

## **Buckmaster Off-Center-Fed (OCF) Dipole - Multi-Band Antennas**

**4-Band** does 40, 20, 10 and 6 meters, **no tuner required!** Legs are 23 and 45 feet

**7-Band** does 75/80, 40, 20, 17, 12, 10 and 6 meters, **no tuner required!** Legs are 45 and 90 feet

**8-Band** does 160, 75/80, 40, 20, 17, 12, 10 and 6 meters, tuner may be required for 160. Legs are 90 and 180 feet

### **OVERVIEW:**

Buckmaster OCF antennas are completely assembled, no trimming or adjustments are necessary. Just screw in your coax cable and raise the antenna as detailed below. They are unique not only because of the extremely high quality engineering, design and construction, but also because of the flexible, 65-strand, 12 ga. (or 41-strand, 14 ga. on the 100 W model) PVC coated wire, with every copper strand tinned to prevent corrosion. You can put this antenna up and forget it! There are no external connectors or splices outside the balun enclosure. It survives severe weather environments with ease. It's even been to Antarctica!

The custom designed 6:1 balun (auto-transformer) and all connections are permanently sealed in a special epoxy potting compound for moisture protection and corrosion-free operation. The balun is internally crimped and hard soldered to a one-piece SO-239 coax connector with a silvered beryllium copper pin and Teflon barrel. An integral PVC moisture drip ring around the connector shields and protects the coax connection. A heavy-duty 1/4 inch stainless eyebolt with lock nut is used to support the center balun enclosure. The antenna cannot be supported by the ends only.

### **INSTALLATION:**

- Choose an install location that keeps all parts of the antenna and coax away from long metal objects.
- The antenna must be hung from the center stainless eyebolt. The simplest way to erect the antenna is to hang the center from a tree. Throw UV-protected rope over a tree branch that is 30 feet or higher, hoist the balun up, then tie the end of the rope off on the tree. Then using more rope tie the ends off at least 10 feet high on 2 other trees or supports.
- If you don't have a way to support the center, hang the center from a "messenger line" tightsrope between two supports.
- With the antenna legs at a 120 degree angle as viewed from the side, the 4-Band antennas need at least 60 feet of ground space from end-to-end. The 7-Band antennas need at least 120 feet of ground space end-to-end. 8-Band antennas need 239 feet of ground space end-to-end.
- The antenna should be installed, as viewed from the side, with the legs at least a 120 degree (inverted vee) angle, up to 180 degrees (flat top.) An ideal installation will have the balun 30 ft. high, the ends of the antenna from 10 to 30 feet, and at least 10 feet away from any metal objects (see diagram on back.) If you install the center higher than 30 feet, you need to raise the ends the same amount. So with the center at 50 feet, the ends would need to be at least 30 feet.
- If using a mast, PVC or fiberglass is preferred. *We do not recommend hanging the antenna from a metal mast or tower.* Having the Buckmaster OCF close to a metal mast or tower often results in poor SWR on 80 Meters or other bands. If you must hang the antenna from a tower, use a non-conductive 5 foot or longer horizontal standoff to keep the antenna away from the tower. Additionally you can hang the antenna from a 10 foot piece of rope and use the legs of the antenna to pull the balun further away from the tower.
- As viewed from above the legs of the antenna should be in a straight line, but you can turn/bend them slightly if needed.
- Do not block the small weep holes on the side of the balun enclosure, they are there in case any condensation collects inside. Moisture will not affect the balun as it is enclosed in epoxy.
- Attach a high quality 50 ohm coaxial cable (e.g. Belden 9913, LMR400, RG8X or RG213) to the SO-239 connector at the feed point of the antenna. Keep the coax as short as possible to minimize signal loss.
- After raising the antenna, let the coax hang freely straight down, the one-piece SO-239 connector is plenty strong enough to support it. Then run the coax away from the antenna at a 90 degree (perpendicular) angle to the OCF legs.
- Check your SWR on all bands before using a tuner or running full power (especially running 100 Watts on a 300 Watt antenna or an amplifier on a 3,000 Watt antenna.) If your SWR is not the same or better than the numbers published on our website, check the troubleshooting section below. If your SWR is around 2.5:1 or greater, you should run with reduced power whether you are using a tuner or not.

