



**Norsat**  
International Inc.

Intelligent Satellite Solutions



## GLOBETrekker™

The GLOBETrekker™ represents the next generation of portable satellite systems. It is fully automated and is the industry's only comprehensive system which meets the new stringent checked baggage restrictions.



## Ultra Portable

The Norsat GLOBETrekker™ is a highly integrated system which includes a carbon fiber antenna, motorized feed assembly, LNB, BUC, motorized azimuth/elevation superstructure, built-in inclinometer, compass, GPS; spectrum analyzer DVB-S receiver, Ethernet switch, DC-DC converter, shock protected chassis; a system controller including a wired display with software and a graphical user interface. Sleekly packaged in a rugged, self-contained IATA-friendly wheelable cases, the system can be packaged such that it meets the new stringent checked baggage weight and linear length restrictions.

## Intelligent

The Norsat GLOBETrekker™ comes equipped with 'built in intelligence' which relieves the user from lower level tasks. An intuitive graphical alignment wizard leads the user through the process pointing, acquiring and peaking on a satellite. The intelligence also enables the system to operate unattended in harsh and hostile conditions.

## Tough

The Norsat GLOBETrekker™ has been extensively tested to withstand vibrations and shocks. It is specifically designed to operate in the harsh and hostile conditions of military missions or natural disaster zones.

**BUY NOW**

## Ultra Portable

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

## Intelligent

- Auto-Acquire
- Intuitive Graphical Interface
- Remote Operation
- Fully Integrated

## Tough

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

# GLOBETrekker™ iDirect

## Antenna

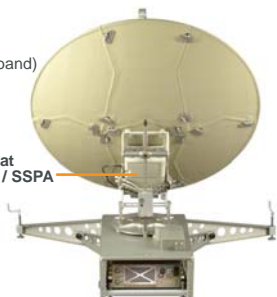
Transmit Frequency	13.75 GHz - 14.5 GHz
Receive Frequency	10.95 GHz - 12.75 GHz
EIRP	51 dBW (12W)
G/T	19.4 dB/K (NT sky 50K)
Antenna	1.0 m carbon fiber segmented (6 pieces)
Antenna Tx Gain	41.3 dBi
Antenna Rx Gain	39.8 dBi
Antenna Platform	Motorized Elevation over Azimuth Mounted on Baseband Unit
Polarization	Linear Cross Pol Motorized (resolution <0.25°)
Elevation Adj.	10° to 90°, Motorized, (resolution <0.1°)
Azimuth Adj	±170°, Motorized, (resolution <0.1°)

## Pointing Tools

Onboard Spectrum Analyzer, DVB Receiver, Beacon Detector, Compass, Inclinometer, GPS  
Norsat proprietary AutoAcquire LinkControl software, Basic Wired Display

## Transmit

<b>Frequency Range</b>	
Output	13.75 GHz - 14.5 GHz
Input	950 - 1700 MHz
LO Frequency	12800 MHz
Reference Signal Frequency	External 10 MHz (supplied by Baseband)
10 MHz power level	-5 to +5 dB
Reference Input Impedance	50 Ω
<b>Output Power</b>	
Saturated Power (typical)	15W
Rated Power (P1dB) @ Amplifier Flange (minimum)	12W
<b>Gain</b>	
Small Signal, typical	75dB
Maximum SSG Variation Over Any Narrow Band	± 1 dB per 54MHz
Spectral Regrowth at Rated Power	-26 dBc



## Receive

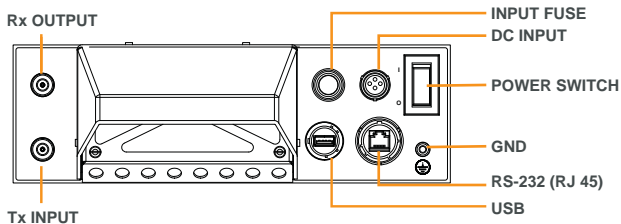
LNB Noise Figure (typical)	0.8 dB
L.O. stability maximum (over temperature)	±15 kHz
Phase noise (SSB) maximum	-65 dBc/Hz at 1kHz -75 dBc/Hz at 10kHz -85 dBc/Hz at 100kHz
Input/Output VSWR maximum	2.2 : 1
Conversion gain	55 dB min, 70 dB max
Output P1dB minimum	7 dBm
Power requirements	+15 to +24 V supplied through center conductor of IF cable
Current drain maximum	200 mA



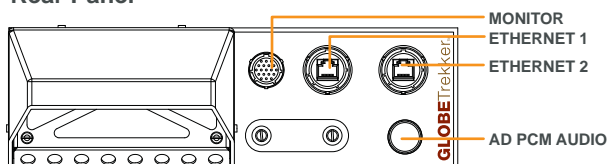
## Baseband

<b>Common Features</b>	Power Conditioning Environmental Control USB RS 232 (for maintenance) Single Board Computer Built-in Ethernet Switch
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### Front Panel



### Rear Panel



## Built-in iDirect Modem

	Series 3000	Series 7000
<b>Network Topology</b>		
Star	•	•
Star/Mesh		•
SCPC		•
<b>Channel Rates</b>		
Receive	64 kbps to 11.5 Msps	to 11.5 Msps
Transmit	64 kbps to 2.875 Msps	to 2.875 Msps
<b>Modulation</b>		
QPSK	•	•
BPSK	•	•
8PSK		•
<b>IP Data Rates</b>		
Downstream (Rx)	128 kbps - 18Mbps	128 kbps - 18Mbps
Upstream	64 kbps - 4.2Mbps	64 kbps - 4.2Mbps
<b>FEC</b>		
Downstream	0.879, 0.793, 0.533, 0.495, 0.431	
Upstream	0.793, 0.66, 0.533, 0.431	
<b>Protocols Supported</b>	TCP; UDP; ICMP; IGMP; RIP ver 2; Static Routes; NAT; DHCP; DHCP Helper; Local DNS Caching; CRTP	
<b>Security</b>	AES or 3DES (optional)	

## Power Supply

Prime Power	24V DC 600 VA (SSPA) + 250VA (baseband)
Optional AC	110/220 VAC, 60 Hz (Stable to 90 VAC)
Optional Battery Pack	Up to 3 hrs (not shown)

## Military Grade Wired Display (Optional)

Resolution	800 x 600
Brightness	350 cd
Contrast Ratio	400:1
Number of colours	16.7 million
Weight	2kg
Dimensions	290 x 220 mm
Temperature	
Operating	-20°C to +60°C
Non-Operating	-30°C to +70°C
Humidity	10% - 90% - Non-condensing
Enclosure Class	Up to IP65 on all sides
Altitude	
Operating	4570 metres
Non-Operating	121290 metres
Vibration	
Operating	Per MIL STD 810 Method 514.4 10 to 500 Hz 0.6g RMS
Non-Operating	10 to 500 Hz 1.0g RMS
Shock	
Operating	Per MIL STD 810 Method 516.4 30 G, 8 ms 1/2 sine / 45 Hz
Non-Operating	50 G, 8 ms 1/2 sine / 45 Hz



## Environmental

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

## Packaging

Cases	2, plus power supply
Weight	< 23kg ea. (packaged)*
Linear Length	< 155 cm (IATA compliant)



Backpack Option



Power Supply



Wheelable Option

\*applies only to certain system configurations/options

# GLOBETrekker Paradise™

## Antenna

Transmit Frequency	13.75 GHz - 14.5 GHz
Receive Frequency	10.95 GHz - 12.75 GHz
EIRP	51 dBW 12(W)
G/T	19.4 dB/K Tant = 40K, 20° Elevation
Antenna	1.0 m carbon fiber segmented (6 pieces)
Antenna Tx Gain	41.3 dBi
Antenna Rx Gain	39.8 dBi
Antenna Platform	Motorized Elevation over Azimuth Mounted on Baseband Unit
Polarization	Linear Cross Pol Motorized (resolution <0.25°)
Elevation Adj.	10° to 90°, Motorized, (resolution <0.1°)
Azimuth Adj	±170°, Motorized, (resolution <0.1°)

## Pointing Tools

Onboard Spectrum Analyzer, DVB Receiver, Beacon Detector, Compass, Inclinator, GPS  
Norsat proprietary AutoAcquire LinkControl software, Basic Wired Display

## Transmit

### Frequency Range

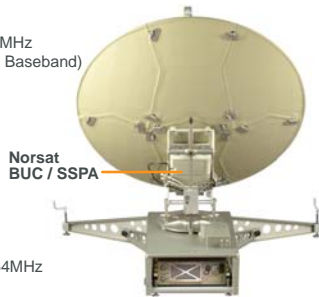
Output	13.75 GHz - 14.5 GHz
Input	950 - 1700 MHz
LO Frequency	12800 MHz
Reference Signal Frequency	External 10 MHz (supplied by Baseband)
10 MHz power level	-5 to +5 dB
Reference Input Impedance	50 Ω

### Output Power

Saturated Power (typical)	15W
Rated Power (P1dB) @ Amplifier Flange (minimum)	12W

