

**BARKER & WILLIAMSON**  
**603 CIDCO ROAD**  
**COCOA, FL 32926**  
**321-639-1510**

**MODEL AT-110 ANTENNA**  
**80, 40, 20, 15 and 10 Meter Bands**  
**Power Rating: 1000W PEP, 500W Output**  
**Length: 110 Feet**

The Barker & Williamson Model AT-110 is a short dipole for the 80, 40, 20, 15 and 10 meter amateur bands. The 80 and 40 meter bands have a separate trap (40 meters) which will give maximum efficiency and still be a short antenna for small lots and limited space. On 80 meters, the 40 meter traps work as loading coils, keeping the antenna short. The AT-110 will also provide operation on 20, 15 and 10 meters because of the harmonic relationships to 80 and 40 meters. All short dipole antennas will have a bandwidth narrower than a full size half wave dipole. Therefore, an antenna tuner may be helpful.

The AT-110 is best installed as an inverted Vee. Satisfactory results may be obtained with the center as low as 20 feet, however 30 feet or more is recommended. If a flat top installation is desired, it is best to have the center supported due to the weight of the traps/loading coils and coaxial feed line.

### **INSTALLATION INSTRUCTIONS**

#### **WARNING**

Outdoor antennas and lead-in conductors from antenna to building shall not cross over electric light or power circuits and shall be kept well away from all such circuits so as to avoid the possibility of accidental contact. Where proximity to electric light or power service conductors of less than 250 volts cannot be avoided, the installation shall be such so as to provide a clearance of at least 2 feet. Where practical, antenna conductors shall be installed so as to not cross under electric light or power conductors.

- (1) Please read through all the instructions before starting. It is imperative to follow the instructions step by step, in the order shown, to achieve satisfactory results with your antenna.
- (2) Remember that throughout the assembly procedure, wire lengths are always to be symmetrical on both sides of the antenna. Your traps may or may not have a color dot on one end of them. You may ignore these color dots. They do not have to match each side.
- (3) Cut the wire segments. The wires must be cut approximately *2 - 3 feet longer* than the dimensions shown in figure 1. This is to leave room for the hookups and tuning adjustments. Here are the lengths that you should cut (including the 2 - 3 ft extra). Cut two wires 36', and two wires 25' 6". Remember, you can always trim the wire shorter after tuning, but once cut too short . . .
- (4) Attach one end of the wire segments in the permanent manner shown in figure 2, working out from the center conductor. Allow roughly 6 to 8" of wire through the eyebolt before starting your wrap. Attach the 36' segments to both sides of the center connector. Attach the 25' 6" segments to one side of the TR40A traps.
- (5) Now assemble the sections of the antenna together paying attention to figures 1 and 3. The wire segment lengths shown are your starting point for tuning the antenna. Make sure that you make temporary connections as shown in figure 3. This will leave each wire segment with one end permanently soldered, and the other end temporarily connected for adjustment.
- (6) Raise your antenna, and check the VSWR on 40 meters. If the resonant frequency is low, shorten the 33' segments. If it is high, lengthen the wires. After the desired frequency is achieved, make permanent attachment for these segments as shown in figure 2, trimming off excess wire.
- (7) Finally, adjust the 22' 6" segments at the insulators for 80 meters.

Figure 1: Theoretical wire lengths and trap arrangement.

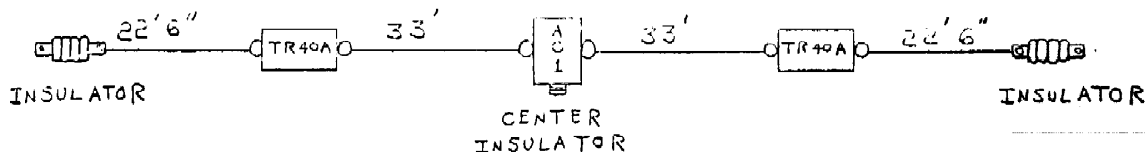


Figure 2: Permanent hookup. After passing through the eyebolt, wrap the wire around itself 5 times before soldering to the terminal.

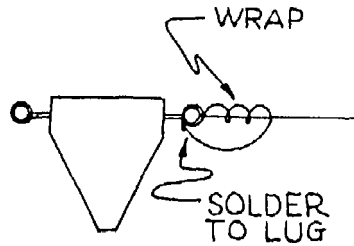


Figure 3: Temporary hookup for tuning. Loosely twist and tape ends in.

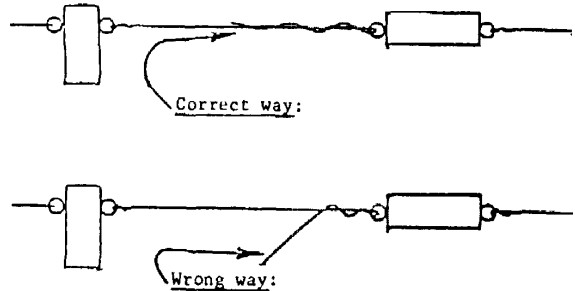
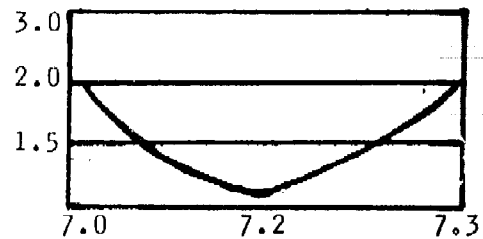
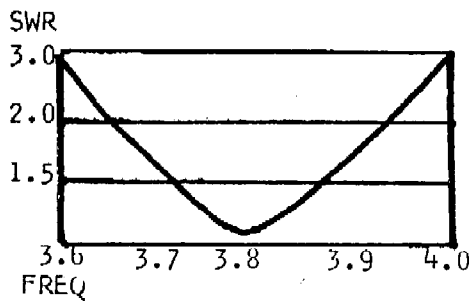


Figure 4: Typical SWR curves with antenna installed as an inverted Vee, with center 30 feet high and ends 10 feet above ground.



### WARRANTY STATEMENT

Barker & Williamson guarantees each product to be free from defects in material and workmanship for 90 days from date of purchase. The warranty applies to the original purchaser only, and we will repair or replace the product at our discretion. Under no circumstances will Barker & Williamson be liable for any damages or consequential damages arising from use or misuse of our products. Warranty is voided if product is subject to misuse, neglect, accident, improperly installed or used in violation of the instructions furnished by us. We reserve the right to make changes in design at any time without obligation to update previously manufactured models. This warranty is given in lieu of any other warranty, expressed or implied.