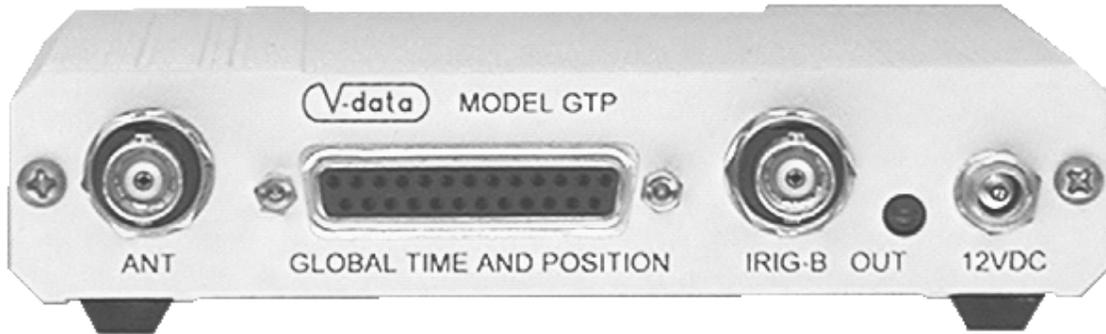


Global Time and Position Unit (GTP)



Combination GPS Receiver and IRIG-B Timecode Generator

GPS Receiver

- 12 parallel channels, all in view tracking
- RS-232 NMEA compatible messages
- Direct connection to **V-data** Video Encoder/Decoders for video insertion of GPS data

IRIG-B Timecode Generator

- Synchronized to UTC time
- Standard 3-volt peak-to-peak IRIG-B timecode output
- Two demodulated IRIG-B LED drivers for cine cameras, strip charts, or fiber optics
- User control of 27 auxiliary bits and 18 binary time bits
- Event time capture
- Track loss indicator
- Direct connection to **V-data** Video Encoder/Decoder for video insertion of IRIG-B time
- Direct connection to **V-data** Video Sync Generator for locking sync to UTC time

General

Size: 5 ¼ W x 1 ¼ H x 7 ½ L (13.3 cm x 3.2 cm x 19.1 cm)

Weight: 1 lb. (454 gm)

Power: 12 VDC (9-16 VDC) @ 300 milliamps

Ordering Information for Global Time and Position Unit (Model GTP)

Delivery: 30 days maximum ARO, FOB Destination in USA

Terms: Net 30 or MasterCard/Visa

Price \$1625 including AC adapter, manual, and passive swivel-stub antenna

Add \$150 for GA28 marine antenna with 30' RG-59 cable and 1" 24TPI pipe mount

Add \$125 for GA26C mobile antenna with 8' RG-174 cable and magnetic/suction mount

Add \$50 for 28 VDC (9-32 VDC) power (internal switching pre-regulator)

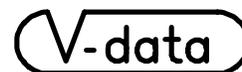
V-data

693 Melrose Road

Lottsburg, VA 22511

(804) 529-5950

vdata@crosslink.net



Global Time and Position Unit (GTP) (continued)

GPS Performance

Position Accuracy: (Differential) 3-10 meters RMS
(Non-Differential) 15 meters, Selective Availability off
Velocity Accuracy: 0.2 m/s subject to Selective Availability
Dynamics: 1000 knots velocity, 3 g's acceleration

Antenna

The Antenna connection is a BNC. The center conductor supplies +5 VDC at 15 milliamps to an active preamp antenna which returns a 1.57542 GHz signal. It is recommended that less than 60 feet of RG-59 cable be used to separate the GTP from an active antenna. The standard swivel-stub antenna is passive and cannot be extended.

IRIG-B Performance

The IRIG-B generator section of the GTP is a microprocessor driven, crystal controlled IRIG-B timecode source. A pulse-per-second timing signal and serial data from the GPS receiver are monitored by the IRIG-B generator. When the GPS receiver is in track mode as indicated by the LED indicator being continuously lit, the IRIG-B output is synchronized to UTC time each second with an accuracy of one microsecond. During track loss the IRIG-B timecode continues without interruption, subject to the 50 ppm accuracy of the internal crystal oscillator. Receiver status is added to the IRIG-B format.

Event Input/Output

A 5 V positive pulse applied to PIN 14 on the DB25F connector for at least one millisecond captures the current time, which is then output on Pin 5 as serial asynchronous data at 4800 baud, 8 data bits, no parity. The output format is DDMMYY,HHMMSS.SSS followed by a carriage return. Once triggered, the event input is disabled until output is complete. The event input can also be triggered by a Null, @, or Space RS-232 character at 4800 baud. Ground reference is on Pin 1 or Pin 7.

Pulse-per-Second Output

A pulse-per-second timing pulse with 1 microsecond accuracy relative to UTC time, is available on Pin 15 of the DB25F connector when the GPS receiver is tracking. The pulse goes high on the second and can be used to synchronize external devices or to trigger the Event Input on Pin 14.

Demodulated IRIG-B Outputs

Pins 6 and 8 on the DB25F connector are two demodulated IRIG-B current source outputs suitable for driving chart recorder inputs, fiber-optic LED emitters, or cine camera film plane LEDs. The output is high for 2, 5, or 8 milliseconds for each IRIG-B bit depending on whether the bit is a zero, one, or sync bit. Ground is on Pin 1 or 7.

Bit Control

Pins 9-13 and 14-22 on the DB25F connector can be used in conjunction with internal jumpers to externally program the 27 control bits and the 18 binary time-of-day bits in the IRIG-B frame. The default data in these bits is day, month, year, and binary time-of-day in seconds.