



PRECISION GPS+

**TOPCON**



# ODYSSEY-RS

Integrated GPS+ Receiver



The Odyssey-RS is a full-featured and powerful reference/RTK GPS+ base station receiver. It's capable of collecting GPS L1/L2 and GLONASS data. The rugged external casing houses internal batteries which provide up to 40 hours of operating time and serve as

a power back-up system when connected to an external 12V power source. The Odyssey-RS includes many advanced features that are optional on other receivers such as:

- 100 percent compatible with all existing upgrade options, including dual-frequency
- USB and Ethernet communication support
- Easiest, most powerful RTK solution available

At its core is our **Paradigm** chip featuring 40 universal super channels that can each track all signals of either L1 or L2 GPS frequencies. It incorporates out new innovations in signal processing, **multi-path mitigation** and **co-op tracking**, making Topcon GPS+ the best in the for under-canopy and low signal strength reception.



Along with the capability of continuous operation as a permanent Reference Station, the Odyssey-RS has many advanced features, such as:

- Full wave carrier even under Anti-Spoofing activation
- Real-Time data streaming for Network Operation
- Over Voltage and Reverse Polarity protection
- Retruns to last configuration should power be interrupted

Combined with a Topcon CR-3 choke ring antenna, Odyssey-RS provides maximum performance for all RTK base and reference station collection with excellent multipath rejection performance and environmental radome cover. Or you can choose the more lightweight, accurate, precision micro center design of the PG-A1 antenna.

Topcon GPS+—no ordinary GPS.



# Odyssey-RS Technical Data<sup>1</sup>

<b>Description</b>	40 channel integrated GPS+ receiver with MINTER interface
<b>Tracking Specifications</b>	
Tracking Channels, standard	40 L1 GPS (20 GPS L1+L2+GLONASS on Cinderella <sup>2</sup> days)
Tracking Channels, optional	20 GPS L1+L2 (GD), 20 GPS L1 + GLONASS (GG), 20 GPS L1+L2+GLONASS (GGD)
Signals Tracked	L1/L2 C/A and P Code & Carrier
<b>Performance Specifications</b>	
Static, Rapid Static	Horizontal: 3mm+ 0.5ppm (x baseline length)
RTK	Vertical: 5mm+ 0.5ppm (x baseline length) Horizontal: 10mm+ 1.0ppm Vertical: 15mm+ 1.0ppm
<b>Power Specifications</b>	
Battery Internal	Lithium-Ion batteries plus 1 x external power port
External power input	6 to 28 volts DC
Power consumption	Less than 3.7 watts
<b>I/O</b>	
Communication Ports	4x serial (RS232) (2x standard)
Other I/O Signals	1pps, Event Marker – optional
Status Indicator	2x3-color LED's, two-function keys (MINTER)
<b>Memory &amp; Recording</b>	
Internal Memory	Up to 6 Gbyte
Raw Data Recording	Up to 20 times per second (20Hz)
Data Type	Code and Carrier from L1 and L2, GPS and GLONASS
<b>Data Output</b>	
Real time data outputs	RTCM SC104 version 2.3 CMR2/CMR+
ASCII Output	NMEA 0183 version 3.0
Other Outputs	TPS format
Output Rate	Up to 20 times per second (20Hz)
<b>Environmental Specifications</b>	
Enclosure	Aluminum extrusion, waterproof
Operating Temperature	-40°C to 60°C / -40°F to 140°F
Storage Temperature	-40°C to 60°C / -40°F to 140°F
Dimensions	W:159 x H:242 x D:49 mm / 6.25 x 9.53 x 1.93 in
Weight	1.9 kg / 4.19 lbs

Standard Configuration	Optional Features	Optional Antenna
<ul style="list-style-type: none"> <li>• Odyssey-RS Receiver (0Mb)</li> <li>• Cinderella GPS/GLONASS L2 activation</li> <li>• 1 Hz Update Rate</li> <li>• Co-op Tracking</li> <li>• NMEA 0183 output</li> <li>• User Defined Outputs</li> <li>• MINTER Interface</li> <li>• Advanced Multipath Reduction</li> <li>• 2x RS232 Serial Ports</li> <li>• Ethernet port</li> <li>• USB Port</li> <li>• 1x External Power Port</li> <li>• Met / Tilt Sensor inputs</li> <li>• Power Cables</li> <li>• RS232 Cable</li> <li>• USB Cable</li> <li>• RAIM</li> </ul>	<ul style="list-style-type: none"> <li>• GPS/GLONASS L1/L2</li> <li>• Update rate 5Hz, 10Hz &amp; 20Hz</li> <li>• RTK @ 5Hz, 10Hz &amp; 20Hz</li> <li>• Data Recording 4Mb to 6Gb</li> <li>• CMR/RTCM input/output</li> <li>• In-Band Interference Rejection</li> <li>• Frequency I/O</li> <li>• Event Marker</li> <li>• 2 additional serial ports</li> <li>• Additional power port</li> <li>• 1 PPS and Programmable Timing</li> <li>• Signals</li> <li>• WAAS</li> </ul>	<ul style="list-style-type: none"> <li>• PG-A1</li> <li>• PG-A1 with ground plane</li> <li>• CR-3</li> <li>• CR-4</li> <li>• Optional Radomes</li> </ul>

Topcon sells GPS products into the precision markets only. Go to [www.topcongps.com](http://www.topcongps.com) for details.

<sup>1</sup> Specifications are subject to change without notice. Performance specifications assume a minimum of 6 GPS or 7 GPS/GLONASS satellites above 15 degrees in elevation and adherence to procedures recommended by TPS in the appropriate manuals. In areas of high multipath, during periods of high PDOP and during periods of high ionospheric activity performance may be degraded. Robust checking procedures are highly recommended in areas of extreme multipath or under dense foliage.  
<sup>2</sup> Cinderella feature activates GPS L2 and GLONASS reception at GPS midnight every other Tuesday for 24 hours.