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**ISO9001
Certified**

NWIEE 2.4M SHIPBORNE ANTENNA IN C BAND



The model 39SP024-C 2.4M 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 C 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.

| R.F. Specifications | |
|------------------------------|--|
| Aperture | 2.4m |
| Operating Frequency | Transmit: 5.85 GHz-6.725 GHz; Receive: 3.4 GHz-4.2 GHz |
| Antenna Gain (dBi) | $\geq 41.3 + 20\lg(f/6)$ $\geq 37.8 + 20\lg(f/4)$ |
| Polarization Mode | Linear polarization, automatic polarization adjustment |
| Cross-polarization Isolation | $\geq 35\text{dB}$, axially |
| Side-lobe Characteristic | 1st Side-lobe Level $\leq -14\text{dB}$ $32 - 25\lg(\theta)\text{dBi}$ $100\lambda/D \leq \theta \leq 20^\circ$ -10dBi $\theta > 48^\circ$ |



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| | |
|--|---|
| Insertion Loss of Feed | ≤0.3dB |
| Noise Temperature | ≤80K(at 10° EL and at the output port of feed) |
| Rx and Tx Isolation | ≥80dB |
| VSWR | ≤1.5 |
| Transmitted Power Loss of Radome | ≤0.5 dB |
| Mechanical Specifications | |
| Antenna Type | Ring-focus Antenna |
| Pedestal Type | A-C-E 3-axis Pedestal |
| Antenna Slew Range | AZ 360°no limit EL -10°~+120° Cross -15°~+15° Pol: -100°~+100° |
| Operating Speed | AZ 0°~30°/s , EL 0°~30°/s, Cross 0°~30°/s |
| Acceleration | AZ 0°~50°/s ² , EL 0°~50°/s ² , Cross 0°~50°/s ² |
| Total Antenna Weight(inc. radome) | ≤800kg |
| Externality Size | Radome size: φ3.06m×3.2m |
| Servo &Tracking | |
| 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 | ≤5min |
| Reacquisition Time after A Long Break | ≤1min |
| Reacquisition Time after A Short Break | ≤10s |
| Power Supply/Consumption | ~220V, 1000VA |
| External Interfaces | Inertial Navigation, Compass(analog interface or digital interface), GPS, M&C |
| Environmental Specifications | |
| Operational Wind Speed | 35m/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 ² |
| Operation Temperature | -35°C~+65°C(ODU); -25°C~+60°C(IDU) |
| Storage Temperature | -55°C to +70°C |