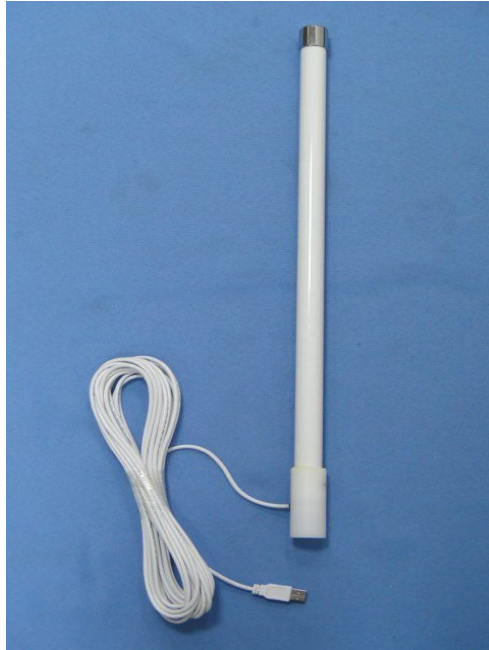


# MARINE WIFI ACTIVE ANTENNA

Model : WA-100



**Built-in High Power IEEE 802.11 b/g/n WiFi Module & high Gain Antenna  
IEEE 802.11n, 1T1R, 150Mbps**

## 1. Introduction

This high power WLAN module supporting IEEE 802.11 b/g/n standards, its flexible DATA and RF interface design allows it can be used in many different applications which a further wireless connection is required.

This low cost compact WLAN module is designed for the wireless connectivity of products with embedded system. It operates in 2.4GHz ISM frequency band, applies a highly integrated MAC/BBP and RF single chip RT3070 with 150Mbps PHY rate supporting.

## 1.2 Features

802.11b: 1, 2, 5.5, 11Mbps;

802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps

802.11n: (20MHz) MCS0-7, Support up to 72Mbps

(40MHz) MCS0-7, Support up to 150Mbps

OFDM, Peak rate 150Mbps, Peak throughput 90Mbps.

Security support for 64/128 WEP, WPA, WPA2, TKIP, AES

## 2. Product Information

### 2.1 Specification Overview

Standards : IEEE802.11b/g & 802.11n (1T1R mode)

Operating Frequency : 2.412GHz ~ 2.4835GHz , ISM band

Protocols 802.11b : CCK, QPSK, BPSK, 802.11g/n: OFDM

Antenna : internal 50 ohm 7db antenna

Security : 64/128 WEP, WPA, WPA2, TKIP, AES

Transmit Output Power (Typical on board) : 11b : 26±1.0dBm @ 11Mbps , 11g : 23±1dBm @ 54Mbps

802.11n: (HT20), 22+/-1dBm, 802.11n: (HT40), 21+/-1dBm,

Receive Sensitivity (Typical) : 11b: -88dBm @ 11Mbps; 11g: -76dBm @ 54Mbps.

802.11n: (HT20), -75dBm@MSC7, (HT40),-73dBm@MSC7

Operating Voltage : 5.0VDV± 5%

Operating Current : <320mA

USB Interface : USB 2.0/USB1.1

Cable : 10M UL2725 28AWG white+UV

Antenna Base : Pole mount to 1"-14 UNS threaded mast

Operating Temperature: -40oC~ +85oC.

Storage Temperature: -40oC~ +85oC.

Water Resistance: 100% waterproof.

