



SQUELCH TALES



Newsletter from the Merrymeeting Amateur Radio Association
for July 2023



KQ1L

Celebration of Life, was well attended

On Saturday June 17 the rain was heavy all day but it did not keep a large group of family and friends from attending the Celebration of Life for our friend and talented ham radio operator David Hawke, KQ1L at the North Monmouth Community Church.



The ham radio community was well represented at the service with Maine's ARRL Section Manager Phil Duggan, N1EP addressing the congregation with a remembrance of Dave and all the things he did for the hams in Maine.

Your MARA was well represented at the service with KX1I, N1TTT, K1JJS, W1ZE, N1IPA and his XYL in attendance.

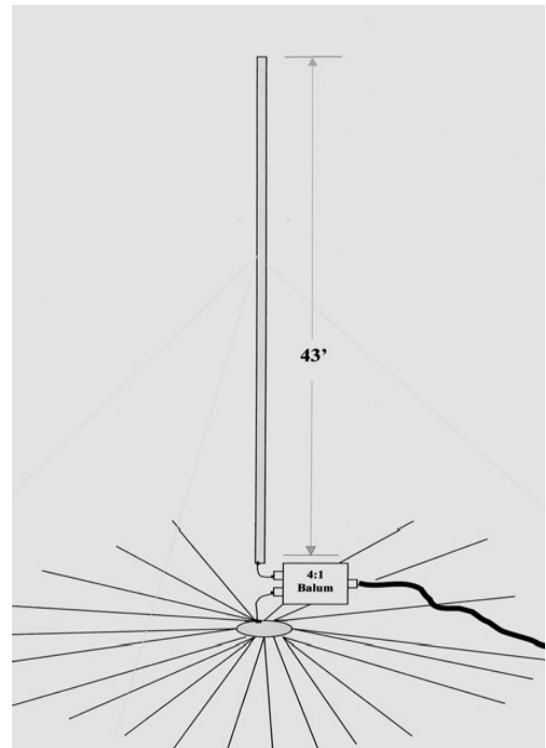
We will miss you Dave. Rest in peace old friend.



All-Band Vertical Monopole on a Budget

By Bruce Randall, W1ZE

If you have been reading your ham magazines or surfing the ham web sites you may have seen ads from DX Engineering and MFJ about a 42-foot all-band Monopole vertical antenna. The monopole is not a new antenna. It has been around since the early days of radio. In fact the US Navy uses them on their ships for HF communications since before WWII. As the name implies, it is a single vertical element working against a ground.



Both the DXE-MBVA-1 and the MFJ-2990 monopoles claim that they are all-band (160 through 10 meter) antennas and will handle 1.5 kW. You may be asking, how do they do that with or without coils or traps, because 43-foot is far too short for 80 and 160 meters. Well they make it radiate a signal with the aid of a 4:1 balun and a good broad range antenna tuner (transmatch). With most ground-mounted verticals, the key to their success and performance is a good ground system. The more radial wires on (or in) the ground the better. Both antennas are fabricated from aluminum tubing. The DXE uses tapered sections and both claim to be self-supporting. But if it were me, I would still guy it to steady it up a bit. Both models appear to be well made with an edge going to the DX-Engineering MBVA-1, which uses their popular radial termination plate and mount.

