



YAVAPAI SIGNAL



The Yavapai Amateur Radio Club • Prescott, Arizona • DM-34 • Volume 29 - No. 7 • July 2014



Happy Independence Day



Greetings Yavapai ARC Members:

Likely, you will read this just prior to Field Day and the Granite Mountain Hotshots memorial event. Hopefully both events go off well. If you have been undecided, please come join the stalwarts at the radio(s) on Field Day and the Hotshots memorial, and do what amateur radio is all about. Communicate!

Unfortunately, due to a technical glitch, we were unable to present VP, Rex Mauldin's program at the June meeting. It will be rescheduled for August or September. We could not do it in July because we have a guest speaker coming up from the valley.

I received a fun and useful suggestion from Dean Sheeley via e-mail. He opined that since we have quite a number of new members and many technicians, we should get in some phonetic practice. Dean suggested that when we do introductions, be sure that the persons give their calls phonetically. So, in keeping with Dean's idea, here is the phonetic alphabet for folks to use:

A - Alfa	I - India	Q - Quebec	Y - Yankee
B - Bravo	J - Juliet	R - Romeo	Z - Zulu
C - Charlie	K - Kilo	S - Sierra	
D - Delta	L - Lima	T -Tango	
E - Echo	M - Mike	U -Uniform	
F - Foxtrot	N - November	V - Victor	
G - Golf	O -Oscar	W - Whiskey	
H - Hotel	P - Papa	X - Xray	

Finally, remember that amateur radio is a great hobby and service. In part, it is possible because we live in the greatest country on earth. Go out and celebrate her on the Fourth of July.

I hope to see you at our next meeting. That is **July 3rd, at 7:00 PM**. Mark your calendar.

Don, WB7TPH

July Program:

This month's program will be about satellites and amateur radio involvement. Rick Tejera is coming back from Phoenix to present "Rocket Science, part 2", or is it part 1. Well, we will find out at the July meeting. His presentation last June was very popular and we have asked him to return. Maybe he will even bring another satellite to give away (paper model, come on, not the real thing). Please welcome Rick back to YARC, and bring a friend (a science nut, even).

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Welcome to the Yavapai Amateur Radio Club

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

Membership in the YARC is open to any interested amateur or non-amateur alike. Dues are \$20.00/year (Full-time students \$15). The YARC meets at 7:00 p.m. local time on the first Thursday of every month in the Technology Room 404, at the Granite Mountain Middle School, 1800 Williamson Valley Road in Prescott. It is about ½ mile north of Iron Springs road, and all amateurs and non-amateurs as well are invited. Programs of interest are included as part of the meeting.

The weekly Net is held every Wednesday at 7:00 p.m. local time on 146.880- repeater. All amateurs are invited to participate, and visitors are always welcome.

The Yavapai County ARES/RACES Net is held on Monday nights approximately at 7:00 p.m. local time on the 145.290- repeater on Mingus Mountain. A PL of 127.3 is required.

Club Repeater

The YARC 146.880- repeater is located on the hill above Willow Creek road and requires a PL of 100.0 Hz. Our deepest gratitude to Bill Kafka, W2YAV, (SK) for allowing us to acquire the original club repeater. ■

Are Your Membership Dues Past Due?

Please check the YARC Roster found on our YARC website.

Click on "[Member's Only](#)" and enter your "User Name and Password". If you have forgotten your Password, click on "[Webmaster](#)" and request this information.

Minutes of May 27, 2014 Board of Directors Meeting at JB's Restaurant, Prescott, Arizona



Meeting was called to order by WB7TPH at 18:42 hours

Members Present: WH6EAL, N7NGM, W7HAM, KV8TD, AD7YR, W7BJ, WB7RRQ, and WN7E

New Business

- **Treasurer's report**, W7BJ: No new expenses to be approved.
- **Field day**, WB7TPH: Field day will be back at GMMS; WN7E will look in to purchasing or renting a generator for the club to operate emergency power. It is proposed to set up and operate dual stations.
- **GMH memorial**, KV8TD: The memorial radio station will be set up at GMMS; a spread sheet is available to coordinate all participating operators. An option of setting up a table at the memorial activities on the court house square with a 2m radio to attract the public to the event was discussed, and will be brought up at the general meeting.
- **Club station on wheels**, WB7TPH: There are many issues that need to be dealt with before this becomes a reality. Such issues include: licensing, ownership and operation, insurance for multiple drivers, long term storage of radio equipment and vehicle etc.
- **Former Members**, W7BJ: Dave questioned board response to nonpaying club members who are still participating. Should they be exposed and confronted? Board agreed that no action should be taken at this time. Participation is minimal.
- **Nominations**, WB7TPH: New club officers and board members need to be nominated, and nominations are officially open. Contact AD7YR, nominations chair, in writing.

Adjournment: WB7TPH adjourned the meeting at 19:50 hours.

Minutes of June 5, 2014

General Meeting

at Granite Mountain Middle School, Prescott, Arizona

Meeting was called to order by WB7TPH at 18:59 hours, and the Pledge of Allegiance to the Flag was recited by all present.

Introductions: WB7TPH called for all board members present to stand and introduce themselves.

Introduction of Visitors:

Rob Redford, KG7LMI

Paul Gunn, KG7GMC

Lisa Ferguson, KK6AFC

Introduction of New Licensees: No newly licensed individuals were present.

Minutes: WB7TPH asked for a motion to approve the minutes of the March 6th, 2014 general meeting as published in the "Yavapai Signal". Motion was made by WB9VGJ, and seconded by K6VVR. The motion was approved.

Treasurer's Report: WB7TPH asked for a motion to approve the Treasurer's report as published in the "Yavapai Signal". Motion was made by AD7FW, and seconded by W7HAM. The motion was approved.