Antenna Size : OD23.85 x 590mm (+/-30mm)

NO.	NAME	FINISH	Q, TY
01	Body	Fiber Tube	01
02	Base	1"-14 UNS threaded mast	01
03	10M Cable	UL2725 AWG White + UV	01
04	USB(M)		01

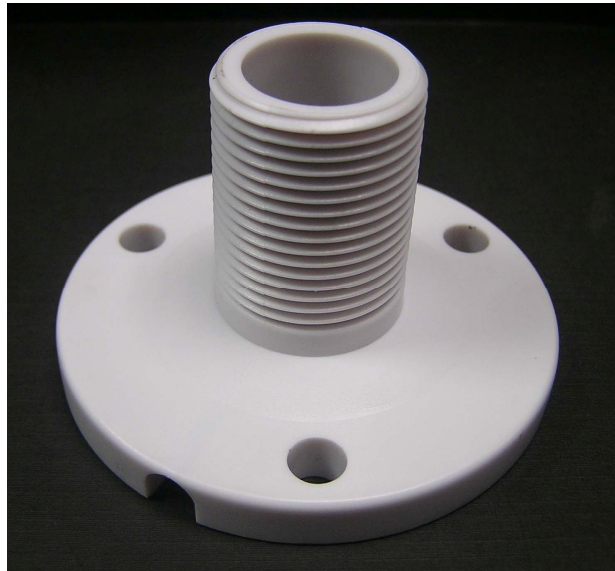
  
  

 Third angle projection	CUSTOMER'S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
	TOLERANCE	X.XX±0.15	NAME	PARTS NUMBER	APPROVED	CHECKED	20130508	1
	SURFACE ROUGHNESS	$\sqrt{S}$	APPEARANCE					

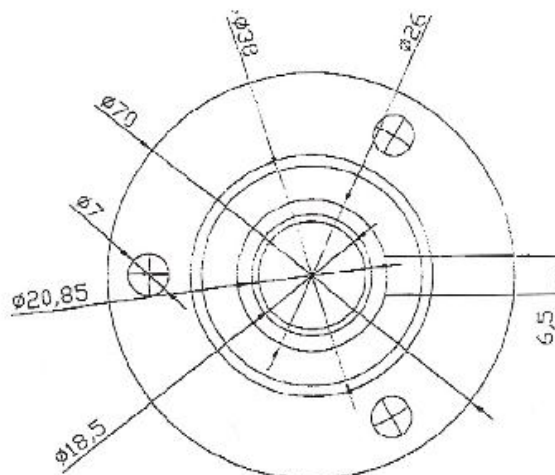
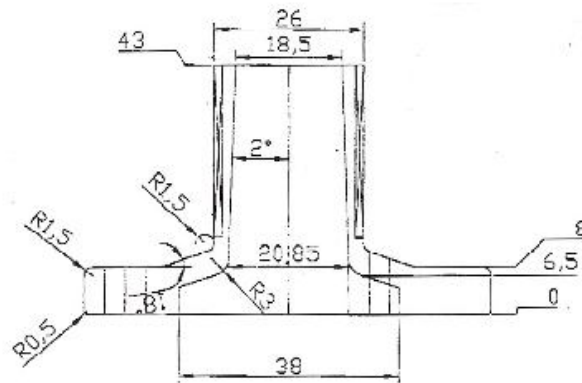
Base mounting : FB1 or optional FB2 & FB3A

# Marine Antenna Base mounting

**MODEL: FB-1**



**1"-14 UNS threaded mast 25mm x 70mm x 43.8mm(H)  
PA777D+UV**



Optional Base mounting : FB2

# Marine Antenna Base mounting

## MODEL: FB-2



1"-14 UNS threaded mast

### SWIVEL BASE ASSEMBLY:

Parts	Description
1 & 10	Hex Bolt
2	Lever Bar
3	Rotation Hub
4	Rotation Mount
5 & 8	Washers
6 & 7	Nuts
11	Mounting Bolts (Hardware)(4 sets)

We recommend assembling the MFV-8 swivel base. Once assembled, you can decide where you want to mount it. The dual swivels allow you to fold over or lay down the antenna just by using the single lever. The second swivel allows for mounting the plate vertically or horizontally or a variety of positions in between.

Refer to the exploded drawing.

