



**GLOBETrekker™**

# GLOBETrekker™ THE INTELLIGENT BACKPACKABLE SATELLITE SYSTEM.



The Norsat® GLOBETrekker™ is the industry's leading backpackable broadband satellite system. It features built-in intelligence to enable an operator to establish a reliable broadband link (up to 4Mbps) – anywhere in the world - especially in remote, harsh and hostile conditions.

The Norsat® GLOBETrekker™ represents the next generation of portable satellite systems. It is fully automated with both non-technical and 'power users' in mind. The Norsat® GLOBETrekker™ simplifies transport by helicopters, aircraft and even small vehicles. No bulky transit cases are required. It is 70% more compact than comparable solutions; is totally self-contained in shock protected backpacks and can be easily redeployed.

The Norsat® GLOBETrekker™ is ideally suited for users who need to initiate broadband communications on short notice or on a temporary basis. It also represents a good fit for users who are highly mobile.

- Special Forces
- Special Police
- First Responders (Fire, Police, Ambulance)
- Disaster Recovery / Business Continuity Managers
- Construction, Mining, Oil & Gas
- Accident Investigation Units
- C3 Tactical
- Search and Rescue
- Journalists
- Mobile Border Checkpoints
- VIP Travel
- Scientific and Research Expeditions

INTELLIGENT.

ULTRAPORTABLE.

TOUGH.

1

An operator, with minimal training, can establish and maintain a reliable broadband link (up to 4Mbps) – anywhere in the world - especially in remote, harsh and hostile conditions.



# INTELLIGENT.

The Norsat® GLOBETrekker™ comes equipped with 'built-in intelligence' which relieves the user from lower level tasks. This intelligence enables the system to automatically acquire the satellite; and operate unattended in harsh and hostile conditions.

### Auto-Acquire

The GLOBETrekker's sophisticated auto-acquire capability enables the system to acquire the satellite even in the most challenging conditions. Unlike other systems, it relies on a combination of inputs including a beacon detector, built-in spectrum analyzer, modem-carrier lock detector, DVB-S receiver, compass, GPS and inclinometer. An advanced algorithm is then used to orient a fully motorized 3 axis antenna subsystem (elevation, azimuth and polarization) towards the desired satellite.

### Intuitive Graphical User Interface

An intuitive alignment wizard leads the user through the process of acquiring a satellite. A full range of settings can be pre-configured in user selectable profiles before the unit is deployed.

### Multi-band Operation

The system operates in the Ku (standard), Ka and X-bands. A separate kit is required for operation in each of the Ka and X-bands. This kit includes swappable RF modules and an upper boom arm assembly.

### Remote Operation

It is possible to operate the system from a distance (up to 160 ft or <50m) via Ethernet using a remote desktop application on a laptop.



### World's First Backpackable Broadband Satellite System - Intelligent. Intuitive. Innovative.

The Norsat® GLOBETrekker™ is the intelligent choice. Unlike other packages, it is a highly integrated, complete system which includes a segmented carbon fiber antenna, motorized feed assembly, LNB, BUC, motorized azimuth/elevation superstructure, built-in inclinometer, compass, GPS and baseband unit with a modem, spectrum analyzer, DVB-S receiver Ethernet switch, DC-DC converter, shock-protected chassis and jacket, and system control software with graphical user interface.



MOTORIZED FEED ASSEMBLY

MOTORIZED ELEVATION

WIRED TOUCHSCREEN DISPLAY

MOTORIZED AZIMUTH

**2**

The Norsat® GLOBETrekker™ is sleekly packaged in a shock-protected, self-contained backpack. It enables users to move quickly and discreetly - in the air and on the ground.



# ULTRA PORTABLE.

The Norsat® GLOBETrekker™ is the industry's first backpackable broadband satellite system setting new standards in portability. This attractive design cleverly addresses the need for a lightweight, rugged and ergonomically friendly system.

### Ergonomically Designed

The GLOBETrekker™ is an ergonomically conscious, backpackable system designed to facilitate transport in a wide variety of environments. Heavily padded, contoured shoulder straps and hip belts are adjustable for varying torso lengths. The load is distributed so that the user is able to move freely. High-abrasion areas, such as the pack bottom, are reinforced. The GLOBETrekker™ features back support curves to fit the spine of the user and is sufficiently open. This enhances airflow and enables perspiration dispersal.

### Carbon Fiber Antenna

The GLOBETrekker™ employs a light-weight, carbon fiber antenna segmented in 6 pieces that neatly fit into the small backpack.

