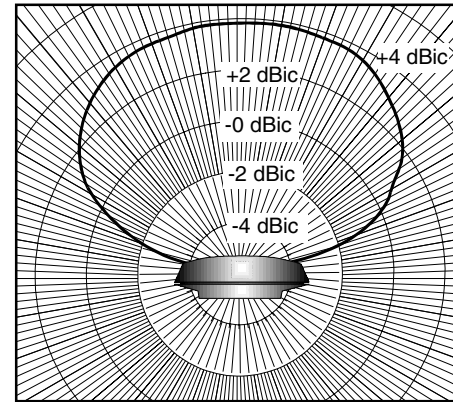


**“ANT” Series GPS Antenna Technical Characteristics**

(Discontinued in March 1999, Shown for Historical Purposes Only)

**Introduction:** Motorola GPS antennas with model designations beginning with “ANT” are based on a 2 inch, 24 dB active patch design which may be powered by 5 VDC at 25 mA from a Motorola ONCORE GPS receiver or a separate power source depending on the application. Since 1992 this antenna design has proven extremely reliable and has performed successfully in a wide range of uses including automobile, truck and bus tracking, timing, GIS and airborne applications. The antenna module is supplied with one of four different types of mounting shrouds, depending on customer needs, but may be used alone for integration into custom designs. The new, smaller Motorola Antenna97 (available in September, 1997) provides the same general performance characteristics at a lower cost. See Tech-Note #491-1 and #491-2 for details.



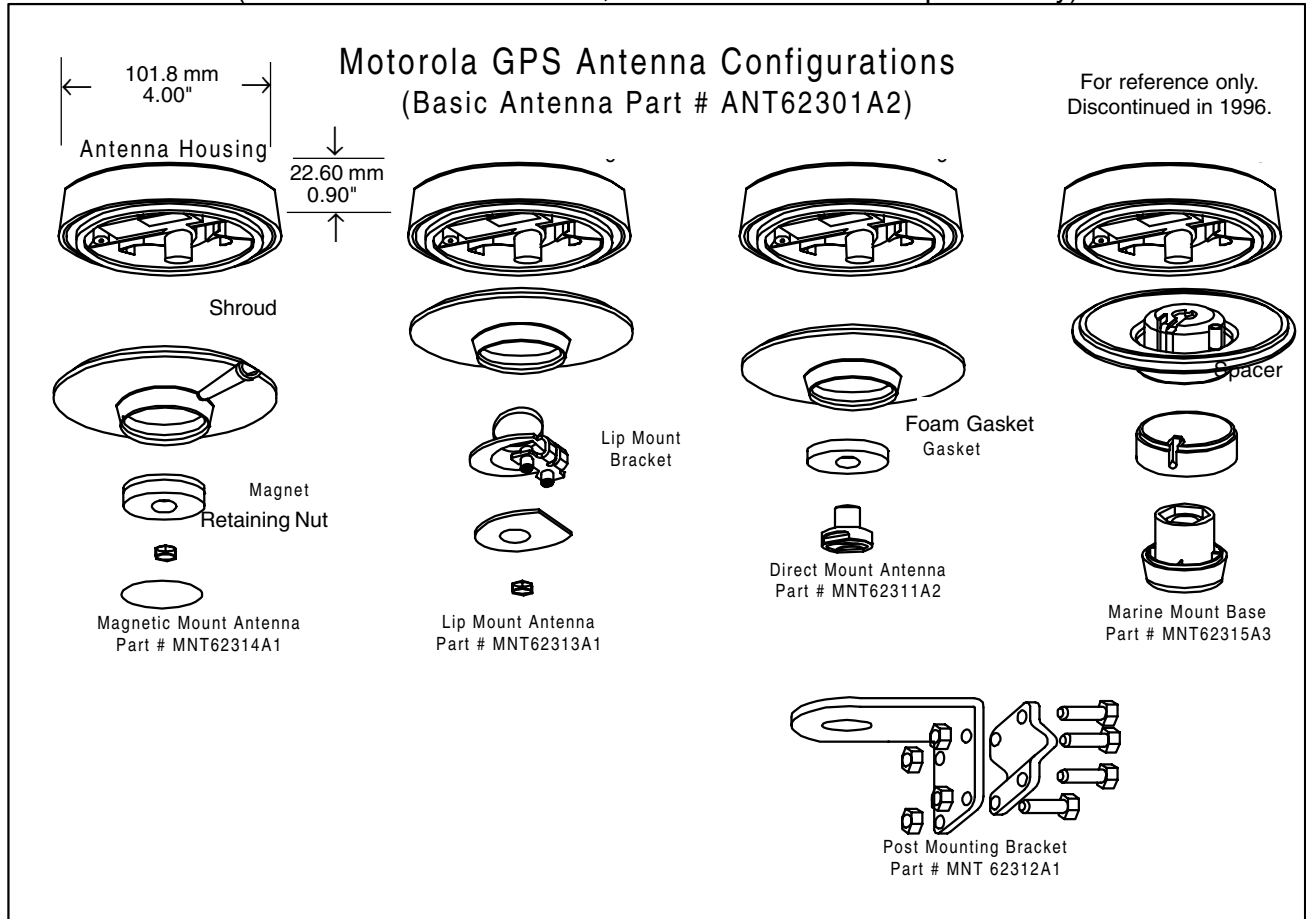
<b>General Characteristics</b>	Antenna Description	• Low Profile Active Microstrip Patch Antenna encapsulated in a molded plastic housing
	Operating Frequency	• L1 (1575.42 MHz)
<b>Performance Characteristics</b>	Input Impedance	• 50 Ohm
	VSWR	• 2:1 (typical) @ 1575.42 MHz
	Bandwidth	• 60 MHz (typical)
	Polarization	• Right hand circular
	Azimuth Coverage	• 360 degrees
	Elevation Coverage	• 0 degrees to 90 degrees
	Gain Characteristics	• + 3 dBic minimum at zenith • 0 dBic minimum at 30 degrees elevation • - 6 dBic minimum at 0 degrees elevation
	Filtering	• - 30 dB @ 1625 MHz • - 30 dB @ 1475 MHz
	LNA Gain	• 22 dB minimum
	Noise Figure	• 2.5 dB maximum
<b>Electrical Characteristics</b>	Burnout Protection	• Protected from damage by RF signals when the power receive by the antenna is no greater than +17 dBm absolute maximum
	Dynamics	• Vibration: 7.7G per Military Standard 810E Method 514.4 • Shock: 30 g (18 ms sawtooth) Military Standard 810E Method 516.4
	Power Requirements	• 5 ± 0.25 Vdc 50 mV p-p ripple (maximum)
<b>Physical Characteristics</b>	Power Consumption	• 22 mA typical @ 5 Vdc (50 mA maximum)
	Dimensions	• 4.01 (dia.) x 0.89 in. (102 mm dia x 22.6 mm) • 33.3 L x 29.8 W x 8.8 H mm (Substrate with shield)
<b>Environmental Characteristics</b>	Weight	• 4.8 oz. (136.3 g)
	Connectors	• 90 degree OSX (subminiature snap-on)
	Antenna to Receiver Interconnection	• Single coaxial cable (- 12 dB maximum loss at L1:1575.42 Mhz for Motorola GPS receivers)
	Operating Temp.	• - 40°C to + 100°C
	Storage Temp.	• - 40°C to + 65°C
<b>Miscellaneous</b>	Humidity	• 95% noncondensing + 30°C to + 60°C
	UV Radiation	• 1000 hrs. @ + 60°C as per ASTM G53-88
	Salt Spray Test	• 96 hrs at 35°C
<b>Miscellaneous</b>	Optional Features	• Four mounting options: direct, post, lip, magnetic • 6 & 3 meters of RG-58 cable asy: subminiature to subminiature or subminiature to BNC or SMB (offer TNC & SMA, model numbers not available)