- A. Put bolt (10) through the flat side of the rotation hub (3) and into the base plate (9) as shown. Place a washer (8) and nut (7) on the bolt. Hand tighten the nut at this time.
- B. Put bolt (1) through the lever bar (2) and continue through to top part of rotation hub (3) into the rotation mount (4). Rotation mount (4) has a threaded portion. You must screw bolt (1) into the threaded section of the rotation mount. First screw the bolt all the way in. Then back the bolt out 1 - 1 3/4 turns.

**NOTE:** If you fail to back the bolt out 1 - 1 3/4 turns the fold over lever will not work.

Now place washer (5) and nut (6) on bolt (1) and tighten. **DO NOT SCREW THE BOLT HEAD IN. KEEP IT STATIONARY AND TIGHTEN THE NUT ONLY.** Tighten the assembly by moving the lever counter-clockwise.

Mount your base plate in a desired location. Using the bolt (11) assembly. Loosen bolt (10) and adjust the unit so that the threaded portion is vertical. Tighten bolt 10.

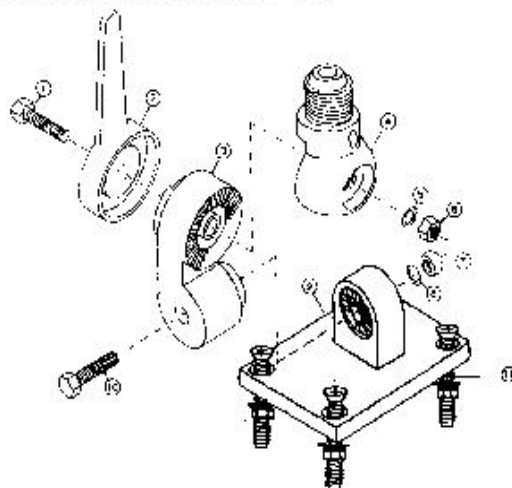
Screw the 8' fiberglass mast onto the swivel base. Route the coaxial cable to your radio. Most people route the cable through the hull. **DO NOT CUT OFF ANY EXCESS CABLE.** Simply coil it in a 8-12' loop behind the radio.

PL259 connectors are very susceptible to corrosion. We strongly recommend use of protectant coatings to prevent corrosion. Corrosion of the connector could cause radio failure. Periodic maintenance may be required.

Waterproof the hole for the coaxial cable and your mount with standard marine sealant. The bolts, washers, and nuts used on the MFV-8 are stainless steel. A light coating of protectant will **MINIMIZE** oxidation in heavy salt spray.

To lay your antenna over (fold down), simply turn the lever clockwise. This will release the rotation hub from the mount and should allow you to move the antenna to the horizontal position. If bolt (1) is too loose, your antenna could fall over when the lever is released. If bolt (1) is too tight your antenna may not fold over. To adjust this, hold the bolt in position and loosen nut (6). To adjust for a too loose condition, screw bolt (1) in a 1/4 - 1/2 turn. Once adjusted, hold bolt 1 in a steady position and tighten nut (6). Reverse this process if bolt 1 is too tight.

Your MFV-8 is pre-tuned for maximum gain and no electrical adjustment should be necessary. Installation is now complete.



Optional Base mounting : FB3A

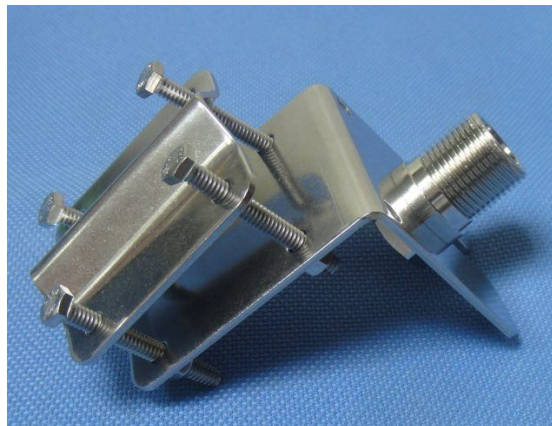
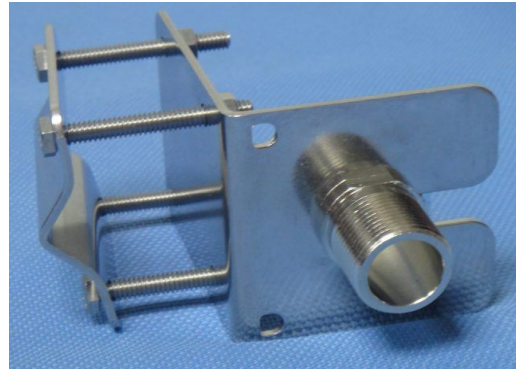
# Marine Antenna Base mounting

