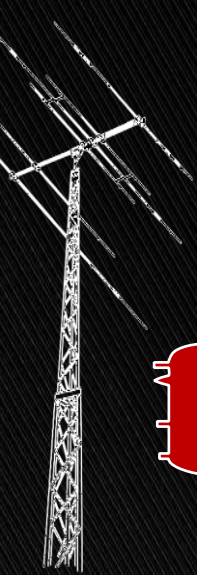


THE SIGNAL



NEWSLETTER OF THE BELLA VISTA AREA RADIO CLUB



*Arkansas' Largest
Amateur Radio Club*

- September meeting – Mast Ideas
- BVRC's First Ever
Amateur Extra License Class
- BVRC Community Outreach Team –
Golden Harvest Half Marathon
- Experimenter's Corner
- SPECIAL WEATHER SECTION –
 - ♦ NWA SKYWARN: An Online Resource
 - ♦ Funnel Clouds and Frequencies
- Editorial –
Digital Modes
Aren't Really Amateur Radio
- Laughter – Hamfest
Flea Market Haggling
- Famous Radio Amateurs – Chet Atkins



OCTOBER 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, and northeast Oklahoma**

WEEKLY BVRC NETS



***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 103.5



***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



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

3.830 MHz



NEXT BVRC MONTHLY MEETING

THURSDAY, OCTOBER 1, 2026 @ 7PM
ARKANSAS LAW ENFORCEMENT TRAINING ACADEMY
3424 S. DOWNUM ROAD
SPRINGDALE, AR

October Meeting Information

HAM 101 Workshop, 6pm preceding monthly meeting – For all members who are unfamiliar or unsure with programming their hand-held transceivers, bring your radios to this month for a hands-on workshop. Alex Smith-KI5EQK and Brad Ponder-KJ5CWR will be on hand to help you get those repeaters into your radio's memory channels. It will be a fun time of learning and discovering.

BVRC October meeting, 7pm – An outstanding program is in store for the October meeting as BVRC's new Technical Officer Jon Williams – K5DVT will be our featured speaker. Jon's program will feature the Northwest Arkansas Skywarn Link System, of which Jon is the owner and performs regular programming and maintenance updates. The link system has gone through quite a bit of upgrading in the past couple of years, and Jon will be supplying those updates in his program. The link system is also a vital component of Bella Vista Radio Club, as it serves as the home for the weekly Monday evening HAM 101 Net. Jon's presentation promises to be highly informative, so don't miss out.

SEE YOU THEN!

BOARD MEMBERS

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VE TESTING COMMITTEE

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NEWSLETTER EDITOR

Don Banta - K5DB
arsk5db@gmail.com

FROM THE DESK OF THE PRESIDENT

Traveling and Taking My Hobby with Me!

As I write this, I am just back from my Grand Tetons and Yellowstone National Parks road trip. My memory is fresh from all the wonderful sights and sounds I experienced during our twelve day journey. Of course, the beauty of our national parks is certainly a treasure for us all, but this trip was all the more special because I got to enjoy three of my favorite hobbies – camping, photography, and amateur radio!

With my POTA adventures, I have a goal to activate parks in as many states as possible to go along with my Worked All States POTA hunter award. For me, as it may be for you as well, the way I enjoy my travel adventures is to make my hobbies an integral part of the experience. In all my years, I had never had the opportunity to travel to Grand Teton National Park and Yellowstone National Park. As I traveled through and explored these magnificent parks I noticed so many people whose experience with these wonderful parks was to merely drive through them, experiencing the parks through the windshield of their vehicle as if watching a video.



For me, I need to have a hands-on, active experience with these beautiful parks across our nation by enjoying my hobbies as part of the way I experience them. During this trip I activated parks in three more states and came back enjoying my amateur radio hobby more than ever. There is something very satisfying about sharing the beautiful setting I am experiencing in these parks with amateurs across the nation as well as in several countries.

It is always a joy to spend time in my shack making contacts with fellow amateurs from the comfort and familiarity of my shack where everything is set up just as I want. However, don't miss out on the thrill our hobby can provide by taking your hobby with

you and operating from new and exciting locales with set-ups you have to create from the environment you find yourself in. I'm sure you will feel the same sense of adventure and satisfaction as those of us who operate portable from new, challenging, and exciting locations.

Get out there and enjoy your hobby!

73, Jan, WB5JAN

In Memoriam Paul LeBlanc – W5AB

Paul-W5AB of Fayetteville became a Silent Key on August 30, 2026. He was born November 9, 1941 in Manchester, NH. He was a BVRC member since 2022. It was always a pleasure to see Paul at club meetings. From fly fishing to bicycling to ham radio, Paul enjoyed many facets of life, and was a great guy. Our thoughts and prayers are with his wife of 60 years, Maxine, and their family. RIP Paul.



Editor's Note: For the past couple of years, "The Signal" has featured our monthly "DXCC Den" department at the end of each issue. Each month, "DXCC Den" has explored an out-of-the-ordinary country or entity on the ARRL DXCC List, along with sharing its history, geography, traditions, and connection to the world of amateur radio. Beginning with this month's issue, we're taking a break from "DXCC Den" and introducing a new monthly column, "Famous Radio Amateurs". This new feature will highlight celebrities from many different walks of life and their association with our great hobby. We hope you'll enjoy getting to know some of these fairly to well-known hams! "DXCC Den" will return sometime in the future, and we hope to alternate between the two columns every few years.

So, watch for "Famous Radio Amateurs" at the end of each issue. Enjoy!

September Meeting Features Guest Speaker and Mast Ideas

Around 80 BVRC members were treated to another excellent program at the September meeting, held at ALETA. This month's meeting itinerary included presentations of awards for the recently held Technician class in Elkins, and BVRC's 5th graduating class from the BVRC CW Academy (more on that later in this issue).

This month's meeting featured guest speaker Dave Casler – KEØOG from Ridgeway, CO. Dave appeared virtually and the club really appreciates that Dave took time out from his busy schedule to treat us to an excellent and informative program. Dave has his own "Ask Dave" YouTube channel, as well as being the editor of the monthly column "Ask Dave" that appears in each monthly issue of QST. He has been an ARRL member for over 50 years.

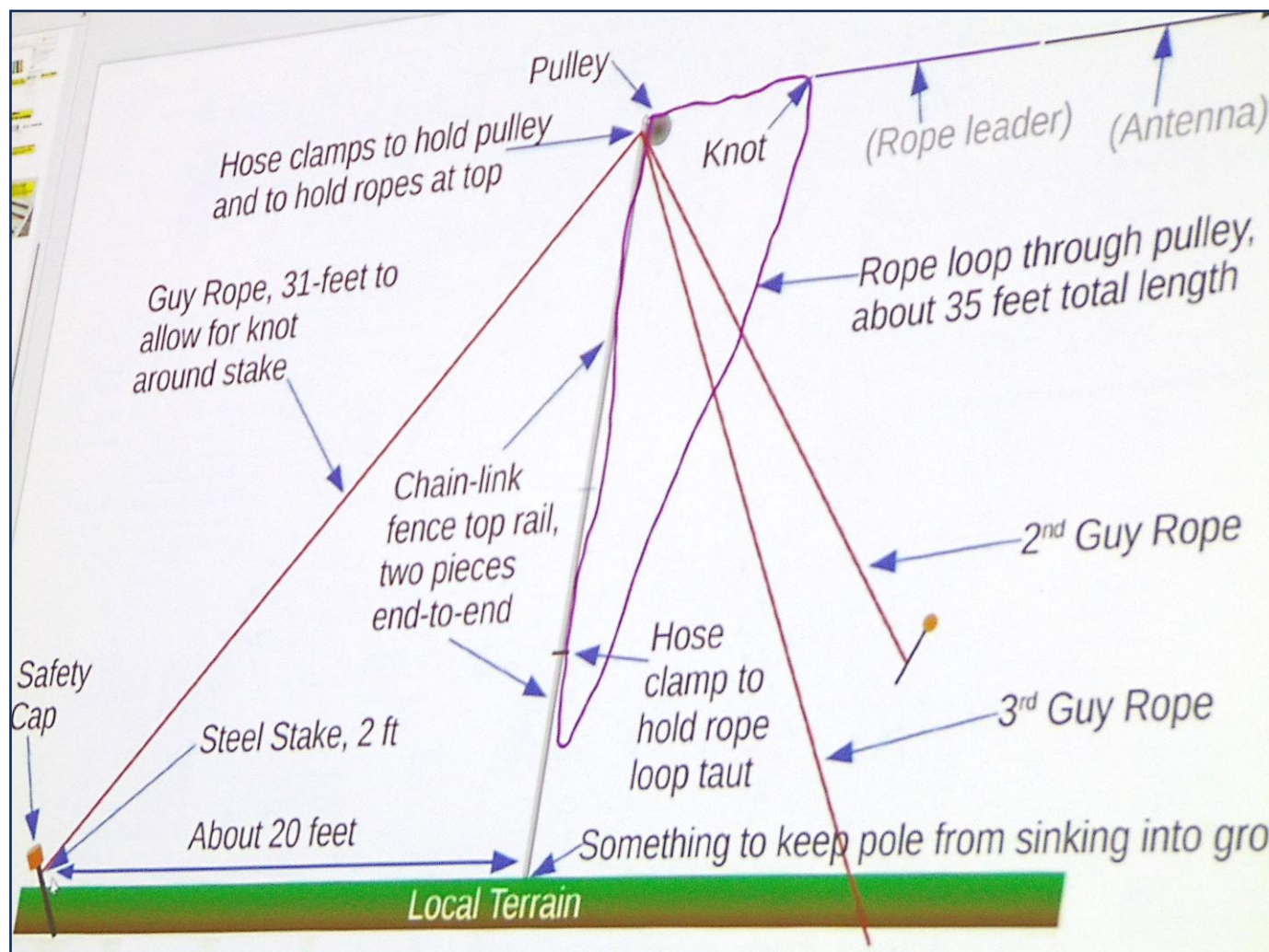


Dave's topic for the club was "When You Have Nothing Tall – Mast Ideas". The program was especially beneficial to our newcomer members who are just now acquiring their General license and working on getting on the air with HF. Sometimes an operator's landscape or property characteristics do not include tall structures (namely trees) to install a wire antenna such as an End Fed Half Wave or dipole.

In his presentation, Dave supplied club members with some excellent ideas to construct and erect a 20-foot mast, for a reasonable cost. Dave began his presentation showing the 'heart' of the mast which can consist of sections of top railing used for a chain link fence. These sections – and all other parts used in Dave's mast construction – are available at Lowe's, Home Depot, etc.

Top rails for chain link fence are conveniently tapered on one end, thus making it possible to insert one section into the other. Dave said it is not necessary to secure the interconnecting joint with bolts, as the weight of the mast after erected will adequately hold the two sections together.

Here is the diagram of the installed mast from Dave's PowerPoint program:



The materials needed for this 20-foot mast are:

- 2 – 10' sections chain link fence top rail
- 2 – 100-foot lengths of rope
- 3 – 2 foot steel stakes
- 3 Safety caps for steel stakes
- 3 – 2-inch or 3-inch hose clamps
- 1 – pulley
- 1 – bookshelf bracket (optional)

After being completed and installed, this mast can supply an excellent support from the far end of an End Fed Half Wave, or the center support for a dipole.

Dave heavily encouraged purchasing plastic caps to place on the end of the guy line stakes, in the possible case of someone tripping or catching their leg on the stake and injuring themselves. Make sure you pound the stake in the ground first, THEN attach the cap. Do not pound on the cap. Again, these caps and all other materials can be purchased at any major home improvement store. ►►

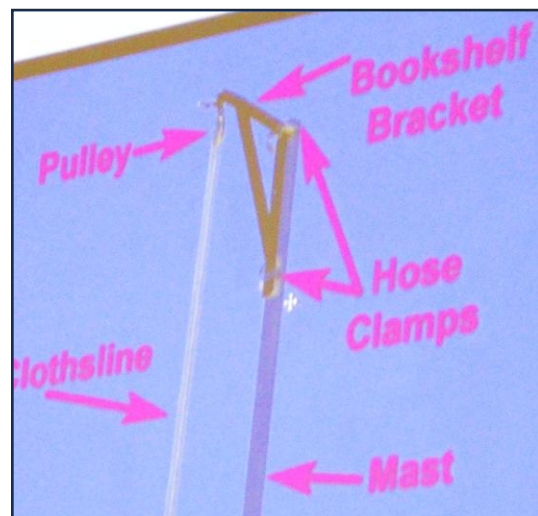


The pulley can then be attached to the top of the mast, using the hose clamps and rope as shown at right. ►►



Dave also recommended *not* using paracord for the guy lines. Use a UV resistant, non-shrink type rope (Ex. Mastrant...available from DX Engineering).

In the case of wishing to extend the support point of the antenna away from the mast (which is needed with some dipoles), he showed the optional bookshelf bracket shown at right. The bracket can easily be secured to the mast with hose clamps.



When attaching the guy lines to the mast it is important to attach them at the very top of the mast, not several below the top, especially if you're going to use the bookshelf bracket stand-off.

To attach the guy lines to the mast, Dave suggested using Eyebolts. As shown in the 4th figure on the right. ►►

With today's prices, the materials to construct this mast should run around \$100-\$130 total.

And a very important item that should be noted:

THIS MAST SHOULD **ONLY** BE USED FOR VERY LIGHT WIRE ANTENNAS: EFHWs, DIPOLES, OR SMALL COBWEBS.



Dave concluded his program with the most important topic of his presentation – SAFETY:

- Do not try to erect the mast alone. Get a helper to hold up the mast while attaching the guy lines to the stakes. Have a safety observer who can call 911 if something goes terribly wrong.
- Erecting this mast will take some time to assemble. Be patient!
- Use the safety caps on stakes if children or the public will be around them.
- Be sure and tape down the ends of the hose clamps after installing them – they're strong and sharp.
- Do not put anything heavy on top of this mast like a Hexx beam. Probably ok for a cobweb.
- The guy ropes will gradually age in sunlight. Check every few months.
- This is not intended to be a permanent mast. Think medium-term permanent. You will eventually move on to other antennas and other support structures.
- Do not erect near power lines!

A huge thanks to Dave, again, for a great and informative presentation!

Preceding the main meeting, the BVRC HAM 101 Workshop was almost SRO, as valued BVRC member James Bennett – KA5DVS supplied attendees with an outstanding workshop on “Fundamentals of Basic Antennas”. James brought with him a great PowerPoint program along with hands-on antenna parts and exhibits. The workshop was well received by all attending, and we look forward to another great topic from James in the future! *THANKS SO MUCH, JAMES!*



ANNOUNCING BVRC's FIRST EVER AMATEUR EXTRA LICENSE CLASS!

The Bella Vista area Radio Club is pleased and excited to announce BVRC's first class for the Amateur Extra license. The class will be directed by ARRL Certified Instructor Brian Harris – WA5UEK.

Because the Amateur Extra covers more material than the Technician and General licenses, the classes will meet on Saturdays and Sundays over two consecutive weekends, for a total of 4 class sessions.

CLASS DATES: Saturday/Sunday, November 7 & 8
Saturday/Sunday, November 14 & 15
(exam session follows conclusion of the final class on the 15th)

CLASS DURATION: 9:00 am – 4:00 pm each day

CLASS LOCATION: Arkansas Law Enforcement Training Academy (ALETA)
3424 S. Downum Road
Springdale, AR

**TO REGISTER FOR THE CLASS,
CLICK [HERE](#)**

**FOR ANY ADDITIONAL
CLASS INFORMATION,**

CONTACT DON – K5DB

arsk5db@gmail.com



CONGRATULATIONS TO BVRC'S 5TH CW ACADEMY GRADUATES!



From left to right: Drake Rush-KJ5MXM, Alan Flynn-AG5FL, Brandon Gage-W5BNL, Lanna Gage-N5ALG, Greg Merrell-K5TYJ, and Don Banta-K5DB, Instructor/Coach

New Members & Graduates From BVRC Summer 2026 Technician Class



From left to right: Weston Pierson-KJ5ROZ, Andrew Cooper-KJ5ROF, Hector Rios-KJ5ROQ, Josh Pierson-KJ5RNZ, Justin Phillips-KJ5ROT, and Tom Northfell-W5XNA, Instructor
(Not shown: Jeff Bean-KJ5ROE, Scot Joubert-KJ5ROW, and Steven Mullins-KJ5RPC)



The first Bella Vista area Radio Club **Ham Radio Jump Start Saturday (HRJSS)** was a great success!

Around 15 newcomers and Elmers gathered for a morning filled with questions, answers, learning, and – perhaps most importantly – plenty of good old-fashioned ham radio camaraderie.

The newcomers arrived with a wide variety of questions and needs, and our knowledgeable Elmers were more than happy to help. The morning's discussions covered a broad range of topics, including:

- Programming repeaters into handheld radios using software
- Tips for ham radio and GMRS mobile installations
- Mobile antenna options
- Suggestions for purchasing dual-band handheld radios
- HF radio selection
- Setting up a home station for remote operation

The interaction was great. The camaraderie was great. The Elmers were great. And especially – the coffee and donuts were great!

