



The Spectrum

Issue 08

August 2005

Words from the President Keith, KG4ZXX

I hope everyone is having an enjoyable summer.

For all of those with children I assume you are planning for back to school, much to the delight of your kids.

Lots of things are going on in Amateur Radio. The main topic of conversation the past few weeks has been the FCC Proposed Notice of Rule Making to take the Morse Code Requirement from the license process. If you would like to read the entire file that the FCC has put go to:

http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-143A1.pdf.

Be warned. It's over twenty (20) pages. However, it will give you an idea of what they have received so far and where they are leaning. There's another 60 day process for amateurs to respond so we are not going to have a quick answer on this issue.

Leo has an excellent article for building a 2-meter J-Pole antenna. This may come in handy with Hurricane Season now in full swing. We have been fortunate that no storms have come up the coast as of yet. However, keep your fingers crossed. I am sure that one is going to make its way up the coast.

The club is in need of people who want to help out with Public Service for the City of Chesapeake. In the event that normal communications should fail in the city, they depend on us to help with the flow of information. If you are available to assist please contact Leo, KG4PWC, he will be hosting another Public Service meeting in the upcoming weeks at the QRM room.

Jim, KG4WOJ, wants to tell everyone in the club hello from Iraq. Not sure when he is coming home but it's always good to get an email from him. Sounds like he is doing alright since his email was asking how the antenna on the QRM room is holding up. Keep all of our men and women over in the Middle East in your thoughts and prayers.

Sonny, K4WYS, has stepped down as Secretary. The board thanks Sonny for all the work he has done this past year in getting the QRM room radios up to par and all the other duties he took on. If you would like to fill the remainder of Sonny's term until elections please let a board member know.

73's
Keith, KG4ZXX

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Links of Interest

[Virginia Beach Amateur Radio Club](#)

[Portsmouth Amateur Radio Club](#)

[Home - KG4ZXX.COM - IRLP and much more!](#)

[RASON Home](#)

[National Lighthouse Weekend Web Page](#)

Upcoming Events

CARS General Meeting

Monday, August 1st, 7:30 PM
QRM ROOM

116 Reservation Dr, Chesapeake, VA 23322-5204

VBARC Meeting

Thursday, August 4th
St. Andrews Methodist Church, Va Bch

VBARC SE Cape Henry Lighthouses National Lighthouse Weekend

August 6th – 8th

VBARC Special Event Station W4UG participating
from the Cape Henry LH's. Check with [Bob- K4NTO](#)

CARS Board Meeting

September 7th, 7: 00 pm
QRM ROOM

Looking Back

What were you doing in 1961?

Well, if you were me, you might had been in High, School, marching with the band, going to the beach, and taking your Novice test.

Took the Test

Yep, in February, I took the Novice test.

My first station

By the first of June, I was concerned that my license had not come. Back then it took for ever, the tests were sent back to the FCC, the FCC had to grade the papers, and issue the license. I had been preparing my station. Upgrading my receiver from a Hallicrafter's SKY BUDDY to a Hallicrafter's SX-111, rebuilding a Heathkit DX-40 transmitter. I started my first of a 1000 (+) journeys to Priest Electronics. I had build a 6L6 Transmitter, but I kept burning my fingers on the Link Coil. I also saved my pennies, and purchased a Dow Key Transfer Relay at about my 20th trip to Priest Electronics.. The relay was an upgrade to my knife switch transfer.

The antenna

Now the antenna, I had just enough room in the yard for a 40 meter dipole. According to the Hand Book, it would be 66.5 feet long for 7 MHz.

So that was how mine was made. SWR meter, no did not have one. The kit was about \$10.00, but who had 10 bucks. For those of you laughing, yes, the antenna should had been cut 7.1 MHz.

I borrowed two 40 meter Novice crystals from Paul, W4JLL, and the station was ready almost complete. OOPS! Another trip to Priest electronics for an ARRL Log Book.

Getting the rig checked out

Now with my station ready to go on the air, my ELMER, K4ITQ, came over with his microphone and my straight key, and checks out the rig. He was afraid that I would boot leg, so he kept my key after hearing me tune up on 40 meters with the home brew 6L6

The excitement mounts. The DX-40 is tuned. The receiver is zero beat to the crystal. The frequency is clear. He makes a call on CW and works a station in Ohio and another in Delaware on CW. He then plugs in the mike and talks to a station in Maryland with a crystal he borrowed. The station is really working.

Well, on June 12, 1961, my Novice License came. The day before summer vacation.

My license finally arrived

I immediately started to make QSOs de WN4BUE. In about 3 months, I had worked 30 states and maybe 300 QSOs.

SWR!

Then Ray, W4JRM dropped by with his SWR meter one rainy afternoon. Ray was a transmitter engineer for WAVY TV.

The conversation, "Son, have you made any contacts. Yes sir. No way! What!. You have a 3:1 SWR.

Some how it was hard to make a contact after knowing those old SWRs were so high,

Well, Ray left his SWR meter and the next sunny day, the antenna's SWR was adjusted. Now, QSOs were much easier to make.

Another frequency - another box

Another trip to Priest Electronics and a purchased a 15 meter crystal. My uncle W8QDI sent me a Johnson Tuner. I worked my first DX.

1961 was a good year

Yes, 1961 was a good year for amateur radio.

God Bless

Rich
WA4BUE

LOCAL NETS

SKYWARN NET Fridays 1900 hours.	146.820 MHz
CARS 10 Meter Net 2000 hours on Mondays CARS doesn't meet	28.400 MHz
Hampton Roads Public Service Net Mon-Sat 2100 hours	146.970 MHz
VBARC 10 Meter Net 2000 hours on Thursdays VBARC doesn't meet	28.400 MHz
Portsmouth "RagChew" Net Monday & Wednesday 1930 hours	146.850 Mhz
Southeastern Virginia Traffic Net Sun, Tues, Thurs @ 2000 hours	146.850 MHz
Portsmouth Amateur Radio Emergency Services Net Fridays 2000 hours	146.850 MHz

Beat an Old Drum...Hurricane Season

Well, hurricane season is upon us and it's time for me to beat an old drum again. When commercial power fails it's easy for us to forget how much we depend on electricity in our daily lives. I'm sure I'm the only one who has walked into a room during a storm and automatically flipped the light switch and been temporarily surprised when there was no response- right?

Forgetting the amateur radio aspect for a moment please take a few minutes to survey your landline telephone setup. You or your family might well depend on that link to the outside world for help, and it would be a similar automatic response to an emergency to grab the nearest 'phone and expect it to work.

Several of the newer, especially wireless handset telephones also have a need for an AC power connection. They work great until the power fails.

Check out your telephone situation. Make sure you have at least one 'old' line-powered regular telephone that does not require external power to operate. If your house/shack has an upstairs, it would be prudent to have more than one.



As far as the shack goes, more battery is always better especially if you don't have a generator. Newer gel-type cells are far more safe and some are even rated for indoor service but any type lead-acid cell can create more problems in case of a real disaster. If you have a dedicated shack in a safe area then some heavy duty 12 volt wiring will allow several hours' operating time. Lacking a generator an ideal situation would be an outdoor battery cabinet sufficiently insulated and wired to provide a safe home for as many batteries as you can muster- just make sure they are as closely matched as possible. Don't put a motorcycle or garden tractor battery in parallel with a heavy duty truck battery and expect any of them to live a long and happy life even if they all claim to be "12 volts".

Maybe we'll explore some of these items further but for now- check your telephones.

Tnx es 73,
Reggie W5SSB

Four Weeks ... An Inexpensive Guide for your Disaster Kit and Plan

Disaster Supply Kit Week Four - The Grocery Store

- gallons of water for each member of the household, including pets
- containers/boxes quick energy snacks (granola bars, nuts, raisins, trail mix)
- jar of peanut butter
- large cans of juice (not concentrate)
- rolls of paper towels
- 6-roll pack of toilet paper

If needed:

- Purchase extra items for pets (food, leashes, toys, etc.)
- Purchase extra items for children (baby food, formula, diapers, coloring books, etc.)
- Purchase extra items for elderly or special needs family members (hearing aid batteries, medications, special food, etc.)

Background on the Plan

The Virginia Department of Emergency Management has designed this plan to spread the cost of building your kit over several weeks so that you don't have to buy everything at once. Hurricane season continues until November 30, and it's important to be ready.

Continued on next page...see week three

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Week Three:

At the drug store

- toothbrush for each member of the household
- large tube toothpaste
- bottle each of necessary over-the-counter and prescription medications
- box sanitary wipes or liquid hand sanitizer
- package of sanitary napkins or tampons
- bottle shampoo
- family-size first aid kit

Week Two:

At the grocery store:

- Cans of meat for each member of the household (i.e., tuna, chicken, chili, beef stew, corned beef, Spam)
- Cans of ready-to-eat soup for each member of the household
- Cans of vegetables for each member of the household
- Cans of fruit for each member of the household
- Box of heavy-duty garbage bags with ties
- Box zip-lock food storage bags for storing important papers and small items
- Hand-operated can opener
- Paper plates, cups, napkins, and silverware, 1 week supply for each member of the household

Week One:

At the hardware store:

- Containers to hold disaster supply kit (large plastic tub with lid, backpack, etc.)
- flashlights
- portable tool kit
- roll of duct tape
- utility knife
- tarp (to cover a leaky roof if necessary)
- battery-operated radio
- batteries for flashlights and radio

- Purchase or gather from existing household supply:
- blanket or sleeping bag for each member of the household
- small pillow for each member of the household
- towels
- books or games for entertainment
- local road map
- set of extra clothing and shoes for each member of the household

For more information to help you before, during and after the storm:

<http://cityofchesapeake.net/services/depart/fire/hurricanes/index.html>

During a storm, your sources of official City information are the City's web site at CityofChesapeake.net, WCTV-48 and WFOS-FM 88.7

73s
Ruth KB4LIF

FCC ISSUES REVISED FORM 605, OBSOLETES PREVIOUS EDITIONS

A revised FCC Form 605, "Quick-Form Application for Authorization in the Ship, Aircraft, Amateur, Restricted and Commercial Operator, and General Mobile Radio Services," has gone into effect. **The new form must be used for all receipts as of July 18.**

"Applicants can avoid filing outdated editions by submitting their applications through the Universal Licensing System (ULS) <http://wireless.fcc.gov/uls/>, given that changes to the paper forms will be incorporated into the system automatically," the FCC said. The new Form 605 is available online from the FCC Web site <http://www.fcc.gov/Forms/Form605/605.html>.

The revised form includes a new Question 13 (subsequent questions have been appropriately renumbered) that will affect amateurs applying for an administrative update (AU) to reflect a change in licensee name. Question 13 now asks: "If the licensee name is being updated, is the update a result from the sale (or transfer of control) of the license(s) to another party and for which proper Commission approval has not been received or proper notification not provided?" Amateur Radio Service applicants should always answer "no" to Question 13.

Not answering the question--which has nothing to do with the Amateur Radio Service--could result in dismissal of an application.

For additional information or assistance, visit the FCC Help and Support Web page at: <http://esupport.fcc.gov/index.htm>.

This change does not affect the NCVEC Form 605 that VECs and VE teams use.

73s
Bill WF4R



Emergency Antenna, The J-Pole

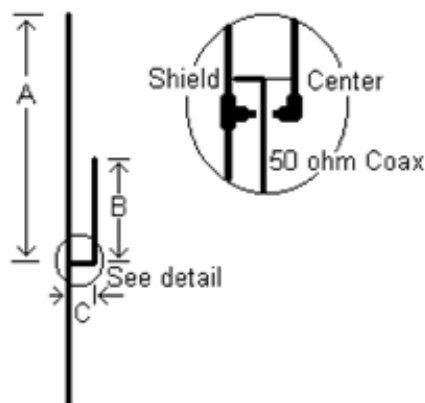
For the 2-meter Amateur Radio band, almost all Hams have some experience with a J-pole. It can be made out of 300-ohm TV twin lead, 450-ohm ladderline, or copper pipe. A brief search on the Internet failed to give a good history of its development. However, its electrical properties are well described on www.cebik.com and www.antennex.com/hws/ws0800/dbl_jp.htm. Briefly it is a $\frac{1}{2}$ -wave vertical fed by $\frac{1}{4}$ -wave length parallel transmission line that has been shorted at the bottom effectively making what can be considered a stub to create a gradient along the transmission line where a near 50-ohm match can be located. It is not perfectly balanced so that ideally a choke or 1:1 balun is used to suppress common mode currents or RF radiating down the outside of the transmission line. For those familiar with wire antennas, it is basically a Zepp antenna with a stub or hairpin at the feedpoint to the parallel transmission line. It is a very effective antenna, better than a ground plane antenna and able to resonate on 440 MHz. Vertically polarized radiation on the UHF frequency is at a much higher angle than the 2-meter band, but the antenna is usable.

Rich WA4BUE with the help of Sonny K4WYS and Paul K4PRB checked all 12 of the City of Chesapeake Shelter Antennas. Unfortunately, some shelters need work. Also Rich had the foresight to check the ability of the shelters to reach the 146.820 and 146.610 repeaters. The 146.610 located in the western side of Chesapeake had poor coverage. Most commercial vertical 2-meter band antennas are rated to survive 90 mph winds, some up to 110 mph. This means that anything above a category II hurricane would knock the antennas out.

It is necessary to be prepared with backup antennas. Antenna building is one of the more satisfying aspects of the hobby. So on Saturday July 16, 2005. Tom KI4HNF, Paul K4PRB, Dennis K4DKR set about to build 9 J-poles. The dimensions I picked came off of several websites. Using $\frac{1}{2}$ inch copper pipe, I cut the sections as listed below.

Element Size Table:

	2 Meters	
	Total length	Cut Tubing
A	60 $\frac{5}{8}$ "	60 $\frac{1}{4}$ "
B	20 $\frac{1}{4}$ "	19 $\frac{7}{8}$ "
C	3"	2 $\frac{1}{4}$ "



I made two simple jigs out of 1x4x72 inch boards and a 1x2x72 board to allow me a easy way to measure out each section repeatedly and secure the pieces when soldering. The jig to hold the antenna pieces was a 1x4x72 inch board with 4 deck screws mounted to keep the proper spacing. Metal clamps used for woodworking hold the antenna on to the jig. Seven 10-foot sections of copper pipe made 9 antennas. A barbecue grill deck mat prevented hot solder from doing any damage. Welder's gloves and a spare fire extinguisher in addition to the QRM room's extinguisher were on hand.

Soldering is made easier by using rosin core and brush on flux. A propane torch is used to heat the metal till there is a color change and the solder flows easily. We found that once the metal was hot enough it was better to stop heating the metal while the solder was applied. Overheating caused the metal to oxidize and the solder did not adhere well. Hose clamps were used to temporarily hold the coax to the antenna.

Since the J-pole would be used in situations where placing it on a temporary mast may be difficult, we checked the SWR when it was on a picnic table and on a 10 foot section of tower. The SWR was $< 1:2.0$ at the less than optimal height of the picnic table and in close proximity to the shack and people and $< 1:1.5$ elevated off the ground away from structures. The feed point was about $4 \frac{3}{8}$ inches from the center of section C. I felt this was acceptable.

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Paul had brought two other J-poles that were sold at Hamfests. The dimensions on the vertical radiators increased with wider spacing. Separation varied from slightly over 1 inch to the 3 inches in the above design. Cebik analyzed the impact on spacing between 1 and 4 inches and found that the wider the spacing, the flatter the SWR but the more eccentric the radiation pattern. The eccentricity was about 1 db between the strongest and weakest direction, which is not enough to make a difference.

We did find that one could use small copper wire to mount a SO238 UHF chassis connector and then solder it to the tubing by heating both sides of the pipe without heating the connector directly. Variations on this mounting include riveting the connector to the tubing or soldering the coax directly to the antenna. You can sand the finished antenna and apply a clear coating to give a better finish, but this is not necessary for the performance of the antenna.

I didn't have enough connectors on hand to mount them. We had spent about 3 hours and decided to call it a day. I hope to also have workshops making ground plane and VHF/UHF beams as part of the CARS Shack day and also with the emergency communications meeting (a.k.a. ARES) I will hold the 3rd Wednesday of each month at 7:30 p.m. in the QRM room beginning July 20, 2005. If there is interest in building more J-poles within the club, with the experience gained, I could easily do another workshop.

73
Leo
KG4PWC



General Membership Meeting Minutes

The July 11th, 2005 dinner meeting of CARS was held at the Golden Corral located at Chesapeake Square Mall in Chesapeake.

Approximately 20 people were present which was comprised of club members and family members.

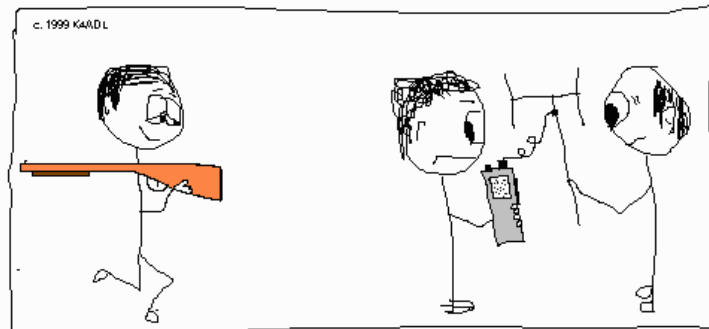
Announcement made that Sonny, K4WYS, has stepped down as Secretary of CARS. The Board wishes to thank Sonny for all he has done for the club as secretary.

Only two business items were discussed:

Motion to purchase two computerized thermostats for the QRM room at a cost up to \$40.00 a piece was approved by the membership.

Motion was made to have a ham of the year type award in honor of our two recent silent key's in the club, Bob Armstrong and John Maheu. Membership recommended that the board come back to the membership after details of how this award would work are ironed out.

Keith Ainsley, KG4ZXX
President,
CARS



NEVER ONE TO PAY CLOSE ATTENTION AT CLUB MEETINGS,
PHILLIP ARRIVES INCORRECTLY EQUIPPED FOR THE ANNUAL FOX HUNT.

The Spectrum

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CARS : Repeaters

146.610 MHz
146.820 MHz
444.000 MHz

W4CAR Trustee:
Bill Runyon WF4R

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The Amateur's Code

The Radio Amateur is:

CONSIDERATE - Never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL – Offers loyalty, encouragement and support to other amateurs, local clubs, and the American Radio Relay League, through with Amateur Radio in the United States is represented nationally and internationally.

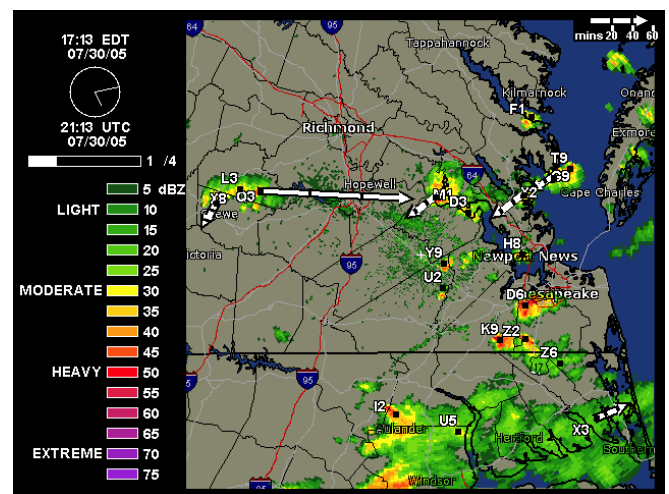
PROGRESSIVE – With knowledge abreast of science. A well-built and efficient station, and operation above reproach.

FRIENDLY – Slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

BALANCED – Radio is an avocation, never interfering with duties owed to family, job, school or community.

PATRIOTIC – Station and skills always ready for service to country and community.

The original Amateur's Code was written by Paul M.Segal, W9EEA, in 1928.



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