



PRECISION GPS+

TOPCON



Legacy-E

When Ordinary GPS Isn't Good Enough



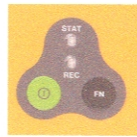
With a Legacy-E GPS+ receiver, fast and accurate solutions don't rely on when or where you're working, or how much time have. It has the world's most advanced GPS+ receiving technology built-in, ready to work where others won't.

At its core is our **Paradigm** chip featuring 40 universal super channels that can each track all signals of either L1 or L2 GPS and GLONASS frequencies—and up to 20 GPS+ satellites at once, the maximum available at any one time! 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.



Our unique Cinderella feature activates GPS L1+L2 and GLONASS reception every other Tuesday for 24 hours so you can experience the real power of Topcon GPS+. Permanently activating these frequencies and other options 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.

The MINimum INTERface keeps operation very simple. Just two function keys and two 3-color LED's are all that's needed to record data and check status. Up to



four serial ports lets Legacy-E work with a variety of accessories in all types of configurations.

Topcon offers a full line of antennas, radios, post-processing software and all the other accessories and hardware that will help ensure maximum productivity and accuracy.

Powerful, simple, versatile. Topcon Legacy-E—no ordinary GPS receiver.



TOPCON POSITIONING SYSTEMS, INC.
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Legacy-E Technical Data¹

Description	40 channel integrated GPS+ receiver with MINTER interface.
Tracking Specifications	
Tracking Channels, standard	40 L1 GPS (20 GPS L1+L2+GLONASS on Cinderella ² 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	External (maximum of 2 ports)
Power input / consumption	6 to 28 volts DC / less than 3.3 watts
Continuous Operating Time	7 hours (typical w/2.3AH rechargeable battery)
GPS+ Antenna Specifications	
GPS / GLONASS Antenna	External
Antenna Type	Microstrip
Ground Plane	Antenna on a flat ground plane or Choke Ring
Radio Specifications	
Type	External, UHF/VHF radio modem
Base Power Output	0.5W/2.0W/35W
I/O	
Communication Ports	Serial (RS232), 4 maximum, 2 standard
Other I/O Signals	1pps, event marker, frequency input, frequency output
Status Indicator	2x3-color LED's, two-function keys (MINTER)
Control & Display Unit	External: Husky FS/2, FS/3, Ranger, 3rd Party
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 104 version 2.3 and/or CMR2/CMR+
ASCII Output	NMEA 0183 version 2.3
Other Outputs	TPS format
Output Rate	Up to 20 times per second (20Hz)
Environmental Specifications	
Enclosure	Waterproof
Operating Temperature	-40°C to 55°C / -40°F to 130°F
Dimensions	W:240 x H:110 x D:35 mm / 9.45 x 4.33 x 1.38 in
Weight	0.6 kg / 1.32 lbs

Standard Configuration

- Legacy-E Receiver (0Mb)
- Cinderella GPS L2 + GLONASS activation
- 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

- GPS L2 and GLONASS
- Update rate 5Hz, 10Hz, 20Hz
- RTK @ 1Hz, 5Hz, 10Hz, 20Hz
- Data Recording 4Mb to 1Gb
- CMR/RTCM input/output
- Advanced Multipath Reduction
- Frequency I/O

- Event Marker
- Two additional serial ports
- Additional power port
- WAAS
- RAIM

Common Accessories

- Topcon Antennas
 - PG-A1 flat ground plane
 - CR-3 choke-ring
 - CR-4 choke-ring
- TopSURV software
- Topcon Tools software
- FC-1000 controller
- UHF Base or Rover radio kit
- 2.3AH rechargeable battery
- LitePole
- Tripod, tribrach & adapter
- Pinnacle software
- Carlson GPS software
- Survey Pro software
- Backpack, carrying case

¹ 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.

² Cinderella feature activates GPS L2 and GLONASS reception at GPS midnight every other Tuesday for 24 hours.