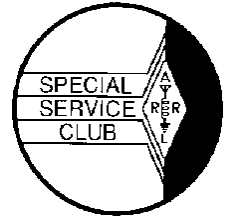


The Repeater

Monthly Newsletter of the Arkansas River Valley Amateur Radio Foundation



February 2007

15TH Annual



Doors open at 8:00 A.M.

Hughes Community Center (Same location as last 14 years)

Knoxville and Parkway

Russellville, Arkansas

GPS N 35° 16' 50" W 93° 07' 15"

For more information, contact:

Nick Kennedy, WA5BDU

E-mail: kennedys@suddenlink.net

Phone: 479-967-3843

Arkansas River Valley Amateur Radio Foundation Web Site - www.arvarf.com

Learn more about Ham radio at www.hello-radio.org/index.html

Talk-in 146.82 - callsign K5PXP

Admission \$5.00

Tables: Flea Market and Dealer, \$10.00

Great forums, door prizes, good food, free parking, free tailgating

Antenna Tips - 08:30 - 09:00

D-STAR Presentation - 9:00 - 10:00

Magic Show - 10:00 - 10:30

VE Testing - 10:00 a.m.

ARRL - 10:30 - 12:00

Surprise?? - 12:30 p.m.

Official ARRL-Sanctioned Hamfest

ARES/RACES

We had an excellent presentation on D-Star at our January ARES/RACES meeting by Charles Shingleur, K5CS. I have asked Charles to write an article about D-Star for this or a future newsletter for those who weren't at the meeting. Basically, D-Star is a system that uses digital voice and data on 2 meters, 440, and 1296. Data at 1296 is at a relatively high speed. When a disaster strikes, D-Star could provide a data and voice connection into the affected area from over 30 miles away. Most disasters are localized and areas 10 miles or so away have internet service. D-Star allows a very effective "last mile" connection from the internet or other data systems, (including Winlink), into a disaster area. Even in widespread disasters, such as Hurricane Katrina, D-Star was effective in providing data into and out of the area. Charles told us that agencies don't like voice communication that much but love data capabilities.

Charles has recently upgraded APRS capabilities in the area and we now have an APRS to internet gateway. I'm sure we can talk Charles into giving us an APRS primer soon.

We were very pleased to have Dr. Garner, from the Emergency Management program at ATU, in attendance. Tech has an EOC and is going to explore the possibility of installing D-Star equipment in their EOC. Working with the EAM staff and students at Tech is very exciting and opens up a world of possibilities. Andy Ward, KD5QJQ, organized an introductory session at ATU for students and there was a good attendance. Many students were from the Emergency Management program. We will do all we can to help the students become involved in ham radio.

Our next meeting will be February 27th at 7:00. It will probably be at 911 but I have not confirmed that yet. I'll announce the place at the club meeting and send an e-mail message to those on the list. We will continue our discussion about digital communications at the February meeting.

73

Dennis W5RZ

COMMON SENSE SCIENCE

Anti-Gravity ?

As everyone knows the sun clearly moves from left to right in our skies. Anyone with eyes can see that the earth is perfectly still and the sun and the heavens are what move around us. It's common sense.

Everyone also knows that the sun goes above the equator when it's summer in the Northern Hemisphere and below the equator when we get winter here. Which of course means that twice a year North Korea becomes South Korea and vice versa.

Astronomically speaking we all know how strong gravity is. Some of us are pulled harder towards our liquefied, lava center than others. I am attracted to our earth with about 200 lbs. of love, some people are attracted less, others more.

I found an interesting gadget that obviously negates gravity. Please be aware that this is a patent pending device and I trust that all will keep it a secret.

I bought a copper piece of pipe, about 2 feet long and 1" in diameter and I also bought a strong magnet. As everyone knows a magnet is not attracted to copper because it's non-ferrous. Putting the magnet besides the pipe does nothing. But... and here's the interesting part, when I put the magnet inside the pipe and let it drop it goes down, but at a very much slowed rate. I'm thinking that what is taking place is that the copper pipe, together with the magnet is neutralizing gravity. That's right, a gravity neutralizer, or maybe not. I'll bring the setup to the next ham meeting so all can see this wonderful device.

My next step is to come up with a flying vehicle... stay tuned

P.S. Everything (well.... most) of the above is a not exactly true.

P.S.2. Never believe anyone when they start out a sentence with "As everyone knows".

Sergio
KE5CUY

This month in our Hamshack in Review article, the "Happy Hillbilly" W5HH, Ben Hillis, has graced us with a look at his station. The centerpiece of this station is a Kenwood 2000 transceiver. To get that little extra out of his excellent antenna system, beam, dipoles and trap-vertical, a Yaesu FL2100 linear amplifier will do the trick. A Yaesu 2400 two-meter rig keeps him in communication on a more local level. His station, as you can see, is well organized, stocked with those little extras that make for easy operating, including the AM/FM receiver set on the top shelf.

Ben was first licensed in 1952, as W5YEK as a general class operator. While in the military he was stationed in Germany, and had the call DL4GZ. I think during that time he was running a Harvey Wells TB50 transmitter and a Hallicrafter Bandmaster receiver. I must admit that the conversation with Ben was colorful and so many stories came to light that I might have my mental notes just a little confused. He even gave me a history / technical lesson on ghost or mirror reception characteristics of the radios in that time, but I digress.

While overseas he went TDY in Turkey for a few months but they wouldn't issue a license to him. The country didn't have the manpower to keep track of amateur radio operators and at that time anyone that wanted to operate a radio had to be a spy. What he did over there he wouldn't tell saying that if he did he would have to shoot me. Nah, just kidding about that but a funny story did just blurb out about an ad-hoc station set up in an upstairs room inside a US military liaison building. What made this so humorous was the Turkey government's policy of not issuing calls, forcing persons at that location, unnamed, to pirate a call using X4X. For those not familiar with DX that is an Israeli call.

STATION VISIT TO W5HH BEN HILLIS



One of his contributions to amateur radio has been his work as a VEC. He has performed in this function since 1984 and is still active today. Also, during the 60's he was committed to the MARS operation while living in Austin, Texas.

His most memorable QSO was while operating a phone patch for the wife of a serviceman stationed at Wheelusville, Tripoli, Libya. There had been an immediate evacuation of all non essential personnel from the base due to civil unrest. The dependents were so quickly evacuated that they left with their night clothes still on their backs. Now back to the phone patch that he had made. The poor wife after being whisked back to the US had called her husband wanting him to go back to their villa and retrieve her teeth that she had left behind.

When queried about his favorite operating mode he replied "I don't do nothing, and that's not until after noon". Actually he does a little ragchewing and checks into some local nets, hardly missing the ARVARF net.



Photos & article by Glenn Holmes,
N5KLE

DID YOU KNOW? --- ARE YOU SURE?

SB QST ARL ARLB007

ARLB007 No Code-Free Upgrades Available Until February 23

Code-free upgrades to General or Amateur Extra will not be available at volunteer examination sessions until the 5 WPM Morse code requirement disappears from the FCC's Amateur Radio Service rules on February 23. ARRL Regulatory Information Specialist Dan Henderson, N1ND, says that, judging from the questions he's been getting, many in the amateur community -- including some Volunteer Examiners (VEs) -- don't fully understand the new rules that resulted from the FCC's Report and Order (R&O) in the "'Morse code proceeding,'" WT Docket 05-235. He stresses that VE teams may not accept upgrade applications in advance of February 23, then hold the paperwork.

'There will be no instant midnight upgrades February 23 for applicants advancing to General or Amateur Extra,' Henderson explains. 'You must make application.' He further advises that a Certificate of Successful Completion of Examination (CSCE) valid for Element 3 (General) or Element 4 (Amateur Extra) credit does **not** confer any operating privileges and, lacking Morse code credit, is no good for an upgrade until the new rules become effective.

'Anyone holding or earning a valid CSCE for element credit must wait until February 23 to redeem it at a volunteer examination session,' he says. 'You may not operate as /AG or /AE until you have upgraded and have been issued a CSCE marked for upgrade.' A CSCE is good for 365 days from the date of issuance, **no exceptions.**

Henderson further emphasizes that those who qualified as Technician licensees under the examination regime in place from March 21, 1987, until April 15, 2000, **do not** get General class Element 3 credit on that basis. That's because the "'old'" Element 3 is not the same as the current Element 3.

Applicants upgrading at a test session on or after February 23 on the basis of a valid CSCE must present the certificate for element credit, **fill out an application and pay any applicable exam session fee**, which most VECs charge. Between now and then, Henderson points out, upgrade applicants still have the option of passing the 5 WPM Element 1 Morse code test in addition to the General or Amateur Extra written tests.

Technician licensees who have not passed a Morse code examination automatically gain new privileges on February 23 without having to apply at an exam session.

The ARRL has posted all relevant information on these important Part 97 rule revisions on its "'FCC's Morse Code Report and Order WT Docket 05-235'" Web page, www.arrl.org/fcc/morse/.

