



W5IAS.com

TULSA AMATEUR
RADIO CLUB

Emergency Communications



The W5IAS Transmitter

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- ◆ **Second Vice President**
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- ◆ **Treasurer**
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- ◆ **ARES Coordinator Tulsa County**
Paul Teel, WB5ANX
- ◆ **Quartermaster**
Paul Young, KE5EHM

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

TARC Officers & Committees.....	1
In This Issue.....	2
Endnotes Review.....	3
Bookmarks & Table of Contents.....	3
February Minutes of Meeting.....	3
February Newsletter.....	4
President's QST.....	4
Important News!!!.....	4
How did you like: Ask the Experts???.	4
Unfortunately, I have to say this again: It's all about repeater interference.....	5
Another suggestion at the January meeting.....	5
Just to review.....	6
The TARC Trailer Team has already been working.....	6
The Green Country Hamfest is right around the corner!.....	7
Can't make the monthly meetings.....	7
We're trying to make DMR great again!.....	7
There is a new Winlink Gateway in town!.....	7
Looking to give back to the community?.....	7
If you're already an ARES Volunteer.....	8
The Tulsa County ARES Net.....	8
Here are the current club activities.....	8
We also have member spotlight.....	9
Every month is a contest month.....	9
President clear and monitoring.....	9
LiFePo Battery Power Supply.....	9
NanoVNA Guide to Basic Operation.....	11
ARES Volunteer Getting Started Checklist.....	11
Antennas: Modeling, UnUns & the End-Fed Half-Wave Part-2 of 3.....	13
What is a Balun, UnUn and what are they for?.....	14
Testing an Unun.....	16
Club Badges.....	17
Newsletter Submissions.....	17
Qualified Charitable Distributions.....	18
Understanding Qualified Charitable Distributions (QCDs).....	18
How do QCDs work?.....	18
Who can make a qualified charitable distribution?.....	18
Benefits of making a qcd.....	18
Key rules and limits.....	19
How to make a qualified charitable distribution.....	19
Is a qcd right for you?.....	19
QCD conclusion.....	19
Repeater Maintenance Sinking Fund.....	20
Club-serving Members.....	21
Treasurer's Cash Report.....	22
Track Your Ham Radio Skills.....	23
Glossary.....	24

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 LID¹ is? Find out by clicking on the superscript number immediately after the term.

