THE SIGNAL

Newsletter of the Bella Vista area Radio Club

Arkansas' Largest Amateur Radio Club

- ADLEST Grand Opening
- Community Outreach Team – 'Time to Paddy'
- BVRC POTA 101 Day Getting Close
- Experimenter's Corner – Grid Dip Meter & Hamfest Treasures
- Budget Antennas for the 10-Meter Band
- More Power to You!
- Amateur Radio License Plates
- DXCC Den - Libya

APRIL 2026

Monthly Meetings: 1st Thursdays @ 7 p.m.
Arkansas Law Enforcement Training Academy (ALETA)
3424 S. Downum Road, Springdale AR

(HAM 101 Workshop for Newcomers @ 6pm preceding meeting)

Club Calls: N5BVA / W5NX

(Repeater Nets) (Contesting, Operating, Special Events)

BVRC Twin Linked Repeaters:

Bella Vista: 147.255 +600 khz offset, pl 162.2

Springdale: 444.100 + 5 MHz offset, pl 162.2

Website: www.bellavistaradioclub.org

BELLA VISTA RADIO CLUB ARKANSAS

The Largest Amateur Radio Club In Arkansas!

Serving members in northwest Arkansas, southwest Missouri, & northeast Oklahoma

WEEKLY BVRC NETS

HAM 101 NET

Mondays @ 7 pm on the
WX5NAS Skywarn Link System

Bentonville – 146.865, -offset, pl 103.5
Springdale – 147.315, +offset, pl 97.4
Fayetteville – 147.315, +offset, pl 110.9
Huntsville – 443.625, +5 MHz, pl 97.4
Green Forest – 145.310, -offset, pl

LEGACY NET

Wednesdays @ 7 pm on the
BVRC Dual Linked Repeaters

N5BVA/Bella Vista
147.255, +offset, pl 162.2

N5BVA/Springdale
444.100, +5 MHz, pl 162.2

3830 ROUNDTABLE

Sunday Afternoons
4:00 pm during CST
4:30 pm during CDT

3.830 MHz

SOCIAL JUNCTION NET

Sundays @ 7 pm on the
WX5NAS Skywarn Link System

Bentonville – 146.865, -offset, pl 103.5
Springdale – 147.315, +offset, pl 97.4
Fayetteville – 147.315, +offset, pl 110.9
Huntsville – 443.625, +5 MHz, pl 97.4
Green Forest – 145.310, -offset, pl

SLOW SCAN TV NET

("The Slow Scan Show")

Fridays @ 7 pm on the
BVRC Dual Linked Repeaters

N5BVA/Bella Vista
147.255, +offset, pl 162.2

N5BVA/Springdale
444.100, +5 MHz, pl 162.2

NEXT BVRC MONTHLY MEETING

THURSDAY, APRIL 2, 2026 @ 7PM
ARKANSAS LAW ENFORCEMENT TRAINING ACADEMY
3424 S. DOWNUM ROAD
SPRINGDALE, AR

April Meeting Information

HAM 101 Workshop, 6pm preceding monthly meeting – Signal Editor Don Banta – K5DB will be on hand for the April workshop to discuss one of the very popular aspects of amateur radio – Competitive Operating. Don will be highlighting how to get involved with competitive operating, along with the advantages and benefits of this fun and exciting area of our hobby. Newcomers can add the information from Don's demonstration to their "amateur radio encyclopedia". See you then!

BVRC April meeting, 7pm – BVRC member Brian Harris – WA5UEK takes center spotlight for our March meeting with his presentation, "New Life for Old Radios". Brian was first licensed in 1967 and has maintained his original call sign since that time. His is a veteran serving two tours in Vietnam. One of Brian's passions is classic radios of which he has many. He has devoted the majority of his time in amateur radio in collecting, restoring, and using vintage amateur radio equipment. Some of his topics will be: Why older radios, how to resurrect and maintain an older radio, and suggested types and models for restoration. This will be the first program of its kind on classic amateur radio, so be sure and be there.

SEE YOU THEN!

BOARD MEMBERS

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wb5jan@arrl.net

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wq5t@arrl.net

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Board Member At Large & Public Information Officer
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Nets Committee
Chair: Dana Widboom – KI5TGY
dcwidboom@gmail.com

Membership Committee
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w5xna@arrl.net

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Chair: Alex Smith – KI5EQK
ki5eqk@gmail.com

W5NX Trustee & Club Station Mgr.
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Newsletter Editor
Don Banta – K5DB
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FROM THE DESK OF THE PRESIDENT

Where Are You on Your Amateur Radio Journey?

Conversations Overheard from Our Membership

One of the joys in serving our club is being able to enjoy all the opportunities for fellowship and sharing that our club meetings, activities and weekly nets provide. It's during these times that a casual observer can tell how much our club has grown with new members and amateurs beginning their amateur radio journey joining our club's Elmers, whose expertise rivals amateurs anywhere.

Here are a few snippets of questions overheard from our members demonstrating the breadth of our hobby and the diversity of our members' experience. I'm happy to report that all these questions were answered by members who were further down their amateur radio journey!

"Well, I just got this end fed half wave antenna at the Joplin Hamfest after I passed my General. My SWR is way off, how do I adjust this thing?"

"Wow, I just got this new HT at the club meeting. How do I tell if it does the digital stuff you guys were just talking about?"

"OK, I was just told that the reason I'm not connecting to the Bouvet Island DXpedition is because they are running "split". What is that?"

"I just got comfortable learning FT8 on my new Yaesu 710. Now I heard that I have to be in "fox and hound" mode. Is this like fox hunting with my HT?"

"This Slow Scan TV mode on the Friday night net is great. Is this the newest digital mode to come along?"

"I bought this multiband HF vertical antenna at the Claremore Hamfest. I was told that the great thing about this antenna is that I didn't need to set up any radials, which I was excited about. Is that really true?"

"So, when do I know when the best time to be on the different HF bands is with my new-to-me 7300? Is there some rule?"

