

# Set Up & Adjusting the FM-ANT-KIT

## Parts Included:



Figure 1

- 1) Stand
- 2) Sandbag with carabiner clip
- 3) Antenna Mounting Bracket; with Mounting Block, Antenna Whip and Antenna Extender (pre-installed)
- 4) Antenna Extender (pre-installed on the Antenna Mounting Bracket, item #3)
- 5) Two Antenna "Radials" with ball-ends
- 6) 100 foot Cable (note: cable in image is for illustrative purposes)
- 7) BNC to F-Type adapter (Not Shown); to connect cable to transmitters using an F-type output.

## Setup:

- 1) Carefully remove and identify all the parts from the package.
- 2) Set up the Stand (you can adjust the height after mounting the Antenna and connecting the Cable).
  - a) Loosen the locking knob (Figure 2) so the three legs can be deployed.



Figure 2: Locking Knob Image

- b) As you open the legs, the center post will slide through the locking knob.
  - c) Slide the center post so the connecting bars are horizontal (Figure 3). This will provide the most stable footing for the antenna. Non-horizontal crossbars will prevent the feet from fully deploying, leaving an unstable antenna base that may be easily knocked over (see Figure 4).



Figure 3: Correct Cross Bar Orientation



Figure 4: Incorrect Cross Bar Orientation

- 3) Fill the sandbag with appropriate weight (sand, bricks, etc), and lay it over one of the Cross Bars as shown in Figure 5. This will provide additional stability to help keep the FM Antenna from being knocked over.



Figure 5: Sandbag over Cross Bar

- 4) Using the smallest ( $\frac{1}{4}$ ") hole on the mounting block screw the Antenna Mounting Block onto the threaded end of the Stand (you may need to remove a protective plastic cover from the stand). See Figures 6 and 7.



Figure 6: Threaded end on Stand & Mounting Block Holes



Figure 7: Mounting block screwed onto Stand

- 5) Loosen the two wingnuts on the underside of the Mounting Bracket, so the square washers have some space beneath them.
  - 6) Slide the blunt end of each Radial beneath the square washers - one from each side; they will overlap. The ball ends should be out at the far ends. See Figures 8 and 9.

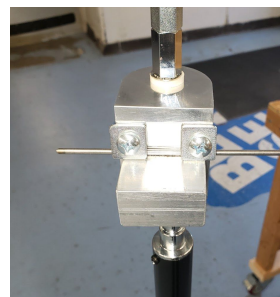


Figure 8: One Radial inserted beneath the Square Washers

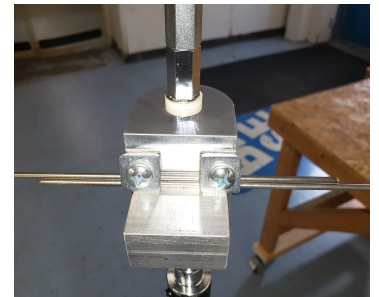


Figure 9: Both Radials (overlapped) beneath the Square Washers

- 7) Gently tighten the wingnuts to cinch down the Radials.
  - 8) Connect one end of the Cable to the BNC connector on the bottom of the bracket (see Figure 10). To do so, line up the two little slots on the cable end with the two little tabs on the connector and push the cable end on. You'll feel a little spring resistance. Give the cable end a quarter turn to lock it in place. Connect the other end of the cable to the antenna output of your transmitter (an adapter may be needed if your transmitter does not have a BNC connector).

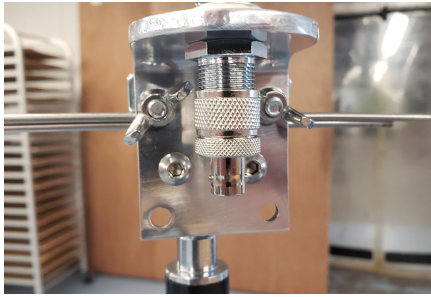


Figure 10: BNC Coupler for Cable connection

- 9) Adjust the Stand height as needed using the finger-latches on the telescoping sections. Our recommended starting height puts the mounting block approximately 6 feet above the ground.

