



Yavapai Signal

The Yavapai Amateur Radio Club – Prescott, Arizona – DM-34 – Volume 35 – No. 12 – December 2020

Upcoming Club Events				
Event	Date	Time	Place	Contact / Info:
General Meeting	December 3, 2020 Thursday	1900 MST 7 p.m.	Virtual via Zoom	Prior notification by email
YARC Breakfast	December 17, 2020 Thursday	0800 MST 8 a.m.	BackBurner Restaurant, Prescott Valley	Don WB7TPH or Jeff WB7RFY
Transmitter Hunt	December 5, 2020 Saturday	1300 MST 1 p.m.	OneAZ Credit Union parking lot, Gail Gardner Way & Willow Creek Rd., Prescott	Pete K6VVR or John WB9VGJ
General Meeting Program — See page 4.				

YARC:	Badges	Patches	Shirts
Features:	Name & Call	Club Name & Logo	With or Without Name & Call
Contact Person(s):	Sam Prather K7SCP	Sam Prather K7SCP	Pete Morrison K6VVR
Cost:	\$13.00 each	\$6.00 each	Without Name & Call \$20.00 — With Name & Call \$24.00 each

Club Website Registration

In order to receive the Signal (the club's official newsletter), you must be a member of the club. Make sure your email is correct by logging into our website (www.w7yrc.org), 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 usually 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

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

Club Nets

Band	Mode	Frequency	PL	Day or Night	Time
2M	FM	146.880 MHz	- 100.0 Hz	Mon. through Fri.	1300 MST
2M	FM	146.880 MHz	- 100.0 Hz	Wednesday	1900 MST
2M	SSB (USB)	144.250 MHz	N/A	Wednesday	2000 MST
10M	SSB (USB)	28.444 MHz +/- QRM	N/A	Thursday	2000 MST
70cm	FM	447.650 MHz	-100.0 Hz	Mon. through Fri.	1300 MST
70cm	FM	447.650 MHz	-100.0 Hz	Wednesday	1900 MST
70cm	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

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 18th 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 20th 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@arri.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.



CORONAVIRUS
COVID-19



From the President's Desk by Bill Noe, WG7W

I wish you all a Happy Holiday Season! Thanksgiving will soon be here with all the savory smells and tastes of the feast that usually coincides with that celebration of family and friends. Then begins the short wait for Christmas and the New Year. It is my hope and desire that Santa may grant your desires whatever they may be. Again, enjoy the season with your family and friends. Be sure to communicate with those you may not have close contact. There is an old axiom that tomorrow is not promised.

During the past club year many things have happened, most beyond our control. First, we had to cancel our hamfest due to loss of an adequate venue. When I proposed the hamfest and co-chaired the first one with Chuck KE7SA I had no idea how it would grow and become the ARCA choice for the ARRL Arizona State Convention. Your board has canceled the hamfest for 2021 because of the uncertainty of our near future and the effects of the dreaded COVID-19.

In March we suffered a shutdown by declaration of local, county and state officials due to the COVID-19 pandemic. We were unable to meet in person with more than 10 people. We were unable to meet at the rodeo grounds. The Jeep Posse building was closed to us for some time. Licensing classes were canceled as were testing dates. Restaurants were closed or offered only takeout service so we lost the monthly breakfast, the "Umbrella Club", and QCWA luncheon. All public service activities ceased for the unforeseeable future.

Your board responded and found ways to increase activities, even if they weren't "in person". We established a weekday net to allow members the opportunity to contact others on the air. We had a number of ZOOM activities like coffee with the hams and meetings online. They expanded to twice monthly ZOOM Breakouts for technical programs. Our monthly meetings and board meetings were online with ZOOM.

Once the local, county and state authorities loosened the shutdown orders and some businesses could reopen on a limited basis some of our social activities were restarted for those that felt they could and would attend. We have our monthly transmitter hunts again. The monthly breakfast and the QCWA luncheon returned. We are a long way from being back **but** your board responded in the tradition of amateur radio, to excel in the face of adversity. Not only your board but the chairs and members of our committees contributed to the work.

This year, thanks to our Repeater Committee, we have two reliable repeaters that are linked with Allstar and Echolink capabilities. Doug NO1D built and programmed the controllers enabling those activities. We have re-instituted the weekday 1300 MST FM nets on the repeaters with the help of new hams as Net Control Stations. Our 0900 MST Saturday morning net has been revived. Our Mentor Group continues to serve new members, if they wish to be helped. Our Elmer Group has helped more members with their stations than in any year past.

Not all of the board's activities have been based on member activity as there is the business portion of the club that has to be tended. We reviewed the club bylaws and re-wrote them to make governing simpler and easier. We established a need for another document, Policies and Procedures, to provide direction and clarification. That document will come in the next few months after establishment of the new board. Membership suffered but has bounced back when folks learned that we still value them and have been working for them.

I am proud of the Board as President for the last two years. Its members have worked well and hard for you, the member, to increase activities and opportunities when and where they could. Those of us leaving office will not be departing, just changing to different statuses. I do wish to congratulate the newly elected officers, John KT7P as President, Sam K7SCP as Treasurer (he will continue in the office to which he was appointed), Ray K17COM as Board Member and Mike NC7X also as Board Member. I will remain as Past President.

John K7PRS and Kathy KJ7KMK will be leaving office but will surely be very visible in their activities with all the different committees they work on. Mike Reid WU7V has been instrumental in so many of our activities this year working on the ZOOM meetings and the nets. He will be returning in a very important role at the first of the year.

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 → Members → Login → Reports

- |
- Board Minutes
- Club Minutes

Mentor Buddies

Name	Call Sign	E-mail	Telephone
Don Bauer	WB7TPH	dbauer2250@aol.com	928.775.4690
Frank Bender	K8FB	fnb47@hotmail.com	928.379.5575
Pete Morrison	K6VVR	pm-service@cableone.net	928.899.8555
Bill Noe	WG7W	wg7w@arrl.net	928.710.6925
Dick Hughes	W6CCD	w6ccd@arrl.net	928.759.0337
Ron Purcell	KI7EVK	728rwp@gmail.com	707.849.7099
Jack Szelka	AI1K	radioaik@gmail.com	401.580.0330
Mike Reid	WU7V	wu7v@arrl.net	480.250.6093
Sandy Meadowcroft	KF4JHC	sandymeado2@yahoo.com	928.660.8323
Mike Belanger	W1DGL	fix_broke_airplanes@hotmail.com	928.771.2565
Jerry Warzeha	KØFC	jerry.warzeha@hotmail.com	612.205.3810

Upcoming Meeting

by John Snedden, KT7P

The December 3, 2020 general meeting will be dedicated to ARES/RACES and a Memorial Tribute for Lloyd Halgunseth WA6ZZJ. There will be an ARES/RACES informational presentation as well. All ARES/RACES members are requested to wear their blue shirts for this meeting, which will be conducted via Zoom.

Books To Donate

I have some electronic engineering books that I would like to donate for use of hams who wish to advance their knowledge of electronics and design.

I can send a full list to whomever is interested.

Contact me at 728rwp@gmail.com or call me at 707.849.7099.

Ron Purcell KI7EVK

NRA 149th Birthday — Special Event Station K7GST — November 17, 2020

by Frank Bender, K8FB

Loren Singh AE7CG, Jim Zimmerman N6KZ, and Frank Bender K8FB operated the YARC club station at the Jeep Posse building in Prescott using the call sign K7GST to commemorate the 149th birthday of the National Rifle Association. This was the CW portion of the operating event. The SSB operation was held at the Gunsite Academy in Paulden.

Most of the CW operation was conducted on 20M on 14.040 MHz. There was also some operation on 40M. Operating time was from 1200 MST / 1900Z to around 1700 MST / 0000Z. A total of 86 CW contacts was made.

November 2020 Foxhunt

The November 8, 2020 foxhunt was as canceled due to inclement weather (snow and rain) at the starting time of the hunt.



New to Ham Radio?

by Joe Oliver, AC6AA

If you are a new ham, or even an experienced ham, you may want to see a YouTube website that presents useful information about ham radio topics. It is Jim Heath W6LG's website at <https://tinyurl.com/yxe5o8nu>.

His videos offer simple explanations of why things work the way they do and how you can improve your station and your operating skills. He uses visual aids and hands-on demonstrations to explain such topics as:

- Setting up your first operating position;
- What is SSB, and how to tune in SSB;
- SWR, how to measure, and is it important;
- How an inexpensive transceiver compares with an expensive one; and
- Ham radio jargon and plain language.

Supporting ARES/RACES

by John Snedden, KT7P

With the pandemic and fires this year, ARES/RACES put in numerous hours assisting the Yavapai County EOC. Although our community events were eliminated this year, ARES/RACES continued with monthly training sessions and the upgrading of the gateways and digipeaters to a faster and exceptionally reliable system.

YARC members can assist ARES/RACES by donating to the non-profit organization, FOYCAR (Friends of Yavapai County ARES/RACES). The easiest and least painful way is via the Amazon Smile Program:

When you shop at Amazon, instead of going to amazon.com, go to <https://smile.amazon.com/>. On your first visit to smile.amazon.com, you will be asked to select a charity – search on a key words like “ARES RACES” or “Yavapai” and select the “Friends of Yavapai County ARES RACES, Inc.” Amazon will donate 0.5% of all your eligible purchases to FOYCAR without changing the price you pay. You can find out all the details at https://smile.amazon.com/gp/chpf/about/ref=smi_se_rspo_laas_aas.



YARC Lifetime Membership Awards

Jim Zimmerman N6KZ (left) and **Art Protas KG6AY** (right) were recently awarded Lifetime Membership in the Yavapai Amateur Radio Club (YARC) for their meritorious work as leaders of the Elmers Group. Jim and Art have helped many club members in doing site surveys, installing and dismantling antennas, installing and testing transceivers, and other useful tasks — all because of their love of the amateur radio hobby. (Photo courtesy of Jim Zimmerman N6KZ)



AMSAT 2020 Space Symposium video now online
by Dan Romanchik, KB6NU

The 38th AMSAT Space Symposium and Annual General Meeting was held online on October 17, 2020. I'm kinda bummed about this because I just joined AMSAT, but somehow, I managed to miss this event. Fortunately, the symposium was recorded and is now online, and I've been enjoying watching the video (https://www.youtube.com/watch?v=EHDgri_w8hY).

The video includes updates on AMSAT projects and presentations on amateur satellite technology. For details on presenter names and presentation titles, visit the AMSAT website. AMSAT members can access the Symposium Proceedings on the AMSAT website as well. (The proceedings for all the AMSAT Symposiums are available there as well, but you do have to be an AMSAT member.)

Here's a list of the different presentations on the video and the times at which they start:

- 0:00:00 Welcome
- 0:02:07 AMSAT GOLF-TEE System Overview and Development Status
- 0:43:02 GOLF IHU Coordination
- 1:19:10 GOLF Downlink Coordination
- 1:50:15 FUNcube Next
- 2:13:50 LunART – Luna Amateur Radio Transponder
- 2:45:35 CatSat HF Experiment Overview
- 3:13:30 Neutron-1 CubeSat
- 3:39:58 Progress and Development of Open Source Electric Propulsion for Nanosats and Picosats
- 4:15:00 AMSAT Education
- 5:14:00 ARISS (Amateur Radio on the International Space Station) / AREx (Amateur Radio Exploration)
- 6:14:00 AMSAT Engineering
- 7:21:16 AMSAT Annual General Meeting

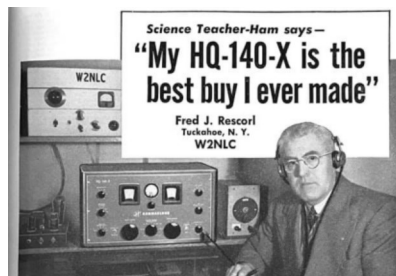
So far, I've only watched the GOLF-TEE System Overview and the AMSAT Education presentation. They were both interesting and I'm looking forward to watching the others.

I really hadn't been keeping up with AMSAT lately, so the the presentation on the GOLF project was definitely news to me. GOLF is an ambitious project aimed at sending up high Earth orbit (HEO) satellites. GOLF is short for "Greater Orbits Larger (user communication) Footprints." This is really pretty exciting stuff.

Watching these presentations really gives one an appreciation for the work that goes into the design of these satellites and the technical skills and dedication of the hams working on these projects. These guys are not getting paid to do any of this work, and as Eric Skoog, K1TVV, the GOLF System Engineer said in his presentation, "Space is hard."

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Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not trying to work the satellites, he teaches online ham radio classes and operates CW on the HF bands.





eQSL **N6MY**

RAY TYRRELL
6769 E. VOLTAIRE DR.
PRESCOTT VALLEY, AZ 86314
USA

Loc:DM34to Yavapai County
Kenwood TS-590, Elecraft KX3
20M - 6M SteppIR Dipole & 30M Dipole
Yaesu FTM-300 & Diamond Dual Band Vert.

To: AE7CG Confirming 2-way RPT FM QSO
Date: July 29, 2020 Time: 19:08 UTC
Band: 70cm UR Sigs: 59

FCC-Approved by the FCC, NAB, and the IRE

Raymond G. Tyrrell, N6MY (SK)
November 7, 1934 — October 24, 2020

Our good friend and fellow ham Raymond G. Tyrrell N6MY passed away early on Saturday October 24, 2020. Ray was one of the first people to take his Novice license test at the FCC field office in Los Angeles in July of 1951. He went there together with his friend Kenneth W. Taylor. Ray received the call sign WN6NIC, and Ken received the call sign WN6NIB. Ultimately, Ray became N6MY and Ken became K7NIB (after moving to Oregon).

Ray was an electronics engineer, and also served as a high school mathematics teacher in Carson City and Mina, Nevada. He was a member of the Quarter Century Wireless Association (QCWA), the Straight Key Century Club (SKCC), and the North American QRP CW Club (NAQCC). At the time of his death, he was Vice President of the Mingus Mountain Repeater Group (K7MRG) in Yavapai County, Arizona.

Ray was a friend and neighbor. He lived about two miles away from me in Prescott Valley, Arizona. We shared similar radio interests (QRP, 20M CW, VHF/UHF FM repeaters), and had many QSOs — both on the air, and in person. Ray was a gentleman with a special sense of humor; a vast knowledge of electronics theory, practice, and application; and an unlimited willingness to help others.

My last QSO with Ray was on July 29, 2020 on the K7YCA/R 447.650 MHz repeater. He was a gentle soul and a kindred spirit. May he rest in peace.
— Loren C. Singh, AE7CG





AMATEUR RADIO ANTENNA LENGTH CHART

	FREQUENCY (Mhz)	1/4λ (Feet)	1/2λ (Feet)	1λ (Feet)	1/2λ Inv Vee 90° (Feet)
160 METERS	1.800	130' 0"	260' 0"	558' 4"	257' 5"
	1.850	126' 6"	253' 0"	543' 3"	250' 5"
	1.900	123' 2"	246' 4"	528' 11"	243' 10"
	2.000	117' 0"	234' 0"	502' 6"	231' 8"
80 METERS	3.500	66' 10"	133' 9"	287' 2"	132' 5"
	3.750	62' 5"	124' 10"	268' 0"	123' 7"
	3.900	60' 0"	120' 0"	257' 8"	118' 10"
	4.000	58' 6"	117' 0"	251' 3"	115' 10"
40 METERS	7.000	33' 5"	66' 10"	143' 7"	66' 2"
	7.150	32' 9"	65' 5"	140' 7"	64' 10"
	7.300	32' 1"	64' 1"	137' 8"	63' 6"
30 METERS	10.100	23' 2"	46' 4"	99' 6"	45' 10"
	10.150	23' 1"	46' 1"	99' 0"	45' 8"
20 METERS	14.000	16' 9"	33' 5"	71' 9"	33' 1"
	14.150	16' 6"	33' 1"	71' 0"	32' 9"
	14.300	16' 4"	32' 9"	70' 3"	32' 5"
	14.350	16' 4"	32' 7"	70' 0"	32' 3"
17 METERS	18.068	12' 11"	25' 11"	55' 7"	25' 8"
	18.168	12' 11"	25' 9"	55' 4"	25' 6"
15 METERS	21.000	11' 2"	22' 3"	47' 10"	22' 1"
	21.200	11' 0"	22' 1"	47' 5"	21' 10"
	21.450	10' 11"	21' 10"	46' 10"	21' 7"
12 METERS	24.890	9' 5"	18' 10"	40' 5"	18' 7"
	24.990	9' 4"	18' 9"	40' 3"	18' 6"
10 METERS	28.000	8' 4"	16' 9"	35' 11"	16' 7"
	28.500	8' 3"	16' 5"	35' 3"	16' 3"
	29.700	7' 11"	15' 9"	33' 10"	15' 7"
6 METERS	50.000	4' 8"	9' 4"	20' 1"	9' 3"
	54.000	4' 4"	8' 8"	18' 7"	8' 7"
2 METERS	144.000	1' 8"	3' 3"	7' 0"	3' 3"
	148.000	1' 7"	3' 2"	6' 9"	3' 2"