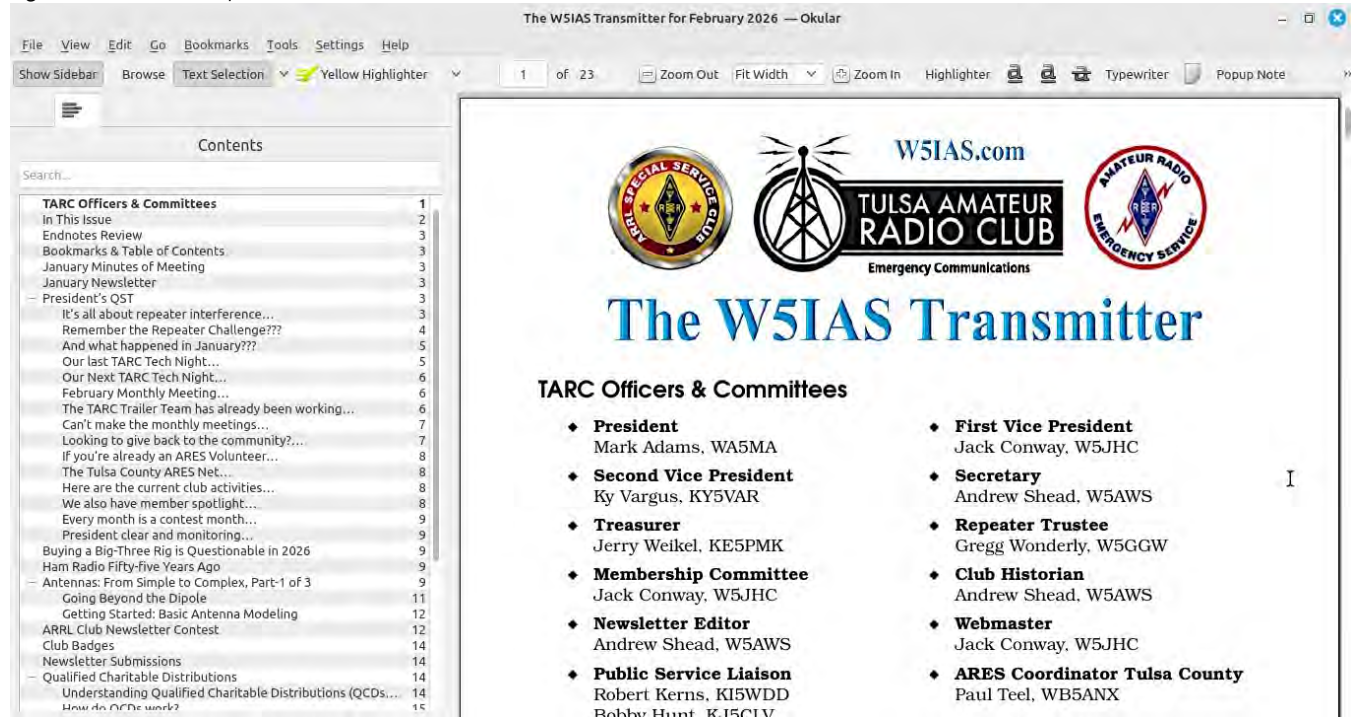
Bookmarks & Table of Contents

As you saw scroll 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 PDF² 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



February Minutes of Meeting

See this URL³ for the minutes of the last in-person club meeting:

- <https://w5ias.com/wp-content/uploads/2026/02/February-2026-Meeting-Minutes.pdf>

- <https://w5ias.com/2026/02/22/tarc-february-club-meeting-2026/>

February Newsletter

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

- <https://w5ias.com/wp-content/uploads/2026/02/20260201-TARC-Newsletter-February-2026.pdf>

President's QST⁴

—Mark, WA5MA

Important News!!!

The March 17th meeting of the Tulsa Amateur Radio Club **will NOT** be at TU.

The National Weather Service Stormspotter training will be our monthly meeting and will be held at the Centennial Center at Veterans Park, just north of Oaklawn Cemetery and east of downtown Tulsa. The training starts at 6:00 PM. The address is 1028 E 6th St.

There will be no club business, but make sure you wear your blue TARC shirt.

How did you like: Ask the Experts???

We tried something new. This was suggested at the January monthly meeting when I asked for ideas to present at our TARC meetings...

Find an Elmer...or in our case... Ask the Experts!

We found five club members who are experts at what they do in ham radio.

- (1) Paul, WB5ANX, is our ARES expert.
- (2) Greg, AI5HV, is our expert in DMR.
- (3) Jeff, AE5ME, is our Master of All Things Digital.
- (4) Bart, N5TWB, is our Net Control expert, who didn't get asked any questions.
- (5) Mark, KD5SMF, is the antenna experimenter and builder in the club.

I heard from several club members in attendance that they really enjoyed the Ask the Experts presentation; if you want to see the video it's been posted. We will absolutely have another Ask The Experts again this year.

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

For the last few months we have experienced a lot of intentional interference on the Superlink Repeater System, as well as on several other repeaters in the Tulsa and surrounding areas. We know it's intentional because of the type of interference and that it's happening at random times throughout the day as well as during several of the weekly nets.

Intentional interference on a repeater can lead to the loss of your license, loss of your equipment and a significant fine from the FCC⁵. 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 HT⁶ with or without a speaker-mic, make sure you are not activating the PTT⁷ when you sit down in your favorite chair or in the car.

Do you like to “kerchunk⁸” the repeater to test your signal? Well, if you do that without adding your callsign, that's a violation of FCC rules and regulations. If you need to check that you are making it to the repeater, just ask for a signal report and someone will be monitoring that can do that for you. Either way, you must give your callsign.

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

Another suggestion at the January meeting...

Is a club “Parks on the Air” day and Tony, KA5TRO, is working on that 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 and April 18th.

April 7th is our regular Tech Night and Tony has a “dry run” planned to demonstrate his POTA setup. We'll still be meeting at TU, but keep an eye on the TARC website and Facebook page for more details.