### Gain

Small Signal, typical	75dB
Maximum SSG Variation Over Any Narrow Band	± 1 dB per 54MHz
Spectral Regrowth at Rated Power	-26 dBc



## Receive

LNB Noise Figure (typical)	0.8 dB
L.O. stability maximum (over temperature)	±15 kHz
Phase noise (SSB) maximum	-65 dBc/Hz at 1kHz -75 dBc/Hz at 10kHz -85 dBc/Hz at 100kHz
Input/Output VSWR maximum	2.2 : 1
Conversion gain	55 dB min, 70 dB max
Output P1dB minimum	7 dBm
Power requirements	+15 to +24 V supplied through center conductor of IF cable
Current drain maximum	200 mA

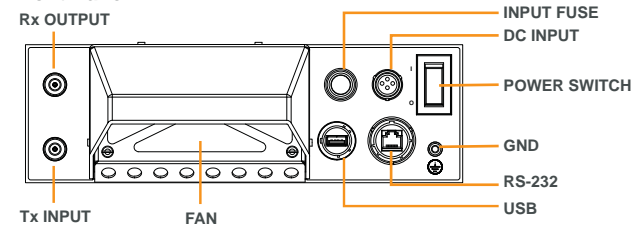


## Baseband

### Common Features

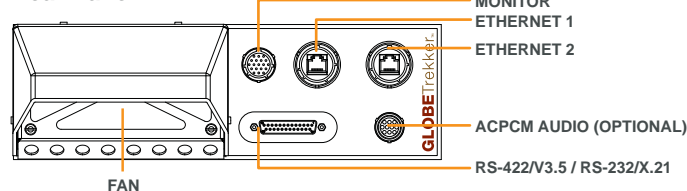
Power Conditioning  
Environmental Control  
USB  
RS 232 (for maintenance)  
Single Board Computer  
Built-in Ethernet Switch

### Front Panel



## Built-in Paradise PD25 Modem Variant

### Rear Panel



Ethernet Data Interfaces	10/100 Base-T on RJ-45 TCP acceleration to 2 Mbps IEEE 802.1p QoS, supporting choice of strict priority queuing or fair weighting queuing IEEE 802.1q VLAN DHCP, allowing dynamic IP address allocation via external DHCP server UDP and IP packet header compression up to 2 Mbps
Serial Data Interface	EIA 530 DCE, with selectable RS-422 / X.21 / V.35 / RS-232
Modulator	Data rates from 4.8 kbps to 2 Mbps (optional to 25 Mbps) in 1 bps steps BPSK, QPSK, OQPSK modulation Viterbi FEC rates 1/2, 3/4, 7/8 Intelsat Reed-Solomon outer codec Automatic Uplink Power Control (AUPC) operating through ESC L-band 950MHz - 1950MHz in 100Hz steps

## Power Supply

Prime Power	24V DC 400 vA
Optional AC	110/220 VAC, 60 Hz (Stable to 90 VAC)
Optional Battery Pack	Up to 3 hrs (not shown)

## Military Grade Wired Display

Resolution	800 x 600
Brightness	350 cd
Contrast Ratio	400:1
Number of colours	16.7 million
DC Input Range	10 - 36 VDC
Weight	2kg
Dimensions	290 x 220 mm
Temperature	
Operating	-20°C to +60°C
Non-Operating	-30°C to +70°C
Humidity	10% - 90% - Non-condensing
Enclosure Class	Up to IP65 on all sides
Altitude	
Operating	4570 metres
Non-Operating	121290 metres
Vibration	
Operating	Per MIL STD 810 Method 514.4 10 to 500 Hz 0.6g RMS
Non-Operating	10 to 500 Hz 1.0g RMS
Shock	
Operating	Per MIL STD 810 Method 516.4 30 G, 8 ms 1/2 sine / 45 Hz
Non-Operating	50 G, 8 ms 1/2 sine / 45 Hz



## Environmental

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

## Packaging

Cases	2 plus power supply
Weight	< 23kg ea. (packaged)*
Linear Length	< 155 cm (ATA compliant)



Power Supply



Backpack Option



Wheelable Option

\*applies only to certain system configurations/options

# GLOBETrekker™ RADE

## Antenna

Transmit Frequency	13.75 GHz - 14.5 GHz
Receive Frequency	10.95 GHz - 12.75 GHz
EIRP	51 dBW (12W)
G/T	19.4 dB/K Tant = 40°K, EI = 20°
Antenna	1.0 m carbon fiber segmented (6 pieces)
Antenna Tx Gain	41.3 dBi
Antenna Rx Gain	39.8 dBi
Antenna Platform	Motorized Elevation over Azimuth Mounted on Baseband Unit
Polarization	Linear Cross Pol Motorized (resolution <0.25°)
Elevation Adj.	10° to 90°, Motorized, (resolution <0.1°)
Azimuth Adj	±170°, Motorized, (resolution <0.1°)

