SPIRENT GSS6400

RECORD PLAYBACK SYSTEMS

The GSS6400 Record Playback System (RPS) from Spirent is a simple and efficient way to capture real world GNSS signals and replay them in the laboratory. Spirent's GSS6400 represents the best value and easiest to use solution on the market.

Key Features

- Self contained portable unit
- No PC or external drives required
- Flexible power DC or AC
- Easy to use

Recorder

- Internal battery and vehicle DC power adapter
- 2-bit quantisation
- Internal HDD
- 30 hours record time
- Single touch record
- Multiple file record
- Event markers

Playback

- Single touch playback
- Browser control over network
- OCXO for frequency stability
- Power level control
- Multiple file playback
- Start at any point in a file

A Simple Way to Test GNSS

Testing navigation and positioning systems under real world conditions can be complex and expensive. Not any more. With the Spirent GSS6400 Record Playback System, it's simple and quick to record real GPS, GLONASS and QZSS signals. GSS6400 also supports record playback of signals from augmentation systems such as WAAS and EGNOS. Once captured, the Record Playback System can be used in the laboratory to replay the captured environment time and time again to the device under test. You save project cost while improving product performance and quality.

High Fidelity Record and Playback

The GSS6400 is designed to capture complex environments with the fidelity to ensure that playback results in the laboratory are truly representative of captured real world conditions. 2-bit sampling is required in order to adequately capture the detail of the real signals. Sampling at 1-bit provides inadequate resolution to fully capture real world fades and dynamics. For most test applications, sampling at higher bit rates often just results in huge file sizes and complex, expensive equipment without improving the useful signal information.

Best Value

The GSS6400 represents the best value Record Playback System available. The self contained unit has everything you need to start testing. Many other systems require peripherals such as personal computers, hard drives, external power and cabling. With the GSS6400 it's simply a case of connecting the supplied antenna and pressing the one touch record button. When done, select the required field and press the play button and the captured data is replayed at RF. In the laboratory, data can be downloaded using a high speed SATA connection and the unit can be controlled remotely over the network. For those customers who prefer a solid state drive in the place of the standard hard drive an SSD option is available.

GSS6400 Record Playback System
Self contained unit is easy to use with one touch record & playback, internal HDD and battery

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SPECIFICATION

Quantisation	2-bit
Output attenuator	31dB, 1dB steps
Internal HDD	500GB
Record capacity	30 hours
Playback frequency	1575.42MHz GPS 1600MHz GLONASS
Power	12-16v DC 90-260v AC adapter supplied Internal battery supplied
Frequency reference	Internal OCXO for playback External 10 MHz in
Antenna	Active antenna supplied
Case	Hard case supplied

Technical

The GSS6400 records sampled GPS and GLONASS L1 signal data onto the internal 500GB hard drive. Sampled data is written at speeds of up to 4 MB/s onto the hard drive.

The GSS6400 uses 2-bit signal sampling to achieve signal dynamic range suitable for testing high sensitivity GNSS receivers. Single bit sampling loses up to 3db of signal in the digitisation process. Two-bit quantisation loses only around 0.5 dB.

During playback the system upconverts the sampled data to the 1575.42MHz for GPS and 1600MHz for GLONASS L1 frequencies. An OCXO is used to provide a stable L1 frequency and accurate data playback, so preserving the code/carrier relationships of the original recorded signal. The OCXO can be locked to an external 10 MHz source for increased accuracy.

Record and playback other data

The GSS6400 now records and replays serial data from a wide range of data sources. Inertial sensors, DR sensors, reference receivers and 1pps signals can be recorded coherently with the GNSS embedded within the data file to guarantee synchronization. Additionally, the GSS6400 can log serial data into separate files for subsequent analysis or post processing. NMEA logs or Wi-Fi war-drive data are amongst the types of file that the GSS6400 can record.

WebServer

The unit is controlled directly from the front panel keypad or from a web browser to access the unit's built-in web server. The web server allows the unit to be controlled or monitored remotely over the Network.

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