0.98m Multi Orbit Quick Deploy Antenna System

Overview

The Global Invacom unique SWaP mulit orbit antenna system uses an XY motorized system. Small, light, quick deploy system with no backlash and integrated cable raceway in a single mechanical IP67 housing. This ensures orthogonality and repeatable operation at all angles.

Fold out quadpod pedestal for stability with built in ACU offers multiple levels of operation including auto acquire, inclined orbit tracking, program track with closed loop signal tracking, along with search algorithms to auto calibrate.

Build the antenna, apply power, automated network connect in less than 15 minutes.

Axis symmetric carbon fibre relector integrated Global Invacom transceivers (Ku and Ka band), as well has offering high power BUC integration. Built to be compliant with MIL-STD/STANAG specifications.

Product Features

- Quick deploy modular design with twist and lock connectivity, with easy assembly even in extreme weather, < 10 minutes to assemble.
- Compatible with the LEO, MEO, HEO & GEO constellations.
- Axis symmetric segmented carbon fibre reflector with RF kits for multi band operation.
- X, Ku and Ka Band RF kits with either transceivers or discreet RF components.
- No keyhole with motorised X/Y mount operates with 22kg payload.
- Harmonic drive design with no dacklash.
- Auto-acquire with build auto calibration (built in IMU) and integrated signal tracking & pointing, on satellite <15 minutes (including antenna assembly).
- Integrated brake and manual point in case of power failure.
- OpenAMIP control interface and standard L/S band IF interface.
- Integrated transceiver Ku and Ka band. Discreet RF at X band.
- Compliant to MIL-STD-461G; MIL-STD-810H; MIL-STD 188-164C (STANAG 4484).
- Optional integrated modem.
- Optional RF over fibre and or IDU controller to allow remote operation.
- Optional Digital RF interface with DIFI.
- Optional advanced PNT for operation in contested environments.

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Specifications (Typical Performance)						
RF						
Frequency Band	X Band		Ku Band		Ka Band	
	Rx	Tx	Rx	Tx	Rx	Tx
Operating Frequency, GHz	7.25 – 7.75	7.9 – 8.4	10.70 – 12.75	13.75 -14.50	17.7 - 21.2	27.5 - 31
Polarisation	Circular		Linear		Circular	
Antenna Gain, dBi	35.6	36.0	39.5	40.5	44.1	47.3
3dB Beamwidth, °	2.86	2.61	1.83°	1.53°	1.1°	0.7°
G/T, dB/K (20° El)	16.6 (LNB 0.7dB NF)		19.8 (LNB 0.7dB NF)		21 (XRJ TxRx)	
EIRP, dBW (P_{lin})	53 (100W P_{sat} BUC)		57.5 (100W P_{sat} BUC)		60.3 (XRJ, 40W)	
Antenna Cross Pol Isolation, dB	25dB (on Axis)		30dB (on Axis)		25dB (On Axis)	
Antenna Sidelobe Envelope	ITU 580-6		ITU 580-6		ITU 580-6	
VSWR	1.3:1 Max		1.3:1 Max		TX 1.3:1MAX, Rx 1.5:1 MAX	
Mechanical						
Antenna Type & Material	Dual Reflector, Central Fed, Carbon Fibre					
Reflector Segments	6 +1					
Motorisation	2 axis, X-over-Y Mount, Optional Polarisation					
Travel Ranges	360°Az, 180°El (90° Polariser)					
Antenna Speed/Acceleration	20°/sec; 10°/sec/sec					
Controller	Global Invacom APS700/900 Controller					
Satellite Acquisition	RSSI via built in Selective Power Meter or OpenAMIP, optional DVB-S2X Receiver					
Cases	3 (Reflector & Feeds, Pedestal & Electronics, Motorisation)					
Environmental						
Wind Speed	48 km/h, gusting to 72km/h (operational, anchored) 112km/h (survival, anchored, fixed skyward)					
Temperature	- 30°C to +60°C					
Relative Humidity	100%, non-condensing					
Atmosphere	IP67, Salt Spray (ASTM B-117)					
Solar Radiation	360 BTU/h/ft2 (1000 Kcal/h/m²)					
Shock and Vibration	As encountered During Shipping and Handling					

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