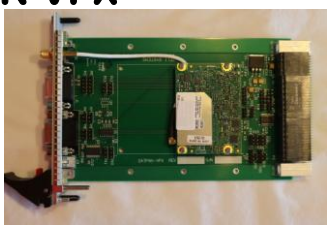
Zeli Systems
SATPAK-VPX



Ground-Based GPS Receiver Application Module (GB-GRAM) Solution for the VPX bus (M-Code or SAASM Capable)

(Note: Photo shows Type II SAASM attached)

Features:

- The SATPAK-VPX is a 3U form factor carrier board that provides a mechanical VPX interface for the Type I or Type II GB-GRAM module.
- Rockwell Collins Inc. manufactures the Modular PLGR Engine – SAASM (MPE-S) that meets the GB-GRAM specifications.
- Air cooled and conduction cooled SATPAK-VPX versions available.
- The SATPAK-VPX can accommodate M-Code or SAASM versions of the GB-GRAM.
- Primary GB-GRAM power is provided by the +5VDC pins on the VPX connector and converted to +3.3VDC required by the GB-GRAM.
- Auxiliary power to the GB-GRAM receiver is provided by +3.3VDC power pins on the VPX connector or an external auxiliary power source via the front panel connector J2.
- The SATPAK-VPX provides access to all the GB-GRAM capabilities including: RF antenna interface, time-mark interface, precise time interface, HAVE QUICK interface, GRAM compliance, DS-102/DS-101 key loading, Zeroize, PVT output, navigation capability, and ICD-GPS-153 interface.
- Front-panel connector (J2) is dedicated for serial communication using RS-232 and RS-422 serial communication protocols. The J2 connector also provides a ZEROIZE discrete input, Pulse Per Second (PPS) output, and HAVE QUICK output.
- Serial RS-232 or RS-422 data from the 3 serial ports of the GB-GRAM can be configured to interface via the VPX connectors P1 and P2. Serial data is provided on dedicated signal assignments used by industry VPX single board computers such as the Abaco Systems SBC324, SBC325, SBC341 or SBC 346.
- Serial data from the GB-GRAM is available on a front panel Universal Serial Bus (USB) port or via USB dedicated signals on VPX connectors P1 and P2. A USB driver is available at no additional cost.
- DS-102/DS-101 key loading performed via front-panel female 9-contact D-Subminiature connector labeled KEY.
- A push button front panel switch allow activation of a discrete hardware ZEROIZE function to the GB-GRAM.
- USB or RS-422 protocol communication with the GB-GRAM via front panel or VPX connectors.
- RF antenna input via front panel SMA connector.

SATPAK-VPX:

The SATPAK-VPX is a 3U form factor carrier board that provides a mechanical VPX interface for the Type I or Type II GB-GRAM module**.**

Communicating with the GB-GRAM:
The 3 serial ports of the GB-GRAM are converted to the RS-232, RS-422, or USB serial protocols on the SATPAK-VPX. Serial RS-232 and RS-422 data can be configured to interface via the VPX connectors P1 and P2 or the front panel connector J2. USB serial data is available on the front panel using a Mini-B USB socket or via dedicated USB signals on VPX connectors P1 and P2.

Serial Fabric VPX interface:

The SATPAK-VPX does not provide a PCIe or other serial fabric interface via the VPX bus. Please contact Zeli Systems if you require a serial fabric interface for the VPX bus.

Pulse Per Second (PPS) output from GB-GRAM:

The PPS output from the GB-GRAM is available on the J2 front panel connector.

HAVE QUICK output from GB-GRAM:

The HAVE QUICK output from the GB-GRAM is available on the J2 front panel connector.

Key-Fill Protocol:

DS-101 (RS-232) and DS-102 (KOI-18/KYK-13) key loading signals are provided on the 9-contact front-panel D-Subminiature connector labeled “KEY”.

SATPAK-VPX Power:
Primary GB-GRAM power is provided by the +5VDC pins on the VPX connector and converted to +3.3VDC required by the GB-GRAM. Auxiliary power to the GB-GRAM receiver is provided by +3.3VDC power pins on the VPX connector or an external auxiliary power source via the front panel connector J2.

Alignment Keys:

Un-keyed alignment keys TE part number 1469492-9 employed.

