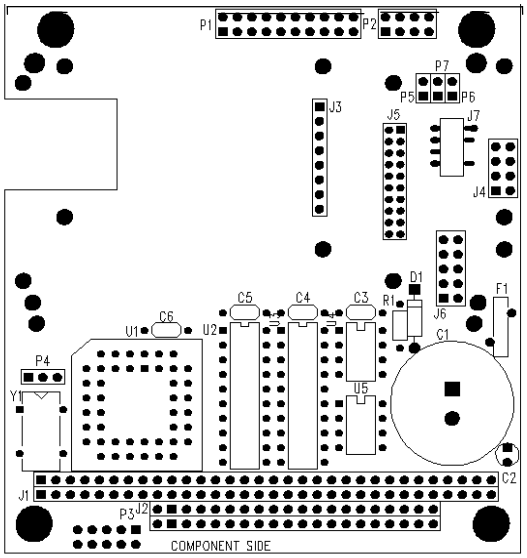
Zeli Systems
SATPAK-104PLUS



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

Features:

- The SATPAK-104PLUS is a PC-104 carrier board for miniature commercial GPS receivers.
- Can be configured to accommodate the Trimble SK2/SK8, Navman Jupiter, Trimble ACEII/ACEIII, Canadian Marconi SuperstarII, or Motorola Oncore M12/VP/GT/UT GPS receivers.
- Can be used with Navman Jupiter receivers with Dead-Reckoning option.
- Employs a Universal Asynchronous Receiver Transmitter (UART) to communicate with the GPS receiver.
- Fused +5V to GPS receiver.
- 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).
- Uses a 1 Farad capacitor to retain almanac, ephemeris, and real-time clock of the selected GPS receiver.
- Time Pulse output (1PPS) provided on 10-pin right angle connector P3.
- Provides J1 pass-through for the PC-104 bus. J2 pass-through can be provided as an option.
- Connector P3 used for Differential correction (RTCM-104) data and communication with 2nd channel of GPS receiver.
- Mounting hardware provided for selected GPS receiver.
- Development kits available for first time users.

SATPAK-104PLUS Function: The SATPAK-104PLUS is an advanced version of the popular SATPAK-104. The "PLUS" provides an inexpensive method to interface a commercial GPS receiver to the PC-104 bus. The "PLUS" can be configured to mate with either a Trimble SK-8 (Lassen), Navman Jupiter, Trimble ACEII/ACEIII, Canadian Marconi SuperstarII, or Motorola M12/VP/GT/UT ONCORE receivers. The TTL communication signals of the selected GPS receiver are transmitted and received over the PC/104 bus using a universal asynchronous receiver transmitter (UART). The "PLUS" can be selected for COM1, COM2, COM3, or COM4 base addresses via a simple push-on jumper. The associated PC/104 bus interrupt can be selected from IRQ3-IRQ7, IRQ10-IRQ12, IRQ14, or IRQ15. 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. A right angle 10-pin connector allows RS-232 or RS-422 communication to accommodate differential GPS (DGPS) corrections and 2nd GPS channel communication. The same connector also provides access to the 1PPS time pulse generated by the GPS receiver.

Power: The GPS receiver +5 volt power is fused using a resettable fuse that is thermally activated. Once the fault condition has been removed, the fuse will automatically reset after cooling. If an active antenna is chosen for the Navman Jupiter, then a jumper on the SATPAK-104PLUS connects a fused +5V from the PC/104 bus to the center conductor of the antenna cable. Auxiliary voltages (+12 and -12 volts) are only used by the 75155 driver that provides RS-232 signal level conditioning on pin P3-3. If this feature is not required, then the SATPAK-104PLUS can operate solely from +5 volts.

Serial Data: Communication with the primary serial port of the selected GPS receiver is performed using the UART and 8-bit PC/104 input-output interface on the SATPAK-104PLUS. DGPS data communicates with the second serial port of the GPS receiver via connector P3.

Mechanical Considerations: The SATPAK-104PLUS conforms to all PC/104 specifications when used with either the Trimble SK2/SK8, Navman Jupiter, Canadian Marconi SuperstarII, or Trimble ACEII/ACEIII line of GPS receivers. However, when the SATPAK-104PLUS 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-104PLUS be located at the last stack position only when used with a Motorola ONCORE series receiver. Zeli Systems can order and integrate your GPS receiver with the SATPAK-104PLUS.

