

## June 1996

### **JUNE MEETING, BE THERE!!!!**

The June meeting will be at Boone Hospital in Cafeteria Room B, where it has been for the last few months. We will have a sign up sheet for operators and loggers for Field Day as well as finalizing our plans for that event. We need someone with a Novice or Tech license to assist with setting up a Novice/Tech operating position (Novice band CW and 10 meter phone -- hope the band is open this year!!!). Those of you who remember Eric, N0ZOZ's effort in the 1994 Field Day (over 400 contacts on 10 meter phone) know what an asset this station can be if the band cooperates. There have been some good sporadic-E openings lately to many parts of the U. S., so hopefully we'll be able to get a good score in this area, being in the middle of the country as we are.

### **NEW CALL**

As a result of his upgrade to General, Ray Lutz, ex-KC7MQB, is now KB0WBK. Please correct your rosters.

### **>FIELD DAY COMING UP!!!!**

It's almost here!!! Time to get those tents out, and get ready to meet at Pine Ridge State Park Saturday morning, 22 Jun. We'll get the antennas set up and really tear up the airwaves. Hope everyone has been thinking about what they can bring to make this as successful as possible.

It has been suggested that we run a sign up sheet for operators and loggers for the phone, CW, and Novice/Tech stations. This will not be anything binding, but it would be a good way to know who to expect as well as to avoid monopolization of a particular station. I will have the sheet at the June meeting.

### **FOX HUNT REPORT**

**by Al Kullman, N0REF**

I'm happy to report our first fox-hunt went very well. After the monthly breakfast we all sipped our coffee a little longer while Dewey WM0H got a head start out to Rock Bridge State Park to hide the new fox transmitter the club has just bought. Julie, N0XRY, and I, N0REF, parked next to Mac, K4CHS and his wife Ellen, WB0VML who were talking to Scott, KB0VLF who also had a car in the front part of the top part of the park. Julie and I mounted the 5/8 wave mag mount antenna on my car and rode around the top part of the park listening for the fox, as was Mac, Ellen, and Scott in Mac's car. Mac had his walking stick beam antenna pointing out of his trunk with the trunk lid open. I bet the trunk lid standing open straight up acted like a good shield for the back side of his beam. I never heard the fox on the top part of the park so I drove down towards the bottom park entrance. Right before we got to the bottom park entrance I heard the fox ID. We pulled into the parking lot down there where Jim WY0B and Dewey were talking while Jim set up his beam antenna to go walking around. Mac's car pulled in while I was setting up my 2-element phased array. With just a rubber ducky I was getting full scale on my s-meter. Raymond KB0IRV showed up at some point and so did Bill KB0TNM shortly after. I think Jim WY0B was the first to find the fox which was tied to a telephone service box just below the weed level and close to the edge of the parking lot. One by one the rest of us in turn found it also. I'm looking forward to the next breakfast hunt and hope to have my active attenuator finished by then. I think Jim's active attenuator gave him the edge this time.

[Editor's note: I (AA0UJ) was trying to make a few contacts in the WPX CW contest at the time (never heard worse conditions, only 4 Europeans in an hour!!) and tried to tune in the fox from my home (collinear 5/8 wave antenna at 30 feet). I couldn't hear it, but one would expect that with only 10 mw, down in a hole at

Rock Bridge park (about 5 miles away), that I probably wouldn't. Good to know that it works though, and glad everyone had a good time.]

## **INTERNET**

Scott Christianson, KB0VLF, has a home page at <http://cmc2.cmc.edu/jsc.html>. Stop in and browse around.

## **OFF TO SINGAPORE**

Greg Nunn, AA0XZ, one of our newest members, VE's, and CW and QRP enthusiasts, is off to Singapore for business for about three months. Singapore has no reciprocal licensing agreement with the US, and all amateur gear coming into the country must be type-accepted by their government, so he is not bringing any radio equipment. However, he will be seeking out a club there and perhaps can do some operating on 20 or 40 meters. Maybe one of us will happen across his signal (through a pileup, I'm sure, as 9V is one of the lesser heard prefixes in this part of the world). Say 73 from CMRA if you do!!!

