W5IAS.com

TULSA AMATEUR RADIO CLUB

Emergency Communications

The W5IAS Transmitter

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TARC Weekly Net

Tuesdays at 8:00 PM on the Superlink System

https://w5ias.com/repeater-systems/

In Tulsa tune to 443.850 MHz 88.5 PL, or listen online via Broadcastify

https://www.broadcastify.com/listen/feed/43986

TARC Tech Night

1st Tuesday of the month at 7:00 PM

TARC Monthly Meeting

3rd Tuesday of the month at 7:00 PM

All meetings are at Tulsa University

Keplinger Hall Room 3140

In This Issue

Endnotes Review

In this newsletter, we have endnotes intended to help newly licensed operators who might be struggling with the Hamster Lingo and other abbreviations. It's easy: Need to know what a LID[1] is? Find out by clicking on the superscript number immediately after the term.

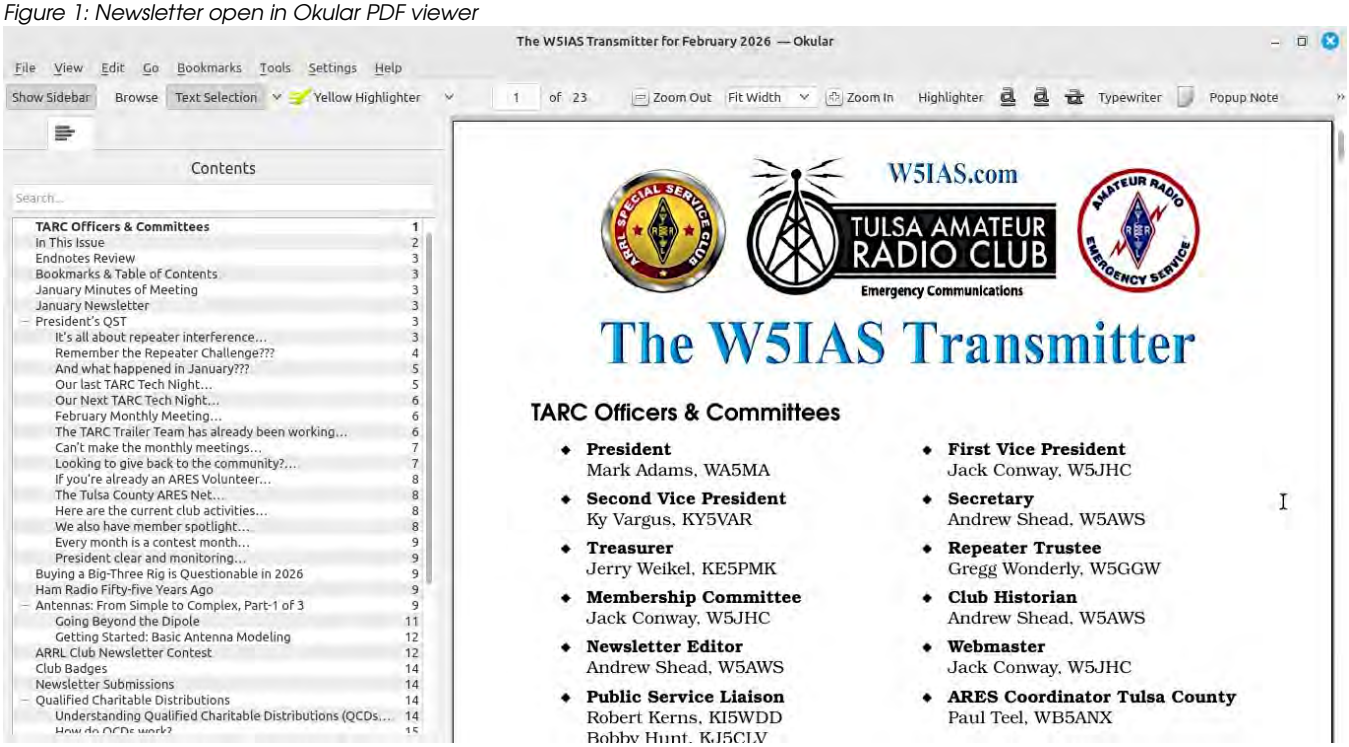
Bookmarks & Table of Contents

As you saw scrolling by getting to here, there is a table of contents for this newsletter. Each entry is an active link to the heading of the article, making it easy for you to go direct to your area of interest.

Opening this newsletter in your web-browser, you should see a list of bookmarks open in the left-hand pane of your browser window, at least you should if you use a browser like FireFox.

Opening this newsletter in a PDF[2] viewer like the free Okular, you should see the bookmarks and content as shown in Figure 1.

Figure 1: Newsletter open in Okular PDF viewer



March Minutes of Meeting

See this URL[3] for the minutes of the last in-person club meeting:

- https://w5ias.com/wp-content/uploads/2026/03/March-2026-Meeting-Minutes.pdf

March Newsletter

If you missed the March newsletter, you can find it on our website at this location:

- https://w5ias.com/wp-content/uploads/2026/03/20260301-TARC-Newsletter-March-2026.pdf

President's QST[4]

—Mark, WA5MA

Important News!!!

TAEMA (Tulsa Area Emergency Management Agency) canceled the March 17th National Weather Service Storm Spotter training just a few days before the scheduled date, so we put together a quick replacement program for our regular club meeting at Tulsa University—*Back to the Basics*. We had about twenty-five attendees; we answered questions and discussed topics such as POTA[5], logging programs, DMR[6], a new DMR net, the NanoVNA[7], and the Green Country Hamfest.

We will be doing more *Ask-the-Experts* and B*ack-to-the-Basics* meetings in the future.

In case you missed this year's in-person storm spotter training there are two opportunities to watch the virtual training on April 2nd and April 6th. Go to the following website, scroll down to April 2026 and click on the ***Register Here**** link:

https://www.weather.gov/tsa/spotter_training

Unfortunately, I have to say this again: It's all about repeater interference…

Intentional interference on a repeater can lead to the loss of your license, loss of your equipment and a significant fine from the FCC[8]. Intentional interference with a net only adds to the severity of the offense and could even lead to jail time.

Check your equipment: make sure that your VOX is off, your microphone or speaker-mic buttons are working properly, not stuck in the transmit-position. Be careful when using an HT[9] with or without a speaker-mic, make sure you are not activating the PTT[10] when you sit down in your favorite chair or in the car.

Don't forget about **The Repeater Challenge! Get on the air!!!**

The Oklahoma City Marathon…

Is coming up on April 25th and 26th, and they need volunteers to staff the course. Sign up at https://coraok.org/signup/.

The Green Country Hamfest is right around the corner!

This year the hamfest is April 10th and 11th at the Claremore Fairgrounds—same location as last year.

We need door-greeters. If you can serve just two hours at either the front or back doors you'll be entered into the prize drawing that's just for door greeters.—the prize has not been determined yet.

The TARC membership table is another place you can serve. Just as you come in to the hamfest, there you'll find the TARC table where club memberships can be made new or can be renewed for the 2026-2027 year. Can you take an hour or two and sit down with another club member and take renewals? Yes, you can. Thank you for volunteering your time.

At the February club meeting those in attendance approved $600 for a TARC raffle prize. Bart, N5TWB, has ordered a Connect Systems DMR/M17 radio, and an ICOM IC-2730 mobile dual-band radio. You can purchase your raffle tickets at the same time as you pay your yearly club dues at the membership table.

We're getting closer to Oklahoma's Parks on the Air Day…

Tony, KA5TRO, is working on this one. He has been working POTA stations for many months and is very enthusiastic about getting TARC on the air so mark your calendar for April 7th which is POTA Demo day at Haikey Creek Park, 1800 hrs. The location is at the Field Day site we've used the last couple of years. If you want to watch and see how they set up their POTA stations be there by 1800 hrs. Even though Haikey Creek is not a State Park they'll still be making contacts with other stations to show POTA logging and operating techniques. Park-to-Park!

April 18th at Keystone State Park Shelter-4 is the real deal. We'll be out there from 0900 hrs to 1000 hrs or until the bands go silent.

You can join the POTA distribution list by going to the TARC website, click on ***Divisions*** and then drop-down to ***POTA*** or contact Tony, KA5TRO.

Just to review…

The following are ideas for club presentations gathered from our members at the January monthly club meeting.

1. A club Parks on the Air day (we're already working on this one)
2. A club fox hunt
3. An antenna build day (Mark KD5SMF is working on this one)
4. Working satellites

5. A Zoom Tech meeting (like Tech Night only over Zoom)
6. What about DMR? (Look for more info on a TARC DMR net)
7. Member Spotlight where we show off a club members' station (How about your station?)
8. The Basics (for the new hams)
9. Find an Elmer (we just did an Ask the Experts night with great success)

The TARC Trailer Team…

We are still looking for those club members that can to tow the trailer from its new storage location to wherever it needs to be for an event. Having the trailer in its new location and completing some current projects means the trailer is available on very short notice if needed, and it'll make operating inside the trailer more efficient and a more pleasurable experience. Can you tow the trailer? Let us know, so we can put you to work. Thanks.

Congratulations to Jeff AE5ME…

His article *The Tulsa ARES Winlink Net* appeared in the April edition of QST magazine. It's an interesting article and a must-read if you are in to Winlink. Way to go Jeff!

