YAVAPAI SIGNAL

The Yavapai Amateur Radio Club • Prescott, Arizona • DM-34 • Volume 25 – No. 7 • July 2010

From the President's Desk...

Hello Again:

By the time this letter hits the press, the YARC Field-Day event will be history. I hope everyone who attended had a great time. The Amateur Radio activities galore, including but not limited to, the H/F equipment offered several positions to operate from, and the Hidden T-Hunt added an additional challenge to the attending Hams. This is a function of Field Day, to allow Visitors and Veteran alike the opportunity to try out other forms of communications, with an experienced operator guiding you, and making contacts with other Ham's. On the last full weekend of June, most US and Canadian amateurs take their equipment outdoors to set up stations to operate under emergency conditions and contact as many other stations as possible. The object of Field Day is not only to make contacts, but also to make contacts under simulated emergency conditions, using emergency power sources. This is an exercise in preparedness should a real disaster strike.

The Williams Hamfest is July 16-18, 2010. This is an ARCA/Williams Hamfest, coupled with the ARRL State Convention. This is the great time to Buy-Sell, or Swap and Trade all the old equipment you can't live with or without. Hopefully the weather will accommodate that weekend, or Williams doesn't burn due to one of the close proximity fires. This is a chance to buy the items you need from the many vendors of amateur radio related equipment who attend this hamfest. Hope to see you there.

This year Father's Day was June 20, 2010. I hope all the men who qualify, had a Happy Fathers Day. My wife (Joanne) and Harold's wife (Louise) took the four of us out for breakfast at I HOP in Prescott Valley for a great time and good food. Harold is KE7PUZ, a close friend. Amateur Radio is a way to make New Friends, some that will last a lifetime. What New Friends have you made recently? Get on the air and make New Friends.

Respectfully, Pete K6VVR

Upcoming Events

- **June 26 - 27, 2010** - Field Day/ Club Picnic
- **July 16 -18, 2010** - ARCA/Williams Hamfest/ ARRL State Convention

Inside This Issue ...

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.

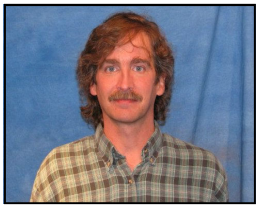
The weekly Net is held every Wednesday at 7:00 p.m. local time on 146.880- repeater. All amateurs are invited to participate, and visitors are always welcome.

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 for allowing us to acquire the original club repeater.

Minutes of June 3, 2010 Board Meeting



Meeting was called to order at 1818 hrs. by the President, K6VVR. Also in attendance: AB7NK, KB7TRE, KF6SPS, KE7DTR, WB7UZV, AD7RL and AD7WW.

Discussed Field Day, picnic menu and staffing. Volunteers are needed.

Club correspondence read.

Changes to Wednesday night net preamble confirmed. Procedures set for updating and distributing check-in list determined.

On motion of WB7UZV, second by KE7DTR & no dissenting, meeting was adjourned at 1852 hrs.

Minutes of June 3, 2010 General Meeting

Meeting was called to order at 1904 hrs. Following the Pledge of Allegiance; introductions were made.

Attendance: 55 of whom 41 signed in.

New member Robert W Sisley, K9RWS welcomed unanimously.

Minutes of the May meeting were approved as published, on motion of KB7TRE, second of KD7VBG, & no dissenting.

Treasurer: report offered by AB7NK: Beginning balance $4497.84, Ending balance $4216.19 and repeater fund balance of $959.92 Report accepted as read with no dissenting.

COMMITTEE REPORTS:

Patches & Decals: AB7NK reports patches and decals available.

VE: A special testing session was held on May 15, 5 testees resulted in one new Technician and 4 General class licensees.

AZWAC: Certificates are available for anyone who works all 15 counties in AZ.

ARES/RACES: WA6ZZJ reports:

The 32nd Annual Whiskey Row Marathon was staffed by 24 Amateurs at 12 locations and 2 quads. This was the 12th consecutive year YARC provided communications for this event. One of the toughest marathons in the country due to elevation changes, the event drew 1,952 runners from around the country.

The YMCA presented YARC with a plaque and a letter of thanks for our service at the marathon.

