



Yavapai Signal

The Yavapai Amateur Radio Club – Prescott, Arizona – DM-34 – Volume 30 – No. 9 – Sept. 2015



Summary of Upcoming Club Events				
Date	Day of Week & Time	Event	Place	Details
09/03/15	Thursday 1900 MST	YARC General Meeting	Prescott Mile High Middle School	Program: LOTW, Bud, N7CW
09/06/15	Sunday 1300 MST	Transmitter Hunt	Arizona State Credit Union parking lot, Prescott	Contact: Pete K6VVR or John WB9VGJ
09/12/15 to 10/27/15	Weekend Days	Event Communications	Various locations in Yavapai County	See the "Event Communications Calendar – Autumn 2015" elsewhere in this newsletter.
11/07/15	Saturday, 0900 MST	License Examinations	Jeep Posse Building, Prescott	Contact: Don WB7TPH

For further details and other events, refer to the calendar on the club's website.

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 meets at 1900 MST on the first Thursday of every month in the technology classroom at Prescott Mile High Middle School, 300 South Granite Street in Prescott. Vehicular access to the school parking lot is via the entry at the intersection of South Montezuma Street and Carleton Street. Programs of interest are included as part of the meeting.

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)	144.220 MHz	N/A	Wednesday	2000 MST
10M	SSB (USB)	28.440 MHz +/- QRM	N/A	Thursday	2000 MST
1¼M	FM	224.080 MHz	-156.7 Hz	Wednesday	1830 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 MST

Club Repeater

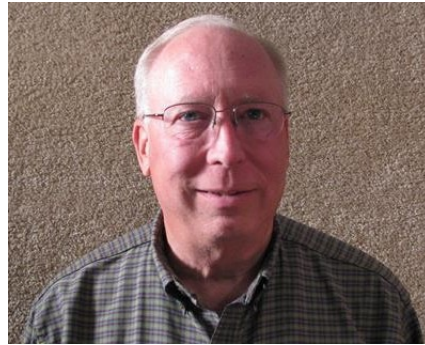
2M	FM	146.880 MHz	-100.0 Hz	Open Use 24/7	Open Use 24/7
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Club Mentors (“Elmers”)

Name	Call Sign	Telephone Number
Bud Semon	N7CW	928-899-7400
Jim Zimmerman	N6KZ	928-713-0542

Club Website Registration

Please register to get on the club's email distribution list and also gain access to the members'-only area of the website. The members'-only area contains the club roster and detailed club treasurer's reports. To register, go to www.w7yrc.org, click “Join Us” and then select “Registration.” Fill out the requested information, and then click “Register.” The webmaster will then verify your membership and authorize your account. His response is not immediate in real time.



From the President's Desk ...

Classroom License Classes vs. Online License Classes - Revisited

In our August meeting, I announced that the Board decided to go with Ham Test Online's offer to provide online license classes at a reduced price to the club. At the present time, the club will not be offering classroom study classes. There was some discussion during the meeting by an individual who felt it was not a good thing for the club to not offer classroom study courses for amateur radio licenses.

After the meeting, I received a number of other comments that this decision may not have been well received by a number of other members. Recently, I also received a comment that the Board's rationale for this decision had not been clearly laid out by me during the general meeting. It was pointed out to me that a number of people aren't able to, don't feel comfortable, or have difficulty with online courses. These are certainly valid points. It was not the board's intent to do away with class room instruction. With our class room study coordinator Jack Crabtree, W7JLC stepping down after a good number of years of taking on the challenging class room study effort, we have been unable to find a replacement.

Another thing that I did not make clear about the online classes is that for hams taking an online license course, the club will assign a Buddy Mentor to you to help with questions that may arise from studying the examination material. If you would like a Buddy Mentor assigned to assist you in your study, contact Don Bauer, WB7TPH (wb7tph@w7yrc.org).

If you don't do well with online courses, you might try self study using ARRL study material (<http://www.w7yrc.org/arrl-license-resource-materials/>). If you use this approach, the club can also offer you a Buddy Mentor to assist you with questions that you might have with the study materials.

The W5YI Group also offers a variety of affordable license exam study materials (<http://www.w5yi.org/catalog.php?sort=4>). There are traditional study books as well as CD audio courses. Again, the club can offer you a Buddy Mentor to assist you with questions that you have regarding the study material.

73,
Frank Bender, K8FB

YARC:	Badges	Patches	Shirts
Features:	Name & Call	Club Name & Logo	With or Without Name & Call
Contact Person(s):	Dan Simpson AE7IH or Erica Simpson KF7MAU	David Hanson W7BJ	Pete Morrison K6VVR
Cost:	\$7.00 each	\$3.00 each	Without Name & Call \$20.00 each — With Name & Call \$24.00 each



W7BJ, Treasurer

TREASURER'S REPORT		General	Repeater
July 2015		Fund	Fund
CASH – June 30, 2015		\$10,082.73	\$2,754.21
	Dues	\$288.00	\$32.00
	Donations	\$69.50	\$60.00
	Williams Hamfest	\$2,885.90	
	50/50 Raffle	\$56.00	
	Misc. < \$50	<u>\$36.60</u>	<u>\$0.07</u>
	TOTAL INCOME	\$3,336.00	\$92.07
	3 Folding Tables	\$126.38	
	Club Station Build	\$1,325.00	
	Williams Hamfest	\$1,522.35	
	Ham Test Online	\$75.00	
	Misc. < \$75	<u>\$59.37</u>	<u>\$0.00</u>
	TOTAL EXPENSES	\$3,108.10	\$0.00
CASH – July 31, 2015		\$10,310.63	\$2,846.28
** Detailed statements are posted on www.w7yrc.org			



KCØTGG, Secretary

Yavapai Amateur Radio Club
Board of Directors Meeting
July 30, 2015

Minutes of the July 30, 2015 Board of Director's Meeting:

Present at Meeting: KCØTGG, KF7YZJ, W7BJ, N7NGM, K8FB. Meeting called to Order by K8FB at: 1800 MST.

Agenda:

Old Business:

1. Treasurer's Report and Meeting Minutes: Treasurer's Reports up to date through June – Balance \$12,836.94, W7BJ reported. Meeting Minutes up to date through July.

2. Club Station Status: Request Board approval for \$300 additional spent for rotator cable and lightning protection. Board unanimously approved the \$300 expenditure. Additional \$500 from membership to address additional coax, connector needs. The board unanimously voted to up the amount and recommend \$1,000 to be authorized by the membership for the remainder of the initial station installation. K7SEN has offered a discounted rate to the club for a 500 ft roll of new 9914 coax. N7CW to evaluate the coax at the August meeting to determine if the coax is flexible enough to pull it under the Jeep Posse building and if the coax is easily able to be soldered.

Jeep Posse Utilities –YCJP wishes to charge an hourly usage rate, which is agreeable to the board. Board agreed to pay \$40 per month for utilities for the remainder of 2015. Will pay on a quarterly basis beginning August 1. YARC to log usage of building to gauge what the charge should actually be for the next period. YARC will pay in advance and then adjust for the next period. Club station should be up and running in early to mid August. Immediate use of club station can be for regular operating techniques demonstration and Q&A platform for new hams.

3. Field Day 2016: Lynx Lake Osprey (large) campground reserved for Friday and Saturday nights in 2016, Peregrine campground not available for Field Day in 2016.

Feedback Comments – Parking was big concern at Field Day, though no parking problems were reported. Suggestions – split club picnic from Field Day because of parking issues, plus same day event coordination – could be another date. Another suggestion is to have a second field day location at the Posse building (as an EOC category entry using N7GMH call sign) and have the club picnic there with plenty of parking.

Board liked the idea of having an FD picnic at the Jeep Posse building. There was a suggestion that Field Day could also take place at Prescott Mile High Middle School.

4. Williams Hamfest – July 24 and 25, 2015: Status update (W7BJ and K8FB) and financial report from W7BJ. W7BJ reported that early Friday morning was a madhouse. W7BJ reported that Williams Hamfest gross sales were \$2885.90. Net consignment to club was \$1,490.85. Give away of surplus items with unknown ownership from the hamfest at the August general meeting. The board agreed to the giveaway.

Suggestions for improvements in 2016. W7BJ indicated that consignments were difficult to keep track of. Prices were generally not marked and mark downs were deep, with little or no direction from consignment owners, who generally were not on site. W7BJ suggested that the club sub-rent part of the booth area at a flat rate for members to sell their own equipment and man their own table. Board will consider changes when 2016 hamfest gets closer.

5. ARCA repeater owner's meeting on July 24, 2015: Unable to get repeater council to change 2 meter mountain top repeater policy, as Mt. Union interference spill-over into the Valley is strong, even with PL tones. Would have to provide 20 to 30 dB null in that direction to get a frequency assigned. One possibility for a Mt. Union 2 meter repeater for the club is to have several Yagis (with triplexer) pointed in the direction of our membership distribution (e.g., Yagis pointed W, N, E) to provide strong signal null in direction of the Valley. Club to work with K6VVR to look into this.

New Business:

1. Upcoming Programs: August – Ray Benny, N6VR – “Army MARS in Vietnam”; September – Bud Semon, N7CW – “LOTW”; October – TBD – with Williams surplus giveaway, no auction in October seems to be necessary.

2. PA System: KB7TRE has acquired a good PA system with podium mounted microphone for use in the general meetings.

3. License Class Suggestion: W7BJ proposed taking advantage of Ham Test Online's “Ham it Forward” online license class program instead of conducting license classes. Ham Test Online offers a reduced rate to clubs (\$15 per exam instead of normal \$25 fee). Club must purchase in 5 license blocks at a cost of \$75. Success and satisfaction rates are high for Ham Test Online. Mentors need to be assigned to class takers. W7BJ proposed that any person taking this class through the club, and who passes the Technician Class license exam, be offered a free 1 year membership to the club. The board unanimously agreed to begin this program with Ham Test Online and offer the free one year membership as proposed by W7BJ. No more license classes by the club will be conducted. The newbie classes that we are planning for the new club station will support these online license classes.

4. Better inclusion of non-licensed members: Discussion took place and there was agreement that we must not overlook our non-licensed members. W7BJ suggested that a 10 minute “blast” could be done during the meeting to address topics focused on new/beginning hams.

5. New/Beginning Ham Engagement: K8FB indicated that he would author a monthly column in the Signal addressing new/beginning ham topics. KCØTGG and KF7YZJ volunteered to seek out Buddy Me

6. Web Site Suggestions: a) Change color of default link color from red to some other color (blue not a good one either) – due to color blind issues. b) Have quicker member log in, without having to go through menus. Get calls from members regarding how to log in. c) License classes have an erroneous drop down selection for August 7. Subsequent to the meeting, this selection has been removed. d) Board agreed and suggested getting another person who is familiar with Word Press and associated programs to help with the work load, particularly with more complicated web site coding. K8FB will see if another club member has such skills.

7. Insurance renewal on 8/1: Club liability insurance through ARRL is being renewed 8/1. This basic insurance is only in force when a judgment is made against the club.

8. Storage Unit Renewal: Due 8/14 - \$432 – W7BJ. Given that the storage unit currently holds the club's tables, canopies, file cabinets, and two repeaters, the board agreed to proceed with the storage unit renewal for this year. If some place can be found where we can store this equipment, we can eliminate the need for the storage unit in the future.

9. Annual Budget Planning: It was agreed that K8FB would reach out to committees to get their budget requirements for the 2016 calendar year. The plan is to work with W7BJ to formulate a 2016 budget and present it to the membership in November for discussion and approval at the December meeting.

10. PMHMS Club Station: Led by Jim N6KZ and Art KG6AY, the MHMS club station and antennas have been installed and the station is ready for operation.

11. PMHMS School Policies: A reminder will be sent to members via email (board approved) reminding our members of school policies: a) Alcohol – no alcohol is permitted on school grounds. b) Smoking – Smoking is not permitted anywhere on school grounds. One must go off school property to smoke. c) Fire Arms – Fire arms are not permitted on school property. This is also Arizona state law.

12. ARES/RACES Memorandum of Understanding (MOU): ARES/RACES and YARC agreed (the board approved) that, in the event of an emergency or during an emergency exercise, ARES/RACES may take control of the 146.88 Hz repeater for the duration of the emergency or short exercise. Non-emergency communications during this period will not be permitted.

13. General Meeting Live Streaming: KB7TRE reported that he has been able to obtain some equipment that might enable YARC to live stream its general meetings. This might be useful for members who are not able to attend the general meetings.

Adjournment: K8FB adjourned the meeting at 2005 MST.

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Yavapai Amateur Radio Club
General Meeting
August 6, 2015

=====Agenda=====

Call to Order at 1900 MST; Pledge of Allegiance;
Introduction: Ray Benny, N6VR – “Army MARS in Vietnam”;
Welcome visitors: Any visitors who are not becoming new members this evening:
Earl, Greg, Cathy, Lloyd, Roger, John, Ed, Joni;
Updates – Joe Oliver, AC6AA has reportedly abandoned his chemo therapy and
Don, WB7TPH is now home recovering from his knee replacement surgery.

Meeting minutes/ Treasurer report: Minutes for July, Treasurer report for June, ask for motion to approve.

Motion to approve KJ6KMK - 2nd K6VVR. Unanimously approved.

New Members K6CWB – Ron Ross, KG7OIF (N7GRL) - Donna Trigilio, KG7TTF – Bill Booth, K7UBO – Paul Goodman, KG7DKG - Georgene Lockwood.

Motion to accept as new members by KD7VBG - 2nd K6VVR These applicants were unanimously approved as new members.

Committee Reports:

1. YARC Event Communications, KD7VBG: Upcoming Public Service Events: a) Saturday, September 12, 2015, March of Dimes March for Babies, Prescott Valley, course to be determined; b) Sunday, September 20, 2015, Skull Valley Loop Challenge, small bike event starting in downtown Prescott; c) Saturday, September 26, 2015, Groom Creek Classic, ½-marathon, 10K, 5K, and 2 Mile fun run starting at the Groom Creek Fire Station. d) Saturday, September 26, 2015, Bradshaw Grinder, starting and finishing in Mayer, Bob, KC8BOB, will be coordinating this event. [**Editor's Note: The Bradshaw Grinder event has been canceled for 2015.**]; e) Friday and Saturday, Oct 2 & 3, 2015, Prescott Road Rally. Sign up for this event will be available on the Prescott Rally website: <http://prescottrally.com/>, contact Bob, WB7RRQ for this event; f) Saturday, Oct 17, 2015, Diabetes Walk, John, WB9VGJ, will be coordinating this event.

2. Patches and Badges: W7BJ and AE7IH; Shirts: K6VVR.
3. Club Repeater, K6VVR: Awaiting 440 MHz application to be processed by ARCA; 2M Mt. Union, K6VVR Reported that he is going to install a new controller.
4. Fox Hunt, K6VVR, WB9VGJ: The July hunt was held at Embry Riddle and there were 5 transmitters. WB6ODR will be hiding the transmitter for the August hunt.
5. Elmers: N7CW and N6KZ gave a brief update on recent Elmer activities and antenna take-downs and encouraged members to contact the Elmer group for assistance with rigs and antennas.
6. PMHMS Radio Club: KB7TRE voiced how pleased he was with the installation of the club radio station led by N6KZ and KG6AY.
7. VEC, WB7TPH: License class August 7, 2015 1800-2000 MST at the Jeep Posse building.
8. Website: W6TYV absent. K8FB reported that website links have been changed from blue to red, and that a Login has been added to the home page.
9. Facebook, KI6AHH

Old Business:

1. Williams Hamfest: a) Club made \$1,490.85; b) Thanks go to W7BJ, K7SEN, KW6J, KG6AY, N6KZ, WN7E, W7HAM, W7SUA for their assistance at Williams; c) Board has determined that the surplus equipment with unidentified owners and that we were unable to sell at Williams is being given away tonight.

2. ARCA Ham of the Year Award: Received by Jeff Hanna, WB7RFY.

New Business:

1. Club Station Status: a) YCJP asked us to move the tower (trailer) to a different location, adding one hundred feet plus to the coax and rotator cable runs; b) Two coax cable runs (for VHF/UHF transceiver, and HF tri-band beam) and rotator cable run have been pulled underneath the building and installed; c) The VHF/UHF antenna and rig have been installed and are working; d) Need another 150 foot run of coax and coax connectors for the HF wire antenna; e) Three coax cable lightning arrestors and one more expensive rotator cable lightning arrestor have been installed; e) The tower trailer and power supply (both from ARES/RACES), the HF transceiver, the VHF-UHF FM transceiver, the rotator, and the tri-band beam have either been loaned or donated to the club, significantly reducing expenses in this area; f) Once the station is initially installed, we will be holding sessions to instruct new and beginning hams on proper operating procedures and answer their questions; g) The original \$1,000 authorization for the club station has been spent; h) The Board has recommended that an additional \$1,000 be authorized by the membership to complete the initial installation and also possibly begin the installation of digital mode equipment — motion to authorize by KG6AY, 2d by W1DGL, unanimously approved; i) Many thanks to N6KZ, KG6AY, N7CW, W7BJ, and WN7E for their assistance with the installation.

2. ARES/RACES Memorandum of Understanding (MOU) with YARC: The Board has reached an understanding with ARES/RACES allowing them to take control of the club's 146.88 MHz repeater, if necessary, during emergencies and short emergency exercises. When an OEM emergency is declared, ARES/RACES may take control of the repeater and non-emergency traffic will not be permitted on the repeater until the emergency is over.
3. YARC License Class Change: The board has decided that the club will no longer conduct license classes. Instead, the club will now take advantage of Ham Test Online's offer to provide their Technician online license class at a discounted price to the club. YARC can purchase blocks of 5 classes for \$15 each (regularly \$25) Anyone in the local area and going through the club can start a Technician license class online by purchasing a session from the club for \$15. The class takes approximately 10 hours to complete.

The General and Extra Class license class online courses are available directly from Ham Test Online for \$25 each. These online classes have received good ratings. The club will offer Buddy Mentors for the students taking the online license classes contact WB7TPH. Any person taking the Technician class through the club and who passes the license exam will receive a one year free membership to YARC.

Periodic sessions will be held at the club station to help new licenses get started with their operating by demonstrating good operating techniques and providing a forum to ask questions of interest to them.

If interested in taking the online Technician class, contact W7BJ. The club plans to continue to offer the VE licensing exams on a quarterly basis. There was some concern expressed that it is a mistake for the club to abandon conducting license class sessions. K8FB asked for the club to first try the new online testing to see how it works out.

4. Break: 1947 MST
5. 50/50 Raffle: Winner was N9JYO, \$40.50.
6. Program: "Army MARS in Vietnam," by Ray Benny, N6VR.
7. Adjournment: 2035 MST.

Minutes prepared and submitted by Ron Nelson, KCØTGG, YARC Secretary.



September 3, 2015 YARC General Meeting Program

Do you maintain logs of your radio contacts? Do you work HF, even occasionally? Well, one of the most significant tools to help maintain your radio logs is ARRL's Logbook of the World (LOTW). No it isn't a logging program. So, what is it? Come to the September YARC meeting and find out.

Our own Bud Semon, N7CW, will tell us everything we ever wanted to know about LOTW but didn't know whom to ask. We have tried to pin Bud down for quite some time on the subject, but reluctant speaker that he is, it has been difficult. At long last, he has agreed to inform us about the workings of LOTW.

This is sure to be a "Don't Miss" program for many of us and always interesting for the rest. Be sure to make it to the September meeting, 1900 MST, September 3, 2015 at Prescott Mile High Middle School.

Quiet!

EXAM IN PROGRESS



VE Testing

On August 7th, 2015 several of our VE team gathered to help another cadre of candidates obtain their amateur radio license. Others were in search of an upgrade to a higher class of license. In all we served twelve hopefuls, and administered 15 tests. No one went home without a new or upgraded license. There were eight who received new Technician licenses. And there were four who went home with General tickets. One person managed to "ACE" both his Tech test and his General exam. In all it was a very good evening.

Are you looking to take that first step or to upgrade your ticket? Your next chance is Saturday, November 7, 2015 at 0900 MST at the Jeep Posse Building.

New Members

We are pleased to welcome the following new YARC members accepted at the August 6, 2015 general meeting. Please introduce yourselves to them and make them feel welcome.

Name	Call Sign	Story!
Ron Ross	K6CWB	
Donna Trigilio	KG7OIF	Has applied for N7GRL call sign.
Bill Booth	KG7TTF	
Georgie Lockwood	KG7DKG	
Paul Goodwin	K7UBO	Former member

Event Communications Calendar — Autumn 2015

Date	Day of Week	Event	Place	Course	Coordinator
09/12/15	Saturday	March of Dimes March for Babies	Prescott	TBD	
09/20/15	Sunday	Skull Valley Loop Challenge	Prescott - Downtown		
09/26/15	Saturday	Groom Creek Classic	Groom Creek Fire Station	½ Marathon, 10K, 5K, 2mi. Fun run	
Canceled for 2015	Canceled for 2015	Bradshaw Grinder	Canceled for 2015	Canceled for 2015	Bob Thompson, KC8BOB
10/2-3/15	Friday & Saturday	Prescott Road Rally			Website: precotrally.com
10/17/15	Saturday	Diabetes Walk			John Broughton, WB9VGJ

Except as noted above, to sign up to participate in any of the above events—contact Patti Halgunseth, KD7VBG at kd7vbg@k7yca.org or visit the website www.k7yca.org, go to Calendar and sign up there. Also, sign-up sheets will be at the YARC general meetings.

August Program: Army Military Auxiliary Radio System (MARS) in Vietnam

For our August Program at the August 6, 2015 general meeting, Ray Benny, N6VR gave a presentation on ARMY MARS in Vietnam. Ray is a serious DXer who resides in Chino Valley. We appreciate Ray offering to do this program on ARMY MARS for our club. If you are not familiar with the MARS program, this is sure to be quite informative.

Club Equipment

If anyone has any borrowed YARC equipment, please let Frank, K8FB (president@w7yrc.org) know. We are trying to get and maintain an inventory of club equipment. If you have received loaner equipment from the club's Elmer group within the last year, it is not necessary to let Frank know about this.

2015 Williams Hamfest Update — by Frank Bender, K8FB

The club's take of the hamfest sales at our booths was \$1,490.85 – a great weekend. We had a good number of hams who helped out at our tail gate booths at the Williams Hamfest on August 24 and 25, 2015.

Special thanks to W7BJ, K7SEN, and KW6J for hauling for sale items, canopies, and tables to the hamfest. Thanks also to KG6AY, N6KZ, WN7E, W7HAM, and W7USA for their help at our booths. We were welcomed early Friday morning by an overwhelming number of people who wanted to buy items from us even as the trucks were pulling up to unload. At one point the line to pay for items was estimated to be 20 deep. It was a mad house.

The lesson for potential Williams Hamfest buyers is to get there early on both days. Fresh inventory does seem to show up on Saturday morning. This year, by early afternoon on both days, the majority of vendors and buyers were gone from the grounds.

There were also a good number of seminars at the Hamfest, plus the balloon launch on Saturday morning led by club member Jack Crabtree, W7JLC.

YARC Support in Liberia

July 29, 2015

by Bud Semon, N7CW

Here is a status update on our work to establish a new ham radio club station in Liberia. I was awarded a \$2000 grant from the YASME Foundation to buy books and training materials for the school and I'm waiting for the final quote from the ARRL so I can send the money to them. The money that YARC donated is already in Liberia and has been used to buy coax. The rest of the donated equipment will be transferred to the BWI Technical School Alumni Association in Los Angeles next week for shipment to Liberia. The books will be picked up directly from the ARRL by another Alumni Association member, also for shipment to Liberia. So we are making progress....

Thanks again to YARC for your generosity. Hopefully (if we ever get any propagation), we will hear some new EL (Liberian) call signs on the air soon.

YARC and ARES/RACES Memorandum of Understanding (MOU)

YARC has entered into an agreement with the Yavapai County ARES/RACES group for it to be able to take operating control of YARC's 146.88 MHz repeater during an emergency declared by the county Office of Emergency Management (OEM) or during an occasional emergency exercise. When the ARES/RACES organization takes control of the repeater, announcements will be made to that effect. Only emergency traffic will be allowed on the repeater until the emergency or exercise is over.

Amateur Radio Council of Arizona (ARCA) – Ham of the Year

At the Williams Hamfest this year, it was announced that YARC club member and ARCA Chairperson Jeff Hanna, WB7RFY was awarded the 2015 ARCA Ham of the Year award. Jeff is currently wrapping up his term as ARCA Chairperson. The club's congratulations go the Jeff for winning this award and for his dedicated service to ARCA.



Fox Hunt: August 9, 2015
by Bob Smith, WB6ODR

Our fox hunt was, in my humble opinion, one of our better hunts. I consider a very successful fox hunt as one where some people find the fox and some don't find the fox. The ultimate hunt, again in my humble opinion, is one where no one finds the fox because the hider was very clever. This month Linda KD7EEO and myself went out one of the Bownlow Trails about 350 or 400 yards and just off the trail 50 or 60 feet. The coordinates on Google Earth are about 34° 36.458N 112° 28.446W and the secondary transmitter was south east of that about 50 or 60 more feet.

I used my little Baofeng HT with the Bionic controller. It worked OK, except when the instance our timer shut the transmitter off. After I discovered that malfunction and turned the radio off and on we were back on the air. After Linda and I walked out to our possible site, she walked out a little farther and placed the second fox. We sat on our little cane seats and talked for a bit after I started the primary fox until time came when we thought we should turn on the secondary fox. Oh dear, she could not find it again for about 20 minutes.

Finally both transmitter were active and the team of Forrest WH6EAL, Ron KCØTGG and Jeff WB6RFY found us after 1 hour, 23 minutes of diligent searching. Dave W7BJ came in a little later at 1 hour, 29 minutes. Frank AD5SU and his long-time friend, Mike, met us at the Junction restaurant for a bite of lunch afterwards. The team of Pete K6VVR, Diane KE7ODP and Patrick KG7EWD were in the parking lot and would have found us if we had not run out of time. I turned off the fox at 1500 MST plus or minus 5 minutes so that Linda and I could walk back in and make the lunch meeting. Ron might have the only picture of the primary transmitter in as much as I did not bring a camera and Jeff's camera came with a dead battery. While Forrest found us first, I've been told that Ron will be hiding next month because Forrest wants to bring some ERAU students with him and help them understand our fox hunt. I am looking forward to next month's fox hunt.

W7YRC/R Net – 07/29/2015 – 1900 MST - 147.260 (+) MHz FM – Net Control: AE7CG, Loren					
K6VVR Pete	KA5DWI Art	KG6AY Art	KG7GLW Frank	W1DGL Mike	W7PVA Bill
K7CJW Bob	KF7FPD Jerry	KG7BAM Terry	KI6AHH Tony	W6CCD Dick	WA6AQK Ken
KV7AC Jay	KF7PQV Dan	KG7EWD Patrick	N6RW Bob	W7HAM Ralph	WN7E Tom

Online License Test Preparation Classes
YARC now offers online license test preparation classes by Ham Test Online. The Technician course is available at a special rate of \$15. General and Extra courses are available for \$25 each. If interested, contact Dave, W7BJ at w7bj@outlook.com .

New Club Station Status Update

by Frank Bender, K8FB

We are almost finished installing the club station at the Jeep Posse building at 1200 Commerce Drive in Prescott. We are awaiting delivery of an add-on dipole kit for 40 meters to attach to the tri-band Yagi beam, which operates on 20, 15, and 10 meters. Hopefully by the time that you read this, the initial installation of the station will be complete.

Periodically look for announcements on the web site home page about the club station. We are planning a club station open house soon after the station is completed for everyone to get a good look at the station and its capabilities. You can even operate the station.

We will also begin scheduling sessions for new and beginning hams to demonstrate good operating techniques and provide the opportunity to ask questions that are particular to your own situation. Go to the club's web site, select "Club" and then "Club Station" for a description of the station and a couple of pictures. Once the station is available, we will post a list of members that you can contact to open up the station so that you can operate the station. We are also planning on scheduling periodic open houses where you can drop by and operate the station during these sessions.

We have created a list of members who will be permitted direct access to the Jeep Posse building and club station. To be placed on this list you need to be available to be scheduled for periodic club station operating events. You will also need to have some availability to open up the club stations for members upon request. If you are interested in having this access, contact Frank Bender, K8FB (president@w7yrc.org) or Don Bauer, WB7TPH ([wb7tph@w7yrc.org](mailto:w7tph@w7yrc.org)).

Many thanks especially to Jim, N6KZ for driving the work to get everything installed in a professional manner and selecting the station accessories. Art, KG6AY also spent a lot of time helping out with the installation. Art crawled in under the building to pull a rope that was used to pull the coax cables underneath the building – a difficult job due to the cramped space available to him. Thanks also go Dave – W7BJ, Tom – WN7E, and Randy – W6TYV for helping out with the installation.



Jim N6KZ

Frank K8FB

"Testing the 2M Vertical Antenna at W7YRC" (Photo courtesy of Art KG6AY)

Prescott Mile High Middle School Radio Club Update

Terry Pemberton, KB7TRE is extremely pleased with the installation of the school radio club station by the YARC team led by Jim Zimmerman, N6KZ and Art Protas, KG6AY.

YARC Volunteer Opportunities

Contact Frank Bender, K8FB (president@w7yrc.org) if interested in helping out in any of these or other areas.

Opportunity	Description
Buddy Mentor	We are looking for several more experienced club members to be a resource that new hams can contact with questions. You would also be a friendly face in the crowd. Here's an easy way to give back to our club and help keep the interest of newly licensed hams.
License Test Preparation Tutors	We are still looking for volunteers interested in helping out with tutoring club members who are studying for their license tests.
Assistant Webmaster	We are looking for a volunteer who has strong Word Press and associated skills who can assist the webmaster with the website work load, especially with more complicated Word Press coding concepts.
Club Station Access Members	With the installation of the new club station (W7YRC) at the Jeep Posse building, we are in need of several members who will have access to the building and the station. These members will have access for a period of time and will need to be available to be scheduled for open house operating events, as well as opening up the station upon request for the use of other club members. Please send your request with a brief rationale as to why. You should be considered to Frank Bender, K8FB or Don Bauer, WB7TPH.
Yavapai Hamfest Chair Person	The YARC Board would like to re-institute an annual hamfest in the Prescott area. We envision the hamfest being a half day or so event at a local venue, such as ERAU. The timing of the hamfest has not been determined. A hamfest in the summer would entice hams in the hotter areas of the state to come to Prescott. A spring or fall hamfest would also be an option.

Beware of a Computer Software Scam! — by a YARC Member

My 20-year-old Costco computer gave up the ghost. A friend had a computer dealer set up a completely new computer system for me less than a month ago at a cost of over \$1000. He also received a card – from what appeared to be Microsoft – saying "Let us lead you through a process that will increase the efficiency of your new computer [that is, my computer]." My friend followed the procedure for about 45 minutes. When he finished, he was no longer able to use the new computer. Apparently he had installed a virus, and the card was not from Microsoft.

He then took the computer to the dealer, who charged \$70 to remove the virus. After he brought the computer home, it still would not function. He then paid a computer technician \$40, only to discover that the dealer had not solved the problem. Finally, the technician fixed the problem and the system is now working. Now, all I have to do is to learn how to use it!

For Sale in Chino Valley:

- One 40-ft. MK40 tubular tower
- One Yaesu rotor, G450A or better
- Mosley MP-33 3-element HF tri-band antenna (18-8 & 300-series stainless steel, 1500-watt)

For sale only as a total package for \$1,100.

Contact Rob Robinson at rbpo@cableone.net or call 928-710-7410.

Hints to Get You Started – 2 Meters

by Frank Bender, K8FB

You have just received your Technician Class license. You are naturally excited and may even have bought a 2 meter hand held or base/ mobile station. Now what? Here are a some thoughts to help you get started:

- Read your transceiver instruction manual – looks complicated? Yes, it can be overwhelming, but focus on instructions for setting up your transceiver and how to basically operate the radio.

- Nifty Ham Accessories (<http://www.niftyaccessories.com/>) offers small, concise, and very helpful operating and programming guides that run in the \$17 - \$20 price range.

- The easiest way to program your radio is by using your computer, a programming software program for your transceiver, and an interface cable to connect your PC and your transceiver.

- If you are anxious to get going and don't have or don't want to acquire programming software and cable, pick a repeater pair and try following your repeater programming and memory save function for just this one frequency.

- What is a repeater pair? A repeater simultaneously transmits on one frequency and listens on another. Thus it repeats everything that it can hear. These two frequencies are called a repeater pair. An example is the YARC repeater, which transmits on 146.880 MHz (which your receiver is listening for) and receives (the repeater is listening for your transmission) on 146.280 MHz. This frequency pair has a -600 KhZ split, meaning your transmit frequency to access the repeater on 146.280 MHz is 600 KHz less than the frequency you are listening on (146.880 MHz).

- Confused? Well there is more. Most repeaters won't respond unless you are also transmitting a specified PL tone. This helps prevent interference from overlapping repeater coverage on the same frequency. What is a PL tone? PL originally was a Motorola acronym for Private Line, which is basically a sub-audible tone on the audio of your signal. The PL tone is 100 hz for our 146.88 MHz repeater. So the audio of your transceiver is transmitting your audible voice frequencies as well as the sub-audible (non hearable) tone of 100 Hz.

- A good antenna is a strong recommendation:

- A lot of handhelds have a marginal rubber ducky antenna with an SMA connector.

- Try getting a better (usually longer) rubber ducky antenna with the right connector (e.g., SMA male, or SMA female connector). Diamond Antennas offer good options here. Make sure, though, that you get an antenna that not only matches your connector (e.g., SMA male) but also is configured for the same bands as your handheld.

- An outdoor antenna works even better, but requires an outdoor mount and good coaxial cable. Smaller coaxial cables have a good bit of loss on VHF/UHF frequencies and will reduce your radiated power.

Next time we'll discuss how you go about getting on the air using good operating techniques.



How much performance do you really need by Dan Romanchik, KB6NU

A reader recently e-mailed me:

“Just a quick question – Are you still in the thinking stage about getting an Elecraft K3? Great rigs, aren't they?”

“What I would like you to think about, though, is how many contacts you log in one year's time. If you log 100 per year (check your log) then your cost will be \$50 per contact for that year. If you log 500, then your cost will be \$10 per contact. If you keep that rig for three years, and log 500 contacts over that time, then you will have spent \$10 per contact.

“Now, consider what that rig will be worth in three years. Will there be something come along that just blows the K3 away in terms of performance?”

I replied:

“K3s are great radios. I've just purchased a used KX3, though, so I am not planning on getting a K3 in the near future. I have purchased a 50-W HobbyPCB amp to use with the KX3, so I'm not going full QRP.

“I make a lot of QSOs/year. My average over the last 13 years is more than three per day, and that doesn't include contacts made with other callsigns, such as the club station, or on Field Day. I'm sure that my cost/QSO will be low enough to justify my investment. :)”

“In addition, rigs seem to keep their value pretty well. I'd guess that you can sell a three-year-old K3 for at least 80% of what you paid for it. I think that one of the reasons that an Elecraft K3 is worth the investment is that Elecraft provides such good customer support, and that they are continually improving their radios. For example, they just came out with a new synthesizer board, with better RF specs, for the K3.

