



STANDARD
MIL-STD
810F

STANDARD
MIL-STD
464

STANDARD
ITU-R-S
728-1

Size:

0.50m

PAIR-50

Advanced Stabilization for Dynamic Platforms

The PALS PAIR-50 is a high-performance 0.50m airborne antenna system, featuring 3-axes stabilization and 4-axes tracking designed for robust connectivity on aircraft, UAVs. Its lightweight, modular design offers high-speed data rates and seamless integration for critical intelligence, surveillance, and reconnaissance missions.

Modular Agility for Critical Missions

Featuring a modular design with a common gimbal and certified RF payloads, the system enables rapid band switching in under five minutes. This agility makes it ideal for extended-duration aerial SATCOM missions, providing critical Beyond Line of Sight (BLOS) communication for real-time data and command.

Precision Tracking for Uninterrupted Links

The PAIR-50 combines high-bandwidth stabilization with an integrated tracking receiver to achieve exceptional satellite tracking accuracy. This ensures a stable, secure, and continuous communication link, which is vital for mission success during high-motion operations and intelligence gathering.

Key Features

- Ku, Ka Bands available
- Fast initial satellite pointing time
- High tracking accuracy
- Exceptional tracking stability
- Rapid blockage recovery time
- Fast satellite switching time: <8 seconds
- Easy maintenance
- Dynamic pointing and dynamic satellite switching
- 4-Axes tracking system
- 4 Mbps return link upgradable to 10 Mbps
- Ku and Ka SATCOM operations including Military and Commercial-Ka





Scan the QR code for more information.

TECHNICAL SPECIFICATIONS / PAIR-50

GENERAL SPECIFICATIONS

Reflector Diameter	0.50m
Stabilization Platform	3-Axes for stability, 4-axes for tracking
Power Supply	18-36 VDC 300W
Signal Tracking Accuracy	<0.2° (R.M.S)
Blockage recovery time	≤5s (blockage 20min)

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 @ Midband (±0.2 dBi)Tx	35.60	40.90
Antenna Gain @ Midband (±0.2 dBi)Rx	34.00	37.20
Polarization	2 Port Linear	Circular
G/T (dB/K)	12.5	14
Antenna Pattern Compliance	Compliant with ITU-R S.465-6	Compliant with ITU-R S.465-6
Off-axis EIRP Compliance	Compliant with ITU-R S.728-1	Compliant with ITU-R S.524-9

MECHANICAL SPECIFICATIONS

	Azimuth	Elevation	Roll	Polarization
Motion Range	360° continuous	-2° - 95°	±14°	± 90°
Antenna Speed	200°/s	200°/s	200°/s	
Antenna Acceleration	200°/s²	500°/s²	500°/s²	

ENVIRONMENTAL SPECIFICATIONS

Temperature Range Operational	-55 ~ +70°C
Temperature Range Survival	-55 ~ +85°C
Environmental Compliance	RTCA DO-160G / MIL-STD-810F
Altitude	16.500 ft

PAIR-50

Ku-Band

Ka-Band

Azimuth

Elevation

Roll

Polarization

PAIR SERIES

Specifications are subject to change.

