

# ***Agility White Space Radio (AWR) Quick Start Manual***



***Model Number AWR-US-U-100***

***July 2012***

***Revision B.1***



## ***Quick Start Procedure***

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The KTS AWR White Space radio must be professionally installed by an authorized installer. The installer must be authorized by KTS Wireless. The installation must be in accordance with 47 CFR Part 15, Subpart H. Only the following components are approved for use with the radio.

- Power Supply: **APX Technologies SP63P924R**
- Antenna: **Telex ALP-450**

The AWR TVBD Element Manager software can be downloaded from the KTS Wireless website (see below).

[www.ktswireless.com](http://www.ktswireless.com)

Click on Downloads and select AWR TVBD Element Manger software.

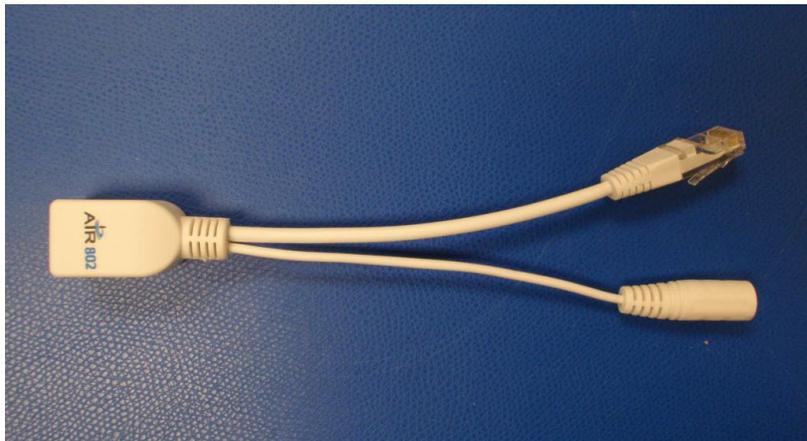
Install and configure Agility White Space Radio (AWR) as follows:

1. The AWR requires a 12-24 VDC input and consumes 6 Watts (RX) and 20 Watts (TX). Power is supplied via Power over Ethernet (PoE).



External Interfaces –Ethernet (PoE) and Antenna Port

2. The AC power supply and PoE injector should be co-located in a weatherproof enclosure or environmentally controlled building.

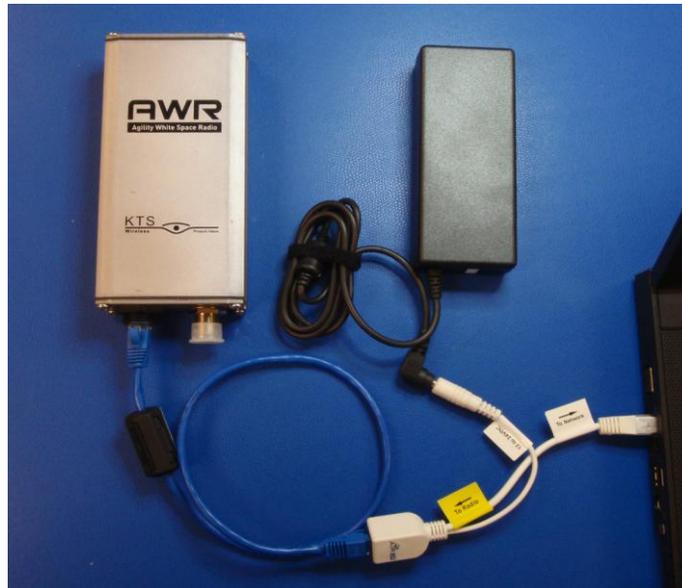


PoE Injector

3. Install the clamp on ferrite bead provided in the kit (Fair-rite part number 0446164281 or equivalent) 2.5 cm from the molded end of the Ethernet cable that plugs into the radio's Ethernet port.
4. Connect a laptop and power supply to the AWR as shown. **Failure to connect the PoE injector and power supply correctly can damage a connected device. Do not use a crossover terminated Ethernet cable.** The AWR requires approximately 10 seconds to initialize.

