



Base Rover System E500 & E800

The E500 and E800 make for the ideal long range survey solution. Paired with the internal tilt sensors, you get a survey solution that allows you to work longer, survey further and get shots you never could before.

Built on Hemisphere's leading RTK technology, the E500 and E800 boast best in class canopy and near-building performance. With the Athena RTK engine, you get accurate, repeatable results that you know you can rely on.

With durable IP67 ratings, and sealed internal batteries, the E500 and E800 will stand up to whatever conditions you through there way.

Multi-Constellation and Multi-Frequency

With 800 channels of GNSS tracking, the E500 and E800 provide stable repeatable, and reliable accuracies. Both receivers come standard with all major constellations, including: GPS, GLONASS, Galileo, Beidou, SBAS, IRNSS and QZSS.

Intelligent Battery LED Indicators

Receiver battery status can be quickly checked, without powering on device, by pressing the power button on the receivers.

MEMS Dynamic Tilt Survey

The eSurvey E500 and E800 use a high end IMU tilt survey solution that integrated motion and RTK data to calculate a highly accurate solution. The sensor is easy to calibrate and can be ready within 10 sec.

Web UI

With the WebUI you can program and adjust settings on your receiver, with out the need for any software. Using the WebUI, you can change things on the fly.

Rugged Design

E500 and the E800 main body is made from magnesium alloys to provide strong shock and vibration resistance. IP67 certification ensures that you can be confident taking this receiver into tough environments.

Long Range Radios

The E800 boasts a powerful internal 5 Watt radio that can extend your working range out to 15 km in optimal conditions. Paired with the internal batteries, you can work further and for longer than before.

Bench-Mark Support

The E500 and E800 are both supported by MicroSurvey's FieldGenius. This means that they are fully supported by our cheat sheet, video library, and training sessions.

E500 Rover Specifications

GNSS		Internal Radio	
Satellites Tracking	GPS: L1CA/L1P/L1C/L2P/L2C/L5 BDS: B1I/B2I/B3I/B1C/B2a/B2b/ ACEBOC GLONASS: G1/G2/G3, P1/P2 GALILEO: E1/E5a/E5b/E6/ALTBOC QZSS: L1CA/L1C/L2C/L5/LEX IRNSS: L5 SBAS ¹ : L1, L5 L-Band: Atlas H10/H30/Basic	Type	TX and RX
Channels	800	Frequency Range	410 ~ 470 MHz, 902.4 ~ 928 MHz
Signal Reacquisition	< 1 sec	Channel Spacing	12.5 KHz / 25 KHz
Cold Start	< 60 sec	Emitting Power	1 W
Warm Start	< 30 sec	Operation Range	3 ~ 5 Km typically 10 Km with optimal conditions ²
Hot Start	< 10 sec	Protocol	Satel, PCC, TrimTalk, TrimMark III, South, HiTarget
RTK Signal Initialization	< 8 sec	Internet Modem	
Initialization Reliability	> 99.9%	Support Band	Global GSM /WCDMA/LTE
Update Rate	10 Hz standard, up to 50 Hz	Communication	
Operation System	Linux	Bluetooth	BT 5.0 + EDR, BLE
Internal Memory	8 GB	WIFI	802.11 b/g/n
		SIM Card	SIM card
		5-pin Port	Connect to external radio and power, NMEA output
		Type-C Port	Charge and internal storage access
		TNC Port	Connect to internal radio antenna
		Web UI	View status, update firmware, set up working mode, download data
		Intelligent Voice	Broadcast working status
		NMEA Output	GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL, Binary
		Correction Data	CMR, CMR+, RTCM2, RTCM3, RTCM32
		MEMS	Fast initialization, dynamic tilt survey up to 60°
Performance		Physical	
High Precision Static	H: 2 mm + 0.1 ppm V: 3 mm + 0.4 ppm	Dimension	Φ 148 mm x H74.5 mm
Static/Fast Static	H: 2.5 mm + 0.1 ppm V: 3.5 mm + 0.4 ppm	Weight	1.06 kg
RTK	H: 8 mm + 1 ppm V: 15 mm + 1 ppm	Operating Temperature	-40°C ~ +65°C
Code Differential	H: 0.25 m V: 0.45 m	Storage Temperature	-45°C ~ +80°C
SBAS	H: 0.3 m V: 0.6 m	Water/Dust Proof	IP67
L-Band	Atlas H10: 4 cm RMS Atlas H30: 15 cm RMS Atlas Basic: 30 cm RMS	Shock	Survive a 2 m drop on concrete floor
		Vibration	Vibration resistant
		Humidity	Up to 100%
		Indicators	Battery
		Button	Power button
		Certificate	CE, FCC, NGS Calibration
Power Supply			
Battery	Rechargeable and built-in Lithium-ion battery, 7.2 V ~ 6800 mAh		
Voltage	9~28 VDC with over-voltage protection		
Working Time	Up to 12 hours		
Charging Time	Typically 4 hours		

