



STANDARD
MIL-STD
810F

STANDARD
MIL-STD
464

STANDARD
ITU-R-S
728-1

Size:

0.20m

PAIR-20

Compact & Integrated Design

The PALS PAIR-20 is the smallest PAIR family antenna, delivering robust Ka-band connectivity for aircraft and UAVs. It integrates a high-efficiency parabolic feed, low-noise amplifier, servo control, GPS/BD positioning, and intelligent tracking into a single compact unit.

High-Velocity Acquisition & Precision

Tracking Equipped with an advanced 2-axis stabilization and 3-axis tracking system, the PAIR-20 delivers exceptional tracking stability even during aggressive flight maneuvers and high-speed banking. Featuring an agile azimuth rotation of 360° continuous and a rapid elevation swing from -10° to 100° at speeds up to 100°/s, the antenna maintains a signal tracking accuracy of <0.2° (R.M.S). Backed by intelligent pointing algorithms, the system limits pointing errors below 0.5dB (RMS) and features a dynamic satellite switching mechanism.

Mission-Critical Reliability

Built for operational resilience, the PAIR-20 enables straightforward fault diagnosis and rapid field maintenance. Ideal for military operations, emergency command, and communication networks requiring unwavering connectivity.

Key Features

- Available in Ka Band VHTS
- Designed for aircraft, ships, go-fast boats, and military vehicles
- 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
- 2-Axes stability, 3-Axes tracking
- Ka SATCOM operations including Military and Commercial-Ka





Scan the QR code for more information.

TECHNICAL SPECIFICATIONS / PAIR-20

GENERAL SPECIFICATIONS

Reflector Diameter	0.2m
Reflector Material	Carbon-fiber
Stabilization Platform	2-Axes for stability, 3-Axes for tracking
Positioning Mode	GPS and BD
Power Supply	Nominal 100W @ 28VDC
Interface	1 Rx,1 Tx and 1 M&C

RF CHARACTERISTIC

Frequency (GHz) Tx	29.50~31.00
Frequency (GHz) Rx	19.70~21.20
Antenna Gain (±0.2 dBi) Tx	33.40 @ 29.00 GHz
Antenna Gain (±0.2 dBi) Rx	30.00 @19.00 GHz
Polarization	LHCP/RHCP
G/T(dB/K)	6.7
Axial ratio (dB)	1.5
Antenna Pattern Compliancy	Compliant with ITU-R S.580-6 and ITU-R S.465-6

MECHANICAL SPECIFICATIONS

Antenna Motion Range	360°continuous	-10° - 100°	± 110°
Antenna Revolution	100°/s	100°/s	
Antenna Acceleration	200°/s²	200°/s²	
Signal Tracking Accuracy	<0.2° (R.M.S)		
Sheltering Recovery Time	≤5s (Cover for20min)		

ENVIRONMENTAL SPECIFICATIONS

Temperature Range Operational	-40°C + 60°C
Temperature Range Survival	-55°C + 70°C
Protection Grade	IP65
Environmental Compliance	RTCA DO-160G / MIL-STD

Specifications are subject to change.

