



Superior 16 Channel, Multi-Frequency GNSS Receiver in Durable EuroPak Enclosure

Benefits

Enhanced positioning through increased satellite tracking

Digital pulse blanking on GPS L1 and L5 and Galileo L1, E5a and E5b for radar and pulsed DME interference mitigation

Features

Euro form factor

GPS L1 & L5, SBAS L1 & L5 and Galileo L1, E5a & E5b

External OCXO input and enclosure option (EuroPak-15a only) with internal OCXO

Receiver Configurations

GPS L1 and L5 capability is available, alongside full access to SBAS L1 and L5 signals. Galileo configurations require the inclusion of GPS for precise timing until a usable Galileo constellation is available. The following receiver configurations are selectable by the user:

	GPS L1 Channels	GPS L5 Channels	GEO L1 Channels	GEO L5 Channels	Galileo L1 Channels	Galileo E5a Channels	Galileo E5b Channels
Config 1	8		4	4			
Config 2	6	6	2	2			
Config 3	8	8					
Config 4	6				5	5	
Config 5					8	8	
Config 6	8				8	8	8

These configurations have been selected to allow the user maximum flexibility. GPS L1 position or L5 position (user selectable) is available with SBAS GEO tracking on L1 and L5. Sufficient GPS L1 and L5 channel capacity is available as the L5 constellation grows and for simulation testing in the interim. GPS position provides timing for initial Galileo satellite signal tracking until a usable constellation is available. The GIOVE-A test signal is tracked on its data signal using configurations 4 and 6.

Superior Tracking

NovAtel's Narrow Correlator® technology enhances the reception of satellite data for highly accurate range measurements. A NovAtel proprietary algorithm is used to detect and eliminate side-peak tracking for the Galileo Binary Offset Carrier (BOC) signal on L1. On L5 GPS and Galileo channels the receiver tracks the dataless pilot signal and extracts the navigation message from the data signal. Pseudorange and carrier phase measurements are computed using the pilot signal for GPS L5 and Galileo IOV. Pilot tracking is shortly to be available for GIOVE A and B.

Full Range of Data

The data provided by the EuroPak-15a and EuroPak-15ab receiver includes satellite range information, raw frame data with parity checks, automatic gain control (AGC) information, and receiver configuration and status details. A versatile ASCII or binary interface provides access to data over two high speed RS-232 serial ports capable of 230,400 bits/second.

If you require more information about Aviation, visit novatel.ca/products/aviationoverview.htm



Note: The EuroPak 15a and 15ab receivers have not undergone qualification testing and should be considered prototypes.

Performance¹

Frequency	
L1	1575.42 MHz
L5/E5a	1176.42 MHz
E5b ²	1207.14 MHz

Tracking Channels

Default Configuration	6 L1/L5 GPS + 2 L1/L5 SBAS
Default Configuration	8 L1 GPS + 8 L/E5a/E5b ²

Pseudorange Measurement Accuracy

Galileo L1	7 cm at 44 dB-Hz, 0.05 Hz DLL BW
Galileo E5a	4 cm at 44 dB-Hz, 0.05 Hz DLL BW
Galileo E5b	4 cm at 44 dB-Hz, 0.05 Hz DLL BW
GPS L1	10 cm at 44 dB-Hz, 0.05 Hz DLL BW
GPS L5	4 cm at 44 dB-Hz, 0.05 Hz DLL BW

Signal Channel Phase Accuracy

Galileo L1	3 mm at 44 dB-Hz, 3 Hz PLL BW
Galileo E5a	3 mm at 44 dB-Hz, 3 Hz PLL BW
Galileo E5b	3 mm at 44 dB-Hz, 3 Hz PLL BW
GPS L1	3 mm at 44 dB-Hz, 3 Hz PLL BW
GPS L5	3 mm at 44 dB-Hz, 3 Hz PLL BW

Data Rate

Raw Measurements	1 Hz
SQM Measurements (GPS L1 only)	1 Hz
Status Data	1 Hz

EuroPak Enclosure

Size 235 x 154 x 71 mm

Weight

EuroPak 15a	1.2 kg
EuroPak 15ab	2.0 kg

Power

Input Voltage +9 to +18 VDC

Power Consumption

EuroPak 15a	6 W (typical)
EuroPak 15a with OCXO	13 W (typical)
EuroPak 15ab	14 W (typical)

Antenna LNA Power Output

Output Voltage	+5 VDC
Maximum Current	100 mA

External Oscillator Input³

Input Frequency	10 MHz
Signal Level	0 to + 13 dBm

Communication Ports

- 2 RS-232 serial ports capable of 9,600 to 230,400 bps

Input/Output Connectors

Power	4-pin LEMO
Antenna Input	TNC female
Oscillator	BNC female
COM 1	DB-9 male
COM 2	DB-9 male
I/O	DB-9 female

Environmental

Temperature	
Operating	0°C to +40°C
Storage	-45°C to +95°C
Humidity	95% non-condensing
Altitude	3,000 m

**Sea and Land Technologies Pte Ltd**

65 Tuas Avenue 1, Singapore 639508

Tel: +(65) 6518 0777 Fax: +(65) 6563 0366

enquiry@sea-landtech.com.sg

http://www.sea-landtech.com.sg



Version 3 - Specifications subject to change without notice.

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For the most recent details of this product:

novatel.com/Documents/Papers/EuroPak15ab.pdf

¹ Typical values. Performance specifications subject to GPS and Galileo system characteristics, operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length, multipath effects and the presence of intentional or unintentional interference sources.

² EuroPak-15ab only.

³ Not available for OCXO models. Required for EuroPak-15ab.

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