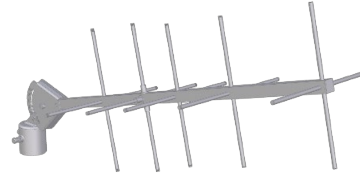


Harsh 18B Antenna

Model 18B | 401 MHz Crossed Yagi Array

Overview

The Harsh 18B is a high-gain 401 MHz crossed Yagi array designed for fixed-location uplink applications requiring directional, high-performance satellite communications. This antenna's endfire directional pattern provides +11.0 dBic minimum gain with a 47° beamwidth, ideal for timed satellite data collection platforms, scheduled satellite passes, and applications where precise antenna pointing is feasible. The precision aluminum structure with photo-etched microstrip matching circuit delivers exceptional electrical uniformity and mechanical reliability in demanding field environments.



Key Features

- Transmit up to 15W with high-gain directional performance
- Endfire directional pattern with +11.0 dBic minimum gain and 47° half-power beamwidth for high-efficiency satellite links
- RHCP optimized for satellite data collection platforms and 401 MHz uplink applications
- Photo-etched microstrip matching circuit ensures low SWR (1.50 max) and consistent circular polarization
- Precision aluminum boom construction with screw-in elements for easy field assembly and reliable mechanical performance
- Lightweight design (2.0 kg / 4.5 lb) with minimal wind loading (0.033 m² / 0.35 ft² effective area)
- Included mount features full azimuth (360°) and elevation (0° to 90°) adjustment for precise satellite pointing
- Extreme environment rated: -65° to +65°C, 100 kn wind survival, ice/snow loading to 4.8 kPa

Applications

Uplink Applications:

- Fixed-location Argos satellite data collection platforms (DCPs) for environmental monitoring, hydrological stations, and remote research installations
- Scheduled satellite uplink from permanent weather stations and atmospheric research facilities
- Timed data transmission from fixed asset tracking and remote sensing stations
- Research applications requiring high-gain directional transmission during predictable satellite passes
- Emerging satellite IoT and Non-Terrestrial Network (NTN) uplink applications for remote data collection platforms and distributed sensor networks

NOTE: Satellite transmission requires appropriate regulatory authorization. Consult local regulations before transmitting.

Specifications

Electrical	
Frequency	401.8 MHz nominal
Bandwidth	≥ 2 MHz
Input Power	≤ 15 W
Input Impedance	50 Ω nominal
VSWR	≤ 1.5:1
Axial Ratio	≤ 4 dB
Directivity	+14.0 dBic nominal
Gain	≥ +11.0 dBic
Antenna Type	Crossed Yagi Array
Polarization	Right-Hand Circular (RHCP)
Radiation Pattern	Directional (Endfire)
½-Power Beamwidth	47° nominal
Connector	Type N

Environmental Ratings	
Temperature	-65 to +65 °C (-85 to +149 °F)
Wind Survival	51 m/s (100 kn, 115 mph)
Ice/Snow Loading	4.8 kPa (100 lb/ft ²)
Rain Submersion	127 mm/hr (5 in/hr)
Humidity	0–100% RH, condensing
Altitude	-305 to +4,572 m MSL (-1,000 to +15,000 ft)

Physical Measurements & Mounting Information	
Dimensions (Assy.)	27 × 27 × 110 cm (10.5 × 10.5 × 43.3 in)
Weight	≤ 2.0 kg (4.5 lb), including mount
Wind Area	0.033 m ² (0.35 ft ²)
Mounting Diameter	2" nominal pipe (2.50" OD max)
Azimuth adjustment	360°
Elevation adjustment	0° to 90°

Shipping Information	
Packaging	Boxed in heavy-duty cartons
Shipping weight	3.18 kg (7 lb)
Shipping size	114 × 14 × 14 cm (45 × 5.5 × 5.5 in)