

ANTENNA FEATURES

- Portable multi-orbit geostationary orbit (GEO), medium-earth orbit (MEO), low-earth orbit (LEO), and highly elliptical orbit (HEO) tracking antenna
- Ultra-rugged construction
- AvL carbon fiber reflector
- Segmented carbon fiber reflector
- 15-minute setup and satellite acquisition
- Durable sand feet
- Accurate/reliable antenna beam-pointing via AvL ITC antenna controller
- Auto-acquisition and tracking utilizing TLE - optional internal beacon tracking receiver or external control interface (API)
- Full-hemispherical coverage positioner eliminates overhead keyhole
- Rapidly interchangeable X-Band Circular Polarization (CP), Ku-Band CP, and Ka-Band CP RF packages
- Optional Ku-Band Linear Polarization (LP) RF package
- Optional Solid-State Power Amplifier (SSPA) and Low Noise Block Downconverter (LNB) kits
- Optional engineered mounting of customer-furnished equipment (CFE)



MECHANICAL SPECIFICATIONS

Reflector Construction		12-panel axisymmetric carbon fiber composite	
Axis Travel	X	$\pm 90^\circ$	
	Y	$\pm 90^\circ$	
Elevation Travel	On Level Ground	0 – 90° (full hemispherical coverage)	
	On Maximum Grade	8° - 90°	
Axis Speed – Slewing/Positioning		12°/second	
RF Interface		Coax inputs at user interface for two WR42 and two WR28 interfaces at orthomode transducer (OMT)	
Electrical Interface		Power, Ethernet, and coax (receive and transmit)	
Power Requirements		115/230 VAC single-phase, 250 W (excluding BUC)	
Cases	Case 1: Positioner, Reflector, and Single-Band Kit	Dimensions	33 L x 23.5 W x 18.75 H in. (83.82 L x 59.69 W x 47.62 H cm)
		Weight	136 lbs. (61.69 kg)
	Case 2: ACU and Outriggers	Dimensions	31.75 L x 20.75 W x 12.5 H in. (80.64 L x 52.7 W x 31.75 H cm)
		Weight	87 lbs. (39.46 kg)
	Case 3: Feed Case (Optional – for Additional Feeds)	Dimensions	21.24 L x 16.77 W x 9.83 H in. (53.94 L x 42.59 W x 24.96 H cm)
		Weight	< 70 lbs. (31.75 kg)

ENVIRONMENTAL SPECIFICATIONS

Wind – Survival		60 mph (97 km/h) in stowed position (90° elevation)
Wind – Operational	With Anchoring	30 mph (48 km/h), gusts to 65 mph (105 km/h)
	Without Anchoring	15 mph (24 km/h)
Pointing Loss in Maximum Wind		2 dB typical
Temperature	Operational	-22°F to 125°F (-30°C to 52°C)
	Survival	-40° to 140° F (-40° to 60° C)
Water and Dust		IP65

RF PARAMETERS: KU-BAND (TWO-PORT)

		Receive	Transmit
Frequency Range (GHz)		10.95 – 12.75	13.75 – 14.50
Polarization Configuration		Circular	
Gain (dBi)		41.9	43.9
VSWR		1.30:1	
Beamwidth	-3 dB	1.4°	1.1°
Radiation Pattern Compliance		FCC 25.209, ITU-R S.580-6, IESS 208	
EIRP Ku-Band SSPA 34.6W Linear		--	59 dBW
Power Handling Capability		--	75 W
G/T Mid-Band (Clear Horizon, 23°C)	10° Elevation	21.4 dB/°K	--
	20° Elevation	21.6 dB/°K	--
Axial Ratio CP Only, Within Pointing Cone		--	--
Feed Port Isolation (Transmit to Receive, dB)		35	80 (including filter)

RF PARAMETERS: X-BAND (TWO-PORT)

		Receive	Transmit
Frequency Range (GHz)		7.25 – 7.75	7.90 – 8.40
Polarization Configuration		Swappable RHCP or LHCP	
Gain (dBi)		38.7	39.1
VSWR		1.30:1	
Beamwidth	-3 dB	2.2°	2.0°
Radiation Pattern Compliance		MIL-STD-188-164	
EIRP X-Band SSPA 44.6W Linear		--	55.5 dBW
Power Handling Capability		--	100W
G/T Mid-Band (Clear Horizon, 23°C)	10° Elevation	16.8 dB/°K	--
	20° Elevation	17.3 dB/°K	--
Axial Ratio CP Only, Within Pointing Cone		2.0	2.0
Feed Port Isolation (Transmit to Receive, dB)		100 (including optional filter)	100 (including optional filter)

RF PARAMETERS: KA-BAND

		Receive	Transmit
Frequency Range (GHz)		17.7 – 21.2	27.5 – 31.0
Polarization Configuration		RHCP and/or LHCP	
Gain (dBi)		46.5	49.3
VSWR		1.30:1	
Beamwidth	-3 dB	0.8°	0.5°
Radiation Pattern Compliance		FCC 25.209, ITU-R S.580-6, MIL-STD-188-164	
EIRP Ka-Band SSPA 12.6W Linear		--	--
Power Handling Capability		--	--
G/T Mid-Band (Clear Horizon, 23°C)	10° Elevation	--	--
	20° Elevation	22.6 dB/°K	--
Axial Ratio CP Only, Within Pointing Cone		1.5 dB	1.0 dB
Feed Port Isolation (Transmit to Receive, dB)		> 85	> 85 (with filter)

AvL CONTROLLER

The **Intelligent Terminal Controller (ITC)** is a next-generation embedded control system built on a secure, continuously updated kernel designed to meet modern cybersecurity demands. Its enhanced processing architecture delivers advanced motion control and superior tracking performance for MEO and LEO constellations, supported by faster decision loops and smarter sensor fusion.

A newly designed, easy-to-use configurable WebUI (ITC Explorer) and a simplistic JSON API give integrators maximum flexibility for custom user interfaces and automation. With elevated compute power, robust security, and forward-looking tracking intelligence, the ITC provides a resilient, future-ready platform for evolving satellite communications.

ADDITIONAL OPTIONS

- Custom BUC/HPA integration
- Embedded or external receiver options
- Sandbag/anchor kit