Ordering Information:

Part Number 9911xx1:	Air cooled version
Part Number 9921xx1:	Conduction cooled version

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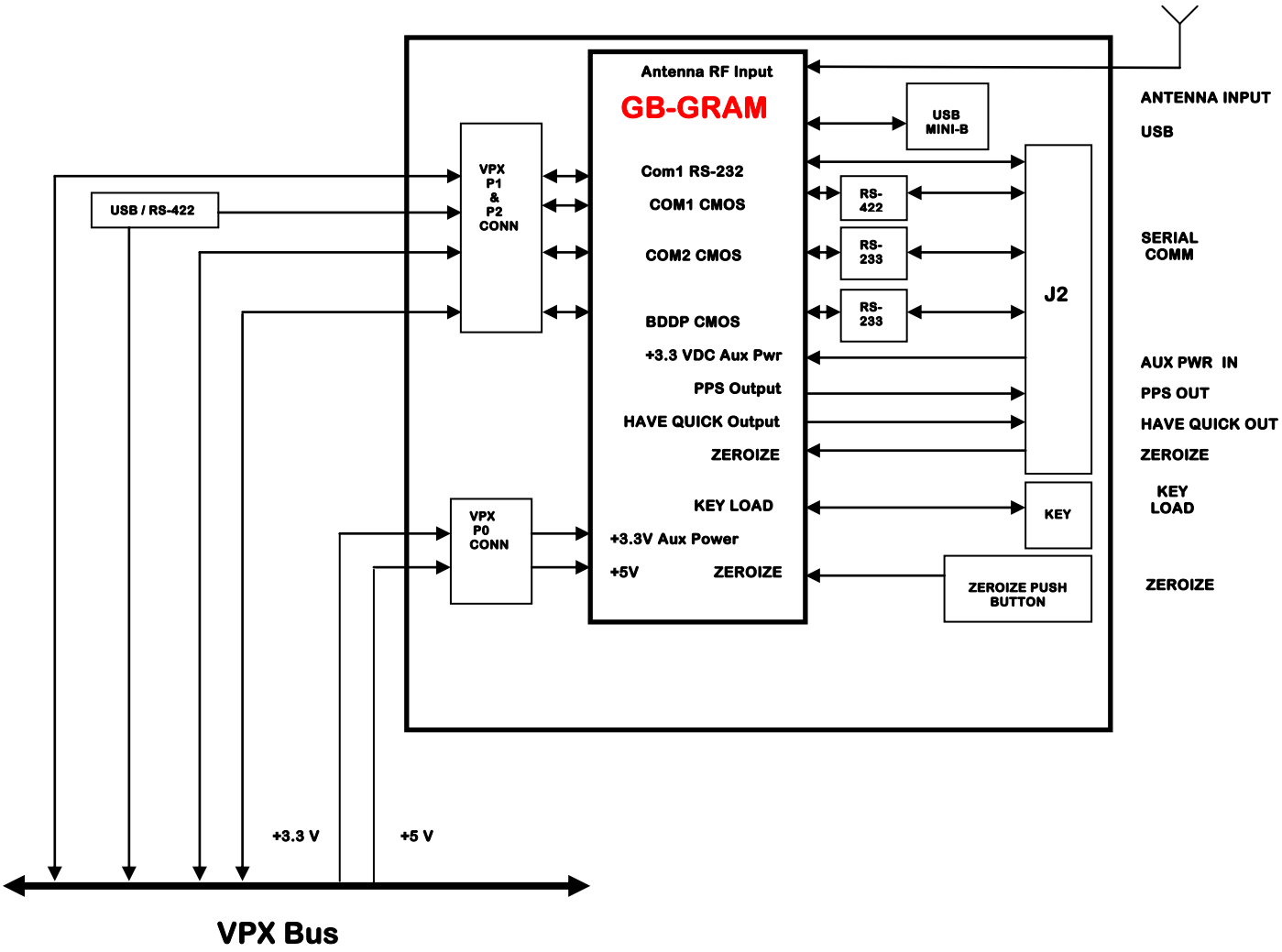
SATPAK-VPX SPECIFICATIONS



Mechanical, Environmental, Power:

Physical Dimensions:	6.299 in x 3.937 in x 4.900 in. (3U form factor with GB-GRAM attached)
Component Height Above PCB:	0.410 in.
Operating Temp:	-40°C to 85° C
Humidity:	0 to 99% (non-condensing)
Power:	+5V +/- 5%, 0.5 A (with GB-GRAM attached)
Fabrication:	0.62 in, FR4, CLASS 3

Front-Panel Connectors and Switches:

RF IN:	Antenna Input
Conn:	SMA Bulkhead Jack
Type:	Coaxial
Key Load:	KEY (J1)
Conn:	9 Contact D-Subminiature
Type:	Standard Density Female
Serial Comm, PPS, ZEROIZE HAVE QUICK:	J2
Conn:	15 Contact D-Subminiature
Type:	High Density Female

Front-Panel Connectors and Switches (continued):

USB	:	J3
Conn:		USB MINI-B
Type:		Shielded Jack
Switch:		ZERO
Type:		Recessed pushbutton
Function:		Zeroize