

# NWIEE 0.6M SHIPBORNE ANTENNA IN KU BAND



The model 39SP006-Ku 0.6M antenna system is designed and manufactured by NWIEE with CAD, which can be applied to satellite communication station.

The backup structure for the reflector, the hub connecting, the main reflector with mount and the pedestal provides the guaranteed pointing accuracy required in Ku band operation.

Antenna system is characteristic of high gain, low side-lobe, low cross polarization, capable for frequency reuse both in transmit and receive bands, high driving/control accuracy with angle position display in high resolution. With gyro stabilization and conical scan auto-tracking mode provided, they can keep pointing at satellite even when the ship changes the heading direction or is swinging, thereby to assure the two-way communication between ship-borne stations or between ship-borne station and land station. With such strengths as high tracking accuracy, high reliability, salt-mist resistance, corrosion proof and shock resistance, they are suitable for harsh marine environment.

Ship-borne satellite communication antennas are extensively applicable to vessels of various sizes for ocean exploration, ocean transportation and other purposes as well as oil drilling platforms.

<b>R.F. Specifications</b>	
Aperture	0.6m
Operating Frequency	Tx: 14.0GHz to 14.5 GHz      Rx: 12.25 GHz to 12.75 GHz
Antenna Gain (dBi)	≥36.8+20lgf/14.25 ≥35.7+20lgf/12.50
Polarization Mode	Linear polarization, automatic polarization adjustment
Cross-polarization Isolation	≥35dB, axially
Side-lobe Characteristic	1st Side-lobe Level ≤-14dB
Insertion Loss of Feed	≤0.3dB
Noise Temperature	≤80K(at 10° EL and at the output port of feed)
Rx and Tx Isolation	≥85dB
VSWR	≤1.5
Transmitted Power Loss of Radome	≤0.8 dB
<b>Mechanical Specifications</b>	
Antenna Type	Ring-focus Antenna
Pedestal Type	A-C-E 3-axis Pedestal

Antenna Slew Range	AZ 360°no limit, EL -20°~+120° Cross -30°~+30° Pol: -100°~+100°
Operating Speed	AZ 0°~59°/s , EL 0°~56°/s, Cross 0°~59°/s
Acceleration	AZ 0°~100°/s <sup>2</sup> , EL 0°~100°/s <sup>2</sup> , Cross 0°~100°/s <sup>2</sup>
Total Antenna Weight(inc. radome)	≤90kg
Externality Size	Radome Size: φ1m×1.09m
<b>Servo &amp;Tracking</b>	
Operation Modes	Standby, Manual, Auto-tracking, Self Test
Tracking Mode	Conical Scan Auto-tracking Mode
Pointing Accuracy	≤0.2°R.M.S.
Tracking Accuracy	≤1/7 Half Power Beam Width(R.M.S.)
Satellite Presetting	No fewer than 32 satellites
Initial Acquisition Time	≤3min
Reacquisition Time after A Long Break	≤1min
Reacquisition Time after A Short Break	≤10s
Power Supply/Consumption	~220V, 450VA
External Interfaces	Inertial Navigation, Compass(analog interface or digital interface), GPS, M&C
<b>Environmental Specifications</b>	
Operational Wind Speed	55m/s
Survival Wind Speed	56m/s
Operational Conditions	Rolling: -35°to 35° at intervals of 6S to 12S Pitching: -15°to +15° at intervals of 5S to 10S Yawing: 15°/S
Shower	100mm/h
Relative Humidity	0%-100%
Solar Radiation	1.1kW/m <sup>2</sup>
Operation Temperature	-35°C~+65°C(ODU); -25°C~+60°C(IDU)
Storage Temperature	-55°C to +70°C