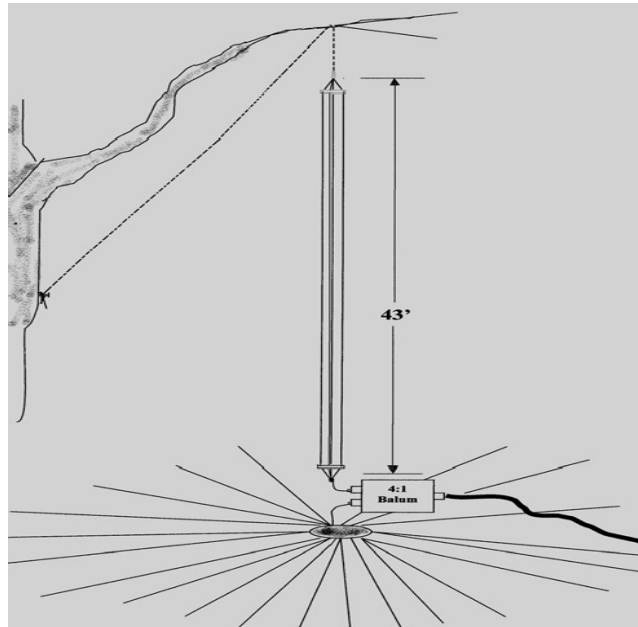
The two models may work well enough but neither DXE nor MFJ are giving them away. The basic models are in the \$300+ range. Old tightwad me has built monopoles in the past with a few used at Field Day sites in W6-land with some success. I don't think that the monopole will be as effective as a full quarter-wave vertical or inverted "L" on 160 meters because those antennas need to be high and very long (+/- 130- feet).

You could build your own 43-foot monopole using two or three inch aluminum tubing but that stuff is not inexpensive either.

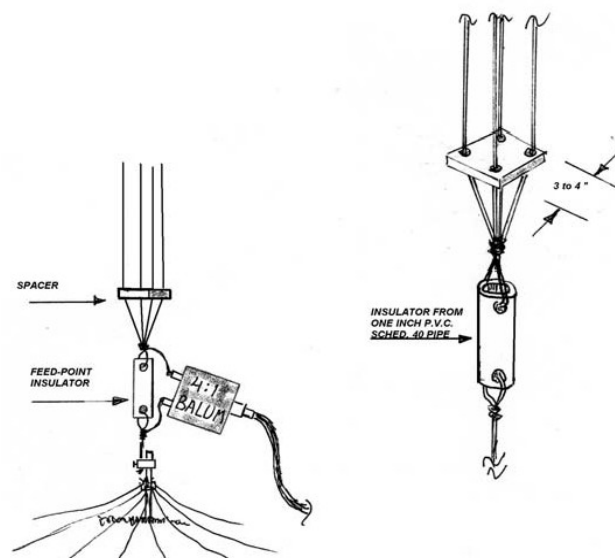
One of the reasons that help the antenna perform at such a short length is the fact the aluminum tubing has a large diameter than No. 12 or 14 wire. The larger the surface area of a radiating element the shorter the length required for a given frequency. It is common knowledge that making a large diameter radiating element can be done by running several common wires in parallel, which acts the same as a solid element of the same diameter or width.

So how do you make it vertical? Thank goodness for tall trees with limbs sticking out about 45 to 50 feet above ground. A halyard line slung over a tree limb can support the top end of the wire monopole. The bottom end of

the vertical element can be supported by a ground rod and attached to the element via an insulator. The balanced output of a 4:1 balun can be connected to the ground stake and the monopole element at the feed-point insulator. Solder the wire elements together at both ends.



Before you solder the ends, make about six 4"x4" squares of 1/4-inch thick plywood. These will be used as separators. In each corner of the plywood spacer drill a 1/8-inch hole. Two of them will be used as end spacers and the remaining four will be spaced out along the element and secured by tie-wraps. This should help keep each wire about three inches apart.



The 4:1 Balun can be purchased commercially but you can roll your own using a 4:1 KW balun from a kit, saving more money. 50-ohm coax connects the balun to your antenna tuner.

Radial ground: As indicated earlier, to make the monopole or any other ground mounted HF vertical operate efficiently one needs to have at least a minimum of eight but better yet 16 + radial wires. Don't worry about making them a ¼-wave at some frequency because the ground de-tunes them. Just lay down as many as you can and as long as you can. It is better to have 16+ twenty-foot long radials than four 100-foot radial counterpoise wires.

