



# Yavapai Signal

The Yavapai Amateur Radio Club – Prescott, Arizona – DM-34 – Volume 34 – No. 6 – June 2019

Upcoming Club Events				
Event	Date	Time	Place	Contact / Info:
General Meeting	TH 06/06/19	1900 MST 7 p.m.	Prescott Rodeo Grounds	Club Website
YARC Breakfast	TH 06/20/19	0800 MST 8 a.m.	BackBurner Restaurant, Prescott Valley	Don WB7TPH or Jeff WB7RFY
General Meeting Programs — See page 4.				
Public Service Event Communications — See page 5.				
License Testing — See page 5.				

YARC:	Badges	Patches	Shirts
<b>Features:</b>	Name & Call	Club Name & Logo	With or Without Name & Call
<b>Contact Person(s):</b>	Jim Fortney K6IYK	Jim Fortney K6IYK	Pete Morrison K6VVR
<b>Cost:</b>	\$7.50 each	\$3.00 each	Without Name & Call \$20.00 — With Name & Call \$24.00 each

Club Website Registration
In order to receive the <u>Signal</u> (the club's official newsletter), you must be a member of the club. Make sure your email is correct by logging into our website ( <a href="http://www.w7yrc.org">www.w7yrc.org</a> ), then clicking on the members tab and viewing your profile.

## Welcome to the Yavapai Amateur Radio Club

The Yavapai Amateur Radio Club (YARC) is an ARRL affiliate Special Service Club. The club participates in many activities in the quad-city (Prescott, Prescott Valley, Chino Valley, and Dewey-Humboldt) area by providing communications for local events, emergency communications, and promotion of the hobby throughout the community.

Membership in YARC is open to any interested amateur or non-amateur alike. Dues are \$20.00 per year (full-time students \$15). YARC general meetings are at 1900 MST on the first Thursday of every month at the Danny Freeman Building, Prescott Rodeo Grounds, 840 Rodeo Drive in Prescott.

[www.w7yrc.org](http://www.w7yrc.org)

YAVAPAI AMATEUR RADIO CLUB – PO BOX 11994 – PRESCOTT AZ 86304-1994

### Club Nets

Band	Mode	Frequency	PL	Night	Time
2M	FM	147.260 MHz	+103.5 Hz	Wednesday	1900 MST
2M	SSB (USB)	144.250 MHz	N/A	Wednesday	2000 MST
10M	SSB (USB)	28.440 MHz +/- QRM	N/A	Thursday	2000 MST
¾M	FM	447.650 MHz	-100.0 Hz	Saturday	0900 MST

### Yavapai County ARES/RACES Nets

2M	FM	147.260 MHz	+103.5 Hz	Monday	1830 MST
2M	FM	145.290 MHz	-127.3 Hz	Monday	1900 M

### Club Repeaters

2M	FM	146.880 MHz	-100.0 Hz	Open Use 24/7	Open Use 24/7
¾M	FM	447.650 MHz	-100.0 Hz	Open Use 24/7	Open Use 24/7

### Submission Deadline for the Yavapai Signal from editor Loren Singh, AE7CG

The usual deadline for submission of articles and photos to appear in the Yavapai Signal is the 18<sup>th</sup> calendar day of each month. That gives me time to edit and format submissions, and to have the newsletter available for distribution to the club membership by the 20<sup>th</sup> calendar day of each month. The aim is to have the newsletter in the hands of club members approximately 10 days or so before the holding of the general meetings on the first Thursday of each month.

[ae7cg@arrl.net](mailto:ae7cg@arrl.net)

### Share Your Surplus Items

Bring any ham related surplus items that you no longer need to the next club meeting. There will be a table at the meeting where your items can be placed. Let your fellow club member take those things that they want. The table will be available at each monthly meeting.

### Canned Food Donations

Bring your non-perishable food items to the monthly club meetings and Terry Pemberton KB7TRE will take them to the local food bank. Give your bagged items to Terry.



### From the President's Desk

by Bill Noe, W7PVA

Hello everyone! Spring and related outdoor activities have begun. If you haven't already done it, it's time for a little station maintenance. Check the antennas, coax, and feedlines. Winter, especially this year, may have taken quite a toll on them. Throw open the doors and windows and dust the shack out.

Don't forget to plan ahead. We are entering into a very busy time for our club. The Prescott Hamfest is nearly upon us. It will be days away by the time you read this. We hope to see you there. And bring a friend or two!

