Wi-Sys Communications Inc.

WS3977 User Installation Guide:
Mounting The WS3977 GPS Antenna To A Flat Surface

General Notes

The WS3977 antenna has been designed to be hard mounted to a flat surface or to a mast using the WS397X/WS501X Mast Bracket. This guide is intended to aid the installer in properly mounting the WS3977 for optimum GPS performance to a flat surface. For mounting the WS3977 to a mast bracket, please refer to the WS397X/WS501X Mast Bracket brochure.

Mounting Surface

The mounting surface most not exceed 6.5mm in thickness. The surface must be flat, clean and free of flaking paint or loose metal debris in order to have a watertight installation.

Mounting Angle

There will be very little degradation in GPS performance with slopes up to 30 degrees from horizontal. The antenna will function at angles beyond this point but the performance will continue degrade with increasing slope. It is recommended that the maximum slope not exceed 45 degrees.

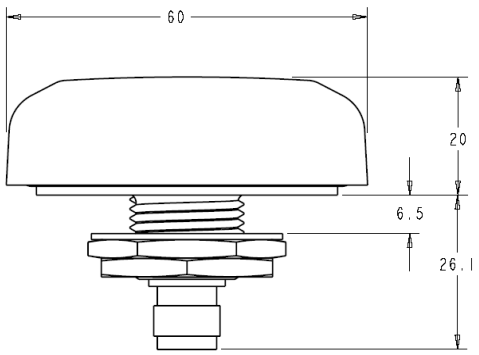

Figure 1. Mechanical Specifications

Installation Procedure

Please refer to the WS3977 datasheet for electrical specifications and refer to Figure 1. for mechanical specifications. For optimum GPS performance, the antenna must have a clear view of the sky and preferably have a ground plane. A ground plane of 10cm diameter (4 inches) is sufficient to realize virtually all ground plane benefits. A larger ground plane will provide no additional advantages. The antenna will operate without a ground plane with a slightly wider beam-width.

The antenna comes equipped with all necessary mounting accessories, *1 rubber gasket, 1 metal washer and 2 ¾ nickel-plated brass panel nuts. (*A silicone rubber gasket is available at extra cost)

1. Select the location on the mounting surface. Make a ¾ inch diameter hole using the appropriate hole-punch, saw or drill.
2. Remove from the antenna the 2 panel nuts, the metal washer and the rubber gasket.
3. Applying silicone sealant to the mounting surface is recommended. Place the rubber gasket on the mounting surface, centered over the ¾ inch diameter opening.
4. Carefully insert the antenna over the rubber gasket, in the ¾ inch diameter mounting surface opening. Ensure that the gasket is centered and the antenna is properly seated on the casket.
5. Place the metal washer and 1 panel nut on the thread of the antenna, on the inside of the mounting surface and tighten the first panel nut. The recommended maximum torque for the 1st panel nut is 40 foot-pounds.
6. Screw on and tighten the 2nd panel nut. The recommended maximum torque for the 2nd panel nut is 40 foot-pounds. Do not exceed recommended maximum torque.
7. Make the cable connection to the antenna. The WS3977 is equipped with a TNC female connector. The RF cable must have a TNC male connector. Total cable losses should not exceed 10 dB.

About Wi-Sys Communication

Wi-Sys Communications Inc., is a leading provider of premium performance wireless products for a wide range of mobile applications. Wi-Sys Communications' core competencies include antenna design, RF systems and digital networks. Wi-Sys manufactures a range of products for GPS and satellite communication systems, as well as high performance antennas for the Telematics, and precision GPS markets. In addition, Wi-Sys Communications provides custom antenna and RF system design services, and custom Timing and Telematics solutions.

For additional information, please contact us at info@wi-sys.com