More importantly, those who came looking for help or advice left with their questions thoroughly answered. Attendees were particularly impressed by the level of knowledge and expertise demonstrated by the BVRC Elmers. It was a terrific example of what amateur radio is all about: experienced operators sharing what they know and helping new fellow hams get the most out of the hobby.

One of the newcomer attendees, new BVRC member Denise Snow-KEØKRS, had this to say about the first HRJSS gathering:

“I'm so glad I attended the first BVRC Ham Radio Jump Start Saturday. It is exactly what I needed, and it was an amazing opportunity! The Elmers are very generous to offer their Saturday mornings to club members each month to answer questions and provide focused support. I arrived at the jump start with a radio, an antenna, and a lot of questions. I was warmly welcomed and was given such courteous and attentive support. The Elmers even helped my guest who had questions about his GMRS radio! Together, we walked away with a better understanding and manageable next steps. After I got my license 10 years ago I did nothing more, and I've forgotten so much that I'm starting over. The BVRC Elmers were all very kind, encouraging, and helpful. These Jump Start Saturdays are an excellent idea and an invaluable opportunity for club members to learn – or just come to be social and build connections. Thank you BVRC Elmers!”

The August, September, and October get-togethers are a trial run for the HRJSS initiative. If the response during the trial period is positive and adequate enough, HRJSS will become another permanent BVRC program, adding to the already many great programs sponsored by the Bella Vista Radio Club. HRJSS will not meet in November and December, so attendees can enjoy their holidays.

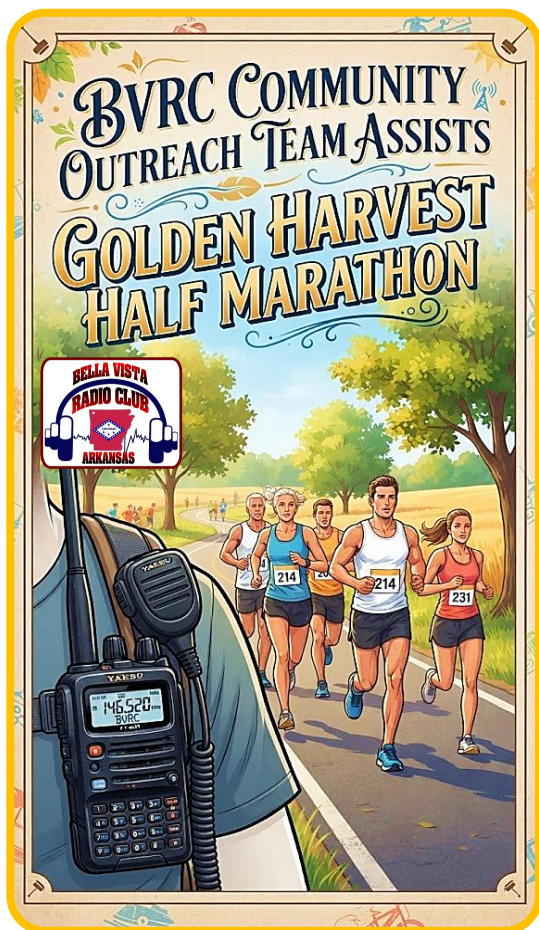
Based on the turnout and enthusiasm at this first gathering, the future looks promising. If September and October are anything like August, HRJSS probably will become a permanent part of the BVRC calendar and restart in January 2027!

BVRC Newcomers—Mark Your Calendar!

Whether you're trying to program that new handheld, figuring out which antenna to put up in the back yard, wondering what HF radio is right for you, or just want to talk radio with someone who has been there and done that, come on in! Join us for the next **Ham Radio Jump Start Saturday** on the 4th Saturday

September 26! Watch your email for a BVRC reminder coming soon. We hope to see you there! (Photos courtesy K5DB)





BVR COT members from L to R: Mike Calvi-KF5RUO, Drake Rush-KJ5MXM, Brad Ponder-KJ5CWR, Dan Hayes-KJ5HCO, Terry's XYL Penny, Terry Heimel-KJ5PPJ, Chris Johnson-KE4EIF, and Alex Smith-KI5EQK

BVRC VE REPORT FROM DON BANTA – K5DB BVRC VE COORDINATOR SEPTEMBER 2026



CONGRATULATIONS!

Jeff Bean – KJ5ROE – New Technician!
Kelly Conner – KJ5RPW – New Technician!
Andrew Cooper – KJ5ROF – New Technician!
Brett Cotham – KJ5RRN – New Technician!
David Cundiff – KJ5RPQ – New Technician!
Scot Joubert – KJ5ROW – New Technician!
Steven Mullins – KJ5RPC – New Technician!
Casey Nesselhauf – KJ5RRF – New Technician & General!
Justin Phillips – KJ5ROT – New Technician!
Josh Pierson – KJ5RNZ – New Technician!
Weston Pierson – KJ5ROZ – New Technician!
Hector Rios – KJ5ROQ – New Technician!

Next month's exam sessions

- **October 10, 10 am – Shiloh Museum of Ozark History,
118 W. Johnson Ave., Springdale**
- **October 10, 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/>

**WELCOME
NEW BVRC MEMBERS!**



Jeff Bean – KJ5ROE – Gentry
Kelly Conner – KJ5RPW - Elkins
Andrew Cooper – KJ5ROF – Springdale
Brett Cotham – KJ5RRN – Rogers
David Cundiff – KJ5RPQ - Rogers
Lori Davenport – Bella Vista
Ben Johnson – KE5YQD – Little Rock, AR
Scot Joubert – KJ5ROW – Green Forest
Steven Mullins – KJ5RPC – Elkins
Casey Nesselhauf – KJ5RRF - Bentonville
Justin Phillips – KJ5ROT – Fayetteville
Josh Pierson – KJ5RNZ – Fayetteville
Weston Pierson – KJ5ROZ – Fayetteville
Evert Pinto – KG5CJM - Springdale
Hector Rios – KJ5ROQ – Springdale





THIS MONTH'S TOPIC:

Review of FNIRSi 2C53T Portable Oscilloscope / Multimeter

I am working on a 1989 Toyota Truck that has a bite of an electrical problem – squirrels ate a large fraction of the engine wiring. If the little critters had just eaten through some wires I would have been done a few months ago. Unfortunately, they ate some of the wires down to the connectors and even some of the connectors are gone. I needed to check the distributor wiring and thought an oscilloscope would be handy, but I did not wish to risk my bench scope. So, I bought an inexpensive portable unit just in case I damaged it with the potential high voltages. I believe the cost was about \$80 dollars.

I was not really expecting much but after experimenting with the unit I am extremely impressed and would not hesitate to recommend it. It is battery operated (USB charger) and does about anything I need. It certainly is a space saver.

I normally look carefully at reviews before purchasing such an item. In this case the reviews were good but there were lots of negative comments about the poor documentation.

Those comments were certainly true but with a little persistence, the ordering of the buttons began to make good sense. The photo below shows the device and the scarcity of buttons available to the user. Obviously, all the buttons are going to have multiple uses and a lot of potential combinations. It took me about 6 hours to come to a satisfactory relation with the buttons. Hopefully, this review will help.



I will start with the multi-meter function. – On startup (a brief hold of the power button (lower left in the picture) you get to the main menu, Multimeter, is one option. You move through the menu with the left/right arrows, select with center button. Selecting the “Multimeter” will show a screen with a large “Auto” in the middle. Just below the “Auto” you will find the options which are pretty self-

explanatory. The second option from the left is the beeper for continuity testing, followed by resistance, capacitance, temperature and high and low current.

Multimeter

For comparison, I used an OWON multimeter which I have found to be very good. Starting with V, DC Voltage is the default, or it can be selected by the left/right arrows. As indicated, it is in Auto mode so the range will be determined automatically. Using my bench supply I selected a few different values and measured them with the OWON and the FNIRSi.

Voltage

OWON	FNIRSi	Bench Supply
1.400	1.40	1.40
5.395	5.395	5.40
10.380	10.384	10.40
30.331	30.28	30.40

I also tried some AC measurements using a Variac. You change to AC with the “move” button, It’s a toggle, hit once to change, hit again to return.

