



Total Solutions Package  
**PRECISION GPS+**

**TOPCON**



**HiPER**

Integrated GPS+ Receiver / Antenna



**TOPCON**



There's no reason to carry around a toolbox full of hardware and cables when you need to gather data. HiPer cleans up the hardware mess and makes data collection faster and easier than ever.

Everything you need for static GPS surveying is fully integrated. Antenna, receiver and rechargeable batteries all neatly packaged inside the rugged, compact housing. But that's only the beginning of the power of HiPer.

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 for high production rapid static operation, 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.



Operation is streamlined too. Two LED's and function keys provide operation and data recording status. And it can store over 400 hours of L1 data!

HiPer quickly converts to RTK operation by adding the optional base station kit and the internal radio card to the rover. The only cable on the rover is the one connecting the data collector.

For high performance GPS+ simplified, get HiPer.



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## HiPer Technical Data <sup>1</sup>

<b>Description</b>	40 channel integrated GPS+ receiver/antenna with MINTER interface.
<b>Tracking Specifications</b>	
Tracking Channels, standard	40 L1 GPS (20 GPS L1+L2 on Cinderella <sup>2</sup> days)
Tracking Channels, optional	20 GPS L1+L2 (GD) or GPS L1 + GLONASS (GG)
Signals Tracked	L1/L2 C/A and P Code & Carrier
<b>Performance Specifications</b> (1 sigma)	
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 3.0 watts
<b>GPS+ Antenna Specifications</b>	
GPS / GLONASS Antenna	Integrated
Antenna Type	Microstrip (Zero-Centered)
Ground Plane	Antenna on a flat ground plane
<b>Radio Specifications</b>	
SpSp	Internal 900 MHz or 2.4 GHz SpSp transceiver
UHF Radio Modem	Internal Rx or External Tx/Rx
Base Power Output	0.5W/2.0W/35W
<b>I/O</b>	
Communication Ports	4x serial (RS232)
Other I/O Signals	1pps, Event Marker
Status Indicator	2x3-color LED's, two-function keys (MINTER)
Control & Display Unit	External: Husky FS/2, FS/3, Ranger, 3rd Party
<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	-40°C to 55°C / -40°F to 130° F
Dimensions	W:159 x H:172 x D:88 mm / 6.25 x 6.75 x 3.5 in
Weight	1.65 kg / 3.64 lbs

### Standard Configuration

- HiPer GD Receiver (0Mb)
- 1 Hz Update Rate
- Co-op Tracking
- NMEA 0183 output
- User Defined Outputs
- MINTER Interface
- 2x RS232 Serial Ports
- 1x External Power Port
- Power Cables
- RS232 Cable

### Optional Features

- Euro GD or Euro GG
- Euro 900 MHz SpSp radio
- Euro 2.4 GHz SpSp radio
- Euro GSM module
- Euro UHF module
- Update rate 5Hz & 10Hz
- RTK @ 5Hz, 10Hz & 20Hz
- Data Recording 4Mb to 96Mb
- CMR/RTCM input/output

- Advanced Multipath Reduction
- Event Marker
- Two additional serial ports

### Common Accessories

- Data Collector
- LitePole
- Tripod
- Tribach & adapter
- Pinnacle software
- Carrying case

<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 reception at GPS midnight every other Tuesday for 24 hours.