The Official Newsletter of the Kentucky Colonels Amateur Radio Club, Inc.





Volume 44 Number 3 March 2005

The Presidents Corner... By Jeff Martin, WB4JM



Welcome to anther issue of the HamCall and to the 3rd month of 2005. We had a great meeting last month and if you were not able to attend you missed out on several things. There were door prizes (premium donations by WKYU-TV - fleece jacket, stadium chair, movies etc.) and then the terrific program arranged by John Coe and Hank Cantrell. I certainly had no idea of the modernization that went into the new Police Department Communication Center, WOW! Thanks to both of you for a wonderful program.

Speaking of wonderful, Hank just emailed me and said that the Cave City Hamfest brought in \$277 to the club. Thanks to all who donated equipment and maned the booth. Sounds like we will do this again next year, even if we have to pay for a table! Thanks to the Cave City Hamfest group for asking and allowing us to participate!

For March John Coe has arranged for the annual Weather Spotter class given by the NWS. And we will have more door prizes so don't be left out in the cold, be at the BGPD at 7:00pm sharp to get your ticket.

In addition the NWS program we will be working on filling our standard yearly committees. As we all know the committees are made up of our membership so until our membership comes forward to fill these slots, those activities will remain dormant. Our club does not run by itself (as it may appear to some), there are several members who give much of there time for you. The questions is, how much time are you giving back to the club and its members? Let me encourage each of you to sign up for at least one committee: I will have sign-up sheets at the meeting (if you indicated you would assist with a committee on your membership form, then you will have already been added to that respective list). If you can't make the meeting, simply email me and I will put you on the list. They are fun, don't take up much time, and you provide a valuable service to Amateur Radio. This is a very easy and enjoyable way for you to get involved in your club, don't miss out.

The committees are:

- Field Day: John Coe Chair
- September Picnic & SwapFest
- Bridge Watch Chair
- Nominating Committee
- Awards Committee
- Club Repeater & Communications Chair: Hank Cantrell, W4HTB
- Emergency Communications
- Fund Raising: Hank Cantrell Chair
- Training Classes

See you Friday 73's

- Jeff Martin, WB4JM

Monthly Program By John Coe, KY4COE Vice President Elect.

The meeting program for March will be by Norm Reitmeyer from The National Weather Service. Norm will be presenting their advanced weather spotter class.

Minutes & Sec/Tres Report

By Claire Rinehart, KF4IWX Secretary/Treasurer

First-Quarter Treasurer Report

We started the year with \$425.04 and during the first quarter had a total income of \$736 in dues and donations and spent \$279.95 for the Ham Call, Meeting expenses, the cost of filing our annual report to the KY State Treasurer, and repeater costs. The current balance is \$881.09. Additionally, income from the Cave City Hamfest was reported to be over \$200, which will be deposited later.

Secretary Minutes for the January Meeting

At the February meeting, Bill
Hayes, issued a call to "Stand Up
For Standing Waves". He gave
an extensive demonstration of
transmission lines and variables
that impact the transmitted vs
reflected power. I found this very
informative. His voltage current sleds
demonstrated, very nicely, the points
of high and low voltage and current.
He demonstrated that gain
could be accomplished by
adding reflector and director

elements. He next demonstrated the conjugate match theorem and how ferrite beads could be used to resist RF current flow. Marshal, KC4WFN was an especially dashing assistant and we need to thank him for his performance!

Secretary Minutes for the February Meeting

For the February meeting we were able to tour the 911 Call Center at the Bowling Green Police Department. The center has been recently upgraded and consists of seven call stations. Each station is equipped with five LCD computer screens. Three of the five are linked so that as name and/or location information is entered into the computer. details about the resident is displayed and a map showing the neighborhood pops up on one of the three screens. This map can also display an aerial photograph of the area so that as officers or emergency personnel are directed to handle the crisis, they can be informed of the potential hazards and obstacles that may be encountered. One of the five screens will handle telephone traffic, and one of the screens is used to search for outstanding warrants. The professionals that man these stations demonstrated amazing skill, and from one conversation overheard while in the center, infinite patience. While we were there an Explorer Scout entered the center and assisted one of the dispatchers. It was not only great to see the lifesaving work of the center in action but to see the engagement that the BG Police Department is offering to the youth of today and the professionals of tomorrow.

Secretary's fun at the Cave City Hamfest

The Cave City Hamfest was great this year, mostly because I was able to say hi to so many of the members that we normally do not get to see at our Friday evening meetings. Miss Alice was delightful to talk to, as usual, and seemed to be the focal point of a steady stream of friends and acquaintances.

I found almost everything that I wanted

to get at the Hamfest, a very small handheld for Diane (KI4EJF), a 2 meter amplifier to boost my HT signal when traveling through the wilds of Kentucky and Tennessee, and a pocket full of adapters to transition between my different radios and mobile antennas. I even sprung for a "real, official, handydandy" call-sign/name tag so when I forget who I am someone can remind me. It was good to see many of you and I hope that you had as much fun as I did.

Member Opinion Column By Tim Robinson, KF4MGU

I recently attended a criminal interdiction school in South Carolina. Much to my surprise the subject of ham radio was brought up. Even more of a surprise was that it was brought up in a bad light. The Drug Enforcement Administration delivered a presentation showing where criminals were using ham equipment in the course of committing their crimes. Criminals were obtaining ham ht's and using them to communicate between each other and monitor police frequencies. Some of the ht's that were seized had been modified for out of band use and set up on police frequencies. A film showed one officer calling in a license plate check with a Kenwood TH-22. The radio brand that appeared to be seized the most was Kenwood followed by Yaesu. I only know of one incident of this happening in our area. A guy was using an Icom Z1A to talk on Elizabethtown police frequencies. To my knowledge no charges were filed against him. I know we're not responsible for another person's actions if we sell equipment to them but maybe we should only deal other hams (or soon to be hams) to ensure ham radio doesn't get a black eye in our neighborhood.

73's Tim Robinson KF4MGU

2005 KCARC OFFICERS

President:

Jeff Martin, WB4JM

Vice President Elect:
John Coe, KY4COE

Vice President:
Henry Cantrell, W4HTB

Sec/Treasurer
Claire Rinehart, KF4IWX

Board of Directors:

Joe Durbin, W4BWG
Dr. Michael Kallstrom, NU4Q
John Moser, KG4TOO
Dr. John Reasnor, WA4QMQ
Tim Robinson, KF4MGU

Webmaster:

Dean Maggard, K4NQV www.angelfire.com/ky/kcarc

HamCall Editor: Jeff Martin, WB4JM For editorial questions, call Jeff at (270) 796-8577 or email Jeff at jeff.martin@wku.edu



2005 KCARC Meeting Dates (Third Friday)

January 21
February 18
March 18
April 15
May 20
June 17
June 25-26 (Field Day)
July 15
August 19
September 16 (Picnic)
October 21 (Elections)
October 31 (Bridge Watch)
November 18 (Annual Dinner)
December 17 (Sat Morning)

Great Lakes Division Convention.

By Jeanie Dalton, KB8QLC

Hello Everyone,

As a representative of the Great Lakes Division Convention and the "Convention Office, "I am requesting everyone to think about joining in on the fun and experience of the Great Lakes Division Convention and Hamfest being held in Toledo, Ohio this year. Our quest speaker is Riley Hollingsworth, K4ZDH and is well worth the effort to hear him. The convention is being held at the Holiday Inn West @2340 S. Reynolds Rd Toledo, Ohio. Room reservations are \$69 each and is a special convention rate. You can make your room reservations by calling 1-800-465-4329. Be sure to mention the convention for the special rate.

The cost of the Convention which includes the banquet and seminars and the hamfest is \$55.00 a person. To make a reservation you need to notify me, Jeanie Dalton/ KB8QLC by email or phone or snail mail. I need to have your check or money order in my hands before the convention. My cell phone is 859-619-8164 and my email address is kb8qlc@arrl.net. You need to mail the check to me at PO BOX 24188 Lexington, KY 40524.

You could look at this as a mini vacation and get your spouse or significant other to go with you for a good meal and fun and hamfesting. I understand there is a game room and gym and indoor pool that can be enjoyed. We all need to relax and have fun so why not go to the Great Lakes Division Convention. You would get to meet other hams in the division and possibly make new friends.