OWON	FNIRSi
47.78	47.68
84.03	83.90

Resistance

OWON	FNIRSi	Label
10.08 M	10.03 M	10 M 1%
19.998 K	19.96 K	20 K 0.1 %
399.2 K	399.8 K	400 K 0.1%
9.95	9.72	10 5%
4.995 K	5.00 K	4.99 K 1%

Note: The beeper is a separate selection, so it is silent when measuring small resistances. I liked this detail.

Capacitance

OWON	FNIRSi	Label
19.76	19.87	203 or 20 nF
4.91	4.98	472 or 4.7 nf
1.421	1.434	1.5 uf 5%
206 uf	204 uf	220 uf

Note: I have seen other meters struggle with high capacitance electrolytics, so this is very good.

Overall, no complaints and very good performance.

Signal Generator

The unit has a nice signal generator with a 50 KHz max. It provides, sine, square and sawtooth waves, with 1 Hz resolution. The amplitude is variable up to 3 volts. I checked the output on my bench scope and it was very clean on all settings. There are three BNC connectors on the top of the unit. The one labeled 005 is for the signal generator.

Once you select the Signal Generator you will see a screen with the waveforms. You select these with the up/down buttons. There is no select key. The selection is wherever you stop. Hitting the center button will move you to the area where you select the frequency and amplitude. Again, you have single digital control. You may have to exit to main menu to return to the wave selection.

Of the three functions I found the selection process for the signal generator the least user friendly. It does work.

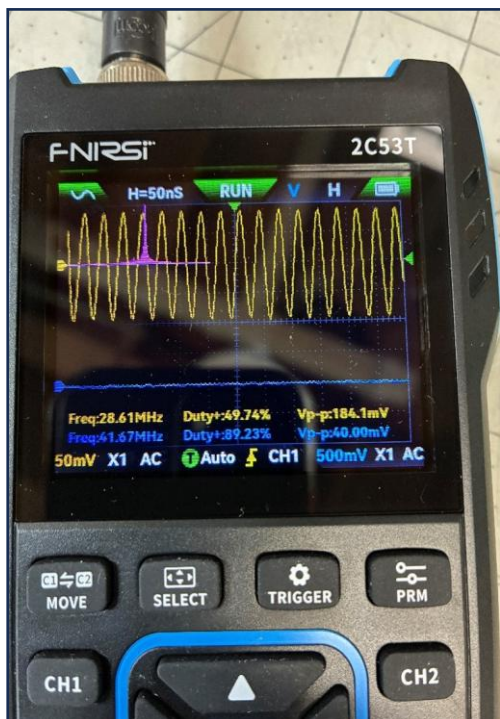
Oscilloscope

The oscilloscope can operate with an X-T display or an X-Y display. My unit came with the X-Y display turned on and it took a while to set to X-T. There is a Factory default setting in the setting function of the main menu. The restore default settings is at the bottom of this page. X-T display means voltage on the Y axis and time on the X axis. This is the normal way an oscilloscope works. In the past you could also set channel 1 to X and channel 2 to Y. This was easy to do with an analog scope. The feature was not available in the early digital scopes but seems to have been made a come back.

Despite the potential complexity of the oscilloscope, I found it remarkably easy to use. Typically, selecting the oscilloscope option from the menu brings you to a screen which will display a signal if one is connected via one of the BNC connectors on the top. On the top of the screen you will see "Run" in the middle, H=time base (20 nsec), V in Yellow which means the up down arrows control the gain of CH1.

Trigger allows you to change the trigger mode. Auto is a good place to start. Trigger is also a toggle, one push brings you to option screen, another push brings you back to the oscilloscope. Yellow trace is CH1, blue trace is CH2.

Center button is Run/Stop. CH1 brings you to selection for CH1, probe attenuation, coupling and FFT. Select turns on a cursor.



The screen at left shows a sine wave from a signal generator HP8640 (high-end precision, probably cost \$10K when new, \$30 at hamfest). A FFT plot is overlaid in pink. The signal is from a) so only a single peak is expected. Please note that the signal is 28.6 MHz and the time base is set to 50 nsec with $V_{p-p} = 186$ mV. This is an impressive capability for an eighty-dollar hand-held device. The frequency is spot-on with the generator. I actually was able to get a good trace at 60 MHz.

The unit's data is downloadable via USB.

The truck will provide an opportunity to see how well the other trigger modes work.

(((•THE SIGNAL•)))

SPECIAL WEATHER SECTION





When severe weather threatens Northwest Arkansas, timely and accurate information can make a tremendous difference. For amateur radio operators who participate in severe weather observation and storm spotting, having reliable information – and knowing where to find it – is essential.



The Bella Vista Radio Club is fortunate to have a member who has combined his passion for amateur radio, severe weather communications, and technology into a valuable resource for our area, Jon Williams – K5DVT, the club's Technical Officer. Jon has developed a relatively new website dedicated to helping amateur radio operators become better informed and better prepared storm spotters: The NWA SKYWARN website.

The website premiered this past May and brings together a wealth of information specifically designed for those interested in severe weather spotting and reporting across Northwest Arkansas.

The web address is: www.nwaskywarn.com

The site is intended to be more than simply a source of information. It is a practical resource for amateur radio operators who want to develop a vital role in severe weather observation and communications. Among its features are information about SKYWARN training, storm reporting, the NWA SKYWARN repeater system, the SkyDash dashboard, net activation information, membership, and contact information. For BVRC members who have an interest in severe weather, this is a website worth bookmarking.

Jon's involvement goes well beyond website development. He is the owner and maintainer of the Northwest Arkansas SKYWARN Link System, the repeater system used for the Bella Vista area Radio Club's HAM 101 Net, held Monday evenings at 7:00 p.m. That system also provides an important communications resource when severe weather develops across the region. When major severe conditions warrant, the NWA SKYWARN Net can be activated to collect reports from amateur radio storm spotters located throughout the area. The purpose is straightforward but extremely important: get accurate, real-time ground information to those who need it.

Radar provides an invaluable picture of what is happening in the atmosphere, but trained observers on the ground can report what is actually occurring at specific locations. Reports of damaging winds, hail, funnel clouds, tornadoes, storm structure, flooding, and other significant conditions can help provide confirmation of what radar and other weather information are showing.

The NWA SKYWARN Net is activated when potentially dangerous weather is developing in the area. For example, when an area of potentially tornadic thunderstorms or a major line of severe thunderstorms is approaching.

These storms can produce:

- Excessive straight-line winds
- Large hail
- Possible tornadoes
- Hail cores
- Damaging storm conditions
- Other significant severe weather impacts



When the net is active, trained storm spotters can check-in and provide reports from their locations. A report from one observer may be useful, but reports from multiple locations across Northwest Arkansas can help create a much clearer picture of what is happening as a storm moves through the region. This is where amateur radio can provide a unique advantage. A network of operators distributed throughout the area can relay observations in real time, even when other forms of communication may be strained or

One of the particularly interesting features of the website is SkyDash, a dashboard designed for use when the NWA SKYWARN Net is active. SkyDash provides a centralized place for participants to monitor the status of the SKYWARN Net operation. It also provides notification when the net is being activated.

For someone who takes storm spotting seriously, having this information readily available can be extremely useful. Rather than searching through multiple sources when threatening weather is approaching, SkyDash is designed to put important SKYWARN information where operators can quickly access it.

It is another example of how Jon has combined his technical skills with his experience in amateur radio communications to create a practical tool for the local amateur radio community.

Many BVRC members have an interest in severe weather. Some may simply enjoy watching storms and learning about weather, while others may want to take the next step and become serious storm spotters. For those operators, the NWA SKYWARN website provides an excellent starting point.

The site includes information about training and reporting, as well as resources related to the NWA SKYWARN system. It also identifies the area's SKYWARN repeaters and provides information for those interested in becoming involved. Storm spotting is more than simply watching a storm and reporting that "it looks bad." Effective spotters learn what to look for, how to recognize important storm features, what constitutes a meaningful report, and how to communicate that information clearly and accurately. That training is an important part of becoming a useful member of a SKYWARN operation.

The NWA SKYWARN website is especially relevant to Bella Vista Radio Club members because the club already has a connection to the system through its weekly HAM 101 Net. For members who have wondered how they could become more involved in severe weather communications, the website offers a logical place to begin.

Whether your interest is:

- Learning more about severe weather
- Becoming a trained storm spotter
- Understanding how the NWA SKYWARN system works
- Learning about the area's SKYWARN repeaters
- Participating in an activated SKYWARN Net
- Taking online in-depth spotter training courses
- Using the SkyDash dashboard
- Or learning how to become a member of the SKYWARN organization, the information is now conveniently available in one place.