You can also mark your calendar for April 18th which is “Oklahoma, Parks on the Air” day. This will be a genuine POTA activation probably from Keystone State Park—we are still working out the exact location within Keystone. If you're interested in POTA and want to see how it really works, come on out. Someone should be there all day long so no excuses as to why you can't be there. You'll see the radio and antenna setup, how easy it is, how they log contacts, what “park to park” is and other POTA dos and don'ts.

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 (2M/440 and/or HF antenna like an end fed wire)
- (4) Working satellites
- (5) A Zoom Tech meeting—like Tech Night only over Zoom.
- (6) What about DMR?
- (7) Member Spotlight where we show off a club member's station
- (8) The Basics—for the new hams.
- (9) Find an Elmer—we just did an Ask the Experts night.

The TARC Trailer Team has already been working...

On several projects inside and outside the trailer. The club has eight Trailer Team members and several who are able to tow the trailer from its new storage location to wherever it needs to be for an event.

Trailer Team members are:

Cody, KJ5JDO, Team Leader Greg, AI5HV Robbie, W5RML Gabe, KJ5JOW
Rusty, KJ5MGC David, N5DMK Tim, KI5ZDF Cory, KJ5LAM

Trailer Team advisors are:

Steve, KF5VCQ Jack, W5JHC Paul, WB5ANX

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. Having members available to tow the trailer means that it is always ready and available for set-up in a very short amount of time. Can you tow the trailer? Let us know, and we'll put you to work. Thanks!



Used with permission from the ARRL

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 re-newed 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. Any suggestions? You can purchase your raffle tickets at the same time as you pay your yearly club dues at the membership table.

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 OKMRC⁹ badge that gives you access to the places where amateur radio operators can help with communications during emergencies. OKMRC badges are FEMA¹⁰-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.

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 +/- QRM¹¹
- NCO¹² training, ARES training—TBD¹³ 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 POTA¹⁴ or SOTA¹⁵. Call CQ¹⁶. 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.

LiFePo Battery Power Supply

—Rich, WA5ZQG

These are not the batteries you're looking for; it's the Lithium-ion rechargeable batteries that explode. Lithium-iron-phosphate (LiFePo) batteries are relatively safe. Lithium-ion cells in your rechargeable flashlight, portable vacuum, and other devices

may, on the rare occasion, short-out and cause a fire. Tesla vehicles should be programmed to operate the garage-door opener and back up 30-feet if they detect a temperature rise in the battery pack.

If you are new to the hobby you've probably been advised to buy a regulated 12V power supply for \$150 or more, and if you are an experienced operator, you probably need another. Here's an alternative: Buy a used 100 Amp LiFePo off Ebay, for around \$120, and a Lead Acid 3 A trickle-charger at Walmart for \$25. LiFePo batteries can be charged over a thousand times, and operate virtually all the time in the 13- to 13.5-Volt range, and also work well when utility power fails. I'm writing this the weekend of a big snowstorm.

At a conservative thousand charge cycles, once a week (50×20 yrs) will last longer than you will. They specify 14.4 Volts max, but it turns out they're 99% charged at 13.5 or so which makes a Lead Acid charger that cuts off at 13.8 or 13.9 like mine, a cheap way to charge, and it doesn't ever get close to the BMS (Battery Management System) cutoff built into these things.

As you can see in the picture, I've added a digital Voltmeter (DVM), bought on Ebay for \$10, and leave it there permanently connected just so I know. The Astrons cost fifty bucks more with meters. These digital volt meters cost ten to fifteen dollars and, like meters, are a comforting sight, just not very accurate. Mine are both 0.2V low.



You can leave the DVM connected all the time because they use about 12 mA (green) or 18 mA (red), and that means 2000 hrs, three months time, will use only about 24 to 36 Ah of the 100 available. A couple of weeks glowing won't matter.

These are the best arguments for a LiFePo battery:

- (1) Up to 50-Amp draw.
- (2) No fan needed, however don't leave it in the sun at Field Day nor outside at Winter Field Day.
- (3) Lower cost than a 30 or 50-Amp Astron.
- (4) Works when AC power fails. Great for POTA.
- (5) Different. You get bragging rights.

NanoVNA Guide to Basic Operation

—Andrew, W5AWS

We have many newly licensed operators who may be wondering where to go and what to do in the hobby. One of the most basic measurements an operator needs to know is how to find out the SWR along the feed-line between the transmitter and the antenna. SWR is a measure of the energy reflected back to the transmitter from a mismatched load—an antenna is a load—which is important because too much reflected energy can damage the transmitter power-amplifier. Usually, an SWR of 2:1 or less is considered a close enough match for normal operations.