Field Day is next, June 22 and 23. We will hold our field day at the Jeep Posse Building as we have the past few years. The club station will be utilized for those who wish to operate.

Field Day activities will start at about 11:00 am on the June 22 and continue for the public to about 2:00 pm. Following that will be the club picnic. Terry KG7BAM and Jo KF7WOT will coordinate the food. Terry will be cooking tri-tip again. Following all the food we will have an ice cream social. The cost of the picnic will be \$5 per person.

For those who wish to continue operating throughout the night and into the next morning, the station will be available. Logs will have to be completed and submitted as soon as possible following the event. Please contact me prior to the event.

The club will be supporting the Prescott Rodeo, Monday July 1 through Sunday July 7 and the Rodeo Parade, Saturday July 6 this year. For those of you wishing to volunteer for the rodeo, please fill out the volunteer form at the next general meeting. We will get them to the Prescott Rodeo Committee and they will contact you for your positions and duties. If you wish to volunteer for the Rodeo Parade, contact Frank K8FB or Rob KG7LMI. They will be coordinating folks for that event.

On another more serious note, I have had calls about changes proposed for the Yavapai County Zoning Ordinance. I do not have good or conclusive information other than the changes may involve antenna heights (including towers) and placement. When I do have the factual information I will forward it to you via email.

I ask that you not get emotional and/or upset about this at this time. Keep in mind that there is a process that has to happen prior to changing the ordinance. The change will have to be done at an open meeting of the Supervisors. Our goal would be to educate the Supervisors as to facts. Emotion and anecdotal information will not help our cause.

If you would like to be involved in a club committee to address this issue, please let me or one of the board members know. When we have a meeting to plan any action or response you will be informed.

One of the things that influences politicians — and the members of the Board of Supervisors are politicians — is a showing of constituents at their meetings when they consider the issue. When that contingent is knowledgeable and courteous the Board will generally give them more credence.

## Meeting Minutes

By decision of the board of directors, minutes of the board and general meeting minutes will no longer appear in the *Yavapai Signal*. They are posted online at the club's website:

[www.w7yrc.org](http://www.w7yrc.org) → Members → Login → Reports

- |
- Board Minutes
- Club Minutes

## YARC General Meeting Programs, 2019

by Joe Thomas, KG6IDN

Month	Presenter	Subject / Details
June	Terry Schultheiss KG7BAM	Radio Go-Kits, Summer Preparedness
July	Special Interest Group (SIG)	Need volunteers
August	Special Interest Group (SIG)	Frank Bender K8FB — Public Service Events
September	Special Interest Group (SIG)	Need volunteers

## New Members

The following new YARC members joined at the May 2, 2019 general meeting. Please introduce yourself to them and make them feel welcome:

<b>Frederic McDaniel</b> KI7LWZ	<b>David Misencik</b> KG7OIK	<b>Nathan Nixon</b> N7NAN	<b>Paul Winski</b> KJ7FAZ	<b>Charles Wyatt</b> AE7CW
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## Mentor / Buddy

Our club is in need of help for new and no so new inexperienced Hams. There are a number of club members that have passed their license test but are asking, "Now what?".

Anyone interested in helping our club members in need or, if you are someone who needs help, please contact:

Dave Erlach W7VXSX at [w7vsx@w7yrc.org](mailto:w7vsx@w7yrc.org) .

## Mentor Buddies

Name	Call Sign	E-mail	Telephone
Don Bauer	WB7TPH	<a href="mailto:dbauer2250@aol.com">dbauer2250@aol.com</a>	
Mike Bélanger	W1DGL		420.0498
Frank Bender	K8FB	<a href="mailto:fb47@hotmail.com">fb47@hotmail.com</a>	379.5575
Pete Morrison	K6VVR		899.8555
Bill Noe	W7PVA	<a href="mailto:w7pva@arrl.net">w7pva@arrl.net</a>	710.6925
Dave Hanson	W7BJ	<a href="mailto:w7bj@arrl.net">w7bj@arrl.net</a>	602.615.3444
Dick Hughes	W6CCD	<a href="mailto:w6ccd@arrl.net">w6ccd@arrl.net</a>	928.759.0337
Jim Zimmerman	N6KZ	<a href="mailto:n6kzdx@gmail.com">n6kzdx@gmail.com</a>	
Art Protas	KG6AY		928.227.2954
Tony Jackson	K6PSR	<a href="mailto:ki6ahh251@hotmail.com">ki6ahh251@hotmail.com</a>	
Frank Johnson	NØSCA	<a href="mailto:pappyj1950@yahoo.com">pappyj1950@yahoo.com</a>	