We have some new newsletter articles to read…

New articles this month. An Amateur Radio Emergency Service article and Kelly Baker, Tulsa's Skywarn Coordinator, with the history and mission of the Skywarn program.

Can't make the monthly meetings…

We're streaming and recording video of the monthly meetings and showing them on Zoom for those unable to attend in person. If we have recorded the meeting, it will be on the W5IAS.com website in the Recent Posts on the Home page and on our Facebook page. If you're interested in learning more please contact Jack, W5JHC, for info. Thanks, Jack!

We're trying to make DMR great again!

There is a new DMR hangout talkgroup and it's called Local 2. It includes the Keetonville, Tulsa Central, Leonard and Mounds DMR repeaters so if you're in any of

those areas you should be able to do DMR. Give it a try…ya' know the Repeater Challenge works just as well on DMR as it does on any other repeater.

There is a new Winlink Gateway in town!

Jeff, AE5ME, as part of his Ask the Experts presentation explained that there is a new Winlink gateway near downtown Tulsa, and it's designated as AE5ME-10 which will work with Vara FM and Packet. Not to be confused with AE5ME-13 which is at Jeff's home in south Broken Arrow. The frequency is 145.030. Give it a try!

Looking to give back to the community?…

Looking to have some fun playing radio and hanging out with other hams? You found the right place. We have an updated ARES logo!

ARES is always in need of volunteers, but to participate you must complete a self-paced training course and get an OKMRC[11] badge that gives you access to the places where amateur radio operators can help with communications during emergencies. OKMRC badges are FEMA[12]-approved and therefore involve a background check. ARES involves volunteer training, ARES nets, hospital nets, and Simulated Emergency Tests, but operating practice comes in the form of bike rides, Field Days and other events that you can participate in anytime.

Contact either Paul, WB5ANX, at paulteel@gmail.com, or Mark, WA5MA, at wa5ma.-mark@gmail.com if you would like to learn more or sign up to be an ARES Volunteer.

If you're already an ARES Volunteer…

You should be checking in to the ARES Net every Thursday at 8:00 PM on the designated repeater. We're going to start doing some cool things on the Net and you need to be a part of it for training purposes, working equipment verification and communications protocols. Keep an eye out for upcoming comms checks by email, text, and over-the-air.

We're starting a new program for the registered ARES Volunteers. It's the ARES Active/Inactive list. We consider an ARES member active if they have participated in at least one Tulsa County ARES net per month, one training event per quarter and one exercise per quarter or one deployment within a rolling 90-day period.

What if you're on the in-active list? It means that you're on the secondary resource list because you don't have the training that those on the Active list have, and it could also result in your being removed from the ARES volunteer database. We really do want everyone on the Active list.

The Tulsa County ARES Net…

Uses the following frequencies:

- Weeks 1 – 3 on 145.170 (PL 88.5)
- Weeks 4 – 5 on the Superlink Repeater System 443.850 (PL88.5) in Tulsa.

Check the https://w5ias.com/ website on the Repeater dropdown for system frequencies.

Key Ways Hams Give Back…

- Emergency Communications (EmComm)—When cellular and power networks fail, hams provide vital communication:

  https://www.youtube.com/shorts/0up13VMLlsA

  They work with organizations like ARES (Amateur Radio Emergency Service) to support emergency management and first responders:

  http://www.arrl.org/ares

- Public Service Events: Hams provide communications for community events such as bike-a-thons, parades, and marathons.
- Technical Support and Mentoring: Experienced hams assist in training, building stations, and mentoring newcomers through licensing exams, notes the ARRL.
- Community Education: Clubs, such as the Valley Radio Club, often build educational stations (e.g., at science centers) to teach the public about radio technology:

  https://www.youtube.com/watch?v=Yg5vcoCO3jc

- Safety Services: Hams serve as severe weather spotters, providing immediate reporting to agencies like Skywarn and the National Weather Service.

Here are the current club activities…

- Tech Night—1st Tuesday of each month. 7:00 PM at TU.
- Monthly meeting—3rd Tuesday of each month. 7:00 PM at TU.

  Attend the meeting to support your club and club officers who do so very much for the club with activities, nets, events and keeping the club running smoothly.

  We have 204 members, which means we need at least 41 members present at each meeting to form a quorum for voting.

- Weekly TARC Net on the Superlink System, Tuesdays at 8:00 PM

- CW Net, Mondays and Thursdays at 7:00 PM on 7.037 MHz +/- QRM[13]
- NCO[14] training, ARES training—TBD[15] in 2025

Just a reminder! The OKPOTA day is April 18th. It'll be a club-wide event to activate as many State Parks and Wildlife Management Areas as the ham radio operators in Oklahoma can do!

We also have member spotlight…

Member Spotlight is now a part of our monthly meetings. Want to show and tell your station or your love for a particular part of ham radio? Contact Ky, KY5VAR, and let him know. He'll get you scheduled.

KY5VAR also starting a *show-us-your-shack* presentation, so take some pictures and show us your ham shack.

Every month is a contest month…

Go to https://www.arrl.org/; click Contest Calendar; scroll to Contest Corral; click on the month you want to check. Try POTA[16] or SOTA[17]. Call CQ[18]. Go to a local park, grab one of the club go boxes, throw up a wire and get on the air.

Prepare now! The weather will soon be good enough to get outside!

President clear and monitoring…

Be safe, Be a good friend, Get on the air!

Mark, WA5MA,
President—Tulsa Amateur Radio Club.

ARES Tulsa County—24 Hour Deployment Checklist

- Minimum for Communications Go-kit
  - Dual-band HT(s) (VHF/UHF)
  - Extra battery for the HT(s)
  - Extended length antennas for HT's
  - ARES and/or OKMRC ID
  - Tulsa County communications plan (ICS-205 format)
  - Paper and writing instruments
  - Appropriate clothing, hat, etc.
  - Snacks, food, water, prescription meds

- Flashlight, extra batteries, multi-tool
- Hi-visibility vest (for outdoor/night work)
- External mic for HT(s)
- Earphone for HT(s)
- Small first aid kit
- HT connector kit (pigtails, adapters, etc)
- Glasses, sunglasses, sunscreen

◆ Optional

- State NIFOG[19], FEMA NIFOG
- iPad or tablet PC with chargers
- ICS / NTS forms kit (including a copy of your FCC license)
- Charged power bank with appropriate cables
- Dual-band antenna with magnetic mount for mobile use
- Roll up J-pole antenna, coax, hoist line

Skywarn

—Kelly, N5TUG

My name is Kelly Baker, N5TUG. I am the coordinator of the Tulsa Skywarn group. I asked Mark Adams, WA5MA, if I could write some simple articles for the newsletter outlining the history and mission of the Skywarn program. He readily agreed. Here is the 1st.

The following paragraph is from the National Weather Service's SKYWARN webpage.

SKYWARN (https:www.weather.gov/skywarn/) is a National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS) program that was formally established in the late 1960s. It consists of over 300,000 trained volunteer spotters who provide reports of weather and flooding to help meteorologists and hydrologists make life-saving warning decisions. Spotters are trained volunteers who provide timely reports of hazardous weather events that impact their communities (e.g., amateur radio operators, emergency management and public safety officials, cooperative network (COOP) observers, Community Collaborative Rain, Hail and Snow Network (CoCoRaHS), and other interested individuals). Although NWS uses data from radar, satellite, and other observing systems, technology cannot detect every instance of hazardous weather and flooding. SKYWARN spotter reports provide vital "ground truth" that helps NWS meteorologists issue timely, accurate, and detailed warnings.

Their reports can confirm hazardous weather and flooding detected by NWS technologies and enhance the situational awareness of the entire Integrated Warning Team — defined as "a local or state-level team that consists of emergency management, broadcast media, core partners, and the NWS — a team the shares the common goal and responsibility of improving the warning system and reducing fatalities, injuries and property damage due to natural hazards." Spotters also provide critical verification information that supports our Nation's Disaster Declarations process and improves warning services. An effective SKYWARN Weather Spotter program assists the NWS to fulfill its mission of protecting life and property and enhancing our Nation's economy.

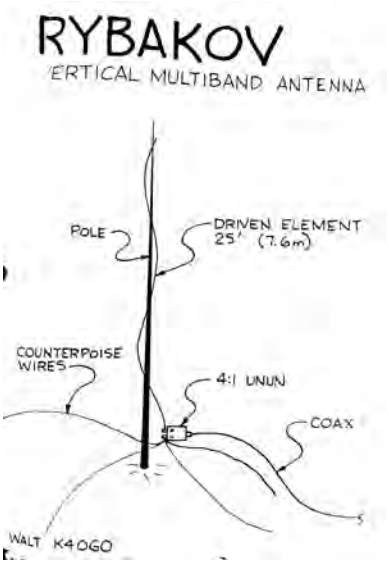
Antennas: Part-3 Vertical & Directional Antennas

—Mark, KD5SMF

I have often said that you can have the most up-to-date, and greatest Amateur Radio Station ever produced on the market. However, it makes no difference if your antenna system isn't up to par. Your radio station needs an antenna to transmit its signal to the world. Many Hams across the world are setup as "contest stations." While others are set-up for portable operations or, another's home shack maybe inside an HOA[20] where there are antenna restrictions. Each antenna system is different, and has specific requirements for the Ham radio operator. For our discussion, we will look at Vertical, and Directional Antennas.

First, one must understand Geometric Planes: X = Horizontal East-West; Y = Horizontal North-South; and Z = Vertical. This is displayed in the MANNA-GAL Basic Antenna Modeling software home window screen, Figure 3. Plane-Z is represented with a vertical Green line. Plane-X is represented with a Purple or Magenta Line, and Plane-Y is represented by a Blue line. Keep these planes in mind as it is a three-dimensional plot. In Figure 4, we see a representation of a Vertical Antenna model; note the vertical red line (Z-green line).

Figure 2: Rybakov vertical multiband antenna



The red line represents the vertical wire in Plane-Z. At this point we do not have any ground plane wires attached, and we are simulating the antenna with zero elevation as one would for a vertical antenna such as the Rybakov 20 m vertical antenna found in Walt Hudson's book, Portable Antenna Sketchbook (page 48 to 53).

In Figure 2 we see an illustration of the Rybakov 20-meter vertical antenna found in Walt Hudson's book. Mr. Hudson, K4OGO's YouTube channel, *Coastal Waves & Wires*, produced this particular type of antenna as multi-banded 20,

15, and 10 meters using a 4 to 1 UNUN, and four counterpoise wires. I have made this antenna, it produces excellent results, however one must use an antenna tuner to match the impedance at the radio.

Figure 3: MMANA-GAL Basic Home Screen

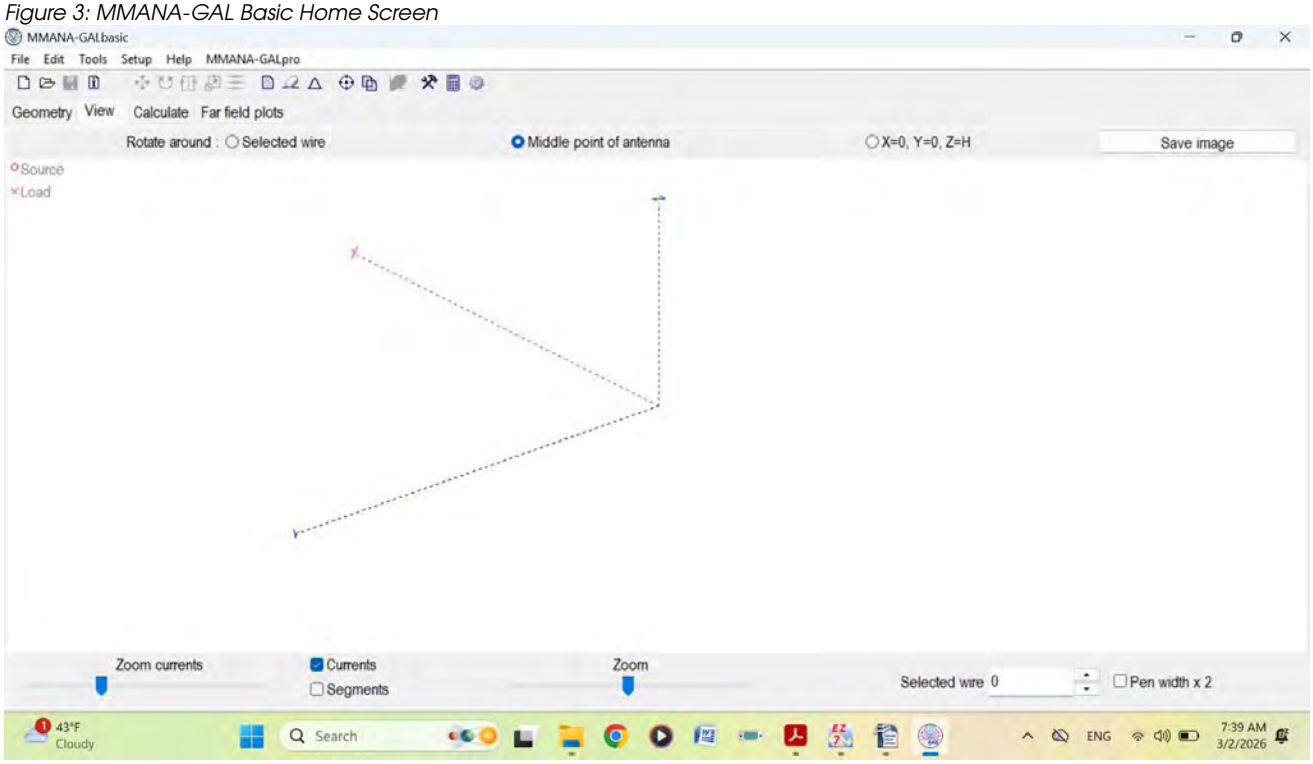
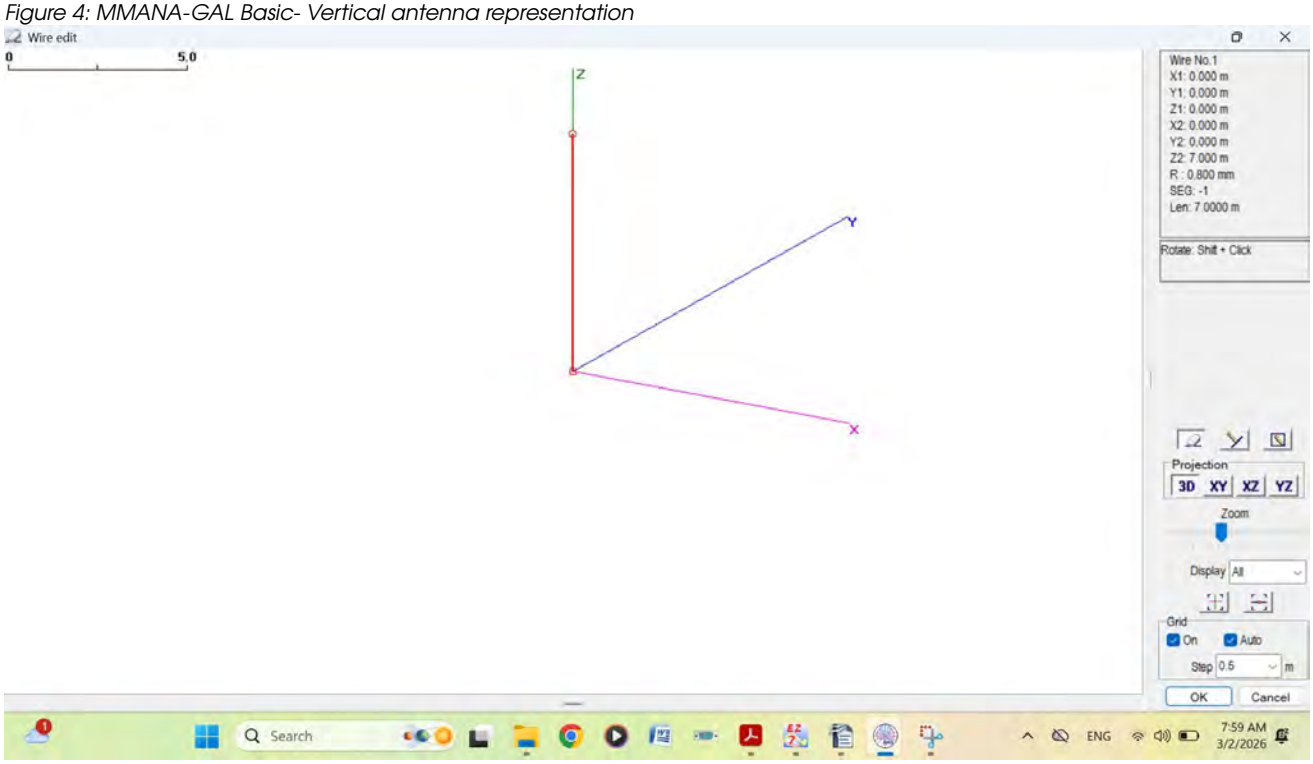