The Bella Vista Radio Club owes Jon a sincere 'thank you' for his continued commitment to amateur radio, severe weather observation, and public service. Maintaining a linked repeater system is a significant technical responsibility. Developing and maintaining a dedicated website adds another substantial commitment of time and effort. Jon has brought those efforts together to create a resource that can benefit not only BVRC members, but amateur radio operators and storm spotters throughout Northwest Arkansas.

His work demonstrates one of the best traditions of amateur radio: using technical knowledge and communication skills in a way that benefits the community.

As severe weather season continues, BVRC members who have an interest in storm spotting are encouraged to explore the NWA SKYWARN website, learn about the training courses and reporting procedures, and become familiar with the SKYWARN resources before the next serious storm develops.

73, and Jon – thanks again for helping keep Northwest Arkansas better connected and better prepared when severe weather strikes.

FUNNEL CLOUDS AND FREQUENCIES

TORNADOES AND HAM RADIO IN NORTHWEST ARKANSAS

By – Don, K5DB

Tornadoes – destructive, violently spinning vortices of air extending from high within severe thunderstorms to the surface of the earth – are more common in the United States than anywhere else on the planet. They are particularly prevalent in the area known as “Tornado Alley,” where the proper ingredients come together: a combination of warm, moist air from the Gulf of Mexico pulled northward by storm systems dragging strong continental cold air from Canada. While Arkansas is not normally included on maps of the infamous Tornado Alley, which is usually considered to stretch from north Texas northward through Oklahoma, Kansas, and Nebraska, our state has suffered many devastating tornado outbreaks.

In January 1999, Arkansas recorded the most tornadoes on any individual January day in any state (fifty-six on January 21, 1999); the most tornadoes in the month of January; and the largest single outbreak ever to strike the state. Another fairly recent outbreak was on March 1, 1997, which resulted in twenty-five Arkansas fatalities. The deadliest outbreak in Arkansas history, however, occurred on March 21, 1952.

In the first decade of the twenty-first century, about 622 tornadoes in Arkansas killed thirty-nine people, injured approximately 540, and caused more than \$650 million in damage. Notable tornadoes during this period include a historic February 5, 2008, strike in which an EF-4 tornado tore a 123-mile-long path through seven counties in north-central Arkansas, killing twelve, injuring at least 140, and damaging or destroying 880 homes and 100 businesses. This path set an Arkansas record for length: Clinton (Van Buren County) and Atkins (Pope County) were among those suffering severe damage, while a second, shorter tornado devastated the town of Gassville near Mountain Home (Baxter County).



Other large outbreaks in the twenty-first century occurred on December 18, 2002, May 16, 2003, and November 27, 2005. And while hurricanes usually bring only heavy rain to the state, on September 24, 2005, the remnants of Hurricane Rita spawned seventeen tornadoes that moved from southeast to northwest—an unusual state of affairs. While the average Arkansas tornado is on the ground for less than a mile, tornadoes in this outbreak reached path lengths of 75 miles, with others of over 20 miles.

In April and May 2011, 62 tornadoes were reported, killing at least eleven people. On April 25 and 26, 2011, 25 tornadoes touched down, the deadliest of which struck Vilonia (Faulkner County) on April 25, killing four; this tornado had a path length of more than fifty miles. On May 25, 2011, a 47-mile path tornado tore through Johnson and Franklin counties.

The state's fatality rates are also far higher than expected for a state with relatively low population density. From 1950 to 2006, the state ranked fourteenth in both number of tornadoes (1,407) and tornadoes per 1,000 square miles (26.6); it ranked second in the number of fatalities per 100,000 people (13.9), behind Mississippi (19.2). Counts from the Storm Prediction Center may not tell the entire Arkansas tornado story. Many researchers consider this tornado count far lower than the actual number due to Arkansas's rural nature (low population densities) and conditions that make seeing and counting tornadoes difficult (hills, trees, and low cloud decks). If the number of tornadoes counted in more populated areas of the state were extrapolated across the entire area, Arkansas would likely be depicted on maps along with the more well-known Tornado Alley states.

While April suffers the most tornadoes on average (291), late fall and winter tornadoes are not at all uncommon in Arkansas. The state also suffers many night tornadoes, in part due to early sunsets during the winter; this factor could also contribute to the state's fatality rate. Tornadoes in Arkansas occur primarily between the hours of 5:00 and 6:00 p.m.

Northwest Arkansas is fortunate to be in the area of the National Weather Service office in Tulsa. Due to NWS/Tulsa's proximity to "tornado alley" they have one of the best tracking/reporting stations in the nation. They are also in constant need of trained storm spotters to aid them in their collection of information and data when a severe storm event occurs in our area.

Each spring, Ed Calianese from the National Weather Service office in Tulsa holds storm spotter classes for northeast Oklahoma and northwest Arkansas. If you want more information on attending a class, here is the link to go to **(Note: The classes for 2026 have ended but you can save the link for when they convene again in 2027):**

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

Let's now take a look at weather radios and NOAA weather radio stations.....

Yes, we now live in an age of amazing technology. We have social media, internet, cell phones, etc. And, as far as severe weather alerts and warnings, most people these days rely primarily on their cell phone, and why not?



There are hundreds of weather apps out there to choose from, with features that you can tailor to your specific needs. Most newer HTs have a weather band feature.

However, as remote as the odds may be, what if something happened that took out the cell tower infrastructure? What if you forgot to charge your cell phone battery, it goes dead on you, and/or the power goes out? What if you left your cell phone in your vehicle or some other part of the house and forgot to place it on your bedside nightstand, and a tornado has touched down in your area? What would you do then for a weather alert?

Actually, when it comes to you – an amateur radio operator – and weather alerts, for peace of mind of having a device in your home that is absolutely dependable, truly wireless, and offers a good deal of personal convenience, have you thought about using a NOAA weather radio in your kitchen, den, bedroom, or other important locale in your home domicile?



Most NOAA weather radios come with battery backup in case of a power main failure, and also equipped with S.A.M.E. (Same Area Message Encoder) which is a feature that you can program your weather radio to receive advisories, watches, and /or warnings for your specific county, thus eliminating receiving alerts for other counties which may not apply to your area.

Many NOAA weather radios also have the capability of receiving standard broadcast AM and FM stations.

Have you ever stopped and thought about NOAA weather radio stations all over the U.S. and what it takes to make them available for your receiving convenience?

All NOAA weather radio stations operate on one of seven frequencies in the VHF Public Service Band, 162.400 – 162.550 MHz, collectively known as 'the weather band'. All NOAA stations transmit at 1000W output power, FM. When an advisory, watch, and/or warning is warranted, the station sends a 1050 Hz tone which activates all weather radios within its coverage area which trips the alarm on the radio. If your cellphone alarm isn't loud enough or powerful enough to awaken you in the middle of the night, your weather radio alarm IS.

Personally, I've had a weather radio on my bedroom dresser for many, many years. It has really helped-out the XYL and me many times. It has become an old friend. Again, cellphones and computers are ok, but as long as you keep good backup batteries in your weather radio, it will never fail you.



Springdale WNG 694 Tower
(Photo, K5DB)

In our area, the NOAA weather radio stations are:

FAYETTEVILLE	WXJ52	162.475
SPRINGDALE	WNG694	162.400
FORT SMITH	WXJ50	162.550
HARRISON	WXN92	162.525
JOPLIN, MO	WXJ61	162.450
NEOSHO, MO	WXJ61	162.450
CASSVILLE, MO	WNG608	162.500

Here where I live in Springdale, WNG694 is the newest of the NW Arkansas NOAA stations, having gone on the air around 13 years ago. WNG694 is located on Carlock Mountain in northeast Springdale, and has an excellent coverage area which includes Benton, Carroll, Madison, and Washington counties, AR, and Barry and McDonald counties, MO. I can also receive Fort Smith, Harrison, and Cassville with no problem on my weather radio which sets on my bedroom dresser.

WXJ52's (Fayetteville) tower is near Winslow and serves Washington, Crawford, Madison, Johnson, and Franklin counties with an excellent signal as well.

But, here's the bottom line on NOAA weather radio stations:

Your tax dollars run and maintain these weather radio stations.....why not use them?

Finally, there are hundreds of NOAA weather radios on the market, but I will suggest a couple that are very dependable and are nominally priced. They also have the S.A.M.E. feature:

● Rychi MD-319 – Averages around \$50.00 on Amazon.

● Midland WR-400 - Averages around \$95.00 on Amazon. (Midland has been manufacturing CB and weather radios for decades.)