Today, Amateur Radio operators are lucky to have available to them cheap, highly portable test equipment. For measurement of SWR a Nano Vector Network Analyzer (NanoVNA) is an excellent piece of test equipment to have in one's pocket; problem with this is that the device doesn't come with clear instructions on its use; here we offer clear guidance in the Portable Document Format (PDF) attached to this newsletter, or you can also download it via this link while the link remains active:



- <https://drive.proton.me/urls/7KZFDBJV74#NckNVVV5gIDZ>

ARES Volunteer Getting Started Checklist

—Mark, WA5MA

For anyone who is interested in volunteering to be part of the Amateur Radio Emergency Service (ARES), Tulsa County has a *New Member Getting Started Checklist* reproduced here. You can find the full one-page, printable checklist attached to this newsletter.

INTERESTED IN BECOMING AN ARES VOLUNTEER?



**AMATEUR RADIO EMERGENCY SERVICE
TULSA COUNTY**

New Member: Getting Started Checklist

ARES Sign-Up

- Go to <https://www.w5ias.com>
- On the home page, click the ****ARES OK**** link
- From the dropdown menu, click ****Sign Up**** (Tulsa County ARES Sign-Up Form)
- Complete the sign-up form as thoroughly as possible
- Click ****Submit**** to send your application
- Check your email for an acknowledgment confirming receipt
- Respond to any follow-up requests for missing information
- Once accepted, verify you are added to the Tulsa County ARES Volunteer Database

Getting Started on the Website

- Return to the website header and click ****ARES OK****
- Review the ****ARES Officers**** list
- Review the ****ARRL and ARES information**** on the page
- Under ***For More Information About ARES Oklahoma***, review links to ARESOK.org
- Note the listed contact information for questions

Download & Print Required Documents

- Download - ARES Tulsa County Position Taskbook V3.2 (PDF)**
 - Download - ARES Tulsa County PTB Info V2 (keep in your Taskbook)
 - Download - ARES Tulsa County Deployment Checklist V3 (keep in your Taskbook)
 - More info, - ARES Tulsa County ARRL EMCOMM V1 (keep in your Taskbook)
- [ARRL Emergency Communication \(EmComm\) Training Materials](#)

Begin Taskbook Progress

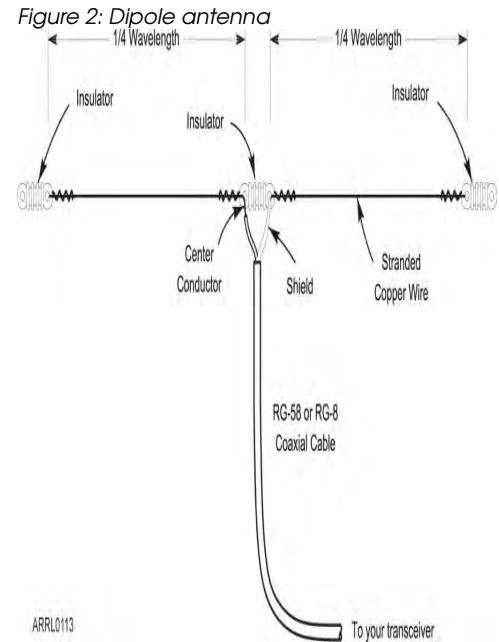
- Start working on ****Level 1**** tasks in your Position Task Book (PTB)
 - Track completion of each required task
 - Upon completing Level 1, contact ****Paul WB5ANX**** for sign-off
- Questions??? Send an e mail to ares@w5ias.com