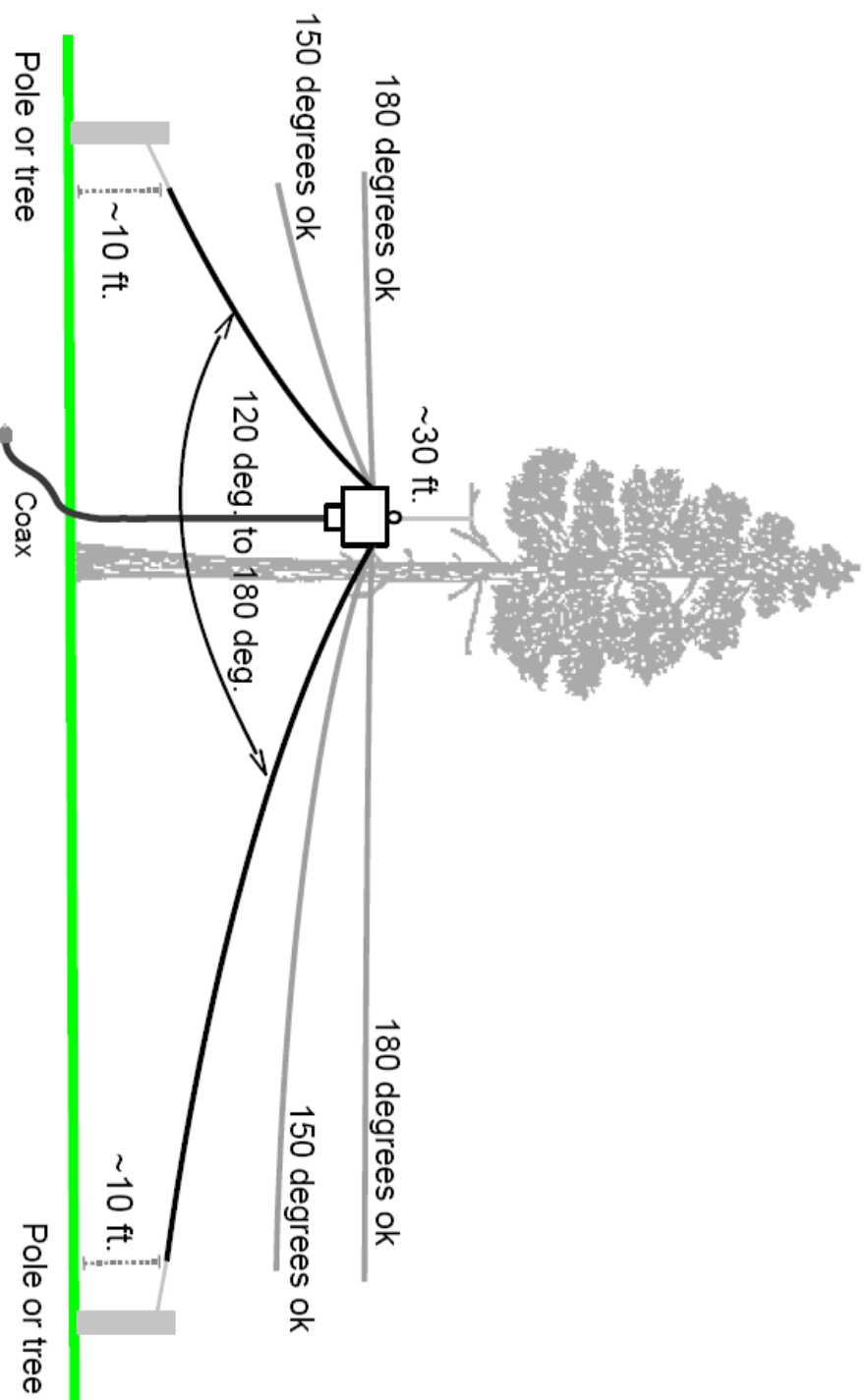
### **TROUBLESHOOTING:**

- Clean all connectors between the antenna and transceiver with lighter fluid and a q-tip. Verify your coax and connectors by attaching a dummy load and checking the SWR. It should be 1:1. Wiggle the connectors on each end of your coax to ensure the 1:1 SWR is consistent.
- Is there any metal in the vicinity of the antenna? Metal that is resonant on the band you are trying to work can couple to the OCF and rob signal from an antenna. If possible keep all parts of the antenna at least 10 feet from metallic objects.
- Be sure to let the coax hang straight down from the antenna, don't tie it to a metal pole or tower, or any other wires/cables. RF shielding on coax is not always perfect.
- Keep the antenna legs at a 120 to 180 (flat top) degree angle. If the antenna looks like a Christmas tree SWR will suffer.
- Due to the characteristics of the antenna, it is normal for the balun (auto-transformer) to test as a short on an ohmmeter.

Thank you for being our customer. Let us hear from you about your experience.

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## Buckmaster OCF Antenna Suggested Configuration



Support center at about 30 to 35 feet.

Keep ends at least 10 feet off the ground for safety.

Angle of legs should be between 120 to 180 degrees (flat top.)

Coax should leave the balun at a 90 degree angle from the antenna legs.

Higher is okay, but you must raise the ends as much as you raise the center.

Example: If you go to 50' in the center, the ends must be at least 30'.