

Zeli Systems

SATPAK-104PLUS-GBGRAM



Providing SAASM Technology to the PC/104 Bus Using the Rockwell-Collins GB-GRAM

Features:

- The SATPAK-104PLUS-GBGRAM is a PC-104 carrier board for the Rockwell-Collins Ground Based GPS Receiver Application Module (GB-GRAM) miniature GPS receivers.
- The SSI-GB-GRAM incorporates a Selective Availability Anti-Spoofing Module (SAASM).
- Employs a Universal Asynchronous Receiver Transmitter (UART) to communicate with the GB-GRAM.
- Simple jumper selection of I/O communication port base address (COM1, COM2, COM3, or COM4) and interrupt level (IRQ3-IRQ7, IRQ10-IRQ12, IRQ14, or IRQ15).
- Communication with the secondary channel of the GB-GRAM is performed at RS-422 signal levels using the P3 right-angle connector.
- Communication with a third channel of the GB-GRAM is performed at RS-232 signal levels using the P3 right-angle connector.
- Third communication channel can be selected from either the Bi-Directional Data Port (BDDP) or the primary channel of the GB-GRAM.
- COM1 Time Pulse output provided on 10-pin right-angle connector P3.
- HAVEQUICK output from the GB-GRAM provided on 10-pin right-angle connector P3.
- 2-contact latching connector is provided for an external battery source.
- Linear regulator provides 3.3 VDC required by GB-GRAM.
- Two separate 5-contact latching connectors used to provide DS-101 and DS-102 key fill ports to the GB-GRAM.
- Zeroize signal is routed to the GB-GRAM without interruption from the P3 right-angle connector.
- Can be supplied with or without GB-GRAM

SATPAK-104PLUS Function: The SATPAK-104PLUS has been redesigned to accommodate a GPS module that incorporates Selective Availability Anti-Spoofing Module (SAASM) technology for military applications. The redesigned version of the SATPAK-104PLUS is designated the SATPAK-104PLUS-GBGRAM and will accept a Rockwell-Collins GB-GRAM as a daughter-card. The combination of the SATPAK carrier and the GB-GRAM occupy one location in a PC/104 stack.

Power: Only +5VDC is required to operate the SATPAK-104PLUS-GBGRAM assembly. An on-board linear regulator provides 3.3 VDC required by the Rockwell-Collins GB-GRAM. A 2-contact latching connector is provided for an external battery connection to retain configuration and cryptovariables.

Serial Data: The SATPAK-104PLUS-GBGRAM provides a variety of methods to communicate with the GB-GRAM. Communication with the primary channel of the GB-GRAM is performed via the PC/104 bus by using a 16550 universal asynchronous receiver/transmitter (UART) and associated interface logic. The UART converts the serial CMOS data required by the GPS receiver to parallel data required by the PC/104 protocol. Simple low-profile push-on jumpers are used to configure the SATPAK-104PLUS for standard base addresses (COM1, COM2, COM3, COM4) and any of the available PC/104 interrupt request signals (IRQ3-IRQ7, IRQ10-IRQ12, IRQ14, or IRQ15). The J2 pass-through connector must be installed to access interrupt request signals IRQ10-IRQ12, IRQ14, and IRQ15. Custom programmable logic is available if the user must decode base addresses other than those supported by the standard serial communication addresses. Communication with the secondary channel of the GB-GRAM is performed at RS-422 signal levels using the right-angle P3 connector. Communication with a third channel of the GB-GRAM is performed at RS-232 signal levels using the P3 right-angle connector. The third communication channel can be selected from either the Bi-Directional Data Port (BDDP) channel of the GB-GRAM or the primary channel of the GB-GRAM using push-on jumpers P12 and P13. The BDDP channel is selected as the default third communication channel.

Key Fill and Zeroize: Two separate 5-contact latching connectors located on the component-side of the SATPAK-104PLUS-GBGRAM are provided for DS-101 and DS-102 key fill ports. DS-101 and DS-102 signals are directly routed to the GB-GRAM without interruption or connection to any other component. A discrete zeroize signal is routed to the P3 header. The zeroize signal is directly routed to the GB-GRAM without interruption or connection to any other component.

SATPAK-104PLUS SPECIFICATIONS

Mechanical, Environmental, Power:

Mechanical: PC/104 Bus compatible
Dimensions: 3.775" x 3.550"
Operating Temp: -40°C to 85° C
Power: +5V +/- 5%, @ 100 mA
(without GB-GRAM)

Connectors:

P3
Conn: Differential GPS, 2nd and 3rd channel
comm, Havequick, time pulse, zeroize.
Type: 0.1" x 0.1" right-angle double-row
header.

P5
Conn: DS-101
Type: AMP 103635-4

P7
Conn: DS-102
Type: AMP 103635-4

P11
Conn: External Battery
Type: AMP 103635-1

Operator Manual:

Contact Zeli Systems