Antennas: Modeling, UnUns & the End-Fed Half-Wave Part-2 of 3

—Mark, KD5SMF

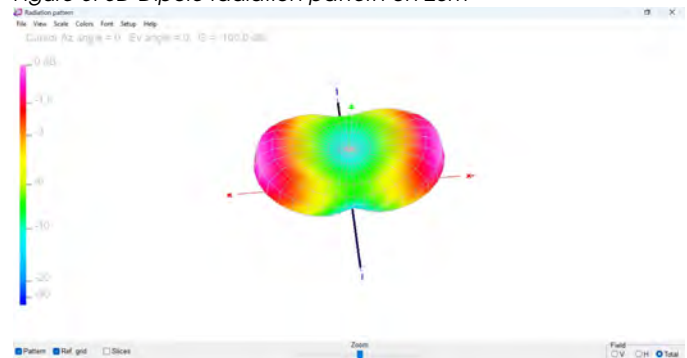
Part one of Antennas last month, I introduced antenna modeling only briefly and had a radiation pattern of a J-Pole antenna. I would like to give you, the reader, a much better explanation of why we should use antenna modeling before beginning an antenna project. By studying the basic antennas that are commonly used within our hobby, the new ham radio enthusiast can learn a great deal by playing with the modeling software and studying the radiation patterns of different antennas.

I often use the MMANA antenna software over the EZNEC because I feel that it is more user-friendly. I am not a radio engineer, and I will not bore you with Physics and Antenna Theory. I am a more practical user of the software applications, and I want to see results just as you do. So for our discussion I will be using MMANA antenna software and its useful features that produce the 3D-model of the antenna radiation patterns.



Again we start with the common Dipole Antenna shown in Figure 2 above. We can see in Figure 3 that the Dipole Antenna has an excellent radiation pattern and the antenna has nearly 360 degrees of horizontal polarity. Also, the “takeoff angle” one hears the most about is between 5 and 20 degrees towards the horizon, which gives the antenna 6.6 Dbi Gain at a height of 10 meters above real ground. Real ground is what we all deal with no matter where you live. “Free Space” is a theoretical term reserved for engineers who design antennas inside a laboratory where complex measurements can be made.

Figure 3: 3D Dipole radiation pattern on 20m

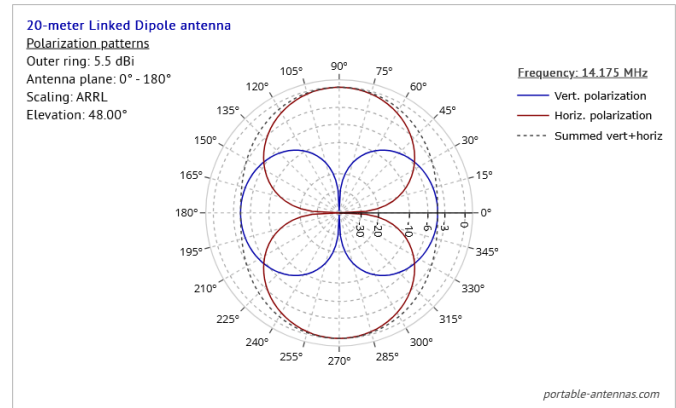


“In free space—with the antenna remote from everything else—the theoretical impedance of a physically half-wave long antenna made of an infinitely thin conductor is $73 + j 42.5\Omega$. This antenna exhibits an inductive reactance at its feed point. The antenna is slightly long electrically, compared to the length necessary for exact resonance, where resonance is Zero.”¹

1 ARRL ANTENNA HANDBOOK 20TH ED PAGE 2-1

Always measure the length of the antenna wire a little longer than needed to allow for “tuning to resonance”; hence the saying measure twice and cut once. We view an antenna plot with the horizontal polarization in red, and the vertical polarization in blue; this gives you the visual representation of the antenna performance over a specific height above ground. As you can see, this is why a dipole is so popular among amateur radio operators worldwide. The downside of a dipole is the need for a vertical support at the feed point, and for the ends of the antenna. I have had to throw paracord over two trees and have the feed point supported by another branch to hang the antenna into its horizontal plane, which is not always easy to do for portable operations.

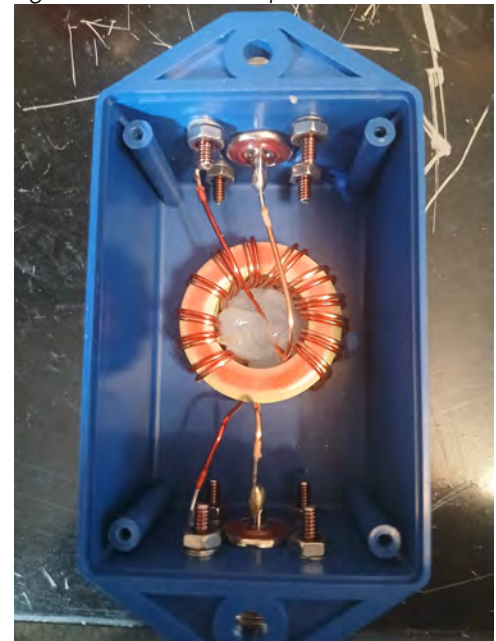
Figure 4: 20m dipole ant plot (portable-antennas.com)



What is a Balun, UnUn and what are they for?

