Model 1.0m 1030FA Motorized Tri-Band Flyaway

FEATURES

- 1.0m segmented 6-piece AvL carbon fiber reflector with optional (1.2m) extended panels
- Rugged AvL cable drive case-based positioner
- Case-based positioner (AvL or CFE) or rugged tripod mount
- Offset prime focus highly efficient optics
- Interchangeable feeds
- 15-minute set-up
- AAQ One-button Auto Acquisition Controller
- 2-port Ku-band Precision (standard cross-pol comp.) feed
- Optional feeds: 2-port Ku-band Mode-Match (enhanced cross-pol comp.), 2-port X-band, 2-port Ka-band
- Polarization adjustment: Ku LP – motorized/manual options, Ka CP – manual, field-reversible LH/RH, X CP – manual, field-reversible LH/RH
- MIL-STD-188-164A compliant

Specifications — Mechanical

Reflector construction		Segmented carbon fiber with an aluminum hub	
Polarization Drive System		Motorized/manual options depending on feed	
Az/El Drive		Motorized AvL low Backlash Cable Drive System	
		Case-based	Tripod
Axis travel	Polarization (Ku only)	+/- 95 degrees	+/- 95 degrees
	Azimuth	+/- 90 degrees (CFE base dependent)	+/- 90 degrees
	Elevation (operational)	7-100 degrees (CFE base dependent)	0-100 degrees (7^{o}-100^{o} over tripod legs)
Az/El Speed	Peaking (typical)	0.2 deg/sec azimuth; 0.2 deg/sec elevation	
	Slewing/Deploying (typical)	2 deg/sec azimuth; 1 deg/sec elevation	
Motor		24V DC variable speed, constant torque	
Manual/Emergency Drive		Hand crank for Az and El, knob on pol	
Interfaces	BUC mounting	Feed boom or behind reflector (addl. CFE case or optional case required)	
	RF	Std. 50 ohm coax (2) at base, cover flange at feed Tx port	
	Electrical	30 ft. cable with connectors for controller	
Electrical interface		Connectors on base	
Transit configuration (Ku-band)		Case-based	Tripod
Case 1:	Positioner & Feed	29 x 20 x 17 inches; weighs < 70 lbs.	31 x 20 x 16 inches; weighs < 70
Case 2:	Reflector, Boom & Controls	31 x 20 x 16 inches; weighs < 70 lbs.	31 x 20 x 16 inches; weighs < 70

Specifications — Environmental

Wind – survival (anchored)		45 mph (72 kph)
Wind – operational		
	Without anchoring	15 mph
	With anchoring	30 mph gusting to 45 mph
Pointing loss in wind:	Ku-band	0.7 dB max (1.0m reflector)
	Ka-band	2.0 dB max (1.0m reflector)
	X-band	1.5 dB max (1.2m reflector with extender panels)
Temperature:	Operational	-22°F to 125°F (-30°C to 52°C)
	Survival	-40°F to 140°F (-40°C to 60°C)

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Specifications subject to change without notice.

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RF Parameters	Optional 2-Port X-Band (Military/WGS)		Standard 2-Port Precision Ku-Band		Opt. 2-Port Ka-Band	
	Receive	Transmit	Receive	Transmit	Receive	Transmit
Frequency range (GHz)	7.25 - 7.75	7.90 - 8.40	10.95 - 12.75	13.75 - 14.50	19.2 - 21.2	29.0 - 31.0
Polarization configuration	RHCP or LHCP		Linear orthogonal standard, optional co-pol		Circular or Linear	
Gain (mid-band)	36.0 dBi (less opt. filter)	36.8 dBi (less opt. filter)	40.0 dBi	41.5 dBi	44.6 dBi	47.9 dBi
-3dB Beamwidth (mid-band)	2.8˚	2.6˚	1.8˚	1.5˚	1.0˚	0.7˚
Radiation pattern compliance	MIL-STD-188-164A		FCC 25.209, ITU-R S.580.6		MIL-STD-188-164A	
Power handling capacity	-	1000W per port	-	500W per port	-	250W per port
G/T, with LNB, midband, clear horizon	17.3 dB/˚ K (55˚ LNB)	-	19.68 dB/˚ K (50˚ LNB)	-	18.7 dB/˚ K (100˚ LNB)	-
Antenna noise temp. mid-band, 20°EL	52° K @ 7.50 GHz	-	54° K @ 11.85 GHz	-	107° K @ 20.2 GHz	-
VSWR	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1	1.30:1
Axial ratio CP only, within pointing cone (dB)	1.21 dB	2.0 dB	-	-	1.5 dB	1.0 dB
Cross-polarization isolation						
On axis (minimum)	-	-	35 dB	35 dB	-	-
Off axis (in 1 dB BW)	-	-	28 dB	30 dB	-	-
Port-to- port isolation (Tx to Rx)	115 dB (incl. opt. filter)	115 dB (incl. opt. filter)	35 dB	80 dB (incl. filter)	85 dB	85 dB (incl. filter)

Controller	AvL AAQ Antenna Control System
Features	AvL one button auto-acquisition of selected satellites, including peaking and optimization of cross pol. Ethernet based with built-in broadband receiver acquires on beacon and/or signals without external beacon receiver. Modem agnostic. Built-in navigation sensors include inclinometer, compass and GPS. Web-based GUI resides on controller. OPEN AMIP compliant. Open BMIP coming soon.
Size	AAQ Embedded on antenna. Power supply – external 24V power supply or optional 1RU chassis
Input Power	120/240 VAC 60/50 Hz, 6/3 A Max. Power consumption is antenna size dependent: During acquisition 150W is typical, ~50 W idle.

Options — Upgrades & Services

- Upgrade from 2-Port Precision Ku Feed to: a) 2-Port Enhanced Cross-Pol (Mode-Matched) Ku; b) 2-Port X; c) 2-Port Ka
- BUC/HPA mounting
- Optional 75 ohm coax
- Waveguide interconnect options
- Beacon receiver – inclined orbit tracking – resolvers/upgrade
- Grounding options (lightning conductor)
- Anchoring kit options
- Custom logo on reflector face (1- or 2 color; per AvL logo policy)
- Controller options
- Spare parts kit
- Custom pack-ups

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