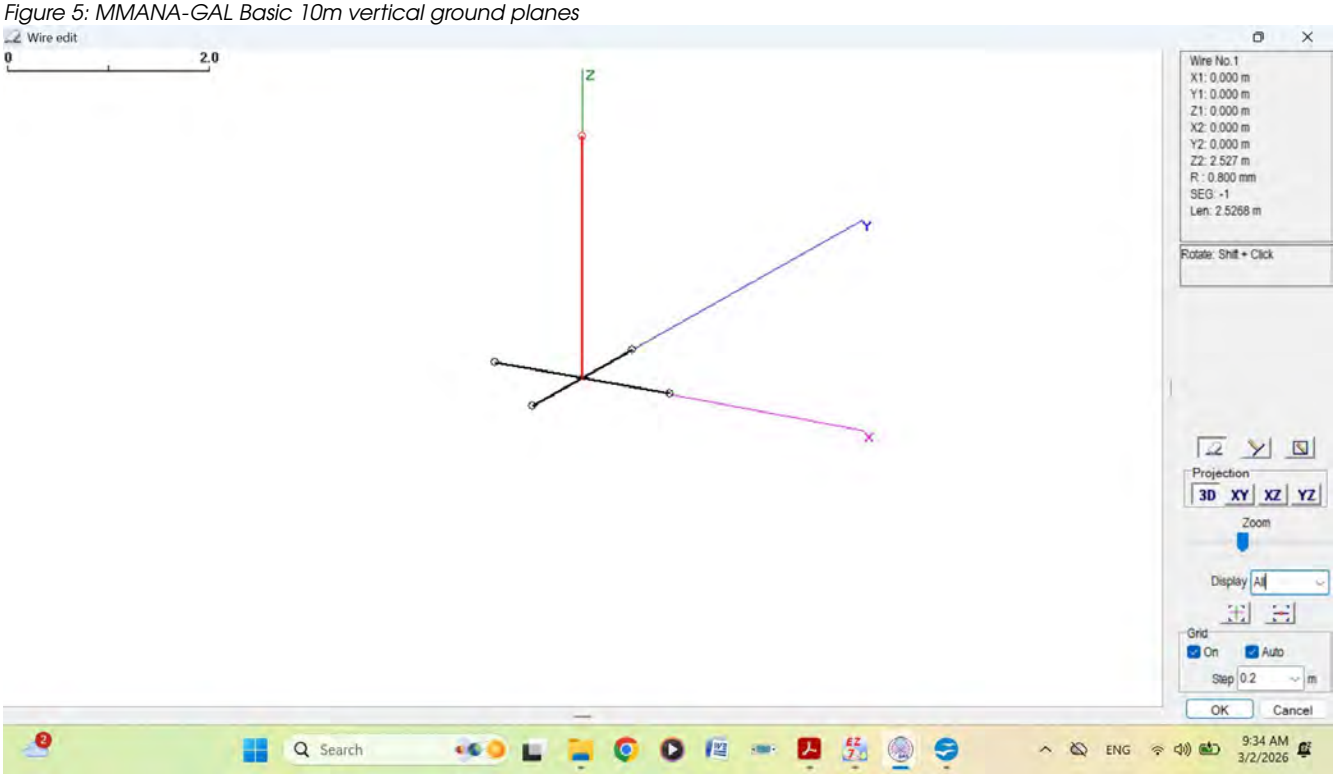
Figure 4: MMANA-GAL Basic- Vertical antenna representation



Let's return to the MMANA-GAL Basic antenna model of the vertical antenna shown in Figure 5. I have added the geometry of ground plane wires, and a frequency of 28.200 MHz.

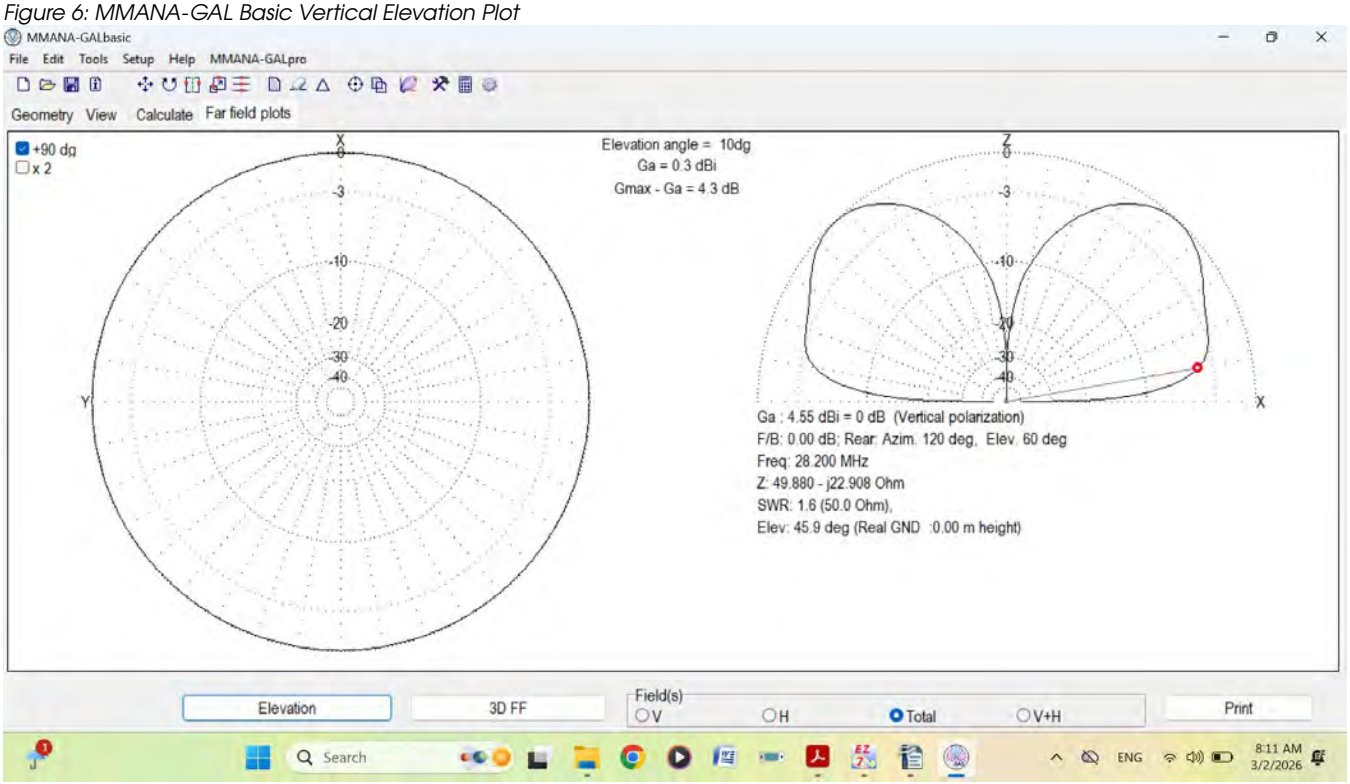
Note the ground-planes are illustrated as being on the ground just as one would for a portable operation like POTA. The far field plot shows how a vertical antenna is "Omnidirectional," and the takeoff angle has the best gain between 5 and 10 degrees above the horizon.

Figure 5: MMANA-GAL Basic 10m vertical ground planes



The plot shown in Figure 6 illustrates the antenna performance with a Gain of 4.56 dBi at 10 degrees towards the horizon. This is important to the operator to know because we want those DX stations outside the USA. The Vertical antenna is easy to setup for portable operations, and is easily hidden from those peering eyes within the HOA. In fact, one can simply use a thin vertical wire as the driven element for most any HF frequency, and two or three counterpoise wires as ground-planes. Hanging inside a tree within some landscaped bushes around the tree and the antenna becomes virtually invisible. Mobile operations utilize vertical antennas. A popular vertical antenna is the *POTA Performer*. It is a 17 ft stainless steel whip with a base loaded coil at the feed point. A vertical antenna is versatile and easy to erect, with performance well known; I use the Chameleon Basic Vertical for my portable operations; it is a very good choice for the Ham Radio operator who wants a multi-band antenna for both home and portable operations.

Figure 6: MMANA-GAL Basic Vertical Elevation Plot



Directional Antennas

A directional antenna falls into the category of what I call complex antennas. They are complex because they require more than one element within a horizontal or vertical plane. These are mostly Yagi-Uda antennas or similar designs like the Moxon antenna. They are found placed higher off the ground on top of an antenna tower with a rotor. Additional designs exist for not only HF but also for VHF and UHF. They have high gain, typically 8 dBi or more. Let's look at some examples of directional antennas.

Figure 7: Dual-band Arrow II Yagi antenna

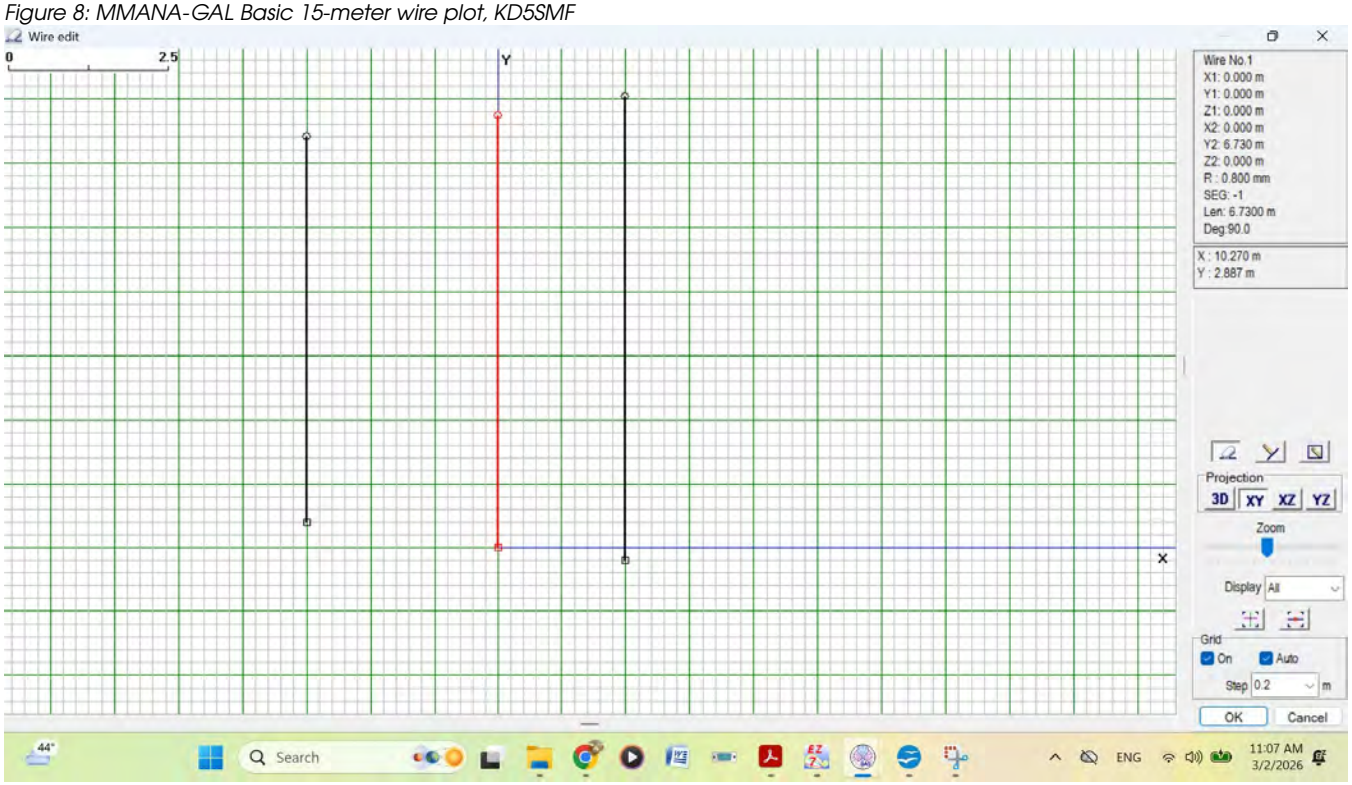
My recent acquisition of a dual-band ARROW II VHF & UHF Yagi antenna is for portable operations and satellite communications. This antenna covers the 2 m and 70 cm amateur radio bands and is optimized for satellite communications. It is versatile and can also be used as a stand alone 2 m Yagi either horizontally or vertically polarized. The photo illustrates the antenna in its dual-band configuration. I have removed the duplexer, using it with two radios: one for the satellite uplink fre-

quency and the other for the downlink frequency—Info found on the https://www.amsat.org/ website.

Another Yagi antenna that is commonly used is the 2 m tape measure Yagi. You can easily find plans for this antenna on the Internet as well as YouTube videos showing how to make the antenna. I made my 2 m Tape Yagi in just a few hours; it requires hairpin match. I used #12 AWG[21] solid copper wire for the hairpin. And by following the instructions from the plans I literally did not have to trim the antenna for SWR because it as nearly perfect. Commonly used for fox hunting, The Tape Yagi can be made for 70 cm operations as well.

Within the realm of HF antennas we find the directional antenna like Yagi and Moxon to be of a unique design. The Yagi is basically a dipole consisting of a reflector and a director element. A Moxon is a folded dipole in a rectangle and has two elements, the reflector and driven element. Figure 8 is a MMANA-GAL model of a three-element Yagi antenna.

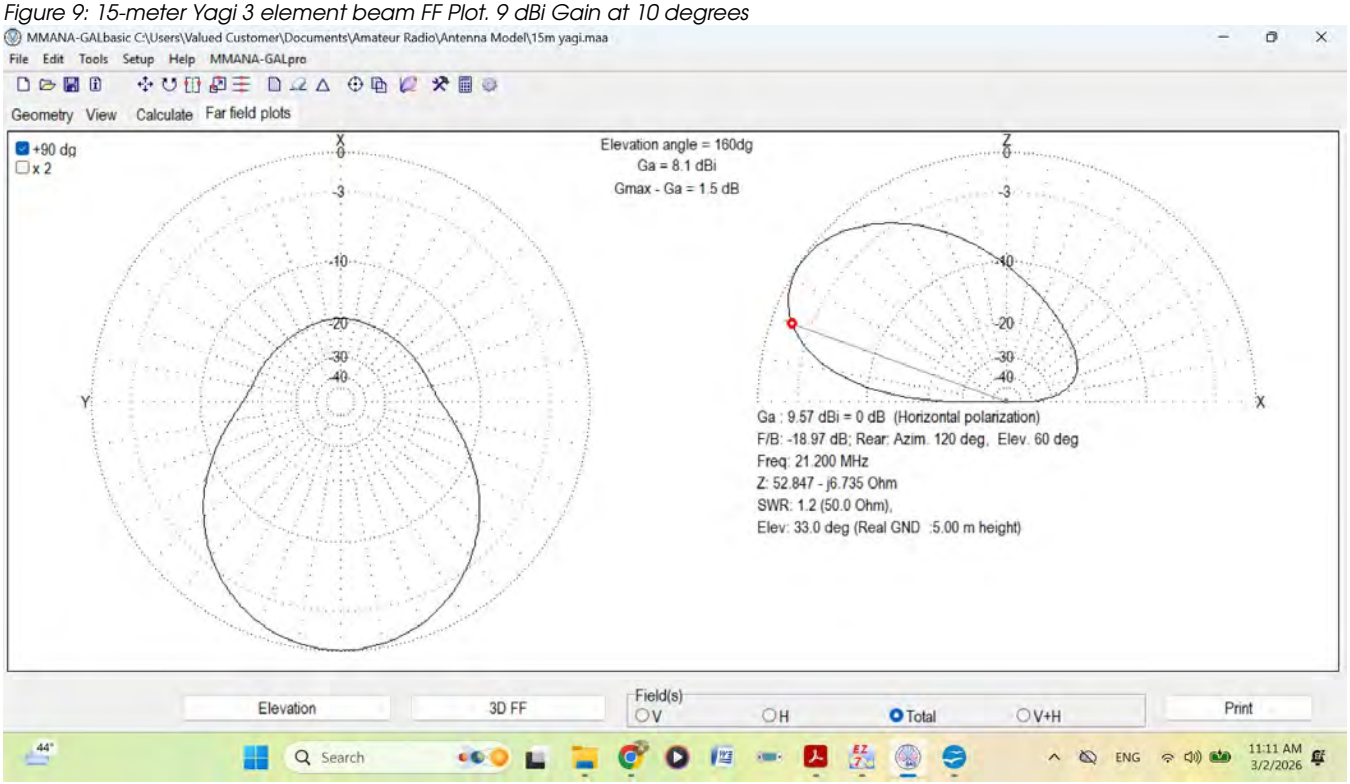
Figure 8: MMANA-GAL Basic 15-meter wire plot, KD5SMF



Here the red wire is the driven element, the reflector is to the right of the driven element, and the director element is on the left. Our center frequency is at 21.200 MHz, and in the illustrations that follow you will see how it performs.

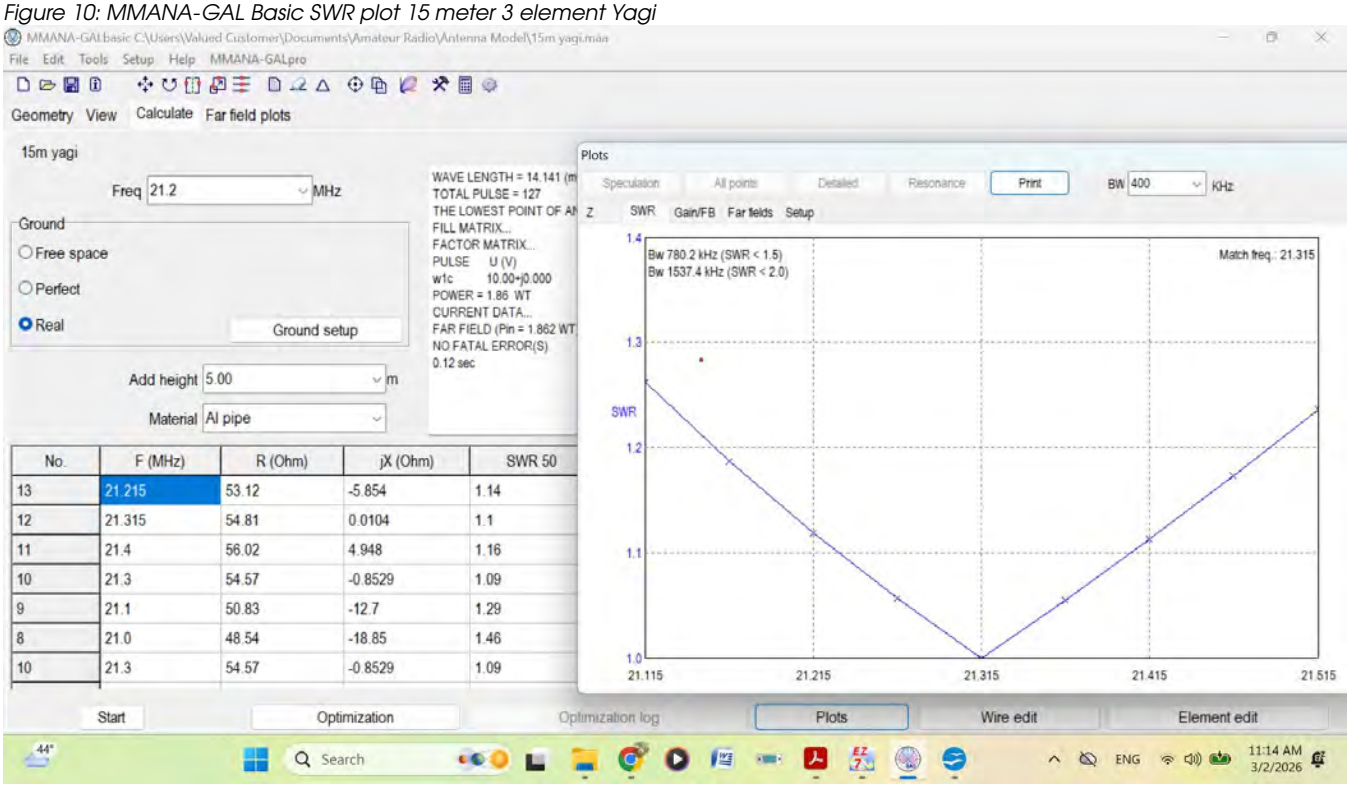
Here one can see the directional plot & potential performance of this antenna. Note: height above the ground set at 5 m (16 ft). This is a reasonable height for most of us to achieve on a simple push up pole without a rotator. Next we look at the SWR as the software has optimized the antenna design.

Figure 9: 15-meter Yagi 3 element beam FF Plot. 9 dBi Gain at 10 degrees



The antenna shows a wide band performance and low SWR throughout the 15 meter band. This would be a good antenna for DX at a home QTH provided there is space for the turning radius, and you do not have HOA restrictions.

Figure 10: MMANA-GAL Basic SWR plot 15 meter 3 element Yagi



Typical 3-Element 15m Yagi Specifications:

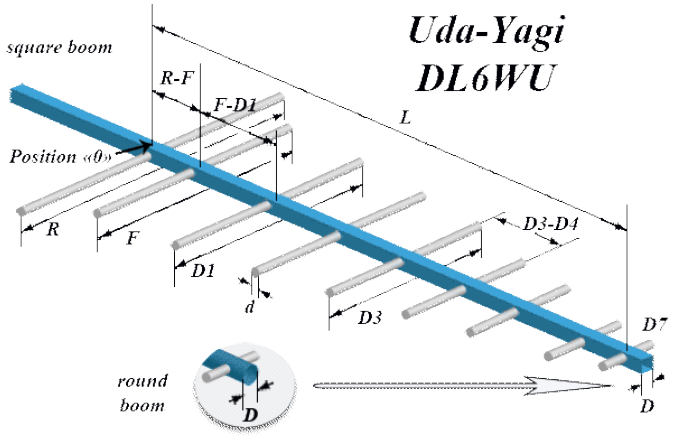
- Turning Radius: 4.0 – 4.5 meters (13 – 15 feet)
- Longest Element: ~7.2 meters (~23.6 feet)
- Boom Length: ~4.0 – 5.0 meters (~13 — 16.5 feet)

Yagi antennas which have more than four elements typically have a higher gain. However, higher gain also means a more narrow bandwidth. This can be easily modeled online using a Yagi antenna calculator:

- https://3g-aerial.biz/en/online-calculations/antenna-calculations/dl6wu-yagi-uda-antenna-online-calculator#google_vignette

Careful measurements must be made to ensure each of the elements on the boom are on their exact centers for fabrication. The picture shows a square boom with round profile elements. The antenna can be configured with up to seven elements as shown. Any more than that, the design goes into the Log Periodic Antenna.

Figure 11: DL6WU Yagi illustration at online calculator



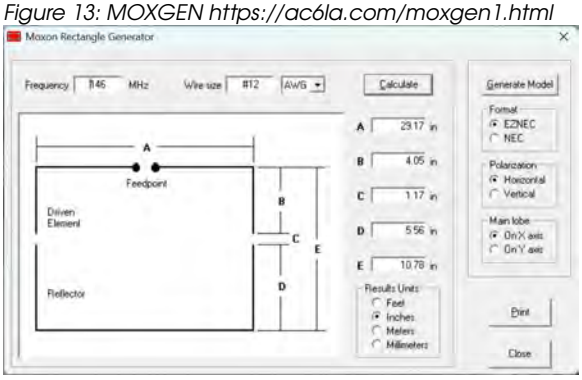
As mentioned earlier, the more elements you have on a Yagi, the longer the boom has to be to accommodate those elements. This narrows the bandwidth of the antenna. Applications for a narrow bandwidth include satellites, [*link-radio antennas for repeater systems,*] or microwave antennas which are more complex. For HF applications you want a wide bandwidth so that you can do all different modes like CW, FT8, SSB, and perhaps RTTY. A directional antenna is a good choice. However, they can be finicky. Construction requires machining knowledge and fabrication of parts. Tuning is done by manipulating the tubing of the driven element, and the Gamma Matching element in and out to achieve maximum performance.

Moxon Rectangle Antenna

The Moxon antenna is a design by Les Moxon, G6XN, a British radio engineer and antenna author. He introduced this compact, two-element parasitic array in the 1950s, later publishing it in 1952 in QST magazine, which features folded elements that reduce the antenna's size to about 70-75% of a conventional beam while maintaining excellent gain and a 50-ohm impedance. The first directional antenna that I made was a Moxon for the 6 m band. After careful study, I used copper tubing for the elements and parts from an MFJ 2 m Yagi that had long since been damaged. I used part of the boom with its feed point SO-239 connector and aluminum channel for the boom. I used an old Radio Shack TV antenna rotor that I had to orient the antenna for directional control. The antenna performed wonderfully, I made several QSOs while living in Fairview, Oklahoma.

Figure 12: KB9VBR antennas: painter pole, pvc construction, 6m Moxon

Figure 13: MOXGEN https://ac6la.com/moxgen1.html



Let's look at the Moxon in the EZNEC-7 PRO2 software. First there's the MoxGen antenna calculator shown in Figure 13.

Figure 14: EZNEC Moxon Rectangle KD5SMF

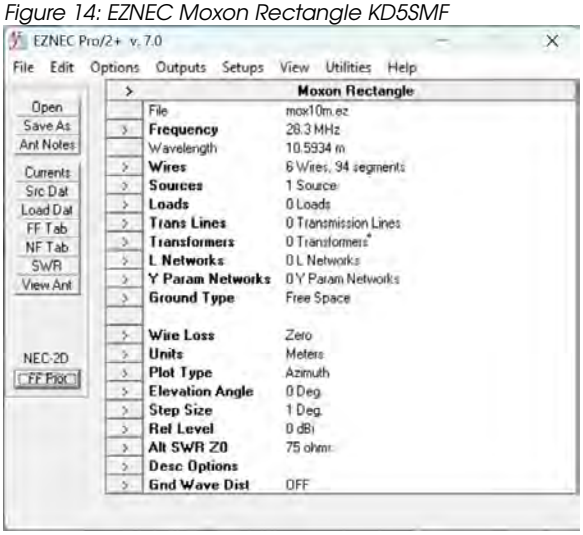
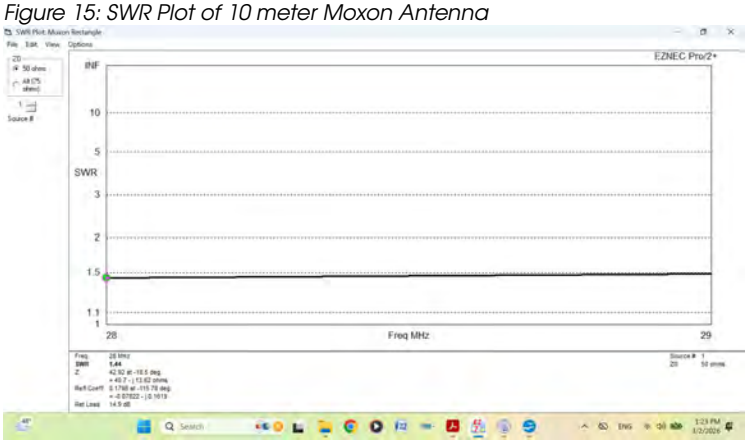


Figure 15: SWR Plot of 10 meter Moxon Antenna



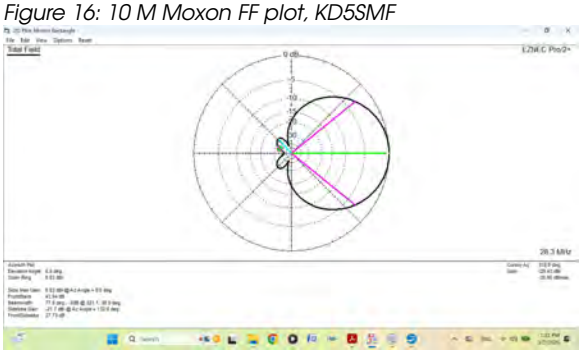
The MoxGen calculator allows you to input the desired frequency, wire size, and then hit the calculate button for it to display the results. You choose Inches, Feet, Meters, or millimeters. Then, you can select "*generate model*" for the EZNEC software. This software is now free to download, and I use it for Moxon antenna design.

In Figure 14 you can see the file open on the EZNEC home screen. This is very different from the MMANA-GAL Basic home screen, however, since the MoxGen creates the

file for the EZNEC that's what I'm using. What we're interested in is the FF[22] plot and SWR so let's look at it.

The Moxon is broad banded and has excellent characteristics with just two elements. Figure 15, SWR plot shows performance at less than 1.5:1 across the entire band, and this is common with its designs even up to the 20 m band. Now this is where the Moxon earns its reputation as It has a smaller footprint than a Yagi and gives excellent performance across the desired band.

Figure 16: 10 M Moxon FF plot, KD5SMF



Now take a look at the Far Field Plot shown in Figure 16. A large FF in the front of the antenna with the driven element showing the antenna eliminating of the back side. This is a desirable characteristic for Hams who want an antenna with good DX and Gain without having to sacrifice too much area in their yards as with a Yagi antenna that requires a 16 ft diameter turn radius and perhaps a tower to place it on. A three-element 20-meter mono-band Yagi typically has a turning radius of approximately 20 to 21 feet for full-size elements. Common models have boom lengths around 18 feet and utilize 35-36 kg of aluminum, requiring robust rotator systems.

