



Size:

0.50m

PAIR-50

Precision Motion & Tracking

The PAIR-50 airborne antenna features 0.5m dish with a 3-axes motion system for stability and a 4-axes tracking system. This advanced configuration ensures world-class "on satellite" tracking accuracy, maintaining link integrity during dynamic platform motion—essential for any SATCOM-on-the-Move application.

Modular & Band-Swappable

Sharing a proven legacy across aircraft, ships, fast boats, and military vehicles, the PAIR Series features a modular architecture with a common gimbal. Certified RF payloads can be switched between bands in just five minutes, offering unparalleled operational flexibility for diverse missions.

Mission-Critical Operations

The PAIR-50 is specifically engineered for extended-duration aerial intelligence, surveillance, and reconnaissance (ISR) missions. It enables essential beyond-line-of-sight (BLOS) satellite communication, combining high-bandwidth stabilization with an integrated tracking receiver for reliable performance in the most demanding airborne environments.

Key Features

- Supports Ku and Ka-Band
- Design for Aircraft, Ships, Fast boats and military vehicles
- Fast initial pointing time to satellite
- High tracking accuracy
- Perfect tracking stability
- Rapid blockage recovery time
- Fast satellite switching time < 8s
- Dynamic Pointing and Dynamic Switching Satellite
- 4-Axes tracking system (3-Axes version available)





GENERAL SPECIFICATIONS

Reflector Diameter	0.50m
POL Mode	Ku Band Linear / Ka Band Circular
Pointing Satellite Mode	Auto
Power Supply	DC 18-36V
Power Consumption	≤110W (Ku 16W BUC) ≤120W (Ka 10W BUC)

RF CHARACTERISTIC

	Ku-Band	Ka-Band
Frequency (GHz) Tx	13.75-14.50	27.50-31.00
Frequency (GHz) Rx	10.70- 12.75	17.70 - 21.20
Antenna Gain (±0.2 dBi)Tx	35.60 @ 14.25 GHz	41.90@ 29.00 GHz
Antenna Gain (±0.2 dBi)Rx	34.00 @ 11.70 GHz	38.40 @ 19.00 GHz
Polarization	2 Port Linear (3 Port Optional)	Circular
VSWR Tx	1.50:1	1.50:1
VSWR Rx	1.40:1	1.40:1
Cross Polar Isolation	>35 dB within 1 dB beamwidth	
G/T (dB/K)	10.3	14.8
EIRP (dBw)	50.0 with 16W BUC	50.9 with 10W BUC
Antenna Pattern Compliancy	ITU-R S.580-6 and ITU-R S.465-6	

MECHANICAL SPECIFICATIONS

	Azimuth	Elevation	Polarization	Roll
Antenna Motion Range	360° continuous	-8° - 100°	± 110°	± 20°
Antenna Speed Range	100°/s	100°/s		
Antenna Acceleration	200°/s ²	200°/s ²		
Pointing Accuracy	≤0.2° (R.M.S)			
Initial Acquisition Time	≤ 2min			
Blockage recovery time	≤5s (blockage 20min)			
Weight	≤14.0Kg(including antenna system, 10 W Ka band Transceiver) ≤14.5Kg(including antenna system, 16W Ku band Transceiver)			
Dimension	≤φ560*H555mm (D*H)			

ENVIRONMENTAL SPECIFICATIONS

Temperature Range Operational	-40~+55°C
Temperature Range Survival	-50~ +70°C
Humidity	98%
Protection Grade	IP 55

Specifications are subject to change.