Starting in September, several events will require volunteers for communications:

Sept. 11, March of Dimes

Sept. 19, Skull Valley Loop Challenge

Sept. 19, Groom Creek Half-Marathon

Sept. 25, Tour-de-PV Half-Marathon

Oct. 1-2, Prescott Road Rally

Newsletter: AC6AA continues to produce an outstanding Yavapai Signal.

Classes: W7JLC will be conducting a free Technician class on Sat., June 5, with testing on the following Saturday. Sponsored by VVARA.

Shirts: W6CCD has supply of club shirts available at $19.00. w6ccd@arrl.net

Badges: WB6ODR is accepting orders at $ 6.75 for the custom engraved YARC badges. lrsmith@cableone.net

Refreshments: K6UWV reports strong coffee, lemonade, soft drinks and cookies are available.

Elmer: KA7JAS reports the Elmer team is working well. Elmers WB7UZV and AD7WW also introduced.

School Clubs: KB7TRE reports school clubs are recessed for the summer.

Nets: KI6AHH reports that the Young Hams net is doing well on Sunday nights on the 147.220 repeater.

Slow Code 146.88- 100 Hz Pl, Sunday about 7:30pm, WB7UZV thanked YARC for the user of the repeater. Training materials are available from Jim.

Club Net 146.88- 100 Hz Pl Wed. 7 pm is accepting net control positions. Experienced control operators will provide assistance and a station for first time operators. Contact WB7UZV or AD7RL.

Fox-Hunt: Every Sunday after the monthly meeting, start time 1:00 pm, Arizona Credit Union parking lot adjacent to Walgreen's at Willow Creek and Gail Gardner intersection. WB7UZV and K6VVR won last month, and will be hiding the transmitter this month. Check in on the 146.880 repeater.

Food Bank: KB7TRE is accepting donations for the Yavapai Food Bank. Please keep bringing in food.

OLD BUSINESS

No old business.

NEW BUSINESS

Field Day will be held June 26 and 27. More volunteers are needed. A sign-up sheet was passed around.

WA6ZZJ plans to have at least 2 stations running for Field Day, and digital modes will be available. Local dignitaries will be invited.

Sign-up for Field Day operators is largely open.

WB9VGJ moved to adjourn, seconded by WA6ZZJ, approved 1946hrs.

Respectfully submitted,

George Imburgia, AD7RL

YARC Secretary

Interested in a Vanity Call Sign?

By Joe, AC6AA

If you have been thinking about getting a vanity call sign, you may want to check out N4MC's Vanity HQ at http://www.vanityhq.com/. His website Home page contains a great deal of information and may appear a bit confusing. However, you should be able to locate a section called "Date Controlled Call Signs". Here you will find lists showing call signs that are expired or cancelled, and the date marking the beginning of the required 2 year wait period. These call signs are in the FCC's database, and will be available for application 2 years + 1 day after the dates shown. Another section, "Current Application Data..." shows call signs that have already been submitted on an application. Other sections of this website include "Latest Call Sign Grants..." - The most recent calls granted; "Immediately Available Call Signs..."- call signs not active, cancelled nor expired, and are not in the FCC's database. *These call signs are immediately available for issue;* "Invalid Call Signs…" - Requested call sign choices that do not comply with FCC call sign guidelines; "Choosing a New Call Sign…" - provides help in determining which call sign has the best sound or one that will give you that extra edge when working DX; "Miscellaneous..."– contains a help reference, etc., plus there are several other sections, including "N4MC's Ham Locator" – *Useful* for finding hams located in your neighborhood.

You can submit an application for a call sign online at the FCC website: http://wireless.fcc.gov/uls/index.htm?job=home

The above link will take you to the online page of the Universal Licensing System (FCC). There you can renew or modify your license. Application for a vanity call is considered a modification. Payment for the vanity call sign fee must be made at the time you apply. They do take credit cards.

Another resource for acquiring in-depth information about vanity call signs is the "Vanity Application Process" a site maintained by Dean Gibson, AE7Q, at: http://www.ae7q.com/text/Vanity.php . Gibson goes into some detail about the application process and provides many interesting features, such as Query Tools and Silent Key Callsign Harvesting. ■

Yavapai Amateur Radio Club

June 2010 Treasurer's Summary

By Mary Vince, AB7NK

Income

6/3/2010	AD7WW	Will Taylor	R	cash	$ 20.00
6/3/2010	KE7KWH	Ken Henson	R	cash	20.00
6/3/2010	K7CJW	Bob Tilman	R	cash	20.00
6/3/2010	W7QHE	Dick Diddams	R	cash	20.00
6/3/2010	KF6OLN	Steve Murray	R	cash	20.00
6/3/2010	KF6VUD	Lu Murray	R/F	--	---
6/3/2010	W4WDC	Wayne Curtis	R	cash	20.00
6/3/2010	WN7E	Tom Griswold	R	3582	20.00
6/3/2010	AC7HP	John Meyer	N	cash	20.00
6/3/2010	KE7DTR	Richard Bozeat	R	001125	20.00
6/3/2010	WN7E	Tom Griswold	shirt	cash	19.00
6/3/2010	K9RWS	Robert Sisley	N	cash	20.00
6/3/2010		Fifty-fifty			83.00
Total					$ 302.00

Expenses

6/3/2010	K6UWV	David Passell	Refreshments	1145	24.45
6/3/2010		Allegra	Newsletter	1146	32.87
6/3/2010	KF6SPS	Walter Schumann	50/50	cash	41.50
Total					$ 98.82

Beginning Balance	$ 4,216.19	June ending repeater balance	$959.92
June Income	302.00	June repeater fund	20.00
Expenses	<98.82>	June repeater fund balance	$979.92
General Fund Balance	$ 4,419.37		
Increase	$ 203.18		

Mary, AB7NK is in the process of updating the YARC Roster.

Please let Mary know of any changes, additions, or corrections to your mailing address, phone number, or e-mail address.

She can be reached at: (928) 775-2158 or ab7nk@arrl.net

6 METER BAND OPENING

By Rex Mauldin, N7NGM

As I write this (June 2nd) on the eve of another YARC meeting, the 6m band is dying out for the time being after having been very active all day long. During this opening, I worked many stations on USB and many out of state 6 meter repeaters and stations using the one I am trustee for on Mt. Union, 52.56. For me, the opening started off with W0GSQ who was mobile in the Denver Colorado area who had discovered 52.56. Actually, he heard the sister repeater in California that operates on the same pair located on Mt. Frazier, California and uses a tone of 82.5 Hz.

As for me, I worked two ham operators on the 52.81 repeater located in Astoria, Oregon. Both W7DWK and AC7TY were quite surprised that not only was there an opening, but that someone could actually talk from so far away. Whenever I hear this from someone, I know they are new to 6 meters, at least to the potential of what the FM band can do.

In the process of working stations on our local repeater, I had a call from W1APZ that caught my attention. Turns out this person is located in Pine Arizona. But he wasn't the only one I worked on 6 meters. I also had a call from WA7UPS who is located in Yucca Arizona. To have short skip like this on 6 meters is unheard of from my years of experience. His signal was weak, but I talked with him.

Since I have two radios, I was able to keep track of stations on USB where I ran across N5SXQ who told me about his repeater in Sydney Nebraska, very near the northeast corner of Colorado. I discovered from Jeff that his repeater output is 53.01, input 52.01 and uses a tone of 107.6 Hz. Next time the band opens up, I will try his repeater. A wonderful way to find out about other repeaters on 6 meters indeed.

As for interesting stations on USB, I came across WB6L who could barely hear me and N6VI who was strong and then faded only to return a short time later. I found out that Marty lives very close to where I used to live in the San Fernando Valley, so that was a fun surprise to work him on the band. Another interesting person I talked with was Justin, KI6KGN, N6QBJ and XE2JA of Sonora Mexico.

I mustn't leave out beacons. I heard several of those too. The strongest one was on 50.077 MHz, which has a call sign of N0LL. Others I heard were 50.059, 50.064 and 50.090.

As usual, the following day was rather quiet on the band. I have noticed this over the years. There will be one good day of propagation followed by a day or two of little to no activity and then followed by another round of openings. By the time you read this article, there will no doubt have been several days of excellent band openings on 6 meters. I encourage you to give this band a chance. As my beam antenna was not available to me, all the stations I worked on USB were from my vertical.

I was mainly interested in working FM repeaters, but used what antenna I had available to me. So although a beam is better for SSB, you can get by with a vertical, and since a 6 meter 5/8 wave antenna is similar to a ¼ 2m vertical, you might consider setting up your station to work 6 meters for those rare openings, but enjoy 2 meters in the meanwhile. Add a switch and you will be prepared to enjoy an interesting band.

The 52.56 repeater has IRLP capability and I can add Echolink to it as well. This opens up more interesting possibilities for out-of-state operators who might want to connect to 52.56 and listen for themselves. At least they will have someone they know will be listening, one way or another.

As always, I invite comments and questions and encourage those of you interested in the band to join in on the weekly 6 meter net every Thursday evening at 7:30 p.m. Arizona time. ■

Rex Mauldin/N7NGM n7ngm@q.com

YARC Officers for 2010

President
Pete Morrison, K6VVR
pm_service@earthlink.net

Vice President
Jim Ball, WB7UZV

Secretary
George Imburgia
ad7rl@netsecs.us

Treasurer
Mary Vince, AB7NK
ab7nk@ARRL.net

Board of Directors (includes Club Officers)
Terry Pemberton -- KB7TRE
Will Taylor -- AD7WW
Richard Bozeat -- KE7DTR
Walter Schumann -- KF6SPS

Newsletter Editor: Joe Oliver, AC6AA
joliver@cableone.net

By Lloyd, WA6ZZJ

ARES/RACES…..

As I write this there are three wildfires burning in the Flagstaff area and the Coconino County ARES is busy providing communications for the incident with radio links between shelter locations, the County EOC and other areas as necessary. They have been activated for three days already and at this time it is unknown how much longer their services will be needed.

In the Prescott area we have been extremely lucky so far this year, but cannot let our guard down with the humidity dropping and windy days. The Creek Fire south of Prescott was a definite wake up call. Had it not been for prescribed burns being held in that location in the past it had the potential to be another Indian Fire like we had in May of 2002.

The 4th of July weekend is approaching and there will be many visitors to our area. Fire restrictions have gone into effect in the area, but all it takes is one careless person and it could lead to another fire incident.

Keep your batteries charged, your go-kits up to date and fuel in your vehicles….. After the emergency is declared is not the time to start taking care of these things…..

SPECIAL EVENT COMMUNICATIONS…..

It looks like there will be a break in event communications until September unless we have some new ones come along. The upcoming event list is as follows:

Saturday, September 11, 2010	March of Dimes March for Babies
Sunday, September 19, 2010	The Skull Valley Loop Challenge
Sunday, September 19, 2010	The Groom Creek ½ Marathon, 10K and 2 mile
Saturday, September 25, 2010	The Tour de Pee Vee ½ Marathon
Friday, October 1, 2010	The Prescott Road Rally
Saturday, October 2, 2010	The Prescott Road Rally.
Saturday, October 16, 2010	The America's Walk for Diabetes

It looks like September and October are going to be busy months again so it's not too early to mark these dates on your calendar…… ■

New Magnetic Solders Are a Leap Towards Green Alternatives

From Yale University Office of Public Affairs Science & Engineering News

New Haven, Conn. — Yale University scientists have developed a magnetic solder that can be manipulated in three dimensions and selectively heated, and offers a more environmentally friendly alternative to today's lead-based solders. Their findings appear in the March 1 Early Edition of the Proceedings of the National Academy of Sciences.

Solders are low-melting-point metal alloys that act as a glue for bonding microchips and other electronic devices, such as transistors and resistors, and can be found in everything from computers to cell phones to MP3 players.

Until recently, virtually all solder was made from a tin-lead alloy. But because lead is a toxic substance, there is a lot of interest in trying to find a greener alternative. Recent legislation in Japan and the European Union bans the import of electronics with lead solders.

"We took this as an opportunity to improve solder for the environment, but we also took it as an opportunity to reexamine how to enhance solder in general," said Ainissa Ramirez, associate professor at the Yale School of Engineering & Applied Science and lead author of the study.

Watch video at: http://opa.yale.edu/media/video/7331-magnetic.avi . Watch Yale research-

ers use a magnet to manipulate their newly developed magnetic solder – a tin-silver alloy with iron particles dispersed throughout that offers a more environmentally friendly alternative to today's lead-based solders. (Credit: Ainissa Ramirez)

Until now, scientists had difficulty coming up with a suitable alternative for lead-based solders that are just as strong and have a similarly low melting point.

