



Array Solutions OCF – Series Dipoles



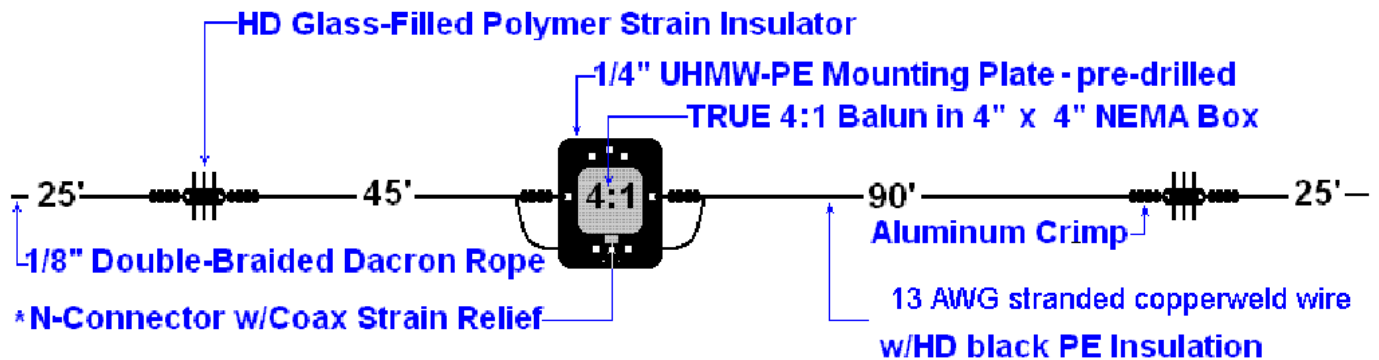
Fig 1

Thank you and congratulations on your purchase of the Array Solutions, Off-Center Fed HF Dipole Antenna System. This antenna was built with the same quality workmanship and attention to detail as our military, government and commercial wire antenna products. It is ideal for ARES/RACES, MARS/CAP, USCG Aux., Red Cross, Salvation Army and other disaster and relief organization use. It is built especially for high duty cycle, harsh environmental applications. The use of the finest quality components available and our “over-built” quality construction means your new antenna will last for years under the most difficult conditions, while requiring little or no maintenance.

This antenna is designed to give you reliable performance at very high power levels and duty cycles, well beyond the so called “legal limit”! High winds, ice, marine and high static environments are just business as usual for this antenna system! Since it uses our own in-house, custom designed and very robust 4:1 balun at DC ground; this antenna will bleed-off static charges before they become a problem. The result is less noise and greater safety from induced surges caused by nearby lightning strikes. Our design and quality construction

gives you more usable bandwidth, right out of the box and when used with any quality tuner; this system will cover more HF spectrum than any of the more popular Amateur-grade, look-alike systems.

*** All Supplied hardware is Stainless Steel**



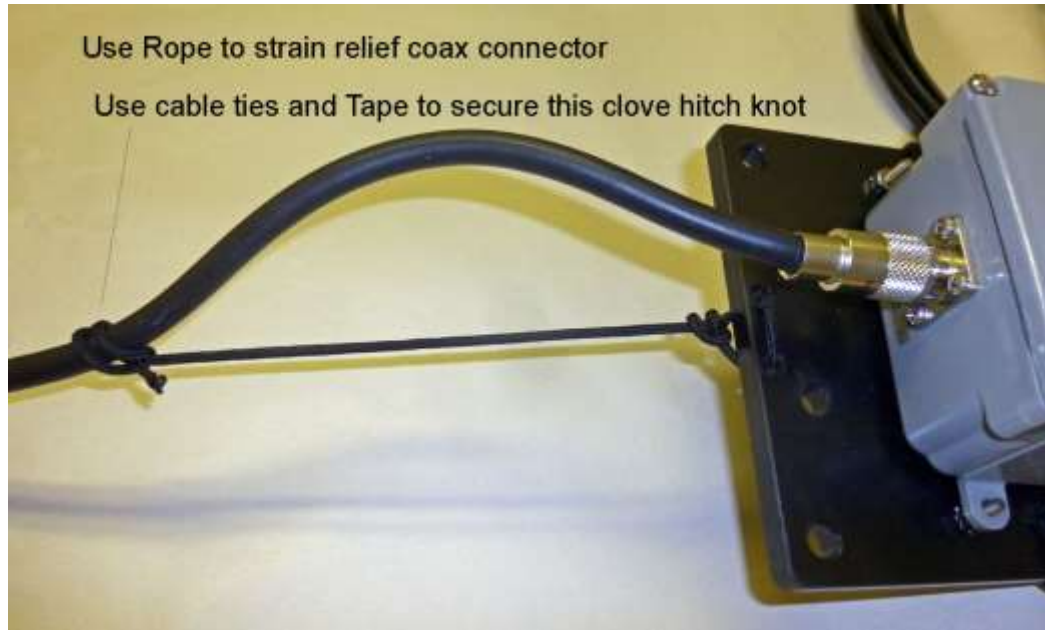
1. Fig 2 - Each kit to consist of the following:

- 1 - 4:1 - 2KW or 5KW CW Balun (Double that rating for SSB!) mounted on UHMW strain relief plate with SS hardware
- 1 - 4" black UV stable tie-wrap (for coax strain relief)
- 2 – Soldered Ring Terminals (for connection of wires to balun)
- 135 feet of 13 AWG x 19 strand Copper-clad steel wire, both w/HD PE Insulation, very flexible and strong.
- 50 feet of .125" black, double-braided polyester UV stable rope
- 2 – HD Polymer strain-insulators (Every joint is strain relieved using swaged aluminum crimps)
- 1 - 8.5 x 11 inch Instruction manual

2. ANTENNA and FEEDLINE SET UP

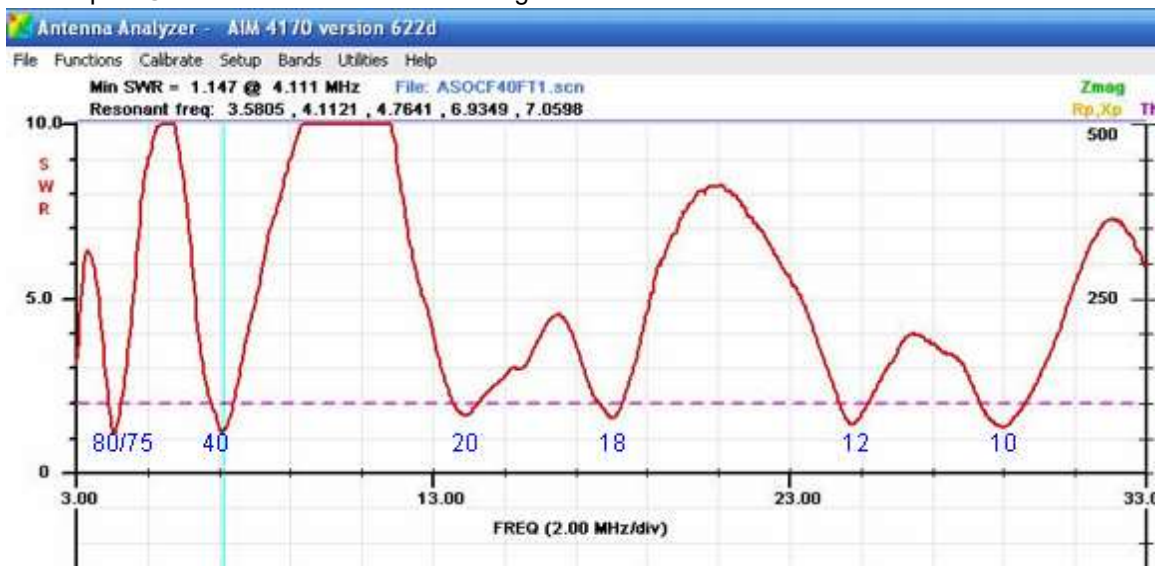
The OCF dipole will perform well in a variety of configurations and comes to you FULLY-ASSEMBLED. It should be mounted as an inverted-V. If necessary, the legs may be bent to fit available space.

- Try to mount the antenna with the feed-point at about 35+ feet above ground and the ends from 8 to 10 feet or more above ground. The UHMW mounting plate/center insulator can be mounted in a variety of ways. User supplied U-bolts can be used for mast mounting using up to a 2 inch OD mast. If surface mounting is more desirable, use the U-bolt holes with your own hardware. A halyard hole is pre-drilled in the top-center of the plate. Note – the balun enclosure is a 4 x 4 marine-grade NEMA 4X box w/4 weep holes in its bottom and a rubber cover seal. The balun enclosure cover can be easily removed for inspection.
- The feed-line should be attached to the balun with the correct RF connector. Weather-seal the connector with tape or other sealing material. Always use the supplied rope to strain relief the cable. Tighten this on to the coax cable using tape and or cable-tie.



- The feed-line should be dressed to be perpendicular (or, not in parallel) to the antenna wires for as far as possible to minimize feedline coupling.
- The VSWR may not be exactly as pictured in Figure 3, due to height above electrical ground, local ground conductivity and nearby metallic objects like metal roofs, feed-line length, etc. A little experimentation with height above ground and feed-line length should yield a good VSWR that even the auto-tuner in most modern amateur transceivers will be able to tune for a good match.
- Array Solutions recommends use of a good quality lightning arrestor and ground connection to the shield of the coax, as near as possible to your operating position. Our balun is at DC ground, so doing this will NOT hurt it or degrade performance.