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

### Clever Design

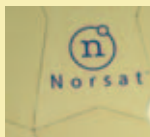
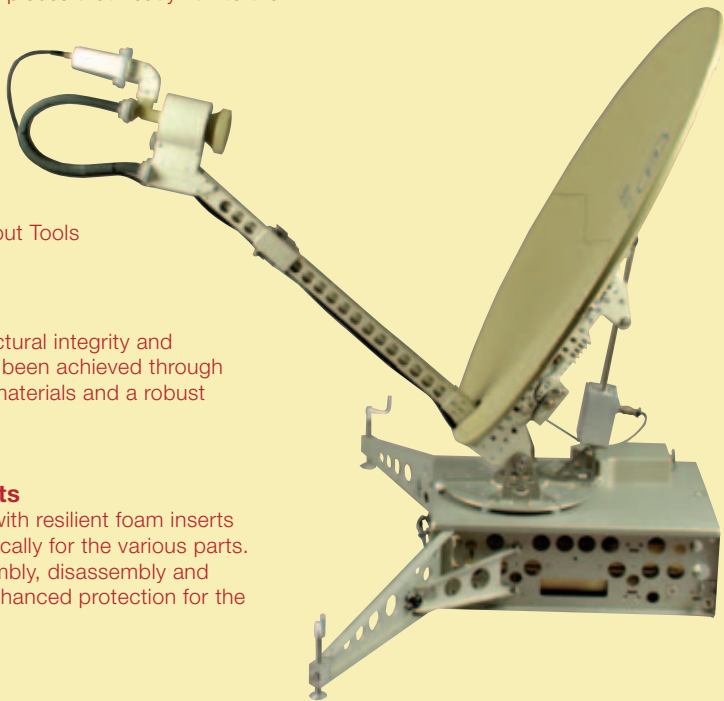
A balance between structural integrity and weight minimization has been achieved through the careful selection of materials and a robust "rib-cage" design.

### Custom Foam Inserts

Each backpack comes with resilient foam inserts that are designed specifically for the various parts. This enables rapid assembly, disassembly and packaging, as well as enhanced protection for the components.

### External Frame

The GLOBETrekker™ is also available with an external frame that advances load-carrying ability. Additional supplies can be secured on the military-specified frame or Modular Lightweight Load Carrying Equipment (MOLLE) frame. Weight is distributed at the hips and shoulders and users can adjust the load for comfort.



SEGMENTED CARBON FIBER ANTENNA



QUICK RELEASE LATCHES - BOOM ARM



QUICK RELEASE LATCHES - ANTENNA



EXTERNAL FRAME

3

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



**TOUGH.**

The Norsat® GLOBETrekker™ is designed to be transported and operated in even the most challenging environments. It is the only broadband-capable satellite system which has been designed specifically to be parachute- and helicopter-friendly.



### Built Rugged

The system has 3 layers of physical protection including a hard shell exterior, shock absorbing foam inserts and shock-mounted baseband electronics.

### Shock Protected Electronics

The baseband unit, which contains the processing electronics, is suspended inside a custom frame using 8 shock absorbers/mounts (4 on each lateral side of the baseband chassis).

### Sensor Driven System Manager

The patent-pending sensor driven system manager regulates the internal environment of the system and protects it from unwelcome changes. It automatically counters harsh weather elements by engaging its built-in defenses against harsh weather elements including extreme temperatures, sand and humidity.

### Weatherproofed Connectors

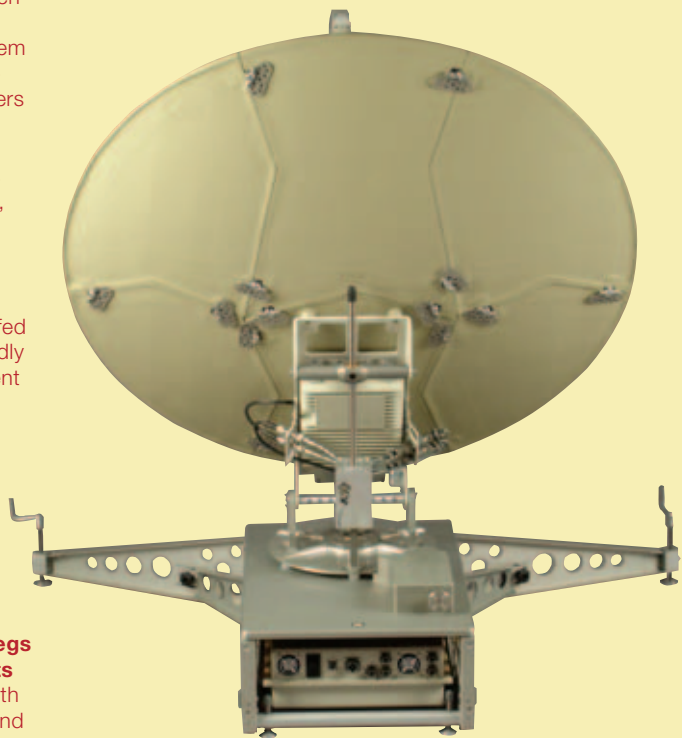
All connectors are weatherproofed to minimize the effect of unfriendly climatic conditions and to prevent water ingress.

