

# 1.8m Trailer Mounted Terminals: 1800TR Series



## System Architecture

Multi-configuration quad-band system with trailer top or portable antenna mount; built-in generator, UPS & shore power input

Configurations:

- all equipment contained in trailer
- antenna/RF up to 250 feet from trailer (for ex. on rooftop)
- modem/baseband equipment up to 250 feet from trailer
- antenna, RF, modem & baseband deployed without trailer

## Antenna

Aperture	1.8 meter effective
Motion (trailer mount)	motorized two axis, elevation over azimuth
Motion (portable mount)	manual (hand cranks) two axis; azimuth / elevation
Azimuth travel (trailer mount)	$\pm 45^\circ$ from centerline; $360^\circ$ range by moving centerline
Azimuth travel (portable mount)	$\pm 25^\circ$ from centerline; $360^\circ$ range by moving centerline
Elevation travel (trailer mount)	10 to 90 degrees
Elevation travel (portable mount)	$0^\circ$ to $50^\circ$ ; $40^\circ$ to $90^\circ$ (2 sectors)
Positioning	manual & automatic step/program/ephemeris tracking; L-band tracking rcvr.
Satellite acquisition	automatic
Polarization C-band	circular & linear cross-pol; linear co-pol optional
Polarization Ku-band	linear cross-pol; linear co-pol optional
Polarization X-band	circular; RHCP tx, LHCP rx reversible
Polarization Ka-band	circular; RHCP or LHCP tx and rx (1 tx port, 2 rx ports)
Type approvals	GVF/Intelsat; IA108A00 (C-band); IA107A00 (Ku-band)
Certifications	ARSTRAT/DISA X and Ka-band; Airbus/Astrium X-band

## RF Characteristics

Frequency bands	C	X	Ku	Ka
TX (GHz)	5.850 – 6.650	7.9 – 8.4	13.75 – 14.5	30.0 – 31.0
RX (GHz)	3.400 – 4.200	7.25 – 7.75	10.95 – 12.75	20.2 – 21.2
Max. EIRP (dBW)	57.0	59.5	62.5	66.0
	(100W BUC)	(100W BUC)	(70W BUC)	(40W BUC)
G/T (dB/K, $10^\circ$ elev.)	15.5	19.5	23.5	26.0

## Monitor & Control

Platform	PC
Software	Windows-Based Global Satcom proprietary M&C software
M&C points (PC system)	antenna controller, RF/IF equipment, satellite modem
Local M&C points:	<ul style="list-style-type: none"> <li>• antenna emergency stop</li> <li>• auxiliary antenna hand-held controller</li> <li>• tx RF warning light</li> <li>• cooling fans</li> <li>• motor/generator control panel</li> <li>• UPS transfer switch</li> <li>• power control panel for individual equipment units</li> <li>• fuel transfer pump switch</li> <li>• calibrated monitor port for RF transmit</li> </ul>
Operating configurations	local or remote up to 300 feet

## User Interfaces

Power entry	recessed panel on exterior wall with weather protected connectors: <ul style="list-style-type: none"><li>• one 120 VAC 40 amp power input connector</li><li>• 120 VAC power output connectors for UPS, RF and modem/baseband configurations; extension cords supplied for all system configurations</li><li>• one duplex 120 VAC 15 amp GFI utility outlet; two additional outlets on exterior of trailer</li><li>• one ground lug, split bolt; grounding kit supplied</li></ul>
Electronic equipment	45x25x42 inches (W H D) ventilated compartment for electronic equipment; lockable door & UPS power
Satellite modem support	shock-mount case in electronic equipment compartment, supports: <ul style="list-style-type: none"><li>• satellite modem</li><li>• 50 <math>\Omega</math> or 75 <math>\Omega</math> L-band interface with BUC/LNB</li><li>• L-band monitor ports, tx &amp; rx</li></ul>

## Deployment

Setup time	less than 20 minutes with two trained technicians
Frequency band change	less than 5 minutes
Tools	tools not required
Equipment compartments	shelters antenna panels, electronic equipment, spares & accessories <ul style="list-style-type: none"><li>• weather-sealed, lockable with common key</li><li>• intrusion alarms, white and black-out lighting</li></ul>
Stabilizing and leveling	four hand-crank jacks; built-in spirit levels
Antenna and RF accessibility	steps and hand rails for roof access

## Power

External source	100/120/220/240 VAC, 40-70 Hz autosensing; max 25 amps
Internal generator	120 VAC 1 phase 60Hz 6KW Diesel with pre-heater & electric fuel transfer pump
Transfer	manual transfer from external power
UPS (electronic equipment only)	internal 3,000VA; 5-minute battery;
UPS type	dual conversion (no-break)
UPS mounting	shock mount EIA 19" rack in removable transit case
Generator mounting	slide out compartment
Generator fuel consumption	0.3 gal/hour with 12 amp load; 0.5 gal/hour with 37 amp load
Generator fuel tank capacity	24 gal

## Equipment Cooling

Ventilation system	fresh air intake & exhaust via weather-protected vents
Type	forced air using electric fans with thermostat control
Vents	weather sealed for transport, opened for operation; filters in intake vents

## Environmental

Operating ambient temperature	-40° to +50°C, with 360 BTU/ft <sup>2</sup> /hour solar loading
Storage temperature	-46° to 64°C
Altitude	sea level to 10,000 ft. operating; sea level to 40,000 ft. storage/transportation
Relative humidity	100%
Rain	2 inches per hour
Ice	2 inch accumulation on exposed surfaces (storage/transportation)
Atmospheric conditions	Salt, sand, & pollutants as found in coastal & industrial locations
Fording	30 inches with no degradation of vehicle/equipment capabilities
Antenna wind loading, maximum operating	<u>Trailer-mounted</u> : 45 mph, gusting to 60 mph <u>Portable</u> : 45 mph, gusting to 60 mph anchored; to 20 mph unanchored
Antenna wind loading, survival	75 mph stowed