Antenna length calculations are based on the following formulas:
 1/2 wave dipole (feet) = 468/frequency in Mhz
 Full wave loop (feet) = 1065/frequency in Mhz
 Inverted vee with 90 degree included angle is 90% the length of 1/2 wave dipole.

Note:
 Cut wire slightly longer to allow for connecting insulators and grounding.
 Height above ground, nearby wires, trees, etc. will change tuning slightly.

MILLENNIA
ARTS

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.

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

The DX Store

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Club Officers, 2021			
Officer	Name	Call Sign	Email Address
President	John Snedden	KT7P	kt7p19@gmail.com
Acting Vice President	To Be Appointed	—	—
Treasurer	Sam Prather	K7SCP	treasurer@w7yrc.org
Secretary	Tim Norton	K7PVY	secretary@w7yrc.org
Director	Dave Erlach	W7VSX	w7vsx@w7yrc.org
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Editor	Loren Singh	AE7CG	ae7cg@arrl.net
Webmaster	Randy Dashiell	W6TYV	webmaster@w7yrc.org

Yavapai Amateur Radio Club — W7YRC Club Station Access List — Effective March 4, 2020				
Permanent Station Access (defined by YARC role) —				
Name:	Call:	Lic. Class	Notes:	Telephone:
Bill Noe	WG7W	E	YARC President	928.710.6925 – Do not contact for access
Frank Bender	K8FB	E	Station Manager	928.379.5575 – OK to contact for access
Pete Morrison	K6VVR	E	W7YRC Trustee	928.899.8555 - Do not contact for access
Bud Semon	N7CW	E	ARES/RACES DEC	928.899.7400 - Do not contact for access
Rob Redford	KG7LMI	G	ARES/RACES EC	623.252.3980 - Do not contact for access
Jo Schultheiss	KF7WOT	G	ARES/RACES EC	928.925.0956 - Do not contact for access
Jim Zimmerman	N6KZ	E	Elmer Group	928.713.0542 - OK to contact for access
Art Protas	KG6AY	E	Elmer Group	928.227.2954 - OK to contact for access
Doug Freeman	KV8TD	E	N7GMH Trustee	928.759.0958 - Do not contact for access
Building Access for Other Reasons (includes station access) —				
Donald Bauer	WB7TPH	E	VE Chair	928.775.4690 - Do not contact for access
Kathy Laing	KJ6KMK	E	License Classes	928.778.2526 - Do not contact for access
Rotating Access (changes every July 1 st) This category is limited and consists of volunteer members —				
Mike Belanger	W1DGL	E	Rotating Member	928.771.2565 - OK to contact for access
Jim Custer	WØHJ	E	Rotating Member	507.720.4053 - OK to contact for access
Tony Jackson	K6PSR	G	Rotating Member	562.644.0528 - OK to contact for access
<p align="center">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.</p>				