



Marine GPS Antenna

MODEL: SA-700

GPS antenna with low noise amplifier for marine application



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General Description: This text specifies the basic operation characteristics of the active GPS antenna model SA-700 under standard test condition of +3.0Vdc~+5.0Vdc & 25/ 50% R.H.

Antenna:

SA-700 is the integration of a high performance GPS patch antenna and a state-of-the-art low noise amplifier into an extremely compact/fully waterproof enclosure. When connected to a GPS receiver, it provides excellent signal amplification and out-band filtering/rejection for that receiver. The SA-700 is designed both for marine masts and for tall buildings that require extra long cables (up to 200 feet) without any signal degradation.

Specification:

Physical Construction:

Construction:

Polycarbonate radome enclosure (top & bottom base with rubber O-ring in-between)
Center feeds TNC connector for antenna output.

Dimensions: 4.5" in diameter & 2.9" in height

Weight: 220 grams (without cable)

Standard Mounting: External flagpole type mast mount 1"-14 threaded mast.

Optional mounting: 1. Cabin roof-mount with stainless steel base & shaft.

2. Rail side mount with stainless rod.

Cable & Connector:

- **RF:** 10 meter RG58 A/U for standard SA-700, with 15~50 meters available for options. Cable connectors are hermetically molded plastics for waterproof and stain relief.
- **Cable pulling strength:** 12Kg for 5sec.
- **Connector available:** BNC (standard), other types (optional)

Antenna Element:

- **Center frequency:** 1575.42 MHz +/-1.023 MHz
- **Polarization:** R.H.C.P. (Right Handed Circular Polarization).
- **Absolute Gain @ Zenith:** +5 dBi typical.
- **Gain @ 10° Elevation:** -1 dBi typical.
- **Axial Ratio:** 3 dB max.
- **Output VSWR:** 1.5:1 max.
- **Output Impedance:** 50 Ω

Low Noise Amplifier:

- **Center Frequency:** 1575.42 MHz
- **Power Gain:** 27 dB
- **Bandwidth:** 2 MHz min.
- **Noise Figure:** 1.5 max.
- **Out Band Attenuation:** 20 dB min. @ Fo +/-50 MHz.
- **Supply Voltages:** 2.5~5.5V DC
- **Current Consumption:** 12mA +/- 1mA
- **VSWR:** 2.0 max.
- **Output Impedance:** 50 Ω

Overall Performance: (antenna element, LNA and cable)

- **Center Frequency:** 1575.42 MHz.
- **Gain:** 26 dB
- **Noise Figure:** 2.0 max.
- **Bandwidth:** 2MHz min.
- **Axial Ratio:** 3 dB max.
- **VSWR:** 2.0 max.
- **Output Impedance:** 50 Ω

Environmental:

- **Operating Temperature:** -30°C~ +85°C.
- **Storage Temperature:** -40°C~ +90°C.
- **Relative Humidity:** 95% non-condensing.
- **Water Resistance:** 100% waterproof.