Directional antennas are a good asset to the radio stations who operate them. I have completed making both a 10 m and 15 m Moxon antenna using common materials that anyone can buy at a local hardware store. I can say that a three- or four-element Yagi antenna is desirable for those who want to enter DX contest or perhaps for everyday use. The downside of a Yagi is their need for a large area, towers, and rotors. The Moxon does have an advantage where it can be made with lightweight materials such as fiberglass or carbon fiber fishing rod blanks, and 24 AWG copper wire. It does not have to be on a tower with a rotor, it can be built in such a way that is suitable for portable operations and turned with an "arm-strong" rotator. Moxon antennas can be designed for 20 m using aluminum tubing and boom construction suitable for use with a tower and rotor. Either way, the operator will have excellent results for regional and DX communications.

No matter which type of antenna you choose to build or use, be it a Dipole, End-fed Half wave, or Vertical antenna, or Directional antenna. DX can be done with the understanding of your equipment and HF propagation. It all comes down to you and what your needs are for your station.

73 DE KD5SMF <SK>.

Club Badges

—Jeffrey, KJ7JTU

Our new club badge is more durable and looks like the one shown here, except with your name and callsign. To get one, contact Jeffrey, KJ7JTU, by completing and submitting the form on our website that you can reach via this URL:

- https://w5ias.com/member/tarc-badge-request/

Newsletter Submissions

Do you have something you would like to share with other members of our club? Send your contributions, text and pictures, via email to the editor of the newsletter at this address Editor@W5ias.com.

Deadline for submissions is the 25th of each month.

There are no word limits. Use as many words as you need to tell your story. If you have much to say, think about writing your story in installments. Use pictures to save words; send pictures at full resolution. Busy pictures the size of postage stamps don't work.

Don't be shy. The editor's job is to make you look good in print.

Qualified Charitable Distributions

—via Mark, WA5MA

Here is some information on a different Q-code… QCD, Qualified Charitable Distribution. Check it out!

Understanding Qualified Charitable Distributions (QCDs)…

A Smart Way for IRA Owners to Support Charities and Reduce Taxes is to make a Qualified Charitable Distribution (QCD), a tax-savvy strategy that allows individuals aged 70½ or older to transfer funds directly from their Individual Retirement Account (IRA) to a qualified charity. QCDs offer significant tax advantages, making them a popular choice for retirees who want to support their favorite causes while managing their tax liability.

How do QCDs work?...

With a QCD, funds are sent directly from your IRA to an eligible charitable organization, bypassing your taxable income. The distribution amount can count toward your Required Minimum Distribution (RMD) for the year, helping you meet IRS withdrawal requirements without increasing your adjusted gross income (AGI), and therefore your tax liability.

Who can make a qualified charitable distribution?...

- You must be at least 70½ years old at the time of the distribution.
- The QCD must come from a traditional IRA, not a 401(k) or similar employer plan.
- The distribution must go directly to a qualified public charity, not a donor-advised fund or private foundation.

Benefits of making a qcd...

- Tax Savings: QCDs are excluded from your taxable income, which can help lower your overall tax bill and potentially keep you in a lower income bracket.
- RMD Fulfillment: The amount donated via QCD can count toward your annual RMD, helping you avoid penalties for missed withdrawals.
- Charitable Effect: QCDs provide immediate support to qualified charities, allowing you to see the benefits of your philanthropy in action.
- Medicare and Social Security: Lowering your taxable income may reduce the negative effect of income-based surcharges on Medicare premiums and the taxation of Social Security benefits.

Key rules and limits...

- The maximum annual QCD allowed is $108,000 per individual for 2025 and is adjusted annually for inflation.
- You must arrange for the IRA custodian to send the funds directly to the charity; distributions made to you first and then donated do not qualify.
- You cannot claim a charitable deduction for a QCD, since it is not included in your taxable income.

How to make a qualified charitable distribution...

1. Contact your IRA custodian or financial advisor to initiate the QCD process.

2. Specify the amount and the charity to which you wish to direct the distribution.
3. Ensure the charity provides a receipt for your records, as the IRS may request verification.
4. Report the QCD on your tax return as a non-taxable IRA distribution: Consult your tax advisor for details.

Is a qcd right for you?…

If you are required to take RMDs and want to support charitable organizations, a QCD might be a smart and effective way to achieve your goals. Always consult with a financial or tax advisor to ensure that a QCD aligns with your overall financial plan and meets all IRS requirements.

QCD conclusion…

Qualified Charitable Distributions are a win-win for retirees and charities alike. By donating directly from your IRA, you can support the causes you care about, fulfill your RMD obligations, and potentially reduce your tax burden. Take advantage of this valuable opportunity to make a difference in your community and your financial future.

Contributions can be tax-free since the Tulsa Amateur Radio Club is a non-profit organization.

Repeater Maintenance Sinking Fund

Our Treasurer, Jerry KE5PMK, says the sinking fund for repeater maintenance is growing and now with the death of Bob, W5RAB, we're taking over maintenance on several more repeaters, so we would really appreciate any contributions from club members and others as well. Contributions can be tax-free since TARC is a non-profit 503(c) organization.

We can't let this fall through the crack and risk repeater failure.

Scan the QR code or click on the link to donate, and thank you.

https://www.gofundme.com/f/ensure-tarcs-lifesaving-services-continue

Another way to donate to the club is with Qualified Charitable Distributions, described above. Check it out!

Club-serving Members

Tulsa Amateur Radio Club Active Positions				
	Position	Name	Call Sign	Duration
ELECTED	President	Mark Adams	WA5MA	31 Dec 2026
	First Vice President	Jack Conway, IV	W5JHC	31 Dec 2026
	Second Vice President	Ky Vargus	KY5VAR	31 Dec 2026
	Secretary	Andrew Shead	W5AWS	31 Dec 2026
	Treasurer	Jerry Weikel	KE5PMK	31 Dec 2026
	Public Service Liaison Officer	Robert Kerns	KI5WDD	31 Dec 2028
		Bobby Hunt	KJ5CLV	
	Trustee	Gregg Wonderly	W5GGW	31 Dec 2028
APPOINTED	Quartermaster	Paul Young	KE5EHM	UNLIMITED
	Webmaster	Jack Conway, IV	W5JHC	
	Social Media Administrator	Greg Meador	AI5HV	
	Merchandise Coordinator	Robert Kerns	KI5WDD	
	Newsletter Editor	Andrew Shead	W5AWS	
	Membership Committee	Jack Conway, IV	W5JHC	
	ARES Coordinator	Paul Teel, III	WB5ANX	
	Volunteer Examiner Coordinator	David Kennedy	N5DMK	
	Trailer Team Leader	Cody Guilliaume	KJ5JDO	
	Trailer Team Members	Greg Meador	AI5HV	
		Robbie Moreland	W5RML	
		Gabe Griffin	KJ5JOW	
		Rusty Johnstone	KJ5MGC	
		David Kennedy	N5DMK	
		Tim Morgan	KI5ZDF	
		Cory Anderson	KJ5LAM	
	Trailer Team Advisors	Steve Childers	KF5VCQ	
		Jack Conway, IV	W5JHC	
		Paul Teel, III	WB5ANX	
	Repeater Maintenance Committee	Paul Teel, III	WB5ANX	
		David Kennedy	N5DMK	

Treasurer's Cash Report

—Jerry, KE5PMK

TARC
Treasurer's Report
3/31/2026

	General	Hamfest	Sinking Fund	Current Mo Total	Year to Date	Current Yr To Date Budget	Prior Yr Total
Cash balance beg of period	4,201.63	1,073.58	7,215.02	12,490.23	13,802.52	13,977	13,976.92
Receipts							
Dues	720.00	-	350.00	1,070.00	1,350.00	1,380	5,820.00
Sale of radio equipment	-	-	-	-	-		685.72
Green Country Hamfest							
Raffle	-	-	-	-	-		961.00
Centennial dinner	-	-	-	-			55.00
Contribution	-	-	-	-	-	250	1,152.40
Interest	-	-	3.02	3.02	9.98	11	40.75
Miscellaneous	-	-	-	-	6.00		3.00
Total deposits	720.00	-	353.02	1,073.02	1,365.98	1,641	8,717.87
Disbursements							
Repeaters:							
Equipment	-		-	-	-	-	-
Rent	998.00		-	998.00	998.00	-	-
Green Country Hamfest:							
3 tables & 1 electric drop	-		-	-		55	55.00
Radio Equipment		637.95	-	637.95	637.95	600	1,538.34
Door prizes		100.00	-	100.00	100.00	100	100.00
Centennial expenditures	-	-	-	-	-		4,302.83
Insurance	-	-	-	-	-		619.51
PayPal fees	36.37	-	-	36.37	46.38	55	151.03
HF University	-	-	-	-	-	-	-
Field day	-	-	-	-	-		658.50
Ice cream social	-	-	-	-	-		162.66
Domain & Website	44.55	-	-	44.55	133.65	134	673.65
Mail Box	-		-	-	-		180.00
Miscellaneous	-		-	-	74.98		154.45
Christmas	239.60		-	239.60	239.60		296.30
Maker Faire	-	-	-	-	-		-
Trailer & related	-	-	-	-	1,431.16		-
Total expenditures	1,318.52	737.95	-	2,056.47	3,661.72	943.56	8,892.27
Transfers into fund	1,060.00	1,000.00	180.00	2,240.00			
Transfers out of fund	(1,060.00)	(1,000.00)	(180.00)	(2,240.00)			
Cash balance end of period	3,603.11	335.63	7,568.04	11,506.78	11,506.78	14,675	13,802.52
Summary by Account							
Checking	1,025.14	262.05	20.00	1,307.19			
Savings	1,976.13	73.58	7,258.04	9,307.75			
PayPal	601.84		290.00	891.84			
Total	3,603.11	335.63	7,568.04	11,506.78			