### Solid Boom Arm Encasing

The boom arm houses the waveguide and harmonic reject and receive reject filters to prevent possible breakage.

### Surface Adaptive Foldable Legs and Adjustable Rear Supports

The system comes equipped with surface adaptive foldable legs and adjustable rear supports to provide additional structural stability on uneven surfaces and in blowing wind conditions.



### Hermetically Sealed Electronics

The RF electronics are hermetically sealed to prevent water ingress and to protect against foreign elements.



SHOCK PROTECTED  
BASEBAND

STURDY  
BOOM ARM

HERMETIC RF  
ENCLOSURE

WEATHER PROOF  
CONNECTIONS

SURFACE  
ADAPTIVE LEGS



# TECHNICAL SPECIFICATIONS

## ● RF/Antenna (Outdoor Unit)

Transmit Frequency	Ku-Band 14.0-14.5 GHz Ku Extended Band (Optional) X-Band (Optional) Ka-Band (Optional)
Receive Frequency	10.95 - 12.75 GHz
RF Power	4W, 8W, 15W
EIRP (1db C.P.)	46.2 dBW (4W); 49.2 dBW (8W); 52 dBW (15W)
G/T	19.4 dB/K (NT sky 50K)
Antenna	1.0 m carbon fiber segmented (6)
Antenna Tx Gain	41.3 dBi
Antenna Rx Gain	39.8 dBi
Antenna Platform	Motorized Elevation over Azimuth Mounted on Baseband Unit
Polarization Configuration	Linear Cross-pol, Motorized resolution <0.25°
Elevation Adj.	10° to 90°, Motorized, resolution <0.1°
Azimuth Adj.	± 190° Motorized, resolution <0.1°
Physical	Assembled: 1x1x1.3 m (WxDxH)  Packaged: 495 x 685 x 335 mm  (Base system contains antenna segments, feed support, feed assembly and RF electronics.)

## ● Baseband

Services (Modem Dependent)	TCP/IP Router DHCP Server RIPv2 and Static Routing DNS with Local Caching Basic Firewall with NAT
Data Interface	10/100 Base-T Ethernet x 2
Transmit Rates	Up to 4 Mbps - modem dependent
Receive Rates	Up to 4 Mbps - modem dependent
Modem Modes	TDMA (star and mesh configurations) and / or SCPC Modem Dependent
FEC	Turbo Code and/or Concatenated Conv.I +RS - modem dependent
Modulation	QPSK and/or BPSK - modem dependent
RF Interfaces	Tx-Out: L-Band Rx-In: L-Band
Physical	495 x 685 x 335 mm  (Base system includes modem, Ethernet switch, DVB-S receiver, spectrum analyzer, motor control board and DC-DC board)

## ● System Control and Software

Software	Master Control Application Satellite Almanac Antenna Alignment Wizard GPS Interface Beacon/Carrier Detector Spectrum Analyzer Service Control Application Status, Alarms and Logging Help Files
Operating System	Windows XP Embedded
Platform	Industrial grade single board computer
Wired Touchscreen Display	System control and monitoring (Optional)

## ● Power

Prime Power	24V DC
Optional AC	110/220 VAC, 60 Hz Stable to 90 VAC
Consumption	290W DC/350W AC (4W BUC) 380W DC/450W AC (8W SSPA) 400W DC/480W AC (15W SSPA)

## ● Environmental

Operating Temp.	-30° C to +50° C
Rainfall	180mm/h Operational (with sufficient link margin) 360mm/h Survival
Wind Speed	60km/h Operational 100km/h Survival
Humidity	5 - 95% condensing
Shock/Vibration	Designed to meet MIL-STANDARD-810F

## ● Options

Laptop with 264mm Touchscreen XGA LCD, TFT sunlight readable AC-DC Power Supply Wired Touchscreen Display	Controller (Laptop) Interconnect Cable	10/100 Base-T Ethernet RJ-45, CAT5, up to 50m
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# GLOBE Trekker



Norsat®  
International Inc.

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