Fig 3 - Actual measurements using an AIM 4170 calibrated to NIST traceable standards.
Apex @ 35 feet - ends 10 feet above ground. Coaxial feedline - 40 feet of RG213



As can be seen in the above chart, the 30M and 15M bands have a high VSWR, but a PRO III transceiver was able to tune these bands using only the built-in auto-tuner. For high power applications or coverage outside the Amateur bands; use a properly installed, good quality external tuner. Doing so will NOT violate the warranty on our balun! In comparison, most manufacturers of 135 foot OCF dipoles do not even allow use of the 30M and 15M bands; much less using their products outside the Amateur bands! They even go so far as to warn you NOT to use two of our most popular bands; as doing so may destroy their so called “baluns” or other “matching devices”. Not to worry! Array Solutions places no such restrictions on their products! Enjoy!

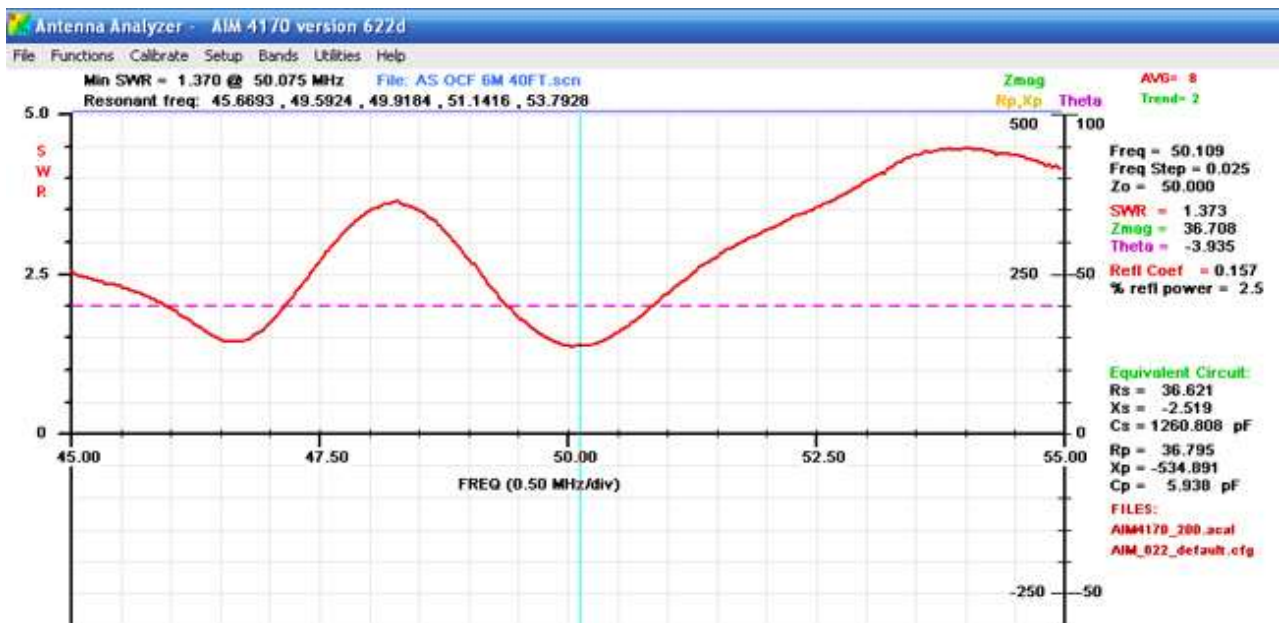


Fig 4 The plot below of the 6M Amateur band shows the VSWR to be excellent, without a tuner!

Specifications: AS-OCF-2K and AS-OCF-5K

Power Handling	Two models, 2KW CW/4KW PEP and 5KW CW/10KW PEP – Use of high power and tuners is permitted WITHOUT operating restrictions! The Array Solutions high power baluns can take it!
Length	135 feet overall plus an additional 25 feet of UV resistant, 1/8 inch rope on each end is included.
Weight	2KW (5 lbs.) 5KW (6 lbs.)
Bands	80m to 6m - Should work with standard transceivers with built-in ATU. 30M & 15M - with external tuner at full rated power!. 2 KW OR 5 KW CW . Use outside Amateur bands is permitted with external tuner at up to 1.5KW OR 4KW SSB
Balun model AS-200-T	True 4:1 balun, warranted for life. (lightning strike EXCLUDED. see our warranty policy for details) NEMA 4X rated! No PVC plumbing pipe used ANYWHERE!
Wire	Heavy gauge stranded, flexible and very heavy, black PE Insulated. Other types such as stainless-steel cable, insulated and non-insulated available at additional cost on special orders.
Quality Built!	Built to meet or exceed Mil-Standards for wire Antennas. All hardware is stainless steel, most with black oxide coating. Baluns are warranted for life!
Mounting Options	May be suspended from halyards, surface or mast mounted. Use the side of a building, metal or non-conductive mast! We even supply a total of 50 feet of high quality rope for mounting as a flat-top or inverted-V.

Manufacturer reserves the right to modify the design specifications or price, without notice or obligation.