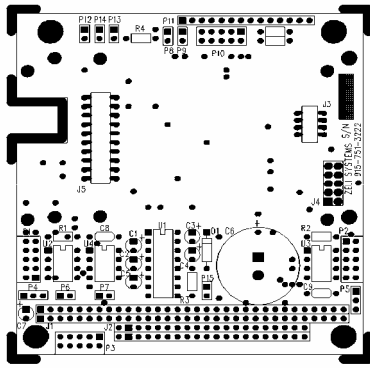


Zeli Systems SATPAK-104



The "No Hassle" GPS solution for the PC-104 bus

Comment [M1]:

Features:

- The SATPAK-104 is a PC-104 carrier board for miniature GPS receivers.
- Can be configured to accommodate Trimble ACEII/ACEIII or Motorola M12/VP/GT/UT Oncore GPS receivers.
- Operates from single+5 volt power supply.
- Provides two communication ports that can be configured as RS-232 or RS-422 serial ports.
- Provides a third communication port that can be configured by the user.
- Employs a 1 Farad capacitor to retain almanac, ephemeris, and real-time clock of the selected GPS receiver.
- Provides J1 pass-through for the PC-104 bus. J2 pass-through can be provided as an option.
- Timing Pulse output (1PPS) provided on an unused pin of each communication port connector. Differential 1PPS output provided on the user configured connector.
- Can be used in an enclosure without the PC-104 bus.
- Mounting hardware provided for selected GPS receiver.
- Development kits available for first time users.

SATPAK-104 Function: The SATPAK-104 provides an inexpensive method to interface a GPS receiver to the PC-104 bus. The SATPAK-104 can be configured to accept a Trimble ACEII/ACEIII or Motorola M12/VP/GT/UT Oncore GPS receiver. The TTL communication signals of the selected receiver are converted to either single-ended RS-232 or differential RS-422 voltage levels on the SATPAK-104. A keep-alive voltage is generated by using a large value capacitor (1 Farad) to maintain the almanac, ephemeris, and real-time clock of the selected receiver. To begin operation, a serial cable need only be connected between the SATPAK-104 and a port on the user's controller.

Power: The SATPAK-104 operates from a single +5V power supply.

Serial Ports: A ten pin right-angle male header is used for each serial port. The serial ports provided on P1 and P2 can be configured for RS-232 or RS-422 standard pin-outs. A third connector provided on P3 can be configured by the user. All

communication with the selected GPS receiver is performed via the serial connectors P1, P2, or P3. The SATPAK-104 does not communicate via the PC-104 bus interconnect.

Mechanical Considerations: The SATPAK-104 conforms to all PC-104 specifications when used with the Trimble ACEII/ACEIII line of GPS receivers. However, when the SATPAK-104 is used with a Motorola M12/VP/GT/UT ONCORE, the PC-104 height specification of 0.435" is violated. It is suggested that the SATPAK-104 be located at the last stack position only when used with a Motorola receiver. Zeli Systems can order and integrate your GPS receiver with the SATPAK-104.

Ordering Information:

Configured for Trimble ACEII/ACEIII:
SATPAK-104-TS RS-232 on P1 and P2
SATPAK-104-TD RS-422 on P1 and P2
SATPAK-104-TSD RS-232 on P1
RS-422 on P2 (RTCM)

Configured for Motorola M12/VP/GT/UT ONCORE:
SATPAK-104-MS RS-232 on P1
SATPAK-104-MD RS-422 on P1

J2 Pass-Through option:
Add J2 suffix to existing order number.
Example: SATPAK-104-TSDJ

SATPAK-104 SPECIFICATIONS

Mechanical, Environmental, Power:

Mechanical: PC-104 Bus compatible
Dimensions: 3.775" x 3.550"
Operating Temp: 0°C to 55° C
Extended Temp: -40°C to 85° C
Relative Humidity: <90% (non-condensing)
Power: +5V +/- 5%, 0.3 A

Connectors:

Serial Port 1: P1
Conn: Jumper configured RS-232/RS-422 serial port
Type: 0.1" x 0.1" right-angle double-row male header
Serial Port 2: P2
Conn: Jumper configured RS-232/RS-422 serial port
Type: 0.1" x 0.1" right-angle double-row male header
Serial Port 3: P3
Conn: User configured port
Type: 0.1" x 0.1" right-angle double-row male header

GPS Receiver Connectors:

Motorola M12/VP/GT/UT ONCORE connector: J4
Conn: SAMTEC SSW-105-01-GD or equiv.
Type: 10-pin, 0.1" x 0.1" double-row female header
Trimble ACEII/ACEIII connector: J3
Conn: SAMTEC SSM-104-02-S-D or equiv.
Type: 8-pin, 2mm x 2mm double-row, surface-mount female header

Antennas: (various mounting options available) Call

Serial Cables: (various options available) Call

10-pin to 10-pin ribbon cable Digi-Key A3AAA-1018M
10-pin to female DB9 ribbon Call

RF Cables and Adapters: (various options available) Call

Development Kits: Development kits are available for each of the three receivers that can be used with the SATPAK-104. Each development kit contains a SATPAK-104 carrier board configured for the selected GPS receiver, mounting hardware, SATPAK-104 manual, and necessary serial cables. The user can select from two types of serial cables to get up and running quickly. A 10-pin to 10-pin ribbon cable can be used to communicate with a serial port on the PC/104 stack. A second serial cable is configured as a 10-pin to DB9 ribbon cable that can be used to communicate with a serial port on a personal computer. Part numbers and prices for the development kits are shown below:

Development Kit Ordering Information:

Development kit for Trimble ACEII/ACEIII:

SATPAK-104-TDEV
contains: SATPAK-104-TS
Mounting Hardware
Operation Manual
10-pin to 10-pin cable (18 inch length)
10-pin to female DB9 cable (4 ft length)

Development kit for Motorola M12/VP/GT/UT OONCORE:

SATPAK-104-MDEV
contains: SATPAK-104-MS
Mounting Hardware
Operation Manual
10-pin to 10-pin cable (18 inch length)
10-pin to female DB9 cable (4 ft length)