

**NOTE:**

The EF-10/20/40 may also be used on 20/30M by replacing the 40M tip with a 38" tip. This will raise 20M resonance a bit, but should not be a problem; especially if 20M was initially set to the CW portion of the band, or by connecting the stub to the choke end closest to the matchbox and reestablishing 20M resonance as desired. Alternatively, for 30M monoband use a 1/2 wavelength wire— begin with 46.5' of wire.

Operation as a **monobander** on any band between 60M and 10M can be accomplished by removing the factory radiator and installing the appropriate 1/2 wavelength wire. Calculate the approximate length from  $L = 468/F(\text{MHz})$ . As an example a 25' 10" wire will allow operation on 17M as a monobander. Initially, cut the wire a bit long and trim for best V.S.W.R.

**SPECIFICATIONS**

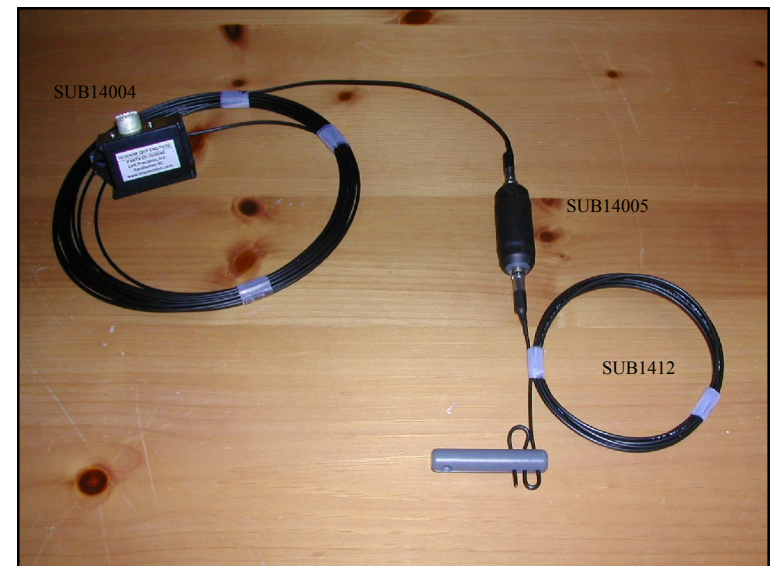
Polarity:	Depends on mounting configuration
Design Z:	50 Ohms
V.S.W.R. Bandwidth 20M:	500KHz 1.5:1
V.S.W.R. Bandwidth 40M	140KHz 2.0:1
V.S.W.R. Bandwidth 10M	900KHz 1.5:1
Power Handling:	<b>25W CW/SSB</b>
Weight:	0.5 lbs
Length:	41'
Hardware:	Stainless Steel
Connector:	Silver/Teflon SO-239
Radiator	#18 black poly coated copper clad

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**ENDFEDZ EF-10/20/40**  
**10M/20M/40M END FED DIPOLE**  
**MK II**

**PARTS LIST**

PART NO.	QTY	DESCRIPTION
SUB14004	1	10/20/40 METER EF MATCHBOX
SUB1406	1	20M RADIATOR 34' 0"
1402	1	20M TUNING STUB
1409	1	END INSULATOR
14417	1	#10 SPLIT RING LOCKWASHER
2814	1	#10 STAINLESS HEX NUT
2815	2	#10 STAINLESS FLATWASHER
32767	1	SHIPPING BOX
1408	1	EF-10/20/40 MK II MANUAL
SUB14005	1	20M CHOKE W/ HARDWARE
SUB1412	1	87" 40M TIP ASSEMBLY
1411	1	THUMB NUT 10-32



## ASSEMBLY

1. This antenna is essentially a half wave dipole with one important difference– the feedline is at the end of the antenna. The antenna is suspended at its ends by the two included end insulators– one of which is integral to the matchbox.

2. In order to have the least possible influence on the antenna, insulated lines are recommended for attachment to the insulators. The antenna may be suspended horizontally, vertically or sloping. Portable operation is easily accomplished by suspending the far end from a tree limb and letting the matchbox hang just above the ground.

3. The antenna has been used from hotel rooms by hanging the matchbox end just outside the window and letting the far end hang, or preferably pulling it away from the building with a guy attached to the end insulator.

### TAKE THE TIME TO PROPERLY TUNE THE ANTENNA

4. Tuning is most easily accomplished by using an antenna analyzer attached to the far end of the coaxial cable that will be used with the antenna. Alternatively, of course, a suitable VSWR meter may be employed. This should be done at the lowest power setting that yields reliable VSWR readings. With the antenna **in its operating position**, look at the frequency of lowest VSWR on 20M. Most likely this point will be too low requiring you to shorten the antenna. This is done at the matchbox end. As a guide, each inch the bottom end is shortened will raise resonance approximately 30 KHz. After each cutting, restrip the wire and attach it to the matchbox between the 2 #10 flatwashers. When the correct length has been found, slide the 2 pieces of supplied shrink over the wire and solder the wire to the supplied lug. Next, shrink the small piece of tubing while it is butted up against the lug. Position the large shrink tube over the barrel of the lug and shrink it in place. Less desirable methods would be to simply secure the bared wire between the two flatwashers– preferably first tinning the wire to prevent it from fraying. **This is probably not suitable for a permanent installation.** If too much radiator wire was cut off during the tuning process, the included tuning stub may be attached to the 10-32 stud at the matchbox end and trimmed to establish resonance to the desired frequency (Fig.2). **Tighten the #10 hardware just enough to compress the lockwashers.**

5. 10M resonance should automatically fall into place when 20M is properly tuned.

6. Again suspend the antenna and look at 40 M resonance. It should be below the 40M band– tune by trimming the 87” 40M tip (SUB1412) attached to the end insulator. Each inch will raise resonance by approximately 35 KHz .

7. Once you are satisfied with the overall length of the radiator, lace the end of the wire through the end insulator as shown in Fig. 1.

8. **Take the time to tune the antenna– no tuner is required nor should one be used. Maximum efficiency and absolute minimum feedline radiation will occur when the antenna is tuned as in the steps above.**

**NOTE:** If one or both ends use a tree for support, make sure to strain relieve the antenna with a pulley+ weight or a bungee if this is temporary installation. **No antenna can hold up to thousands of pounds of force exerted by a moving tree.**

9. Fig. 3 illustrates some mounting ideas.

10. If the antenna is repeatedly deployed, take the time to neatly coil the radiator wire each time the antenna is taken down– avoiding kinks.

11. The 10-32 thumb nut (1411) is supplied to facilitate changing radiators in the field. Do not use the lockwasher when using the thumb nut.



Fig. 1

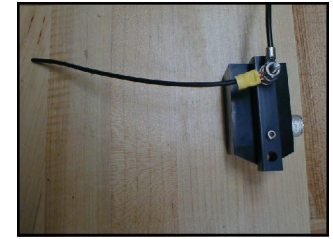


Fig. 2

