



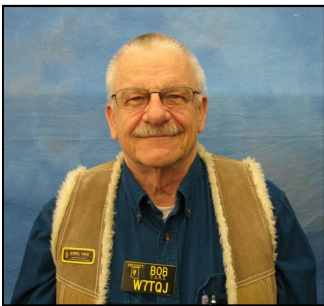
YAVAPAI SIGNAL



The Yavapai Amateur Radio Club • Prescott, Arizona • DM-34 • Volume 24 – No.1 • January 2009

HAPPY NEW YEAR

From The President's Desk ...



First, I'd like to thank all of the club members for their support. It is much appreciated, and I am honored that you have chosen me to represent you, and lead you, for the next two years – A very sobering trust that I will constantly try and earn.

In this, my first "From The President's Desk", I'd like to share some of my observations and impressions about YARC that I've collected over the last several years.

The first thing that comes to mind, is what an incredibly talented collection of hams this club is blessed with. There's not another club in the State of Arizona that has the depth and breadth of talent, and expertise, in so many areas of ham radio as YARC – It is almost unbelievable!

Add to that all of the dedicated club members that make up the YARC team that shepherds all of the public service efforts that YARC originates, plans, manages, and flawlessly executes for the tri-city area throughout the year - It is mind boggling! They work closely with the sponsoring organizations (YMCA, March of Dimes, etc.) over the

course of the year to pull off the almost impossible, and make it look easy in the process.

Every successful organization can point to great communications as one of the major reasons for their continuing success, and the one that stands out for me is the club newsletter, "The Yavapai Signal", created and edited each month by Joe Oliver, AC6AA. This is the "glue" that keeps everyone in the club informed, and it is obvious with each issue that there is an enormous amount of work, and dedication, involved. Add to this the very professional "look and feel" of the newsletter, and I can't think of a single thing I'd change to improve it. Additionally, we are blessed with a great club web site, provided by Bob Smith, WB6ODR, and the recipe is complete.

Next month I'll tell you a little bit about myself, and some of the areas of ham radio I like to get my fingers into, and some of the areas I'd like to explore but haven't had the time. Until then, my wishes are for everyone to have a Happy and Prosperous 2009 ...

73 ('s) /Bob – W7TQJ

YARC Officers for 2009

President

Bob Erdmann, W7TQJ
W7TQJ@cableone.net

Vice President

Pete Morrison, K6VVR
pm_service@earthlink.net

Secretary

Jeff Hanna, WB7RFY
jeff668@commspeed.net

Treasurer

Mary Vince, AB7NK
ab7nk@ARRL.net

Board of Directors (includes Club Officers)

Terry Pemberton -- KB7TRE

Tom Griswold -- N6LSA

Richard Bozeat -- KE7DTR

Walter Schumann -- KF6SPS

Newsletter Editor: Joe Oliver, AC6AA

Inside This Issue ...

Meeting Minutes.....Page 2 & 3

Oh No!.....Page 4

Scotch Tape Produces X-Rays.....Page 4

Treasurer's Report.....Page 5

ARES/RACES.....Page 6 & 7

YARC Post Holiday Party.....Page 8

A Navigation System from the 1920s.....Page 9

VE Tidbits.....Page 9

Soul of an old heathkit.....Page 10 & 11

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 December 4, 2008 Board Meeting



Meeting was called to order at 1815 hrs by the President, KB7TRE. Also in attendance:

WB9VGJ, KF6SPS, K6VVR, KD7VBG, WB7RFY, W7TQJ, and AB7NK.

Welcome to incoming officers, W7TQJ and AB7NK, and thanks to departing Board member, WB9VGJ.

Programs: Committee being absent and no known plans, a video was selected for January program.

Note date change, January meeting will be second Thursday, January 8th, due to holidays.

NRA Birthday report will include photo display. See December 08 Yavapai Signal for complete report.

Call for certificate honorees repeated; WB9VGJ needs this week.

After Christmas party has been well received. Over 50 pre-registered at this point; need 70 to avoid minimum room charge. Will resend form to distribution list, and forms are available tonight.

No pending issues should make for a quick meeting tonight.

Revised brochure at printer for quote.