MINUTES OF THE MEETING

Arkansas River Valley Amateur Radio Foundation Monthly Club Meeting Western Sizzlin' Restaurant January 16th, 2007

Sonia read the minutes of the December meeting. Keith made a motion to accept the minutes of the December meeting. Seconded by Bob, motion passed.

Sergio made a wonderful announcement that Danny Ward is going to be a father! Congratulations! Andy is not present because he was at the hospital waiting for the new arrival.

Sergio introduced Allen Powers who is visiting our club who is an active Marine.

Dennis Schaefer announced there will be an ARES/RACES meeting Tuesday, January 23rd at 7:00 PM. Charles will be talking about the digital electronics.

Nick told us the updates about the Ham Fest. March 3rd is the big day at the Huges Center. There are tons of people involved this year. Dennis is the one who will be donating the prizes. John is in charge of the forums. Glenn is in charge of the tables. Ben is who you buy the tickets from. Mrs. Hillis makes the wonderful food. John and Charles are doing the website. Aulton is putting out flyers and Sergio is going to tell the newspapers about this huge event. There will be a VE testing there at 10 am.

Dennis told everyone that if we have stuff that we don't need, auction it off.

Aulton told the club that there is now over 120 people that are getting the newsletter, 42 people are receiving the hardcopy. Unfortunately the printer went dead. Butch made a motion for Aulton to buy a new one at the club's expense. Seconded by Steve Green, motion accepted.

Wayne told the group that as of the meeting, there were no students enrolled in the Technician license class. I did happily find out that later people did get enrolled so there IS a class.

Discussion was made that the club needs to get more involved with our community. There were parades, fairs and lots of other stuff that was mentioned. Dennis volunteered that Sergio be our PR, public relations man, which he gladly accepted.

Sonia announced that we need a net control for February. Ben Hillis volunteered to be net control for February.

Steve made a motion to adjourn the meeting. Seconded by Keith, the meeting was adjourned.

Sonia Picado - KE5EIW Secretary

PRESIDENT BUSH SENDS GREETINGS

On January 8, 2007, President Bush sent greetings from the White House to all those celebrating 100 years of voice over the airwaves. The last paragraph of his letter was:

"I appreciate all who work in radio, and I am grateful to the amateur radio operators who provide emergency communications that help make our country safer and more secure. Your good work strengthens our society and represents the American spirit."

Testing Your J-Pole

Get your VHF SWR analyzer or meter. Hang the antenna away from all objects (I hang mine from the top of a window and this seems to work almost as well as from a tree).

For best SWR measurements, the antenna should be at least 2 wavelengths away from any object. (For 2-meters this is approximately 13 feet.)

Set your radio for lowest power and 146.000 MHz simplex. Test out the antenna for 144.000 and 148.000 as well. If all three are below 1.7 SWR and the SWR for 146 is about 1.3 or lower, you are done. If not, see "Help for Lowering the SWR, Changing the Frequency, and Increasing the Bandwidth" below.

Once you are done, slip the shrink tubing onto the antenna over the co-ax connections, squirt some electrical-connection safe RTV into the bottom of the shrink tubing, and then heat up the tubing from the bottom up.

This should push (squeeze) some RTV all the way to the top of the shrink tubing. Wipe off the excess and hang the antenna for 12 to 24 hours to let the RTV dry.

The SWR at 146.0 should be close to and below 1.3 to 1; for 144.0 and 148.0, it should be 1.7 to 1 or lower. If you have difficulty obtaining these results, see "Help for Lowering the SWR, Changing the Frequency, and Increasing the Bandwidth", below.

At 445.0 MHz, the antenna should read below 1.5 to 1. I have not checked it out as thoroughly as I have 2 meters, but I do know that it is not a nice one-dip curve; rather, it is a multiple dip/peak curve.

Help for Lowering the SWR, Changing the Frequency, and
Increasing the Bandwidth

If your antenna did not have a nice low SWR at the desired center frequency, try moving the shorting bar down about 0.1 inch at a time until you get the lowest SWR you can--even if this is nowhere close to 1:1. You may have to move it back up if you go too far. Normally I find that I have to move the shorting bar down, ie, [away from the feed-point], but it's always possible that it will need to go the other way too.

If you have already cut the extra wire off the bottom of the antenna, you will need to add some back if moving the shorting bar closer to the feed-point only makes the SWR worse. Add about two inches to both the matching stub and radiator at the bottom of the antenna.

Once the position of the shorting bar to the feed point that produces the lowest SWR has been found, move the coax contact points and the shorting bar together until you can get this lowest SWR match at the desired frequency. The important point to remember here is that the distance between the feed-point and the shorting bar determines the lowest SWR. This distance must not change while trying to get the lowest SWR at the desired center frequency.

If the lowest SWR you can get by moving the shorting bar is not 1:1, it will turn out to be closer to 1:1 once you move both the shorting bar and the coax feed point so that the lowest SWR is at the desired center frequency.

Help on Shifting the Frequency

If you need to shift the frequency and moving the tap point doesn't change it enough, you can cut the J-Pole. You should not have to do this for this antenna since the dimensions for this antenna have been worked out over years of experience by many different people.

Here are the two rules of thumb for changing the center frequency of any antenna:

LLL: Longer antenna = Longer wavelength = Lower frequency

SSH: Shorter antenna = Shorter wavelength = Higher frequency

When cutting the antenna shorter, I recommend making only one-half the change you calculate. In this way you may be able to prevent making too large a cut and having to undo it.

All changes are interactive, some more so than others, but expect to see SWR changes for length changes, and frequency shifts when moving the shorting bar and/or feed-point up and down. (Remember to move both the feed-point and the shorting bar in tandem, keeping the distance between them constant when trying to re-center the lowest SWR at the frequency you want.)

Help on Increasing the Bandwidth (BW)

Once again you should not ever have this problem with the 2-meter J-pole since the dimensions have been worked out by calculation and by trial and error by many people. However, if you are trying to design for a new frequency, you might need to be able to change the BW.

A very narrow BW may be an indication that the radiator is too long, or it is too long in relation to the matching stub. I have only performed one experiment so far. In this experiment I added one inch of wire to the top of a good working J-pole antenna for 2-meters. The bandwidth dropped to about 0.6 MHz. When I removed the extra wire, the BW returned to about 3.8 MHz between 1.7:1 SWR points.

Other things I've tried made such small changes in the bandwidth that I was never sure the data was significant. Was the change due to the method tried or did I do something else a bit differently that caused the change?

CALENDAR OF EVENTS

ARVARF meeting at Western Sizzlin'

Tuesday, February 20th

Regular meeting at 7:00.

Come at 6:00, if you want to eat.

ARVARF Net:

Every Tuesday at 8:00 p.m. on 146.82
(except club meeting night)

Net Control Stations:

Feb -- Ben Hillis, W5HH

ARVARF Board Meeting:

ARES/RACES Meeting:

Feb 27th, 7:00 p.m. at 911 Bldg.

ARVARF web page:

www.cswnet.com/~arvarf/
& www.arvarf.com (New)

Arkansas Section Web Domain:

www.arkansashams.org

A new General Class course began on January 18th at 6:30 p.m. local time. The class will meet each Thursday for ten weeks from 6:30 p.m. 'til 9:00 p.m. It is held in room 150 of the Ross Pendergraft Library on the ATU campus. There are 5 students registered. Wayne Van de Pol, N2WV is the instructor.



**Check your records.
Have you paid your dues?**

The FCC is processing new vanity call sign applications now in the queue in the order they were received. Typically, it takes 18 days from the time the FCC receives a vanity application until the call sign is issued -- or the application is denied.

The current vanity call sign fee, payable for new applications as well as renewals, is \$20.80 for the 10-year license term.

I am trying to maintain an accurate current membership roster. Please inform me of any changes in your address, phone number and/or e-mail address at n4owb@arrl.net or call me at 479-890-4504.

73, Aulton N4OWB (editor)

ARVARF Officers

President	Andy Ward	KD5QJQ
Vice President	Sergio Picado	KE5CUY
Treasurer	Glenn Holmes	N5KLE
Secretary	Sonia Picado	KE5EIW
Board Members	Michael McAllister	KE5EII
	John Evans	WB5BHS
	Steve Green	WB5KUT
	Clarence Hesselrode	KE5EJA
	Butch Tatum	KC5AHO
Newsletter	Andy Ward	KD5QJQ
	Sergio Picado	KE5CUY
	Sonia Picado	KE5EIW
	Aulton White	N4OWB

THE REPEATER

P.O. Box 582
Russellville, AR 72811

Editor

Aulton White, N4OWB
n4owb@arrl.net

Columnists

Andy Ward, KD5QJQ
Sergio Picado, KE5CUY
Sonia Picado, KE5EIW
Dennis Schaefer, W5RZ
Glenn Holmes, N5KLE