

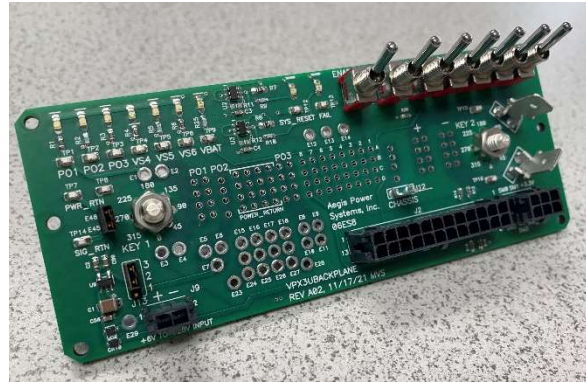
# VPX3UBACKPLANE

## Overview

- 3U VPX PIB (Power Interface Board)
- AC or DC input power
- LED indicators for output power and status signals
- Toggle switches for control inputs
- Dual IPMI bus connectivity

## Market(s)

Defense, Test Laboratories, Repair Facilities



## Typical Application(s)

Manual or Automated Test and Troubleshooting of 3U VPX power cards

## Product Highlights

The VPX3UBACKPLANE is 3U VPX PIB designed for use with all VITA 62 3U Modular Power Supplies including those supplies aligned with SOSA™ Technical Standards. It can be designed into a benchtop troubleshooting or test fixture allowing a convenient way to power and exercise all the power supply functions. LED indicators, input control switches and measurement test points make it easy to quickly verify proper operation of the PSC (power supply card). It can be used manually or designed into an automated test fixture and provides easy access to interface with the dual IPMI bus.

## Features

- Compatible with 3U VPX VITA 62 and SOSA aligned power cards (AC or DC input) (up to 1000w)
- Selectable geographical addressing (GA0-GA2) up to eight addresses
- Test points for measuring input, output, and control signals
- LED indicators for all outputs, VBAT and status signals (FAIL, SYS\_RESET)
- User selectable power for LED indicators (external supply or from power card output)
- Can be operated manually or designed into an automated test fixture
- Toggle switches for INHIBIT, ENABLE, NED and NVMRO control signals
- Configurable alignment pins for all input/output configurations
- 16AWG solder connections for external output loads

## About Us

Aegis Power Systems, Inc. specializes in the design, development, and manufacture of AC-DC and DC-DC power supplies for high-performance, rugged, critical, and specialty applications. Markets served include defense, industrial, communications, aircraft, shipboard, rack mount, embedded computing, and electric vehicle applications.

[Contact us](#) to find out if this item can be configured or redesigned to meet your specific technology need.

## Connector Specifications

### J1 – PSC Interface Connector (TE Connectivity MCO-6450869-4 or equivalent) (Mates with TE Connectivity Connector 6450849-7 or equivalent)

Contact Designation		Conductor Circuit
P1	40A	-DC_IN/ACN
P2	40A	+DC_IN/ACL
LP1	20A	CHASSIS
A1	<1A	(NC)
B1	<1A	NVMRO
C1	<1A	GA2*
D1	<1A	(NC)
A2	<1A	VBAT
B2	<1A	FAIL*
C2	<1A	INHIBIT*
D2	<1A	ENABLE*
A3	<1A	(NC)
B3	<1.5A	VS6
C3	<1A	NED
D3	<1A	NED RTN
A4	<1.5A	VS5
B4	<1.5A	VS5
C4	<1.5A	VS5
D4	<1.5A	VS5
A5	<1A	GA0*
B5	<1A	GA1*
C5	<1A	SM0 (I2C/SCL)
D5	<1A	SM1 (I2C/SDA)
A6	<1A	SM2 (I2C/SCL)
B6	<1A	SM3 (I2C/SDA)
C6	<1.5A	VS4
D6	<1A	SYSRESET*
A7	<1A	(NC)
B7	<1A	(NC)
C7	<1A	(NC)
D7	<1A	SIGNAL_RETURN
A8	<1A	P01 SENSE
B8	<1A	P02 SENSE
C8	<1A	P03 SENSE
D8	<1A	SENSE_RETURN
P3	40A	P03 (VS3)
P4	40A	POWER_RETURN
P5	40A	POWER_RETURN
LP2	20A	P02 (VS2)
P6	40A	P01 (VS1)

