

KINGS POINT AMATEUR RADIO CLUB

More Than 25 Years of Voluntary Emergency Communications Service to Our Community
ARRL AFFILIATED CLUB

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Dick Bishop, W4NWD
633-7157

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601-0843

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642-3538

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634-2749

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Alan Blackwell, K9YI

KPARC Repeaters

2 Meter

147.090 PL 162.2

70 CM

442.450 PL 162.2

Echo Link Node

311633

Meetings

Second Monday of every month in the main clubhouse craft room at 2:00 p.m.

www.kparc.org



Dick Bishop, W4NWD

From The President

As the afternoon temperatures heat up, winds and thunder storms begin to fill our consciousness. The weather radio demands attention, wakes us from a sound sleep, and reports the warnings we dread to hear when near us. Our Alabama friends just experienced horrific tornadoes. I wonder how many got the warnings in advance of the storm. Go to "AR News" an official Amateur Radio News site, www.arnewline.org to find out how ham radio served the community in a real emergency.

A new twist is occurring on the 18 wheeler trucker scene. Channel 19, the old stand by, CB channel, is beginning to play second fiddle for many over the road haulers. Last night, while sitting in my recliner, I tuned in to D-Star Ref001- A using a DV dongle and my laptop. Two truckers were in a heavy QSO so I monitored for a while. They both had Icom 2820s with GPS, one near Memphis was on a D-star repeater Gateway and was occasionally out of range. The second trucker in Indiana had full copy. He was using a cell phone, in truck, hotspot, which provided internet to his laptop and DV Dongle. Both IC 2820 were transmitting APRS so I started D-Rats in addition to the DV Tools (dongle software), opened map, and entered their call signs. Instantly I had the position and tracks of the two trucks. Since it is almost real time their positions were updated every 30 seconds or so. The QSO described in detail their equipment set-ups, They both also have iPod touches and were trying to get Echolink set up. I keyed the PTT once so they could see that I was monitoring, they acknowledged, but I did not join in the QSO; I enjoyed the exercise and will keep my DV dongle handy.

Why do I describe this experience? Well, this is just an example of the many facets of Amateur Radio; many are linked to the internet and computers. I do not know how to keep up with all of it, but finding a niche that suits you and enjoying it brings rewards just like making that first DX contact. Keep on learning and growing. 73's Dick

UP IN THE WILD BLUE YONDER

By Dotty Love

Even with short notice, the Radio Club had six members to go to the Radio Controlled Airplane demonstrations at Lakeland Linder Airport on April 30th. It was amazing to see such large planes, some of which had a wing span of 119 inches, do such



spectacular tricks, fly so low and make such realistic sounds. These planes are EXACT replicas of the real

airplanes some of which have come from as far away as Italy and New Zealand. Inside the cockpits were models of pilots even with



patches sewn on their uniforms. The cockpits displayed the exact same buttons, dials and as the original planes. A model airplane flew over and released candy for the children aged 6 and under. Vendors were selling model airplanes in case anyone was interested in getting into this expensive hobby.! It was a fun and exciting day.!

NEW PL TONE ON BOTH
KPARC REPEATERS

162.2

Summer Precautions

During Hot Weather

To protect your health when temperatures are extremely high, remember to keep cool and use common sense. The following tips are important:

Drink Plenty of Fluids

During hot weather, you will need to increase your fluid intake, regardless of your activity level. Don't wait until you're thirsty to drink. During heavy exercise in a hot environment, drink two to

four glasses (16-32 ounces) of cool fluids each hour. **Warning:** If your doctor limits the amount of fluid you drink or has you on water pills, ask how much you should drink when the weather is hot. Don't drink liquids that contain alcohol or large amounts of sugar these actually cause you to lose more body fluid. Also, avoid very cold drinks, because they can cause stomach cramps.

Replace Salt and Minerals

Heavy sweating removes salt and minerals from the body. These are necessary for your body and must be replaced. If you exercise, drink two to four glasses of cool, non-alcoholic fluids each hour. A sports beverage can replace the salt and minerals you lose in sweat. However, if you are on a low-salt diet, talk with your doctor before drinking a sports beverage or taking salt tablets.

**THE NEXT KPARC
MEETING**

JUNE 13, 2011

at 2:00 p.m.

**MAIN CLUBHOUSE
CRAFT ROOM**

No-Tuner Shortened Folded Dipoles

Cecil Moore, www.W5DXP.com,

Folded Dipoles have historically been popular single-band antennas. It's easy to use a $468/f$ long piece of 450 ohm ladder-line for the folded dipole element. If we feed the antenna with 450 ohm ladder-line, we can install a 4:1 or 6:1 balun at the shack and obtain a pretty good match to our 50 ohm transmitters (sometimes requiring a tuner).

Some hams don't have room for a full-sized folded dipole and a 4:1 or 6:1 balun doesn't always provide a perfect match. What if we could shorten the length of the folded dipole by about 20% and by proper choice of a 450 ohm ladder-line matching section, we could ensure a good match to 50 ohms through a 1:1 choke-balun?

We can do exactly that. The resonant feedpoint impedance of a $1/2$ wavelength folded dipole is known to be in the neighborhood of 300 ohms. When fed with 450 ohm ladder-line, the SWR on the twinlead is close to 1.5:1 with very few standing waves on the feedline.

Can the impedance transforming characteristics of 450 ohm ladder-line (with reflections) be used to achieve a perfect match to a 50 ohm transceiver? Yes, if we can cause a 9:1 SWR on 450 ohm ladder-line, the impedance at a current maximum point on the line will be $450/9=50$ ohms. So how can we cause a 9:1 SWR on 450 ohm ladder-line when it is driving a folded dipole? The answer is by shortening the length of the folded dipole to less than $1/2$ wavelength. If we shorten the folded dipole by $\sim 20\%$ to $\sim 3/8$ wavelength, the feedpoint impedance becomes capacitively reactive, causing the SWR to rise to $\sim 9:1$ such that the impedance looking into a ladder-line matching section is 50 ohms resistive at a current maximum point on the feedline. Here are the formulas for the dipole length and 450 ohm ladder-line length based on EZNEC modeling.

Folded Dipole Length in feet = $\sim 390/f$. 450 ohm ladder-line matching section length = $\sim 170/f$

Install a 1:1 current-choke-balun at the end of the ladder-line and run coax from there back to the shack. Adjust the length of the folded dipole and ladder-line to achieve a perfect 50 ohm match on one's favorite frequency requiring no antenna tuner. How can one get more efficient than that?

This approach will work for any HF band. Here's an example for 40m from the above graphic:

Length of folded dipole = $390/7.2 = \sim 55$ feet. Length of 450 ohm matching section = $170/7.2 = \sim 24$ feet. Used with a tuner, this antenna will also work well on 30m, 12m, and 10m.

We can also use 300 ohm twinlead and 600 ohm open-wire line but the formulas change somewhat.

For 300 ohm line: Folded Dipole Length = $\sim 415/f$ and matching section length = $\sim 159/f$

For 600 ohm line: Folded Dipole Length = $\sim 368/f$ and matching section length = $\sim 188/f$

Does anyone need a no-tuner shortened single-band folded dipole?

The antenna in the graphic covers the entire 40m band with an SWR less than 2:1.

