



# Yavapai Signal

The Yavapai Amateur Radio Club – Prescott, Arizona – DM-34 – Volume 34 – No. 4 – April 2019

Upcoming Club Events				
Event	Date	Time	Place	Contact / Info:
General Meeting	TH 04/04/19	1900 MST 7 p.m.	Prescott Rodeo Grounds	Club Website
YARC Breakfast	TH 04/18/19	0800 MST 8 a.m.	BackBurner Restaurant, Prescott Valley	Don WB7TPH or Jeff WB7RFY
General Meeting Programs — See page 3.				
Public Service Event Communications — See page 4.				
License Testing — See page 4.				

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>	\$7.00 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.

## 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
April	Pete Morrison K6VVR	Tape Measure Yagi Antenna Build* — Fox Hunt
May	Richard Paquette W7RAP, ARRL	Section Manager's Recap
June	Terry Schultheiss KG7BAM	Radio Go-Kits, Summer Preparedness
July	Special Interest Group (SIG)	Need volunteers
August	Special Interest Group (SIG)	Need volunteers
September	Special Interest Group (SIG)	Need volunteers

\***Note:** We will need a count of attendees by the time of the April general meeting. There will be a charge of \$15.00 for materials.

## New Members

The following new YARC members joined at the March 7, 2019 general meeting. Please introduce yourself to them and make them feel welcome:

<b>Yvon Dubois NU6I</b>	<b>Eric Nelson AD7TG</b>	<b>Frances Warzaha NØOKY</b>
<b>Jerry Warzaha KØFC</b>	<b>Donald Johnson N7DKJ</b>	<b>Richard Poulton KI6RCP</b>
<b>Etsel Skelton KM6CCJ</b>	<b>David Winandy KD7NRS</b>	<b>Mary DeGeoso KF7NJK</b>

## April General Meeting Grand Prize Raffle Ticket Drawing

We will be selling 2019 Prescott Hamfest at ERAU Grand Prize Raffle Tickets at the April 4, 2019 YARC general meeting. Anyone who purchases at least \$10 of raffle tickets will have their name entered for a drawing for 20 grand prize raffle tickets. Your name and call will be entered in the drawing for each \$10 worth of tickets that you purchase for that month. Art Protas KG6AY was the winner of the ticket drawing at the March 7, 2019 general meeting.

The ticket drawing will take place after the meeting break. We are doing this ticket drawing for tickets purchased during the month prior to the meeting or at the meeting. We will be doing this each month through the May 2, 2019 YARC general meeting. Tickets are \$1 each or 12 for \$10. Go to <http://hamfest.w7yrc.org/prizes/> for a list of the grand prizes. You can also purchase grand prize raffle tickets online using PayPal or a credit card by going to: <http://hamfest.w7yrc.org/prizes/> .

The grand prize drawings will be held on Saturday, June 1, 2019 beginning at 1500 MST (3 p.m.) at the Prescott Hamfest at ERAU. You do not have to be present to win the grand prizes.

## Buddy/Mentor

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 W7VSX at [rockletdog@dslextreme.com](mailto:rockletdog@dslextreme.com) .

### Public Service Event Communications

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

- Whiskey Off Road Bike Event – April 26, 27, and 28, 2019, Contact: Frank Bender ([k8fb@w7yrc.org](mailto:k8fb@w7yrc.org))
- Whiskey Row Marathon – May 4, 2019, Contact: John Broughton WB9VGJ ([wb9vgj@arrl.net](mailto:wb9vgj@arrl.net))
- Chino Grinder – May 4, 2019, Contact: Bob Thompson KC8BOB ([bobnstar@cableone.net](mailto:bobnstar@cableone.net))
- Groom Creek Mountain Mayhem – May 18, 2019, Contact Dottie Akers WF7DS ([dottie.akers@gmail.com](mailto:dottie.akers@gmail.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/> .

### National Firefighters Day — May 4, 2019

Mark your calendars! We are considering/planning a one day special N7GMH operation at the W7YRC (our club station) marking National Firefighters day on May 4. Details are yet to be worked out, but the operating would likely be from 0830 MST until the bands die or 1700 MST, whichever comes first. Contact Doug, [KV8TD@arrl.net](mailto:KV8TD@arrl.net) for more information if you would like to operate. Aside from the memorial aspects, it will be a chance for new hams to get some contacts in a non-contest environment.

### Upcoming License Testing

Date	City	Location	Time	Sponsor	Contact	Walk-in
05/02/19	Prescott Valley	Trinity Lutheran Church, 3950 N. Valorie Dr.	1830 MST (6:30 p.m.)	PV Ham Study Group	Jim Scherfling 928.632.2050	Yes
05/18/19	Prescott	Jeep Posse Building	0900 MST (9:00 a.m.)	YARC	Don Bauer 928.775.4690	Yes
06/01/19	Prescott	ERAU	0900 MST (9:00 a.m.)	Prescott Hamfest	Don Bauer 928.775.4690	Yes



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

The monthly foxhunt was held Saturday, March 16, 2019. Robert WA67FBA and Bob WB6ODR, were the foxes. There were three teams for this hunt: 1) Pete K6VVR, Patrick KG7EWD, and John WB9VGJ; 2) Sherwin WB7NFX and Don KI7IOM; and 3) Mike N7IEP and Steve KF7OLN.