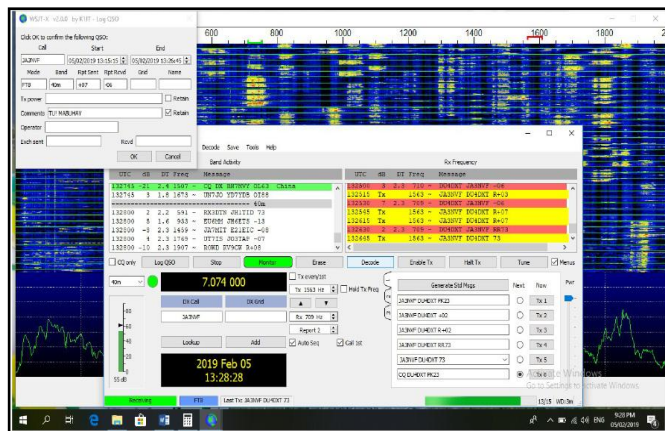
EDITORIAL

**Digital Modes
Aren't Really
Amateur Radio**

By – Don, K5DB

I am going to approach this subject from the standpoint of someone who was a stalwart CW and SSB operator for 50+ years and did not operate digital modes. It wasn't that I was against them or for them, I just wasn't interested in them. PSK31 in 1996, JT65 in 2003, WSPR in 2005, and JT9 in 2014 all came and went without sparking any personal interest in them. Then in 2018 I began hearing about FT8. I took it as another "boring" digital mode.

I then began seeing some of my friends who had been CW and phone operators for decades begin using this new mode. This made me wonder if there was indeed something to this one. I asked Mark Whatley-K5XH, Paul Dixon-K5YH, and Scott Anderson-K5SAA if they would be my Elmers with helping me download the software and giving me a crash course with this new digital mode and give it a test drive. They came over to the shack and helped me install the necessary software. That was around February of 2019. To my surprise, I was drawn to this new FT8 mode.



I didn't stop using CW and SSB – far from it. But.....in less than 3 months, I acquired my first Digital DXCC award. Indeed, had it not been for FT8, I would probably have about 30 countries less than I presently have. FT8 helped to catapult me from around 285 lifetime countries confirmed to my current level at 331.

The same enjoyment I have experienced with this digital mode has rubbed-off on some of my other ham friends, and they are now experiencing fun digital operation on FT8. However, some still balk at the notion of using digital modes. Perhaps this offering will shed some light on why it is perfectly acceptable to deviate from the old trustworthy modes from time to time, and use the digital ones, if for nothing else, a different and fun departure from the norm.

The primary complaint I have heard when it comes to digital modes is:

“They aren’t real ham radio.”

Every generation of amateur radio operators has watched a new technology arrive and heard someone make a statement along those lines. However, don’t forget...when SSB became popular, some traditionalists resisted it. When FM repeaters exploded in popularity, some operators questioned whether repeater contacts were “real” radio. Packet radio, APRS, satellites, computerized logging, software defined radios – and now FT8 and other digital modes – have all faced versions of the same criticism.

But here's the fundamental point:

Amateur radio has never been defined by one particular mode of communication.

It is a radio service built around experimentation, communication, technical aspects, and the use of RF technology. Whether you choose to accept it or not, digital modes fit squarely within that tradition.

So, what the heck IS a digital mode? – At its simplest, a digital mode is defined as a method of representing information as digital data and transmitting that information using radio.

Your voice on traditional SSB is an analog transmission of sound. With a digital mode, information is converted into digital data, processed according to the particular mode's protocol, and then transmitted over RF.

The radio doesn't care whether the information originated as:

- Your voice
- Text
- CW
- A computer-generated message
- A photograph
- Position information
- Telemetry
- Contest information
- Or some other form of data

It's still radio communication.



Then, I’ve heard this statement: **“But the computer’s doing all the work!”**

This is probably the most common criticism. Someone sees an operator like the one in the above photo running FT8 and they say: “She’s just clicking a mouse. The computer is making the contact. It’s just two computers ‘talking’ to each other.”

There is some truth in that criticism: digital software can automate portions of the operating process.

But, that is not unique to digital radio. Modern amateur radio is filled with automation!

Consider a modern HF station. A computer may: Control the transceiver, change frequencies, control the antenna tuner, display a waterfall, decode signals, maintain the logging software, send CW and RTTY, track satellites, control a rotor, interface with a digital mode program, and upload contacts to an online logging system.

Does that mean the radio isn't being operated? – Of course not. *The computer is another tool in the station.*



So, if you're going to use the argument that the computer is doing all the work, then be sure and maintain your continuity with that argument about an automatic antenna tuner:

The operator isn't tuning the antenna!



Or an electronic keyer:

The operator isn't really sending Morse!

A while back, I was talking to one of my ham friends who was pondering this topic of digital modes, FT8 in particular. He tossed that statement at me that the computer was doing all the operating, and he wasn't going to depend on a computer to make contacts. I asked him:

“Do you use a newer menu driven radio?”



“Yes.”

“Well then, you need to sell it and go back to an old tube-type analog model, don't you think? You don't need to be using those great digital signal processors that are providing you with really good reception and filtering.”

“How do you log?”

“Personally, I use N3FJP.”



“That’s a computer logging program. You need to stop using it and go back to pen-and-paper logging because you’re using a computer to help you log, right? And while you’re at it, forget LoTW..... You don’t need all those computerized, digital, electronic confirmations. That computer platform is assisting you in confirming those contacts, correct? You need to go back to only using hard copy QSL cards for confirmations, don’t you think?”

“What do you use to operate CW?”

“My paddle and keyer.”



“That keyer is an electronic device with a computer chip in it, right?”

“Yes, I suppose so.”

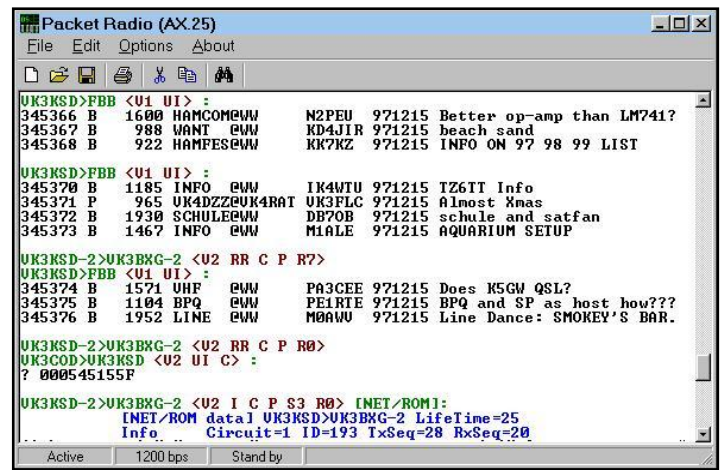
“Then the keyer is helping you send code. It’s not solely you sending it. You need to trash the paddle and keyer and dust off that ol’ straight key and start using it again. At least you yourself will actually be making the dots and dashes instead of your electronic keyer doing it for you.”

He told me my arguments were weak, but I think he knew where I was coming from.

As stated earlier: The computer is another tool in the station. *I simply maintain that technology doesn't eliminate amateur radio.* It gives amateurs new things to experiment with, as I have discovered.

I did some research and found some interesting facts. Here's where the “digital isn't real radio” argument really falls apart. – Digital communication is not some invention of the “Internet Age”. Amateurs have been experimenting with digital communications for decades.

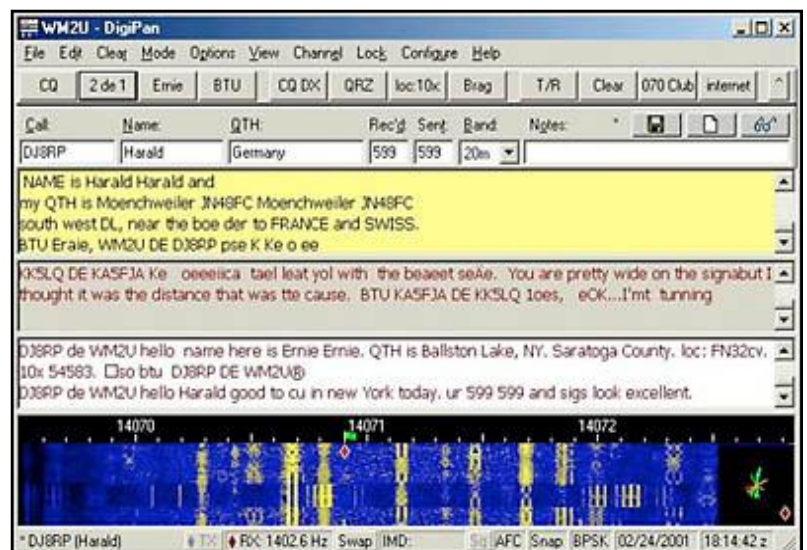
Beginning in the late 1970s and becoming increasingly popular during the 1980s, amateur packet radio allowed operators to exchange computer data over radio.