It would be really great if representatives from all the clubs could attend. Kentucky thus far is not

being represented very well. We need to go and represent our state and voice and support. You don't have to be a member of ARRL to come and enjoy the convention. If you recall the 2003 Convention in Findlay, Ohio; Kentucky hams won the "Ham of the Year" and the Technical Achievement Awards. Another of our Kentucky hams is up for the Technical Achievement Award again this year.

If you have the time and desire then come on to the Convention. We want you there! Call me or email me or snail mail me! It won't be long and the event will be upon us.

73!
Jeanie Dalton, KB8QLC
Convention Office
Lexington, Ky

Next Meeting Friday, March 18th Bowling Green Police Station 7:00pm





"Mr. Nelson...I'm afraid you will have to leave the air for a while during this procedure." Used with permission

ACCOUNTABILITY

Excerpts taken from Dropping Your Guard by Charles R Swindoll

The existence of the word sounds legal and rightly so. Rather than scope out some scholarly definition, let's look at the practical one. Here are a few we need to consider. One should be willing to explain one's actions by being open, unguarded and non-defensive about one's motives and answering for one's life and supplying the reason why.

When we join a club most of us realize that it requires at least four character traits that are not normally found in folks who are satisfied to live mediocre lives and just do things half way. Here are some tributes these folks personify:

- Teachability... anxious to learn. humble, quick to hear, willing to change, inviting advice.
- Honesty...committed to the truth, hating anything phony, counterfeit, or false and models sincerity
- Vulnerability... capable of being wounded, open, and unguarded, nondefensive.

 Availability...touchable, accessible, can be interrupted, willing to meet on a regular basis.

Accountability on a personal level is not that unusual. When one chooses to become a team player they chose to become accountable to the team.

But does it fit into amateur radio? If so why? We in amateur radio need to start working more towards depending upon each other than trying to go it alone. We need not neglect doing well and sharing; for these make it pleasing to us all. Obey our leaders, and submit to them; for they keep watch over us, as those who will give an account of our doing. Let us do this with joy and not with grief, for this would be unprofitable for us. "Faithful are the wounds of a friend, but deceit is the kiss from our enemy".

The most aspiring clubs demonstrate this type of accountability among the leadership and members. There is no fun or satisfaction in going to a meeting where there are verbal disagreements, small attendance due to lack of leadership. Effective human relations must be applied. Now this is not to say that disagreements are not needed or warranted. This makes us

all grow and learn. But make sure that this is done with finesse and a respect of the ones involved. Every club has a choice to be one of two things. You can choose to be a bag of marbles, single units that don't affect each other except through a collision. Or, you can choose to be a bag of grapes. Their juices begin to mingle and there is no way to extricate yourselves if you tried. There is no room in amateur radio for a single minded leadership or likewise a single minded member. Teamwork is the life blood of any club and this only can be accomplished by accountability.

Amateur radio needs a shot in the arm and this is but one way to start. This article is not to criticize but to help those understand the inner thoughts of the leadership and its members and visa- versa. With the inventions of the computer and cell phones it is difficult at best to make our hobby intriguing. No need in driving prospective amateurs away by not having any direction or accountability through our actions. Live the part and let the part be lived in you.

73
John D. Meyers, NB4K
Kentucky Section Manager
Great Lakes Division

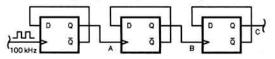


Don't forget that we have KCARC patches for you to purchase (\$4.00). They are handsomely made and would look great on your cap or jacket.

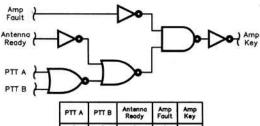
See Claire if interested.

Here's a quiz for you digital bitwranglers. Put down those logic probes and source code listings and get to work!

- The function of R and C is to...
- a. stretch the output pulse
- b. shrink the output pulsec. filter RFI on the input
- line
- d. terminate the input line
- 2. Calculate the frequency of the pulse train at points A, B, and C.

