

Harsh/Synergetics International

DATA SHEET

Model 15A-N and 15A-TNC Full-Wave Quadrafilar Helix Antennas Right-Hand Circular Polarization

The Model 15A is a hemispherically omni-directional antenna optimized for maximum gain at low elevation angles.

The 15A is a lightweight, resonant, full-wave Quadrafilar Helix antenna phased for right-hand circular polarization. The pattern is optimally shaped to give maximum gain just above the horizon (where path losses are minimal). The model 15-A antenna provides improved performance over the half-wave Quadrafilar Helix (14A) for all low-orbiting satellite applications. The 15-A will also provide optimum performance for satellite platforms located at higher latitudes. For platforms with look angles above 45° elevation, the Model 14-A antenna should be used.

The 15-A antenna is matched using the exclusive Synergetics MICRO-FEED, resulting in superior axial ratio, SWR, and bandwidth. The sealed radome is constructed of G-10 fiberglass with a white two-part polyurethane paint finish for long life under hostile atmospheric conditions.



SPECIFICATIONS

Electrical		
• Frequency	401 MHz	Nominal
• Bandwidth	4 MHz	Minimum
• Input Power	50 Watts	Maximum
• Input impedance	50 Ω	Nominal
• SWR	1.5	Maximum
• Axial Ratio	5 dB	Maximum
• Gain (elevation angle=25°)	3.5 dBic	Minimum
• Polarization	Right-Hand Circular	
• ½ Power Beamwidth	185°	Nominal
• Connector	Type N Jack (standard) or TNC Bulkhead Jack (special order)	

Environmental	
• Wind	100 knots
• Ice and Snow	100 lbs/ft ²
• Rain	5"/hour
• Temperature	-65°C to +65°C
• Relative Humidity	0 – 200%
• Altitude	-1,000 to +15,000 feet MSL

Mechanical	
• Mounting	4 ¼" flange with 6 evenly spaced holes on 3 5/8" diameter bore center for ¼" bolts
• Weight	2.0 lbs. Maximum
• Size	3.0" diameter x 28.3" length plus 4 ¼" base flange and connector
• Effective wind area	0.47 ft ²

Ordering Information	
• Packaging	Boxed in heavy-duty cartons.
• Shipping weight	4 lbs.
• Shipping size	35" H x 6" W x 6" D

HARSH/SYNERGETICS INTERNATIONAL

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