



Norsat
International Inc.

Intelligent Satellite Solutions



ROVER™

The Norsat ROVER™ is the latest generation of ultra-portable satellite terminals. Engineered for efficiency, its design provides for maximum throughput in the smallest package.



Intelligent

The Norsat ROVER™ comes equipped with Norsat's industry leading satellite acquisition technology. The Satellite Acquisition Assistant's 'built in intelligence' provides highly advanced features yet is simple enough for a consumer to use. An intuitive alignment wizard leads the user through the process of acquiring a satellite. The intelligence also enables the system to operate unattended in harsh and hostile conditions.

Ultra-Portable

The Norsat ROVER™ is built to be an effective platform that is configurable to meet your needs. The carbon fiber segmented antenna and tripod superstructure offer multiple configurable options. Choose from numerous power amplifiers (2W, 4W, 6W, 8W, 10W, 20W, 40W, 60W), multiple frequencies (Ku, Ka, X) and packaging (Backpack, Rolling Case). Each system comes equipped with a built-in inclinometer, compass, GPS, spectrum analyzer and LinkControl™. The Norsat ROVER™ is designed to go anywhere you do.

Tough

The Norsat ROVER™ has been extensively tested to withstand vibrations and shocks. It is specifically designed to operate in harsh and hostile conditions.

Ultra Portable

- Man Portable
- Airline Checkable
- Fits in Small Vehicles
- Helicopter Friendly
- Quick Assembly without Tools

Intelligent

- Assisted-Acquire
- Intuitive Interface
- Remote Operation

Tough

- Built Rugged
- Shock Protected
- Environmental Controls
- Hermetically Sealed Electronics

System

Transmit Frequency	13.75 GHz - 14.5 GHz
Receive Frequency	10.95 GHz - 12.75 GHz
EIRP	56 dBW (40W)
G/T	19.6 dB/K $T_{ant} = 40^{\circ}\text{K}$, $EI = 20^{\circ}$
Antenna	1.0 m carbon fiber segmented (6)
Antenna Tx Gain	41.3 dBi (mid band)
Antenna Rx Gain	39.8 dBi (mid band)
Polarization	Linear Orthogonal Vertical / Horizontal
Cross Polarization	>35 dB within 1 dB of axis
Antenna Platform	Elevation over Azimuth Tripod
Elevation Adj.	10° to 80°
Azimuth Adj.	360° continuous
Polarization Adj.	-800 to +150°

Pointing Tools

Self-contained Satellite Acquisition Assistant, containing DVB receiver, spectrum analyzer and beacon detector. SAA interfaces with integrated GPS, compass and inclinometer.

Transmit

Frequency Range

Output	13.75 GHz - 14.5 GHz
Input	950 MHz - 1700 MHz
L.O. Frequency	12800 MHz
Reference Signal Frequency	External 10 MHz
10 MHz Power Level	0dBm $\pm 5\text{dB}$
Reference Input Impedance	50 Ω

Output Power

Rated Power (P1dB) @ Amplified Flange (minimum)	40W (Optional: 4W, 8W, 16W, 25W)
--	----------------------------------

Gain

Small Signal	70 dB (40W typical)
Maximum SSG Variation Over: Any Narrow Band Full Band	1 dB in any 54 MHz band 3 dB over full 750 MHz band

Spectral Regrowth @ Rated Power	-26 dBc
Output Spurious @ Rated Power (P1dB)	-55 dBc
Noise Power Maximum Receive Band	-150 dBW / 4kHz

Receive

LNB Noise Figure	0.8 dB
L.O. Stability Maximum (over temperature)	$\pm 15\text{ kHz}$
Phase Noise Maximum (SSB)	-65 dBc/Hz at 1kHz -75 dBc/Hz at 10kHz -85 dBc/Hz at 100kHz
Input VSWR Maximum	2.2 : 1
Output VSWR Maximum	2.2 : 1
Conversation Gain	55 dB min 70 dB max
Output P1dB Maximum	7 dBm
Power Requirements	+15 to +24 V supplied through centre conductor of IF cable
Current Drain Maximum	200 mA

Baseband

Modem	User Supplied
-------	---------------

Power Supply

Power Source	External AC/DC power supply (SSPA dependent)
Prime Power	100 - 240V AC 50 / 60 Hz
BUC Power	5.75A @ 48V (40W)
LNB Power	200 mA @ 24V via Rx IFL

Environmental

Equipment tested to MIL STD 810F

Operating Temp (Method: 501.4, 502.4)	-30°C to +60°C (BUC, LNB and ODU)
Rainfall (Method: 506.4)	180 mm/h Operational 360 mm/h Survival
Wind Speed	50 km/h Operational 100 km/h Survival (with ballast/tie downs)
Sand and Dust	Method 510.4
Humidity	5-95% condensing
Shock/Vibration (Method: 514.5, 516.5)	Vibration, Loose Cargo Vibration, Transit Drop

Packaging

Backpack

Type and Quantity	DEI#1606 Pack Frame 1000 Dernier Ballistic nylon Quantity: 1 (SSPA dependent)
Dimensions	120 liters
Weight	40.5 kg (4W)



Transit Case for Backpack

Type and Number	Lightweight, watertight, unbreakable Quantity: 1
Dimensions	81 x 59 x 48 cm
Weight	15 kg each

Transit Case

Type and Number	Lightweight, watertight, unbreakable Quantity: 1
Dimensions	81 x 59 x 39 cm
Weight	Equipment: 30.2 kg (4W) Transit Case: 18 kg