A Balun or UnUn is simply a transformer placed in-line with the feed-point of an antenna. Balanced-to-unbalanced, and unbalanced-to-balanced. An example of this is the G5RV, and an End-Fed Half-Wave antenna. “The G5RV is a balanced antenna fed with a balanced 450 ohm line that terminates in a SO-239 connector. When feeding this antenna with an unbalanced line, such as coaxial cable, it is a good idea to use a 1:1 choke BALUN at the coax to feed point connection. The balun will reduce or eliminate parallel currents on the outside of the coax shield. This will prevent or reduce RFI, RF feedback, RF burns, and other effects of excessive RF in the station.”²

Figure 5: LDG 1:1 UNUN - photo KD5SMF



An End-Fed antenna has advantages over a dipole antenna. First the feed point of the antenna is near the ground, and the antenna wire needs support only at its end, or in the center. Second, the end fed antenna can be made to suit the needs of the operator in the field. Inverted V, or L, and it is easy to set up.

A typical end fed antenna uses a 49:1 unun; however, you can also use 4:1, or a 9:1 UnUn:

² MFJ-1778 G5RV Multi-band antenna user guide

- These are known as transmission line transformers, which are wound by forming bi-filar turns, multi-filar turns, coaxial cable, or strip-line cable—two strips of flat conductor with a dielectric material between the strips on a core having high permeability.
- 4:1, i.e. 1:4 ($Z_{out}=200$ ohms) are used for off-center fed (OCF) antennas, Zepps, and 43 ft multi-band verticals, and wire antennas which are random length and non-resonant.
- 9:1, i.e. 1:9 (450 ohms) are used for random lengths of non-resonant antenna types.
- At low frequencies, like all transformers, they require adequate primary inductance at the lowest frequency.
- Transmission line transformers exhibit a very wide bandwidth (1-54 MHz), high power capability, and high efficiency.

I have used a 4:1 unun, Figure 6, to make several antennas from Walt Hudson, K4OGO's book, Salty Walt's Portable Antenna Sketchbook. The first being the Rybakov Vertical antenna on 20 meters.

Figure 6: LDG 4:1 Unun



The 4:1 is also an excellent performer as a Delta Loop antenna for 40 m, and it is multi-band by using a manual or automatic tuner at the transceiver.

The 9:1 Unun, Figure 7, I have used to make a Sky Wire Loop antenna for 40 meters, and using a manual or automatic antenna tuner it helps give very good multi-band performance. Note also that in Walt Hudson's book, he uses the 9:1 to make several antenna types including end-fed random wire antennas. *Coastal Waves & Wires* has a short YouTube video about Baluns & Ununs and understanding their role in building antennas, which you can see by following this link:

Figure 7: LDG 9:1 Unun

- <https://www.youtube.com/watch?v=utgfXWC6SH8>

The 49:1 unun is the most commonly used for End-Fed Half-Wave Antennas. After researching the cost of a commercially manufactured unit, I decided to make my own. After all that's what Hams do, experiment and build their own antennas and equipment. I chose to use a Fairite T140-43 toroid because of its size and also I don't use a linear amplifier. My stations maximum output is 100 watts, so I built mine with a 100 Picofarad 1 kV capacitor. I chose to use DX-10 antenna wire from the DX Commander, which I



bought through DX Engineering. Each spool is 384-feet and costs \$81.99. This antenna wire is flexible even in extreme-cold temperatures (-40°F), and as never become cold-worked, kinked, or subject to breakage. During testing, Callum McCormick, CEO of DX Commander purposefully ran 2 kW of RF power through his antenna system without a failure.

