



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

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



#### Features:

- Synchronizes to GPS
- Synchronizes to IRIG-B and IEEE-1344
- IRIG-B and IEEE-1344 AM and DCLS Outputs
- USB Port: Time and Position
- Precise 1pps Output
- Optional 10MHz Output
- Programmable Pulse Output
- RS-232 I/O Port
- 2nd RS-232 I/O Port
- LED Status Indicators
- OLED Display
- Wide Range DC Power
- Internal Rechargeable Battery
- Rugged case
- Optional External Connectors

### 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.



### GS-102B-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

- AM Serial Time Code Input  
Format: IRIG-B 122, IEEE-1344  
Amplitude: 1 Vrms into 50 ohms  
Ratio: factory set to 3:1  
Connector: SMA labeled CODE INPUT  
Termination: 50/10k ohms, switch selectable
- DC Level Shift (DCLS) Serial Time Code Input  
Specification: IRIG-B 002, IEEE-1344  
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: SMA 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  
Pulse Width: 20 microseconds  
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  
OLED Display: Up to 4 lines, alphanumeric  
Operating Temperature: -20 to +60 degrees C  
Storage Temperature: 0 to +35 degrees C recommended  
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)

##### Options

- 10MHz Output
- OCXO upgrade
- External Connectors

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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(Specifications Subject to Change—180209)