MFJ-1779C 20-6 Meter Dipole Antenna

INTRODUCTION

The MFJ-1779C one-half wavelength, single-band, dipole is a center-fed antenna that can be tuned for operation on any frequency between 6 meters and 20 meters. (54-14 MHz) The antenna will handle full legal limit power. The dipole is made using #14 copper wire, a durable center insulator enclosing an SO-239 connector, and terminated with ceramic insulators. The ends of the dipole are adjustable and should be cut to the desired length of operation. A suitable length of wire comes with each antenna to achieve resonance at the low end of each band.

WARNING: Never place the antenna in a location where contact with power lines is possible. Death, serious injury, and damage can occur.

CHOOSING A LOCATION

Choose a location clear from obstructions such as other antennas, buildings, and power lines. **Never place the antenna near power lines.** Try to keep the antenna away from metal buildings and other such structures, which will affect the performance of the antenna. The optimum height of the antenna is 1/2 wavelength of the operating frequency above ground. This can be calculated by dividing 468/ (frequency in MHz). Optimum antenna height will vary due to different ground conditions and nearby objects.

The MFJ-1779C can be suspended from many different supports. The most common being two trees. The antenna should be suspended using a weather resistant, non-metallic, nylon rope. Always leave a few extra inches in the support rope to allow for wind movement of the antenna. This is especially important when trees are used for supports. If the rope is to tight the antenna could be damaged.

The antenna can be installed in three different ways:

HORIZONTAL ANTENNA

This installation requires two supports with a minimum distance of the overall length of the antenna. It is a good idea to also provide a support for the center insulator of the antenna, which will relieve the stress on the center insulator.

INVERTED ANTENNA

This installation only requires one tall and two short supports. The center insulator of the antenna should be the highest point of the antenna.

SLOPED ANTENNA

This installation requires one tall and one short support.

TOOLS AND ACCESSORIES NEEDED FOR ASSEMBLY

- SWR Analyzer (MFJ-259) OR SWR Meter And HF Radio
- Weather Resistant Non-Metallic Nylon Rope
- Wire Cutters (large enough to cut #14 wire)
- Coax

FREQUENCY ADJUSTMENT

The MFJ-1779C dipole antenna can be tuned for use on any amateur band from 14.0 to 54 MHz. Refer to the tuning chart below for approximate lengths. ALWAYS HANG THE ANTENNA IN THE DESIRED OPERATING LOCATION FOR TUNING. CHECK THE RESONANCE POINT OF THE ANTENNA BEFORE ANY WIRE IS REMOVED.

1. Remove the antenna and parts from the packaging.

2. Decide on the center frequency of operation. The table below has approximate lengths for each band. Column A gives the approximate lengths of the entire antenna. Column B gives the length of each side of the dipole. The lengths can also be determined by using the following formula. This formula will give the length of the *½ wavelength* dipole. <u>This must be divided by two in order to get the length of each side of the dipole.</u>

   468/frequency (MHz)=1/2 wavelength

Band	A	B
20	424"(36ft)	211"(18ft)
17	312"(26 ft)	156 (13ft)
15	267"(23ft)	133" (12ft)
12	230"(20 ft)	115" (10ft)
10	198" (17ft)	99" (9ft)
6	112”(10ft)	56”(5ft)

3. Attach a coax to the antenna and place it in the desired location. Be sure to leave enough rope so the antenna can be lowered for adjustment. Raise the antenna into is normal operating position using a strong nylon rope. Check the resonance point. If the resonance point is below the desired frequency the antenna will need to be shortened.

4. Adjust the antenna according to your calculations or the chart above. Equal lengths should be removed from each side of the antenna.

5. Install the insulators on each end of the antenna temporarily by placing the wire through one end hole of the insulator and winding it back around the dipole wire. Extra wire can be wrapped back around the dipole temporarily while testing. Always check the resonance point each time wire is removed.

6. When the desired frequency is reached make 5-7 wraps of the wire on the ends of the dipole for permanent installation. Then raise the antenna until the desired height is reached and secure it in place by connecting the nylon rope to a stable support.

TECHNICAL ASSISTANCE

If you have any problem with this unit first check the appropriate section of this manual. If the manual does not reference your problem or your problem is not solved by reading the manual you may call *MFJ Technical Service* at **662-323-0549** or the *MFJ Factory* at **662-323-5869**. You will be best helped if you have your unit, manual and all information on your station handy so you can answer any questions the technicians may ask.

You can also send questions by mail to MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, MS 39759; by Facsimile to 662-323-6551; or by email to techinfo@mfjenterprises.com. Send a complete description of your problem, an explanation of exactly how you are using your unit, and a complete description of your station.