The results of the hunt were:

Finish	Team	Time
1	K6VVR, WB9VGJ, and KG7EWD	25 min.
DNF	WB7NFX and KI7IOM	—
DNF	N7IEP and KF7OLN	—

The foxes hid the transmitters at the location of Advanced Plastic Surgery Center, 1615 Petroglyph Point Dr. in Prescott. They put out six secondary transmitters.

There was some difficulty starting the hunt as the signal could not be heard at the starting point. The foxes made adjustments to the primary transmitter's location a couple of times before a signal could be heard. My team never heard the signal at the starting point and we had to drive to a high spot on Rosser St. in order to get a signal. The signal was weak and intermittent, but at least we could figure out it was north of our location. In driving to the transmitter site, the signal was in and out until we got relatively close and then we had a good signal that we could hone in on. On our team, K6VVR was the first to find the primary transmitter. We did not hunt all six secondary transmitters.

The other two teams did not finish. WB7NFX got called away and his team had to quit the hunt. N7IEP and KF7OLN were unable to find the transmitter and they had to abandon the hunt, but they joined us at the restaurant. All in all it was an interesting hunt.

You can see pictures of the hunt here:

<https://tinyurl.com/YARCFoxhuntMarch2019>

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.

**YARC News for YARC**  
by Rex Mauldin, N7NGM

Yes, this is information about the Yuma Amateur Radio Club for the Yavapai Amateur Radio Club. As most of you know, it is the Yuma club that hosts the annual Yuma Hamfest in February. The club recently made the choice to relocate to a new location at the Rock Church, 2555 E. Gila Ridge Road.

The church is spacious, has good acoustics, and is equipped with monitors for video presentations. The property has plenty of parking spaces and is located on a slight hill.

The church newsletter informs young people in the congregation about the radio club.

As I continue driving around in Arizona, someday I will return to the Yavapai Amateur Radio Club and offer more insights about what I have learned in my travels

## U.S. Department of Homeland Security

### MEMORANDUM FOR U.S. OWNERS AND OPERATORS USING GPS TO OBTAIN UTC TIME

#### Upcoming Global Positioning System Week Number Rollover Event

This paper is intended to provide an understanding of the possible effects of the April 6, 2019 GPS Week Number Rollover on Coordinated Universal Time derived from GPS devices. Sponsored by the Department of Homeland Security's National Cybersecurity and Communications Integration Center in coordination with the Department of Homeland Security's Science and Technology Directorate, the Department of Homeland Security's National Protection and Programs Directorate Office of Infrastructure Protection, and the National Coordination Office for Space-Based Positioning, Navigation and Timing. This product is intended to assist federal, state, local, and private sector organizations with preparations for the April 6, 2019 GPS Week Number Rollover event.

**SUMMARY:** Critical Infrastructure (CI) owners and operators and other users who obtain Coordinated Universal Time (UTC) from Global Positioning System (GPS) devices should be aware of the GPS Week Number (WN) rollover events and the possible effect a GPS WN rollover event may have on the reliability of the reported UTC. The legacy GPS navigation message has a ten (10) bit parameter that represents WN. Thus, the WN parameter in the GPS navigation message "rolls over" to zero every 1024 weeks starting from 0000Z January 6, 1980. The next WN rollover will occur April 6, 2019. The ISGPS-200H interface specification identifies both the ten bit WN parameter and the WN rollover events. A GPS device that conforms to the latest IS-GPS-200 and provides UTC should not be adversely affected. However, tests of some GPS devices revealed that not all manufacturer implementations correctly handle the April 6, 2019 WN rollover. Additionally, some manufacturer implementations interpret the WN parameter relative to a date other than January 5, 1980. These devices should not be affected by the WN rollover on April 6, 2019 but may experience a similar rollover event at a future date. For example, a particular GPS device may interpret the WN parameter relative to a firmware creation date and would experience a similar rollover event 1024 weeks after that firmware creation date.

**RECOMMENDATIONS:** Critical Infrastructure and other owners and operators are strongly encouraged: 1. to investigate and understand their possible dependencies on GPS for obtaining UTC, 2. to contact the GPS manufacturers of devices they use to obtain UTC a. to understand the manufacturers' preparedness for the April 6, 2019 WN rollover, b. to understand actions required by CI and other owners and operators to ensure proper operation through the April 6, 2019 WN rollover, and 3. to ensure that the firmware of such devices is up-to-date.