## Pointing Tools

Onboard Spectrum Analyzer, DVB Receiver, Beacon Detector, Compass, Inclinator, GPS  
Norsat proprietary AutoAcquire LinkControl software, Basic Wired Display

## Transmit

### Frequency Range

Output	13.75 GHz - 14.5 GHz
Input	950 - 1700 MHz
LO Frequency	12800 MHz

Reference Signal Frequency	External 10 MHz (supplied by Baseband)
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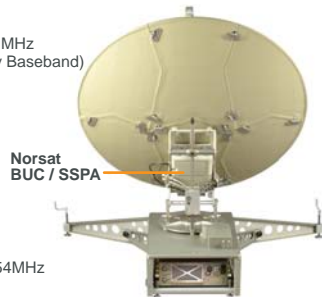
10 MHz power level	-5 to +5 dB
Reference Input Impedance	50 Ω

### Output Power

Saturated Power (typical)	15W
Rated Power (P1dB)	
@ Amplifier Flange (minimum)	12W

### Gain

Small Signal, typical	75dB
Maximum SSG Variation Over Any Narrow Band	± 1 dB per 54MHz
Spectral Regrowth at Rated Power	-26 dBc



## Receive

LNB Noise Figure (typical)	0.8 dB
L.O. stability maximum (over temperature)	±15 kHz
Phase noise (SSB) maximum	-65 dBc/Hz at 1kHz -75 dBc/Hz at 10kHz -85 dBc/Hz at 100kHz
Input/Output VSWR maximum	2.2 : 1
Conversion gain	55 dB min, 70 dB max
Output P1dB minimum	7 dBm
Power requirements	+15 to +24 V supplied through center conductor of IF cable
Current drain maximum	200 mA

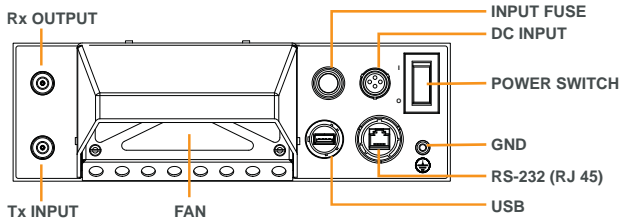


## Baseband - External Modem Variant

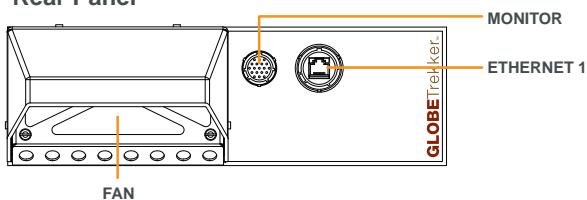
### Common Features

- Power Conditioning
- Environmental Control
- USB
- RS 232 (for maintenance)
- Single Board Computer
- Built-in Ethernet Switch
- External Modem I/R

### Front Panel



### Rear Panel



## Power Supply

Prime Power	24V DC 400 VA
Optional AC	110/220 VAC, 60 Hz (Stable to 90 VAC) 500 VA AC
Optional Battery Pack	Up to 3 hrs (not shown)

## Environmental

Operating Temp	-30°C to +50°C
Rainfall	180 mm/h Operational. 360 mm/h Survival
Wind Speed	50 km/h 100 km/h Survival (with ballast/tie downs)
Humidity	5-95% condensing

## Packaging

Cases	2 plus power supply
Weight	< 23kg ea. (packaged)*
Linear Length	< 155 cm (IATA compliant)



Backpack Option



Power Supply



Wheelable Option

\*applies only to certain system configurations/options

# GLOBETrekker Radyne™

## Antenna

Transmit Frequency	13.75 GHz - 14.5 GHz
Receive Frequency	10.95 GHz - 12.75 GHz
EIRP	51 dBW 12(W)
G/T	19.4 dB/K Tant = 40K, 20° Elevation
Antenna	1.0 m carbon fiber segmented (6 pieces)
Antenna Tx Gain	41.3 dBi
Antenna Rx Gain	39.8 dBi
Antenna Platform	Motorized Elevation over Azimuth Mounted on Baseband Unit
Polarization	Linear Cross Pol Motorized (resolution <0.25°)
Elevation Adj.	10° to 90°, Motorized, (resolution <0.1°)
Azimuth Adj	±170°, Motorized, (resolution <0.1°)

