



PRECISION GPS+ PRODUCT

**TOPCON**



# ODYSSEY-RS

Integrated GPS+ Receiver

**Creation**  
TOPCON — 2002  
70 years of inspired creation



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, multipath 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, "zero-centered" design of the Legant-2 antenna.

Topcon GPS+—no ordinary GPS.



for more information on this or other Topcon products visit

[www.topcon.com](http://www.topcon.com)



Features and specifications subject to change without notice.

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

|   |   |
|---|---|
| <b>Description</b>                          | 40 channel integrated GPS+ receiver/data collector 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 (1 sigma)</b> |   |
| Baseline Accuracy                           | 3mm + 1ppm for L1 + L2 5mm + 1.5ppm for L1                                |
| RTK (OTF) Accuracy                          | 10mm + 1.5ppm for L1 + L2 15mm + 2ppm for L1                              |
| Cold Start                                  | <60 seconds   |
| Warm Start                                  | <10 seconds   |
| Reacquisition                               | <1 second   |
| <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 4.3 watts   |
| <b>GPS+ Antenna Specifications</b>          |   |
| GPS / GLONASS Antenna                       | External  |
| Antenna Type                                | Microstrip (Zero-Centered)  |
| Ground Plane                                | Antenna on a flat ground plane or Choke Ring                              |
| <b>I/O</b>                                  |   |
| Communication Ports                         | 4x serial (RS232) (3x standard)   |
| Other I/O Signals                           | 1pps, Event Marker - standard   |
| Status Indicator                            | 2x3-color LED's, two-function keys (MINTER)                               |
| <b>Memory &amp; Recording</b>               |   |
| Internal Memory                             | Up to 96 Mbytes   |
| 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 2.2  |
| ASCII Output                                | NMEA 0183 version 2.2   |
| Other Outputs                               | TPS format  |
| Output Rate                                 | Up to 20 times per second (20Hz)  |
| <b>Environmental Specifications</b>         |   |
| Enclosure                                   | Aluminum extrusion, waterproof  |
| Operating Temperature                       | -10°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   |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Odyssey-RS Receiver (0Mb)</li> <li>• 3x RS232 Serial Ports</li> <li>• 1 ppm</li> <li>• Event Manager</li> <li>• Ethernet</li> <li>• USB port</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> </ul> | <ul style="list-style-type: none"> <li>• GPS L2 and GLONASS</li> <li>• Update rate 5Hz &amp; 10Hz</li> <li>• RTK @ 5Hz, 10Hz &amp; 20Hz</li> <li>• Data Recording 4Mb to 96Mb</li> <li>• CMR/RTCM input/output</li> <li>• Advanced Multipath Reduction</li> <li>• Frequency I/O</li> <li>• One additional serial ports</li> <li>• Additional power port</li> </ul> | <ul style="list-style-type: none"> <li>• Topcon Antennas<br/>LegAnt-2 flat ground plane w/integrated RF antenna<br/>CR-3 choke-ring<br/>CR-4 choke-ring</li> <li>• AirAnt</li> <li>• UHF Base or Rover radio kit</li> <li>• LitePole</li> <li>• Tripod</li> <li>• Tribraich &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> |

<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.