On 160-meters the antenna tuning will be very sharp without much bandwidth. You will need to re-tune if you move +/- 15 kHz. The other bands will show broader tuning. Have Fun this summer. **Build something!**



COLLINS R-390A FOR SALE



The R-390A is a general coverage military spec MF & HF receiver capable of receiving AM, CW, FSK, SSB (with BFO) signals. Its tuning range is from 500 kHz to 32 MHz, in thirty-two 1 MHz bands. It is a superhetrodyne, double conversion above 8 MHz, below which triple conversion is used. It employs 23 tubes.

Mark Reinen, K1SRE is offering this Collins R-390A receiver, with case for sale. The receiver was upgraded and aligned in 2000 and in very good operating condition. He is asking \$500 (going for much more on Ebay)

Mark can be reached in Phippsburg at: k1sre@earthlink.net or (908) 578-6786



MAINE QCWA NEWS



MINUTES FROM THE JUNE BANGOR LUNCH & MEETING

The June 3rd 2023 Chapter 134 meeting and lunch was held at the Happy China Buffet in Bangor.

1. The meeting was called to order at approximately 1:00pm by Chapter president Jerry Burnes, K1GUP.
2. Jerry welcomed all the Chapter members and friends and had everyone introduce themselves along with their years in Ham Radio. There were seventeen in attendance.
3. Bruce Randall, W1ZE (Chapter Sec./Tres.) provided the following secretary & treasury report:

a) After recent Chapter renewals the May ending funds balance was \$644.55. Chapter members were reminded that yearly dues would be accepted at lunch/meeting or mailed to the Chapter treasurer.

b) Treasury report was moved and accepted By Chapter members.

c) Chapter correspondence: There was no written correspondence since the last Chapter meeting in Lewiston. Secretary reported that he has several email exchanges with HQ about member awards and new chapter members.

4. Old Business:

a) at the Lewiston meeting it was proposed and agreed upon that our Chapter would contribute \$200.00 to the QCWA Scholarship Fund in the memory of our Chapter members that are Silent keys W1ZE advised that following that meeting the funds were sent along to QCWA HQ.

5. New Business:

a) At the Lewiston meeting new Chapter officers were nominated and approved upon so we do not need new officers until 2025.

b) Question was asked if there would be a fall Chapter meeting and the consensus was we should have one most likely the day of the Windsor Hamfest in September right after the hamfest somewhere in the Augusta area. Chapter officers to check possible places to hold a meeting/lunch. Members will be notified when schedule and place are firmed up.

6. Donnie Dauphin, WD1F was asked to take photos of the folks in attendance and he advised that he had already taken several so they could be mailed to

Larry Banks, W1DYJ who can develop content for an upcoming QCWA Journal.

7. Steve Curry, KD1O reported on his attendance at the QCWA gathering at the Dayton Hamfest and what was discussed there.

8. ARRL Maine Section Manager and Chapter member, Phil Duggan, N1EP gave a short talk on what is happening in the League and what we hams should be doing to promote our great hobby and get new folks involved.

9. Jerry thanked everyone for attending and the meeting was adjured at approximately 2:15pm.



MEMBERS OF THE MARA JOIN THE AARA IN LISBON FOR FIELD DAY

From FD report by KU1U, KX1I & WD1F

Several folks gathered on Friday evening at 6:00 to assist in setting up: Club President, Keith Anoe (KE4UCW), Club Vice President Cory Golob (KU1U), Club Treasurer, Mike Bullins (KO4PPM), Simon Golob (KC1TAV at that time), Ron Dahle (KC1QLG) with a prospective future ham Pete, and Marjorie Turner (KX1I) from MARA. Onlookers were fascinated to see Mike pilot his drone up and over the trees to drop the rope (video is posted on the WINPP Facebook page). This was certainly a different method than using a sling shot, fishing pole or potato cannon. Once the ends were taken care of, the Cobra Ultralite Senior was raised. The antenna



Mike Bullins (KO4PPM) piloting his Mavric Pro Drone with Ron Dahle (KC1QLG) and his friend Pete tending to the line

Twelve AARC members participated in some fashion with the Field Day event, which means 26 people not associated with the club had partaken in the festivities! That is an incredible outreach and by the

end of the weekend, the Androscoggin ARC had signed up three brand new members. Bit by bit, the club is growing. The interaction with people was amazing. Folks showed up to learn about amateur radio, ask questions about our group and even sit down to operate a radio with a GOTA Coach.



