



## GPS/IRIG-B Synchronized Time Code Generator With Internal Rechargeable Battery in Rugged Case

### Model GS-102-FPC Field Portable Clock



#### Features:

- Synchronizes to GPS
- Synchronizes to IRIG-B
- IRIG-B AM and DCLS Output
- USB Port: Time and Position
- Precise 1pps Output
- Programmable Pulse Output
- RS-232 I/O Port
- 2nd RS-232 I/O Port
- LED Status Indicators
- LCD Display
- Wide Range DC Power
- Internal Rechargeable Battery
- Rugged case

#### General Product Description

The Model GS-102-FPC GPS/IRIG-B Synchronized Time Code Generator ( STCG ) is a low cost high performance STCG that provides many features typically found on higher cost units. When operated in the GPS mode, time and rates are precisely referenced to UTC. When operated in the IRIG mode, time and rates are precisely referenced to the IRIG generating source. Time, position and status are available on the RS-232 I/O and the USB Ports.

Housed in a rugged case, the Model GS-102-FPC STCG is ideal for providing time, rates and position information to camera, power utility, computer and other portable applications. The GS-102-FPC can drive large format wall and console time displays. Its rugged packaging is ideal for portable or dynamic applications. Rechargeable internal batteries provide more than 24 hours of operation.

The time is referenced to UTC when operating in the GPS mode. The RS-232 and manual control allow the user to configure the unit to provide local or daylight savings time or to configure the programmable pulse.

For additional information contact your ORCA Representative at 949-361-0212 or via email at [sales@orcatechnologies.com](mailto:sales@orcatechnologies.com) [www.orcatechnologies.com](http://www.orcatechnologies.com)

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## GS-102-FPC GPS/IRIG-B Synchronized Time Code Generator

### Product Specifications

#### General Specifications

- Position Accuracy: <10 to 20 meters SEP (SA off)
- Timing Accuracy:  $\pm 100$  nanoseconds to UTC (GPS)
- GPS Input: 1.575 GHz L1 C/A Code
- GPS Receiver: 12 parallel channels
- Internal Oscillator disciplined to GPS
- Antenna: L1 GPS with 5-meter SMA cable

#### Fixed Inputs

- IRIG-B AM serial Time Code Input
  - Format: IRIG-B 122
  - Amplitude: 3 Vpp into 50 ohms
  - Ratio: factory set to 3:1
  - Connector: BNC labeled CODE INPUT
  - Termination: 10k ohms
- IRIG-B DC Level Shift (DCLS) serial Time Code Input
  - Specification: IRIG-B 002
  - Amplitude: TTL levels
  - Connector: DB-15 multi-pin

#### Fixed Outputs

- AM serial Time Code Output
  - Format: IRIG-B 122, IRIG-B 123 and IEEE-1344
  - Amplitude: 1 Vrms into 50 ohms
  - Ratio: factory set to 3:1
  - Connector: BNC labeled CODE OUTPUT
- DC Level Shift (DCLS) Serial Time Code Output
  - Specification: IRIG-B 002, IRIG-B 003 and IEEE-1344
  - Amplitude: TTL levels
  - Connector: DB-15 multi-pin
- 1PPS Output
  - Accuracy: < 100 nanoseconds
  - Logic Level: TTL into 50 ohms
  - Timing: Positive edge on time
  - Duty Cycle: 50%
  - Connector: DB-15 multi-pin
- Programmable Pulse Output
  - Logic Level: TTL
  - Timing: Positive edge on time
  - Duty Cycle: TBD
  - Connector: DB-15 multi-pin

- RS-232 I/O Port
  - Baud Rate: 9600—115200
  - Output: Time, Position, Status and Current Settings
  - Input Data: Operating mode and setup parameters
  - Connector: DB-15 multi-pin
- 2nd RS-232 I/O Port
  - Outputs NMEA 0183 messages containing navigation and tracking information. This port will accept Differential GPS (DGPS) real-time pseudo-range correction data in RTCM SC-104 format.
- USB Port
  - Output Data: Time, Position and Status
- Manual Control
  - Setup Functions: Setup parameters for operating mode, time, local and daylight savings time and programmable pulse
- DC Power Level: 12 to 32 Vdc 18 Watts
- AC Power via AC to DC converter module
- Internal Rechargeable Battery: > 24 hours of use on full charge
- Can be powered through the USB Bus

#### Environmental/Mechanical

- STCG Physical Dimensions
  - Size: 10.62" length X 9.68" width X 4.88" height
  - Weight: about 3 pounds
  - LCD Display: 2 line X 20 character - backlit
  - Operating Temperature:
    - Charging: 0 to 45 degrees C
    - Discharging: -20 to 60 degrees C
  - Storage Temperature: 0 to 30 degrees C
  - Humidity: To 95% non-condensing
- Antenna
  - Size: 1.81" length X 1.81" width X .50" high
  - Weight: < 1 pound
  - Operating Temperature: -40 to +70 degrees C
  - Storage Temperature: -40 to +85 degrees C
  - Connector: SMA
  - Cable Length: 5 meters (Longer lengths available)

Certifications: FCC, IEEE C37.90 and IEC 60255

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(Specifications Subject to Change—161101)