The weakest part of my end-fed antenna system has been my fiberglass push-up poles. I use the DX Commander classic 10-meter pole, which requires guy-rope. They sometimes slip down during the summer months due to expansion, and I have had them blown over during a strong wind or thunderstorm. These poles are strong however, but they can be broken if one is not careful.

Testing an Unun

How do you test a transformer to check its performance? You place two or three 1 kΩ resistors in series from the antenna connection to the ground connection, and then use your antenna analyzer to sweep the band of interest for SWR. I have included a link to a video by Andrew, W2AEU, in which he builds the ARRL EFHW Kit by HF Kits:

- https://www.youtube.com/watch?v=7XUWOSy_CVE

Performance of the EFHW is well known. Let's look at some EFHW antenna plots to see its radiation pattern:

This is an Inverted L, and as you can see it is bidirectional. The advantage is that you can adjust how you want the radiation pattern to go North/South or East/West. This can be rotated by changing the horizontal wire's orientation. Note that this Inverted-L is considered a vertical antenna, and it does require counterpoise wires. On my own EFHW antenna I use a single counterpoise wire that connects at the transformer and is two meters in length. I terminate it into a copper tubing left over from another antenna project to serve as a ground.

With the radiation pattern removed, Figure 9, you can see a better view of the antenna orientation, and yet the grid gives you the radiation pattern around the antenna. What I like about an EFHW antenna is that its versatile and can be used just about anywhere. Many Hams use

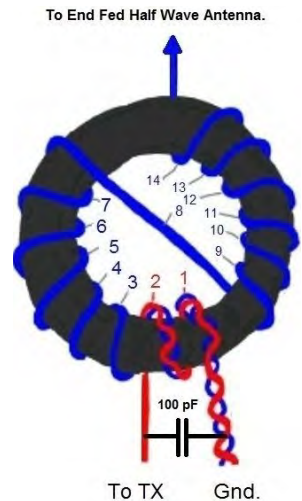


Figure 8: Inverted-L radiation pattern

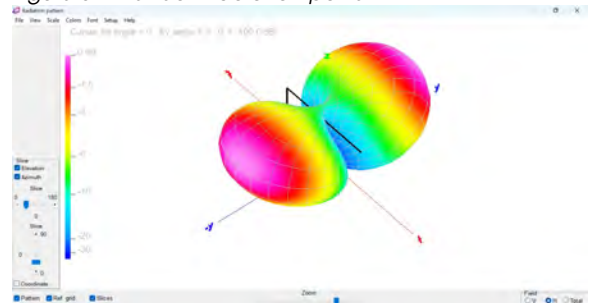
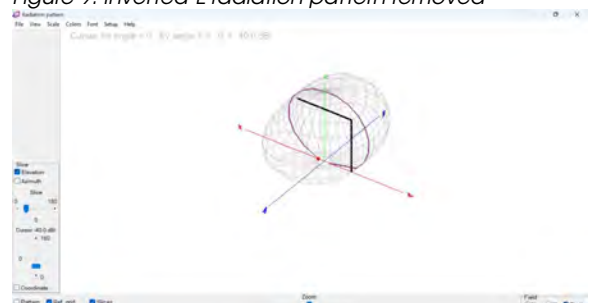


Figure 9: Inverted-L radiation pattern removed



one in their kit for QRP operations and POTA. It is also a multi-band antenna that is a strong performer.

Figure 8 and Figure 9 are from the MMANA antenna modeling software.

For more information about antenna modeling, I have included a link below to the DX Commander Introduction to Antenna Modeling. It is a video podcast and is 46 minutes long. However, he gives a more thorough instruction on antenna modeling than what I can do in this article.

- <https://www.youtube.com/watch?v=dgBcYy6kwWs>

Antenna modeling is an important tool for any Amateur Radio operator to use, and I have often just played with the software designing antennas without building the designs I have produced. This is how one learns by doing and not just by reading in a book. EZNEC software is also a powerful tool. However, unless you use it frequently enough, one can get frustrated with it. Modeling an antenna takes a little time and effort producing the benefits that one's learning is enhanced greatly by doing so. So far we have talked about Dipoles and End-Fed antennas. Next month, I will discuss vertical antennas, and directional antennas and their advantages over other antennas.

Until then, 73's Mark, KD5SMF.

