# MACON COUNTY ARC NEWSLETTER

JULY 2023 Dale Bagley KØKY Editor

https://www.maconcountymissouriarc.org/ (Link)

## THE NEXT MACON COUNTY ARC AND MACON AREA REPEATER MEETING WILL BE HELD JULY 27, 2023 AT 7:00 PM
### AT THE FIRST CHRISTIAN CHURCH ON BRIGGS IN MACON, MO

**JUNE 18, 2023 WORK DAY**

**The preparation began with several Macon County ARC members going to the QTH of Dale Bagley, KØKY to check evaluate and store the equipment associated with the emergency Communications Trailer. the Triband Antenna checked, and then the Cushcraft A3S Yagi was taken apart and the trapped elements stored in a shed to protect them from rain. The rotor, coax and rotor cable were also stored in the Blue Tub in the shed. Those helping with this effort were Jesse Jones, KDØETU, Ira Huff, AI7CH, Larry Ballew, ABØHP, Chris Clark, KFØGUS, Charles, WBØHLW and Dale Bagley, KØKY.**

**JUNE 24, 2023 FIELD DAY FIELD DAY BEGINS**

**On Field Day, June 24, 2023, Bill Schmidt, WAØJCO, brought the Tower from the Dale, KØKY's QTH to the Macon Area Education Building.**

**A close look at the picture will show the G5RV antenna that Jesse, KDØETU and Charles Roberts, WBØHLW used on SSB.**

**2023 FIELD DAY REPORT**

**This view of the Hamfest site was taken by Rex Weatherford using his DJI mini2 drone.**

**Jesse, KDØETU, Phil, NØPB, & Ira, AI7CH assemble A3S Yagi**

**The Field Day Sign was strategically located to make it seen by anyone going east from the City Compost Site. Perhaps if we use the Education Building again, we might locate that sign next to the H-way 63 and Blees Industrials Dr. intersection.**

# ARRL FIELD DAY 2023

**Bill Schmidt, WAØJCO, pounding away making contacts for NØPR on CW. Bill used an antenna that he was testing that used the elements as guy wires. It had a large footprint and a directivity.**

**Jesse Jones, KDØETU, operating the SSB station on 40 meters and 20 meters. He used Larry Ballew, ABØHP's G5RV and had a good day making QSOs.**

**Charles Roberts, WBØHLW Operating SSB station making a bunch of Contacts on 40 m and 20 m.**

# ARRL FIELD DAY 2023

**Ira Huff, AIØHC, making some portable Field Day Contacts operating using FT8.**

**Rex Weatherford, KEØMHJ, operating Battery powered portable using his mobile military antenna and ICOM 705 with a home brew coaxial band pass filter.**

Dale, KØKY, Chris, KFØGUS, XYL, Jesse, KDØETU, & Bill, WAØJCO Not shown Ron, NTØC and Ira, AI7CH, who took the picture.

## REPEATER COUNCIL MEETING IN AUGUST

James Adkins, KBØNHX reports that the Missouri Repeater Council will be holding their annual meeting on August 13, 2023 in O'Fallon, MO. I have posted James's e-mail info below and I believe that we may be a little behind in our dues to the MRC. We will need to deal with that at the next Repeater Council Meeting on July 27, 2027 at the First Christian Church in Macon, MO. We can pay our dues online at the MRC website https://www.missourirepeater.org/

Dale Bagley, Repeater Trustee.

