Norsat International Inc.

Intelligent Satellite Solutions

30 Years of Excellence SINCE 1977

# Rover™ Express

The Rover™ Express is the latest in a series of Ultra-Portable satellite terminals. The Rover™ Express was designed in consultation with current users to provide maximum portability without compromising the performance of a full 1-meter terminal.

The Rover™ Express provides:

- Unmatched durability
- Maximum portability
- Fine-tuned capability for HD video streaming
- IP connectivity between remote sites within minutes


## Flexible

The Rover™ Express is a highly integrated system that has been fine tuned for IP data and other IP based video streaming systems. This system offers a complete solution including a compact, segmented antenna system, 40W SSPA, integrated DMD-1050 modem, comprehensive alignment tools, and a MOLLE frame backpack option.

## Intelligent

The Rover™ Express is equipped with the LinkControl software which simplifies the antenna alignment process with it's alignment wizard, beacon detector and built-in spectrum analyzer. Operators are provided with a full suite of alignment tools, including a compass, inclinometer, and user-friendly Windows or Mac-based GUI with Assisted Acquire and GPS. The Rover™ Express provides a simple setup and alignment procedure that allows operators with minimal training to quickly establish transmission.

## Tough

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

## Ultra-Portable

- Airline Checkable
- Helicopter Friendly
- Quick Assembly without Tools
- Options for RF Power, Voice Comms, Telephony, Encoders

## Intelligent

- Assisted-Acquire
- Intuitive Interface
- Remote Operation
- Simple GUI Based Setup and Operation

## Tough

- Shock Protected
- Environmental Controls
- Hermetically Sealed Electronics
- Built Rugged for Harsh Environments

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# Rover™ Express

## System

| | X-Band | | Ku-Band | |
|---|---|---|---|---|
| | Rx | Tx | Rx | Tx |
| EIRP | N/A | 51 dBW | N/A | 56 dBW |
| G/T | 14.6 dB/K | N/A | 19.6 dB/K | N/A |
| Antenna | 1m Carbon Fiber, Six Segments, Parabolic Single Offset, 0.8 F/O | | 1m Carbon Fiber, Six Segments, Parabolic Single Offset, 0.8 F/O | |
| Tripod | Elevation/Azimuth | | Elevation/Azimuth | |
| Antenna Travel | | | | |
| Azimuth | +/-180° continuous fine adjust (360° coarse) | | +/-180° continuous fine adjust (360° coarse) | |
| Elevation | 10 - 80° of reflector bore sight | | 10 - 80° of reflector bore sight | |
| Polarization | +/- 90° | | +/- 90° | |
| Pointing tools: | Onboard Spectrum Analyzer, Received Signal Strength Indicator, DVB Receiver, Compass, Inclinometer, GPS, Norsat proprietary LinkControl with Satellite Almanac, Antenna Alignment Wizard | | | |

## Antenna

| | Rx | Tx | Rx | Tx |
|---|---|---|---|---|
| Frequency | 7.25 - 7.75 GHz | 7.9 - 8.4 GHz | 10.70 - 12.75 GHz | 13.75 - 14.5 GHz |
| Midband Gain | 36.0 dBi | 36.5 dBi | 39.8 dBi | 41.3 dBi |
| Axial Ratio | <1.5 dB | <1dB | - | |
| Cross-Pol Isolation | - | | 35 dB within 0.3° of Bore Site | |

## Transmit

| | X-Band | Ku-Band |
|---|---|---|
| Output Frequency | 7.9-8.4 GHz | 13.75-14.5 GHz |
| Reference | 10 MHz | 10 MHz |
| Reference Level | 0 +/- 5 dBm | 0 +/- 5 dBm |
| Output Power @ P1dB | 40 W* | 40 W* |
| Gain (typical | 75 dB | 75 dB |
| Spectral Regrowth | -26 dBc @ 46 dBm | -26 dBc @ 46 dBm |

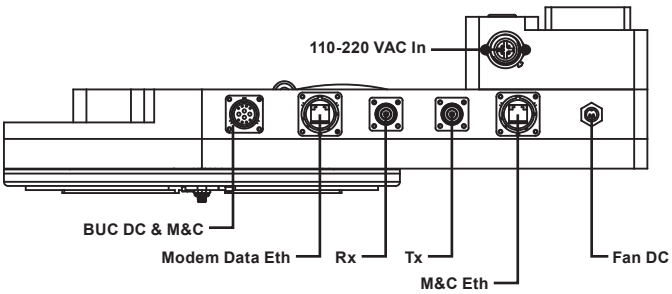
* other SSPA options available

## Receive

| | X-Band | Ku-Band |
|---|---|---|
| LNB NF | 0.8 | 0.8 |
| Reference | 10 MHz | 10 MHz |
| Reference Level | +2 +/- 5 dBm | +2 +/- 5 dBm |
| Phase Noise | -75 dBc/Hz @ 1 kHz | -65 dBc/Hz @ 1 kHz |
| | -85 dBc/Hz @ 10 kHz | -75 dBc/Hz @ 10 kHz |
| | -95 dBc/Hz at 100 kHz | -85 dBc/Hz at 100 kHz |
| Input VSWR | 2.0 : 1 | 2.2 : 1 |
| Output VSWR | 1.5 : 1 | 2.2 : 1 |
| Conversion Gain (Typ.) | 55 dBm | 65 dBm |
| Output P1 dB | 5 dBm | 7 dBm |
| Power Req | 15 - 24 V on IF cable | 15 - 24 V on IF cable |
| Current Drain | 300 mA | 200 mA |

## Modem

| | |
|---|---|
| **Modem** | Integrated DMD 1050 |
| **Data Rate** | 2.4kbps to 5Mbps |
| | 10Mbps (option) |
| | 20Mbps (option) |
| **Modulation** | BPSK, QPSK (8PSK option) |
| **FEC** | Viterbi 1/2, 3/4, 7/8 |
| | TPC 1/2, 3/4, 7/8 |
| Interace | Ethernet 10/100 Base T |
| | MIL STD 188 114A (option) |




## Power Requirements

| | | |
|---|---|---|
| X-Band SSPA | < 400W | 110/220V AC 50/60Hz |
| Ku-Band SSPA | < 300W | 110/220V AC 50/60Hz |
| IDU/Tools | < 100W | 110/220V AC 50/60Hz |

## Packaging

| | |
|---|---|
| Ku-Band System Weight | 31 kg |
| Case 1 | 30 kg |
| Case 2 | 25 kg |
| Case Dimensions | 65cm x 48cm x 40cm |


**Rear View**

**Side View**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