Radio teletype has an even longer history. RTTY operators have been sending text over radio since long before modern personal computers ever existed. Early systems used mechanical teleprinters and special equipment. Today, software programs perform that same basic function using a sound card and a transceiver.

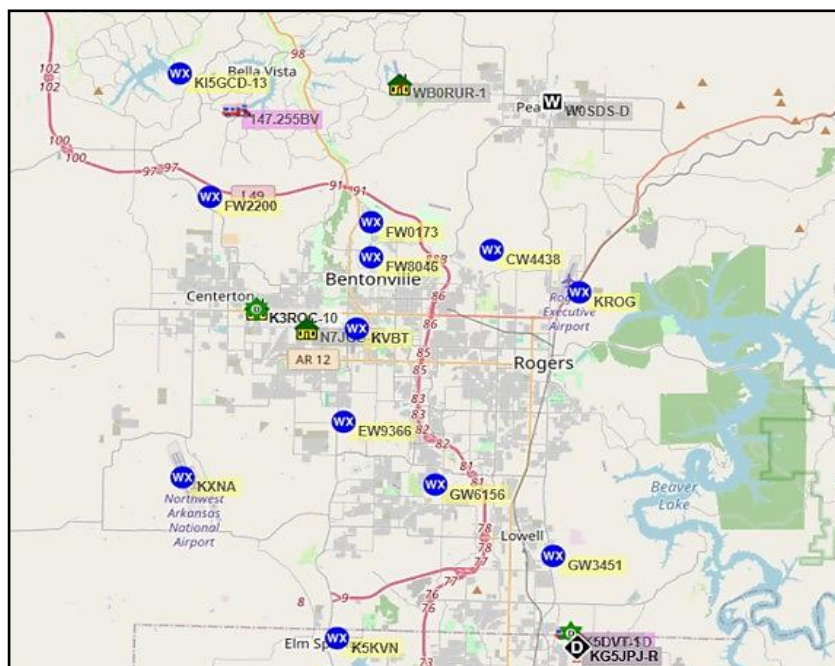


PSK31 became particularly popular because it allowed operators to exchange keyboard-to-keyboard text using very little bandwidth.

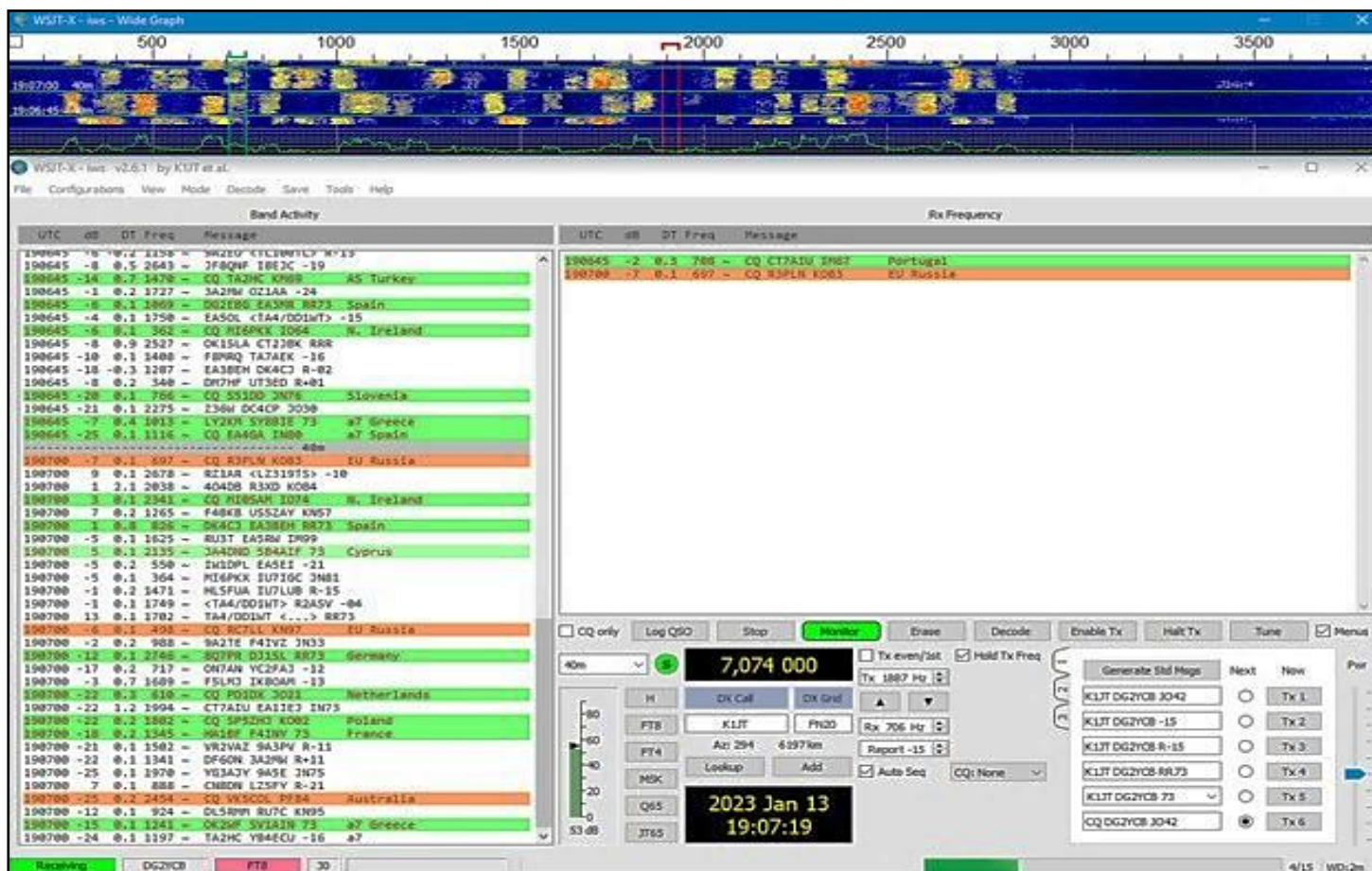


APRS took digital packet radio into a new dimension, allowing operators to exchange position and status information, weather data, messages, and other information.

Today, APRS is used for everything from tracking amateur radio operators during events and emergencies to monitoring weather stations. It is still amazing.



And then came FT8.....



Few modern digital modes have generated as much discussion, debate and even (unfortunately) intense arguments as FT8. FT8 was designed for weak signal communication and is especially effective when signals are difficult for humans to hear. It uses carefully timed transmissions, computer generated tones, error control techniques, and sophisticated signal processing. And, it has transformed the experience of weak signal HF operating.

I never thought I'd see the day when another mode would outperform picking up weak signals as I have done with my headphones and ears on CW for decades.....but it has happened. The first time I saw the FT8 software receive and print (display) a signal on my monitor screen from a station that I could not physically hear at all, I was totally amazed.

But here's my point, as we use FT8 for an example: The FT8 software picking up the weak signal station, instead of my ears picking it up, is not cheating. –

That's radio technology doing exactly what radio technology is supposed to do!

And finally, there's this argument: **"But There's No Conversation!"**

I will grant this criticism has a little more merit, but think about it.....

In reality, this statement is a criticism of a style of operating. – Not digital radio itself. A typical FT8 contact contains only the information necessary to establish and complete the contact.

It isn't a ragchew

But neither is a contest exchange.

Neither is a quick signal report.

Neither is a satellite contact where two operators quickly exchange call signs and grid squares before the satellite disappears over the horizon.

We all know that amateur radio contains *many* different operating styles.

Some operators love 45-minute conversations. Others enjoy making contacts with distant stations (I plead guilty). Some enjoy contesting (guilty again). Some chase awards (and again). Some experiment with propagation. Some build equipment. Some enjoy satellites. And.....*Some enjoy digital modes.* – **There is room for all of them.**

So.....the computer's doing all the work? – It's easy to forget what's going on behind your computer screen.

Suppose you click “Enable” or “TX” in your digital mode software. Or, you press an F-key to send a pre-made (canned) message stored in the memory banks of your CW software:

- The computer generates a signal.
- That signal passes through an interface or sound card system.
- The transceiver converts the information into an RF signal.
- Your feed line carries that RF to the antenna.
- The antenna launches an electromagnetic signal into space.
- Propagation carries that signal to another station.
- Their antenna receives it.
- Their radio converts the RF into electrical/audio/data.
- Their computer processes the signal.
- And finally, information appears on their screen.

