
Marine GPS Antenna **Model GA-88P** **User's Manual**



ETEK® **ETEK NAVIGATION, INC.**
Antennae, Receivers, Compass, DGPS, AVLS

10F., No.105, Xicheng Rd., Banqiao City,
Taipei County 220, Taiwan (R.O.C.).

TEL: 886-2-26860199 FAX: 886-2-26866159

E-Mail: etek@etek.com.tw WEB SITE: <http://www.etek.com.tw>

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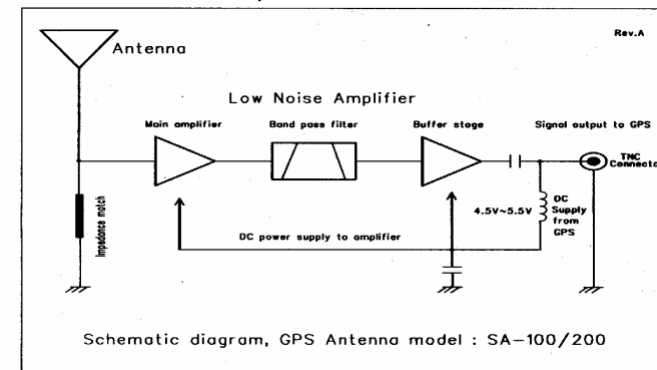
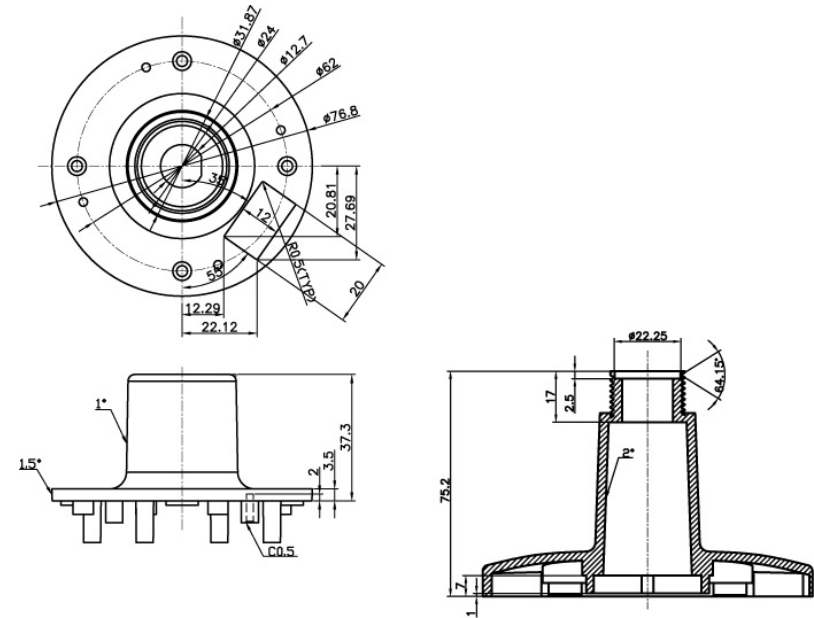
I. PREFACE

This text specifies the basic operational characteristics of the active GPS antenna module GM-88P under a standard test condition of 5VDC & 25°C/ 50% R.H.

II. INTRODUCTION

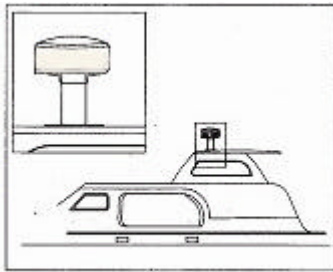
GA-88P is designed for the Marine Vessels mast or tall buildings that require long extra cables without signal constraint to the GPS receivers. **GA-88P** is not only hidden in a durable and waterproof cover, but also cable is protected by a base which can prevent damage. The special design for **GA-88P** is really delicate, compact and reliable. Besides that have concinnity and compacted design for base. It is the integration of the high performance GPS patch antenna and a low noise amplifier into an extremely fully waterproof enclosure and when connected to a GPS receiver with 2.5~5.5VDC antenna power, it can provide excellent antenna signal amplification and out-band filtering with rejection for that receiver at 3V DC or 5V DC input Voltage.