Now Ramirez and her team have developed a non-toxic solder made of tin-silver containing iron particles. Not only is using a tin-silver alloy an environmental advantage, the addition of iron particles has other benefits.

First, the iron makes the alloy much stronger than it would ordinarily be. When an external magnetic field is applied to the molten solder, these particles align themselves within the solder, making it even stronger once it again solidifies.

Second, the iron overcomes the problem of tin-silver having a higher melting point than traditional lead-based solders. By subjecting the solder to an alternating magnetic field, the solder can be selectively heated. This keeps surrounding materials at safe temperatures while melting only the solder itself.

Third, an external magnetic field can be used to remotely manipulate the solder, so it can be moved into hard-to-reach places, such as narrow vertical channels. This means that broken connections within devices can be "self-healed" by applying a magnetic field to melt the solder and attach the ends together.

"There is a whole range of possibilities for this new kind of solder," Ramirez said. "In addition to helping make the fabrication of microelectronics more environmentally responsible, these new solders have the potential to solve technological challenges."

Other authors of the paper include Joshua Calabro, Xu Huang and Brian Lewis, all of Yale University.

This research was funded by the National Science Foundation and the Yale Institute for Nanoscience and Quantum Engineering (YINQE). ■

Italian Tomato Garden:

An old Italian lived alone in New Jersey. He wanted to plant his annual tomato garden, but it was very difficult work, as the ground was hard.

His only son, Vincent, who used to help him, was in prison. The old man wrote a letter to his son and described his predicament:

Dear Vincent,

I am feeling pretty sad, because it looks like I won't be able to plant my tomato garden this year. I'm just getting too old to be digging up a garden plot. I know if you were here my troubles would be over.. I know you would be happy to dig the plot for me, like in the old days.

Love, Papa

A few days later he received a letter from his son.

Dear Pop,

Don't dig up that garden. That's where the bodies are buried.

Love,

Vinnie

At 4 a.m. the next morning, FBI agents and local police arrived and dug up the entire area without finding any bodies. They apologized to the old man and left.

That same day the old man received another letter from his son.

Dear Pop,

Go ahead and plant the tomatoes now. That's the best I could do under the circumstances.

Love you,

Vinnie

ARRL ARIZONA STATE CONVENTION & HAMFEST

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

JULY 16 & 17, 2010

WILLIAMS RODEO GROUNDS, 800 RODEO ROAD, WILLIAMS, AZ

GATES OPEN AT 5 P.M. THURSDAY JULY 15 FOR SET-UP.

HAMFEST OPENS AT DAWN FRIDAY, JULY 16.

FREE ADMISSION!

Prizes, Meetings, Seminars, Activities, Commercial Vendors, Huge Swap, VE Tests, Bar-B-Que Dinner, Sunday Grand Canyon Train Trip

Visit the ARCA Web Site for information.

www.arca-az.org

Mysterious package

During the break at the June meeting, a package was left at the table I was at. It was obvious by the contents this was for me since it contained an adorable mini schnauzer magnet.

Even with the best detectives at work, no one was able to find out where the package came from.

Thank you very much, it was much appreciated.

Mary – AB7NK

July Program

To be Announced

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: **Neil Vince**, KA7JAS at: (928) 775-2158

Jim Ball , WB7UZV (928) 445-2997

Will Taylor, AD7WW (928) 445-1717

Arizona Worked All Counties

Have you checked your logs lately? If you've worked all fifteen Arizona counties, email **az-wac@w7yrc.org** for an application and rules.

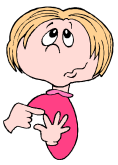
Need Cards Checked for ARRL Operating Awards?

Jim Zimmerman, N6KZ can check your QSL cards for DXCC, WAS, VUCC, WAC, etc.

For information contact Jim at: (928) 713-0542.

Jim's QTH is at: 778 Grapevine Lane, Prescott, AZ 86305.

Membership Count:



1st Thurs. in April……..**192***
Gain/Loss……..……..+**2**
1st Thurs. in June …….**194**

* Includes 7, *3-Month Memberships*

Don't Give Us a BREAK !

By Howard Mark, K3HM
(AKA "The Voice of Summerlin")

Reprinted from the Las Vegas Amateur Club Newsletter

This is probably one of a very few times I would suggest that you not give someone a break. The word "Break" is commonly heard on the club's machines when someone wants to get into a current conversation, interrupt the conversation in progress to call another amateur or use the autopatch.

Over the years the term "Break" has evolved from its initial meaning, allow me to "BREAK-IN" I have emergency traffic, to its present meanings, hey, can I join the QSO, call N7XX to see if she is monitoring or use the autopatch to call Sam and let him know I'm on my way.

"Break" is short and easy to accent to convey a sense of emergency. I recall an instance some years ago where an amateur witnessed an early evening hit and run accident. He interrupted my QSO on a local repeater with an unmistakably urgent "BREAK! BREAK!" There was little doubt he had urgent traffic. It was growing dark and the runaway driver had turned off the vehicle's lights making it difficult to see a license plate number. The amateur was trailing the offending vehicle (at a respectable distance) and needed to contact the local authorities via the repeater's autopatch. Today many of you would just call for help using your cell phone, but not all of us have cell phones.

How did it end? The local police carrying on a running QSO with the amateur via the police dispatcher apprehended the perpetrator. There were many on-air cheers by the amateurs that were following the action on the repeater.

If "BREAK" is used every day in routine conversations it quickly loses any sense of urgency. What do we do when we really need to use a local repeater to report an emergency? I'm sure "help the sky is falling and I am being chased by aliens" will get someone's attention, but it takes a lot longer to say than "BREAK".

OK, if we reserve "BREAK" for emergencies, you might ask "how do I join an existing QSO"?

Many enlightened amateurs across the country have adopted the convention of waiting for a natural break in a QSO, usually when one operator turns the conversation over to the other (or just before the courtesy tones offered by many repeaters) and then transmitting their call or a couple of letters in their call. If you have a long call such as KD7XYZ (a 2 by 3 format) just use the last three characters of the call – in the case above just key the mic and say XYZ. I have a short call and I usually just give the full call – K3HM.

If the operator next in line to transmit is knowledgeable they will acknowledge the caller and let them in immediately or say something like "I copy you K3HM just let me finish a thought". If however the breaking station said "Break" savvy operators would relinquish the frequency immediately with an acknowledgment of – K3HM go ahead – because they recognize the transmission as an emergency.

If you use a partial call to gain access to the repeater remember to use your full call once you're allowed in. The FCC does not recognize partial calls as legitimate identification.

As a friend of mine has often said "hey this is not rocket science" (he likes to say that since he is a mathematician on contract to NASA) and we should be able to make it work. So let's see if we can break the "BREAK" habit and get in step with a convention that has worked for many years.

Setting a good example does work, especially with newly licensed amateurs. ■

Computer Tip

TinyURLs

In some countries or offices, shortened URLs, such as a "TinyURL" are blocked. In order to open the URL you will need the original, lengthy URL. In that case, you may be able to use "Untiny for Greasemonkey" at http://untiny.me/ .

Also, there could be a security concern in the case of opening a short URL because you don't know where exactly it will land you. It may redirect you to a page having some malware or other programs which may harm your computer or it may open a page having some adult content which will be shocking for you. To resolve this problem, you should always check the original URL of the Shortened URL sent by a stranger.

Before clicking on a shortened URL , such as a "TinyURL", from an unknown source, you may want to 1) Enable the "Preview Feature" at TinyURL.com, so you can see the lengthy URL before going to the site (The preview feature requires cookies to be enabled in your web browser.), or 2) Go to http://untiny.me/ to extract the original URL. ■

Wartime wireless

Reprinted from the "PCARA Update" courtesy of Bob Tarsio, N2CBH

Ham radio during World War II is an interesting subject. It is interesting in that during the war there were virtually no authorized ham radio transmissions in the U.S.! Imagine that for a period of three years you could not operate your rig. This and other interesting facts are what I decided to write about for this month's edition of the *PCARA Update.*

In 1939 there were a mere 51,000 licensed amateurs in the U.S. War broke out in Europe on September 1st 1939 with the German invasion of Poland. This action immediately changed the amateur radio landscape. Nearly half of the then DXCC nations went off the air as a result of this action. This included Canada and the United Kingdom. U.S. amateurs adhered to a code of neutrality. This code was developed by none other than the ARRL. This was a voluntary code which was practiced by nearly the entire American amateur population.

More stringent operating restrictions would follow in the following year of 1940. A ban on communication with hams outside of the U.S. was instituted along with a prohibition against portable operation below 6 meters except for Field Day operations. No doubt this was done to reduce the possibility of clandestine communications.

One has to remember that portable communications nearly 70 years ago was no small feat. There were few designs that didn't require A.C. mains to operate, which made portable operation difficult. Ironically World War II would produce some ingenious designs for battery operated sets for both receiving and transmitting.

There were some operations sanctioned by the government at the behest of the ARRL that allowed some portable and mobile operations for the purposes of training, which would become extremely valuable to the military in a short time.

The role of amateur radio operators during hostilities that involved America was important and at times resembled that of the role of any other branch of the government. For example, the F.C.C. looked to the amateur radio community for volunteer listening post operators. Within a short time the quota for 500 volunteers was filled by U.S. amateurs. Many other operators were called to active duty. In fact nearly half of licensed amateurs were in uniform before the end of the war. The other half remained at home as listeners, training volunteers and members of the WERS service which I will talk about in a short while.

There were other signs that things were going to get worse for the amateur, including the growing shortage of parts and vacuum tubes. Hams were asked to donate critically needed components for the war effort and they emptied their junk drawers and donated many needed items. Before the end of the war there were no vacuum tubes or electrical parts available for sale to the public. Most daily staples were rationed or simply not available. No running down to Home Depot on a Sunday back then!

By 1941 hams were limited to communications amongst themselves in the U.S. from fixed stations. The military decided that it needed the 80 meter band and so hams lost 80 meters temporarily. As a consolation the F.C.C. granted U.S. amateurs phone privileges on 40 meters for the first time. Previous to World War II hams had only CW privileges on this band.

To quote President Franklin Roosevelt: "December 7th, 1941 —a date that will live in infamy", was when the U.S. was attacked by Japan at Pearl Harbor, Hawaii and it was also the date that all U.S. radio amateurs were ordered to observe radio silence. The ban on transmission would last for the duration of the war, which ended in 1945. A notable exception to the ban was the transmissions of the ARRL station W1AW.

Another activity that continued during the war was that of licensing. It was assumed that the war would end, hopefully sooner than later and the ban would be lifted allowing these newly licensed operators to get on the air for the first time. The licensing effort served another important function. It helped train countless men and women who would go into the armed services and would require communications skills. Still others would need electronics training and they got it from studying for an amateur license.

The War Emergency Radio Service was created in June of 1942 at the urging of the ARRL. WERS was developed to create an emergency communication service to aid during air raid drills and protection. While not an amateur service, it was manned mostly by amateur radio operators. The service operated on VHF in the 2½ meter band, which at that time was allocated to the amateur radio ser-

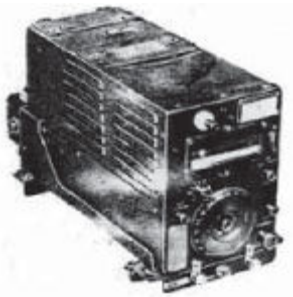
A War Emergency Radio Service transmitter-receiver keeps this air raid warden post in direct communication with the community Civilian Defense Control center. The set was constructed out of old home receivers by civilian radio volunteers. [Library of Congress picture.]

vice. Later on it would be part of the spectrum that is now occupied by aircraft communications. This band would provide good point to point communication — while it would not be useful to anyone trying to communicate outside the U.S.

One privilege that Hams did have during the radio silence period was that of carrier current operation. Instead of using a conventional antenna system such as a dipole or wire antenna, carrier current uses the electrical A.C. mains in place of an antenna. By use of a specially made coupler it is possible to inject R.F. onto an A.C. mains line and have some propagation. Power was limited and R.F. doesn't travel past an A.C. transformer, so communication was generally limited to a few blocks. You might be able to communicate with a neighbor but that was about it. Carrier current is still used today for limited broadcasting mostly on college campuses using the AM broadcast band. I know of at least one amateur who tried this mode of operation during the war who reported poor results — as in no contacts at all!

Thankfully the war ended in 1945 with the surrender of the Japanese in August of that year. Before long amateur radio was back on the air in a very different world. After VJ day, amateurs were allowed privileges on the 2½ meter band to be shared with WERS service, which ended by November 15th 1945. By then amateurs were back on H.F. and things began to settle back to normal.

The post war period would begin with large amounts of surplus gear to be modified and used by post war hams. ARC-5 transmitters and BC-348 receivers are just two examples of radios that would be owned by many hams for years to come. I in fact own an ARC-5 transmitter and a BC-312 receiver from that era.



ARC-5 transmitter

Even at today's hamfests you can still see remnants of war production for sale or on display.

BC-348 receiver

Other products that came in to being during the war included miniature all-glass tubes of the seven-pin variety. Examples of these tubes include the 12AU6. Nine pin glass tubes such as the 12AX7 followed.

7-pin all-glass vacuum tube (6AU6)

The germanium detector diode is another product of the industrial war effort. Modern plastics would replace brittle bakelite in electronic cabinets, and some parts were also war developments.

1N34A germanium diode

Most hams alive today that lived through the World War II era will probably say that the amateur radio hobby suffered little inconvenience compared to the millions of citizens and soldiers who lived and died during World War II. It makes you want to be very thankful for the sacrifices of those who gave their lives and suffered under terrible circumstances. The next time you flip on your rig to enjoy this hobby today take a few minutes to remember those who sacrificed so many years ago so that you could speak freely to anyone within the reach of your shack.

-- 73, Bob N2CBH

Weekly Breakfasts

Tues. Morning Breakfast:

7:00 a.m. at
Back Burner Cafe
8400 E. Long Mesa Drive
& N. Robert Road
Informal – all are invited.

Wed. Morning Breakfasts:

7:00 a.m. at
Iron Horse Restaurant
(Hwy 89 in Chino Valley)
(N 34º43'56.5" W112º27'15.4")*
informal – all are invited

8:00 a.m.
Masonic Lodge
(1280 Willow Creek Road,
2nd Floor; above Bank of America)
informal – all are invited

* Location data (per WGS84) provided by Fred Zimmermann, N7PJN

Area Repeaters

Fre-quency	PL	Location	Owner/Club	Auto-Patch	Rem. BaseOr Linked	Vo IP	Notes:
52.560-	100.0	Mt. Union	N7NGM			IRLP	Node 3301
145.290-	127.3	Mingus Mtn.	ARES/RACES				
146.780-	91.5	Williams Mtn.	BWARC			IRLP	
146.880-	100.0	Prescott	YARC				
146.980-	162.2	Flagstaff	CARC				
147.000+	162.2	Mingus Mtn	MMRG				
147.140+	162.2	Flagstaff/-Mt. Elden	ARA		Linked to Mt. Ord -		Mt. Ord=147.36
147.220+	162.2	Mingus Mtn	VVARA				
147.260+	103.5	Mt. Union	ARES/RACES				
224.080-	156.7	Mt. Union	WA7JC				
442.150+	100.0	Mingus Mtn	W1OQ/Northlink				
442.350+	100.0	Glassford Hill	N7KPU			IRLP	
448.475-	100.0	Flagstaff-Elden	ARA	Yes			
448.875-	100.0	Flagstaff-Elden	Northlink		Linked		
449.175-	100.0	Towers Mountain	Northlink		Linked		
449.675-	88.50	Prescott Airport	WB7BYV		Linked to P Mtn.		P mtn=927.3875
449.725	110.9	Mingus Mtn	WA7JC				
449.750	91.5	Williams	K7NAZ		Linked to Win-Sys		
927.0875-	151.4	Mingus Mtn	WB7BYV				
927.3875-	151.4	Prescott	WB7BYV	Yes	Yes	Echo	Be Nice

Y.A.R.C. IRLP NODE
Node Number 3182
442.350+ MHz with a PL Tone of 100.0 Hz

For more Repeater Information & Listings refer to:

- ***www.w7ara.org/Web/***
- ***www.azrepeaters.net***
- ***www.azfreqcoord.org/listings.htm***

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PRESCOTT, AZ 86304

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

Many thanks to Pete Morrison, K6VVR, our Webmaster