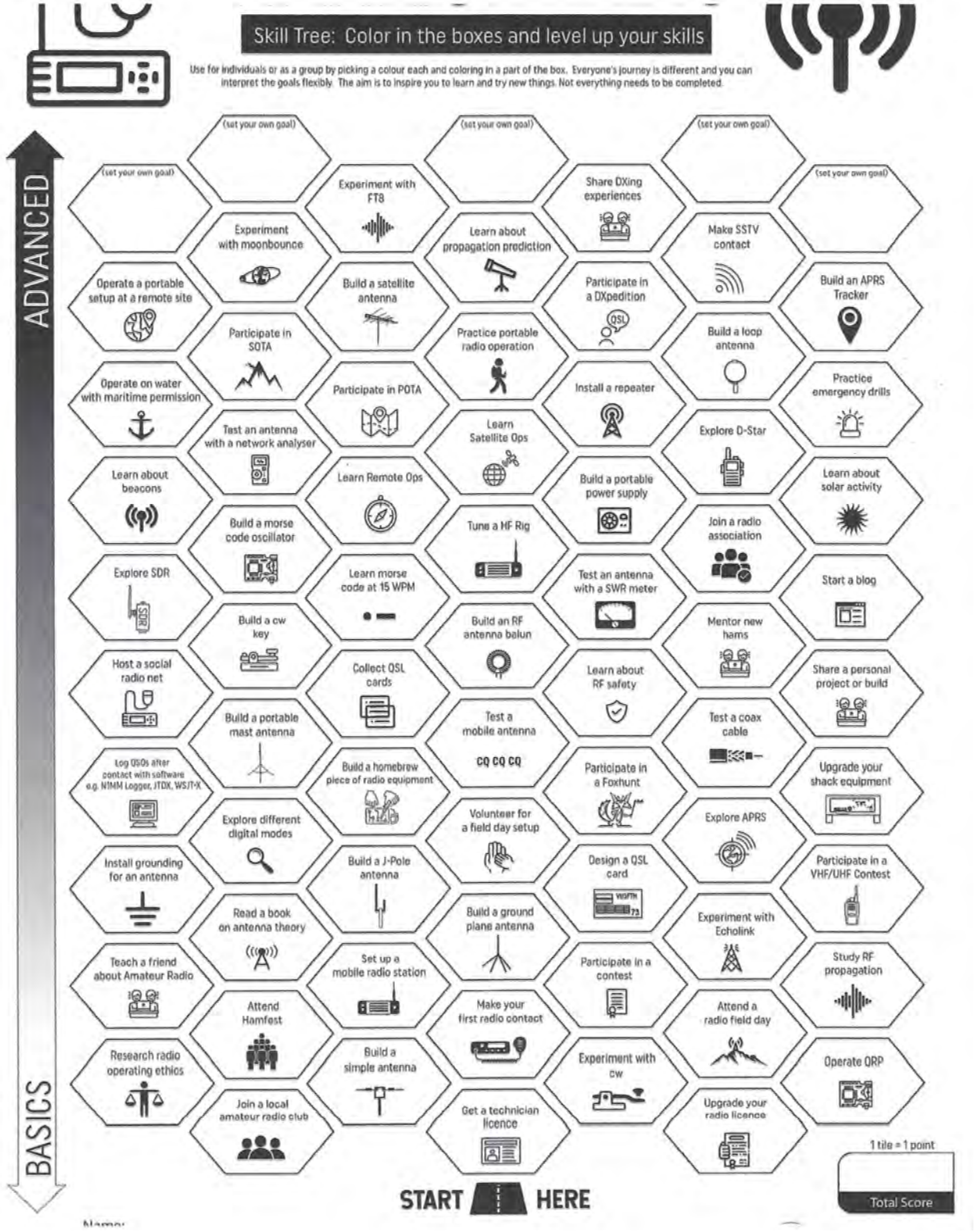
Jerome Weikel:
Annual rent for climate controlled storage space

Jerome Weikel:
Radios for raffle

Jerome Weikel:
Reimburse Bart, N5TWB for radio gift

Track Your Ham Radio Skills

—via Mark WA5MA



Glossary

ARES.....Amateur Radio Emergency Service.

ARRL.....Amateur Radio Relay League.

AWG.....American Wire Gauge.

BMS.....Battery Management System:
A battery safety system that does load balancing of the charge and discharge cycles and monitors the temperature, health and safety of the individual cells that comprise the battery, incorporating short-circuit and reverse polarity protection.

CD.....Compact Disc.

CQ.....Seek-You—telegraphers abbreviation requesting contact from anyone hearing.

CW.....Continuous Wave, synonymous with the practice of Morse code When you transmit Morse code using CW, you are sending bursts of unmodulated radio frequency energy that the receivers detect by offsetting the receive-frequency by a few hundred Hertz All of which is done automatically most of the time.

DMR.....Digital Mobile Radio.

DVM.....Digital Volt Meter.

DX.....Ham jargon for long distance, also a brand of gasoline for obvious reason farther on a gallon.

Elmer.....Ham radio jargon for a mentor, someone willing to help others thrive in the hobby.

EZNEC.....Easy Numerical Electromagnetics Code.

FCC.....Federal Communications Commission.

FEMA.....Federal Emergency Management Agency.

FF.....Far Field: Radiation pattern at distance

HF.....High Frequency—3 to 30 MHz.

HOA.....Home Owners Association.

HT.....Handheld Transceiver.

iPad.....Line of tablet computers by Apple

kerchunk....A technical term peculiar to the operation of repeater systems An onomatopoeia expressive of the sound heard when you briefly press the PTT of a transceiver to engage the repeater to hear if it is possible to open it for communication Don't do this; push-to-talk, announce your callsign then ask for a signal check.

LID.....Licensed IDiot: A rude or unobservant operator Those who don't learn from their mistakes We learn by doing, and if we're not making mistakes, we're not doing anything The trick is to avoid making the same mistake

too many times Click on the number of this footnote to return to the text and continue reading.

MMANA.....http://gal-ana.de/basicmm/en/

NCO.....Net Control Operator.

NIFOG.....National Interoperability Field Operations Guide

NTS.....National Traffic System

OKMRC.....OKlahoma Medical Reserve Corps.

PC.....Personal Computer

PDF.....Portable Document Format

POTA.....Parks On The Air.

PTT.....Push To Talk.

QRM.....On-frequency interference Telegrapher's Q-code abbreviation.

QRP.....Low power 5W and below Telegraphers Q-code that says lower your power.

QSO.....Completed contact with another operator Telegrapher's Q-code for I can communicate with.

QST.....Telegrapher's Q-Code shorthand for "Calling All Stations".

QSY.....Change frequency. Telegrapher's Q-code requesting a change in operating frequency.

ROM.....Read Only Memory.

SOTA.....Summits On The Air.

SSB.....Single SideBand modulation.

SWR.....Standing Wave Ratio The ratio of transmitted energy to energy reflected back to the transmitter by a mismatched impedance Voltages generated by high SWR can destroy the power transistors of a transceiver High SWR also means that the antenna radiates less energy.

TARC.....Tulsa Amateur Radio Club.

TBD.....To Be Determined.

TRO.....Tulsa Repeater Organization.

TU.....University of Tulsa.

UHF.....Ultra High Frequency—300 MHz to 3 GHz.

URL.....Universal Resource Locator.

VHF.....Very High Frequency—30 to 300 MHz.

1 LID—Licensed IDiot: A rude or unobservant operator. Those who don't learn from their mistakes. We learn by doing, and if we're not making mistakes, we're not doing anything. The trick is to avoid making the same mistake too many times. Click on the number of this footnote to return to the text and continue reading.

2 PDF—Portable Document Format

3 URL—Universal Resource Locator.

4 QST—Telegrapher's Q-Code shorthand for "Calling All Stations".

5 POTA—Parks On The Air.

6 DMR—Digital Mobile Radio.

7 VNA—Vector Network Analyzer.

8 FCC—Federal Communications Commission.

9 HT—Handheld Transceiver.

10 PTT—Push To Talk

11 OKMRC—OKlahoma Medical Reserve Corps.

12 FEMA—Federal Emergency Management Agency.

13 QRM—On-frequency interference. Telegrapher's Q-code abbreviation.

14 NCO—Net Control Operator.

15 TBD—To Be Determined.

16 POTA—Parks On The Air.

17 SOTA—Summits On The Air.

18 CQ—Seek-You, telegraphers abbreviation requesting contact from anyone hearing.

19 NIFOG—National Interoperability Field Operations Guide.

20 HOA—Home Owners Association.

21 AWG—American Wire Gauge.

22 FF—Far Field: Radiation pattern at distance.