**BACKGROUND:** The GPS Internal Navigation Time Scale "GPS Time" is based on the weighted average of GPS satellites and ground station clocks. GPS Time is used for user navigation solutions. A nanosecond error in GPS Time can equate to one foot of position (ranging) error. The WN parameter is provided via a ten (10) bit parameter – or "counter." The valid range of values for the WN parameter is 0 to 1023 (or 1024 total values). The WN parameter is incremented by one each week. At the end of the 1024th week, the counter experiences a rollover (resets) to 0. Each WN rollover event defines a new GPS Time Epoch. The WN value is referenced to the start of the current GPS Time Epoch. The last WN rollover was August 21, 1999.

GPS Time is currently in the second Epoch. The next WN rollover is April 6, 2019. GPS Time is adjusted by the U.S. Air Force GPS Directorate to maintain alignment with UTC as provided by the U.S. Naval Observatory. A GPS device that provides UTC time does so by converting GPS Time to UTC using multiple parameters – including WN – conveyed in page 18 of GPS sub-frame 4. GPS devices with a poorly implemented GPS Time-to-UTC conversion algorithm may provide incorrect UTC following a WN rollover. Additionally, some GPS devices that calculate the WN value from a device-specific date rather than the start of the current GPS Time Epoch may provide incorrect UTC at some other device-specific date.

**REFERENCES:** • "GPS Week Roll Over Issue," Edward Powers, USNO, Sept 26, 2017, CGSIC, <https://www.gps.gov/cgsic/meetings/2017/powers.pdf>. • "Timing Criticality & GPS 1024 Week Rollover," Edward Powers, USNO, Nov 15, 2017, PNT Advisory Board Meeting, <https://www.gps.gov/governance/advisory/meetings/2017-11/powers.pdf>. • "Interface Specification IS-GPS-200, Navstar GPS Space Segment/Navigation User Interfaces," Global Positioning Systems Directorate Systems Engineering & Integration, Latest version incorporating all applicable Interface Revision Notices (IRNs), <https://www.gps.gov/technical/icwg/>.



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

**Note: NCS = Net Control Station**

Call	Name	02/20/19	02/27/19	03/06/19	03/13/19
AE7CG	Loren	NCS	NCS	NCS	NCS
K6VVR	Pete	x	x	x	x
KA5DWI	Art	x	x		
KF7ANX	Frank			x	x
KF7FPD	Jerry	x	x	x	x
KF7INF	Dennis	x	x		x
KF7PQV	Dan	x	x	x	
KG6AY	Art	x	x		x
W7HAM	Ralph	x	x	x	x
WA6AQK	Ken	x			x
WN7E	Tom	x	x	x	x
KG7EWD	Patrick	x	x	x	x
WA6FBA	Robert		x	x	x
NO1D	Doug	x	x		
KI7LXI	Sheila	x	x		
KI7LWU	Tim	x	x		x
K7LMJ	Mike	x			
W7OTB	Vince		x		
W7WWB	Ron				x
KJ7WED	Bob	x	x		x
N7DKJ	Don				x
N7IEP	Mike		x		
KK6PTO	John	x	x	x	x
K6PSR	Tony	x			
KB6BOB	Don		x		



### Radio Toys

by Bobby Barnett, KØXI

We all love toys, eh? Radio toys to be more specific, though probably others also. With that, we seem to accumulate lots of them over time. But what happens when they start collecting dust because newer additions to the shack have become more interesting? There have been a couple of incidents recently which got me thinking about this. One set was around needing equipment and others were about finding equipment.

There are a fair number of new hams coming into the hobby, whom we all need to support and nurture at every opportunity, but that is a rant for another day. What we can do here is to dig through our shacks and see what equipment was helpful when we were new at this and see how that can help another new ham. You are certainly allowed to get a fair price if you so desire, but you also have another benefit: you know what a new ham needs. You understand the HT market, the most straight forward HF antenna setup, and other ways to help them through the early phases of getting started. You could also probably help them get there with a more modest price tag than brand new stores could. As a bonus, you now have a stronger bond with a new ham to help them along.

There are also more sources for equipment than I expected. Recently, a local ham got a fully functional KX3 (with AT and microphone) at a garage sale for \$200. Another new ham got a free old HT from another ham (battery condition unclear). At radio club meetings, there is often a ham bringing some parts "free to a good home" – so why aren't there questions such as "Does anyone have an unused rotor?" Here, we need to look around for the next source of our new toys in places we may not have considered before. I once sold \$200 of Heathkit gear on eBay before I realized I probably could have gotten \$2000. Bad for me, but good for the other hams. I hope they got good use out of that gear. There are deals and opportunities everywhere. Where do you find your gear?

In short, let's help each other with parts – new and old hams alike. Our interests change, which leaves equipment unused in our garages and closets. At the same time, our new interests need new parts. As we find those new parts, spread the word about where they are. We'd all like to know how to get a KX3 for \$200, eh?



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### 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.

## 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:rocketdog@dslextreme">rocketdog@dslextreme</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>

**FT-8**



**JOIN THE EXCITEMENT!**