“I don't see anyone coming out with a radio that blows the K3 away in terms of performance in the near future, although I might be wrong. FlexRadio has perhaps the best chance of doing that, but you'll have to buy into the Flex user interface philosophy to take advantage of that. I think that Elecraft and Flex, plus the three Japanese manufacturers, will make incremental performance improvements over the coming years, leapfrogging one another as they bring out new models.

“One thing to think about is how much performance is overkill? Just like you can now buy a computer that has way more computer power than the average user will ever need, I think that most of these high-end radios offer way more performance than the average ham will ever need. It's cool to look at the Sherwood Engineering receiver tests and see that your rig is in the top ten, but will the average ham actually notice the difference? My guess is probably not.

“Thanks for sparking my thought process on these issues.”

My guess is that most amateur radio operators don't think about what the rig will be worth in three years when buying an HF transceiver. Instead, they're looking at what the radios that are currently available cost, and when there's a big price difference between two models that appeal to them, they're trying to figure out if the higher price is warranted. In many cases, the lower-priced model wins out. It's not because the more expensive radio isn't better, but it's not that much better.

It all goes back to how much performance you actually need. Yes, you can probably do more with a \$10,000 radio than you can with a \$1,500 radio, but is it really worth the added expense? In other words, are you going to have more fun with a \$10,000 radio than you are with a \$1,500 radio?

Let me know what you think. E-mail me at cwgeek@kb6nu.com.

How are Cable TV Channels related to Amateur Radio Frequencies?

by Bil Munsil, K1ATV

Cable Channel	Cable Frequencies	Amateur Radio Frequencies
18	144-150 MHz	144-148 MHz Note: Years ago Prescott had leaky TV cable and the 145.25 MHz repeater was interfered with.
24	222-228 MHz	222-225 MHz
57	420-426 MHz	420-450 MHz
58	428-432 MHz	
59	432-438 MHz	
60	438-444 MHz	
61	444-450 MHz	

Notes:

1. Cable channels 57 through 60 are used for Ham TV - usually only one frequency per area.
2. Video carriers are 1.25 MHz above the lower edge of the channel.
3. Color sub-carriers are approximately 3.58 MHz above the video carriers.
4. Audio sub-carriers are 0.25 MHz below the upper edge of the channel.

What is Amateur Television?

Presented by Amateur Television Network (www.atn-tv.org)

The Amateur Television Network website can be seen here: <http://atn-tv.org/>

Here are the current ATV repeaters in Arizona with a new one under construction about five miles for me: <http://www.azrepeaters.net/index.php?n=RepeaterMaps.ATV>

Section 1: What is ATV?

Amateur Television (ATV) is divided into two primary types: Slow Scan - a system used on the HF bands occupying the audio bandwidth of an amateur station to transmit a few still pictures per minute to another station usually over long distances and Fast Scan - a system of sending broadcast quality full motion pictures over shorter distances on the UHF and microwave bands.

In this presentation we will examine the Fast Scan version of ATV. Back in the late 1940's hams in many parts of the country helped develop commercial television. The old Amateur 5 meter band was used for this mission. They were very helpful evaluating reception of different system types and many engineers were also hams using their vast technical knowledge for television development. The hams - being hams - decided to build their own stations. In the early days it was home brew or converted war surplus UHF equipment.

By the 1960s home brew and converted UHF two-way radios were used. By the 1970s technology changes were afoot with modulator and down converter kits and completed boards followed a few years later by a complete ATV station in a box were available from PC Electronics and other manufacturers. By the mid 1970s Metrovision in Washington DC was the group that had built and licensed the first ATV repeater in America. By 1979 WA6SVT had built the first wide coverage repeater in California on top of Mt. Wilson. Over the years a group called Amateur TV Network (ATN) was formed to support the repeater and many more repeaters soon followed. ATN now has six state chapters across the country.

Today it is easier than ever to get on the air with ATV for less than \$700 for all new equipment and less than \$100 for the builder. The oldest and most widely used mode of ATV is AM and a related modulation - Vestigial Sideband (VSB). A cable ready TV set can directly pick up ATV on the 420 MHz band. A down converter is needed for the higher bands. Your camcorder can be used for your ATV camera. All that is needed is a transmitter and antenna and you are on the air!

FM ATV is one of the fastest growing modes of ATV. FM ATV uses 4 MHz deviation (the terrestrial commercial TV standard used for studio to transmitter links and ENG) in the 0.9, 1.2, 2.4 GHz and higher bands. A few ATVers use the satellite (TVRO) standard of 11 MHz on the 3.3 GHz and higher microwave bands. FM ATV using converted part 15 TV room to room links - such as the WAVECOM units - is available from ATV vendors. FM ATV is the preferred mode in Europe on 1.2 and 2.4 GHz bands.

Digital ATV is just starting out by converting analog video to MPEG-2 bit stream with QPSK, 8-VSB, and DVB modes of digital modulation. Most of the research to date is done in Germany by the DATV group using standard definition DTV on 434 MHz using 2 MHz of occupied bandwidth and HDTV on 1.2 GHz using 6 or 7 MHz of bandwidth. In this country ATN has started experiments using the methods above and using internet pipelines to link distant ATV repeaters (see <http://www.atn-tv.org>) and look under ATN on the internet for more details). The HSMM group is experimenting with multimedia formats including ATV using 802.11b and WiFi part 15 equipment occupying 22 MHz in the 2.4 GHz band.

Section 2: Operation

ATV is unique in that it enables a ham to show and tell another ham in real time his shack, latest project, field day, home video of the family's vacation, and other events. ATV for public service allows pictures in real time to be sent to emergency operation centers to report storms and damage assessment.

Most ATVers use a 2 meter calling and coordination frequency to set up ATV contacts. 144.34 MHz is popular in the Midwest and some areas of the East Coast. 146.43 MHz is popular in the west. Most ATV repeaters have a 2 meter receiver on site to mix in the calling channel audio with the TV audio. On the 420 MHz band polarization is usually vertical with areas that use 434 MHz and horizontal in areas that use 439.25 MHz and areas with in band 421.25 MHz out and 439.25 MHz in repeaters. Most cross-band repeaters use vertical polarization on both bands.

Lighting is important for good ATV pictures. More detail is available in "Advancing the ATV Art Workshop" produced by ATN. A camcorder, CCTV camera and most analog output computer cameras work well for ATV. Antennas should be above the tree line for good DX on simplex and operation to far off ATV repeaters. Low loss feedline should be used. A low noise preamp is a good idea if you use a cable ready TV or an older down converter. At least 10 watts is needed for good ATV distance and 100 watts or more for long haul DX work.

ATVQ magazine (<http://www.atvquarterly.com>) is a good resource for information on what is happening in your area on ATV, projects you can build, ATV group information and advertising for the latest ATV gadgets for sale by reputable ATV vendors and manufacturers.

Section 3: Receivers

The simplest ATV receiver for AM or VSB is the standard TV set using a 6 MHz wide channel. A cable ready TV can receive the 420 MHz band ATV signals - just add an antenna (and pre-amplifier for even better performance) and you are ready to receive ATV! For a non-cable ready TV add a down converter and for the higher bands a down converter is needed for all TV sets.

FM ATV needs a TV with A/V inputs or a video monitor, both requiring a full FM TV receiver. Low cost Part 15 domestic units work well on 2.4 GHz and imported Part 15 type units work well for 1.2 GHz or 2.4 GHz bands. A satellite receiver can work on 0.9 and 1.2 GHz bands for FM TV but are set up for wideband FMTV and need a pre-amplifier and filter for better operation. They work well for Wideband ATV with a down converter on the 3.3 GHz band and above.

Section 4: Transmitters

It used to be said that AM TV on the 420 MHz band was the easiest way to get on ATV and that is still probably true but the Part 15 FM TV units are also simple to use on 2.4 GHz. Most ATVers use off the shelf transmitters or a transmitter with a built in down converter. Transmitters use crystal control or PLL to set frequency and AM modulate the carrier directly with video. Audio is modulated on a 4.5 MHz sub-carrier and mixed in at the video modulator. The transmitter is double sideband occupying 9 MHz. The easiest way to build a VSB ATV transmitter is to either add an external RF 6 MHz wide band-pass filter to your existing AM transmitter or use a CATV Modulator.

CATV modulators are rack mountable and are much more sophisticated. They modulate a 45.75 MHz IF with video then filtered through a VSB 5 MHz wide IF filter. The audio is modulated on a 41.25 MHz carrier at 25 KHz deviation. Usually the aural carrier is phase locked to the visual carrier maintaining a precise 4.5 MHz difference. The aural and visual carriers are mixed to the final output frequency and amplified. Most CATV modulators can produce an output to 550 MHz making them suitable for the 420 MHz band. The modulator output is in the 10 to 20 m/w level requiring amplification with a class AB RF power module.

The easiest FM ATV transmitter is a Part 15 TV unit on 2.4 GHz. The frequency chip can be changed to put all four channels into the ham band on coordinated ATV frequencies. Amplifiers are available from ATV vendors.

The best location for your antenna is above the roof line and trees. Stay away from RG-58, RG-8 and other HF-VHF feedlines. They have too much loss at UHF and even more on microwave. The same goes for the PL-259 connector. Use type N or other quality connectors. LMR-400, 9913 and heliax are preferred feedlines for ATV. Try to keep losses under 3 dB. Waveguide is used for the 5 and 10 GHz bands. DX can reach 50 to 100 miles with good antenna systems and several hundred miles with tropo ducting. KH6HME's ATV transmission from Hawaii was received by ATV stations 2500 miles away in California in full color with tropo ducting.

Section 6: Repeaters

ATV repeaters are fast becoming popular for ATV activity. Today many hams are finding themselves in antenna restricted communities reducing simplex ATV to about 10 miles but an ATV repeater on a high tower or mountain top allows longer distant ATV contacts. Many ATV groups and individuals have built ATV repeaters. ATN has a linked network of interstate repeaters allowing ATV contacts over hundreds of miles.

The two types of repeaters are:

In-band where both the input and output are in the same band (popular in the Midwest since existing ATV simplex stations do not require additional equipment to use the repeater) and **Cross-band** repeaters have the input and output in different bands allowing the sending station to see his own picture, make adjustments to his station and hear distant stations talk back to him over the repeater via the ATV 2 meter calling channel audio mixed at the repeater. A separate antenna and down converter or transmitter is needed compared to simplex operation.

The Microwave Experimental Television Society (METS) uses a wideband FM input on 10.4 GHz using Gunplexers to transmit and slightly modified domestic C band satellite receivers to receive their 3.4 GHz wideband FM TV repeater output.

ATV repeaters are located in a high centrally located area and use omnidirectional antennas. The repeater's transmitter is keyed up upon detection of horizontal sync on the repeater receiver. ID is usually done visually by momentary interruption of the received ATV signal by an ID screen or done via video overlay. Some repeaters have two inputs: one is the old 420 MHz channel and the 2nd is a 2.4 GHz FM TV channel.

Club Officers

Officer	Name	Call Sign	Email Address
President	Frank Bender	K8FB	president@w7yrc.org
Vice President	Rex Mauldin	N7NGM	vice.president@w7yrc.org
Treasurer	David Hanson	W7BJ	treasurer@w7yrc.org
Secretary	Ronald Nelson	KCØTGG	secretary@w7yrc.org
Director	Donald Bauer	WB7TPH	wb7tph@w7yrc.org
Director	Douglas Meyer	KF7YZJ	kf7yzj@w7yrc.org
Director	Douglas Freeman	KV8TD	kv8td@w7yrc.org
Director	Randy Dashiell	W6TYV	w6tyv@w7yrc.org
Editor Emeritus	Joseph Oliver	AC6AA	joliver@cableone.net
Editor	Loren Singh	AE7CG	newsletter@w7yrc.org
Webmaster	Randy Dashiell	W6TYV	webmaster@w7yrc.org