### Public Service Event Communications

We are now accepting volunteer sign-ups for the following events:

- Yarnell Memorial Run – June 1, 2019, Contact: Doug Jarmouth NØDAJ  
([n0daj1950@gmail.com](mailto:n0daj1950@gmail.com))
- Prescott Rodeo Parade – July 6, 2019, Contact: Frank Bender K8FB  
([fb47@hotmail.com](mailto:fb47@hotmail.com))

**A special thank you to everyone who has volunteered for one of these events. Your participation is essential to the success of our public service events and is greatly appreciated.**

ARES/RACES is providing the MARC communications vehicle and a net control operator for these (except the Chino Grinder because of a conflict with the Whiskey Row Marathon) events.

Public service events are a major focus of our club's activities. Come out, test your emergency preparedness, improve your operating skills, and assist your community.

Don't worry if you are inexperienced. We will team you up with someone who can show you the ropes. You don't have to be a YARC member to participate. If you wish to sign up for one of these events, contact the person indicated above or Frank Bender K8FB ([k8fb@w7yrc.org](mailto:k8fb@w7yrc.org)).

You can find these and other upcoming public service events on the club web site at  
<http://www.w7yrc.org/public-service-events/> .

### Autumn 2019 Public Service Events

- The Prescott Road Rally – September 27 and 28 – being organized by  
Bob Rosevear WB7RRQ
- The Man/Horse Race – October 5 – in cooperation with the Yavapai  
County Jeep Posse – being organized by Frank Bender K8FB

You can find these and other upcoming public service events on the club website  
at <http://www.w7yrc.org/public-service-events/> .

### Upcoming License Testing

Date	City	Location	Time	Sponsor	Contact	Walk-in
06/01/19	Prescott	ERAU	0900 MST (9:00 a.m.)	Prescott Hamfest	Don Bauer 928.775.4690	Yes

### ARRL-Arizona State Convention

The ARRL Arizona State Convention and Prescott Hamfest will be held at the Embry-Riddle Aeronautical University, in Prescott on 31 May, and 1 June. This is always a premiere event with lots of prizes, booths, presentations, and beautiful facilities. This year the newly refurbished food court will be available, and many great prizes as well. Their special Get-On-The-Air station is always a good way to have new hams experience making contacts. Visit the website at : [www.prescotthamfest.com](http://www.prescotthamfest.com) .



## ARRL Field Day 2019

ARRL Field Day 2019 is less than 3 months away! Field Day is always the fourth full weekend of June, beginning at 1800 UTC (11:00am AZ) Saturday, June 22, and running through 2059 UTC (1:59pm AZ) Sunday, June 23. The Field Day website already has updated content for 2019, and more is planned. While there are no substantial changes from prior years, some website text has been updated and clarified. With appropriate software versions and proper setup, the Field Day exchange can now occur using FT8. Make sure the software you are using (e.g. WSJT-X) can support the Field Day exchange, and is set up to do so.

<http://www.arrl.org/field-day>

## Prescott Valley Neighborhood Safety Group

**“Neighborhood safety is our mission.”**

**Ham Radio Net — Sunday, 1900 MST (7 p.m.)  
Frequency: 146.420 MHz, FM Simplex  
Net Control — Raymond A. Kolman, Jr., KI7COM**

[www.pvnsg.net](http://www.pvnsg.net)

[www.facebook.com/pvnsg/](https://www.facebook.com/pvnsg/)

[ray-kolman@pvnsg.net](mailto:ray-kolman@pvnsg.net)

## Breakfast and Lunch Gatherings

There are a number of lunch and breakfast gatherings in the area that are open to all radio amateurs and interested persons. Please let us know of any updates or corrections at [info@w7yrc.org](mailto:info@w7yrc.org).

**Third Thursday** of the Month – **YARC** holds an informal **breakfast** gathering at the **BackBurner** Restaurant at 0800 MST. The restaurant is at 8400 Long Mesa Drive in Prescott Valley. Contact Don Bauer WB7TPH or Jeff Hanna WB7RFY.

