

RTK/DGNSS Virtual Reference Station Option

RTCM Message Output for GSG-6 Series GNSS Simulators

- Generates RTCM 3.x correction data
- User settable base station location
- Support for GNSS RTK receivers using serial or Ethernet interfaces
- Option includes GSG StudioView™ software



The RTK/DGNSS Virtual Reference Station option for the GSG-6 Series simulators supports streaming of RTCM correction data messages to a RTK/DGNSS receiver. Correction data is provided in real-time in the form of RTCM 3.x messages.

RTCM Correction Data Distribution

The RTK/DGNSS Virtual Reference Station option takes advantage of the NI VISA driver and SCPI protocol to allow RTCM messages to be read from the GSG as the scenario is running. Distribution to the GNSS receivers under test is performed externally by a custom user software application. This approach allows the flexibility to choose the most convenient of the three standard interfaces provided on the GSG-6 Series simulators, GPIB, USB, or Ethernet, to retrieve the RTCM data.

The RTCM correction data read from the GSG by a custom software program can be provided over a serial interface, or by Ethernet socket. RTCM correction data can be provided directly to a GNSS receiver or to an NTRIP 2.0 Server/Caster. RTCM data can be streamed from an NTRIP Caster for distribution to one or more NTRIP clients embedded in or connected to DGNSS RTK receivers.

RTK DGNSS Receiver Testing

The RTK/DGNSS Virtual Reference Station option allows stationary or mobile testing of DGNSS RTK GNSS receivers using the powerful scenario trajectory options for the GSG-6 Series simulators. If used with the Real-Time Scenario Generation (RSG™) option, real-time user or machine driven Hardware-in-the-loop can be performed on systems using DGNSS RTK receivers.

Specifications

- Update Rate: 1Hz
- GPS and GLONASS L1/L2 constellation support
- RTCM 3.x

Controlled Parameters & Status

- Base station position
- Satellite power level
- Rover position (geodetic latitude longitude/altitude or ECEF X,Y,Z) controlled via scenario trajectory or by Real-Time Scenario Generation (RSG™) option
- RTCM 3.x messages: 1002, 1004, 1006, 1010, 1012, 1033

Interfaces

- Serial port via GSG StudioView™ software
- Compatible with NTRIP 2.0 server/caster
- LabView
- National Instruments VISA bus driver support: Ethernet, USB, GPIB (IEEE 488.2)
- SCPI commands and queries

Ordering Information

A license file is provided to enable this feature on a GSG-6 Series simulator. This license file is tied to the serial number and the option must be purchased for each simulator.

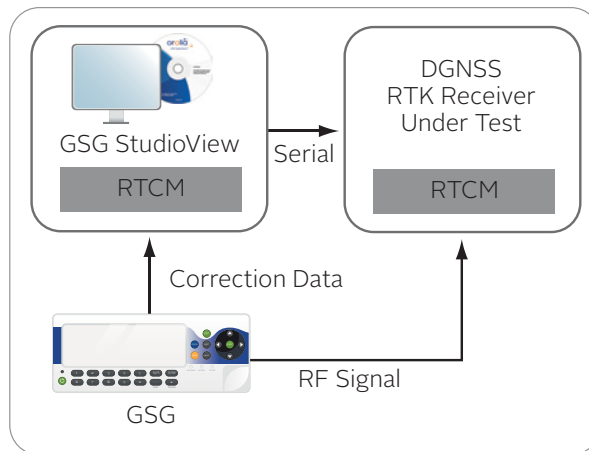


Figure 1: RTCM Serial Distribution

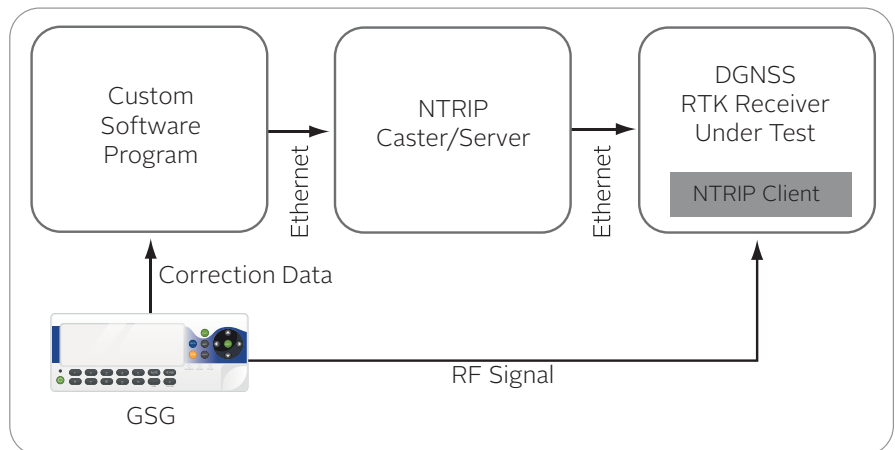


Figure 2: NTRIP 2.0 Distribution