Set the computer's IP Address to a static IP address on the same subnet as the AWR (e.g., 192.168.1.100). The default IP Address for new AWR radios is **192.168.1.4** with an IP Gateway address of **192.168.1.1**. When the laptop and AWR are connected together and powered on, use the default IP Address to access and configure each new device prior to deployment using the EMS application.

Each new AWR is preconfigured as a Spoke radio as shown on the Element Manager's Device Info tab. All AWR's destined to be network Hubs must have its Node Type changed to a Hub using the Node Type dropdown box. Select the desired node type and "save" the configuration to the radio using the EMS tool. The latitude and longitude where each radio is to be installed must be entered using the White Space tab. This information is provided to the White Space database so that the correct list of available channels can be sent to the radio.



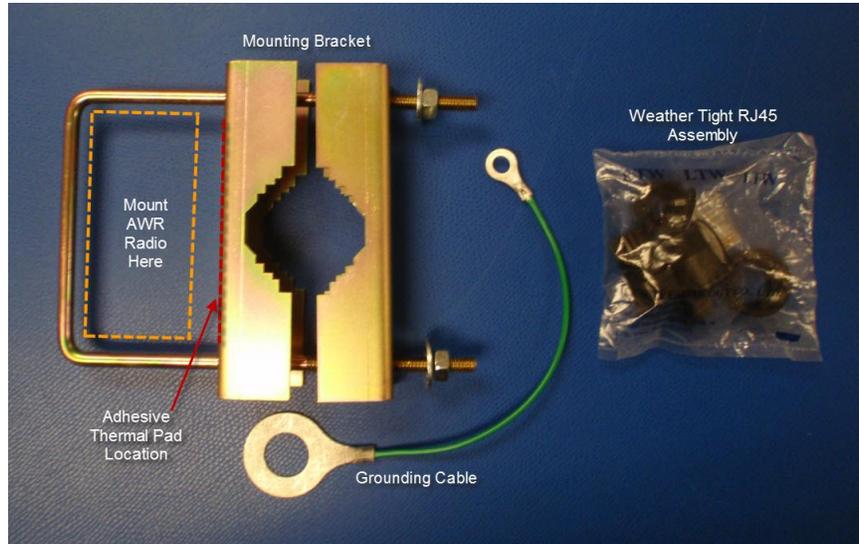
**Note: The AWR should not be powered on without an antenna connected to the RF connector.**

5. Installation of the EMS software provided with the AWR is required in order to manage the AWR devices. Insert the included CD into a computer and double click on the installation file: **TVBD\_Installer.exe**. Follow the prompts to complete the EMS software installation process. The software installation process is described in detail in **Section** Error! Reference source not found..
6. The mounting bracket, grounding cable and weather resistant RJ45 cap assembly is shown below. A thermal pad with adhesive is also included. Installing this thermal pad will reduce the operating

temperature of the AWR, while maximizing performance and reliability. The bracket with thermal pad should be centered between the two screws located on the back of the radio.

To connect the grounding cable, remove the nut and lock-washer from the AWR radio's N-female RF connector and install the large ring-lug on the grounding cable over the N-female connector. Reinstall the lock-washer and nut. Tighten the nut securely.

Remove one locknut from the mounting bracket U-bolt. Install the small ring-lug on the U-bolt and reinstall the locknut.