**Second Tuesday** of the Month – **Quarter Century Wireless Association (QCWA)** brunch gathering, 1030 MST to 1230 MST at the **Golden Corral** Restaurant in Frontier Village in Prescott, off Highway 69. You do not have to be a QCWA member to attend.

**Every Monday** – **Dan Nichols (W6SAK SK) Memorial Lunch**, 1100 MST to 1230 MST at **roving locations**. Contact Bob Rosevear WB7RRQ, 928-458-7830, [rosevear520@cableone.net](mailto:rosevear520@cableone.net); or Bob Smith WB6ODR, 928-443-9321, [lrsmith@cableone.net](mailto:lrsmith@cableone.net) for the next location.

**Every Wednesday** – **Breakfast** at 0700 MST at the **Manzanita Grill** at the Antelope Hills Golf Course, near the Prescott airport.

**Every Wednesday** – **Lunch** – 1100 MST at **Costco** — “The Umbrella Club”



**May 2019 Foxhunt**  
by John Broughton, WB9VGJ

The monthly foxhunt was held Sunday, May 5, 2019. Jeff WB7RFY and John WB9VGJ were the foxes. There were two teams for this hunt: 1) Pete K6VVR and Patrick KG7EWD; and 2) Robert WA6FBA and Bob WB6ODR.

The results of the hunt were:

Finish	Team	Time
1	K6VVR and KG7EWD	20 min.
2	WA6FBA and WB6ODR	1 hr. 25 min.

WB7RFY and I hid the transmitters at the south end of the parking lot on the south side of the Prescott Resort. We figured it was a nice place as it was one of the highest sites around and hunters might think we were in the Frontier Village Shopping Center across the highway a short distance away.

There was a snow plow blade sitting at the western edge of the parking lot and we placed the primary transmitter on the thick plate at the bottom of it. It was facing west. We put the secondary transmitter behind fender at the wheel well at the left front of Jeff's pickup truck. I brought a mag mount antenna to use as a decoy. I placed it at the base of a light pole closest to the location of the primary transmitter's location, put a rock in a plastic grocery bag, ran the coax into the bag and put the bag on the ground. Both teams of hunters fell for the decoy and thought they had found the secondary transmitter when they saw it and stood next to it, even though they were not getting a strong signal from it.

K6VVR and KG7EWD did not take long to find the transmitters. They only made five turns. They turned north onto Willow Creek Rd. from the starting point, right at Rosser, Right at Hwy. 89 and left on the road up the hill to the Prescott Resort. The signal readings they took led them directly to us.

WA6FBA and WB6ODR had an entirely different experience. WA6FBA's Doppler system is a great piece of technology. However, in getting everything set up, by accident he hit a switch that reverses the direction the system indicates. As a result, the indications they were getting was the transmitter was west of the starting point and not to the east. They drove west out of Prescott. However, having gone a ways, they went down below a hill and the signal got very weak or went away. That gave the clue that the transmitters were not west of them. They then determined what the problem was and after switching back to the regular setting, they discovered the signal was to the east. After that, it did not take them long to find us. Needless to say, they got a little ribbing at the restaurant afterwards..

You can see pictures of the hunt here:

<https://tinyurl.com/YARCFoxhuntMay2019>

We had our usual after hunt socializing session at Prescott Junction restaurant. We would encourage more folks to get involved in the hidden transmitter hunts. They are really fun and help develop direction-finding skills.



**W7YRC 2M FM Net — 147.260 MHz, PL +103.5 Hz — Wed., 1900 MST**

**Note: NCS = Net Control Station**

Call	Name	04/24/19	05/01/19	05/08/19	05/15/19
AE7CG	Loren	NCS	NCS	NCS	NCS
K6VVR	Pete	x	x	x	x
KF7ANX	Frank				x
KF7FPD	Jerry		x	x	x
KF7INF	Dennis		x	x	
KF7PQV	Dan	x			x
KG6AY	Art	x	x	x	x
W7HAM	Ralph	x	x	x	x
WA6AQK	Ken	x	x	x	x
WN7E	Tom	x	x	x	x
KG7EWD	Patrick		x	x	x
WA6FBA	Robert	x	x	x	
NO1D	Doug	x	x	x	x
KI7LXI	Sheila	x	x	x	x
KI7LWU	Tim	x	x	x	x
KI7LWZ	Mike	x	x		
K7LMJ	Mike		x		x
W7PVA	Bill	x	x	x	
W7WWB	Ron	x		x	x
KJ7WED	Bob	x		x	x
N7HY	John	x			
N7IEP	Mike	x			
KK6PTO	John		x		x
K6PSR	Tony		x		x

**Note: Art KA5DWI** checked in on Apr. 24, May 1, and May 8. He has asked to be removed from the list of net participants in anticipation of moving out-of-state in the near future.





**The FT4 Protocol for Digital Contesting**  
 by Joe Taylor, K1JT, Steve Franke, K9AN, and Bill Somerville, G4WJS  
 April 22, 2019

**Introduction:** FT4 is an experimental digital mode designed specifically for radio contesting. Like FT8, it uses fixed-length transmissions, structured messages with formats optimized for minimal QSOs, and strong forward error correction. T/R sequences are 6 seconds long, so FT4 is 2.5 × faster than FT8 and about the same speed as RTTY for radio contesting. FT4 can work with signals 10 dB weaker than needed for RTTY, while using much less bandwidth.

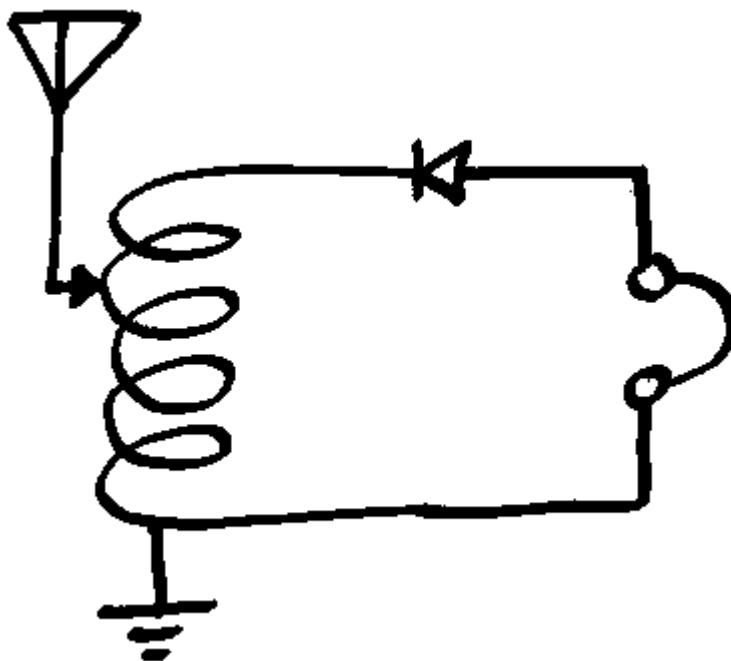
**Basic Parameters:** FT4 message formats are the same as those in FT8 and encoded with the same (174,91) low-density parity check code. Transmissions last for 4.48 s, compared to 12.64 s for FT8. Modulation uses 4-tone frequency-shift keying at approximately 23.4 baud, with tones separated by the baud rate. The occupied bandwidth (that containing 99% of transmitted power) is 90 Hz. Threshold sensitivity for 50% decoding probability is S/N = -16.4 dB, measured in the standard 2500 Hz reference noise bandwidth. A priori (AP) decoding can push threshold sensitivity down to -18 dB or better.

**Schedule:** A few parameters and operating behaviors of FT4 are still being tested and optimized. It will be very useful to hold several more mock contest practice sessions, with a larger group of active participants. Even if these reveal no serious bugs or inadequacies, we think FT4 is too new to be used in two upcoming events: the ARRL VHF Contest (June 8-10) and ARRL Field Day (June 22-23).

As far as possible, we plan to adhere to the following schedule:

- May 9, 0000 – 0100 UTC: FT4 practice session, 7.090 MHz
- May 14, 0000 – 0100 UTC: FT4 practice session, 7.090 MHz
- June 5, 0000 – 0100 UTC: FT4 practice session, 7.090 MHz (if needed)
- July 15: General Availability (GA) release of WSJT-X 2.1.0

**Random Concluding Thoughts:** FT4 is a special-purpose mode designed for rapid-fire contest QSOs. It serves this purpose very effectively, but like FT8 the mode is not useful for more extensive conversations. FT4 uses much less bandwidth than RTTY and provides reliable decoding at much lower signal levels. It has no need for “Super Check Partial” or similar contesting aids, and skilled operators using FT4 will find less motivation to use a DX Cluster or other non-radio aids. All information necessary to score well in a contest can be obtained over the air, during the contest, through one’s own antennas and radios. With FT4 there is little distinction between CQ and S+P operation, so it’s easy to switch frequently between the two ways of finding QSO partners. Stations using low power and compromise antennas can participate effectively in a contest using FT4.



### Getting Loaded (Antenna-wise, Anyway) by Dan Romanchik, KB6NU

A couple of years ago, I homebrewed a "Cobra" antenna (<https://www.kb6nu.com/yet-another-new-antenna-the-cobra/>). It's a doublet antenna, meaning that it consists of two elements connected to a center insulator, where it connects to a feedline. The unique thing about the Cobra antenna is that each element consists of three parallel conductors connected in series.

My antenna uses a lightweight, three-conductor rotor cable that used to be available from Radio Shack. The feedline is 450  $\Omega$  ladder line that connects to an antenna tuner to give me multi-band operation.

Connecting the conductors in this way is supposed to provide "linear loading." Somehow, running the conductors in parallel is supposed to increase the antenna's effective length. My antenna is only 73-ft. long, but it easily tunes up on 80m. The *ARRL Antenna Book* has a short section on linear loading. It says that linear loading is a "little understood" alternative to inductive loading that can be applied to almost any type of antenna. Furthermore, "...it introduces very little loss, does not degrade directivity patterns, and has low enough Q to allow reasonably good bandwidths."

As I mentioned, I've been using this antenna with good results for a little more than two years now. When I first put it up, someone mentioned the concept of linear loading to me, but not being an antenna guru, I didn't give it much thought. About a week ago, though, I ran across a link to the page Short Ham Antennas for HF (<https://www.hamradiosecrets.com/short-ham-antennas.html>). That got me thinking about the topic again.

This page describes a way to build a linearly-loaded dipole antenna with a feedpoint impedance of approximately 35  $\Omega$ . This allows you to feed it with coax instead of the ladder line that I use. The author uses 390  $\Omega$  ladder line for the elements. He says it's commonly available, but I don't think I've ever seen 390  $\Omega$  ladder line. You could probably use 450  $\Omega$  ladder line by adjusting the element lengths a little.

At that point, I started Googling. The next linear-loaded antenna design that I ran across is a design from MØPZT (<http://www.m0pzt.com/40m-linear-loaded-dipole/>). He built his elements from some sturdy wire and homebrewed spacers made from PVC pipe. He's used this design for the 40m elements of a fan dipole covering the 40m, 20m, 15m, and 12m bands. Only the 40m elements are linear-loaded.

I also found a design for a linear loaded vertical antenna for 40m and 80m (<https://www.gsl.net/pa3hbb/ll.htm>). This antenna is only 7.736m, or 25.4 ft. tall. Of course, it requires a good radial system to work well, but it will work a lot better for DX than a low doublet or dipole.

Finally, there's an eHam discussion on linear loading (<https://www.eham.net/ehamforum/smf/index.php?topic=84418.0>). Unlike a lot of eHam discussions, this one is quite civil. It's worth reading if you're interested in the topic. So, if you're thinking of getting loaded, errrrr, I mean loading your antennas, here's a method for you to consider. It works!

**The Attraction of CW**  
by Howard R. Bernstein, WB2UZE  
(This article was originally published on the popular website [eHam.net](http://eHam.net) .)

**CW: What's the attraction in today's high tech world and how does one learn it?**

Before I can answer the question why CW would be of interest to any ham in today's high tech world, let's spend some time first on how it all got started back in the day of the telegraph.

The telegraph was developed in the 1830s-1840s by Samuel Morse (1791-1872) and other inventors. It was a revolutionary long distance communication done by transmitting electrical signals over wires between stations. Morse invented a code (Morse Code) that assigned a set of dots and dashes to each letter of the English alphabet, which gave an understandable format to the electrical signals.

The first telegraph transmission in 1844 was between Washington DC and Baltimore and by 1866 an oceanic line had linked the USA and Europe. By the end of the 19th century telegraph communication became the backbone of our country. Yet with the invention of the telephone, telegraph lines became of less importance in the early part of the 20th century. However Morse Code (CW or continuous wave) continued to be used with newly developed radio transmitters of that era. Even with the advent of AM transmission and later SSB, CW was the preferred mode for ship to shore, commercial and military applications through the 1950s due to its effectiveness to get through in poor atmospheric conditions and with compromised equipment. With the coming of microwave, fax and satellites, CW use waned but maintained its major use amongst the amateur radio community.

So is there value in CW today or is it a lost art of the past? Let's take look back to what it was like when I first got my license in 1965 when CW was still required by the FCC. The FCC required all entry level Novices to be able to copy 5 words per minute. Back then there were no computers, internet or software for learning CW so an aspiring Novice had to seek out a local ham to help with learning CW and theory. That local ham would also give the Novice exam and code test. There were no repeaters so most all hams were HF active and imparted these skills to their eager students. So there was a direct connection between aspiring Novices and established HF operators. Seeing the experienced operators handling CW at high speeds was fascinating and motivating. There was also something very engaging about hearing CW over what we now call Boat Anchor radios. When one tuned one of those vintage radio and saw the glow of tubes, it felt like real solid equipment which we developed admiration and respect for. For so me older hams today, the need to own those very rigs is due to this same connection made years ago.

Once we became Novices, we were not allowed to have VFO privileges and we worked off crystals. This meant we were stuck with a handful of individual frequencies. Our first receivers were not the best and we had to learn to receive CW with drifting receivers, poor sensitivity and no selectivity, the very things we take for granted in modern radios. These challenges made us excellent listeners and with that our speeds and CW skills increased as we progressed in the hobby. Back then to get a General license 13 words per minute was required and 20 for the Extra. As we became more proficient to reach these required speeds we developed head copy and CW became a language and not a series of dots and dashes. This is why many of the older hams are still preferring CW to voice and digital as they have developed a strong connection to the CW mode. To me there is nothing more satisfying in the ham radio hobby than having a CW QSO at a rapid speed with the challenge of copying in poor conditions, making few sending mistakes.

So getting back to the original purpose of this article: why should we be interested in CW today? I can list a host of reasons as follows:

- CW can get out better when the ham has a compromised antenna or low power. CW is ideal for QRP and portable operations. With weak signals it's harder to comprehend SSB than it is CW so CW has a clear advantage.
- CW can be copied easier in today's poor atmospheric conditions
- Sometimes it's nice to operate your radio and not have to physically talk
- CW bands are less crowded than the SSB portions so there is less competition to make a contact
- The challenge to send CW well is always there. We call that 'having a good fist'
- CW is like a language and it's no doubt good exercise for one's cognitive health and hearing
- Knowing CW requires a good knowledge of operating techniques and protocols which will challenge the individual ham

So one might ask, why CW if we have FT8 or other digital modes which can also get out in poor conditions. The digital modes leave most of the skill to a computer where CW is 100% the skill of the operator. To me it is truly more rewarding to make a CW QSO than sit idly by a computer and have it done for you, yet this is for any ham a personal choice.

Since CW was eliminated from the FCC license requirements in 1991, exams have been issued by Voluntary Examiners. In many cases after the exam, there is no longer any connection between the examiner and the new licensee. Most new hams think that our hobby all revolves around an HT and repeaters. Some have no idea of the thrill of operating on the HF bands or the attraction of CW. Unfortunately a lot of these new hams become inactive as they are not engaged. And with this deficit of active hams, when it comes to contests like Field Day and other special events, the demand for CW operators far exceeds what is available today.

So what is there to do about this? I myself along with my friend Rich K2UPS decided to make a difference. In 2018 we established the Long Island CW Club ([longislandcwclub.org](http://longislandcwclub.org)). We teach CW via an internet video conference platform at beginner, intermediate and advanced levels. Students get actual QSO training also by video conference for honing technique and increasing skill. We have found the interest very high from the students and everyone is having a lot of fun. The retro-ness of CW is very appealing in today's fast moving world and it's nice to make a connection to the bands with art and skill. It does take some dedication to learn CW and this commitment, like learning any language is not for everyone. So how does one learn CW?

(Continued on next page) —>

- Using a combination of what is called the Koch and Farnsworth method, we send the CW at 20 words per minute character speed but the spacing between letters is 5 words per minute. This will acclimate the student to higher speeds from the beginning and prevent the counting of the dots and dashes which will only slow the learning curve
- We teach 11 classes of 1 hour per week at various levels. For the beginners, the student is needing to practice 15-20 minutes daily using G4FON cw software and 4 letters and or numbers are taught per week.
- Sending skills are honed along the way
- QSO skills are taught live as soon as a student can send their call sign and 599. We feel it's important to get students on the air quickly to help mitigate any fears and to see the value of their studies.