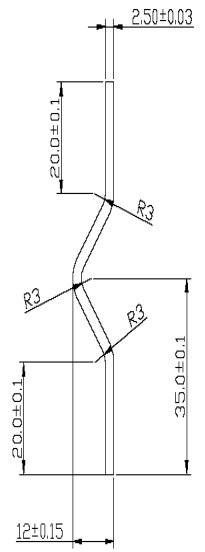
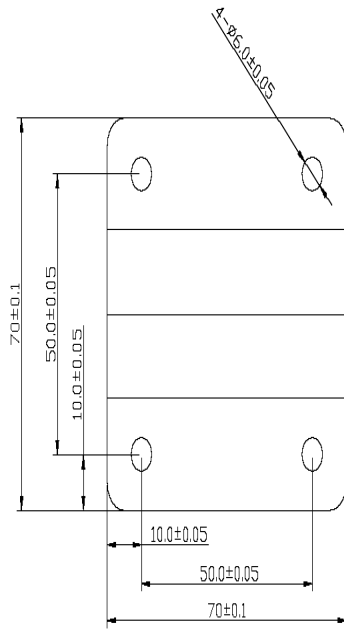
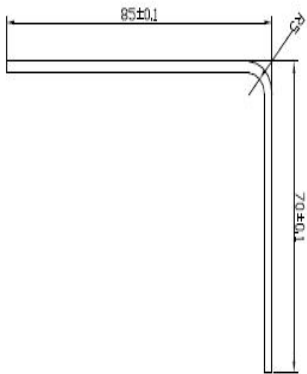
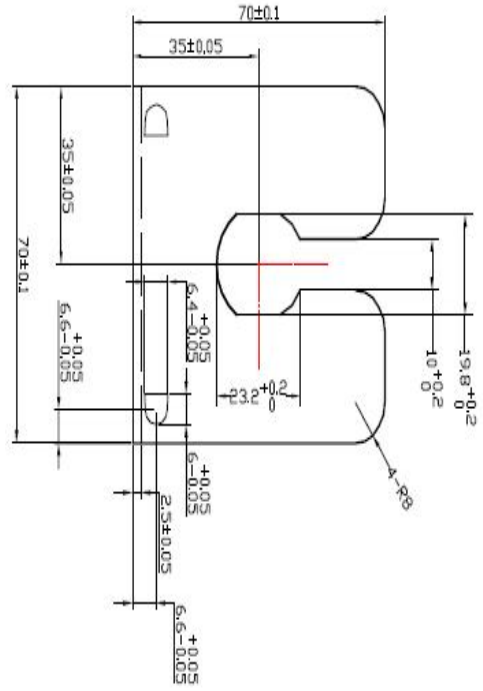
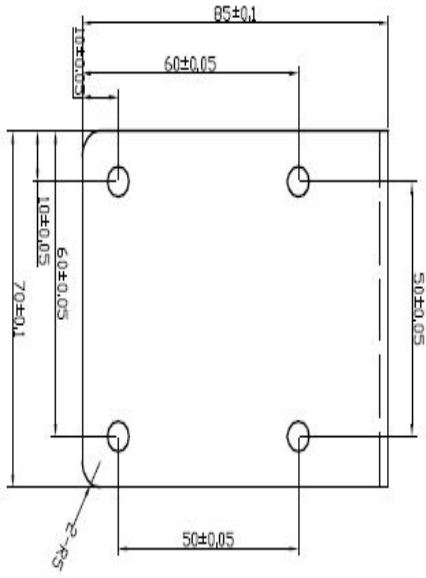
**MODEL: FB-3A**



