



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.

Rapid Acquisition & Precision Tracking

Cold-start satellite acquisition takes under 80 seconds; hot-start or manual input under 60 seconds. The two-axis stability and three-axis tracking system maintains errors below 0.5dB (RMS). Advanced algorithms ensure link stability during aggressive maneuvers, with signal recovery under 3 seconds for brief blockages and under 5 seconds for interruptions up to 20 minutes.

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 HTS
- 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



GENERAL SPECIFICATIONS

Reflector Diameter
Reflector Material
Antenna Form
Stabilization Platform
Positioning Mode
Power Supply
Power Consumption
Positioning Mode
Interface

PAIR-20

0.2m
Carbon-fiber
Circle against symmetrical reflector and cap feed
2-Axes for stability, 3-Axes for tracking
GPS and BD
DC18-36V
≤90W (Ka 10W BUC)
GPS and BD
1 Rx,1 Tx and 1 M&C

RF CHARACTERISTIC

Frequency (GHz) Tx
Frequency (GHz) Rx
Antenna Gain (±0.2 dBi) Tx
Antenna Gain (±0.2 dBi) Rx
Polarization Form
G/T(dB/K)
EIRP (dBW)
Axial ratio (dB)
Tx-Rx Isolation(dB)
Rx-Tx Isolation(dB)
Antenna Pattern Compliancy

PAIR-20

29.0-30.0
18.7- 20.2
33.7+20lg(f/29.4)
30.3+20lg(f/19.6)
LHCP/RHCP
6.7
42.7 (10W BUC)
1.5
85
40
ITU-R S.580-6 and ITU-R S.465-6

MECHANICAL SPECIFICATIONS

Antenna Motion Range
Antenna Revolution
Antenna Acceleration
Pointing Accuracy
Initial Acquisition time
Sheltering Recovery Time
Weight
Antenna Profile Dimension

Azimuth

360°continuous
100°/s
200°/s²
≤0.2° (R.M.S)
≤ 2min
≤5s (Cover for20min)
≤5.5Kg (including antenna system, 10W Ka band Transceiver)
249*H288mm (D*H)

Elevation

-5°-105°
100°/s
200°/s²

Polarization

± 90°(Ka)

ENVIRONMENTAL SPECIFICATIONS

Temperature Range Operational
Temperature Range Survival
Protection Grade

PAIR-20

-40°C + 55°C
-55°C + 70°C
IP65

Specifications are subject to change.