Mounting Bracket Assembly and Weather Tight RJ45 cap



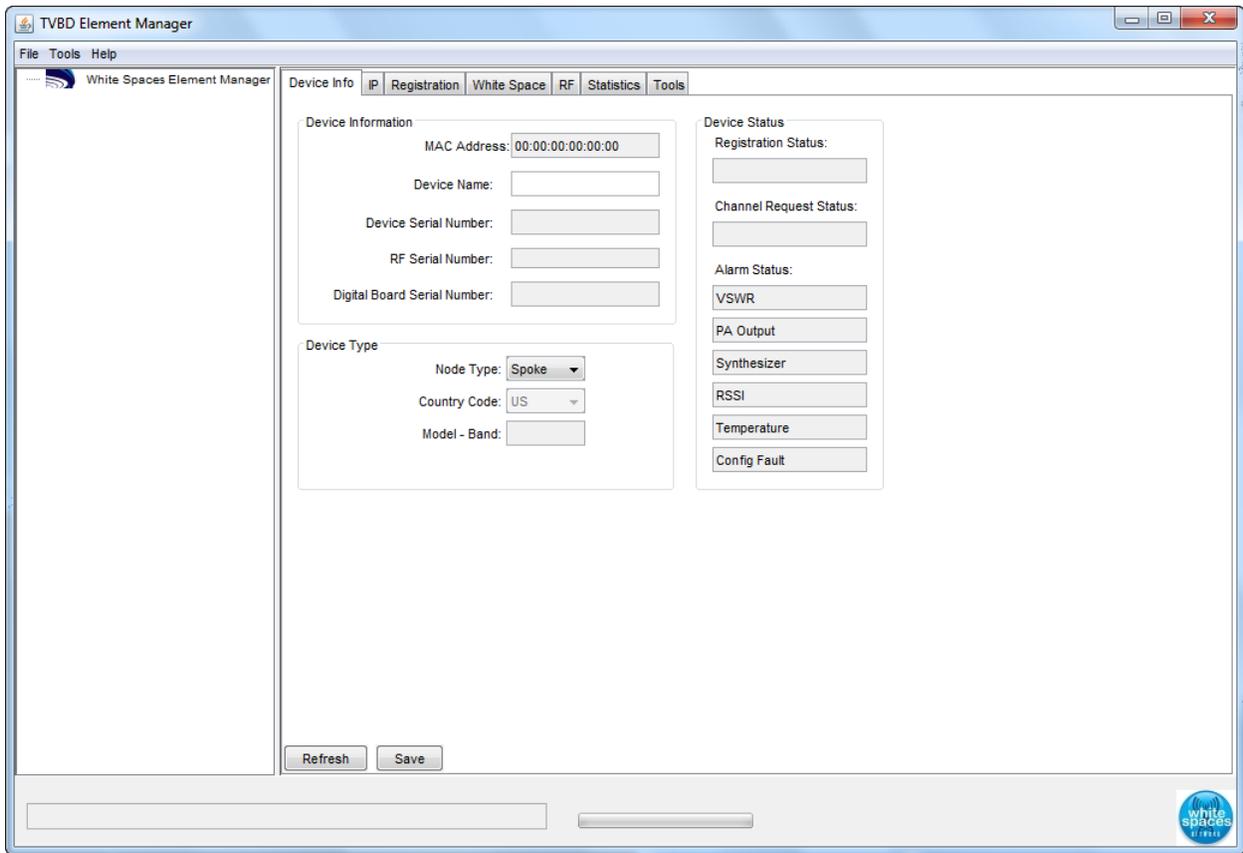
Weather Tight Connector Assembly



Pole Mounted Configuration

7. Locate the coaxial cable used to connect the antenna. Each AWR is supplied with a three foot LMR-400 coaxial cable with N-male connectors. If a longer cable is required, it should be a high quality, low-loss cable that is as short as possible. An in-line surge arrester is recommended to prevent lightning strike damage to the radio.

- After the installation process is complete and the EMS application is started, the Device Info screen will appear. Section 4.0 of this manual contains information regarding the use of the TVBD Element Management System (EMS). Reference Section 4.0 for details on configuring the AWR IP addresses. Note: The default IP address of the AWR is **192.168.1.4**.



TVBD EMS Main Screen