

MODEL 6155E GPS SYNCHRONIZED IRIG B TIME CODE GENERATOR

FEATURES

- Twelve channel GPS receiver
- IRIG B time code generator.
- UTC time mark output.
- Serial RS-232 port outputs UTC Time, Latitude and Longitude.
- Programmable Time Zone offset
- Battery powered
- Built in “smart” battery charger
- Built in active GPS antenna, also provisions for ext. antenna.
- LCD Display



DESCRIPTION

The Model 6155E is a battery powered, hand-held unit which provides an IRIG B timecode output synchronized with UTC time, derived from GPS, and a serial data output which includes UTC Time, Latitude and Longitude. It includes a twelve channel GPS receiver which automatically acquires all in-view satellites upon power up and locks an internal IRIG B time code generator to the GPS time reference. If the GPS lock is lost the 6155E will automatically switch to an internal clock and continue generating the output IRIG B signal. No discernible change in the IRIG B output will occur due to this transition.

The UTC Time, Latitude and Longitude serial output is provided as an asynchronous 19.2K baud RS-232C signal. In the absence of GPS lock the serial data will continue with the time derived from the internal clock. The latitude and longitude, however, will be forced to zeros and the signs will be forced to positive.

The 6155E is housed in an aluminum enclosure, 8 inches long, 3.8 inches wide and 2.55 inches high, which includes rechargeable batteries and an attached, active antenna. An LCD display shows the IRIG time and also provides lock and battery status. All controls and indicators are on the front and all connectors are on the top (end surface). The batteries are accessible via a removable panel on the bottom.

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SPECIFICATIONS

Timing Accuracy

When Locked to GPS:	1 x 10 ⁻⁹ @ 1 second 1 x 10 ⁻¹⁰ @ 100 second 3 x 10 ⁻¹² @ 1 day (Dynamic mode set to 'Fixed')
When not locked to GPS	<2.5 x 10 ⁻⁶ without discipline <0.3 x 10 ⁻⁶ ; <30 ms per day (after 24 hours of GPS locked disciplining).

IRIG B Output

Standard IRIG B serial time code IAW OSG IRIG Standard 200-98 (synchronized with time code generator). Output level range is 0 to 5V peak to peak unloaded. Factory set to 3V peak to peak

GPS Performance

Channels:	12 Parallel channels, tracks all satellites in view.
Time-to-first-fix:	<15 seconds typical (warm start), <90 seconds typical (cold start).
UTC Time Mark:	Synchronized with Global Reference Standard.
Reacquisition:	2 seconds typical.
Dynamics Mode:	Five settings: Fixed, Walking, Land Vehicle, Marine, Airborne. Timing accuracy varies from <25nsec (Fixed) to <100nsec (Airborne)
Datum:	WGS 84

GPS Antenna

Active Patch Antenna, 5 VDC. Gain: 26 db ± 2 db. Noise figure: 1.5 db Max.

Serial Interface

EIA RS-232C, Asynchronous, 19200 baud, 8 data bits, 1 start bit, 1 stop bit, no parity, no flow control.

Temperature

Operating:	0°C to +55°C
Non-operating:	-20 to +70

Humidity

95% non-condensing

Package

Hand held configuration, aluminum enclosure, 8 inches long, 3.8 inches wide and 2.55 inches high.

Battery

7.2V NiMH, 2300 mah battery pack.

Variations

The table below describes the various configurations available

MODEL	IRIG B122 On BNC	IRIG B002 On BNC	IRIG B002 via RS-232 port	UTC Time Mark on BNC	UTC Time Mark on D connector	GPS Time Mark on BNC	GPS Time Mark on D connector	Position & Time using ITS format	Position & Time using NMEA 183 format	Time Zone offset
6155E	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes
6155E-2	Yes	No	No	No	No	Yes	Yes	Yes	No	No
6155E-3	Yes	Yes	No	No	Yes	No	No	Yes	No	Yes
6155E-4	Yes	No	No	Yes	Yes	No	No	No	Yes	Yes
6155E-5	Yes	No	Yes	Yes	Yes	No	No	Yes	No	Yes
6155E-6	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes

