GS-102C

GNSS / GPS / IRIG

Synchronized Time Code Generator

TIME STARTS HERE…

WHY THE GS-102C?

- Internal Rechargeable Battery
- ±100 ns UTC Accuracy
- 72-Channel Multi-Constellation GNSS
- Synchronizes to GPS or External IRIG
- USB or 5-40 VDC Powered
- Time Interval / Event Capture
- Custom Configuration available
- Field Upgradeable Firmware
- Designed & Manufactured in USA
- 2-Year Warranty



The GS-102B provides precise time, rate, and position information in a compact, rugged, and cost-effective platform. In GPS mode, time and rates are referenced to UTC; in IRIG-B mode, they are referenced to the connected IRIG generating source.

Ideal for laboratory, portable, camera, range, and computer synchronization applications, the GS-102B provides time, position, and status information through RS-232 and USB interfaces, with an optional 10 MHz output. The unit can also drive large-format wall and console time displays.

A rugged enclosure and rechargeable internal battery provide reliable operation in portable and dynamic environments, with more than 24 hours of operation in Power Save mode. Optional accessories include a weather-resistant carrying case and external power switch.

KEY FEATURES

SYNCHRONIZATION

GNSS

- GPS (L1) (+QZSS)
- Galileo
- GLONASS
- BeiDou

External IRIG

- AM & DCLS

TIMING OUTPUTS

Time Code Outputs AM/DCLS

- IRIG-B AM Outputs
- NASA 36
- 2137

- 1 PPS < 100ns
- Programmable Pulse Output
- Rate Output
- 10 MPPS Output

INTERFACES

- USB Port
- RS-232 Port
- OLED Display
- Status LEDs
- Front Panel Controls
- Wide-Input Power 5-40 VDC

APPLICATIONS

Aerospace · Defense · Test Range · Telemetry · Utilities · Laboratories · Camera Sync · Industrial Automation · Time Display Systems

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GS-102C

GNSS / GPS / IRIG Synchronized Time Code Generator

PERFORMANCE

Timing Accuracy (GNSS)	±100 nanoseconds to UTC
Position Accuracy	<2.5 meters CEP typical (SA off)
GNSS Input Frequency	1176 MHz to 1605 MHz
GNSS Receiver	72 parallel channels — GPS, Galileo, GLONASS, BeiDou, QZSS
Internal Oscillator	TCXO <5×10-9 (disciplined to GPS)

INPUTS

GNSS Antenna Input	L1 GNSS/GPS
AM Serial Time Code Input	IRIG-B 122, IEEE-1344; Connector: SMA (CODE INPUT)
DCLS Time Code Input	IRIG-B 002, IEEE-1344; TTL levels; Connector: DB-15

OUTPUTS

AM Serial Time Code Output	IRIG-B 122/123, IEEE-1344; Connector: SMA (CODE OUTPUT)
DCLS Time Code Output	IRIG-B 002/003, IEEE-1344; TTL; Connector: DB-15
1PPS Output	<100ns accuracy, TTL into 50Ω, 50% duty cycle; DB-15
Programmable Pulse Output	TTL, positive edge on time, 20µs width; DB-15



REAR PANEL CONNECTIONS – GPS ANTENNA – CODE INPUT / OUTPUT – POWER – USB – I/O PORT

INTERFACES

RS-232 I/O Port	Baud rate 9600–115200; time, position, status & setup; DB-15
2nd RS-232 Port	Accepts DGPS RTCM SC-104 correction data
USB Port	Time, position & status output
Manual Control	Front-panel setup: mode, time, DST, pulse config
OLED Display	Up to 4 lines, alphanumeric
LED Indicators	Lock, Alarm

POWER

DC Power Input	5–40 VDC, <500 mW
AC Power	Via AC-to-DC converter module
USB Power	Can be powered through USB bus *(will not charge batteries)*

ENVIRONMENTAL / MECHANICAL

STCG Dimensions	4.72″ L × 4.07″ W × 1.20″ H
STCG Weight	0.65 lb
Operating Temp.	–20°C to +70°C
Storage Temp.	–40°C to +80°C
Humidity	To 95% non-condensing
Certifications	RoHS

AVAILABLE OPTIONS

- **Conformal Coating**
- **Custom Pulse Rates**
- **OEM Firmware**
- **GPS/GNSS Mag-Mount Antenna w/ 3m SMA cable**
- **GPS/GNSS/Galileo/BeiDou/QZSS Outdoor weather-resistant antenna with cable**
- **RS422**
- **Extended Warranty**

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