### **Adjusting the FM Antenna to Match Your Transmitter**

In order to set up your equipment, you first need to find a blank spot on your FM radio. There are a number of ways to do this, including using web services, such as:

<https://radio-locator.com/cgi-bin/vacant?select=city&city=Ashland&state=MA>

You can select your own town and state, and then click “find unused frequencies” to see what works best for you. It’s always a good idea to tune an FM radio to the suggested frequencies to check and see that they are truly “blank spots” and which provides the best option. Then tune your transmitter to that frequency (see the instructions from your transmitter for tuning tips).

The RF Venue FM Antenna has **TWO** adjustable ranges: a **Low Range** that spans **88.1 MHz to 96.1 MHz** and a **High Range** that spans **94.1 MHz to 108.1 MHz**. Follow the instructions below, based on which range your selected FM frequency fits.

#### **LOW RANGE:**

If the selected frequency is in the **Low Range** between **88.1 MHz and 96.1 MHz**:

- 1) Leave the pre-installed Antenna Extender in place. See Figure 11.

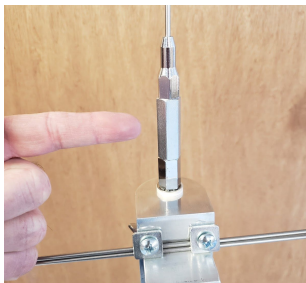


Figure 11: Antenna Extender, Installed

- 2) Loosen the wingnuts so the Radials can slide in and out.
- 3) Measure the “tip-to-tip” length of the Radials (from ball-end to ball-end) with a tape measure, and slide them in or out until the tip-to-tip length matches the length on the table below associated with your chosen frequency.

LOW RANGE (MHz)	Radial Length, Tip-To-Tip, in Inches
88.1 to 91.1	Fully Extended
91.1 to 93.1	68
93.1 to 94.9	64
94.9 to 96.9	58

Adjust the Radials evenly so each side is approximately the same length. If the total length should be 66 inches, each Radial should be approximately 33 inches, from the center of the Mounting Block to the ball-end.

- 4) Tighten the wingnuts by hand.

#### **HIGH RANGE:**

If the selected frequency is in the **High Range** between **94.1MHz and 108.1 MHz**:

- 1) REMOVE the Antenna Extender (keep for future use).
  - a) Unscrew the bullet-shaped ferrule that holds the Antenna.
  - b) Unscrew the Antenna Extender (the piece being held in the picture below) from the Mounting Bracket.
  - c) Screw the ferrule back into the Mounting Bracket.

This will shorten the length of the Antenna Whip. See Figure 12.

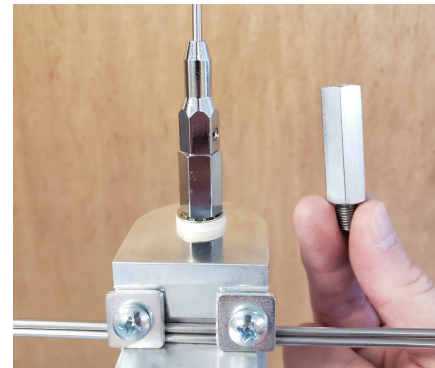


Figure 12: Antenna Extender Removed

- 2) Loosen the wingnuts so the Radials can slide in and out.
- 3) Measure the “tip-to-tip” length of the Radials (from ball-end to ball-end) with a tape measure, and slide them in or out until the tip-to-tip length matches the length on the table below associated with your chosen frequency.

HIGH RANGE (MHz)	Radial Length, Tip-To-Tip, in Inches
92.1 to 94.1	70
94.1 to 96.1	66
96.1 to 97.9	62
97.9 to 100.1	58
100.1 to 102.1	54
102.1 to 105.1	50
105.1 to 107.9 (and above)	46

Adjust the Radials evenly so each side is approximately the same length. If the total length should be 66 inches, each Radial should be approximately 33 inches, from the center of the Mounting Block to the ball-end.

- 4) Tighten the wingnuts by hand.

**NOTE:** Some fine-tuning can be achieved with minor adjustments to the tip-to-tip length of the Radials. In addition, the two small set screws on the bullet-shaped ferrule holding the Antenna Whip may be loosened with an allen (hex) wrench, and the whip may be slipped up or down slightly for further fine-tuning. Remember to retighten the set screws and wingnuts when done.

Item 7 (from parts list): BNC to F-Type Connector, taped on below: