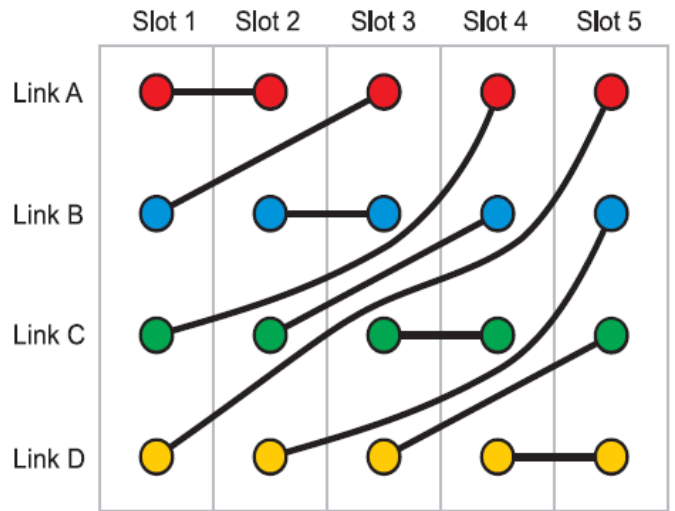
The text note „Apply screws to ‚triangle position‘ to connect logical-GND to Chassis-GND“ is inserted into the silkscreen.

**△ = Apply screws to 'triangle position' to connect logical-GND and chassis-GND**

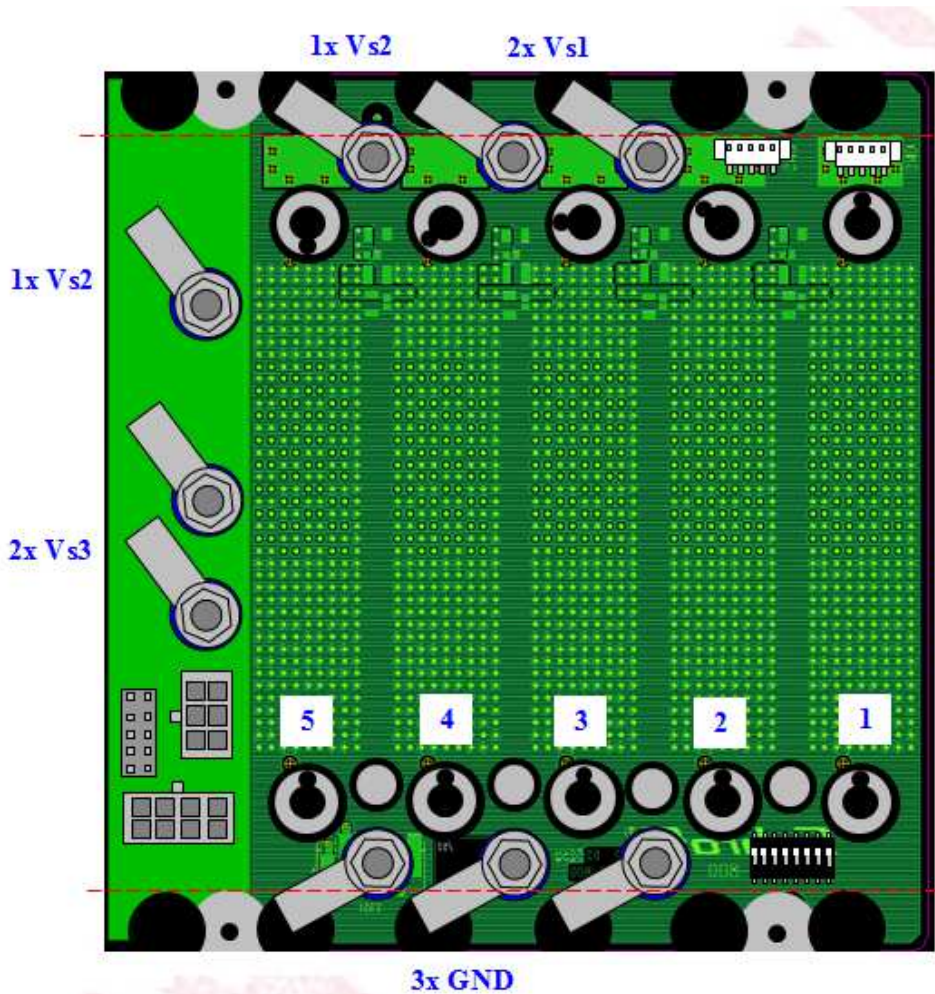
**Backplane Topology 23001-812, 23001-813:**

Slot Pitch is 0.8". Connector J0 is the Utility Connector according to VITA 46.0.

At connector J1, the Backplane provides a full mesh fabric (See table pinout connector J1). There are 4 links labeled Link A .... Link D. Each link supports 4 lanes (Fat Pipe) utilizing 2 differential pairs (RX/TX). The Backplane 23001-812 provides no J2 connector, at the Backplane 23001-813, the J2 connector provides Rear I/O functionality.



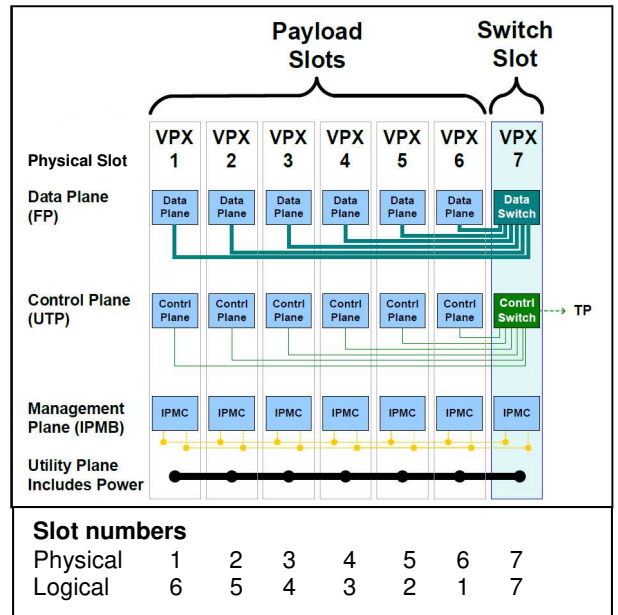
**Rear view: 23001-812, 23001-813 (5 Slot, 0.8")**  
 (23001-813 is with Rear I/O connectors)





**Backplane Topology 23001-814, 23001-815**

- 3U, 7 slot, Single Star Backplane
- Slot pitch 1"
- According to backplane profile BKP3-CEN07-15.2.3-3 of OpenVPX specification Rev. 1.14
- Switch slot profile SLT3-SWH-6F6U-14.4.1 of OpenVPX specification Rev. 1.14
- Payload slot profile SLT3-PAY-2F2U-14.2.3 of OpenVPX specification Rev. 1.14



**Rear view: 23001-814, 23001-815 (7 Slot, 1")**  
 (23001-815 is with Rear I/O connectors)

