

GPS/GNSS Simulation and Signal Distribution



Step Global specializes in GPS/GNSS Simulation and Signal Distribution solutions tailored to the rail industry. Our advanced products enable precise positioning, reliable navigation, and optimized performance in railway systems, enhancing safety, efficiency, and accuracy for your rail operations.

What is a GPS/GNSS Simulator, and why should I use it?

For anyone developing a GNSS-enabled device, the ability to test it with reliability and repeatability will shorten development times and reduce costs.

No matter what market a new GPS/GNSS product is aimed at, or the features that it contains, testing will be a necessity. Signal acquisition, retention, and performance in varying environments, are all key factors in determining how successful a new device might be.

It isn't enough to simply go outside, obtain satellite lock, and sign off as a completed test procedure. This is not how the unit will be used: in many cases, it will be subjected to multipath reflection, obscuration, or interference, so understanding how a device will perform in these situations is vital. However, introducing these variables into a 'real world' testing schedule may be wholly impractical and will have a large impact on the amount of time it takes to bring the product to market.

A GPS simulator gives the developer several advantages. The most obvious is that of convenience – being able to replay raw RF satellite signals directly into GPS equipment in the confines of the lab or office, without having to venture outdoors, clearly makes testing easier.

A GPS (or GNSS) simulator outputs the same type of radio signal as emitted by the satellites themselves. The signals include all the information such as date and time that a GPS device would be able to convert if it was out in the real world.

When a receiver is connected to a simulator it behaves exactly as if it were outside, moving around as per the scenario that is being played into it. A newly developed device can be benchmarked if it is repeatedly subjected to an identical strength and quality of signal rather than the dynamic and constantly changing live broadcast from GPS satellites.



LabSat3 Wideband

Record & Replay multiple frequencies and constellations

Up to 56MHz recording bandwidth at 1, 2 or 3 bit allows for the capture of a very wide range of live-sky Satellite signals



LabSat3

Portable, cost-effective & accurate

The most affordable, portable, and versatile GNSS simulator on the market. LabSat 3 is simple to use and requires no specialist training



LabSat3 Real-Time

Replay satellite signals in Real-Time

LabSat Real-Time generates real-time GNSS RF signals for your test regime with a current time stamp anywhere in the world.



LabSat Real-Time+

Real-Time position control for HiI applications

Labsat Real-Time is a cost-effective, low latency, compact GNSS Hardware-in-the-Loop (HiL) testing solution.

What is GNSS Signal Distribution and why do we need it?

The Global Navigation Satellite System is the source for anything that requires accurate Position, Velocity, Heading, and Timing data. It is the prime source of time data for communications networks, signalling & control, mobile phone, digital broadcasting, electricity networks, and many other applications.

With today's communications technology shifting to digital data, time synchronisation is paramount and where you have diverse digital systems it is critical to provide stable and clean GNSS signal to your equipment.

Using a signal splitter is the optimal way to get the GNSS data into the equipment in a locomotive, and /or passenger carriage. This ensures that the GNSS signal is not degraded and does not suffer latency that could lead to different systems drifting out of synchronisation.

Step Global provides an extensive range of rugged GNSS splitters from small slim-line 1:2 units to 2x32 rack mount splitters.

Splitters



GPS 1X4 Timing Splitter (S14GT)



GPS 1X8 Timing Splitter (S18GT)



GPS 1X2 Timing Splitter (S12T)



GPS 1X2 Timing Splitter (S12)



GPS 1X2 Timing Splitter (S12S)



GPS 1X4 Timing Splitter (S14)



GPS 1X4 Timing Splitter (S14S)



GPS 1X8 Timing Splitter (S18-A)

Rack Mount Splitters



GPS 1X16 Ruggedised Rack Mount Splitter (RRMS116)



GPS 1X16 Intergrated Rack Mount Splitter (IRMS 116)



GPS 1X8 Intergrated Rack Mount Splitter (IRMS18)



GPS 1X32 Intergrated Rack Mount Splitter (IRMS132)



GPS 2X32 Intergrated Rack Mount Splitter (IRMS232)



GPS 2X16 Intergrated Rack Mount Splitter (IRMS216)



GPS 2X8 Intergrated Rack Mount Splitter (IRMS28)

GNSS Amplifiers

GPS/GNSS Amplifiers are used to strengthen the signal and reach of GPS/GLONASS signals.