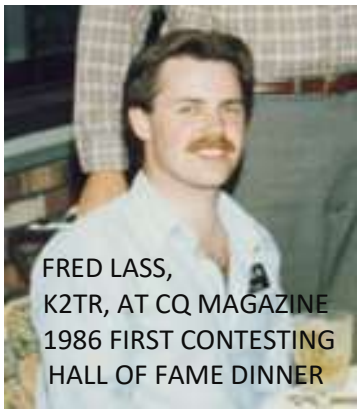
Good afternoon MRC Membership,

The Missouri Repeater Council has made several changes and hope they will be positive changes for the repeater owners of Missouri.
If you haven't heard from us in awhile, you are not alone! One of the changes we have made is the email provider for our mass email tool that we have used to send emails out to repeater owners in the past. Some email providers had our email provider's server on a blacklist and wouldn't forward our messages to you. This is the first email we've sent with our new email tool and we hope it reaches everyone!
Another change we've made surrounds our annual membership meeting. Instead of us holding it at the same location every year, last year we began our process of moving it around the state and co-locating it with a hamfest when we held it at the Sedalia hamfest. This year we are holding it on Saturday, August 13th during the St. Charles Hamfest at the St. Charles Emergency Operations Center located next to the hamfest venue at 1400 TR Hughes Blvd in O'Fallon, MO – check in to the facility begins at 10:30 with the meeting starting at 11:00. If you are a repeater owner in the St. Louis and surrounding area, we'd especially like to meet you and have you involved with our meeting. Last year we had nearly 40 repeater owners involved at Sedalia which was very refreshing. If you cannot make it in person, we will be sending out the Zoom online meeting information in the next couple weeks. Maps and driving directions can be found at https://www.missourirepeater.org/ right on the home page. Next year we'll be looking at a hamfest in SW Missouri for our meeting.
Lastly, please take a moment to log into the Missouri Repeater Council database and make sure your repeater information and contact information is up to date. With our new system, we will send out an email each year in late December and ask everyone to log in and validate their coordination. If there are no changes that need to be made, you'll simply click on the "Verify Repeater Data" button at the top of each of the repeaters you have coordinated and you're good for another calendar year. For those repeaters that aren't kept up to date, we will begin an active de-coordination process upon 3 years without an update. It's very important to keep your repeater and contact information current but also to allow for us to re-coordinate repeater frequencies to amateurs wanting to install repeaters to keep the hobby alive. You can log into your account by browsing to https://www.missourirepeater.org and clicking on "my profile". Your username will be your callsign in all capital letters. If you do not remember your password, you can click on the "I forgot my password" link and a temporary password will be emailed to the last email you had on file with us. If that's not a good email, reach out to one of our coordinators and they'll get your email and contact information updated and a temporary password to you.
73 & we hope to see as many of you as possible at the annual meeting on August 13th!

James Adkins, KB0NHX
President – Missouri Repeater Council
Kb0nhx@missourirepeater.org

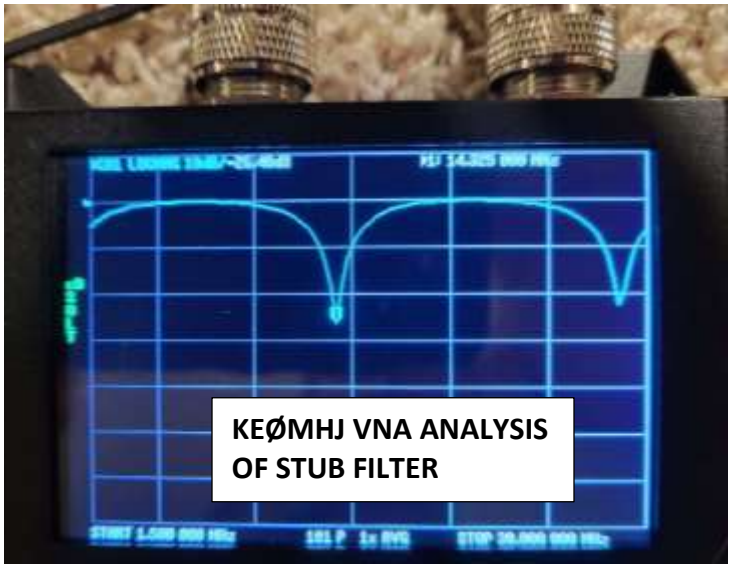
REPEATERS EXPAND OUR HAM RADIO HORIZONS

Rex Weatherford KEØMHJ, used a coaxial Band Pass filter that he built for in the RF rich environment of the ARRL Field Day Exercise. Used His VNA to make adjustments on the length of his filter to make sure that they nulled out the frequencies that he expected to be an issue when he operated at the Field Day site. Rex provided a chart of all the filters that are termed Coax Stub Filters designed by Fred Lass, K2TR, from the Technical Article by K1TTT. If you use the links provided at the end of the article, you will be able to look at the mathematical calculations that were used to design these stub filters. Maybe we can get Rex to demonstrate his project at some future Macon County ARC meeting. The type of coax used is unknown, so the velocity factor is an unknown also. Another article suggested using RG-213 to construct the filters. My guess is that any good coax could be used with the right adjustments to the lengths of the stubs. You can adjust the size of the images by expanding the frame of the box in which the image is located.



FRED LASS, K2TR, AT CQ MAGAZINE 1986 FIRST CONTESTING HALL OF FAME DINNER

**KEØMHJ's PORTABLE DURING ARRL FIELD DAY**



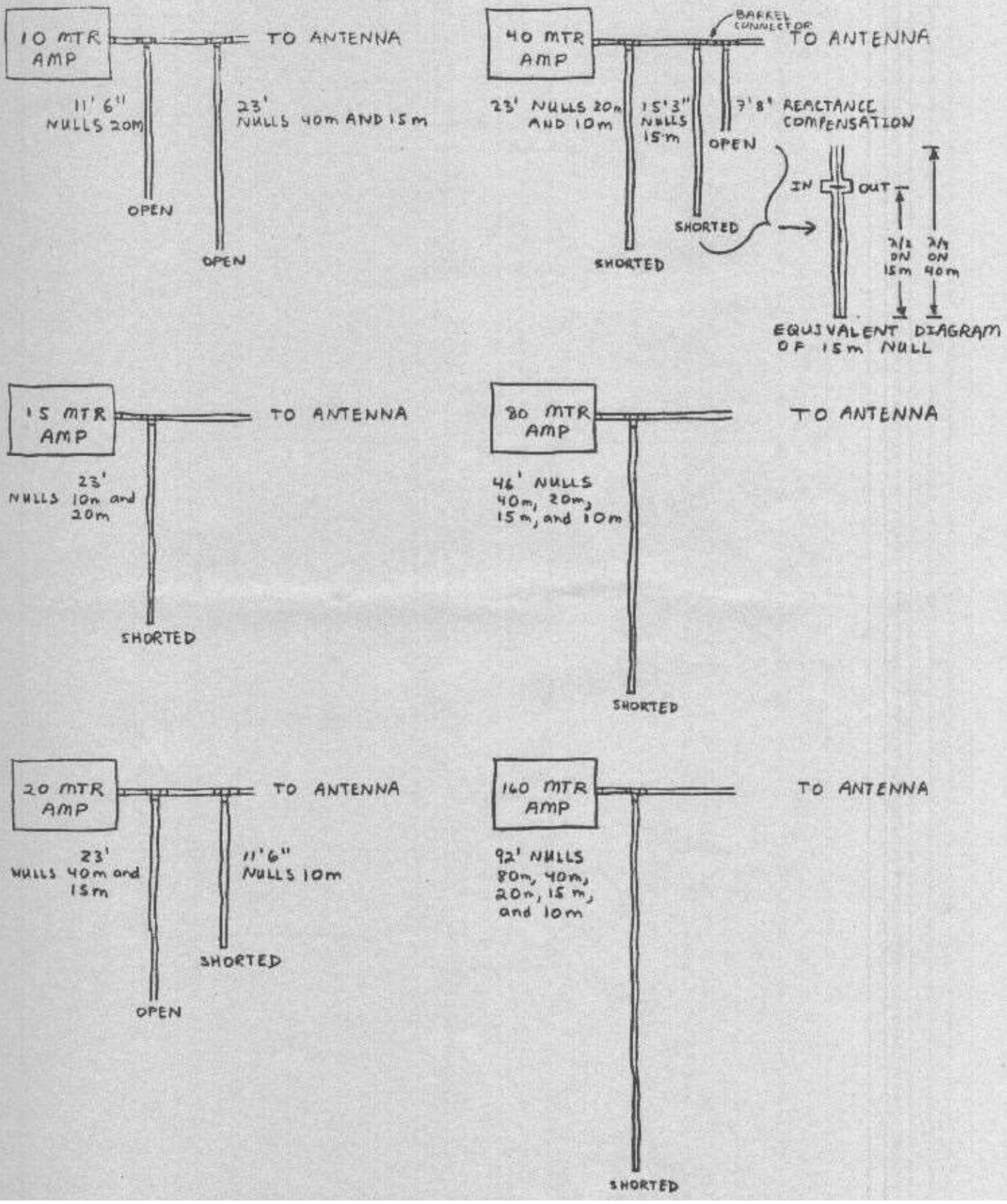
**KEØMHJ VNA ANALYSIS OF STUB FILTER**

**KEØMHJ's FILTER SHOWING THE T CONNECTIONS**

**KEØMHJ STUB FILTER IN TRANSPORT CONFIG.**

# MULTI-TRANSMITTER FILTERS

Fred Lass, K2TR



There are 1, 2, or 3 stubs as described below between the amp and the antenna. I like to keep them as close to the amp as possible, usually just a 'T' connector on the amp output or at the SWR meter.

The lengths below are for solid dielectric coax with a velocity factor of .66. I use RG-8, but you could also use RG-213 or RG-11. If you want to use a foam coax most of them have a velocity factor of .80. On the high bands (10, 15, 20) I use CATV hardline that has a velocity factor of between .81 and .83. The basic formula for a shorted 1/4 wave stub is 246*V/f. Where V is the velocity factor of the cable and f is the frequency in MHz.

Band by Band these are K2TR's stub plans. The copy of the article I have I think was from an old YCCC Scuttlebutt.

10 Meters. 2 Stubs

- 11' 6" OPEN nulls 20m
- 23' OPEN nulls 40m and 15m

15 Meters. 1 stub

- 23' SHORTED nulls 10m and 20m

20 Meters. 2 stubs

- 23' OPEN nulls 40m and 15m
- 11'6" SHORTED nulls 10m

40 Meters. 3 stubs

- 23' SHORTED nulls 20m and 10m
- 15'3" SHORTED nulls 15m
- 7'8" OPEN compensates for reactance from 15'3" stub. This pair of stubs works out to a 1/4 wave on 40m that is tapped at a point that results in a 1/2 shorted stub on 15m.

80 Meters. 1 stub

- 46' SHORTED nulls 40m, 20m, 15m, 10m

160 Meters. 1 stub

- 92' SHORTED nulls 80m, 40m, 20m, 15m, 10m

For more detailed analysis of stubs and pairs of stubs see my other notes:

- Single Coax Stub Analysis
- Coax Stub Pair Analysis