New Members: WB7TPH called a motion to accept new member applicants. The following applicants were accepted by acclamation: Lisa Ferguson, KK6AFC, Rob Redford, KG7LMI, Kyle Bryant, K6QQQ, Donald Davis, KF7RXW, and Alfred Muense, AF6ZR.

COMMITTEE REPORTS:

Event Com: WA6ZZJ May 24th: Mountain Mayhem in Groom Creek was a success.

Newsletter: AC6AA - Keep the articles coming.

Patches and Badges: W7BJ - Badges \$7, patches \$3.

Shirts: K6VVR - Shirts are available; \$24 with name and call sign; \$20 without name and call sign.

Repeater: K6VVR - The repeater is working fine, how-

ever, a qualified tower climber is needed to adjust the antenna.

Fox hunt: K6VVR - Fox hunt starts at 13:00 Sunday June 8th; WA7ARK is hiding transmitter.

Elmers: N7CW - Everything is wonderful.

Licensing: VE test May 3rd - out of the 16 people tested, 14 passed including two upgrades to General class.

OLD BUSINESS:

Field Day, WN7E: Field day is Saturday the 28th; anyone interested please sign up. Food and snacks will be potluck, so please bring something to eat and to share.

Hotshots Memorial, KV8TD: The GMH Memorial will take place June 30th from 7:00-18:00, during which two of the fallen firefighters will be honored each hour. YARC will be operating from the club station at GMMS. The club operation will concentrate on 20m and 40m, including remote operators from around the state. Remote operations could include additional bands. One could operate from their home station on any HF band desired so long as there is coordination with KV8TD. The memorial is actively looking for CW operators; if interested please contact KV8TD. The memorial radio club would also like to have a booth or table at the court house square during the memorial, to increase awareness of the event. If anyone is interested in participating please contact KV8TD.

Picnic: WB7TPH asked if anyone would be interested in a club picnic on the 12th of July. No interest was shown, so picnic will be scrubbed.

Nominations: WB7TPH asked for nominations for board members and officers; the open positions are president and treasurer, as well as three board members. If you would like to nominate anyone please contact AD7YR, nominations chair, in writing.

SK: KC8BOB reported that Richard Turner, K7TKX, unfortunately is now a silent key. He left behind a plethora of equipment and his widow Marty needs assistance in removing it. KA7LKW reported that Dick Munson, W2GAS, known as the Gas Man is now a silent key.

Coconino County Ban: WB7TPH asked if anyone had new information on the Coconino County radio ban. City of Flagstaff will not participate. Some county board members are at least willing to take another look at the possible

repercussions.

Missing Equipment: A Kenwood TS-130 receiver is missing from the club inventory; if the location of this equipment is known please contact WN7E.

50/50 Drawing: The winning ticket No. 532255. K2CRC won \$42Dollars

Program: N7NGM's program was postponed due to technical difficulties.

Adjournment: WB7TPH adjourned the meeting at 19:45 hours.

Respectively submitted by

Forrest Murdoch, WH6EAL

YARC Secretary

June 2014 Foxhunt

By John Broughton, WB9VGJ

The monthly foxhunt was held Sunday, June 8th. The foxes were Pete, K6VVR, Diane, KE7ODP, and Patrick KG7EWD.



There were only two teams of hunters this month:

1. Mike, WA7ARK, and Forrest, WH7EAL.
2. Jeff, WB7RFY, I, WB9VGJ, and a new hunter Paul, K7PJD.

The transmitters were hidden in a part of Prescott Ranch subdivision that has not been built out.

The hunt went rather quickly, considering we got off to a start that was a little late due to an unforeseen happening. Both teams found the transmitters, with Team #2 being the winning team by a whopping six minutes. I think that speaks to the skills and abilities of both teams. Paul did participate on a hunt a few years ago, but now has gotten active on the air and plans on attending our meetings and participating in more foxhunts.

We had our usual after-hunt get-together at JB's Restaurant; the social aspects of the hunts are as enjoyable as the actual hunts.

You can see pictures of the hunt at:

<http://tinyurl.com/YARCfoxhuntJune2014>

We would encourage more folks to get involved in the hidden transmitter hunts. They are really fun and help develop direction-finding skills.

73,

John, WB9VGJ

Club contacts - At a Glance

President - WB7TPH	president@w7yrc.org
Vice President - N7NGM	vice.president@w7yrc.org
Secretary - WH6EAL	secretary@w7yrc.org
Treasurer - W7BJ	treasurer@w7yrc.org
Board Member - AD7YR	cgrobeck@gmail.com
Board Member - W7HAM	smokey7@cableone.net
Board Member - WB7RRQ	rosevear520@cableone.net
Board Member - WN7E	mrgriz@cableone.net
Arizona WAC Administrator	az.wac@w7yrc.org
Ask Elmer for Help	ask.elmer@w7yrc.org
Badges	badges@w7yrc.org
Field Day Chairman	field.day@w7yrc.org
Fox Hunts	fox.hunt@w7yrc.org
License Classes	classes@w7yrc.org
Mail List	yarc_mail@w7yrc.org
Membership Application	membership@w7yrc.org
Net Manager	net.manager@w7yrc.org
Newsletter Editor	newsletter@w7yrc.org
Program Inputs	programs@w7yrc.org
Public Information Officer	pio@w7yrc.org
Public Service - DEC	public.service@w7yrc.org
Repeater Trustee	repeater@w7yrc.org
Special Events	special.event@w7yrc.org
VE Test Liaison	testing@w7yrc.org
YARC Party Coordinator	yarc.party@w7yrc.org
Information	info@w7yrc.org
Webmaster	yarc@w7yrc.org
Webmaster	w7yrc@w7yrc.org



Yavapai Amateur Radio Club
 PO Box 11994
 Prescott, AZ 86304-1994

TREASURER'S REPORT
May 2014

General Fund **Repeater Fund**

BEGINNING CASH BALANCE - April 30, 2014			9,657.77	2,290.65
Dues - Donald Madison	W7WYZ	new	18.00	2.00
Dues - Richard L Miller	KD0WVH	new	18.00	2.00
Dues - Rick Cofone	K2CRC	new	18.00	2.00
Dues - Michael Nesmith	NP2LY	new	18.00	2.00
Dues - John Conrad	NO7N		18.00	2.00
Dues - Marjorie Cole	KF7RIG		18.00	2.00
Dues - Buzz Cole	KF7RXU		0.00	0.00
Dues - Frank Strassell	KF7ANX		18.00	2.00
Dues - Vincent Carr	KF7OTB		18.00	2.00
Dues - Evelyn Carr	KF7RIH		0.00	0.00
Donation - Rick Cofone	K2CRC			20.00
50/50 Raffle			88.00	
50/50 Raffle – Bob Rosevear	WB7RRQ		(44.00)	
Interest Income				0.10
TOTAL INCOME			188.00	36.10
David Passell - Cookies	1198		14.27	
Hays Companies - Liability Insurance	1199		200.00	
TOTAL EXPENSES			214.27	0.00
ENDING CASH BALANCE - May 31, 2014			9,631.50	2,326.75

Signature: 
 David B Hanson, W7BJ, Treasurer

Date: 6/1/2014

1st Annual Mountain Mayhem

By Patti – KD7VBG

On January 30th, 2014 I was contacted by the Groom Creek Firefighter Association to provide communications for the first annual Mountain Mayhem.

So on Saturday May 24th, 2014 18 amateur radio operators converged on Groom Creek for the 1st Annual Mountain Mayhem Bike Race. This was a 10mile/20mile event put on the Groom Creek Fire Firefighter Association, and was run on the trails, roads around Groom Creek. It was a beautiful morning in Groom Creek when we all arrived to meet together and then head out to the various



locations. Most locations could be gotten to by vehicle with a couple of stations having to hike a short ways to get to trail head where the riders would be coming through. There were about 90-100 riders that participated in the first event with all finishing and with no major issues just minor scrapes, etc.

The course was split up into a North Section and a South section where we manned 7 Stations out on the course itself, one Aid Station at the Start/Finish along with Net Control being setup near the Groom Creek Fire Station as well. With this being the first event I was able to be runner between the Organizers and field staff and monitor the Groom Creek Tactical channel. 2 Quads patrolled the route, which was no easy task, but they all came through and again all riders made it in safe and sound. At the end of the race the organizers came up to me and said “You Guys are awesome!” Even the scoring people said it was great to work with us and the info we give helps them out greatly.

I really want to thank all who came out a volunteered for this event, it was a great turn out by amateur radio operators, and with some even being brand new hams, again these events cannot be done without your help. The Amateurs involved were: WA6ZZJ, KJ6QJS, KF6SPS, AE7BK, KG7JVO, KG7LMB, W7PRG, W7BNW, W7TRW, K7POF, AD7UR, KF7YZJ, KF7BSA, KF7BSB, KF7LMI, KD7VBG, and the 2 Quads KC6ZHG, and WB7RRQ.

Thank You again for all who volunteered to make this 1st annual event a success, hope to see everyone on future events. Patti – KD7VBG



Thanks to WB7RRQ & KD7VBG for Mountain Mayhem Pictures



SPECIAL EVENT COMMUNICATIONS.....

By Lloyd, WA6ZZJ



The spring or first part of the year special event communications season wrapped up with the Groom Creek Mountain Mayhem event on Saturday, May 24th.

In the first part of the year, communications were provided for 6 different events with one being a three day event and one being a two day event. One day was a dual event day with two at the same time. So... We look at it as 9 different events. Three of the events were conducted in cooperation with the VVARA.

Overall, 75 different amateur operators were involved with communications on these events. On one event two of the operators came up from Scottsdale to help. Some were working an event for their first time and all did a very good job.

A total of over 1300 volunteer hours were put into the communications not including the time planning the communications for the events.

Thanks to Patti, KD7VBG, (Mountain Mayhem) and Bob, KC8BOB, (Chino Valley Grinder) for handling the communications on two of the events.

The upcoming YARC Event Communications schedule as of this date is:

Saturday, September 6, 2014 will be the March of Dimes March for Babies. This is a small event using only 10 to 12 operators. A good event for 1st timers.

Sunday, September 21, 2014 is the Skull Valley Loop Challenge. Another smaller event using 10 operators.

Saturday, September 27, 2014 is the Groom Creek Classic 1/2 Marathon, 10K, 5K, 2 mile. Patti, KD7VBG, will be coordinating this event.

Friday and Saturday , October 3rd and 4th is the Prescott Road Rally. Sign up for this event will be available on the Prescott Rally website:

<http://prescott rally.com/>

Saturday, October 18, 2014 is the Walk for Diabetes. John, WB9VGJ, will be coordinating this event.

Signup sheets for some of these events will be at the August YARC meeting.

Put the dates on your calendar. Let's see some more "1st timers" out there in the upcoming events. Some of them are relatively small events and a good place to gain experience. As always, if you are signing up for the first time, you will be placed with a veteran event communicator to gain experience.

YARC is an ARRL Special Service Club and providing communications for these events helps the club maintain that status.

What is a Special Service Club?

A club that exists to go above and beyond for their communities and for Amateur Radio is what defines a Special Service Club (SSC). They are the leaders in their Amateur Radio communities who provide active training classes, publicity programs and actively pursue technical projects and operating activities. ■

Storage Oscilloscope, Tektronix 464 with manual and probes -- \$135.00.

Also have several computer towers, laptops and flat screen LCD monitors. Computers all have the Win XP Pro or XP Home operating system. All are in good working order and reasonably priced. Many computer parts at giveaway prices.

Roy, AD7FW, 775-6592

**For
Sale**

Are You Getting a Buzz from Pot?

By Joe, AC6AA

With 22 states and the District of Columbia allowing medical marijuana and Colorado and Washington legitimizing the use of marijuana, more and more folks are growing “weed” indoors. Large, high-power grow lights, typically over 1000 watts with electronic ballasts are used in the growing process. Unless properly shielded, these ballasts can produce a notorious source of broadband RFI, that may radiate up to 1/2 mile.



Besides being used for marijuana, grow lights also are used legally for growing other plants, such as vegetables, ornamentals, and exotic plants.

Grow lights exhibit some distinguishing features; one is that they are set by a timer, usually 12 hours on and 12 hours off during the “flowering” or “budding” growing cycle. When heard on a radio, they generally are noisier for the first 5 minutes as the lamp warms up. The continuous “buzz” after that period usually sounds a bit different than power line noise.

Based on my experience, tracking down the source of grow lights, can be a formidable task. Even more of a challenge is what to do when you locate the source.

In August 2012, my transceiver recorded a noise level of S7 at 8:10 a.m., which was enough to interfere with a daily schedule on 15 meters. Our SteppIR beam was at a height of 60 feet. When the beam was lowered to 25 feet, the noise dropped to S5, indicating that the noise source probably was at a distant location. Rotating the SteppIR 360 degrees, the heading for maximum noise appeared at 30 degrees. There were only open fields in that direction for at least a 1/4 mile. At 7:00 p.m. the noise disappeared, but started up again the next day at 7:00 a.m. A timer was being used, which suggested a marijuana grower and possibly illegal activity.

I made an audio recording of the noise and sent it and a description of my problem to the ARRL. They suspected that the noise was produced by a grow lamp, but indicated that the results of the recording were inconclusive.


After extensive driving around suspected neighborhoods, listening with my limited mobile equipment, I realized that I needed help. I requested the services of our club Elmers to help track down the noise source. However, they were unable to hear the troublesome noise at our QTH using their mobile equipment. They did drive around suspected areas, but were unable to distinguish my grow light noise from other high voltage power line noise. Bud, N7CW suggested that I contact the APS field representative, Dan, who handles power line interference complaints. He has been very cooperative with other hams having RFI problems.

Dan showed up at our home on October 22, 2012 and confirmed my noise problem by using a special receiver which had a scope capable of recording noise characteristics.

Dan left to drive around the suspected area and reported that he had found the address of the noise source. He rang the door bell, but no one answered. He noted that the garage windows were painted black. He gave me the name of the street where the house was located, adding that it was on a cul de sac. Suspecting illegal activity, he refused to give me the address, which was located directly 1/3 mile from our house. To get there by car, you had to travel roundabout for a distance of about 2 miles.

Dan returned to the address on October 24th. He detected excessive noise from the suspected house prior to 7:00a.m. At 7:00 a.m., the noise increased about 20 dB and had the same characteristics that were measured at our home. He did not try to contact the owner, since the timer type noise and darkened garage windows raised a red flag with him. He advised me not to contact the owner until he had spoken to others at APS. Dan mentioned that several people had refused to allow him onto their property to investigate electric fences, etc. Later I received a call from an APS representative stating that they could be of no further help and he would not give me the address of the suspected noise source. Once again I was on my own!

I decided to e-mail the Technical Coordinator for the Arizona Section for advice and described all the steps



taken up to this point in time. The person listed in this position replied that he had surrendered the Coordinator job about a year ago to his replacement. He would not recommend any action other than to be careful, but did suggest some wording for a letter that could be sent anonymously, and that law enforcement officials might be contacted for assistance. He said he would forward my e-mail to his successor -- that he might have an idea or additional comments.

In November, I drove to the cul de sac with my FT-100 transceiver and Hustler antenna and finally was able to determine the actual address of the noise source. Heeding the warning of others, I decided not to approach the owner directly. Instead, my son Bob contacted the local Narcotics Division and explained our situation to a detective Eller. He said he would investigate and call back.

In December, we called detective Eller for a progress report -- he said he had done some surveillance, but had not noticed anything unusual. He felt that his hands were tied if the owners would not cooperate with him. Two weeks later we again called detective Eller who told us that he had not taken any further action. At this point, I told him that our son and I would contact the owner. He said that he could not approve or disapprove that action.

After exhausting other options, I prepared a note for the owners stating that ***“It appears that there is a strong signal radiating from your home. The source of this illegal signal seems to be on a timer, which starts at approximately 7:00 a.m. and stops at 7:00 p.m. If you are unable to eliminate or reduce the amount of this radiation, perhaps you can re-program the timer to start at 7:00 p.m. and stop at 7:00 a.m. This would eliminate the need for contacting the Federal Communications Commission (FCC) monitoring office, the power company, ARRL Technical Specialist, and other authorities, for a more detailed investigation”***. The note, which was intended to be left with the owners if no one answered the door, was not signed in an effort to remain anonymous.

Our son Bob, parked his car around a corner, took the note and my portable 15 meter radio, walked to the suspected address and rang the doorbell. A woman about 30 years old answered the door. Her name was Tracy, and she was very friendly. Bob immediately smelled a strong presence of marijuana on the woman and also from inside her house. Bob had her listen to the noise coming from our

portable receiver, and explained that the noise was radiating from her house. He left my note with her. Tracy never confirmed or denied that her house was producing the noise source. She thanked Bob and left the impression that she would take care of the situation.

The following day, the noise on 15 meters at 8:10 a.m. was gone. The timer had been reprogrammed to start at 7:00 p.m., instead of 7:00 a.m. While reprogramming the timer did not eliminate the noise source, it did provide relief for daytime operation. I was so happy to hear a quiet 15 meter band again that there was no thought of any further action.

Subsequently, Bud Semon, N7CW also had a grow light problem causing interference on 6 meters. He was able to work with a cooperative neighbor, who allowed him to install a special line filter to reduce radiation.

Approaching an unfamiliar neighbor in a case involving a grow light can be a potentially dangerous situation. Extreme caution and good judgment should be exercised, especially if you suspect illegal activity. If you are experiencing interference on your radio and need assistance, I suggest you contact our YARC Elmers at ask.elmer@w7yrc.org for guidance.

The ARRL has submitted a formal complaint to the FCC, stating that a “grow light” ballast widely marketed and sold is responsible for severe interference to the MF and HF bands. The League urged the Commission to take appropriate action to halt the sales of the Lumatek LK-1000 electronic ballast and to recall existing units. The League also indicated that the Lumatek was typical of other types of grow lights that are being imported and sold in the United States.

Hopefully the ARRL will continue working with the FCC to take action to: 1) prevent the sale and use of illegal electronic ballasts that do not comply with the radiation limits specified in FCC Regulations, and 2) take prompt enforcement action against current violators.

Meanwhile, articles are appearing in the Press, which could be helpful in informing the general public of interference problems caused by grow lights. One such article, “*Pot-Growing Lights Are Interfering with Local Radio Waves in Colorado*”, can be found at: <http://tinyurl.com/kztztxw>. ■

CQ SOTA, CQ SOTA

By Dean Sheeley, W7DWS

What is CQ SOTA? Is this an emergency call? What message is the amateur radio operator trying to convey?

In a nutshell, SOTA is an acronym for Summits On The Air, which was started over 10 years ago. Points are awarded to both the Activator and the Chaser. An Activator is the Ham who hikes to the summit of the mountain. The Chaser is the Ham, who responds to the Activator. The amount of points is determined by the elevation of the summit. Summits range from 10 points to 1 point. Extra points are awarded, for some summits at different times of the year and for summit to summit contacts. An Activator must work at least 4 other hams from each summit in order to qualify for points. All your radio equipment must be carried to the summit. This includes: your radio, antenna, battery, your log, a watch, and other radio gear plus water, snacks, clothing and personal gear, sometimes for all kinds of weather. As a Technician, I was very excited the first time I worked hams in New York, Pennsylvania, and Florida, from the top of Yavapai County mountains, using portable equipment on 10 meters. It was also exciting to find that I could work Hams in Phoenix, using 2 meter simplex, from my HT.

SOTA is a worldwide program, which includes, England, France, Spain, Germany, Switzerland, Ireland, USA, Australia, South Africa, South Korea and more. The USA is divided into individual states, with Arizona listed as W7A – USA – Arizona. Each state is divided by county, region or some other means, and each summit is given an identification number. For instance, W7AYV-002 is W7 (USA) A (Arizona) YV (Yavapai county) 002 Granite Mountain. The locator for Granite Mountain is DM34rp, coordinates and elevation are also noted on the SOTA website. Activators must note the Call of the Chaser, the time of the contact, (Greenwich Time/Zulu Time). This information along with the Date, Frequency, Mode, are needed for the SOTA log. Both the Activator and the Chaser should give a signal report (5&9). More information is available at: <http://www.sota.org.uk/>

So next time you hear an Activator saying CQ SOTA, CQ SOTA, join the fun by responding with your call. Then given time, visit the SOTA link (above) to locate the Activator and find your call in the log for that summit.

Remember you can join the fun from a mountaintop or from a radio shack, mobile or HT; either way supports the SOTA program. ■

DO SALMON TRAVEL MAGNETIC LINES OF FORCE?

Reprinted from the CAARA Newsletter

A possible answer to the question of how young salmon with no migratory experience somehow voyage through ocean waters to wind up at specific feeding grounds that are hundreds or even thousands of miles away from where they were hatched? It turns out that they may be following magnetic lines of force.

Researchers have long suspected that many animals that travel great distances to wind up at particular spots visited by their ancestors may be able to sense the Earth's magnetic fields.

The ability has since been found in a variety of creatures including certain migratory birds. Even more remarkable is that many animals seem to use it to navigate with no previous experience, like the Chinook salmon.

To figure out whether this species of salmon are also born with this ability, a research team lead by Oregon State University tested the abilities of young Chinook salmon that were less than 1 year old and hadn't yet started their seaward journey.

To accomplish this, the researchers placed young fish in barrels surrounded with coils of wire and exposed them to a simulation of the northern magnetic field. In response, the salmon turned south-southwest. Conversely, when they exposed them to a simulation of the southern magnetic field, the salmon turned north-northeast. So as to make certain their results were correct, the researchers then subjected the salmon to a northern intensity with a southern inclination field and a southern intensity with the northern inclination field. In both cases the salmon chose no particular direction.

The scientists theorize that this was the result of the latter aspect of the experiment not fitting anywhere in the salmon's internal magnetic map.

The researcher's findings were published in a recent edition of the Journal Current Biology. More is on line at tinyurl.com/salmon-follow-magnetic-fields (The Guardian, Journal of Biology).

Upcoming YARC Events

From the desk of Don Bauer

Since this issue of the “Yavapai Signal” is coming out prior to the Field Day and Granite Mountain Hotshots Memorial, I thought I would give members a look at the schedules in case you have an opportunity to join in the fun. Remember, communicating is what ham radio is all about.

Field Day is first on the schedule, with operation beginning at 1800 UTC (11:00 AM). Our operation will be from the Granite Mountain Middle School, as in the past couple of years. Several of us will be there from about 9:00 to set up and get everything ready. The participants are bringing a pot-luck dish to share for lunch and breaks (hint to anyone coming). We do expect the operation to go until the last man gets too tired to carry on. Our host, Terry KB7TRE, has vowed to keep things open as long as there are operators. We don’t expect much activity on Sunday, but if there are ops willing, we will see.