**1"-14 UNS threaded mast SUS304/C3604**

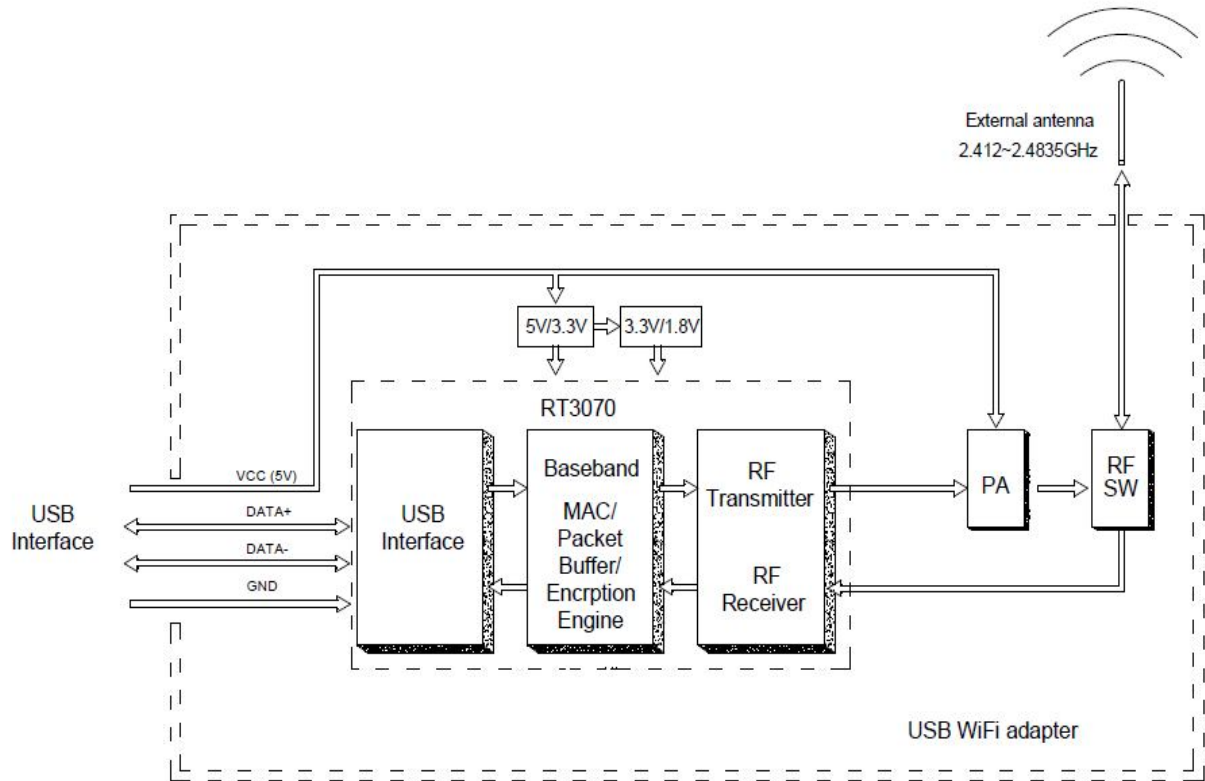
**Locks on the truck rear-view mirror or on iron stand or flagpole**





## 2.2 Hardware Information

### 2.2.1 Block Diagram



### 2.3 Software and system Information

Operation System	CPU Supplier	Driver
Linux 2.4/2.6/ Andriod	ARM, MIPSII	Available
Windows 2000/XP/Vista	X86 Platform	Available
Windows CE 5.0/6.0	ARM, MIPSII	Available
Mac OS X 10.3/10.4/10.5/10.6	N/A	Available