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SATPAK-104PLUS SPECIFICATIONS

Mechanical, Environmental, Power:

Mechanical:	PC/104 Bus compatible
Dimensions:	3.775" x 3.550"
Operating Temp:	-10°C to 70° C
Extended Temp:	-40°C to 80°C
Relative Humidity:	<90% (non-condensing)
Power:	+5V +/- 5%, 0.3 A
	+/-12V +/- 5%, 0.010 A

Note: +/-12V only needed for RS-232 output on connector P3 if required.

Connectors:

DGPS/1PPS:	P3
Conn:	Differential GPS, 2nd channel comm, and 1PPS port
Type:	0.1" x 0.1" right-angle double-row header.

Ordering and Quantity Price Information:

Please note that the SATPAK-104PLUS can be delivered with either RS-232 or RS-422 signal conditioning for the DGPS/1PPS connector P3.. The following part numbers and prices identify these ordering configurations. Contact the factory for custom configurations and quantity pricing.

Configured for Trimble Trimble ACEII/ACEIII:

SATPAK-104PLUS-TS	RS232 for DGPS on P3
SATPAK-104PLUS-TD	RS422 for DGPS on P3

Configured for Trimble SK2/SK8 (Lassen):

SATPAK-104PLUS-LS	RS232 for DGPS on P3
SATPAK-104PLUS-LD	RS422 for DGPS on P3

Configured for Navman Jupiter:

SATPAK-104PLUS-JS	RS232 for DGPS on P3
SATPAK-104PLUS-JD	RS422 for DGPS on P3

Configured for Motorola M12/VP/GT/UT Oncore:

SATPAK-104PLUS-MS	RS232 for DGPS on P3
SATPAK-104PLUS-MD	RS422 for DGPS on P3

Configured for Canadian Marconi SuperstarII

SATPAK-104PLUS-CS	RS232 for DGPS on P3
SATPAK-104PLUS-CD	RS422 for DGPS on P3

Antenna/Receiver RF Adapter Cables (1 foot length): CALL

J2 pass-through connector:
Add "J" suffix to part number

Example: To order the SATPAK-104PLUS configured for the Trimble SK2 with the J2 pass-through option and P3 configured for RS-232 signal conditioning, use the following part number:

SATPAK-104PLUS-LS-J

Antennas: (various mounting options available) Call

Development Kits: Development kits are available for each of the receivers that can be used with the SATPAK-104PLUS. Each kit contains a SATPAK-104PLUS configured for the selected GPS receiver, GPS receiver mounting hardware, SATPAK-104PLUS manual, and serial cables for DGPS or 2nd GPS channel communication. The serial cables are only provided to communicate the 2nd GPS channel via connector P3. Remember that primary communication with the GPS receiver is performed via the PC/104 bus. A 10-pin to 10-pin ribbon cable is provided to communicate with connector P3 from a serial port on the PC/104 stack, or a 10-pin to DB9 ribbon cable can be used for 2nd GPS channel communication from a personal computer serial port. **Development Kit Ordering Information:**

Development kit for Trimble ACEII/ACEIII:
SATPAK-104PLUS-TDEV
contains: SATPAK-104PLUS-TS
GPS Receiver Mounting Hardware
Operation Manual
Serial RS-232 DGPS cable (4 foot length)
Serial 10-pin to 10-pin ribbon cable (18" length)

Development kit for Trimble SK2/SK8 (Lassen):
SATPAK-104PLUS-LDEV
contains: SATPAK-104PLUS-LS
GPS Receiver Mounting Hardware
Operation Manual
Serial RS-232 DGPS cable (4 foot length)
Serial 10-pin to 10-pin ribbon cable (18" length)

Development kit for Navman Jupiter:
SATPAK-104PLUS -JDEV
contains: SATPAK-104PLUS -JS with
GPS Receiver Mounting Hardware
Operation Manual
Serial RS-232 DGPS cable (4 foot length)
Serial 10-pin to 10-pin ribbon cable (18" length)

Development kit for Motorola M12/VP/GT/UT ONCORE:
SATPAK-104PLUS-MDEV
contains: SATPAK-104PLUS-MS with
GPS Receiver Mounting Hardware
Operation Manual
Serial RS-232 DGPS cable (4 foot length)
Serial 10-pin to 10-pin ribbon cable (18" length)

Development kit for Canadian Marconi SuperstarII:
SATPAK-104PLUS-CDEV
contains: SATPAK-104PLUS-CS with
GPS Receiver Mounting Hardware
Operation Manual
Serial RS-232 DGPS cable (4 foot length)
Serial 10-pin to 10-pin ribbon cable (18" length)

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