



# ACS-MST-100M Tri Band Military Satellite Terminal

Powered by AVL Technologies



**In-Theater Deployed**



**MST-100 Terminals with iDirect or Similar Hub**

The Military Satellite Terminal (MST) series are Ku-Band man-portable system which optionally supports X and or Ka-Bands. The terminals are designed for the unique demands of the military operating environment and for ease of setup and use. Variable configurations, 24Vdc of shore power, and vehicle mounting kits allow the terminal to be easily deployed in operating theatres around the world. Computer Assisted Pointing (CAP) keeps weight to a minimum and allows for quick operator setup in the field. The terminals are available in both motorized and non motorized light weight versions.



### Key Features

- Quick-Deploy .75 m Antenna, with standard feed 2 port Ku-Band feed
- TDMA or DVB/RCS (S2) & SCPC configurations
- Manual Point (using CAP controller) or auto acquisition, one button push to deploy & stow
- Transmission rates up to 2.0 Mbps @ X and Ku-Band, up to 5 Mbps @ Ka-Band
- DAA accreditation
- SCPC-TPS & IETF Acceleration
- TDMA or DVB-RCS Configured modems
- Tripod (with compass), fixed or vehicle mount for Comms-on-the-Quick Halt (COTQH) deploy
- Able to track without GPS system after initial GPS initialization

### Options

<p><b>Tracking</b> - Fully Automatic Satellite Acquisition, Peaking, and Cross-Pol Adjustment using GPS, Compass, and Level Sensor Inputs with Entry of Desired Satellite, Certified for auto-commissioning using the interface to ACS-e850MPR or ACS-4120 Modems</p>	<p><b>Port Upgrade</b> - from 2-Port Precision Ku Feed to: a) 2-Port Enhanced Cross-Pol (Mode-Matched) Ku; b) 2-Port X MIL; c) 2-Port Ka MIL; d) 2-Port Ka Comm.</p>	<p><b>Power Supply Interface</b> - "Go Anywhere" Optional Dual Input Power Supply</p>
<p><b>Software</b> – Inclined orbit tracking (using step-track, memory track or TLE track); automatic band sensing</p>	<p><b>Transport</b> – Hardigg cases including roller wheels and telescoping handle or soft man-pack</p>	<p><b>ACS-MST-100M</b> – motorized terminal / ACS-MST-100 non motorized</p>



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## Performance Specifications

X-Band	Receive	Transmit
Frequency	7.25 – 7.75 GHz	7.9 -8.4 GHz
Polarization Circular – orth.	RHCP / LHCP	RHCP / LHCP
Gain (Mid-Band)	33.7 dBi	34.2
-3 dB Beamwidth (mid-band)	1.5°	1.2°
Radiation Pattern Compliance	Mil-STD-188-164A	Same
First Sidelobe Level (typical)	-22 dB	-25 dB
Antenna Noise Temp (mid-band, 20° EI)	54° K	--
Maximum Feed Tx Power	--	250 W
VSWR	1.30:1	1.30:1
Axial Ratio, within pointing cone	1.2 dB	2.0 dB
Feed Port Isolation (Tx to Rx)	25 dB (excel. Filter)	25 dB (excel. Filter)

Ku-Band	Receive	Transmit
Frequency	10.95 – 12.75 GHz	13.75 – 14.5 GHz
Polarization	Linear Orthogonal (H/V)	Linear Orthogonal (H/V)
Gain (Mid-Band)	37.8 dBi	39.3 dBi
-3 dB Beamwidth (mid-band)	1.5	1.2
Radiation Pattern Compliance	FCC §25.209, ITU-R S.528.5, Eutelsat (opt MM Feed)	Same
First Sidelobe Level (typical)	-22 dB	-25 dB
Antenna Noise Temperature (mid-band), 20° EI	54° K	--
Maximum Feed Tx Power	--	250 W
VSWR	1:30:1	1:30:1
Cross-Polarization Isolation		
On Axis (minimum)	30 dB	35 dB
Off Axis (in 0.3° cone)	28 dB	28 dB
Off Axis (in 0.3° cone, opt. MM Feed)	25 dB	32 dB
Feed Port Isolation (Tx to Rx)	70 dB (incl. std filter)	Same

Ka-Band	Receive	Transmit
Frequency WGS (Commercial Bands supported)	20.2 – 21.2 GHz	30.0 – 31.0 GHz
Polarization Circular – orth.	RHCP / LHCP	RHCP / LHCP
Gain (Mid-Band)	41.8 dBi	42.5 dBi
-3dB Beamwidth (mid-band)	1.1°	0.8°
Radiation Pattern Compliance	Mil-STD-188-164A	Same
First Sidelobe (typical)	-22 dB	-25 dB
Antenna Noise Temp. (mid-band, 20° EI)	130K	
VSWR	1.30:1	1:30:1
Axial Ratio, within pointing cone	1.5 dB	1.0 dB
Feed Port Isolation – TX to RX	30 dB	80 dB

## Environmental and Electrical Specifications

Supply Voltage	100-264 Vac; 50 Hz / 60 Hz (with included PSU); + 24Vdc
“Go Anywhere” Optional Dual Input Power Supply”	85-264 Vac input, 18-36 Vdc input with MIL-STD-1275D Filtering, designed for shore power, Humvee or MRAP supply
Operating Temperature	-10° C to +52° C, 5% to 95% humidity, non-condensing
Storage Temperature	-40° C to +60° C, 5% to 95% humidity
Wind - Survival	Deployed: 75 mph (121 kph); Stowed 100 mph (161 kph)
Wind – Operational	45 mph (72 kph)
Pointing Loss in Wind (Ku Rx)	
10 mph (16 kph)	0.1 dB (0.1 deg) typ.
20 mph (32 kph)	0.2 dB (0.2 deg) typ.
Certifications	CE, FCC, RoHs, UL, CSA
Set-Up Time	< 15 minutes
Weight	< 70 lbs (none motorized Ku-Band)

*\* All specifications subject to change without notice.*