GPS In-line 30dB Amplifier (A11)



GPS In-line 30dB Mini Amplifier (A11M)



GPS In-line 30dB Tiny Amplifier (A11T)



GPS In-line 40dB Mini Amplifier (A114M)



GPS in-line 40dB Tiny Amplifier (A114T)



METRO "smart" Amplifier Kit



METRO GNSS "Smart" Amplifier Kit



METROe "Smart" Amplifier Kit

Bias Tee, DC Block & Combiner



GPS Bias Tee (BT1)



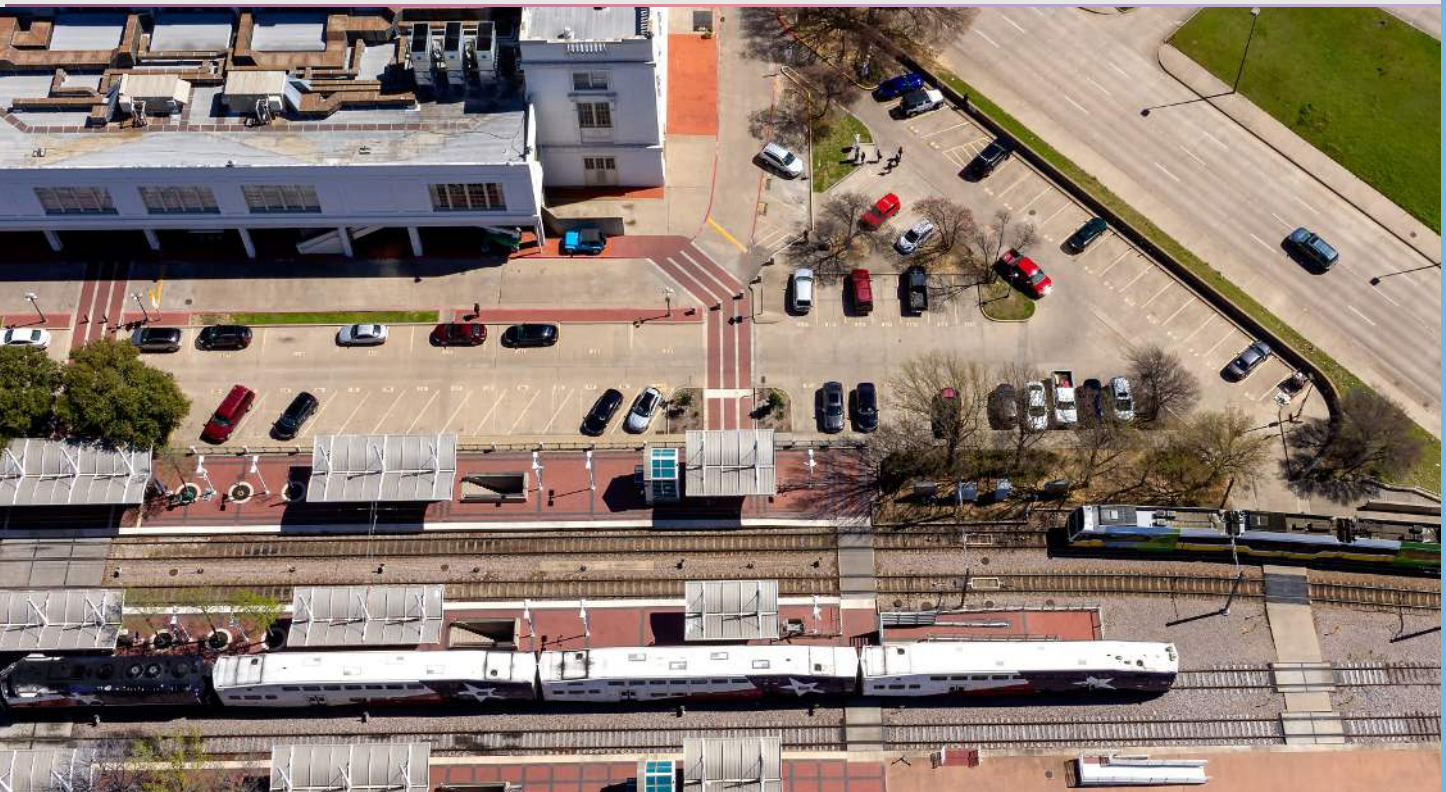
GPS DC Block



C21 GPS Signal Combiner



GPS Source, Inc. manufactures and sells GNSS signal distribution and validation products, solutions, and services. GPS Source's products add value on a daily basis to the successful operations of our customers around the world.



1, Arco Lane
Heatheron, Vic, 3202

e: sales@stepglobal.com
p: +61 3 9551 7334

website: www.stepglobal.com
store: www.shop.stepglobal.com

