

SPIRENT GSS7790

MULTI-OUTPUT GPS SIMULATION SYSTEM

The GSS7790 Multi-Output Simulation System is a uniquely powerful product offering independent access to each simulated GPS satellite signal at RF. Additional flexibility is offered as the signal is further split into its GPS L1, L2 and L5 components, as appropriate.

Key Features

- Up to 24 channels and 2 frequencies in one unit
- Supports GPS L1, L2 and L5 frequencies and available as a 1, 2 or 3 frequency system
- Existing and future modernised GPS signals supported:
GPS L1 supports C/A + P code + M-Noise*
GPS L2 supports C/A or P code + L2C + M-Noise*
- SA/A-S with SAASM compatibility (SimCLASS/SimSAAS option) and ICD-GPS-700 M-Code (SimMCODE option) authorised users only
- Complete flexibility over test scenarios using comprehensive SimGEN software
- High power level for enhanced flexibility
- Class leading accuracy, fidelity and reliability
- SBAS (WAAS/EGNOS/MSAS) support at L1
- Combined GPS output available on front panel for additional flexibility for regular receiver testing
- Upgrades available for existing STR4790 customers

The GSS7790 is a full constellation simulator, offering total user control over the satellite orbital definitions with respect to the user-specified simulated location, date and time.

The signal generator's digital architecture enhances Spirent's leading accuracy and reliability with exceptional fidelity and resolution across a wider range of test applications.

Typical Applications

- Controlled Reception Pattern Antenna (CRPA) and system testing: Installation inside anechoic chamber and attachment to multiple transmitting antennas to recreate a simulated live environment for testing entire CRPA systems including the antenna element itself
- CRPA control unit testing: Integrated with multi-element phase shift or delay matrix to produce RF wavefront at multiple simulated antenna elements
- Radiated testing: Environment emulation using reflectors and signal attenuators to test actual antenna performance in an anechoic chamber
- Indoor GPS emulation
- Wavefront applications

Multi-Output GPS Simulation System: Spirent GSS7790



*M-Noise is a spectrally correct representation of M-Code, with arbitrary data message. AES M-Code available as an option.

SPIRENT GSS7790

MULTI-OUTPUT GPS SIMULATION SYSTEM

SPECIFICATION

Output Frequency

○ GPS L1	1575.42 MHz
○ GPS L2	1227.60 MHz
○ GPS L5	1176.45 MHz

Signal Dynamics

○ Relative Velocity	±120,000 m/s
○ Relative Acceleration	±3,600 m/s ²
○ Relative Jerk	±5,000 m/s ³

Signal Accuracy

○ Pseudorange uncertainty	< ±0.3m RMS
○ Pseudorange rate uncertainty	< ±0.01m/s RMS
○ Interchannel bias	< ±0.5m RSS

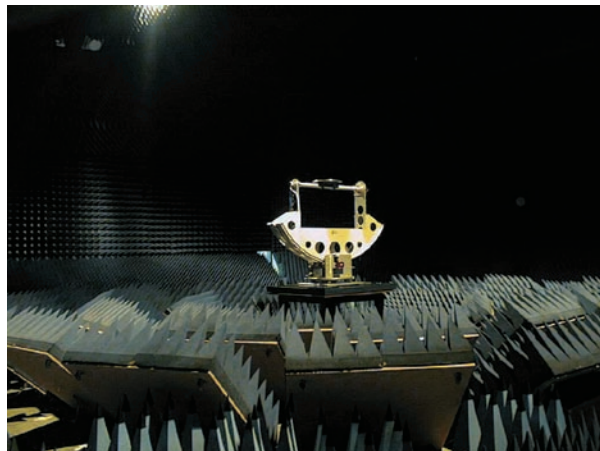
Signal Quality

○ Spurious (Max)	< -30dBc
○ Harmonics (Max)	< -35dBc
○ Phase Noise (Max)	< 0.02 rad RMS
○ Frequency Stability	< ±5 x 10 ⁻¹⁰ over 1 day

RF Signal Level at Main Individual RF Ports

(nominal, as appropriate)

○ GPS L1	-116.8dBW
○ GPS L2	-119.8dBW
○ GPS L5	-115.0dBW



Typical application for Spirent GSS7790, showing test piece in Anechoic Chamber

Signal Level at Combined RF Ports

(nominal, as appropriate)

○ GPS L1	-130.0dBW
○ GPS L2	-133.0dBW
○ GPS L5	-127.9dBW

Signal Level Control Independent Per Channel

○ Range	+20/-36dB
○ Resolution	0.1dB

Signal Generator Unit

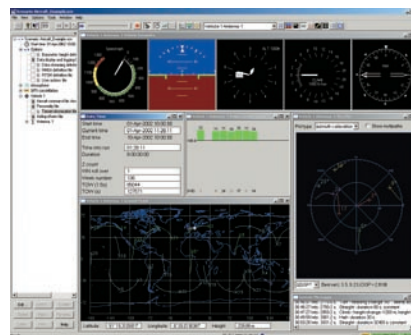
○ Size (HxWxD generator)	353 x 450 x 530mm (14 x 17.75 x 21inch)
○ Weight (Generator)	40kg (88lb)
○ Power	100-250V ac, 600W, 48-62Hz

Product Specifications (MS3025/MS3008) are available on request

Performance figures and data in this document are typical and must be specifically confirmed in writing by Spirent Communications plc. before they become applicable to any particular order or contract.

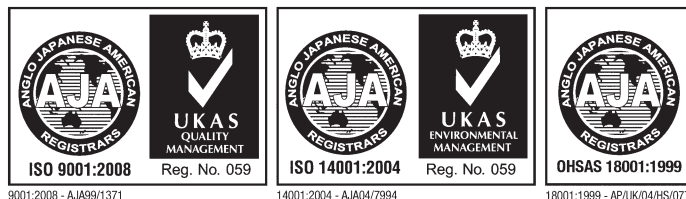
The publication of information in this document does not imply freedom from patent or other rights of Spirent Communications plc. or others.

For current product data, visit the Spirent websites at www.spirent.com/positioning or www.spirentfederal.com



SimGEN User Interface

SALES AND INFORMATION +44 1803 546325 globalsales@spirent.com www.spirent.com/positioning
AMERICAS +1 714 692 6565 info@spirentfederal.com www.spirentfederal.com



9001:2008 - AJA99/1371

14001:2004 - AJA04/7994

18001:1999 - AP/UK/04/HS/077



INVESTORS IN PEOPLE

© 2009 Spirent Communications, Inc. All of the company names and/or brand names and/or product names referred to in this document, in particular the name "Spirent" and its logo device, are either registered trademarks or trademarks pending registration in accordance with relevant national laws. All rights reserved. Specifications subject to change without notice. Rev. E 06/09