Like the learning of any language, I must admit there is a dropout rate as some students find out they don't have the time or commitment. However for those who stick it out, they are rewarded by carrying on a skill and tradition that is most enjoyable and unique.

I hope after reading this article, hams that were considering to learn CW or had it on the 'back burner', will now spring into action. See you on the lower part of the HF bands!

### Did You Know?

submitted by Tom Griswold, WN7E

Thomas Edison proposed to his second wife via Morse Code (he'd previously taught her how to communicate using it so that they could talk secretly in the presence of her family).



John Broughton WB9VGJ and XYL Mary with their 1957 Pontiac, April 27, 2019



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## Yavapai Amateur Radio Club — W7YRC Club Station Access List — Effective March 12, 2019

### Permanent Station Access (defined by YARC role) —

Name:	Call:	Lic. Class	Notes:	Telephone:
Bill Noe	W7PVA	E	YARC President	710.6925 – Do not contact for access
Frank Bender	K8FB	E	Station Manager	379.5575 – OK to contact for access
Pete Morrison	K6VVR	E	W7YRC Trustee	899.8555 - Do not contact for access
Doug Freeman	KV8TD	E	N7GMH Trustee	759.0958 - OK to contact for access
Bud Semon	N7CW	E	ARES/RACES Dir.	899.7400 - Do not contact for access
Jim Zimmerman	N6KZ	E	Elmer Group	713.0542 - OK to contact for access
Art Protas	KG6AY	E	Elmer Group	227.2954 - OK to contact for access

### Building Access for Other Reasons (includes station access) —

Donald Bauer	WB7TPH	E	VE Chair	775.4690 - Do not contact for access
Kathy Laing	KJ6KMK	E	Practice Exams	778.2526 - Do not contact for access

### Rotating Access (changes every July 1<sup>st</sup>)

#### This category is limited and consists of volunteer members —

Rex Mauldin	N7NGM	E	Rotating Member	277.7164 - OK to contact for access
Mike Bélanger	W1DGL	E	Rotating Member	420.0498 - OK to contact for access
Rob Redford	KG7LMI	G	Rotating Member	623.252.3980 - OK to contact for access
Tony Jackson	K6PSR	G	Rotating Member	562.644.0528 - OK to contact for access
David Hanson	W7BJ	E	Rotating Member	602.615.3444 - OK to contact for access

#### Note to YARC Members —

**For station access, first try to contact the Rotating Access members.  
If you are not able to contact the Rotating Access members, then try to contact the other “OK to contact for access” members.**

### Club Officers, 2019

Officer	Name	Call Sign	Email Address
President	Bill Noe	W7PVA	<a href="mailto:w7pva@arrl.net">w7pva@arrl.net</a>
Vice President	Joseph Thomas	KG6IDN	<a href="mailto:vice.president@w7yrc.org">vice.president@w7yrc.org</a>
Treasurer	Jim Fortney	K6IYK	<a href="mailto:treasurer@w7yrc.org">treasurer@w7yrc.org</a>
Secretary	Tim Norton	K7PVY	<a href="mailto:secretary@w7yrc.org">secretary@w7yrc.org</a>
Director	Dave Erlach	W7VSX	<a href="mailto:w7vsx@w7yrc.org">w7vsx@w7yrc.org</a>
Director	Ray Kolman	KI7COM	<a href="mailto:spudzman@gmail.com">spudzman@gmail.com</a>
Director	Sandy Meadowcroft	KF4JHC	<a href="mailto:sandymeado2@yahoo.com">sandymeado2@yahoo.com</a>
Director	Kathy Laing	KJ6KMK	<a href="mailto:kj6kmk.yarc@gmail.com">kj6kmk.yarc@gmail.com</a>
Director	Mike Reid	N7IEP	<a href="mailto:n7iep@arrl.net">n7iep@arrl.net</a>
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Editor	Loren Singh	AE7CG	<a href="mailto:ae7cg@arrl.net">ae7cg@arrl.net</a>
Webmaster	Randy Dashiell	W6TYV	<a href="mailto:webmaster@w7yrc.org">webmaster@w7yrc.org</a>