There being nothing further, on motion of WB9VGJ, second of KD7VBG and no dissenting votes, meeting was adjourned at 1835 hrs.

Respectfully submitted:

Jeff Hanna, WB7RFY
YARC Secretary

Minutes of December 4, 2008 General Meeting

Meeting was called to order at 1858 hrs by the President, KB7TRE. Following the Pledge of Allegiance, introductions were made.

Attendance: 75 of whom 53 signed in. Many guests included K7IOG, N7QXZ, W7GJT, K9WMP, K9BTY, KD7IOF, KC7AGM, N7NRE, Hank G. & Daniel.

Minutes of November 6, 2008 were approved as published.

Treasurer: KD7VBG reports beginning balance of \$1832.15; repeater fund balance \$328.92; and ending balance of \$1525.40; report was approved as read.

COMMITTEE REPORTS:

ARES/RACES: WA6ZZJ conveyed thanks from the American Diabetes Association for communications support of the annual walk. WA6ZZJ & KD7VBG assisted the Coconino ARC/ARES group Nov. 15 for the Grand Canyon Marathon. KC7CBK reported on Skywarn recognition day and status of equipment at Belmont office, with www.skywarn.org, www.ncs.gov/shares, & www.crh.noaa.gov/hamradio/index.php, as sites for additional information.

Newsletter: Available on website and printed; no report.

IRLP: W7JLC reports all is well.

PIO: WB7RRQ has no report.

PATCHES: Treasurer has 2 sizes available; smaller going fast. \$3.00 each; also club stickers at \$ 1.00 ea.

SHIRTS: No report.

BADGES: KC7BOB distributed those ready and is accepting orders on behalf of WB6ODR.

REPEATER: No report.

VE TESTING: AB7NK announced upcoming schedule of February 21, March 14, April 4, and May 31, 2009. Also non YARC on Wed. Jan 21st, 10: am in Quartzite, near mile-marker 99, talk-in on 146.55 simplex.

CLASSES: W7JLC has scheduled one day Technician class for February 14th, General classes on 2/28 & 3/07; Extra classes on 3/21 & 3/28. Contact Jack at JSCRA@cableone.net.

Volunteer Examiners & Volunteer Instructors were acknowledged and thanked.

SCHOOL CLUBS: KB7TRE shared current successes of Middle School groups as Bradshaw has 10, Granite 8, and Camp Verde 5-6 very active members progressing rapidly.

REFRESHMENTS: Time to resupply coffee, etc... Thanks to brew master N7PJN.

YOUNG HAMS NET: KI6AHH says working well, weeknight roundtable at 8:30 pm local and Sunday

Net at 7:00 pm local on Sundays, 147.22+ (162.2 pl).

PROGRAM COMMITTEE: No report, January program announced as 'History of Radio' video. NOTE DATE CHANGE due to holidays, January meeting will be conducted on 2nd Thursday, January 8th, 2009.

Future program ideas were solicited, contact N7CW, KE7DTR or N6LSA.

OLD BUSINESS:

AFTER CHRISTMAS PARTY coordinated by WB7RRQ & KC7MTY, pre-paid reservation must be received PRIOR TO January 10 for party on January 17 at St. Michaels, form is available tonight, was published in our Yavapai Signal, has and will be e-mailed. Contact: rosevear520@cableone.net.

NRA BIRTHDAY special event was great success. WB9VGJ reported in detail & narrated slide show of activities that can be viewed at: <http://www.good-times.webshots.com/album/568750054D1JEfb>.

TAX CREDITS for education as was detailed last month at meeting and in newsletter, must be made by

December 31st for 2008 tax year. Make your designation to assure your taxes are used locally as You wish.


TONIGHTS PROGRAM: 'Get On The Air' by WB7RFY, AB7NK, W7TQJ, WB9VGJ, WB7UZV, W7JLC, W6DMM, WA6ZZJ, & KB7TRE.

OUTGOING OFFICIERS KB7TRE & KD7VBG were thanked, and INCOMING OFFICIERS W7TQJ and AB7NK re-introduced.

Respectfully submitted:

Jeff Hanna, WB7RFY
YARC Secretary

Membership Count:

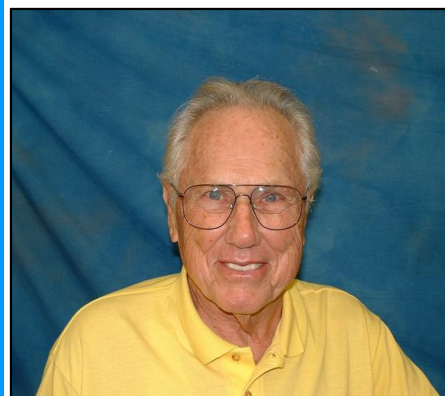
	1st Thurs. in Nov.....160
	Gain/Loss..... - 2
	1st Thurs. in Dec.... 158*

* Includes 17 3-Month Memberships

2009 Board Members

The Board consists of eight members: the four officers, three members to be elected from the membership at large (members-at-large) and the immediate Past-President of the club.

The three elected members-at-large are shown below:



Richard Bozeat, KE7DTR



Tom Griswold, N6LSA



Walter Schumann, KF6SPS

Oh No!

By Dick Hughes, W6CCD

The year was 1962 or 1963, and we had recently purchased a used Honda 305 Super Hawk motorcycle from the local BSA/Triumph dealer. I saw a flyer there about a motorcycle rally put on by Triumph of England and it sounded like fun. So we sent in our application, and waited for the start date.

It was winter in Southern California, and not very nice for riding. On the morning we left it was in the high 30's or low 40's as we headed from Pomona to Pasadena in the dark. We about froze to death on the way. When we got to Pasadena we could see a long line of people standing outside the Triumph dealership on Colorado Blvd. waiting to sign in. We were pretty close to the end of the line, and we couldn't wait to get inside and get warm. When we finally got up to the registration table, the fellow there asked if we could go in the first group. I said, "Sure that sounds OK." He handed us our entry papers and sent us out the door.

The side street was filled with motorcycles and people. We could see a starting stand way down the street filled with TV cameras, news photographers and a fellow with a checkered starting flag. We quickly got our Honda out of the parking area while trying to read the instructions. We approached the big crowd from the back of the pack, and as I read the instructions, I got a terrible sinking feeling as I realized what "in the first group" really meant! I could see up in front three motorcycles waiting to start. Then the starter's flag dropped, and the flash bulbs started popping. The crowd was cheering. I asked a biker near us if our card was telling us to be with those three bikes that just left. He said, "It sure does." Oh Oh. We tried desperately to fight our way up to the front without banging into someone's bike. We finally made it, and I said, "I think we are supposed to be with those three that just left!" The official confirmed that we were. He used white-out to cover over our odometer, and off we went. We weren't sure why he covered the odometer, but we were soon to find out.

We had no idea where we were going. The street directions didn't mean anything to us as we didn't live in Pasadena. I could see where the first three bikes went, so we poured the coal to the Honda (as much coal as you can feed a 305cc bike carrying two people) and caught up with "our" group. We figured that they knew where they were going, so we just followed them.

We arrived at the first checkpoint up in the mountains, and found that we were off by several minutes. We then realized that the group we were with were just out for a ride, and didn't care how they did in the rally. Once I figured that out and how to read our instructions (Vi was trying to read them to me) I knew that we had to travel an exact speed between each checkpoint to arrive at exactly the right time without knowing how far you had come. If you arrived early or late you were penalized. We then left our group and started hitting the times pretty close.

Our 250 mile route took us through the California desert, then back to Azusa where we would all meet for the awards. There were about 300 bikes that finished the rally, and we came in 91st, which was some kind of miracle considering our shaky start. We also had some celebrity company on the ride. Some of the ones we recognized were Peter Brown of the Lawman TV series, Mr. and Mrs. Keenan Wynn and Steve McQueen. It was a motorcycle trip that we would never forget, especially when it was put on by England. It also seems inconceivable after riding several Gold Wings in later years that we would ever consider doing a 250 mile rally on a 305cc Honda. I guess being young helped. ■

73, Dick – W6CCD

Scotch Tape Produces X-Rays



AP Photo/ UCLA Laboratory of Low Temperatures and Acoustics.

Scientists have found that the everyday Scotch tape you use to tape paper and other household materials has another use: it produces X-rays. The researchers, from the University of California at Los Angeles, said they were very surprised at the discovery. They were investigating a report that Soviet scientists found that peeling sticky tape releases pulses of X-rays.

Photo shows a finger x-ray made with Scotch tape. In the background, a vacuum chamber with a roll of Scotch tape mounted on ball bearings inside.

See Scotch Tape, Page 11

Treasurer's Financial Reporting Sheet



Club / Group Name: YARC
Reporting Date: DEC '08

Patti Halgunseth, KD7VBG
Treasurer

Members Name	Dues Paid	Repeater Fund	Donations	Prize Money Paid Out	Net Cash In per Member
John Hanny/R=KB7CH	\$18.00	\$2.00			\$20.00
Bud Semon/R=N7CW	\$18.00	\$2.00			\$20.00
Ronald Weber/R=KE7HWP	\$18.00	\$2.00			\$20.00
Brian Stapleton/R=KW6J	\$18.00	\$2.00			\$20.00
George Imburgia/R=AD7RL	\$18.00	\$2.00			\$20.00
David Drown/R=WN7L	\$18.00	\$2.00			\$20.00
Bud" MP Sumner/R=K6ALV	\$18.00	\$2.00			\$20.00
Terry Lewis/R=W6KHN	\$18.00	\$2.00			\$20.00
Robert Evans/ARRL	\$36.00	\$3.00			\$39.00
John Bednarik/KE7WOI		\$20.00			\$20.00
4 Patches			\$12.00		\$12.00
2 Stickers			\$2.00		\$2.00
50/50			\$166.00		\$166.00
Hank/Visitor				\$83.00	(\$83.00)
					\$0.00
Total:	\$180.00	\$39.00	\$180.00	\$83.00	\$316.00

Miscellaneous Club Expenses	Cash Out	Check Number
Field Day Food/Hamfest	\$116.94	1014/1020
ARRL=Robert Evans/N	\$21.00	1049
ARCA=Dues Renew	\$35.00	1050
John Broughton/Food NRA	\$18.51	1051
Terry Pemberton/Food NRA	\$37.35	1052
Allegra/Newsletter	\$27.49	1053
Repeater Fund	\$39.00	Cash
Total:	\$295.29	

Club Funds Summary	Totals
Starting Balance	\$1,525.40
Net Expenses	\$295.29
Net Income	\$316.00
	\$1,546.11
Repeater Fund:	\$367.92
Cash Flow:	\$20.71





By Lloyd, WA6ZZJ

ARES/RACES.....

2009 TRAINING MEETING DATES.....

Tentative dates have been set for the 2009 ARES/RACES Training Meeting Schedule. Locations and topics will be announced at a later date.

The tentative dates for 2009 training meetings are as follows:

Saturday February 7th

Saturday April 18th

Saturday June 6th

Saturday November 14th (annual SET)

SPECIAL EVENT COMMUNICATIONS.....

At this time it looks like the first communications event of the year will be on Saturday, April 25, 2009. That is the date for the 2009 Whiskey Off Road Bicycle Event. From their website the course looks to be the same as last year. I'm sure there will be more information as the time gets closer.

OPERATING AT YOUR NEXT SPECIAL COMMUNICATIONS EVENT

Operations

Arrival - Plan to arrive early. Your location or staging area may be unfamiliar and you will need the extra time. This will also give you time to set-up and checkout your equipment before the event starts. There are also times when your location may have limited access after a certain time. Being early gets you in before the roads are closed. In most cases the event communications coordinator will announce a time for you to be on site.

Arrive in a presentable condition. No, you don't have to arrive in 'white tie and tails' but give a good impression of Amateur Radio. First impressions by the event organizers and officials can make it or break it for Amateur Radio and the communications we can provide. A sloppy appearance can give the event organizers, officials and staff the impression of a sloppy job (no matter how good the communications).

Check-In - Check in with net control when you arrive at your location. This lets the net control know you are on site and the quality of your communications. In some cases moving about improves communications. If this is the case, remember the spot and use it when you need to communicate with net control.

Traffic Control - Most, if not all, special events are run as controlled nets. This means that all communications are directed through net control. The net is generally very busy handling traffic. If you need to contact another station, make the request through net control. Net control will hold traffic and give you permission to contact your party. At some events a secondary communication frequency is set up for this very thing. Always give the net control plenty of time to respond, as net control is usually a very busy place.

Keep your traffic to a minimum. Give all the details and be precise at the same time. Think about what you are going to say before you transmit. This will maximize the net to emergency traffic if needed and at the same time maximize your battery life. Always be sure to contact net control before you pass your traffic. You want to make sure net control hears and understands your message. As we have heard many times before, listen, listen, listen. If an emergency occurs or the net becomes congested or the noise level at your location increases, listening becomes ever so important. You don't want to miss a call from net control.

Tactical Calls - A number of special event nets use tactical calls. These allow an easy identification of a location or function. "Water 3," "Van," "Shadow," "Aid 1," are typical of tactical calls used at events. Know your tactical call and listen for it. **In closing your transmission always use your FCC call sign.**

Equipment Use - Choose equipment that works well for public service events. Ease of use should be a prime consideration. Will it provide the communications capability to support the event? The event is not the place to try out that new radio or set-up. Try it out before the event to iron out all the bugs and get the operation down pat. Create a "cheat sheet" to help remember key features for your radio.

Equipment

Batteries - Do you have a spare battery? Is it charged? If you have the alkaline battery case, do you have extra batteries for it? If you use gel-cell to power your base set-up will it run for the entire event? Make sure your batteries are charged up at the start of the event. You may never know when the event may become longer than anticipated.

Power Cords - Various power cords and adapters can turn a bad situation into a good one. RACES standard connections (Anderson Power Poles) are preferred on all equipment. Make sure your kit is up to the situation. A cable with "gator" clips on one end is very handy for connecting to the car battery in a pinch. The cigarette lighter adapter is very handy if your position suddenly needs to become mobile.

Antennas - That standard rubber ducky is not necessarily the best antenna for the task. Your favorite repeater may not be the one used for the event. In fact, a number of events are run simplex. Invest in one of the extended performance duckies or a telescoping antenna. If you are a mobile or a fixed station invest in a 5/8 magnetic mount or pole mounted antenna. A good antenna does more than more watts in most cases.

Headsets - At a number of events the noise level is very high. The event sponsors like a lot of loud music, bands and other methods of making noise to enhance the participants enjoyment. This though is counter-productive to the communicator. In situations like this the headset is a necessity. Make sure it works with your equipment.

Note Taking - Net control is not always the one who needs writing materials to keep track of things. All positions need writing materials. Remember the description of the missing runner? A pencil is preferred over a pen (remember the weather) and a note pad should be a staple in your equipment kit. The 4" by 8" "reporters notebook" is one of the handiest due to its size. Mechanical pencils don't need sharpening and are preferred over wood-lead pencils. At some events, various forms are provided. These range from missing person's reports to log sheets.

Niceties - Dress for the weather. Carry wet weather gear or additional outer garments if needed to suit the conditions.

Aspirin, antacid tablets, prescription medicine, sunscreen and insect repellent should be part of everyone's personal

'go-kit'. Drinks, especially water, and snacks should be included since it may be a long time to lunch. A small, insulated container is handy to carry your snacks and don't forget the lawn chair!

And remember to have fun..... ■



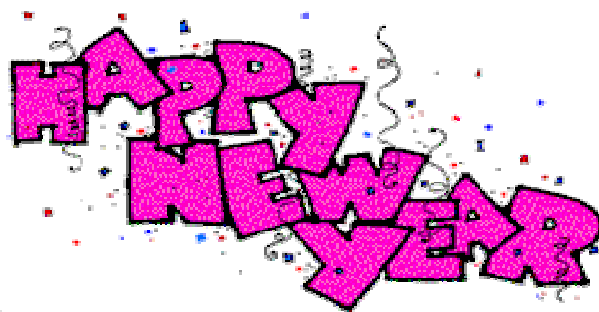
Thanks to all who have contributed articles, pictures, and other information for the Yavapai Signal. A special thanks to you folks who submit articles on a regular basis -- your efforts are much appreciated.

All members are welcome to share your experiences and/or knowledge with other club members. You don't have to be a professional writer -- we will "massage" submittals if needed. Some suggestions for articles are:

- Tell an interesting Ham Radio story.
- Report on an operating event or club activity.
- Illustrate a technique.
- Recount a memory of the "Golden Age of Radio".
- Describe a construction project.
- Discuss a technical topic.
- Write a review on a transceiver, antenna, or other piece of equipment.
- Express an opinion.

Why not write an article for this newsletter? The article can be short or long, simple or elaborate, and can include pictures. It is fun, and your contribution helps support our club and hobby!

73,
Joe, AC6AA



Children's Science Exam

From a First Grade teacher

Read through these children's science exam answers...

Q: Name the four seasons.

A: Salt, pepper, mustard and vinegar.

Q: Explain one of the processes by which water can be made safe to drink.

A: Filtration makes water safe to drink because it removes large pollutants like grit, sand, dead sheep and canoeists.

Q: How is dew formed?

A: The sun shines down on the leaves and makes them perspire.

Q: How can you delay milk turning sour? (Brilliant, love this!)

A: Keep it in the cow.

Q: What are steroids?

A: Things for keeping carpets still on the stairs.

Q: What happens to your body as you age?

A: When you get old, so do your bowels and you get intercontinental

Q: What happens to a boy when he reaches puberty?

A: He says good-bye to his boyhood and looks forward to his adultery. (The kid gets an A+ for this answer!)

Q: Name a major disease associated with cigarettes.

A: Premature death.

Q: How are the main parts of the body categorized? (e.g., abdomen).

A: The body is consisted into three parts -- the brainium, the borax and the abdominal cavity. The brainium contains the brain; the borax contains the heart and lungs, and the abdominal cavity contains the five bowels A, E, I, O, and U.

Q: What is the fibula?

A: A small lie.

Q: What does 'varicose' mean? (I do love this one...)

A: Nearby.

Q: Give the meaning of the term 'Caesarian Section.'

A: The Caesarian Section is a district in Rome .

Q: What does the word 'benign' mean?'

A: Benign is what you will be after you be eight. ■

YARC Post Holiday Party

January 17, 2009



This year's party will be held at St. Michael's Hotel, located on the corner of Gurley and Montezuma Streets in downtown Prescott, AZ.

- Arrival Time: Between 12:00 and 1:00 p.m.
- Luncheon Served: At 1:00 p.m.
- Cost per person (incl. tax and gratuity): \$22.70.
- Choice of Entrée: Select one of the following:
 1. Roast Sirloin of Beef
 2. Stuffed Chicken Breast
 3. Salmon

There will be live music and drawing for lots of prizes.

For information contact:

Robert & Judy Rosevear
4929 N Pebble Circle
Prescott Valley, AZ 86314

E-mail: rosevear520@cableone.net

No Walk-ins are permitted. Reservations must be made with Robert & Judy Rosevear by January 5, 2009.

A really good time was had by all at last year's party at St. Michael's. Once again we look forward to a good lunch and having a great time with friends. ■

Note:

January 2009 Meeting will be on Thursday, January 8th in order to avoid New Years Day.

The Program will be a video on the "History of Radio".

A Navigation System from the 1920s



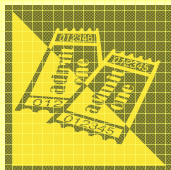
Plus Fours Routefinder

Before the days of the Global Positioning System, the Plus Fours Routefinder was invented in 1920 and was designed to help folks navigate around the United Kingdom. The driver wore the device on his wrist. It consisted of a collection of small paper maps that were loaded before your trip. While in route, the maps were scrolled forward to show the next turn, mileage, and “stop” directions at the end of the journey.

With so few cars on the road in 1920, the device never was widely used. Today it is part of a collection of weird and wonderful inventions on display at the British Library in London. ■

Upcoming Events

- January 8, 2009 - YARC Meeting
- January 17, 2009 - After Holiday Party at St. Michael's Hotel.



VE Tidbits



by Mary Vince – AB7NK

The following test sessions will be held at Embry Riddle University, 3700 Willowcreek Rd. Building and room number to be announced.

Saturday February 21st

Saturday March 14th

Saturday April 4th

Testing begins promptly at 9:00 A. M. All license classes will be tested. If you're planning on attending any of the above sessions, please email Mary – AB7NK at ab7nk@arrl.net to pre-register. Walk-ins are always welcome.

Be sure to bring the following to the testing session.

Items required for technician exam:

Photo I.D.

\$15.00 (2009 test fee)

2 #2 pencils

pen

scratch paper

Items required for general or extra exam:

Photo I.D.

\$15.00 (2009 test fee)

2 #2 pencils

pen

scratch paper

Original of your current license

Photo copy of your current license ■

Soul of an old heathkit

By Dale Dougherty



Photography courtesy of Terry A. Perdue -

Howard Nurse built hundreds of Heathkits, starting in the 1950s with a ham radio transmitter kit, the DX-40. As a kid, he loved to go to sleep reading the catalog, which was a window into the world of electronics and a wish list of things he wanted to build.

“You have to understand the whole experience of a Heathkit,” he said. “It began with the catalog, which became part of my dreams and fantasies.” Once he had pored over the catalog and placed an order, he would count the days until his Heathkit box arrived, each day imagining where his letter was en route, who opened it in the Benton Harbor, Mich., headquarters of Heathkit, how the order was processed, and then estimating how many days it would take the post office to deliver it to his home in New Jersey. “Finally you’d get the package in the post box, after all this anticipation,” he said.

Electronics were not readily accessible in the 50s. Nurse said the only place he could see electronic components was at a local TV repair shop, which he hung around. The Heathkit catalog opened a door to the new worlds of hi-fi components, electrical test equipment, ham radios, and television sets.

Nurse recalls the joy of opening up the Heathkit box. “First, you’d see the Heathkit manual, which was the heart of the kit.” Then he’d find the capacitors and resistors in brown envelopes. A transformer came wrapped in a spongy paper, a predecessor of bubble wrap. “Before you did anything, you had to go through the errata that came with the kit.” Then he would do an inventory of the parts — using a muffin tin to sort them. Additionally, he’d use corrugated cardboard to arrange the small capacitors and resistors in rows.

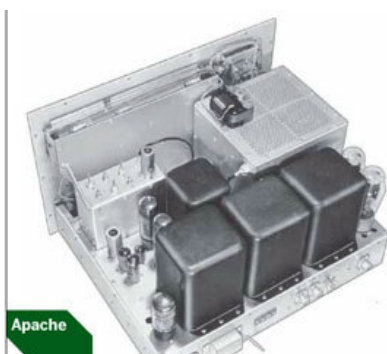
“You have to understand the whole experience of a Heathkit,” he said. “It began with the catalog, which became part of my dreams and fantasies.”

“After all this waiting and preparation, you’d begin to assemble the parts,” he said. “You started by attaching a few components, and then you got to solder, which was really fun.” He added, “Flux was an aphrodisiac.” When you finished the assembly and tried it, often it didn’t work. This, too, was part of the process of understanding electronics and learning to fix problems.



H8

The H8 Digital Computer rocked 4K of RAM back in 1977 — and was a huge Heathkit success.



Apache

The “Apache” ham radio transmitter was noted for its “many fine features and modern styling.”

Nurse eventually got an insider’s view of Heathkit. In 1964, his father, David W. Nurse, went to work for the company as vice president, just as Howard was going off to college. His father was promoted to president in 1966 and remained in that position until he retired in 1980.

The Heathkit Company got its start in the 1920s as the Heath Aeroplane Company. Founder Eddie Heath developed do-it-yourself air-

See Heathkit, Page 11

● Heathkit (Continued from Page 10)

craft kits; his company's most famous was the Heath Parasol, a plane with an overhead wing. Unfortunately, Heath was killed in 1931 in an airplane accident. An engineer named Howard Anthony bought the company from Heath's widow in 1935. After World War II, Anthony bought a large stock of surplus wartime electronic parts, among them 5" CRTs (the legend is that he ordered a case but a carload arrived). He designed an oscilloscope kit for \$39.50 and began to sell it through mail order. It took 10 years to go through the original CRT shipment. According to an excerpt from the Heathkit Catalog found on heathkit-museum.com, "Mr. Anthony based the success of his idea on the premise that anyone, regardless of technical knowledge or skills, could assemble a kit himself, and save up to 50% over comparable factory built models. All that would be required were a few simple hand tools and some spare time."

In 1951, Anthony also died in an airplane crash. The company changed ownership several times, but continued to produce innovative kits, including a color TV set in 1964. Heathkit did \$100 million in annual sales in the 70s on a wide variety of kits, including furniture and satellite television receivers.

"The Heathkit philosophy," said Nurse, "was that they didn't invent new products; they looked for products that were already successful in the market." Then they turned them into kits for the do-it-yourself market.

Nurse believes he may have had a role in persuading Heathkit to undertake its first digital computer. In 1975, the cover of Popular Electronics featured the MITS Altair 8800, which originally sold as a kit that required the user to solder and assemble the components. Noticing that it was selling well, he told his father that there should be a Heathkit computer. In 1977, Heathkit launched the H8 Digital Computer, and it proved to be extremely successful. Based on the Intel 8080, the H8 came with 4K of RAM and, a cassette-based operating system. It had a keypad on the front and a nine-digit display. Nurse wrote a radio Teletype software program for the H8 and started his own business selling it.

In the 80s, interest in DIY electronics declined significantly, and the Heathkit Company stopped making kits. Today, Heathkits live on as memorabilia exchanged on eBay (about 25 kits a month) and in the enthusiasts who frequent websites and two Yahoo! groups. Heathkits have had a lasting impact on an entire generation. "I'll bet that every engineer in this country over the age of 50 grew up building Heathkits," said Nurse. "Heathkits were special. The best way I can explain it is," and he paused. "A Heathkit had a soul."

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<http://www.makezine.com/04/kits> <http://heathkit-museum.com>

Howard Nurse, W6HN is the creator of **CommCat**, a full-featured logging program designed for DXers. ■

Good Neighbor



This is Bob Thompson, KC8BOB plowing Joan's, AB7KE's driveway after a pre-winter snowfall on Williamson Valley Road. Nice to have good neighbors!

● Scotch Tape (Continued from Page 4)

After unwinding a standard roll of Scotch tape in a vacuum, using a motorized peeling machine at a rate of three centimeters per second, the UCLA scientists also observed X-rays.

They measured that the X-rays were powerful enough to take images of bones in fingers and hands. With these results, the researchers predict that X-rays emitted by tape could have some useful applications, since it's quick, cheap, and potentially safer than conventional X-ray machines.

Researcher Carlos Camara said that they did not know exactly how the tape produces x-rays, but explained that the key is when two contacting surfaces move against each other. As the tape peels, the sticky part likely becomes positively charged, while the non-sticky polyethylene becomes negatively charged.

Electric fields can build up and cause electrons to fly from one side to the other at high speeds when under reduced atmospheric pressure, such as in a vacuum. The electron movement results in X-ray pulses of 100 milliwatts that last for a billionth of a second.

The researchers noted that the effect only occurs in a vacuum, so peeling tape in your home or office won't subject you to harmful radiation.

The study is published in a recent issue of Nature. ■

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 34°43'56.5" W112°27'15.4")*
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

Frequency	PL	Location	Owner/Club	Auto-Patch	Rem. BaseOr Linked	Vo IP	Notes:
52.560-	100.0	Mt. Union	N7NGM			Echo	-500KHz Offset
53.040-	None	Prescott Airport	WB7BYV				-1MHz Offset
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				
147.040+	100.0	Prescott Heights	W2YAV				
147.140+	162.2	Flagstaff/-Mt. Elden	ARA		Linked to Mt. Ord 147.360-		
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	
445.300-	100.0	Prescott	WINSYSTEM		Node 3727	IRLP	
448.475-	100.0	Flagstaff-Elden	ARA	Yes			
448.500-	100.0	Prescott	K6JSI				
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. 927.3875		
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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Many thanks to Bob Smith, WB6ODR, our Webmaster