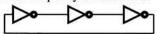


3. The following circuit is a two-rig amplifier keying circuit with protective interlocks from an antenna switch and an amplifier fault detector output circuit. Construct the truth table for the Amp Key output signal—some of the input states have been specified to get you started.



| PTT A | РП В | Antenna Ready | Amp Fault | Amp Key |
|-------|------|------------------|--------------|------------|
| 0 | 0 | 0 | 0 | |
| 1 | 0 | 0 | 0 | |
| 0 | .1 | 0 | 0 | |
| 1 | 1 | 0 | 0 | |
| 0 | 0 | _1_ | 0 | |
| 1 | 0 | - 1 | 0 | |
| | | | 0 | |
| | | | 0 | |
| | | | 1 | |
| _ | _ | | | |
| | | | | |
| | | | - | _ |
| | | | | _ |
| _ | | | _ | _ |
| | | | | |

- 4. In the amplifier keying circuit above, which input(s) serve(s) as the "master safety"?
- 5. If radio B was not going to be used, would you set the PTT B input to the logic 0 or logic 1 state to allow the circuit to function with one radio?
- 6. If the Antenna Ready signal was not going to be used, would you set the Antenna Ready input to the logic 0 or logic 1 state to allow the circuit to function?
- 7. If the propagation through each gate of the ring oscillator below is 10ns, calculate the frequency of oscillation.



- 8. If a 10-bit analog-to-digital converter has an input range of 0 to 1 V, how much voltage does the least-significant bit represent?
- 9. With a clock frequency of 10 MHz and a routine of 25 instructions that take an average of three clock cycles each to execute, how often can the routine run?
- 10. In problem 3, if the NOR gate connected to the PTT inputs was replaced with an exclusive-NOR gate, what change in circuit operation would result?

Total Your Score!

There are a total of 10 possible answers in this quiz. Give yourself one point for each correct answer.

8-10 You're on a "logic high!"

4—7 Good score for a tricky test.

1-3 You need a digital refresher course

10. The Amp Key output could only be a logic 1 when either, but not both, of the PTT inputs was at logic 1.

frequency. 8.10 bits of teachulion divides the range into 2^{10} or 1024 parts. If the input range is 1 V, each LSB represents .0009766 V. 9. Each instruction averages 300 ns to complete and there are 25 instructions for a total of 750 ns or 7.5 usec for each repetition of the

wirrour mat signal.

7. The circuit will oscillate at 33.3 MHz because the total delay of a signal through the loop is 3 x 10 ns = 30 ns. The inverse of 30 ns is 33.3 MHz. This is how experimental logic design speed is measured—by constructing a ring oscillator of inverters and measuring its output

prevent the Amp Key signal from becoming a logic 1.

5. Consider this one a "freebie." The unused PTT input can be tied to either logic 0 or logic 1 and the circuit will behave normally. Just be sure not to leave the input open and susceptible to logic instability or RFL.

6. Set Antenna Ready to 1 to allow the rest of the circuit to function

4. Either Antenna Ready or Amp Fault can serve as a "master safety" to

| Key | Fault | Antenna | втя | A TT9 |
|-----|-------|---------|-----|-------|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | - 1 |
| 0 | 0 | 0 | ı | 0 |
| 0 | 0 | 0 | _1_ | |
| 0 | 0 | _ 1 | 0 | 0 |
| 1 | 0 | | 0 | - 1 |
| ı | 0 | ı | - 1 | 0 |
| 1 | 0 | - E | - 1 | - 10 |
| 0 | - 1 | 0 | 0 | 0 |
| 0 | | 0 | 0 | - L |
| 0 | 1 | 0 | ı | 0 |
| 0 | L | 0 | ı, | 1 |
| 0 | 1 | - 1 | 0 | 0 |
| 1 | L | - | 0 | - 1 |
| - 1 | 1 | · | ı | 0 |
| | ı | | - 1 | 1 |

1, a—By holding the voltage at the capacitor up longer than at the unfiltered input, the MOR gate's output is held low longer. It depends on the logic family and where the 0-to-1 transition occurs, but the length of delay is approximately one RC-time constant.

2, IA = 50 KHz, IB = 25 KHz, IC = 12.5 KHz. This is a "ripple counter" circuit.