**For configuration assistance, order placement and technical support call:**

<p><b>SYNERGY SYSTEMS, LLC</b> <i>Working together for better results</i></p>	<p>P.O. Box 262250 • San Diego, CA 92196 Phone: (858) 566-0666 • Fax: (858) 566-0768 Internet E-Mail: Info@synergy-gps.com</p>
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**“ANT” Series GPS Antenna Technical Characteristics**

(Discontinued in March 1999, Shown for Historical Purposes Only)



**Recommended Torques to Assemble / Mount Motorola's GPS Antennas  
Model # ANT62301A1/A2 (Grey) or ANT62301B1/B2 (White)**

Mounting Type	Model No.	Recommended Torque Values
Direct	MNT62311A1	12 to 15 in-lb
Slip Nut	MNT62311A2	Slip Nut Design
Post	MNT62312A1	Not Applicable
Lip	MNT62313A1	10 to 12 in-lb
Marine	MNT62315B1	12 to 15 in-lb
Slip Nut	MNT62315B2	Slip Nut Design
Magnet	MNT62314A1	10 to 12 in-lb

**Notes:**

- For all Antennas marked with Model Years “92” and “93”; the maximum recommended torque should not exceed 10 in-lb or 1.13 N-m or 0.115 kg-m.
- “Slip Nut Design” will automatically adjust for the correct amount of torque for the specified mount.
- Post Mount kit uses a Direct Mount kit to secure the GPS antenna. Use torque values for Direct Mount kit.

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