Next on the schedule will be the Granite Mountain Hotshots memorial special event. We hope that this will go over well, and that it will be plenty of people responding to our CQs. I would like to see it become an annual event, at least for a few years. The plan is to begin operating from the main station (same as field day) at 7:00 AM and run through the 5:00 PM hour. Our club operation will be pretty much on 40M and 20M. During each of those hours we will honor two of the hotshots by name. We have several other operators who will be working from home or club stations covering additional bands and times. If you would like to join in, either come to the club, or contact Doug KV8TD to coordinate a time/band slot.

The one thing to keep in mind is that this is a memorial special event and we want to be very respectful of our fallen firefighters. I do hope that everyone (on both ends of a QSO) is mindful of that.

That pretty well wraps up the month of June, and our next “event” comes on July 18-19. The ARCA-Williams Hamfest and Arizona Section (ARRL) Convention will be home to several YARC members. We have secured a large space across from the main exhibit hall, where we will be

selling donated and consigned items to benefit the club. We have quite a few donations as of this writing, and some really good stuff. There is still plenty of room, so if you procrastinated your way through spring cleaning, this is your chance. We will take any ham related items (prefer not to take trash up to Williams). If you have donations, please contact me, Ralph W7HAM or Tom WN7E. We will be hawking our wares from early morning on Friday until around noon on Saturday, when most vendors begin shutting down.

So, there you have it! Hope to see you at one or more of these events.

Don, WB7TPH

Membership Count:

1st Thurs. in May.....	196
Gain/Loss.....	-1
1st Thurs. in June	195



YARC Officers for 2014

President

Don Bauer, WB7TPH
president@w7yrc.org

Vice President

Rex Mauldin, N7NGM
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Secretary

Forrest Murdock, WH6EAL
secretary@w7yrc.org

Treasurer

David Hanson, W7BJ
treasurer@w7yrc.org

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Creighton Grotbeck -- AD7YR

Ralph Gendron -- W7HAM

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TOP FIVE STATION ACCESSORIES EVERY HAM SHOULD HAVE

By Don Keith, N4KC

Reprinted from the CCARA Newsletter

Okay, so you have studied the manuals, answered hundreds of exam-pool questions on-line, and happily passed your licensing exam. Congratulations! You've finally gotten to the point where you can say your mouthful of a call sign without stumbling. And you have purchased your primary station transceiver, something for VHF/UHF in the car, and have a decent antenna or two. You may even be on the air already, making contacts and flinging RF all over the globe.

Now is the time to start thinking about what else you need in your shack to enhance your enjoyment and the fulfillment offered by our amazing hobby. I have some suggestions for you, based on my own opinion and experience. Others may have different ideas and I assure you they will not hesitate to express them in this worthy venue.

First thing, I am NOT going to include on this list some items others may consider to be essential. I believe each of the following are "nice things to have" but not absolutely required to have yourself some fun and fully enjoy being a ham. The other accessories I will then list in rank order are those I think should come first.

That "nice to have but not essential" list includes:

- A linear amplifier. Yes, they are wonderful to have when the going gets rough, but a good transceiver (which, when I say "good," means a decent receiver with some modicum of filtering and noise suppression) and an efficient antenna system will open up the world for you with 100 watts. Save your pennies and get you an amp someday. I operated without one for the first 47 years of my ham radio tenure and have had a blast. Now, I'm often glad I have the extra 9db of signal, but I still would not rate the amp as an essential accessory.
- A tall tower and multi-element HF beam. Again, nice to have, but not an option for many. A well-designed vertical or wire antenna system will still allow you to work the world. I did it with a G5RV and a multi-band trap vertical. And I've done it with tri-band beams and


my current hexbeam. Beams are better but not essential.

- An "antenna tuner." I can make a good argument for this being a required accessory. If you have read previous articles by N4KC then you know I am an advocate of having at least one of your antennas being a long piece of wire (dipole or loop) fed with open wire feed line so you can use it on multiple bands. If you have gone that route then yes, you must have a "tuner." The auto-tuner available in most radios these days may or may not be robust enough to cover all the bands and their segments on which you wish to dance. However, for the purpose of this article, and because not every ham will require one, we will keep the antenna matching device in the "nice to have" category. But keep in my mind it can also be a must-have gadget, depending on your antenna situation.

Now, what do I think you DO need? What do I believe should be your top five accessory purchases as you delve into the hobby? Here goes, in what I believe is the order of importance:

1. A good watt meter. And by "good," I mean it should be reasonably accurate (lab grade not required) and ideally have the ability to see both forward and reflected power. A cross-needle display is really nice so you can see forward and reflected power at the same time and get a decent idea of your antenna SWR.

Those who have seen my previous articles here on eHam and in my book RIDING THE SHORTWAVES: EXPLORING THE MAGIC OF AMATEUR RADIO know that I believe SWR is a highly over-rated commodity. Still, it is good to have an instant visual check on the integrity of your antenna system. If the SWR is suddenly 10:1, you know something is haywire with either your antenna matching device, feed line, or antenna. And as long as we are talking ideal, I would also get a watt meter that has a peak-reading function. I am sure you remember from your studies that many watt meters do not react in such a way as to allow you to see what actual peak power is for such modes as SSB. If you glance at that swinging meter movement over there, it may appear that you are only putting out 60 or 70 watts even though you are sure you set the transceiver's output power at 100 big ones. A peak-reading meter will show you more accurately what you are actually doing.



Nowadays, there are several manufacturers that make good peak-reading watt meters with either dual displays or a single cross-needle meter face. Be sure it will handle the power you intend to shoot through it and that it will work on the frequency range for which you will need it. I have seen—and purchased—several such meters, good for HF frequencies, for less than \$100 new. Add capability up to UHF and they get pricier, or you may want to just get a separate VHF/UHF meter. Be wary of used meters at flea markets as they may have been scorched beyond repair, but you can also get a good bargain there, too.

2. A dummy load. Yes, a dummy load. Stop airwave pollution while you fiddle with that new radio or tuner. Avoid entertaining the rest of us and the shortwave-listening world while you adjust your transmit audio processing for hours on end with that oft-heard yodel, “H – e – l – l – l – o – o – o – o, radio – o – o – o!” Again, be sure the dummy load you buy can handle the amount of power you intend to send coursing through its oily innards. Read the manual to be sure you know what the tolerable on-and-off cycle should be so you don’t fry its resistors or send its oil bubbling over like a witch’s cauldron.

3. A volt/ohm meter. Look, I know not everyone gets into ham radio to learn all there is to know about electronics. There is nothing wrong with that, and many other aspects of the hobby besides the technical part attract folks to its ranks. However, a decent volt/ ohm meter can serve a number of purposes in your shack.

I confess I usually go for the cheapest model Radio Shack has on its shelves (using those nice Shack gift cards my kids give me for Father’s Day) or something I pick up at hamfests. As with the watt meter, you are not looking for something NASA might use. If you do yearn to learn more and construction and kit-building are in your wheelhouse, invest in something heftier and more fully featured. However, ninety percent of my VOM usage is checking continuity on coaxial cables and jumpers or making sure my 13.8 volt power supply—the one without benefit of a voltmeter on its plain-Jane face—is somewhere in the general vicinity of 13.8 volts. That and checking the veracity of refugees from that pile of discarded AA batteries. For this reason, I usually prefer an analog meter as opposed to a digital readout. Take your pick. Or have one of each.

4. An antenna switch. Even if you are new to the hobby

and only have one antenna out back or stretched across the attic, trust me, you will soon have more. I suspect mine are mating back there and having babies. I put up a G5RV and a 2-meter/70 CM j-pole, and before I knew it, wires crossed my backyard with such regularity that birds can no longer safely fly through the maze.

My rig has two antenna outputs. I have five HF antennas. Simple solution: a 4-position coax switch (my big horizontal loop goes to a second output on my auto-tuner). Read the reviews here on eHam on the various switches available. Most are perfectly okay for amateur use. Expect to pay up to \$100 for a solid, manually-switched device and well above that if you opt for something you remote outside and switch electronically. Either way, you prevent carpal tunnel from constantly screwing connectors on and off. Using such a switch also neatens up the shack considerably.

5. A computer. I almost left this one off since it is so obvious anymore. But I still talk with hams who have the computer upstairs and the rig downstairs. When I became active again in 2005, I had my shack in my son’s old room and my office/computer in the old family room next door, both in the basement part of the house. I somehow did not realize how firmly the ‘puter had become entrenched in the day-to-day operation of a ham shack.

It did not take me long to move the shack into the office with the transceiver right next to the desktop computer. And I also keep my laptop on the desk, too, so I can interface easily with the radio for firmware updates, memory programming, and the like. I use it to program my two HTs and the mobile HF/VHF/UHF radio, too. The main computer is hooked up to the main rig through a Signalink USB external sound card for digital modes. And I usually keep DX Summit and QRZ.com open in the browser on one or the other machine for quick reference. I love looking up the guy with whom I am rag-chewing to see what he has on his QRZ page, enabling me to launch into conversation about some of the relevant things I might find there. Of course, other logical uses of the computer in the shack include rig control and logging. I came from an era in which we had to keep a paper log. You cannot imagine the hassle when a QSL card floated in from the bureau and I had to try to find the logbook in which that particular QSO was logged. Or when I figured I had worked up to another DXCC plateau and tried to

track down the various countries to include by riffing through multiple spiral-bound logbooks. I am still a casual user of computer rig control. Old-timer that I am, I still kind of enjoy twisting knobs. But it is there when I want to use it. And many now prefer it. Note that a whiz-bang game-worthy computer is not necessary for most amateur radio use. An Internet connection—and a reasonably fast one—is almost a necessity, though.

I suppose if you wanted to pick nits, you could say logging, digital mode, and rig-control software, and the digital interface between computer and rig are additional “accessories,” and I have actually named nine here. Maybe so, but I think you get the point. And as previously noted, I bet many of you can think of numerous ideas you might suggest in addition to or instead of the ones I have ranked above. If so, I hope you will list them here with justification for why they are recommended.

After all, the best “accessories” of all are probably an Elmer’s heart and an open mind.

(N4KC maintains two web sites” his personal/ professional site at www.donkeith.com and his site dedicated to amateur radio at www.n4kc.com. He also blogs on the subject of rapid technological change and its effect on media, society and amateur radio. That blog is at <http://n4kc.blogspot.com>) ■

An elderly ham driver was going down the interstate when suddenly his 2 meter rig crackled his call.



Answering...he heard a fellow ham's urgent warning..... "Hey Elmer, just heard on the news that there's a car going down I-40 the wrong way, please be careful"!!

Elmer replied, "Well I'll declare, it's not just one.....there's hundreds of them"!!!!!!!

Spring Cleaning Time!

Gather your ham stuff for the Williams Hamfest. YARC will have a booth, and we will need stuff to sell.

You can bring donations to the club meetings or let Don Bauer know that you have items to donate. We can make arrangements to pick up.

VE Testing

By Don Bauer, WB7TPH

The next testing session will be Friday, August 8, at 6:00 PM. As usual, it will be in the Jeep Posse building, Pioneer park. This is our only evening session scheduled this year. So, if you are going to upgrade or get that first ticket, and can't make it on Saturdays, here is your chance. Following August, our last scheduled test will be November 8th.



New Repeater on the Hill

There is a new repeater (N7YKT) located on Yarnell Hill that covers the south part of Yavapai County with good coverage of Yarnell, Congress, Wickenburg and the West Valley areas. The repeater is sponsored by the Hassayampa Amateur Radio Klub (H.A.R.K.).



The repeater frequency is: 146.620- with a pl of 162.2 Hz.

Need a Hand?

If you need assistance, we want to help you. If you are just starting out in ham radio, or simply have run across something that you could use a hand with... technical assistance or answers to questions about the Yavapai Amateur Radio Club, are available from knowledgeable club members.



Don't Hesitate to Ask for Help!!

CALL:

Bud Semon, N7CW at: (928) 771- 8267

or

Jim Zimmerman, N6KZ at (928) 713- 0542



AMATEUR RADIO COUNCIL OF ARIZONA

2014 ARCA/ WILLIAMS HAMFEST & ARRL Arizona State Convention



JULY 18 & 19, 2014

*Presented by the Amateur Radio Council of Arizona
and the City of Williams*



WILLIAMS RODEO GROUNDS, 800 RODEO ROAD, WILLIAMS, AZ
GATES OPEN AT NOON THURSDAY JULY 17
MAIN HALL OPENS AT 8:00 A.M. FRIDAY, JULY 18

FREE ADMISSION!

JULY 20, 2014 - GRAND CANYON TRAIN TRIP

MAIN PRIZES

Grand Prize - Yaesu FT-897D HF/6M/2M/70CM Mobile
Second Prize - ICOM ID-31A UHF HT with D-Star Third
Prize - Yaesu FT-60R 2M/70CM HT with wide receive
Fourth Prize - Argent Data APRS Tracker & GPS with
Baofeng HT/Complete Combo Kit Early Bird - Baofeng
5R dual-band HT

ALL OUTSIDE SPACES - \$20 per Space
Selling and/or Camping
INSIDE SPACES - \$85 per Space
Advance Reservation Closes July 1
After July 1 - On-Site Reservation Only
\$25 per Space
(all prices are for entire weekend)

PRIZES

DOOR PRIZES EVERY HOUR

RAFFLE TICKETS

12 for \$20.00, or 3 for \$5.00

Commercial Vendors, Huge Swap
Meetings, Seminars, Activities, VE Tests
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Sunday Grand Canyon Train Trip



FOR RESERVATION INFORMATION
Visit the ARCA Web Site

www.arca-az.org

On-Line Reservation Available on Web
Site

Call - 602-881-ARCA (2722) for info

Talk-In - 146.78 - (91.5 Pl)

W7W SPECIAL EVENT STATION

NO FOOD OR BEVERAGE SALES WITHOUT WRITTEN PERMISSION & HEALTH PERMITS

NO DRUGS or ALCOHOL PERMITTED on GROUNDS

Area Repeaters

Weekly Breakfasts

Wed. Morning Breakfast:
7:00 a.m. at Iron Horse Restaurant (Hwy 89 in Chino Valley)
 * (N 34°43'56.5" W 112°27'15.4")
informal – all are invited

Breakfast at Masonic Lodge:
3rd Saturday of each Month at 9:00 a.m.

(1280 Willow Creek Road, 2nd Floor; above Bank of America)
informal – all are invited

* Location data (per WGS84) provided by Fred Zimmermann, N7PJJ

Freq.	PL	Location	Owner/Club	Auto-Patch	Links	Vo IP	Notes:
52.560-	100.0	Mt. Union	N7NGM			IRLP	Node 3301
144.390	Simplex						APRS- www.aprs.fi
145.290-	127.3	Mingus Mtn.	K7YCA				ARES/RACES
145.350-	162.2	Wildflower	W7QHC				Dawn
146.620-	162.2	Yarnell Hill	N7YKT				H.A.R.K.
146.760-	131.8	Hayden Peak	N7SKO				WECOM INC
146.780-	91.5	Bill Williams Mtn.	K7NAZ			IRLP	BWMRC LITZ, 3178
146.880-	100.0	Prescott Heights	W7YRC				YARC
146.920-	162.2	Mount Ord	W7MDY				ARA
146.980-	162.2	Mt. Elden	W7ARA				ARA
147.000+	162.2	Mingus Mt.	K7MRG				MMRG
147.140+	162.2	Mt. Elden	W7ARA				ARA
147.220+	162.2	Mingus Mtn	W7EI				VVARA LITZ
147.260+	103.5	Mt. Union	K7YCA				ARES/RACES
147.260+	127.3	Mt. Francis	K7YCA				ARES/RACES
147.360+	162.2	Mt. Ord	W7MDY				ARA
442.150+	100.0	Mingus Mtn	K7MRG				MMRG
446.025	Simplex		N7NGM			Echo	
448.475-	100	Mt. Elden	W7ARA				ARA
448.875-	100.0	Mt. Elden	W7ARA				ARA
449.250-	192.8	Chino Valley	K7POF				
449.7250-	107.2	Mingus Mtn	K6DLP				
927.0875-	151.4	Mingus Mtn	WB7BYV				
927.3875-	151.4	Prescott	WB7BYV			Echo	ARA

Area Packet Node Station Frequencies.

See http://www.k7yca.org/packet_radio.htm for a list of Winlink nodes and gateways "

Y.A.R.C. IRLP NODE
Node Number 3182
146.100 MHz No PL Tone



T-Hunt Frequencies:
Primary - 145.100 MHz
Secondary - 146.565 MHz

For more Repeater Information & Listings refer to: ● www.w7ara.org/Web/
 ● www.azrepeaters.net

YAVAPAI AMATEUR RADIO CLUB

P.O. BOX 11994

PRESCOTT, AZ 86304

Visit us on the web at <http://www.w7yrc.org>

Many thanks to Dick Hughes, W6CCD, our Webmaster

