



# Marine GPS Antenna

## MODEL: SA-200

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-200 under standard test condition of +5Vdc & 25/ 50% R.H.

### **Antenna:**

SA-200 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 with +5VDC antenna power, it provides excellent signal amplification and out-band filtering/rejection for that receiver. The SA-200 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-200, 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:** TNC(Antenna side) to BNC (cable end), 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 ohm

#### Low Noise Amplifier:

- **Center Frequency:** 1575.42 MHz
- **Power Gain:** 30dB typical with SA-200
- **Bandwidth:** 2 MHz min.
- **Noise Figure:** 1.5 max.
- **Out Band Attenuation:** 20 dB min. @ Fo +/-50 Mhz.
- **Supply Voltages:** 4.0~6.0V DC (SA-200).
- **Current Consumption:** 28+/-3mA (SA-200)
- **VSWR:** 1.5 max.
- **Output Impedance:** 50 ohm

#### Overall Performance: (antenna element, LNA and cable)

- **Center Frequency:** 1575.42 MHz.
- **Gain:** 27 dB typical with SA-200
- **Noise Figure:** 2.0 max.
- **Bandwidth:** 2MHz min.
- **Axial Ratio:** 3 dB max.
- **VSWR:** 1.5 max.
- **Output Impedance:** 50 ohm

#### Environmental:

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