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	K15WDD	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	K15WDD	
	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 Guillaume	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 2/28/2026	Fund			Current Mo Total	Year to Date	Current Yr	
	General	Hamfest	Sinking Fund			To Date Budget	Prior Yr Total
Cash balance beg of period	5,557.88	1,073.58	7,151.81	13,783.27	13,802.52	13,977	13,976.92
Receipts							
Dues	120.00	-	60.00	180.00	280.00	390	5,820.00
Sale of radio equipment	-	-	-	-	-	-	685.72
Green Country Hamfest	-	-	-	-	-	-	-
Raffle	-	-	-	-	-	-	961.00
Centennial dinner	-	-	-	-	-	-	55.00
Contribution	-	-	-	-	-	167	1,152.40
Interest	-	-	3.21	3.21	6.96	7	40.75
Miscellaneous	6.00	-	-	6.00	6.00	-	3.00
Total deposits	126.00	-	63.21	189.21	292.96	564	8,717.87
Disbursements							
Green Country Hamfest	-	-	-	-	-	-	-
3 tables & 1 electric drop	-	-	-	-	-	55	55.00
Radio Equipment	-	-	-	-	-	-	1,538.34
Door prizes	-	-	-	-	-	-	100.00
Centennial expenditures	-	-	-	-	-	-	4,302.83
Insurance	-	-	-	-	-	-	619.51
PayPal fees	6.54	-	-	6.54	10.01	18	151.03
HF University	-	-	-	-	-	-	-
Field day	-	-	-	-	-	-	658.50
Ice cream social	-	-	-	-	-	-	162.66
Domain & Website	44.55	-	-	44.55	89.10	89	673.65
Mail Box	-	-	-	-	-	-	180.00
Miscellaneous	-	-	-	-	74.98	-	154.45
Christmas	-	-	-	-	-	-	296.30
Maker Faire	-	-	-	-	-	-	-
Trailer & related	1,431.16	-	-	1,431.16	1,431.16	-	-
Total expenditures	1,482.25	-	-	1,482.25	1,605.25	162	8,892.27
Transfers into fund	1,750.00	-	100.00	1,850.00	-	-	-
Transfers out of fund	(1,750.00)	-	(100.00)	(1,850.00)	-	-	-
Cash balance end of period	4,201.63	1,073.58	7,215.02	12,490.23	12,490.23	14,379	13,802.52
Summary by Account							
Checking	1,207.29	-	100.00	1,307.29	-	-	-
Savings	2,976.13	1,073.58	7,115.02	11,164.73	-	-	-
PayPal	18.21	-	-	18.21	-	-	-
Total	4,201.63	1,073.58	7,215.02	12,490.23			
TARC tax return filed 2/12/26							

Jerome Weikel:
QSL Cards


Jerome Weikel:
Generator 1095.16
Propane conv kit 319.13
Propane tank
splitter with gauge 16.87
Total 1,431.16

Track Your Ham Radio Skills

—via Mark WA5MA





Skill Tree: Color in the boxes and level up your skills






Use for individuals or as a group by picking a colour each and coloring in a part of the box. Everyone's journey is different and you can interpret the goals flexibly. The aim is to inspire you to learn and try new things. Not everything needs to be completed.

ADVANCED

BASICS

START  **HERE**

1 tile = 1 point

Total Score

Glossary

ARES.....Amateur Radio Emergency Service.

ARRL.....Amateur Radio Relay League.

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.

HF.....High Frequency—3 to 30 MHz.

HT.....Handheld Transceiver.

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.

OKMRC.....Oklahoma Medical Reserve Corps.
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 FCC—Federal Communications Commission.
- 6 HT—Handheld Transceiver.
- 7 PTT—Push To Talk
- 8 *kerchunk*—A technical term peculiar to the operation of repeater systems. An onomatopoeia expressive of the sound heard when the PTT of a transceiver is briefly pushed 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.
- 9 OKMRC—OKlahoma Medical Reserve Corps.
- 10 FEMA—Federal Emergency Management Agency.
- 11 QRM—On-frequency interference. Telegrapher's Q-code abbreviation.
- 12 NCO—Net Control Operator.
- 13 TBD—To Be Determined.
- 14 POTA—Parks On The Air.
- 15 SOTA—Summits On The Air.
- 16 CQ—Seek-You, telegraphers abbreviation requesting contact from anyone hearing.