## Pointing Tools

Onboard Spectrum Analyzer, DVB Receiver, Beacon Detector, Compass, Inclinometer, GPS Norsat proprietary AutoAcquire LinkControl software, Basic Wired Display

## Transmit

### Frequency Range

Output	13.75 GHz - 14.5 GHz
Input	950 - 1700 MHz
LO Frequency	12800 MHz
Reference Signal Frequency	External 10 MHz (supplied by Baseband)
10 MHz power level	-5 to +5 dB
Reference Input Impedance	50 Ω

### EIRP

12 W = 51 dBW
40 W = 56.3 dBW

### Output Power 12 W variant

Saturated Power (typical)	15W
Rated Power (P1dB)	12W

### Output Power 40 W variant

Saturated Power (typical)	47 dBm
Rated Power (P1dB)	46 dBm

Maximum SSG Variation Over Any Narrow Band

± 1 dB per 54MHz

Spectral Regrowth at Rated Power

-26 dBc



## Receive

LNB Noise Figure (typical)	0.8 dB
L.O. stability maximum (over temperature)	±15 kHz
Phase noise (SSB) maximum	-65 dBc/Hz at 1kHz -75 dBc/Hz at 10kHz -85 dBc/Hz at 100kHz
Input/Output VSWR maximum	2.2 : 1
Conversion gain	55 dB min, 70 dB max
Output P1dB minimum	7 dBm
Power requirements	+15 to +24 V supplied through center conductor of IF cable
Current drain maximum	200 mA

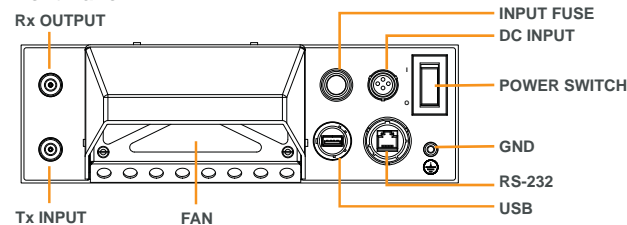


## Baseband

### Common Features

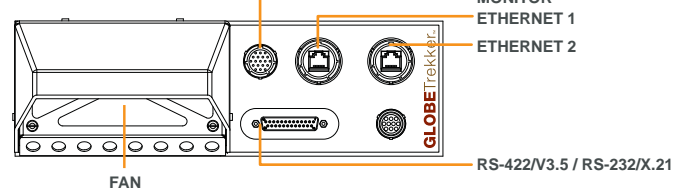
Power Conditioning  
Environmental Control  
USB  
RS 232 (for maintenance)  
Single Board Computer  
Built-in Ethernet Switch

### Front Panel



## Built-in Radyne Variant

### Rear Panel



Ethernet Data Interfaces	10/100 Base-T on RJ-45
Turbo Product Codes	1/2, 3/4, 7/8
Serial Data Interface	EIA 530 DCE, with selectable RS-422 / X.21 / V.35 / RS-232
Modulator	Data rates from 2.4 kbps to 10 Mbps (optional to 20 Mbps) BPSK, QPSK, OQPSK modulation Viterbi FEC rates 1/2, 3/4, 7/8 Intelsat Reed-Solomon outer codec Automatic Uplink Power Control (AUPC) operating through ESC L-band 950MHz - 1950MHz in 100Hz steps

## Power Supply

Prime Power	24V DC 400 vA (SSPA) for 12/15W variant
Optional AC	110/220 VAC, 60 Hz (Stable to 90 VAC)
Optional Battery Pack	Up to 3 hrs (not shown)

## Military Grade Wired Display

Resolution	800 x 600
Brightness	350 cd
Contrast Ratio	400:1
Number of colours	16.7 million
DC Input Range	10 - 36 VDC
Weight	2kg
Dimensions	290 x 220 mm
Temperature	Operating -20°C to +60°C Non-Operating -30°C to +70°C
Humidity	10% - 90% - Non-condensing
Enclosure Class	Up to IP65 on all sides
Altitude	Operating 4570 metres Non-Operating 121290 metres
Vibration	Per MIL STD 810 Method 514.4 Operating 10 to 500 Hz 0.6g RMS Non-Operating 10 to 500 Hz 1.0g RMS
Shock	Per MIL STD 810 Method 516.4 Operating 30 G, 8 ms 1/2 sine / 45 Hz Non-Operating 50 G, 8 ms 1/2 sine / 45 Hz



## Environmental

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

## Packaging

Cases	2 plus power supply
Weight	< 23kg ea. (packaged)*
Linear Length	< 155 cm (IATA compliant)



Backpack Option



Power Supply



Wheelable Option

\*applies only to certain system configurations/options



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