## **NEED SOME HANDY TALKIES....**

Walter Anderson KC6GAL, is in town and was looking for a couple of HT's to purchase. He contacted Al Kullman for information, and Al put it out on COIN. If you have or know of any for sale, let Al know at [akullman@mail.coin.missouri.edu](mailto:akullman@mail.coin.missouri.edu). Thanks.

## **LIGHTNING PROTECTION, WHY YOU NEED IT**

**By Mark Foecking, AA0UJ**

Were almost into summer now, and the storms are passing through every few days now. If you're like me, you are glad when every storm passes over without your grounding system being "tested". I have been close to several lightning strikes -- as a child I saw a tree in our front yard blown apart by a bolt while I sat in the garage with the door open not 30 feet away. It made a really lasting impression, believe me!!!

We all know that lightning is basically static electricity on a mammoth scale. A charge difference forms between cloud and ground, and when that potential difference exceeds the dielectric strength of the air in the vicinity, the potential difference "relieves itself" through the atmosphere. Voltages of a million or more volts and currents of 20,000 amperes are not unknown. Fortunately these conditions only last for a fraction of a second. We who have antennas which make tempting targets for these currents should heed this destructive power, and plan as best we can to make it easy for the lightning to get to ground where it wants to go, without taking out any of our equipment (or housing) on the way.

Lightning is an RF pulse. This means than any conductor carrying the stroke will react inductively to the frequency of the wave. The larger the conductor, the lower the inductance will be. This is why a good first line of defense is grounding of all antenna supports (towers, masts) to deeply driven grounding rods (8 foot copper coated steel, or copper pipe) through heavy wire, or better, copper strap. Multiple ground rods around a tower are even better. Rods should be at least six feet apart so the pulse is spread out over the ground. All grounds, including utility grounds, should have a common point. Loop coax runs close to the ground, as lightning does not like to make sharp turns and much of it will jump off to ground.

Disconnect all antenna leads when your equipment is not in use, and run them away from your equipment and anything valuable. Unplug the power cords, too. Also consider a knife switch (or disconnection) for your ground leads, as the return pulse is the strong one (ground to cloud). Currents of 10 amperes or more can flow even into megohm resistances with the kind of voltage present in a strike. Also, an instantaneous potential difference of thousands of volts can exist between two pieces of equipment with ground leads of

different lengths, or different grounds. Do not run a ground lead next to combustible materials such as drapes. I knew a CBer in Florida whose drapes were set on fire by part of the return pulse coming up his ground wire. Fortunately he was home at the time and able to put it out.

A good way of keeping lightning out of the house is to use lightning arrestors on all coax leads, and attach the arrestors to a copper plate mounted outside the point of entry. The copper plate is then grounded to rod(s) with heavy wire or braid. Balanced line can be attached to a ground lead when not in use.

There are no 100% methods for insuring that no damage will come to your equipment or house as a result of a direct hit, but a combination of arrestors and coiled wire protected the 146.76-repeater for many years atop Paquin Tower. It can be seen at the club station, and is a good example to follow in setting up your own lightning protective system. You can never have too many ground rods, either. Some people believe that good grounding will actually reduce the probability of a hit by bleeding off static charges to ground. I was a CBer in Florida (lightning capital of the U. S.) for many years, and was never hit. However, it is still better to plan ahead, and spend some extra money to protect your gear and house. Also, never turn off the station without disconnecting those antennas!!!

Several manufacturers specialize in lightning protection devices. Two of the most famous are Alpha Delta and Polyphaser. Cushcraft also makes arrestors. These devices are available through all the regular discount houses (AES, Ham Radio Outlet, Texas Towers)

Mac McKenzie, K4CHS, gives a very good lightning protection program to the club every now and then. This program is something we all need to see. I'll let you all know... 73 OM/YL de AA0UJ...

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**CQ FIELD DAY!!!!!!**