

# Using the AOR AR8600 Receiver with Doppler Direction Finders

## *A Technical Application Note from Doppler Systems*

13 June 2013

### 1.0 Introduction

The AOR AR8600 works well with Doppler's radio direction finding systems; however, setup of the receiver can be problematic. This application note goes through the steps necessary to configure the receiver for use with the direction finder.

### 2.0 AOR AR8600 Settings

When you receive a new AR8600 the settings should all be in the default conditions. If the receiver has had prior use you should first set the receiver to its default configuration. Perform the following steps to return the receiver to its default configuration

- Power off the receiver
- Press and hold the **Clear** button
- Use the **Volume** control to turn the receiver on
- Continue to hold the **Clear** button until the receiver displays a frequency (88 Mhz)

Next set the baud rate of the receiver to 4800 baud by performing the following steps

- Press the **FUNC** key followed by the **4 (CONFIG)** key.
- Use the down arrow key to scroll to the baud rate selection menu
- Use the tuning knob to select 4800 baud.
- Press **Enter**

The direction finder requires the receiver to be in the narrow band FM mode (**NFM**). In its default configuration the receiver will automatically select a mode based on the frequency. So, to use it with the direction finder you must override this setting.

- Press the **FUNC** key followed by the **3 (MODE)** key
- Use the tuning knob to select **NFM**
- Press **Enter**

Set the volume control to the 1 o'clock position. Set the squelch control to 0.

Use the front panel switch on the receiver to turn it off and turn it back on again. This process saves the settings and restores them when you power on.

**Note: Do not remove power from the receiver prior to performing the above step. If you do all your settings will be lost and you will need to repeat all the setup steps given above.**

### **3.0 Controlling the AOR AR8600**

Connect the DDF7000 direction finder to the receiver using the USB-to-Serial converter furnished with the direction finder or purchase one that is compatible with the DDF7000 (see Manual). Connect the USB-to-Serial converter to the receiver using a standard RS232 cable. When the DDF7000 powers up it will take control of the receiver. Prior to powering the DDF7000 make sure the receiver squelch control is set to 0. It is not possible to control the volume of the AR8600 receiver remotely so you need to adjust it to the 1 o'clock position to get adequate audio signal to driver the direction finder.

### **4.0 DDF7000 Direction Finder Firmware**

Versions of the DDF7000 firmware prior to version 2.22 had a bug that set the squelch mode in the AR8600 to audio. This caused the direction finder to lose sensitivity to weak signals unless the squelch was set to 0 (off). Versions 2.22 and above are recommended for operation with the AOR AR8600 receiver.

### **5.0 References**

AOR AR8600 Operating Manual