

# HUGHES AMATEUR RADIO CLUB

## ANNOUNCES

### DIY ANTENNA IN THE PARK DAY!

When? April 2, 2022 1:00 pm - 3:00 pm

Where? Raytheon Employee Park in El Segundo

We will have 2 antenna construction projects one being a 2 Meter Moxon beam and the other an End Fed Half Wave (EFHW) antenna for 40 - 10 meters. Participants can choose either or both antennas to build with the guidance of other Hams who have experience building antennas.

The 2 Meter Moxon is a 2 element compact beam that gives a bit over 3dB gain effectively doubling your ERP - Effective Radiated Power. Built with wire on a lightweight PVC pipe frame at a cost of less than \$20...based on TODAY's cost for PVC pipe no less! Equal to the low cost is the joy of using an antenna YOU built!

The 40 - 10 meter antenna is an UNUN and a ~ 66' piece of wire. This is not a gain antenna; rather a broad band low profile antenna very well suited to portable and HOA restricted operation. This can be installed as an Inverted-V, flat horizontal wire, Sloper or Inverted-L. As with the 2 Meter Moxon, this is less cost than pre-made with the real benefit being the joy of using it.

Our Club will provide necessary tools and you provide the materials as shown in the attached list. For the 40 - 10 meter antenna you have the option of purchasing a kit of all needed parts and a link for that kit, from the ARRL, is in the attachment along with a list of materials for both projects - and suppliers.

To reserve a spot for this event please contact:

Howard Karse KE6MAK at [karse1@dslextreme.com](mailto:karse1@dslextreme.com)

## List of Materials for DIY Antenna Day

### Moxon 2 meter antenna:

**3/4" @ PVC pipe 10'**

**2 @ 3/4" PVC TEE fittings**

**1 @ 3/4" PVC Cross Fitting**

**8' #12 or larger wire #8 is most recommended..and harder to work with**

**RG-58 cable @ 10' with one end unterminated and the other end with**

**the connector of your choice.**

### EFHW antenna:

**The easiest method is to order a kit from ARRL for \$69.95 expect 2 week delivery**

**<http://www.arrl.org/shop/End-Fed-Half-Wave-Antenna-Kit-for-10-15-20-40-Meters/>**

**If you wish to purchase individual parts you will need the following:**

**FT240-43 Ferrite Toroid Amazon or Palomar (yes, Amazon sells them!)**

**#18 enameled wire @ 5' Torrance Electronics bulk spool purchase club will have some on hand**

**1 @ 100pF 1 -2KV capacitor Torrance Electronics**

**SO-239 connector Torrance Electronics, Hamcity – carries Teflon dielectric connector**

**Enclosure @ 4 x4 x2 NEMA box or project box NEMA box from Lowe's, Home Depot and project box from Torrance Electronics**

**Hardware for installing connector and for attaching antenna and ground wire – stainless steel is preferred for outdoor longevity. For the wire attachment points; 1 @ # 6 or #8 x 3/4 inch machine screw, washer each side of enclosure, lock washer & nut. On top of that, another flat washer and lock washer & nut – the wire leads are attached here – ring terminal on wire recommended.**

**An eyebolt is needed also as both a strain relief for the antenna wire and as a means to hand the unun.**

**#18 or larger insulated stranded wire @ 100 ft on a spool or 75 ft per foot Torrance Electronics, Home Depot or Lowes DO NOT USE SPEAKER WIRE this will likely be the single most expensive portion of the antenna at >\$18**

**Please See Next Page for list of materials available for the Moxon antenna that will be available at the park, some from the Hughes club, and some from Dale, WB6MMQ.**

## PARTS For the MOXON - These Will be Available at the Park

	Cost <u>Each</u>	Qty <u>Need</u>	Min Kit <u>Cost</u>
1. Coax, RG-58/u - 10 foot Length available – W6HA Club – Free- (You Buy new RG-58/u – 10ft @ .50/ft or more \$5.00)	-\$0.00	10'	\$0.00
2. BNC Connector – <i>Some Cable has them Mounted – those are Free</i> New BNC Available – MMQ \$4.00 (if BMC looks poor good idea to replace it)	-\$0.00	1	\$0.00
3. PVC PiPe ¾ x 10 Ft (New: Buy it yourself \$6.50 ) (3 Lengths available - MMQ Earth stained, but takes paint easily)	-\$2.00	1	\$2
4. PVC Crosses – 3 available – MMQ New: \$4.00 New Purchase:	-\$4.00	1	\$4
5. PVC 90° 'T' – 6 available - MMQ New: \$2.40 Old Stock: (PVC Cement – Provided)	-\$1.50	2	\$3
6. Wire #12 enamel mag wire – MMQ Large Qty Old Stock - Free	-\$0.00	8'	\$0
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Purchased or gathered for you – At the Park	Total Min Cost:		\$9.00
You Buy New Parts: Coax, ¾ x 10ft Pipe, New BNC,	Total:		\$24.00

### For the End-Fed Antenna:

Various gages, 500 foot spools, Teflon insulation: #18, #20, #22, #24 - Free from MMQ

Coax RG-58/u for lead-in from Unun to Radio - Free from W6HA

*(This is probably NOT in the ARRL kit)*

Eye bolt, Stainless Steel, New purchase - MMQ, 20 for \$10.00 or \$0.50 each

*(This needs a 10/24 SS Nut (2) – Recommend Ace Hardware in Culver City.*

*Their whole North wall is Hardware bins, including Metric, much larger selection than HD)*

Parts from the Club are from an Excess Supply that the club has on hand, such as RG-58.

Parts from Dale, WB6MMQ are from his Garage or New purchase as indicated.

*(The parts from the garage are at a substantially reduced cost, perhaps free, but if new they are at the New Cost.)*

**Note:** While there is lots of Coax and Wire, other parts are limited. If your depending on parts other than Coax and Wire from Dale, WB6MMQ, email him at : [DGBirmingham@Gmail.com](mailto:DGBirmingham@Gmail.com)