

Base Stations

Repeaters

Rovers



If you use GPS

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we are here to help you.

The logo for SATEL SURVEY USA, featuring a globe icon to the left of the text "SATEL SURVEY USA".

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SATELLINE® EPIC PRO 35 W

SPECIFICATIONS

Frequency Range	400 ... 470 MHz (4 MHz Field Selectable)	
Channel Spacing	12.5 kHz / 25 kHz Fixed	
Tuning Range	2 x ± 1MHz	
Frequency Stability	< 1.5 kHz	
Type of Emissions	F1D	
Communication Mode	Half-Duplex	
Modulation	4FSK, GMSK	
TX Duty Cycle *	100 % (22 °C / 35 °C)	40 %
35 W	20 min / 13 min	no limit
10 W	no limit / 50 min	no limit
Carrier Power	5, 10, 20, 25 or 35 W / 50 ohm (+/- 2 dB)	
Carrier Power Stability	± 2 dB	
Sensitivity	<-115 dBm (BER < 10E-3) **	
Interface	RS-232	
Interface Connector	Waterproof IP67, 7-pin, ODU MINI-Snap Style G4, Size 0 or 8-pin LEMO HGA. 1B. 308. CLPP	
Max Data Speed	19200 / 38400 bps	
Radio interface speed	19200 bps (25 kHz channel) 9600 bps (12.5 / 20 kHz channel)	
Data format	Asynchronous RS-232	
FCC Call Sign ID	6 digits Morse code, once in 15 minutes	
Antenna Connector	TNC, 50 Ohm, Female	
Operating voltage	+9 ... +16 Vdc ***	
Power Connector	4-pin ODU MINI-Snap Size 1	
Power Consumption	1.3 VA typical (Receive) 120 VA typical (Transmit)	
Construction	Aluminum Enclosure	
Size H x W x D	165 x 138 x 73 mm	
Weight	1640 g	
Operating Temperature	-25 °C ... +55 °C (tests acc. to ETSI standards) -40 °C ... +75 °C (absolute min/max)	
Storage Temperature	-40 °C ... +85 °C	
IP Classification	IP67 (NEMA 6)	

SATELLINE® EPIC PRO 35 W



EPIC-Pro's 35 Watt transmitting power increases connection distances up to 50 miles in ideal conditions.

Compatibility with other radio modems

The SATELLINE-3ASd Epic Pro is compatible with other SATELLINE-3AS(d) and Epic models, as well as radio modems with PCC® and TrimTalk® communications protocols.

Fast & Easy Field Configuration

LCD display, and keypad provide field access to all of the modem's features including Dual Frequency Band, Forward Error Correction, Free Channel Scanning, Compatibility, and Repeater functionality.

Heavy-duty tool for outdoor use

Sealed in a heavy-duty, IP67 (NEMA 6) housing, SATEL's 35 Watt UHF transceiver is built for mobile use in severe weather and proven to withstand shock and vibration.

SATELLINE®-EASy 1W

SPECIFICATIONS

Frequency Range	403...473 MHz
Tuning Range	70 MHz
Channel Spacing	12.5 / 20 / 25 kHz (Selectable)
Frequency Stability	< 1 kHz
Type of Emissions	F1D
Communication Mode	Half-duplex
Spurious Emissions	< -100 dBm (RX) < -80 dBm on 3rd Harmonics @ 1215 - 1240 MHz (TX)
Modulation	4FSK, GMSK
Carrier Power	10 mW ... 1 W / 50 ohm
Carrier Power Stability	< ± 1.5 dB
Adjacent Channel Power	Acc. to EN 300 113 / CFR47 part 90
Sensitivity BER < 10E-3 (FEC on)	-114 dBm @ 12.5 kHz -111 dBm @ 25 kHz
Adjacent Channel Selectivity (FEC) Selectivity at ± 50 kHz	> 47 dB @ 12.5 kHz, > 52 dB @ 25 kHz > 67 dB @ 12.5 / 25 kHz
Blocking (FEC on)	> 86 dB
Intermodulation Attenuation	> 60 dB
Data Interface	Port 1 fixed: RS-232 Port 2 options: LVTTTL, TTL, RS-232, RS-422
Interface connector	Connector D 15, female
Data speed of RS Interface	300 - 38400 bps
Data speed of radio interface	19200 bps (25 kHz channel) 9600 bps (12.5 / 20 kHz channels)
Data Format	Asynchronous data
Operating Voltage	Option 1: +3 ... +9 Vdc Option 2: +6 ... +30 Vdc
Power Consumption, Typical	1.2 W (Receive) 7 W (Transmit)
Temperature Range	-25 °C ... +55 °C standards -30 °C ... +65 °C functional -40 °C ... +80 °C storage
Antenna Connector	TNC, 50 ohm, female
Size H x W x D mm / Weight	137 x 67 x 29 mm / 250 g

