



GNSS Record and Replay with a recording bandwidth of up to 56MHz

LabSat is recognised as the most cost effective and intuitive GNSS simulator available. New to the LabSat range of GNSS Record and Replay devices is **LabSat 3 Wideband**, which continues with the established reliability, cost-effectiveness, and simplicity of operation that are the benchmarks of the LabSat system.



LabSat 3 Wideband -
Greatly increases GNSS Record and Replay capabilities

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:

- GPS: L1 / L2 / L5
- GLONASS: L1 / L2 / L3
- BeiDou: B1 / B2 / B3
- QZSS: L1 / L2 / L5
- Galileo: E1 / E1a / E5a / E5b / E6
- NavIC: L5 / S-Band
- SBAS: WAAS, EGNOS, GAGAN, MSAS, SDCM

LabSat 3 Wideband is housed in a conveniently small enclosure measuring 167mm x 128mm x 46mm and weighing only 1.2kg, so it can be used to record GNSS signals anywhere. Subsequent replay is entirely realistic to allow for robust product development and testing.

The system is simple to use with one touch record and replay and SSD logging, and no requirement for a connected computer. An inbuilt battery pack gives two hours of use, and a 1TB Solid State Drive (SSD) is supplied as standard.

Standard Features

- Wide bandwidth recording up to 56MHz
- Three RF channels
- 1, 2 or 3 bit capture
- One touch record and replay
- Synchronized external data recording
- 1TB removable SSD
- Internal battery - up to two hours of use
- Standalone operation or via external control
- Compact form factor; only 1.2kg
- Internal webserver for easy control

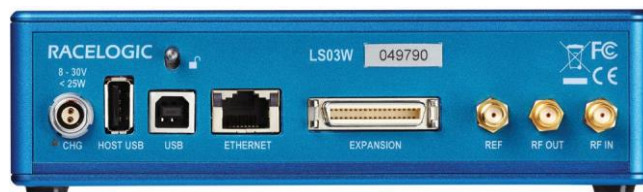
Applications

LabSat 3 Wideband is suitable for the testing and development of a whole host of products within a wide variety of applications:

- Drones
- Autonomous vehicles
- Surveying equipment
- Personal monitoring devices
- Aerospace
- End of line product testing

Recording and Replay of Additional Signals

LabSat 3 Wideband can record a range of additional signals, synchronized to the GNSS input: dual-CAN, RS232, and digital inputs are simultaneously recorded increasing the level of playback realism and allowing for a wider range of testing. This flexibility means that the development of products incorporating this variety of signal streams can be conducted with absolute convenience on the bench, without the need for costly and time consuming field trials. NMEA data is also available from the inbuilt GNSS receiver via the rear USB port.



Future-Proofing Your Products

With **LabSat 3 Wideband**, you are able to develop your products and systems in readiness for new GNSS receivers capable of using the signals that will start to broadcast within the next few years. With the advent of L2C, L5, and L1C, the next generation of GNSS devices will have increased accuracy and capabilities – **LabSat 3 Wideband** gives you the opportunity to develop your products to be compatible with new receivers as they come to market. An internal webserver is available for easy configuration and device control.

Specifications

LabSat 3 Wideband			
Constellations	GPS L1, L2, L5; Galileo E1, E5a/b, E6; GLONASS L1, L2, L3; BeiDou B1, B2, B3; QZSS L1, L2, L5; NavIC L5 & S-Band; In Band SBAS Further signals in the upper and lower L band can be configured with the internal webserver. Bespoke requirements like Iridium & Sirius XM radio frequencies are available on request.		
Nominal Output Signal Level	-73dBm/MHz @ 0dB Variable attenuator provides between +20 dB & -69 dB of adjustment during replay		
RF Channels	3		
RF Channel 1 Centre Frequency	Selectable		
RF Channel 2 Centre Frequency	Selectable		
RF Channel 3 Centre Frequency	Selectable		
Number of Satellites Observed	All in view		
Sampling Frequency	10.23MHz, 30.69MHz, 58MHz		
Bandwidth	10MHz, 30MHz, 56MHz		
Quantisation	1, 2 or 3 bit (I & Q)		
Data Format	I & Q		
Additional Logging	2x CAN channels, 4x Digital channels		
Removable Battery Pack	Yes		
Media Storage Included	1TB SSD & 8GB SD card (SD card for firmware upgrade only)		
Active Antenna Voltage Supply	2.8 – 4.6 v		
Reference Oscillator	<table border="1"> <tr> <td>TCXO Temperature Stability +/- 0.05 ppm Frequency Stability +/- 1 ppm over first year</td> <td>OCXO Temperature Stability +/- 0.05 ppm Frequency Stability +/- 0.3 ppm over first year</td> </tr> </table>	TCXO Temperature Stability +/- 0.05 ppm Frequency Stability +/- 1 ppm over first year	OCXO Temperature Stability +/- 0.05 ppm Frequency Stability +/- 0.3 ppm over first year
TCXO Temperature Stability +/- 0.05 ppm Frequency Stability +/- 1 ppm over first year	OCXO Temperature Stability +/- 0.05 ppm Frequency Stability +/- 0.3 ppm over first year		
Operating Voltage	8V to 30 VDC		
Size	167 mm x 128 mm x 46 mm		
Weight	1.2 kg		