That’s not a computer.....**that is a radio communication system.**

The fact that a computer is involved doesn't change the laws of physics!

There’s one last thing I would like to address. I said at the beginning of this editorial that when I discovered FT8, I did not abandon my trusty standard modes of SSB and CW, which I haven’t. (Actually, CW has been, is now, and ALWAYS will be, my *favorite* mode.)

Just because FT8 is still relatively new and totally different from analog modes, does this mean every digital contact is equally interesting? – Absolutely not.

And this is where reasonable debate belongs. – An operator who loves traditional voice ragchews may find an FT8 contact unsatisfying. An avid CW operator may prefer copying Morse code by ear. A contest operator may thrive on rapid exchanges. A digital enthusiast may spend hours experimenting with weak signal modes. - - - - There's nothing wrong with having preferences.

The mistake made by the naysayers of FT8 and the other digital modes is turning the opinion of “**I don't like this mode**” into the criticism of “**This isn't legitimate amateur radio.**”

Those are two *very* different statements.

The greatest strength we all have in amateur radio is its incredible diversity.

On any given day, somewhere in the world, amateurs are:

- Talking across town on FM
- Ragchewing on HF
- Sending CW
- Chasing DX
- Running FT8
- Operating a weekend contest
- Sending packet data
- Tracking satellites

- Experimenting on microwaves
- Operating Slow Scan TV
- Building antennas
- Restoring vintage equipment
- Developing software
- Supporting public service events
- Operating portable
- Exploring propagation
- Designing new equipment

They're all doing different things, but they're all exploring the same basic question:
What can we do with radio?

And that – perhaps more than any particular mode – is what amateur radio has always been about.

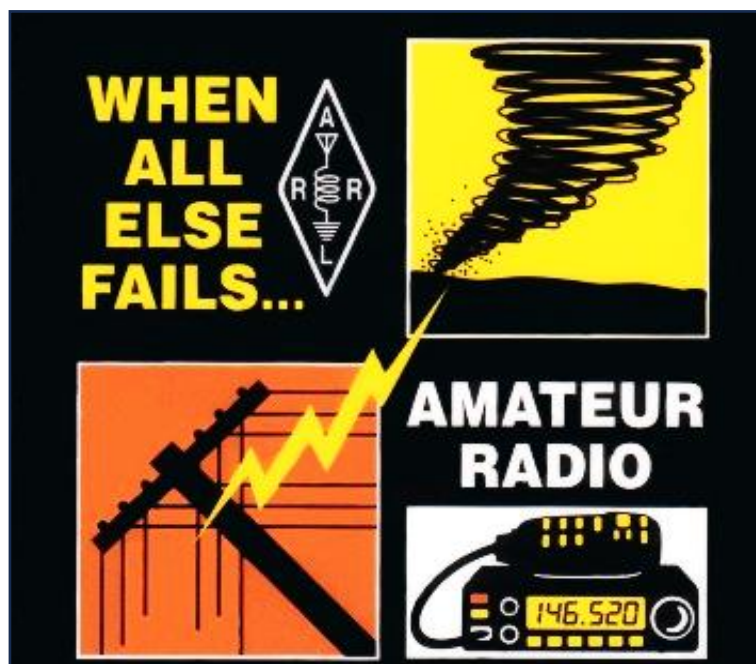
And one final, final thought I want to pass along: Digital modes aren't the death of amateur radio! They are another chapter in its evolution!

You don't have to like FT8, you don't have to own a computer, you don't have to operate digital modes at all.

But dismissing digital communications as “not real amateur radio” is overlooking more than a century of technological experimentation within the hobby.

I think the better attitude might be: **“I don't operate that mode – but I'd like to know how it works.”** Personally, I'm glad my ham friends helped me discover the most popular digital mode in amateur radio history (so far). I became curious, and I'm glad I did.

Curiosity is where amateur radio began.....And it's what will keep it interesting for us now, and our younger club members in the next generation.

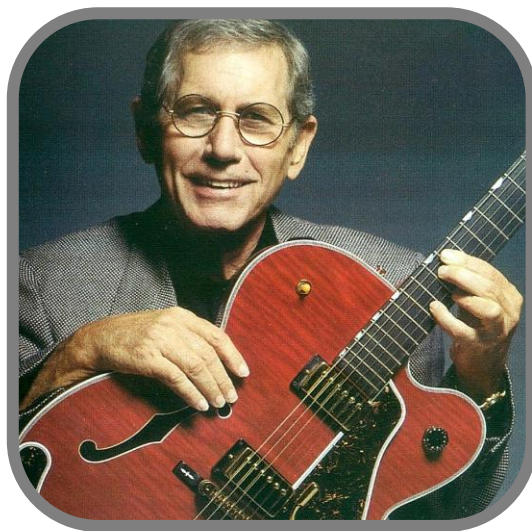
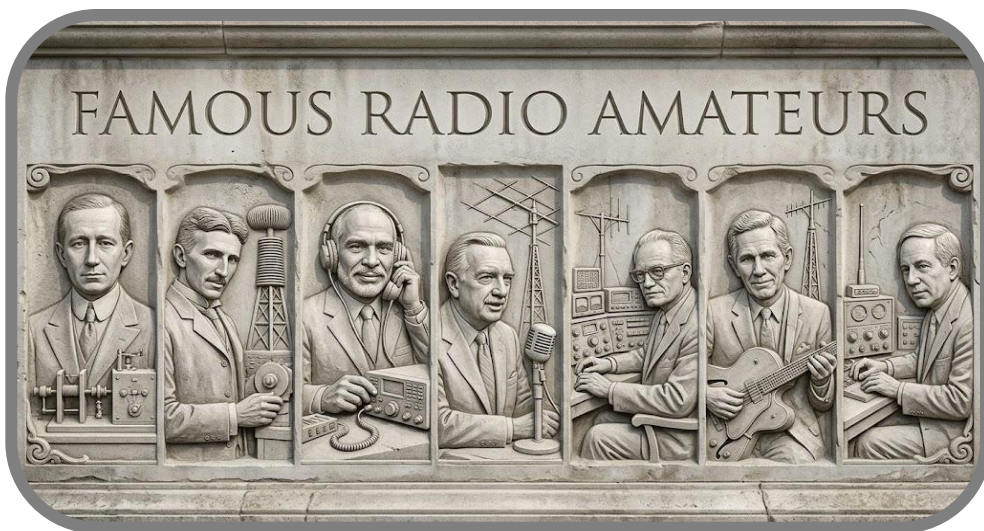




LAUGHTER







Chet Atkins: "Mister Guitar" and a Fellow Ham

When we think of Chet Atkins, we usually think of the gentle, sophisticated fingerpicking that earned him the nickname "**Mister Guitar.**" But the legendary Nashville musician had another passion that may be especially familiar to readers of this newsletter: *amateur radio*.

Atkins was a licensed radio amateur with the original call sign of WA4CZD. He was a General class license holder and member of the ARRL. In 1998, he obtained the vanity call W4CGP – a particularly appropriate choice, since "CGP" stood for "Certified Guitar Player".

Atkins spoke publicly about his ham radio interest in the ARRL promotional video *The New World of Amateur Radio*, released in 1988. He introduced himself not only as a guitarist but also as an amateur radio operator, noting that he had been involved in the hobby for over two decades.

His connection with radio went back much further than his ham license. Atkins got his start as a professional musician working at radio stations, including WNOX in Knoxville, where he played fiddle and guitar. Radio was also an important influence on his musical development: he heard guitarist Merle Travis on WLW and developed his own distinctive thumb-and-finger picking technique from what he heard. He held a multifaceted and decades-long association with RCA Victor Records, serving as a session musician, producer, A&R executive, and studio manager. He was first signed by RCA in 1947 where he served as house guitarist, playing on hits for artists like Elvis Presley, Eddy Arnold, and the Everly Brothers. He remained with the label until 1982, during which time he rose from a featured guitarist to Vice-President of RCA's country division.

There was even a musical contribution to amateur radio. Atkins supplied the closing theme for *Ham Radio in Space*, an ARRL/AMSAT production. Thus, his two interests – music and radio – occasionally came together in a very literal way.

Chet Atkins died in 2001 at age 77 and was remembered by the ARRL as both a musical legend and one of amateur radio's better-known celebrity operators. His call sign, W4CGP, remains a delightful reminder that even someone who had reached the pinnacle of the music business could still enjoy the simple pleasure of getting on the air and making contacts with fellow amateurs.

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