SATELLINE®-EASy 1W

Precision tuned for long range communication and rugged by design

Wide tuning range and flexible bandwidth

The EASy has a 70 MHz tuning range, from 403-473 MHz and can connect to 12.5 or 25 kHz transmitters.

Flexibility to fulfil any role

Operating as a low power base station, repeater and/or rover, the SATELLINE EASy can be used anywhere. SATEL 3AS technology in the EASy is integral to many instruments from Leica, Topcon, Sokkia, and others. Compatibility with Pacific Crest PDL or Trimble TrimTalk brings together diverse equipment making the most of existing hardware investments.

Fast & Easy Field configuration

SATELLINE radio modems are generally preset for instant use. If adjustments need to be made, simple to use push buttons and intuitive menus on an easy to read LCD display give instant field access to all important radio settings including: received signal strength, channel and frequency selection, Forward Error Correction, Error Check, Network Addressing, Free Channel Scan, Repeater Mode, Compatibility, and more.

Extreme Reliability

The SATELLINE EASy 1 Watt radio modem passes flawless data corrections at speeds up to 38,400 bps port speed across several miles of trees and rolling hills, while the precision tuned receiver extends roving distances from base stations and repeaters.



BASE STATIONS

SATEL Survey Base Stations are available in high power and low power versions and contain radios, antennas, GPS cables, and carrying cases.

High Power Mobile Base Station

Go further, work harder, last longer

The High Power Base package from SATEL Survey sends 35 Watts of precision tuned power booming across the landscape, through trees and down into valleys.

Built around the SATELLINE EPIC-Pro 35W, survey base station package is compatible over the air with all OEM GPS.GNSS RTK systems. Capable of continuously transmitting as a base station or receiving corrections data and rebroadcasting it.

Each package contains all necessary components for immediate use; including battery, cables, antenna, antenna mast, tripod and carrying case.

A Complete Base Station Contains:

- Epic Pro 35W
- 5dBi Whip Antenna
- Heavy Duty GPS/GNSS Data Cable
- Heavy Duty Power Cable
- 33 Amp hour Bag Battery Set with charger
- Tripod w/ Telescoping Mast
- Snap Lock Antenna Mast Extension
- Reinforced Antenna Cable
- Carrying Case and Bags

High Power Base Station Package Variations

High Power Base Kit - (Full)	SSB-A
High Power Base Kit - w/Tripod & Telescoping Mast, no battery	SSB-B
High Power Base Kit - w/battery, no Tripod	SSB-C
High Power Base Kit - no battery, no tripod	SSB-D



Low Power Base Station

SWC-A

Turn on, Tune in, Take off...

With an extended receiver sensitivity and instant over-the-air connectivity, the SATEL Survey Low Power Base/Rover kit is simple to use, and increases range across the landscape, through trees, and in valleys.

Built around the SATELLINE EASy, Low Power Base station and Repeater packages are transceiver packages capable of continuously transmitting as a base station or receiving corrections data and rebroadcasting it on the same or a different channel. Each package contains all necessary components for immediate use.

A Complete Rover or Low Power Base Station Contains:

- SATELLINE EASy
- GainFlex Antenna
- Power Package with Charger
- GPS Receiver Cable
- Carrying Case

Optional Accessory Packages

Base Station Antenna Package
Base Station Antenna Package (No Tripod)



SWC-A2
SWC-A2-B

High Power Fixed Base Station

SK-FBS

With accessories for constructing a permanent base station, the High Power Fixed Base Station packages combines the power and flexibility of the 35W EPIC-Pro with cables and an antenna suitable for long term installation.



REPEATER STATIONS

Similar to base stations, repeater stations are available in high and low power variations and contain radios, antennas, and carrying cases. Repeater stations do not include cables for connection to a GPS receiver or data collector.

High Power Repeater

High Power Repeaters comes with all items for instant utilization.

A High Power Repeater Contains:

- Epic Pro 35W
- 5dBi Whip Antenna
- Heavy Duty Power Cable
- 33 Amp hour Bag Battery Set with charger
- Tripod
- Antenna Mast
- Reinforced Antenna Cable
- Carrying Case and Bags



High Power Base Station Package Variations

High Power Base Kit - (Full)	HPR-A
High Power Base Kit - w/Tripod, no battery	HPR-B
High Power Base Kit - w/battery, no tripod	HPR-C
High Power Base Kit - no battery, no tripod	HPR-D

Low Power Repeater

A Low Power Repeater comes with all items for instant utilization.

A Complete Rover or Low Power Base Station Contains:

- SATELLINE EASy
- GainFlex Antenna
- Power Package with Charger
- Carrying Case

Optional Accessory Packages

BSA-1 Base Station Antenna Package	SWC-A2
Base Station Antenna Package (No Tripod)	SWC-
A2-B	



ROVER PACKAGES

Identical to a Low Power Base station, the traditional rover comes complete with radios, antennas, GPS cables, pole clamp bag, lithium polymer battery, battery charger, battery connector/ programming adapter and a carrying case. A Bluetooth variation is also available for absolute mobility and wireless operation.

Rover / Low Power Base Station

SWC-A

A Rover Package contains all items to immediately begin receiving data.

A Rover / Low Power Base Station Contains:

- SATELLINE EASy
- Antenna
- Power Package with Charger
- GPS Receiver Cable
- Pole Clamp Bag
- Carrying Case



Bluetooth Rover

SWC-A-BT

Specialized for absolute wireless, this version of the traditional Rover package, includes a Class 1 Bluetooth transceiver with an external antenna for distances up to 100 meters.

The Bluetooth Rover Package also contains every item necessary to begin receiving data.

A Bluetooth Rover Contains:

- SATELLINE EASy
- Bluetooth Module
- Antennas (UHF & Bluetooth)
- Rover Battery with Charger
- Bluetooth Battery Adapter
- Pole Clamp Bag
- Carrying Case



RTK DATA POWER PACKAGES

High Power Base/Repeater Power Pack

Built to power the 35W EPIC-Pro or an RTK Bridge, SATEL Survey's Base Station Power Pack includes a 33 Amp/hour 12 Volt battery for maximum field time packed into a heavy duty bag, complete with fused cables and battery charger.



RoverLP Battery Set

Uniquely designed for use with SATELLINE 2AS, 3AS, and EASy model radio modems; SATEL Survey's LP Battery Set features a long-lasting and lightweight lithium polymer battery with an on/off switch and matching charger, data connector with integrated programming switch, in a heavy duty pole clamp bag.



High Power Base/Repeater Battery Bag Kit

All of the Base/Repeater Power Pack accessories bundled in a ready-to-go package for most 12 Volt, 33 Amp/hour Sealed Lead-Acid batteries. Battery Bag Kit includes a heavy duty battery bag, fused battery cables, and battery charger.



Fixed Base Power

Desktop power supply with cable and connectors for indoor use with fixed base stations.



RTK DATA POWER COMPONENTS

High Power Base Stations, Repeaters and RTK Bridge



Base / Repeater Battery

YPB33H

- EPIC-Pro 33 Ahr, 12V, SLA Battery



Base / Repeater Battery Bag

YP33BB

- EPIC-Pro Battery Bag



Base / Repeater Battery Charger

YP1233

- EPIC-Pro 12v SLA Battery Charger



Base / Repeater Battery Cable

YCOP35A

- EPIC-Pro Battery Cable, 6ft, Braided (SAE w/fuse)
- Fused Battery Cable w/ SAE connector (ONLY) YCO

Rover and Low Power Base/Repeater stations



Rover / Repeater Battery

YC03ASL

- SATEL Survey Lithium Polymer Battery



Rover / Repeater Battery Charger

YPOCLT

- Charger for SATEL Survey Lithium Polymer Battery



Rover / Repeater Battery Adapter

YC4NARL

- Connector (w/ programming switch) for SATEL Survey Lithium Polymer Battery



Pole Clamp Bag

YPSWK5

- Mounts SATELLINE 3ASd and EASy modems to 1 1/2" instrument pole

RTK DATA ANTENNA PACKAGES

Base/Repeater Antenna Pack

SWC-A2

Lifting a 5 dBi Omnidirectional antenna to nearly 20 feet when fully extended, SATEL Survey's Base/Repeater Antenna Pack extends the coverage of a GPS base station or repeater up to 100x further than ground level antennas beneath the GPS receiver. Each complete package contains a 5 dBi mobile whip antenna, antenna mount, extension mast, tripod, telescoping antenna pole, antenna cable and heavy duty carrying bag.

Base/Repeater Tripod Antenna Kit

SWC-A2-B

All of the Base/Repeater Antenna Pack accessories bundled in a ready-to-go package which fits most instrument tripods. Included are: 5 dBi mobile whip antenna, antenna mount, extension mast, antenna cable, and heavy duty carrying bag.



ANTENNAS



Mobile Whip Antenna

YAS5MW

- High Gain Mobile Whip Antenna, 435-470 MHz, 5dBi, NMO



Fixed Omni Antenna

YA050D

- Pole Mount Fiberglass Omnidirectional Antenna, 450-470 MHz, 5dBi, N Male



GainFlex Antenna

YA0103

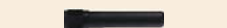
- Half Wave, 435-470MHz, 4dBi, TNC



MultiFlex Antenna

YA0101

- Quarter Wave, 400-470MHz, 2dBi, TNC



MiniFlex Antenna

YA0102

- Small, 3", 435-470MHz, Unity Gain, TNC

RTK DATA ANTENNA COMPONENTS

Antenna Tripod K-YKIT-AK

- Tripod w/Antenna Mast & Bag



Antenna Mount YPTMAM

- 5/8-11 Screw Mount, NMO Antenna Connector/TNC Cable



Antenna Cable YKAC15

- 8Ft., Braided Cut/ Bend Resistant Sheathing, Strain Relief, LMR195, TNC-TNC



Antenna Mast Y-KAM-1

- 6ft Antenna Mast w/Bag



DATA CABLES



Our specially constructed, 6 foot, heavy-duty, braided, and double-reinforced data cables connect directly to almost any device. Constructed specifically to resist cuts, shorts, and withstand pulling.



SATEL Survey offers cables with a variety of connectors in many standard and custom wiring configurations. We have an expansive repertoire of radio device cables that include legacy robotic total stations, data collectors and GPS



Our most common cables are listed below. Please contact your SATEL Survey representative for other options.



Manufacturer	Model	EPIC-Pro	3ASd	Conn.
Altus	APS-3	YCSWK-A1	YCSWK-A2	8 Pin
Carlson		YCSWK-	YCSWK-	DB-9 Female
Hemisphere	A220/ A221	YCSWK-H1	YCSWK-H2	DB-9 Male
Leica	1200	YCSWK-L1	YCSWK-L2	8 Pin
Ashtec / Magellan	ProFlex & ProMark 500	YCSWK-M1	YCSWK-M2	7 Pin
NavCom	SF-2040	YCSWK-N1	YCSWK-N2	7 Pin
Sokkia	GSR/ GSX 1700, & GRX1	YCSWK-S1	YCSWK-S2	8 Pin
Sokkia	GSR 2700	YCSWK-	YCSWK-	10 Pin
Topcon	HiPer Series & GR-3	YCSWK-M1	YCSWK-M2	7 Pin
Trimble	R Series	YCSWK-T1	YCSWK-T2	7 Pin

OTHER ITEMS

Programming Adapters



YC0357	EPIC-Pro Programming Adapter (Requires YC0204)
YC0204	3ASd Programming Adapter (DB-9)

Hard Case



YPC001	Universal Radio Kit Case
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FCC LICENSING

Working with Frequency Coordinators, Dealers, End Users, and the FCC, we obtain licenses specifically tailored to Land Surveyors and RTK/DGPS, GPS/GNSS.



With our assistance, the frequency application (FCC 601 Main form) and supporting schedules are simplified to a few general questions and the frequency license granted matches the system's design assuring full legal compliance.

We provide complete licensing services for UHF channels used by private businesses, individuals, and public entities transmitting at powers 50 mW up to 300 Watts (ERP) for use in fixed, mobile, regional, or nationwide application types in the United States.

With years of FCC application experience and as a multiple license holder, SATEL Survey guarantees to find a frequency for use in any location, or there will be no charge for our services.

Contact a SATEL Survey dealer representative with any questions you have and get licensed today, it has never been simpler.



LAND SURVEYORS DON'T CHARGE FOR
HAMMERING IN THE STAKES,



IT IS FOR KNOWING WHERE THE STAKES SHOULD GO.

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