If you know the answer to all these questions, think back to the beginning of your amateur radio journey. While these questions might seem to be common knowledge to you now, there was probably a time when you had similar questions at the beginning of your amateur radio journey.

I am so proud of our club's membership that new amateurs feel free to ask these questions in a supportive and helpful environment that is a major part of our BVRC culture. Thank you all for helping our newest members enjoy their new hobby!

73 – Jan, WB5JAN

Annual "Ask The Elmer" March Program Is Another Big Hit

The record-busting attendance at BVRC's March meeting was indicative of the several suggestions from last year that the Club make the "Ask The Elmer" program a yearly event. For the first time since BVRC made the wonderful ALETA facility its new home four years ago, it was Standing Room Only. – 85 attendees were present for what resulted in a super informative evening from BVRC's panel of experienced Elmers (mentors).

Our Elmer panel, to be sure, did not disappoint in providing sound advice and quality answers to the many questions posed to them throughout the evening. But the most exciting element of the meeting was the stellar questions posed by attending members on a plethora of varied subjects. The most numerous questions of the evening were on antennas. Dr. Bill Durham also did another great HAM 101 Workshop to a packed room with this month's topic: "Ohm's Law – 2". Thanks Bill!

Another BIG "Thank You" to our outstanding Elmer panel for another job well done! We appreciate you!

The BVRC "Ask The Elmer" panel, L to R: Chuck Korzendorfer-KM5G, Stan Stockton-K5GO, Mark Whatley-K5XH, Tem Moore-N5KWL, Bill Durham-KG5ZCI, Robert Hill-K5NZV, James Bennett-KA5DVS, Murray Harris-W5XH, and Vinson Carter-WV5C.

Arkansas Division of Law Enforcement Standards and Training Conducts Grand Opening and Dedication of New Facility

On Friday, March 20, ADLEST – the Arkansas Division of Law Enforcement Standards and Training – held an open house and dedication ceremony of their new training edifice, which is now adjacent to BVRC's meeting and club station home, ALETA – the Arkansas Law Enforcement Training Academy.

A small group of officers and leadership team members proudly represented BVRC at the gala celebration. The dedication service was conducted by many top law enforcement and political officials, as well as a virtual address by Governor Sarah Huckabee Sanders.

The new facility features first class training facilities and other amenities, which has culminated in, and exponentially improved, the ALETA complex.

The event was covered by several NW Arkansas television stations and news outlets, with a handsome dedication cake provided for event attendees.

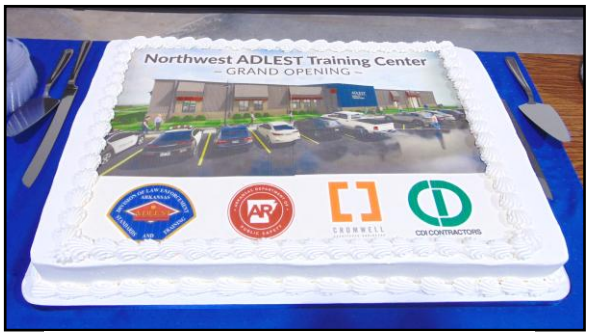
Following the formal ceremony, the grounds were open to all guests to tour the various training sections such as the

Representing Bella Vista area Radio Club for the ADLEST Grand Opening were (LtoR) President Jan Hagan-WB5JAN, Vice-President Kathy Bromley-WQ5T, Signal newsletter editor Don Banta-K5DB, and BVRC Net Coordination Chair Dana Widboom-KI5TGY.

search and rescue / hostage situation rooms, firing range, classrooms, kitchen, laundry room, and bunk rooms.

BVRC congratulates ADLEST Supervisor Clint Scrivner, Senior Agent and BVRC Liaison Greg Harrision – K5GKH, and their staff on the addition of this wonderful facility.

Incidentally, with all the different state agencies and acronyms along with the addition of the new training facility, President Jan posed the question to Clint as to how the Club should regard and refer to our club meeting home. Clint advised that 'ALETA' will still suffice as a reference term to our club meeting location. Technically, ALETA is a subsidiary of ADLEST with both entities being under the overall umbrella of the Arkansas Department of Public Safety (DPS). *(Photos courtesy WB5JAN and K5DB)*



ADLEST grand opening cake

Dana and Kathy try their hand on the new ADLEST firing range

Kathy with a bomb squad robot friend during one of the day's many demonstrations

BVRC VE REPORT
From Don Banta – K5DB
BVRC VE Coordinator
March 2026

Congratulations!

Justin Redman – KJ5NVW – New Amateur Extra!

Brent Hedrick – KJ5OIL – New General!

Scott Sitton – KJ5PCD – New General!

Mike Neimeyer – K5PMH – New General!

Ava Lopez – KJ5PDF – New Technician!

Jennifer Lopez – KJ5PDG – New Technician!

Nicholas Lopez – KJ5PBM – New Technician!

Next month's exam sessions:

- ***April 4, 10 am – Shiloh Museum, 118 W. Johnson Ave, Springdale***
- ***April 18, 2 pm – Bella Vista Public Library, 11 Dickens Place, Bella Vista***

If you wish to test, you must register for an exam session.
To register, and for additional instructions,
go to the TESTING tab on the BVRC website:

https://bellavistaradioclub.org/testing/

BVRC Community Outreach Team Assists with *Time to Paddy* Race

The BVRC Community Outreach Team gained yet another milestone as they assisted with the St. Patrick's Day themed "Time to Paddy" race held on March 14 at Veteran's Memorial Park in Fayetteville. The race was sponsored by Bodies Race Company and was attended by around 200 racers participating in the 5K, 10K, and half marathon.

Congratulations to the BVRC C.O.T. for another public service event well done!

From L to R: Davis Parry-Bodies Race, Bob-KB5YFH, Carla-KI5KTE, Alex-KI5EQK, Dan-KJ5HCO, Joe-W5AEN, Viviana-KJ5OJB, and Chris-KE4EIF

Viviana, Carla, and Joe prepare the portable Net Control Station

It is with deep regret that we report the passing of BVRC club member Linda Morrow – KD5ANL of Rogers.

Linda is the XYL of Buster – AD5AM, a long time BVRC member and well-known operator in the NW Arkansas amateur community. Buster and Linda have been regular check-ins to BVRC nets for many years.

Linda passed away March 13 at the age of 80. Linda worked for Emerson Electric for over 22 years, where she did factory work assembling motors and other items, until the company went out of business. She later worked for House of Webster in Rogers.

Please keep Buster in your thoughts and prayers.

('Thanks' to Steve Werner-K5SAW for this information.)

The first major Bella Vista area Radio Club event of 2026 is drawing near – BVRC POTA 101 Day. *The event will take place from Friday, April 10 – Sunday, April 12.*

Operation will be on the HF bands. All club members are invited to participate. If you have General or higher license privileges, you can make contacts using your personal call on Friday and Sunday.

On Saturday, April 11, from 12:00 pm – 6:00 pm, BVRC will operate solely as club station W5NX and any club member, regardless of license class, will be able to make contacts as there will be a control operator present (similar to Field Day operation). We will be activating Beaver Lake Wildlife Management Area, POTA # US-7262.

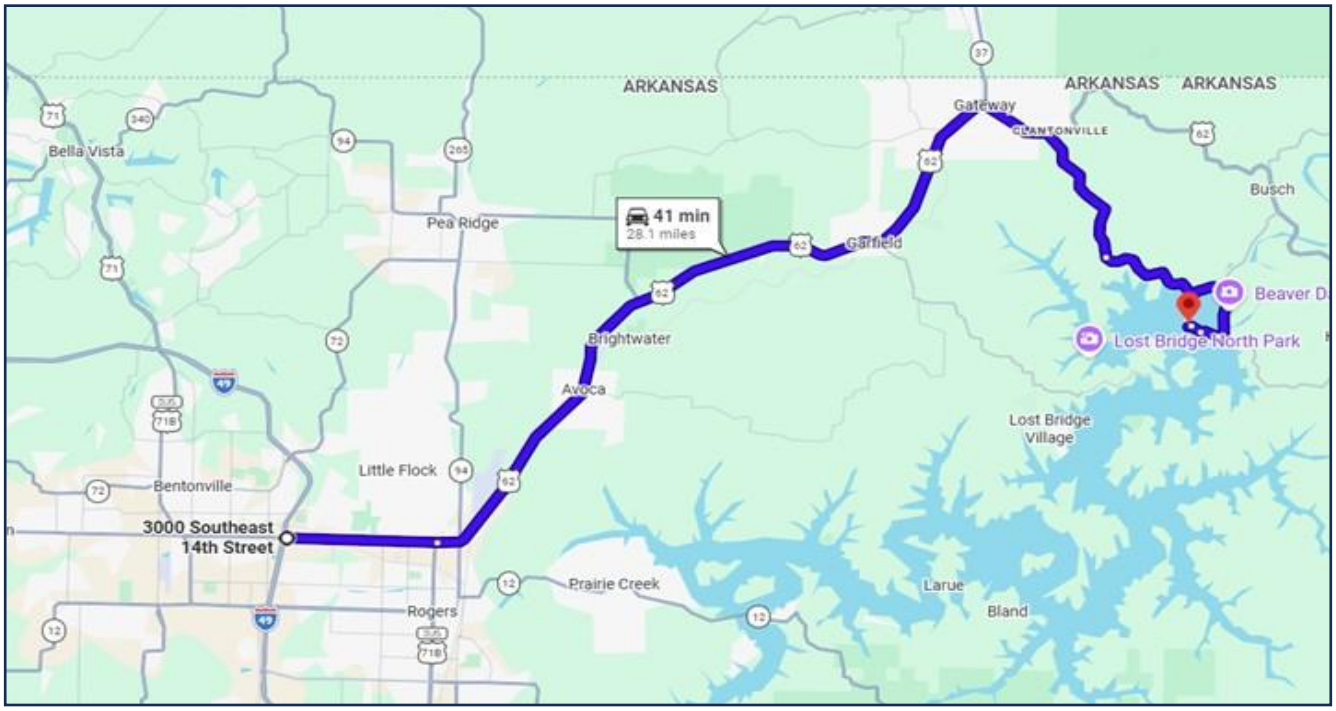
Here is the main event information:

When: Friday, April 10 - Sunday, April 12, 2026
(BVRC Membership POTA 101 Day, Saturday, April 11th)

Where: Beaver Dam Site Lake Campground:

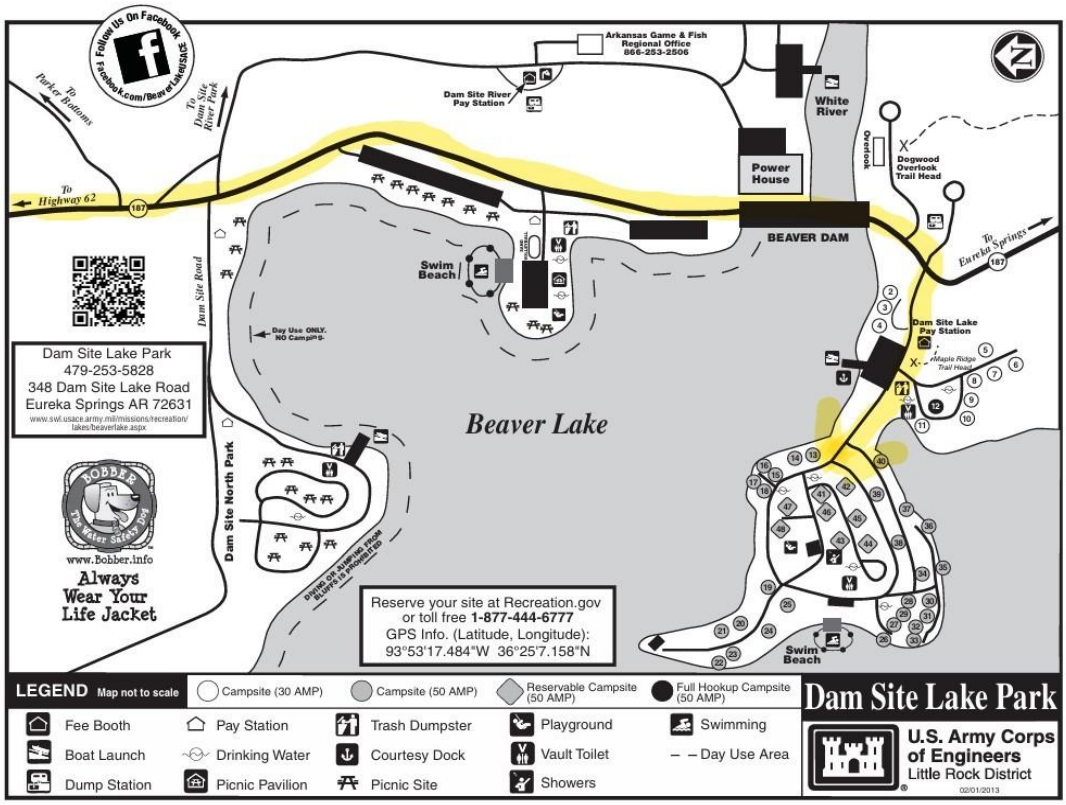
Check In: For those wishing to camp, check in is at 4:00 pm on Friday at the campground Kiosk. You must first reserve a site at: **https://www.recreation.gov/camping/campgrounds/234651.** Reservations are still available for the event dates.

BVRC Membership POTA 101 Day: Saturday, April 11, from Noon to 6:00 pm, featuring a Potluck meal at 4:00 pm.



Directions to the Campground:

1) From I-49 take exit 86 for US 62 E/Arkansas 102/SE 14th St head EAST 3.1 mi.
2) Turn left to stay on US-62 E for 24.3 mi.
3) Turn right onto Hwy 187 for 3.2 mi
4) After crossing the Beaver Dam, turn right onto Beaver Park Rd
5) Check in at Kiosk and bear right to access the island campsites



BVRC Club POTA Activation and Potluck Dinner at the Beaver Dam Site Lake Island Campground Saturday, April 11, 2026 – Noon to 6:00 pm

Join us for BVRC Club POTA (Parks On The Air) Activation Day and a great potluck dinner on Saturday, April 11th between noon and 6:00 pm.

This event is designed for club members who want to learn more about POTA activations. It is specially designed as a HAM 101 event for new amateurs with Technician licenses who want to learn more about HF operations from our POTA Elmers. We will be using our club event call, W5NX. Propagation is incredible from this small island campground as you might expect so we will have plenty of "POTA Hunters" calling us.

It is also designed for members who want to join in the fun, food, and fellowship of a club gathering on Beaver Lake!

If you are interested, please RSVP to participate and to help us plan the Potluck Dinner

- *You can RSVP your attendance by sending an email to WB5JAN@arrl.net* ***before April 2, 2026****.*
- *Those who RSVP will be sent a confirmation email with driving directions to the event.*

If you RSVP to attend and to join in the fun, bring:

1) A Potluck dish to pass to add to the Angus cheeseburger main entrée (warm entrée, side dish or dessert)

2) Warm clothes for a cool spring day and evening.

3) Folding lawn or camping chairs and a small TV tray or table for dinner

We hope to see you on the island!

EQUIPMENT CORNER

FOR SALE

ICOM ID-52A: **A** VHF/UHF dual-band handheld transceiver designed for amateur radio operators, featuring both conventional FM and D-STAR digital communication modes. It supports D-STAR simplex, repeater, regional, and worldwide calls via the D-STAR Internet gateway, enabling clear digital voice and data transmission, including text messages, GPS location, and picture sharing.

Some key features include:

- 2.3-inch color display (320 x 280 pixels), larger and more visible than the ID-51A.
- MicroSD card slot (up to 32 GB) for QSO recording, voice memory, pictures, and GPS logs.
- Dualwatch capability for simultaneous monitoring of V/V, U/U, or V/U bands, including DV/DV simultaneous decode.
- Improved heat dissipation and 750 mW audio output for louder, clearer sound.
- USB Type-C port for charging, PC programming, terminal/access point mode, and CI-V control.

This unit is in *like new* condition. Comes with everything from the factory including owner's manual and original box.
(You won't find one any cheaper in this condition.)

MSRP NEW: $550.00 + tax
ASKING PRICE: $300.00

If interested, contact Dirk – N5PEF:
n5pef.dea@gmail.com

WELCOME NEW BVRC MEMBERS!

Jacob Campbell – KI5LMN – Fayetteville
Kenton Redlin – Call Pending – Bentonville
Vincent Lopez – KM4SET – Wesley
Jennifer Lopez – KJ5PDG – Wesley
Ava Lopez – KJ5PDF – Wesley
Nicholas Lopez – KJ5PBM – Wesley
George Bradt – KJ5PDV – Centerton
Terry Heimel – KJ5OUK – Gentry

THIS MONTH'S TOPIC:

Grid Dip Meter & Dardanelle Hamfest Treasures

The grid dip meter has been around for many years, and I have had a deep fascination with it, long before I became a ham. The fascination comes from the fact that you don't actually have to connect it to the things under test. It is loosely inductively coupled through a collection of plug-in coils. Each coil covers a specific frequency range.

I spotted a nearly pristine unit complete with all its coils in the original carrying case. I must emphasis the "with all its coils". Finding such a complete unit is very rare. Even at the recent Dardanelle (AR) Hamfest there was at least one other. It was a bit older and had no coils. Admittedly, I could construct a set of coils, but there is something special about a complete original! I offered $25 but the guy would not go lower than $30 and I agreed. It is a Heathkit HD-1250 (below left). It is called solid-state Dip Meter since it has no grid. The early versions used tubes and measured the dip in the grid current, thus the name.

All the Heathkit manuals are available on-line for free and so documentation is readily available for use, theory of operation, and repair. The frequency range of this particular model is 1.6 to 250 MHz. A 9-volt battery provides power. The circuitry is very simple and consists of two sparsely populated PC boards. Electronically, it is based on a dual gate MOSFET. In many ways, the gate of a MOSFET can functions like the grid on a tube. A very simplified circuit diagram is shown below in a typical application. In this circuit the Ct and Lt could be viewed as the output tank circuit of a transmitter. It is very important to realize that the measurement is made with the transmitter turned off.

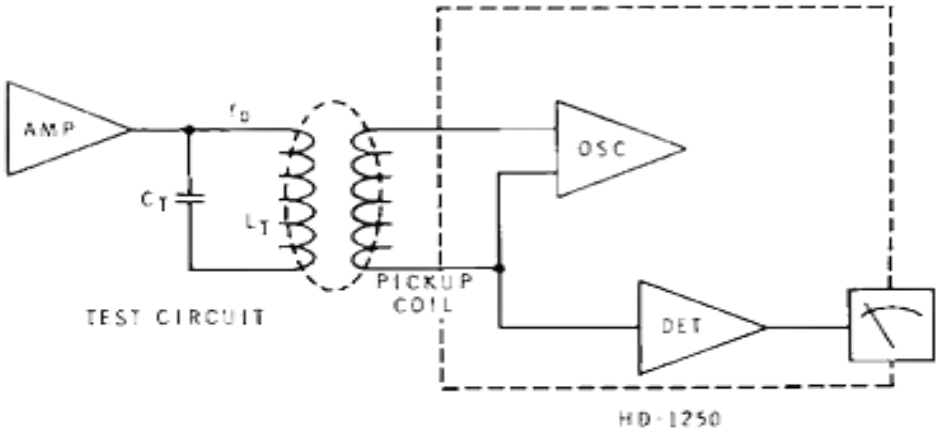


Figure 2-3

The following list of applications is shown in the manual:

Figure 2-3 illustrates the basic idea of many of these applications.

Just as a test, I decided to try to measure the resonance frequency of a simple parallel capacitor and inductor similar to the figure if you remove the amplifier. The setup is shown in the photo below.

I picked a random coil from the junk box with an inductance of 3.12 µH. I soldered this to a 97.5 pf capacitor. The calculated resonance was 9.1 MHz as given by the formula below which is adjusted for the proper units.

1000000/(2*π*SQRT(Induc*Cap))

The dip meter showed 9.4 MHz.; not bad for something that probably has not been properly calibrated in many years. The dip was remarkably sharp.

If I did not know the value of the inductor, for example, the resonance frequency would allow me to calculate the value since I would also know the capacitance because I got it out of the junk box. Likewise, capacitance can be determined with a known inductor.

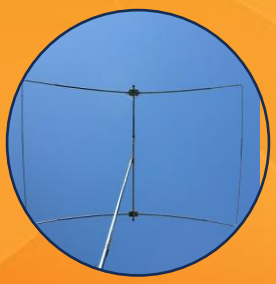
Given the simplicity of the device, it is not difficult to understand the basic operation. The heart of the instrument is the oscillator. The frequency of the oscillator is determined by an internal variable capacitor, typical of the many used in predigital mode receivers and transceivers. The plug-in coils provide the other half of the resonant circuit. The voltage across this resonant circuit is rectified and measured by the detector. The detector drives the meter. If the plug-in coil is next to another resonant circuit, some energy will transfer and the voltage across the resonant circuit in the meter will drop or "dip".

While I only described the simplest functions of the meter, there are whole collections of measurements with antennas. Again, no physical connection is required. Thus, the possibility of the measurement compromising the quantity under study is very low.

The idea of using a dip in current or voltage is common in older equipment. I recently worked on a Collins KWM-2. The instruction for tuning the final amplifier included the phrase "dip the plate current quickly".

On an almost completely separate topic, I must mention the "treasure" I found at the Dardanelle (Russellville) Hamfest. Some of you may remember my brief comments at the last BVRC meeting about finding a good deal on wire at hamfests. Well, among the boxes with miscellaneous junk offered by one vender I found a beat-up toolbox that looked like the contents might be worth the $15 asking price. When I got it home, I found a small plastic container with 500 small diodes. Each diode had 6 cm of what appears to be nearly pure silver wire. Total weight of the container, 124 grams.....at current market value, worth on the order of $400 dollars.

Budget Antennas For The 10-Meter Band



By Stan Stockton – K5GO

Solar Cycle 25 passed its peak just a few months ago and is now in the declining stage. However, remember that solar cycles last an average of 11 years – 5½ rising to the peak and 5½ to reach minimum. The current cycle has been one of the better ones in decades, meaning propagation on the ham bands has been extraordinarily good, and especially the upper HF bands of 20, 17, 15, 12, and 10 meters. SC-25 still has quite a few good years left before propagation diminishes. So, for club members who hold a General or Amateur Extra license – ***and also for Technician license holders who have operating privileges in the 10-meter phone band of 28.300-28.500 MHz*** *– 10 meters is still loaded with, and can bring you, lots of operating excitement.*

With 10-meters still hopping, BVRC member and one of its foremost authorities on antenna building, Stan-K5GO, presents this offering to all our new(er) members to help you in getting on the air with an antenna that will fit your application and budget, and bring you excellent results:

Many club members have Technician licenses and can operate on 10 meters. 10 meters is the best band when the solar cycle favors us and the worst HF band when it does not. Fortunately, we still have a few years during this cycle when it is easy to work stations all over the world on 10 meters.

Although it would not be possible in a short article to detail all the possible antennas you can easily make I will give you details on a few antennas that you might consider. I won't discuss any antennas that require an antenna tuner or a high-ratio transformer. Certainly, the goal should be to have an antenna with an SWR of less than 2:1 at the back of the rig.

First, a few general notes:

The larger the conductor, the shorter the antenna will be compared to one with a smaller diameter. It's not significant and doesn't greatly affect performance on a 10M antenna.

It is a good idea to create a choke at the antenna's feedpoint using a 2.4 inch #31 mix core with several turns of coax wound through it (see illustration next page). This will help prevent common-mode current on the coax shield. For the purposes of this, just wind about 10 turns of small diameter coax through the core and that will do the trick.

Building antennas is fun and does not cost you much. I don't think I have purchased a commercially made antenna for use at any of the stations I have had in about 50 years.

In general, the higher the antenna the better it will work. However, a simple antenna at 15 feet off the ground will surprise you. I believe that in a contest it would be possible to work 75 different countries in one weekend with 100 watts and a dipole at 15 feet on 10 Meters, given good conditions.

2.4" I.D. #31 Mix toroid core

Flat Dipole

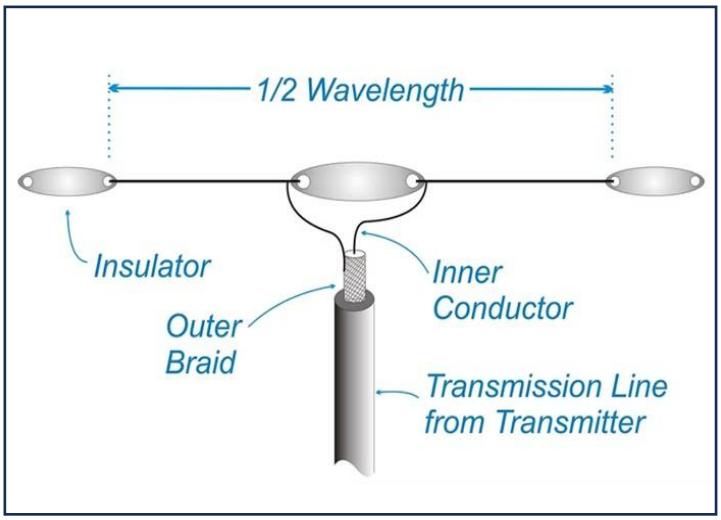
It is hard to beat a flat dipole on any band. Consider that the gain from the Yagi on the tower at ALETA is between about 5 and 7 dB over a dipole. For reference an S unit is about 5 dB. If you had two of those Yagi antennas in phase with a tower twice as tall you would get approximately 3 dB more. The elevation angle with the highest gain would be lowered which is good for DX. The point, however, is that hams go to great lengths and expense to have something that is better than a simple dipole and it is not easy to beat one by a significant margin.

A dipole is 75 ohms at resonance. This means that the best SWR you will achieve with a flat dipole fed with 50 ohm coax will be about 1.5-1. If you are like me and like to look at an SWR meter with nearly zero reflected power, there are tricks to match 75 ohms to 50 ohms.

One of those tricks is what is referred to as a 12th wave transformer. You have an electrical 1/12th wave length of 50-ohm coax feeding the 75-ohm antenna at the feed point and then an electrical 1/12th wave length of coax connected to that. You will then see 50 ohms at the end of the 75-ohm coax. If you used RG-6 coax at the feedpoint with a velocity factor of 82% that length for 28.4 [MHz] would be 28.4 inches. That is a coincidence. If you used foam dielectric coax for the 50-ohm portion it would be the same 28.4-inch length. If you used coax with a solid dielectric, the length would be 23.2 inches. Those numbers are scalable for any band. For example, a 15-foot length of 50-ohm coax with a velocity factor of 66% connected to a 75-ohm 40m antenna followed by another 15-foot length of 75-ohm coax with the same velocity factor will transform your 75-ohm antenna to 50 ohms, providing a perfect match from the antenna to the radio.

Two lengths of 8'3" #16 insulated or two lengths of 8' 4-1/2" for bare #16 with a center insulator in the middle. Center conductor of coax goes to the wire on one side and shield to the other wire on the other side. Its best to make wire antennas a little long to begin with so you can cut them shorter instead of adding wire to get them resonant where you want them.

Find a couple of the tallest trees you have and then get about 17 feet of any size wire that you can pull tight along with some small diameter rope or nylon twine and put one up. It will work very well for you.



Vertical Antenna

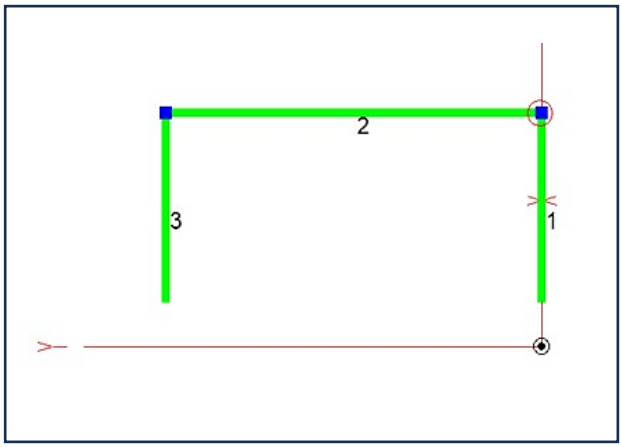
Many questions arose during the last "Ask the Elmer" meeting about verticals. A 10-meter vertical is a snap. A piece of PVC with a wire taped to it will work fine. The only drawback to verticals is that they make terrible antennas without a decent radial system. If those radials will be on the ground you want to have as many as possible. I have friends who have 160-meter verticals with as many as 140 radials on the ground or buried slightly below the surface. I would not consider a vertical for 10M unless I was prepared to install about 40 radials - the longer the better. Ground-mounted or buried radials are not resonant, so a tape measure is not needed. The radial's length only affects the vertical resonance when the radial is elevated. We are trying to beat a dipole by some amount with any antenna we try, and a quarter wave vertical may not hold its own against a dipole on 10M unless the dipole is only 12 feet off the ground and/or the vertical has a decent radial system.

Elevated radials or a 10M ground plane might be the solution if you can install a 10-foot section of PVC and use aluminum tubing for the vertical element with four elevated radials (feed point at 10 feet above ground). In this case it would be better if the elevated radials were parallel to the ground, but they can slope down at a 45-degree angle and still work well. In fact, although not great - like 33 ohms - the match will be better if those radials slope rather than if they are flat. A good ground plane may have an impedance lower than desired. A shunt coil, or hairpin as it is called, across the feedpoint can solve that problem.

Half Square

Here we are talking about an antenna that has a little more gain over a dipole. This antenna is two approximate 1/4 wavelength wires that are connected at the top using another wire that is approximately a half wavelength.

It looks like this:



If you feed this antenna at a top corner with the coax running away from the antenna instead of hanging down by the vertical element it achieves a nearly perfect match for 50 ohms. One piece of wire is 104 inches vertical on each side and 205 inches horizontal. The maximum radiation is broadside and perpendicular to the horizontal wire. If you can put this up between a couple of trees and get the bottom wires off the ground by 10 feet or so, you will be the king of the band. All it takes are two 20-foot trees about 20 feet apart and a total of about 33 feet of insulated wire. Bare wire is fine and the length will be a few inches shorter.

Coax

RG-6 (the kind cable TV companies use, and can be found in stock at Home Depot or Lowe's) is your friend. It is cheap and, while it has more loss than larger coax, it will easily handle the 100 watts you might be using. You will lose about one decibel for every hundred feet. I would use it even for 100 feet if that is what I needed to do to fit my budget. It is 75-ohm coax. The connectors can be installed in less than 30 seconds with an inexpensive tool. Adapters are readily available to go from the F connector you install to UHF like the PL-259 that plugs into your rig. If you have a 75 ohm antenna like a dipole, it is a perfect match and you can build a 1/12th-wave transformer that will be at the transceiver inside. If the antenna is 50 ohms, you can transform it from 50 ohms to 75 ohms at the antenna and then back to 50 ohms inside. I recommend Commscope RG-6 made for direct burial.

Everyone's situation differs based on their location, the presence of trees, and their ability to install an outdoor antenna. An inexpensive solution exists for every problem that would otherwise prevent you from getting on the air.

Antennas will behave differently in different environments. I encourage you to experiment with different antennas and avoid paying retail price for a commercial one which may not even work in your environment.

73 – Stan, K5GO

Every transceiver needs electrical power. Some amateurs rely on batteries, especially in handheld transceivers, while other get creative with solar, wind, and hydroelectric power sources. Regardless of how the radio gets its electricity, the power must be available as *direct current (DC)*. That is, the current must flow in only one direction, and the voltage must always remain fixed.

The need for DC presents a problem if you're operating your equipment from your home, office, or other facility. The electric outlets on your wall provide only *alternating current (AC)*. As the name implies, the flow of AC current alternates directions as the voltage changes from positive to negative and back again. In the United States, it does this a rate of 60 changes each second or 60 *hertz (Hz)*.

You can't directly power a transceiver with AC. The AC at the wall outlet must be converted to DC. The AC voltage at the outlet, which in the U.S. is typically 120 volts, must also be changed to whatever voltage the equipment requires. *This is the job of the power supply*.

Current and Voltage

Nearly all amateur radio transceivers require a separate power supply. A few large transceivers have power supplies built into their cabinets, but these are uncommon. So, when you're budgeting for your home station, remember to include the cost of a power supply to run your equipment. Not only will your transceiver need a power supply, so will other devices, such as automatic antenna tuners.

This switching power supply can deliver as much as 40 A of current, yet it weighs less than 6 pounds.

With rare exceptions, all amateur radio gear requires 13.8 volts DC (Vdc). What changes from one piece of equipment to another is the amount of current the device needs, measured in *amperes* or just *amps (A)*. A powered meter or automatic antenna tuner requires little current, usually less than 200 milliamps (mA). But if you're operating a 100-watt transceiver, it will draw as much as 25A when you're transmitting.

The power supply you choose must be able to provide *at least* the maximum amount of current your equipment will need. Let's say you have a 100-watt HF transceiver that draws a maximum of 25A and a VHF/UHF transceiver that will need a maximum of 5A. You can use one power supply for both, but you will need a model that can supply at least 30A of current for moments when you HF radio and VHF/UHF transceiver are transmitting at the same time.

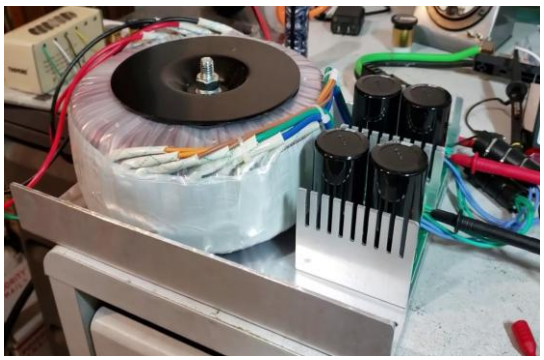
Shopping for Power Supplies
Power supplies come in two varieties: *linear* and *switching*.

A linear power supply takes the AC power from the wall outlet and uses a *transformer* – a device with coils of insulated wire wrapped around an iron core – to "transform" it to 13.8 volts (or any other voltage that's needed). The more current the power supply can provide, the larger the transformer. Once the voltage has been changed, additional circuitry converts the AC to DC.

A 35-amp linear power supply

A switching power supply takes the 60 Hz power from the outlet and converts it to a much higher frequency. It then passes this high-frequency AC through a transformer to achieve the correct voltage and uses more circuitry to "massage" the AC into DC. This process is more efficient and doesn't require a large transformer.

Because of their transformers, linear power supplies tend to be sizeable and heavy, especially the higher-current supplies that run transceivers. (It isn't uncommon for a 30A linear power supply to weigh 25 pounds.) In contrast, switching power supplies are smaller and much lighter.



◄ Inside view of a linear power supply. Note the large transformer on the left.

So, a switching power supply seems like the best choice, right? Not so fast. Yes, they're lightweight and relatively inexpensive, but due to the way they convert AC to DC, they have the potential to generate annoying signals you may hear in the receiver. The "Product Review" section of QST magazine occasionally reviews switching power supplies and measures their interference potential. You can usually find reviews on a given power supply by going to your browser and enter **"[power supply brand and model#] review"**.

AN IMPORTANT NOTE: Power supplies have two amperage ratings: continuous and maximum (also referred to as peak or surge). The maximum or peak rating is how power supplies are usually designated when they are advertised for sale. This is only the current they can supply for brief periods. The continuous rating is usually the number that you want to look for. Also consider the load. If a power supply is under a constant load that is close to its maximum, you'll generate more heat, and that can shorten the life of the unit. For that reason, it's a best practice to buy one with a built-in cooling fan if a switching supply or one that has good heat sink plates if a linear supply.

Example: If your transceiver draws 24A when you are transmitting at a full 100-watts on CW, you will need to look for a supply that is advertised as 30A. The 30A is the peak current value, but it will probably operate at 24-25A continuous. *Check the specifications for the power supply you choose to make sure the continuous amp rating is enough to meet the current requirement of your transceiver* (which can also be found in the radio's operating manual on the specifications page).

AND A FINAL TIP: You can never have too much current. In other words, don't worry about buying a power supply that provides more current than your station requires. Your equipment will only draw as much current as it needs.

Callsigns On The Road:

Should You Consider An Amateur Radio License Plate?

As of February 26, 2026 there are approximately 7,900 licensed hams in Arkansas. Of course, if you attend one of the Arkansas hamfests you will see amateur radio license plates in abundance. But when it comes to general traveling down the road, seeing a ham license plate is relatively rare.

Why don't we see more of them? Is it the cost? A lack of awareness? Or are there other concerns keeping hams from ordering callsign license plates on their vehicles? For years, many BVRC members have displayed a ham radio license plate on their vehicle. They are easy to remember, easy to recognize, and a quiet badge of honor for a hobby they deeply care about. Still, other club members do not display their callsigns with an amateur radio license plate. If we customize our call on the air, why not on our license plate?

WHY OR WHY NOT?

One concern many amateurs have is that of personal security. Some hams worry that a callsign license plate makes it easier for bad actors to identify or locate them. That's a valid point. On the other hand, many operators regularly transmit their location via APRS, sometimes in real time, without a second thought. In that light, is a license tag really that different? Amateur radio operators are communicators by nature. We enjoy making connections, whether it's during a casual QSO or while serving our communities through ARES and other public service efforts. A specialized tag can help with that. It makes it easier for fellow hams to spot you in the wild, strike up a conversation, or even make an on-air contact later. Some operators already advertise their presence with radio related or "146.52" window stickers.

When it comes to cost, Arkansas hams are lucky compared to other states. After paying the initial application fees (annual fee, postage to mail the plate to you - $8.50, and validation decal fee - $2.50), an Arkansas ham radio license plate *only carries a TWO DOLLAR special plate fee* in addition to the regular fee annually. To view the information, click **here**. To complete the Arkansas amateur radio license plate application form, click **here**.

There are clear advantages to radio operator license plates: They're easier to remember, help other hams identify you, open doors to conversations with a curious member of the public, and may even lend credibility when entering a disaster area during emergency communications work. Of course, there are downsides too: The afore mentioned privacy concerns, the risk of negative perception if you're a less-than-perfect driver, the possibility of attracting thieves, and the need to replace plates if your callsign changes. So, do you or anyone you know sport a callsign license plate? If not, maybe it's time to revisit the idea. Like so much in amateur radio, it comes down to balancing personal comfort with the opportunity to promote and connect through the hobby we all share.

These are just some pros and cons concerning ham license plates if you don't have one. Whether you decide to obtain one or not is your choice, of course. 73.

In our travels to the more rare amateur radio locales in The DXCC Den, we haven't paid many visits to the continent of Africa. So, this month, let's visit a very rare DXCC entity there: Libya. Libya is a country in northern Africa. It borders the Mediterranean Sea to the north, Egypt to the east, Sudan to the southeast, Chad to the south, Niger to the southwest, Algeria to the west, and Tunisia to the northwest. With an area of almost 700,000 square miles, Libya is the fourth-largest country in Africa and the Arab world, and the 16th-largest in the world. The capital and largest city is Tripoli, located in the northwest and containing over a million of Libya's seven million people.

The Libyan Desert, which covers most of Libya, is one of the most arid and sunbaked places on Earth.

Location of Libya

If you haven't gotten Libya on your confirmed countries list yet, you'll need to incorporate that "P-word" that is used in the DXCC vernacular: Patience.

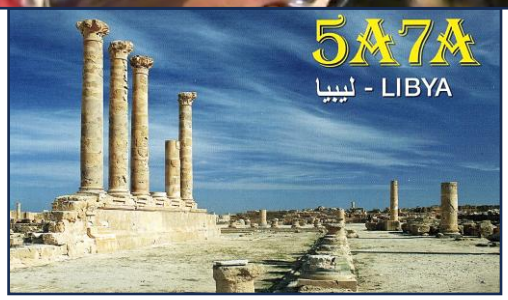
First, there are only There are around 22 registered amateur radio operators in Libya, with active local clubs such as the Tripoli-based Assakr Radio Club. Operators like 5AØYL (Elham from Tripoli) have been active despite challenges including ongoing conflict, power shortages, and limited international mail, often operating when electricity is available. However, operation from native operators is sparse.

Second, as with many rare DXCC entities, the best and "easiest" way to work and confirm Libya would be for a DXpedition to travel there. The last DXpedition occurred in 2006 when **5A7A** took to the air. The team consisted of 27 members from 8 countries. They were on the air for 2 weeks and logged over 86,885 QSOs.

Right now, there are no plans for a Libya DXpedition in the near future, but keep your eyes peeled to the DX outlets and your ears to the airwaves. Hopefully we'll have another 5A DXpedition on the horizon soon.

In places, decades may pass without seeing any rainfall at all, and even in the highlands rainfall seldom happens, once every 5–10 years.

Likewise, the temperature in the Libyan Desert can be extreme; September 13, 1922 the town of 'Aziziya, which is located southwest of Tripoli, recorded an air temperature of 136.4 °F, considered to be a world record.



Pics from the 5A7A DXpedition and my 5A7A QSL from 2006

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