1. SBAS supports WAAS, EGNOS, GAGAN, SDCM, MSAS.

2. Depends on the environment and electromagnetic interference.

E800 Base Specifications

GNSS		Internal Radio	
Satellites Tracking	GPS: L1CA/L1P/L1C/L2P/L2C/L5 BDS: B1I/B2I/B3I/B1C/B2a/B2b/ ACEBOC GLONASS: G1/G2/G3, P1/P2 GALILEO: E1/E5a/E5b/E6/ALTBOC QZSS: L1CA/L1C/L2C/L5/LEX IRNSS: L5 SBAS ¹ : L1, L5 L-Band: Atlas H10/H30/Basic	Type	TX and RX
Channels	800	Frequency Range	410 ~ 470 MHz
Signal Reacquisition	< 1 sec	Channel Spacing	12.5 KHz / 25 KHz
Cold Start	< 60 sec	Emitting Power	5 W
Warm Start	< 30 sec	Operation Range	3 ~ 5 Km typically 10 Km with optimal conditions ²
Hot Start	< 10 sec	Protocol	Satel, PCC, TrimTalk, TrimMark III, South, HiTarget
RTK Signal Initialization	< 8 sec	Internet Modem	
Initialization Reliability	> 99.9%	Support Band	Global GSM /WCDMA/LTE
Update Rate	10 Hz standard, up to 50 Hz	Communication	
Operation System	Linux	Bluetooth	BT 5.0 + EDR, BLE
Internal Memory	32 GB	WIFI	802.11 ac/n(HT20)/a/b/g
Performance		SIM Card	SIM card
High Precision Static	H: 2 mm + 0.1 ppm V: 3 mm + 0.4 ppm	5-pin Port	Connect to external radio and power, NMEA output
Static/Fast Static	H: 2.5 mm + 0.1 ppm V: 3.5 mm + 0.4 ppm	Type-C Port	Charge and internal storage access
RTK	H: 8 mm + 1 ppm V: 15 mm + 1 ppm	TNC Port	Connect to internal radio antenna
Code Differential	H: 0.25 m V: 0.45 m	Web UI	View status, update firmware, set up working mode, download data
SBAS	H: 0.3 m V: 0.6 m	Intelligent Voice	Broadcast working status
L-Band	Atlas H10: 4 cm RMS Atlas H30: 15 cm RMS Atlas Basic: 30 cm RMS	NMEA Output	GGA, ZDA, GSA, GSV, GST, VTG, RMC, GLL, Binary
Power Supply		Correction Data	CMR, CMR+, RTCM2, RTCM3, RTCM32
Battery	Rechargeable and built-in Lithium-ion battery, 7.2 V ~ 6800 mAh	MEMS	Fast initialization, dynamic tilt survey up to 60°
Voltage	9~28 VDC with over-voltage protection	Physical	
Working Time	Up to 15 hours	Dimension	Φ 154 mm x 154 mm x 76 mm
Charging Time	Typically 5 hours	Weight	1.5 kg
		Operating Temperature	-40°C ~ +65°C
		Storage Temperature	-45°C ~ +80°C
		Water/Dust Proof	IP67
		Shock	Survive a 2 m drop on concrete floor
		Vibration	Vibration resistant
		Humidity	Up to 100%
		Indicators	Satellites, datalink, battery, bluetooth
		Button	Power button, shot press to hear status
		Certificate	CE, FCC, NGS Calibration

1. SBAS supports WAAS, EGNOS, GAGAN, SDCM, MSAS.

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