V. Technical Drawing

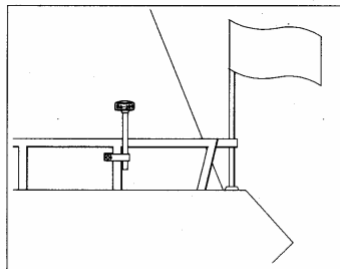


1. Keep the cable away from corrosive chemicals, sharp or abrasive surfaces, and from areas of excessive heat.
2. Avoid excessive tension, sharp bends or kinks in the cable.
3. Locate the cable away from rotating machinery or reciprocating equipment.
4. Avoid routing the cable through door or window jams.

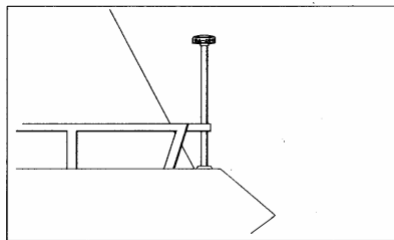
After the cable routing has been made, now secure the BNC connector of the cable to your equipment to complete the installation.



Cabin top mount with stainless stand (option 1)



Rail mount with stainless rod (option 2)



Pole mount to a 1" -14 threaded mast

III. SPECIFICATIONS

PHYSICAL CHARACTERISTICS	
Constructions	Enclosure Center feeds TNC connector for antenna output
Dimensions(mm)	Antenna : 80 (Dia) × 71.3 (H)
	Mounting Base : 110 (W) × 70 (L) × 75.2 (H)
Weight	150 grams (without cable)

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 +/- 1.023 MHz
Power Gain	28 +/- 4.5dB
Bandwidth	2 MHz min
Noise Figure	1.5 max
Outer Band Attenuation	20 dB min. @ Fo +/- 50 MHz
Supply Voltages	2.5 to 5.5V DC
Current Consumption	13mA @ 3.0V DC, 18mA @ 5.0V DC
VSWR	1.5 max
Output Impedance	50 ohm

CABLE & CONNECTOR	
RF	10 meter RG58 A/U connectors are hermetically molded plastics for waterproof and stain relief
Cable Pulling strength	12Kg for 5sec.
Connector available	TNC (standard), other types (optional)

OVERALL PERFORMANCE (Antenna Element, LNA & Cable)	
Center Frequency	1575.42 MHz
Gain	30 +/-4.5dB
Noise Figure	2.0 max.
Bandwidth	2 MHz min.
Axial Ratio	3 dB max.
VSWR	1.5 max.
Output Impedance	50 ohm

ENVIRONMENTAL CONDITIONS	
Operating Temperature	-30°C to +80°C
Storage Temperature	-40°C to +100°C
Relative Humidity	40% to 95% non-condensing
Water Resistance	100% waterproof

IV. INSTALLATION

➤ Choosing a Location:

To minimize potential reception problems, you should mount the GA-88P --

1. on certain open space with a relatively unobstructed view of the horizon in all directions
2. outside the path of radar, transmitting antennas and away from other sources of interference such as DC motors, transceivers, solenoids, and other electronic devices
3. at certain height to avoid the obstruction of other higher objects nearby

➤ Mounting the GA-88P:

The GA-88P is designed for a pole mount of a standard 1" -14 marine thread.

1. Place the GA-88P on the 1" -14 threaded mast.
2. The cable for GA-88P is terminated on one end with a TNC connector and on the other end with a BNC connector. Fasten the TNC connector into the center hole on the base of GA-88P.
3. To maximize signal reception, mount the GA-88P parallel to the horizon.

➤ Choosing a Cable Route:

Right after the mounting of the GA-88P, you should go on routing the power/data cable from the GA-88P to your equipment. While routing the cable, choose the most direct path to your equipment and consider the following suggestions: