ORCA TECHNOLOGIES
TIME AND FREQUENCY PRODUCTS

GPS/IRIG-B Synchronized Time Code Generator With Internal Rechargeable Battery

Model GS-102

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

Product Description

The Model GS-102 GPS/IRIG-B Synchronized Time Code Generator（STCG）is a low cost high performance STCG that provides many features not 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.

The Model GS-102 STCG is ideal for providing time, rates and position information in laboratory or portable situations. This unit is ideal for camera applications as well as computer synchronization via the available GUI. The GS-102 can provide the drive for large format wall and console time displays. In addition its small and 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 www.orcatechnologies.com

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

Product Specifications

General Specifications

- Position Accuracy: <10 to 20 meters SEP (SA off)
- Timing Accuracy: ±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: 1 Vrms into 50 ohms
  Ratio: factory set to 3:1
  Connector: SMA labeled CODE INPUT
  Termination: 50/10k ohms, switch selectable

- 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: 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
  Duty Cycle: TBD
  Connector: DB-15 multi-pin

Rear Panel

- 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 Input: 11.5 to 32 Vdc, 18 Watts

- AC Power via AC to DC converter module

- Internal Battery Power for >24 hour runtime

- Can be powered through the USB Bus (will not charge batteries)

Environmental/Mechanical

- STCG Physical Dimensions
  Size: 4.72” length X 4.07” width X 2.09” height
  Weight: 1 pound
  LCD Display: 2 line X 20 character - backlit
  Operating Temperature: 0 to 50 degrees C
  Storage Temperature: -40 to +80 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)