**J2 – Automated Test Fixture Connector (Molex Micro-Fit 24 pin vertical header 0430452413)  
(Mates with Molex Micro-Fit 24 pin dual-row receptacle 0430252400)**

Contact Designation		Conductor Circuit
PIN 1	40A	SYS_RESET
PIN 2	40A	GA0
PIN 3	20A	GA1
PIN 4	<1A	GA2
PIN 5	<1A	VS4
PIN 6	<1A	VS5
PIN 7	<1A	VS6
PIN 8	<1A	FAIL*
PIN 9	<1A	INHIBIT*
PIN 10	<1A	ENABLE*
PIN 11	<1A	SM1
PIN 12	<1A	SM0
PIN 13	<1.5A	P01 SENSE
PIN 14	<1A	P02 SENSE
PIN 15	<1A	P03 SENSE
PIN 16	<1.5A	SENSE_RETURN
PIN 17	<1.5A	P01 (VS1)
PIN 18	<1.5A	P02 (VS2)
PIN 19	<1.5A	P03 (VS3)
PIN 20	<1A	SIG_RETURN
PIN 21	<1A	EXTERNAL POWER (POSITIVE)
PIN 22	<1A	POWER_RETURN
PIN 23	<1A	SM3
PIN 24	<1A	SM2

**J3 -Dual IPMI Bus Connector (Molex Micro-Fit 6 pin vertical header 0430450613)  
(Mates with Molex Micro-Fit 6 pin dual-row receptacle 0430250600)**

Contact Designation		Conductor Circuit
PIN 1	<1A	SM0
PIN 2	<1A	SM1
PIN 3	<1A	VCC (+3.3V)
PIN 4	<1A	SM2
PIN 5	<1A	SM3
PIN 6	<1A	SIG_RETURN

(\*SM0-SM3 have 3.3K pull-up resistors to status signal power R13, R14, R18, R19)

**J9 -Status signal external power (Molex Micro-Fit 2 pin vertical header 0436500229)  
(Mates with Molex Micro-Fit 2 pin receptacle 0436450200)**

Contact Designation		Conductor Circuit
PIN 1	3A	EXTERNAL POWER (POSITIVE) (+6V to +28V)
PIN 2	3A	EXTERNAL POWER (RETURN)

**J10 -Input Power (Positive) (0.25” male Fast-on)**

**J11 -Input Power (Return) (0.25” male Fast-on)**

**J12 -Chassis Return (0.187” male Fast-on)**

### Jumper Specifications

**J13 -Status signal external power selection**

**NO JUMPER = External power (J9) required for LED indicators (+6V to +28V)**

**JUMP PIN 1 to PIN 2 = VS2 (+3.3V\_AUX) powering status signals (SOSA aligned)**

**JUMP PIN 3 to PIN 2 = VS5 (+3.3V\_AUX) powering status signals (VITA aligned)**

**\* Do not use external power source if either jumper is installed**

**E45-E46 -Common return configuration**

**E45 = POWER\_RETURN**

**E46 = SIGNAL\_RETURN**

**\* Install jumper across E45-E46 to connect POWER\_RETURN to SIGNAL\_RETURN**

## Test Points

TP1 = P01 (VS1)  
TP2 = P02 (VS2)  
TP3 = P03 (VS3)  
TP4 = VS4  
TP5 = VS5  
TP6 = VS6  
TP7 = POWER\_RETURN  
TP8 = POWER\_RETURN  
TP9 = VBAT  
TP10 = ENABLE  
TP11 = INHIBIT  
TP12 = SYS\_RESET  
TP13 = FAIL  
TP14 = SIGNAL\_RETURN  
TP15 = INPUT\_POWER (POSITIVE)  
TP16 = INPUT\_POWER (NEGATIVE)

## LED indicators

VS1 – VS6 – Green LED (x6)  
VBAT – Yellow LED  
SYS\_RESET – Blue LED  
FAIL – Red LED

## Mechanical Specifications

- Alignment Keys 1 & 2 position selectable – (0, 45, 90, 135, 180, 225, 270, 315 degrees)
- 5.06" x 2.01" x 0.1" PCB Material-Isola 370HR-High Tg, HASL, ul94v0 rated
- 8-layer design with 2-oz copper on all layers