Cory could not think of a year where there was more enthusiasm to operate! There were 7 operators on the WINPP station and several Coaches though we did not qualify to have a GOTA Station since we were one station short. Simon, who received his vanity call on Saturday morning, NIURA, operated the call of WINPP and raked in 92% of the WINPP contacts. Overall, that station had 66 contacts.



Mike Bagley (NU1H), Mike Garvin (KC1RCG)
Front Row Left to Right:

Cory Golob (KU1U), Leasa Garvin (KC1RCF)
Leasa getting excited as she makes several HF contacts

The 2023 Field Day operation was incredibly successful. People who showed up over the weekend



came away with having understood the hobby a little better, got to know the club and what we are trying to achieve, had their questions answered, got a chance to participate in operating, made new connections with friends and had a wonderful time sitting around enjoying each others company. The weather could not deter the enthusiasm and participation of Field Day at Beaver Park this year. Looking forward to next year's field day and improving upon what what achieved this time around.



ARRL Affiliated Club Coordinator Joe Grace (W1SK) Left
Simon Golob (KC1TAV/N1URA) Center
ARRL Maine Section Manager Phil Duggan (N1EP) Right



The following members of the MARA participated in the AARA's very successful Field Day: Marjory Turner(KX1I), Donnie Dauphin (WD1F) and Nate Vandenberg (AC1AS) and family.

Thanks go to the AARA for letting MARA folks join in their very special Field Day.



“All-Band” Doublet with Coax.

By Mike Adair, N1MA

In the May Squelch Tales Bruce described the multi-band doublet. Over the many years I have never tried one so I thought it might be entertaining to erect one of my very own. A nice thing about multi-band doublets is that they are not expected to be resonant and therefore do not require tuning. Without tuning the SWR is expected to vary so low loss balanced feeders are generally recommended. Coax feeders do not like a high SWR.

Ideally a balanced feeder is brought into the shack and connected directly to an antenna tuner having connections for a balanced feeder. Alternately a remote tuner could be used closer to the antenna.

Many do neither. We run the balanced feeder as close as reasonable to the shack and then insert a balun to convert the balanced feeder to unbalanced coax for the remainder of the run to a tuner in the shack.

When using a balun remote from the tuner the tuner only provides a low SWR between the radio and the tuner. The SWR in the coax between the tuner and the balun is still going to vary over the different bands. As coax does not like a high SWR the normal recommendation is just to keep that coax short to minimize losses. Mine is maybe 20 feet which I thought was short(ish).

To get some reference data I scanned the antenna over the intended bands to see what SWR it is presenting. It varies from 1.6:1 to 15:1 depending on the band. This left me wondering about the coax losses, something I have never really worried about before. Being cheap, having all short runs and running low power, my go-to coax has been “low loss” RG-8X.

Using the following on-line calculator, I calculated losses at different frequencies and SWR levels for different feeder types.
https://www.qsl.net/co8tw/Coax_Calculator.htm

As an example, it appears the losses in my 20 ft coax on 10 meters when running 100 watts could vary from about 7 watts at an SWR of 1:1 up to 35 watts at 15:1. That is a 35% loss! Remember too that loss also applies to the received signals. Losses will be less on lower frequency bands, but are still quite significant. For comparison 20 feet of 450 ohm ladder line on 10 meters at an SWR of 15:1 has a calculated loss of about 5 watts, or 5%.

This got me wondering about my other antennas. The extreme example would be my 440 Mhz beam. That feeder is about 35 feet long. Even though the SWR is low, the losses there are about 50%. That certainly throws a wet blanket on hopes for weak signal DX.

So, the moral of this story is that when designing even simple antennas, one should consider suitable feeders to minimize losses. For anyone like me who hasn't previously made that a priority, perhaps some simple feeder upgrades might make for some nice performance improvements.

73, Mike, N1MA





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