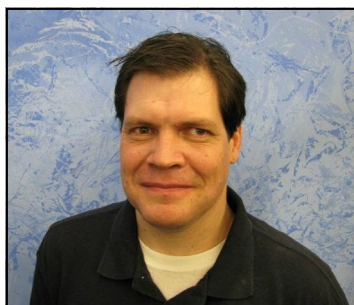




YAVAPAI SIGNAL



The Yavapai Amateur Radio Club • Prescott, Arizona • DM-34 • Volume 27 - No.4 • April 2012



Hello again!

I wanted to remind our operators of a number of events on the YARC calendar that are coming up. The three-day Whiskey Off-Road Bicycle Event will run Friday, April 29th through Sunday, May 1st. The most recent information I have on that indicates that the event is fully staffed but additional operators would be welcome to double up some positions and work in teams. Additionally, the 33rd running of the Whiskey Row Marathon is scheduled for Saturday, May 14. Again, the information I have indicates operators are still needed for that event. Operators interested in participating in Special Events Communications should contact Lloyd (WA6ZZJ). Thank you Lloyd for your wonderful power-point presentation of Special Events Communications last month!

At the meeting this month, those of you that signed up will have an opportunity to build a 2-meter J-pole antenna during the presentation time. Pete (K6VVR) and Jim (WB7UZV) have been pre-fabricating some of the parts to facilitate construction and getting that organized. Don't forget to bring your materials fees to the meeting if you're one of the folks who signed up.

Creighton
AD7YR

April Program

Public Service Communications

Lloyd, WA6ZZJ will give a presentation on 'Public Service Communications', with an emphasis on bicycle events, as we have two of them coming up.

YARC Officers for 2012

President

Creighton Grotbeck, AD7YR
president@w7yrc.org

Vice President

Ellis Rackoff, KE7NAP
vice.president@w7yrc.org

Secretary

Barbara Ashley, KE7KEV
secretary@w7yrc.org

Treasurer

Tom Griswold, WN7E
treasurer@w7yrc.org

Board of Directors (includes Club Officers)

- Doug Freeman -- KV8TD
- Pete Morrison -- K6VVR
- Bryan Whipp -- W7BNW
- Neil Vince -- K7SEN

Newsletter Editor: Joe Oliver, AC6AA
newsletter@w7yrc.org

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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 for allowing us to acquire the original club repeater.

Minutes of March 1, 2012 Board Meeting



W7BNW and KE7KEV.

AD7YR read a **letter of proposal** from **W7BNW** for YARC to fund an instrument kit for the Amateur Radio Club Students at Granite Mountain Middle School to assemble and fly aboard an instrumented weather balloon. Discussion ensued and it was decided to table it until further research has been done on the project.

WA6ZZJ offered to present the **program next month** to inform the general membership about **public service event communications** and how they will be used in all the upcoming community activities. The Board welcomed this presentation.

AD7YR mentioned that his decision to have new members stand as a group at the last meeting was well received. He suggested that the Board stand at meetings so that new members can recognize to whom to go for assistance.

KE7NAP suggested that we have a fact sheet of Club information to give to new members as a **Welcome Packet**.

KB7TRE advised us of an Emergency Preparedness Specialist who would like to do a presentation at a future meeting.

AD7YR asked us to consider means of getting in touch with each other between regular Board Meetings, such as SKPYE, e-mail or conference calls.

A test call on SKYPE will be instigated.

AD7YR told us about the bylaws that govern the **legal restrictions regarding YARC** which he will explain more fully to the general membership.

W7BNW initiated discussion about **Field Day** with the pros and cons of location and costs. The end result was that the Prescott Parks and Recreation Pavilion on Willow Creek Road will be the best spot for this year. **AD7YR** will write a letter to the Parks and Recreation Director requesting a waiver of the event fee. **The YARC annual family picnic will accompany Field Day.**

K6VVR mentioned that other Clubs admire what we're doing on our **T-Hunts** and want more information. Options for increasing publicity were discussed.

K7SEN told us about a letter of proposal sent to YARC asking if anyone from our Club would like to do a **radio presentation on public radio** telling about how to become a Ham. **AD7YR** will do a follow up phone call to ascertain the details of the production.

The September speaker will be Tom Fagan, K7DF, ARRL's Arizona Section Manager.

The meeting was adjourned at 1857.

Respectfully submitted by
Barbara Ashley ~ KE7KEV
YARC Secretary

Minutes of March 1, 2012 General Meeting

Club President **AD7YR** began the meeting at 1904 with the Pledge of Allegiance. He then asked all visitors, those with new call signs or up-

grades to stand to be recognized. The Board and Committee members also stood so new members could know to whom to go for assistance.

He asked for those with a new call or upgrade to make themselves known and the new members were voted in as follows: **Paul Compton – WA7US, Darwin (Dan) Crouch – KF7TZT, Andre Doyon – KF5FSK, Darrell Mannheimer – No call yet, and Rod Scott – KF7TZX.** KB7TRE made a motion that the new members be accepted into the Club and it was seconded by WB9VGJ. Overwhelming applause greeted the new ones!

January new member, already voted in was Dale Montgomery – AD7NQ. February new members, also already voted in, were: Mike Damiani – W7MJD, Joe Ficara – KJ6KMT, and Ray Tyrrell – N6MY.

There were 59 members in attendance.

AD7YR then asked for a motion to approve the **Secretary's Minutes and Report** and it was made by KV8TD and seconded by W7BNW. **KE7KEV** made note of the fact that the Minutes showed the winner of the 50/50 making only \$52 instead of \$55! The **Treasurer's Report** was stated by **WN7E** as being no different than published in the Newsletter, the *Yavapai Signal*.

Corrections to the February Minutes: It was stated that three *local* stations would broadcast during the Centennial activities, using the call sign K7UGA, when it should have read that three stations in Phoenix, Prescott and Tucson would so broadcast. Also stated under ARCA was that the new representatives were labeled as *repeater representatives*, which was in error.

AD7YR then asked **WN7E** to show the **Club decals and stickers** and their prices. It was suggested that members

display these patches and decals when out in the community to show pride in our Club!

AD7YR announced that with the resignation of the **Arizona Worked All Counties** originator and coordinator, **AB7NK**, the position needs to be filled. It's an easy and fulfilling task to make out certificates, rewarding folks for their efforts in this regard! Please let him know if you'd like to help!

ARES/RACES committee chairman, **WA6ZZJ**, spent some time sharing the upcoming community activities in which the Club will be participating. Details of all these events are in the Newsletter. AD7YR asked for a round of applause for all the work **WA6ZZJ** is doing for the Club.

The **Newsletter Editor, AC6AA**, asked that everyone in attendance please sign the sign in sheet so that he can know who wasn't at the meeting in order to mail them the Newsletter.

KF7MAU then told about **Badges**, which are \$7 each and are available either with a pin or magnet on the back.

Refreshments were once again provided by **K6UWV** who does a commendable job and asked us to please recycle the cans!

K7SEN reported that he is in need of more **Elmers** who will be willing to share their abundant knowledge and skills.

He also reported that **Net Controls** are also needed for the **Wednesday night Club Net** and a sign up sheet was circulated.

KB7TRE reported that the fine **young Hams** had a great time on 14 February in Sharlot Hall Museum. He ex-

pressed gratitude to **K7SEN** for the **30' mast** which was a real asset to the event. The Student Hams had also spent time before the meeting making HF and DX contacts.

K6VVR reported that the **Fox Hunt** went quite well and that momentum is gaining. He explained that the hunts are always fun and urged newcomers to join them!

KB7TRE asked **KE7KEV** to tell about the **Food Bank donations**, of which 24 pounds were donated in March, and expressed the gratitude of the Food Bank.

KE7NAP gave details of **Field Day** which is the last weekend of June. The location will be the **Parks and Recreation Pavilion** located between the Dog Park and the Honda Dealership on **Willow Creek Road** in **Prescott** across the street from Tim's Car Dealership. There is a pavilion and picnic area where new Ham operators can practice as well as seasoned testers. AD7YR asked for anyone who would like to help advertize or help with Field Day organization to contact **KE7NAP at 928/775-5462.** **The annual YARC Family picnic will accompany Field Day.**

AD7YR then explained the legalities of having a **Ham Fest**. Because the YARC name, logo and all else that pertains to the Club are under legal restrictions, it will behoove anyone interested in having a Ham Fest to form a separate corporation to accomplish that task. Under the auspices of the new corporation, anyone, from any club, can participate and all of the legal obligations, including insurance, vendors, costs, etc. are covered by and under the protection of the bylaws, etc. of the new corporation. There was a lot of discussion pertaining to this subject.

AD7YR reminded the group about the **50/50 drawing** and that the monies are divided equally between the winner and the Club and encouraged anyone interested to purchase tickets during the break.

KE7KEV explained about the **e-mail dues reminders** she'd sent out for dues in arrears and explained that reminders will soon be sent out for dues whose expiration dates are coming up.

KB7TRE mentioned a flyer, on the front table, about upcoming **Emergency Preparedness classes**. He also told us about recent **Silent Key, KC7AGL** a long time YARC member. A card of condolence was sent to his family.

KI6AHH expressed gratitude for all those who are so diligent in collecting **pull tabs** from **aluminum cans** that he is collecting for a friend. These tabs are used as credit for free chemo therapy for cancer patients with 100 tabs being equal one hour of free therapy.

N7PJN reminded the group that he would be presenting the concepts of **Simplex** after the break.

AD7YR adjourned the meeting at approximately 2000.

The **50/50 drawing** in the amount of **\$50** was won by **K7SEN**.

Respectfully submitted by

Barbara Ashley KE7KEV

YARC Secretary

Club contacts - At a Glance

President - AD7YR	president@w7yrc.org
Vice President - KE7NAP	vice.president@w7yrc.org
Secretary - KE7KEV	secretary@w7yrc.org
Treasurer - WN7E	treasurer@w7yrc.org
Board Member - KV8TD	kv8td@w7yrc.org
Board Member - K6VVR	k6vvr@w7yrc.org
Board Member - W7BNW	w7bnw@w7yrc.org
Board Member - K7SEN	k7sen@w7yrc.org
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
Membership Application	membership@w7yrc.org
Net Manager	net.manager@w7yrc.org
Newsletter Editor	newsletter@w7yrc.org
Program Inputs	programs@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
Webmaster	webmaster@w7yrc.org

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, K7SEN (928) 775-2158

Jim Ball , WB7UZV (928) 445-2997

For Sale

IsoLoop HF Antenna 14/30.

Covers 14-30 MHz and handles 150 watts. Can be used in attic or outside and mounted for vertical or horizontal polarization.

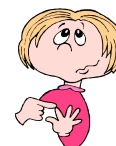
Complete with mounting hardware, tuner control with cable and Assembly/Operating manual.

Best offer. It was given to me and I can't use it because of local restrictions. Proceeds from the sale will be donated to the YARC.

Contact Roy, AD7FW, 775-6592 or email, onenewad-venture@aol.com.

Membership Count:

1st Thurs. in February.....**181**
 Gain/Loss.....**-9**
 1st Thurs. in March.....**172***



YAVAPAI AMATEUR RADIO CLUB

March 2012 Treasurer's Summary - Tom Griswold WN7E

Income

Date	Callsign	Name	Code	Check #	Amt. Paid	G. F. Amt.	Rep.Fund	ARRL
03/01/12		Mannheimer, Darrell G.	N	cash	\$30.00	\$18.00	\$12.00	
03/01/12	KF7FSK	Doyon, Andre J.	N	1234	\$25.00	\$18.00	\$7.00	
03/01/12	WA7US	Compton, Paul	N	2529	\$20.00	\$18.00	\$2.00	
03/01/12	KF7TZT	Crouch, Darwin (Dan) R.	N	cash	\$20.00	\$8.00	\$2.00	
03/01/12	KF7TZX	Scott, Rod	N	1050	\$30.00	\$18.00	\$12.00	
03/01/12	KF7GHA	Butcher, John	R	1122	\$20.00	\$18.00	\$2.00	
03/01/12	KF7FOX	Urell, Tim	R	2182	\$20.00	\$18.00	\$2.00	
03/01/12	K7GST	Mills, Owen "Buz"	R	cash	\$20.00	\$18.00	\$2.00	
03/01/12	KF7FPD	Jerry Lawson	R	3925	\$20.00	\$18.00	\$2.00	
03/01/12	KF7RIG	Cole, Marjorie	R	cash	\$20.00	\$18.00	\$2.00	
03/01/12	KF7RXU	Cole, Robert " Buzz"	R F	"				
03/01/12		50 / 50		cash	\$100.00	\$100.00		

Income Totals

\$325.00 \$270.00 \$45.00 \$0.00

Expenses

03/03/12	K6UWV	David Passell refreshments		1101		\$12.28		
03/01/12	K7SEN	Neil Vince 50/50 winner		cash		\$50.00		
03/03/12		Allega - newsletter		1102		\$28.22		

Total Expenses

\$90.50

Beginning Balance **\$6,307.29**

Feb. repeater balance

Feb. Income **\$270.00**

Mar. 2012 Repeater Fund \$45.00

Sub Total **\$6,577.29**

Repeater Fund Bal. \$45.00

Expenses **\$90.50**

General Fund Balance **\$6,486.79**

ARRL Payments **\$0.00**

Net Loss/Gain \$179.50

Feb. Income \$325.00

Cash out 50/50 \$50.00

Deposit \$275.00



By Lloyd, WA6ZZJ

ARES/RACES.....

WILDFIRE EXERCISE...

Friday, April 13, 2012 is now the date for the annual Wild-fire Exercise. It is still undecided as to how much of a role ARES/RACES will be playing in this event as the game plan has been altered from past years. More information will be put out as it becomes available.

PUBLIC SERVICE COMMUNICATIONS.....

What's Public Service All About?

The Purpose of YARC Public Service is to provide opportunities for Amateur Radio Operators to contribute their skills and equipment in support of community service organizations across the area. We do this as our way of saying "Thanks!" for use of the Amateur Radio spectrum provided to us by the Federal Government....

UPCOMING PUBLIC SERVICE EVENT COMMUNICATIONS.....

MS-150 Ride the Vortex...

The next event and another one which will need the cooperation of both clubs is the upcoming two day MS-150 Ride the Vortex Bicycle event. This will be Saturday and Sunday, April 14 - 15, 2012. The event will begin and end at the Verde Valley Fairgrounds in Cottonwood. The route has been selected and I have information as to location of the rest stops so the communications planning is underway. SAG vehicle and Medical communications have been determined. A drive of the route will be made to get GPS coordinates for the Rest Stops. I have a meeting with the organizers on Tuesday, March 27th and will be getting more information at that time. As of the last word there were already over 690 riders registered so far.

At this time plans are for the MS people to feed breakfast, lunch and dinner on Saturday with breakfast and a lunch on Sunday.

I have been receiving sign ups from operators who have

worked this event in the Valley and want to take part again. I may have to close the signups if too many more are received.

More information and route maps can be found at:

<http://tinyurl.com/bk8zgj>

Whiskey Off Road Mountain Bike Event...

The next event after that will be the Whiskey Off Road Mountain Bike event in Prescott. This is the second year for this being a three day event. It will take place on Friday, Saturday and Sunday, April 27, 28 and 29, 2012. Last year we used 18 operators on Friday and 25 each day Saturday and Sunday.

Planning is already underway on this event and a meeting with the organizers is coming soon. The route and communications will be much the same as last year with the 15 mile fun ride on Friday afternoon and the 'Fat Tire Critrium, in the afternoon. Saturday will be the 25 and 50 Mile rides and Sunday will be the 50 mile pro-event.

For more information see: <http://www.epicrides.com/index.php?contentCat=6>

Whiskey Row Marathon..

On Saturday, May 5, 2012 will be YARC's long standing participation in the Whiskey Row Marathon on Saturday, in support of the Prescott YMCA. For this event we typically use 18 to 20 operators. This route is the same as the past few years.

More information at: <http://www.whiskeyrowmarathon.com>

Some members have already signed up for some of these events and there will also be signup sheets at the April YARC meeting. SO.... Put these dates on your calendar. It's never too early to start planning your participation....

I will be giving a presentation at the April YARC meeting on Public Service Communications and communicating for bicycle events...

ON VOLUNTEERING.....

They say that as hams we cannot be paid for what we do and yet as volunteers we are the highest paid people around. The handshake or the quiet smile of another volunteer who shares your tasks, the whispered thank you of someone you helped, the Red Cross volunteer who has enough blankets because of you, the public official who knows they can count on you, and the knowledge that your are helping to

protect the various bands for other amateurs by using them. These are our payments. We profit every time we answer a net, operate at a Public Service event, attend a meeting, do the routine paperwork that is inevitable or try to inspire others with a simple article.

And.... besides that it's FUN!!! ■

General License Class

By Roger Nash, KD5VRW

April 14th and 21st - 8 am to 5 pm
Jeep Posse Building in the Pioneer Park Complex
1200 Commerce Drive, Prescott.

The course textbook is The ARRL General Class License Manual 7th Edition ISBN 978-0-87259-811-9

This class is presented without charge by the Yavapai Amateur Radio Club as a service to the Amateur Radio community.

To register or obtain additional information, please send your request to classes@w7yrc.org

Upcoming Events

- **April 13, 2012** - Annual Wildfire Exercise.
- **April 14 & 15, 2012** - MS-150 Ride the Vortex Bicycle event.
- **April 20, 21 & 22, 2012** - DX Convention, Visalia, California.
- **April 27, 28, & 29, 2012** - Whiskey Off Road Mountain Bike Event.

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.



Monthly Foxhunt

By John Broughton, WB9VGJ

The monthly foxhunt was held March 4th. Having found the transmitter last month, I hid the transmitters, along with Jeff, WB7RFY; we hunt and hid transmitters as a team. We hid them at the end of Rhonda Dr., east of Bradshaw Dr. south of Gurley St.

There were four teams hunting: Dave and Mike, N7GLH and W7NJB; Bob and Linda, WB6ODR and KD7EEO; Jim and Bryan, WB7UZV and W7BNW; Pete and Diane, K6VVR and KE7ODP.

Diane and Pete were devious with hiding the secondary transmitter last month and they were expecting some deviousness this month. With Pete supplying some very small secondary transmitters, it wasn't difficult for me to be devious. A pampas grass stalk and piece of bark sufficed to hide the secondary transmitter, as you will see in the pictures from the hunt.

The site I chose is a little off the beaten path with winding roads and just two ways into it. There is an apartment complex a short distance west of it maybe 200 yards away. However, there is a very deep ravine between it and the site, so one can't walk through it. Two teams did end up at the end of the parking lot of the complex within sight of my vehicle, but they did not see it. They had to spend a little effort in finding their way around to the hiding site.

Jim, WB7UZV, was the winner of the hunt. N7GLH, W7NJB and W7BNW were close by and came in a close second. All four teams and all eight hunters found both transmitters and they all enjoyed the hunt. They did think I was somewhat devious, hi.

We had our usual enjoyable social get-together after the hunt at Denny's.

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

Pictures of the hunt can be seen at:

<http://tinyurl.com/7vlufft>



Heath Company

From "Boat Anchor Manufacturers", at <http://www.ominous-valve.com/ba-mfrs.html>

This remarkable company began in Michigan around 1926, with fits and starts, by marketing an airplane in kit form. In fact, founder Edwin Heath died in a crash.

After the war, Heath got into electronics with a low-cost oscilloscope kit using military surplus parts. Kit building became a popular pastime, not to mention a way to save some big bucks on equipment, and Heath's catalog came to include everything from electronic toys to TV sets, complete hi-fi systems, and eventually even computers. These invariably came from the hard-scrabble industrial city of Benton Harbor, MI, better known as the home of the Whirlpool company.

Heath always had two ham lines, one aimed at beginners, and one for the old-timer looking for a good rig at a good price. The beginner's gear was rudimentary, used few tubes, and typically cost next to nothing even in 50s and 60s money. Any kid could get on the air with this stuff, and a lot of them did. Just about everybody had a DX-40 around somewhere.

The old timer gear was usually solid, using tried and true designs. Sometimes these were pretty close to other products that had proven successful in ham use. Open up a DX-100, and you'll find a pretty good imitation of the Johnson Viking. Both of these were workhorse transmitters on AM and CW, and the DX-100 had a later SSB adapter.

In the 60s, Heath modernized its look, with a sleeker DX-60 transmitter, a matching receiver, and some big rigs named after Indian tribes. The Apache was kind of a hot-rod DX-100, and a popular boat anchor. It was followed by the more advanced (and harder to build) Marauder. There were linears, the Chippewa and Warrior, and the RX-1 Mohawk, a receiver.

Unless a piece of gear was really complex, which it hardly ever was, the ham boxes came in kit form only. Thus every Heath boat anchor out there was built by some guy, in his garage or basement, with a soldering iron, a screwdriver, and a couple of little wrenches that Heath usually included.

This dictated a certain approach to mechanical and electrical design. "We won't let you fail," was one of their slogans. The gear, especially the older transmitters, is usually pretty easy to work on, and there are a million mods out. Of course, it also means that some of these boat anchors will look like art works inside, while others will have solder splashed in funny places, or black tape around melted insulation from when smoke came out the first time. Caveat emptor!

The later SB- series turns up at swap meets all the time. These look a lot like the Collins S-line, but with green panels and chrome knobs and about one-fifth the workmanship. A couple of linears, the SB-200 and SB-220, are still very popular. The 200 is about the size and power of the Collins 30L-1, but with much different controls and tubes. The 220 is a 200 on steroids, in a fatter box, and using 3-500Zs. There have been hundreds of articles with good 220 mods, mostly for stability and more RF choking at lower frequencies. The 220 remains a viable choice for the experienced BA type who understands the safety hazards of such high powered equipment, who won't blow himself/herself up, and who wants to make some serious RF, cheap.



Heath also made some interesting little transceivers, the Tener, Sixer and Twoer. These AM monobanders were also called the "Benton Harbor Lunch Boxes," which gives a pretty good idea of their size and shape. They even had little handles on top. Heath sold an awful lot of these, getting a lot of people onto the higher bands.

Heath was bought by Daystrom in the 50s, followed in the 60s by a complex arrangement after Zenith bought the company. Gradually, as electronic gear became too complex to build from a pile of parts in a garage, the company shifted into computers, robotics and

advanced home automation products. The rapidly-growing computer line gained a market share under the name Zenith Data Systems, while the robotics morphed into the popular line of Heath/Zenith home lighting and security products using infrared sensors. The educational division continued on as Heathkit Educational Systems.

Finally, in 1991, the last kit was discontinued. After some further ownership changes, the lighting and security products division and the Heath Company brand name, were spun off to DESA International. These products are still made, but the quality appears to have deteriorated, as anyone who has seen a rain storm lobotomize their security light knows only too well.

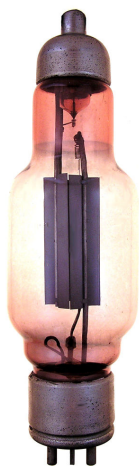
And so today, this tangled tale of post-modern capitalism leaves Heathkit Educational Systems as the surviving entity. It's still in Benton Harbor, with a few Heathkit employees left, where it markets a successful line of educational training systems for learning electronics. It's probably one of the few bright spots left in what's become an otherwise pretty depressing rust-belt city. Benton Harbor is now almost completely African-American, very badly oppressed, with a very low median income, and 42% of its population below the poverty line. There's a new horror story in the news every couple of months. It's pretty sad what we've done to our own country. ■

Editor's Note: Heathkit is back in the Kit business. Their first kit is a Garage Parking Assistant. New kits are in development.

GRIDLESS GAMMATRON

By Norman Wilson, N6JV

In the late 1920s, the Robert Dollar Steamship Company wanted to install powerful transmitters on all their ships and land stations. They approached Ralph Heintz, W6RH, to research circuits that wouldn't infringe on the existing oscillator patents. Heintz and his partner, Jack Kaufman, had formed Heintz and Kaufman in 1924. Dollar had possession of a patent for a "Simpson" oscillator through their acquisition of the Simpson Radio Co. The circuit worked, but RCA refused to sell them tubes. Heintz and other young engineers from UC Berkley and Stanford began research on a different type of tube that wouldn't infringe on the patents for the triode, the getter, the thoriated tungsten filament and the internal insulator. They explored the work done by Goddard, of rocket fame, and de-



cided to build prototype tubes based on this research.

The new tube was to be much like a full wave rectifier with two large plates and a single filament. The filament was mounted very close to one plate they called a "gamma" plate. A conventional triode used a grid between the filament and plate to control the electron flow, but this tube utilized the gamma plate that had a high potential and created a field around it and the filament. Modulation or switching of the field would release electrons towards the plate. Both anodes were to be made from tantalum metal that had the nature of absorbing gas when operated at high temperatures. A pure tungsten filament and no internal insulators should solve the patent problems.

Heintz had hired two young hams to build their prototype tubes and they set up shop in South San Francisco. They chose the commonly available "250" watt envelope from Corning Glass and produced their first tubes. They worked, but the amplification factor was only 2 or 3 at best. Not a problem in a free running oscillator. The new tubes were a great success and could be run red hot, but were still underpowered for their intended application. They called their new tubes "Gridless Gammatrons". They made a few larger versions and eventually produced 1 KW transmitters for all of Dollar's ships and shore stations mostly using a tube named the HK-255. These tubes worked well at 1 KW with 5000 volts on the plate. None of these tubes were intended for public sale.

RCA was not pleased and quickly sued H&K. Seven RCA lawyers showed up for the trial, but Heintz had built an excellent set of demonstrations for this technology and before the trial started, they dropped the suit.

As the depression went on, the finances of Dollar slumped so Heintz convinced the company to start selling tubes to the public and make some money now that RCA had been found to be running a monopoly and was required to allow others to make gridded tubes. By 1934 they produced an excellent tube designated the HK-354 and sales looked promising, but Dollar's financial problems forced staff reductions. The two young hams that Heintz had first hired and helped him set up the tube manufacturing, could see little future working for H&K so started their own tube making company. They were Bill Eitel, W6UF, and Jack McCullough, W6CHE, and their new company was called EIMAC. ■

The author's Web site and transmitting tube museum can be viewed at: <http://n6jv.com>.

A Tribute to Barry Goldwater

Honorary President of the Veteran Wireless Operators Association (VWOA) 1972-1998

The following was delivered by Douglas Stivison at the VWOA Annual Awards Banquet, June 5, 1998

Barry Goldwater passed away last week, and people of all political persuasions are mourning the passing of a man known for straight talking throughout his life.

And we of the VWOA lose our Honorary President. In fact, we lose the man who held the office longer than any of his distinguished peers including Guglielmo Marconi, Lee DeForest, David Sarnoff, and Herbert Hoover. We will miss him.

Barry's fascination with radio was lifelong, and like so many of us, it started with a crystal set which he constructed as a boy. He maintained a showcase amateur station that was also, by far, the best-known Military Affiliated Radio System (MARS) station not actually located on a military base. Barry's legendary generosity extended to letting many others, particularly young people, use his fine equipment, big antenna, and excellent location.

As an influential lawmaker he was a strong advocate for amateur radio, was a strong supporter of the 1964 amateur radio postage stamp, worked behind the scenes to assure amateur representation on international regulatory teams, and he was a force behind loosening the amateur regulations to include reciprocal licensing with many nations.

Barry was a strong advocate on liberalizing (truly a strange term to ever include in the same sentence with his name) the amateur rules, especially those to do with reciprocal licensing and third party traffic handling. In fact, it was in large part due to his pioneering views that the total rewriting of part 97 of the FCC regulations occurred under President Ronald Reagan.

Beside the amateur-radio-specific issues just mentioned, Barry was a strong voice in the Senate in support of a broad range of technology issues, both military and civilian.

He expressed many times his belief that technology leadership, technology education, and technology investment were fundamental both to our nation's economy as well as its defense,

The connection between Barry Goldwater and the VWOA



spans more than three decades, not quite half the history of our organization. He joined the VWOA in 1966, fully qualifying as a veteran member for his military service as both pilot and radio operator in the Air Service, later the Air Force. In 1968 he accepted our highest award, the Marconi Gold Medal. Four years later, in 1972, he accepted the office of Honorary President. He held the office for 27 years.

Barry will certainly be remembered for his political views, but I am certain that he will be remembered even longer for his character.

His politics are well known. He lost the 1964 national presidential election, a loss universally attributed to his outspoken conservatism. He was lambasted at the time as too extreme ... only to find that his problem was not the extremity of his views so much as timing. President Reagan, one of the most popular presidents in history, ultimately ran and served on a platform of smaller government and greater personal responsibility which was modeled on Barry Goldwater's platform.

Barry was, in many ways, simply ahead of his time. Though a losing presidential candidate, he was also virtually single-handedly responsible for the redefinition of the power base of his own party, shifting it squarely away from the Northeast into the South and West. This power shift was in many ways directly responsible for the growing strength of his party in later years.

Although routed in the 1964 general election, Barry Goldwater will be remembered for a legacy of political achievement that escaped the man who defeated him for the White House. Both Colin Powell and General Norman Schwarzkopf have repeatedly credited much of the victory in Operation Desert Storm *directly* to the reorganization of the American military after Viet Nam.

Barry Goldwater and Sam Nunn of Georgia, together studied the operational problems with military command that plagued our forces in Viet Nam, and they worked tirelessly to change them in order to allow for much faster, much more flexible, and much more effective strategic and tactical decision making.

It may be one of the great ironies of American history that possibly Barry Goldwater's greatest single contribution to our nation may well be the revitalization of the military after the Viet Nam defeat. And Barry achieved this by studying the mistakes made in Viet Nam by the man who defeated him in the race for the White House — Lyndon Johnson.

Goldwater received a tremendous amount of criticism for his Senatorial votes against the landmark Civil Rights legislation of the 1960's. The interesting thing is that he was anything but a bigot, anything but a racist. His opposition to the legislation stemmed from his fundamental belief in restricting the size, scope, and reach of federal power. He felt deeply that Washington should not legislate morality, should not control every lunch counter, bus, and classroom in the nation . . . even if the goal of the legislation, itself, was undeniably good and noble.

And Barry never missed an opportunity to say that he felt the goal of the Civil Rights legislation was beyond reproach. In his own life, he organized the Arizona Air National Guard which from day one was the first fully racially integrated National Guard unit in the country. He was also no stranger to anti-Semitic prejudice against himself, as the son of a Jewish businessman and a Christian mother. His favorite joke was the apocryphal story of Phoenix's most restricted country club. Barry claimed that he applied for membership when he was a young, successful businessman, but was refused because he was half Jewish. He applied again when he entered local politics and was turned down again. When he was elected to the Senate, he was turned down again. But in 1964, when it looked like there was a chance that he might become President of the United States, the club reconsidered how bad it would look to be the club that blackballed the President. So, Barry claims the club membership committee finally offered him membership . . . but only on the condition that he agreed to only play nine holes. Potential President or not, he was still half Jewish.

But Barry is best known for his character. Despite his often unpopular positions on issues, he was voted by his peers in the Senate, as "the most congenial man in the Senate." Upon his retirement, his colleagues on both sides of the aisle started the Goldwater Scholarship fund. He counted

among his closest friends Hubert Humphrey — as close to his political, philosophical opposite as one could find.

The New York Times of May 30, 1998 contained an eloquent editorial about Barry entitled "The Honorable Senator From Arizona." It said, "Part of the reason for such fraternal good will was that Mr. Goldwater saw politics as a debate over ideas, not a blood sport for power. The other reason was that all sides knew he was one of those rare creatures on Capitol Hill who talked straight."

Barry was one of a kind — outspoken political thinker, patriot, businessman, Air Force General, United States Senator, father, husband, grandfather, radio amateur, photographer, pilot, and like Marconi, DeForest, Hoover, and Sarnoff a great friend to the VWOA.

We will miss him. ■

Coming Soon: NEW ARRL Membership Benefits



Two new ARRL membership benefits will be introduced in June 2012:

1. In addition to the printed copy of *QST*, all members will have access to an online, digital edition of *QST* at no extra cost. You will be able to access *QST* from anywhere -- on nearly any computer, laptop, mobile device, smartphone and tablet (including Apple iPad, iPhone, and devices using the Android operating system).
2. Also in June, members will gain access to archived issues of *QST* from December 1915 to the present (previously, only issues through 2007 were available to members). If you are familiar with the current periodicals archive (which serves images of pages), that platform will be expanded to include all of *QST* from December 1915 through December 2011. A second, new archive will be introduced for issues beginning January 2012, featuring enhanced functionality including full-text search.

Members must have a valid ARRL website login to access the current digital edition of *QST* and archived editions. ■

Weekly Breakfasts



Wed. Morning Breakfast:

7:00 a.m. at

Iron Horse Restaurant

(Hwy 89 in Chino Valley)
(N 34°43'56.5" W112°27'15.4")
informal – all are invited

Saturday Breakfast:

at 8:00 a.m.

Masonic Lodge

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

* Location data (per WGS84) provided
by Fred Zimmermann, N7PJM

Area Repeaters

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
145.600	Simplex					Echo	Node 266053
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
224.080-	156.7	Mt. Union	KJ7DX				Desert Intertie
442.150+	100.0	Mingus Mtn	WA7UID				MMRG
448.475-	100	Mt. Elden	W7ARA				ARA
448.875-	100.0	Mt. Elden	W7ARA				ARA
449.250-	192.8	Chino Valley	K7POF				
449.675-	88.50	Prescott Airport	WB7BYV		Linked to P Mtn.		
449.750-	123.0	Bill Williams	K7NAZ		Linked to Win-Sys		
927.0875-	151.4	Mingus Mtn	WB7BYV				
927.3875-	151.4	Prescott	WB7BYV			Echo	ARA



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
- www.azfreqcoord.org/listings.htm

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Many thanks to Dick Hughes, W6CCD, our Webmaster

