



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. Odyssey-RS includes many advanced features that are optional on other receivers such as:

- 3 serial ports standard
- Ethernet communications standard
- USB high speed download standard
- 1PPS and Event Marker standard
- 100 percent compatible with all existing upgrade options, including GPS+GLONASS

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 our new innovations in signal processing, **multi-path mitigation** and **co-op tracking**, making Topcon GPS+ the best in the field for under-canopy and low signal strength reception.



Activating optional features, like adding GPS L2, GLONASS or both is easy with simple password commands entered via a PC. Options can even be added on a pay-per-use basis—only when you need it.

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>

**Description** 40 channel integrated GPS+ receiver with MINTER interface.

## Tracking Specifications

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

## Performance Specifications (1 sigma)

Baseline Accuracy 5mm + 0.5ppm  
 RTK (OTF) Accuracy 10mm + 1ppm  
 Cold Start <60 seconds  
 Warm Start <10 seconds  
 Reacquisition <1 second

## Power Specifications

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

## GPS+ Antenna Specifications

GPS / GLONASS Antenna External  
 Antenna Type Microstrip  
 Ground Plane Antenna on a flat ground plane or Choke Ring (CR-3)

## I/O

Communication Ports 4x serial (RS232) (3x standard)  
 Other I/O Signals 1pps, Event Marker - optional  
 Status Indicator 2x3-color LED's, two-function keys (MINTER)

## Memory & Recording

Internal Memory Up to 1 Gbyte  
 Raw Data Recording Up to 20 times per second (20Hz)  
 Data Type Code and Carrier from L1 and L2, GPS and GLONASS

## Data Output

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)

## Environmental Specifications

Enclosure Aluminum extrusion, waterproof  
 Operating Temperature -30°C to 50°C / 14°F to 122° 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 Common Accessories

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| <ul style="list-style-type: none"> <li>• Odyssey-RS Receiver (0Mb)</li> <li>• 3x RS232 Serial Ports</li> <li>• USB port</li> <li>• Ethernet</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>• 1x External Power Port</li> <li>• Power Cables</li> <li>• RS232 Cable</li> <li>• USB Cable</li> </ul> | <ul style="list-style-type: none"> <li>• GPS L2 and GLONASS L2</li> <li>• Update rate 5Hz, 10Hz &amp; 20Hz</li> <li>• RTK @ 1Hz, 5Hz, 10Hz &amp; 20Hz</li> <li>• Data Recording 4Mb to 1Gb</li> <li>• CMR/RTCM input/output</li> <li>• Advanced Multipath Reduction</li> <li>• Frequency I/O</li> <li>• One additional serial port</li> <li>• 1 ppm</li> <li>• Event Marker</li> <li>• WAAS</li> <li>• RAIM</li> </ul> | <ul style="list-style-type: none"> <li>• Topcon Antennas</li> <li>• PG-A1 flat ground plane</li> <li>• CR-3 choke-ring</li> <li>• CR-4 choke-ring</li> <li>• TopSURV software</li> <li>• Topcon Tools software</li> <li>• FC-1000 controller</li> <li>• UHF Base or Rover radio kit</li> <li>• LitePole</li> <li>• Tripod</li> <li>• Tribach &amp; adapter</li> <li>• Pinnacle software</li> <li>• Carlson GPS software</li> <li>• Survey Pro software</li> <li>• Soft or hard carrying case</li> </ul> |
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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.



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