3. Here is the completed truth table:

SISWEUR

Surfin': Still Spotting Extreme Weather

By Stan Horzepa, WA1LOU Contributing Editor March 11, 2005

This week, we visit additional Web sites of interest to Amateur Radio weather spotters.

In response to last week's column, "Spotting Extreme Weather," Peter Laws, N5UWY/9, wrote, "Hams and weather just seem to go together."

I checked and Peter is right. Google "weather" and "Amateur Radio" and the search engine returns 299,000 hits. Searching this Web site for "weather," the ARRLWeb search engine finds 1919 matches. To support his statement, Peter sent along a couple of URLs, too.

Mike Branick, KD5BFC, at the National Weather Service (NWS) Forecast Office in Norman, Oklahoma, put together <u>A Comprehensive Glossary Of Weather Terms For Storm Spotters Web page</u>. From AC (for Anticipated Convection) to Zonal Flow, this all-inclusive lexicon includes figures to support some of the words.



The National SKYWARN
Homepage is the focal point for
US ham radio operators who are
involved in weather observation.

Also from the Sooner State comes a <u>Web page</u> compiled by Keith Brewster, N0IAW, Senior Research Scientist at the Center for Analysis and Prediction of Storms at the University of Oklahoma. It is a list of weather spotting frequencies for every state in the union plus Puerto Rico and the US Virgin Islands.

Further research on my part returned other Web connections between NOAA and ham radio. For example, the Louisville, Kentucky NWS Forecast Office has a portion of its Web site dedicated to SKYWARN with links to pertinent local and national Web sites including the National SKYWARN Homepage. The Chicago NWS Forecast Office also has a SKYWARN Web page. And NOAA's main site has an Amateur "Ham" Radio Web page that delineates the various "National Weather Service Products" via Amateur Radio including the APRSWXNET/Citizen Weather Observer Program (CWOP).

My APRS weather station <u>WA1LOU-15</u> is part of APRSWXNET/CWOP, so I have to give it a plug. "Originally, APRSWXNET was developed as a way for Amateur Radio operators to transmit weather data to the NOAA's Forecast Systems Laboratory (FSL) in Boulder, Colorado for research. The success of this effort and the amount of data routinely collected have led to use by other research labs and by operational parts of NOAA including the National Weather Service. The system has also been expanded to allow collection of observations via the Internet, thereby expanding the program to persons not holding an Amateur Radio license." That's the CWOP part of APRSWXNET/CWOP. To learn an amazing amount of information about the system, visit the <u>CWOP Web page</u>.

Until next week, keep on surfin'.

THE HAMCALL

Volume 44 Number 3 March 2005

KCARC CLUB MEETS AT THE BOWLING GREEN POLICE STATION COMMUNITY MEETING ROOM. 911 KENTUCKY ST.

THE FORTH DISTRICT ARES NET MEETS 7 NIGHTS A WEEK AT 9:00PM LOCAL TIME. REPEATER FREQUENCY 147.330 MHZ, KA4CFW. SECONDARY REPEATER 147.165 MHZ, W4WSM.

HamCall printing by:

EXPRESS PRINTING

Full Service Printing-Copies-Graphics Design 901 Lehmon Ave. Suite 11 Midtown Plaza Shopping Center Bowling Green, KY 42101 (270) 783-4233 fax (270) 783-4074

Local Repeaters

| Two -Meters | | |
|-------------|---------|--------------------|
| 147.060+ | PL156.7 | K4LOL (CLUB) |
| 147.165+ | | W4WSM |
| 147.330+ | | KA4CFW |
| 146.655- | | W4WSM |
| 145.450- | | KG4FEJ (Echo-link) |

440MHz 444.100+ W4WSM

444.700+ PL136.5 WB4JM (IRLP 4678)
(Use the # key before dialing any IRLP node number)

444.850+ PL103.5 KF4QZN (Horse Cave)

<u>ATV</u>

439.25 AM IN - W4HTB 1280.00 FM Out - W4HTB 421.25 AM Out (CH-57) - W4HTB

THE HAMCALL

The Kentucky Colonels Amateur Radio Club C/O Claire Rinehart, KF4IWX 755 Whitlock Rd. Alvalton, KY 42122