



# THE HAMCALL

The Official Newsletter of The Kentucky Colonels

Amateur Radio Club, Inc. Call: KY4BG  
Bowling Green, Kentucky

Web page: <http://www.kcarc.org>



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## PRESIDENT'S CORNER



KCARC PRESIDENT  
Ed Gann N4HID

Hello to everyone. hope all is well with all, there has not been much on the bands lately, maybe they will get better by winter. hope the ones that are going to Dayton will have a safe trip and not spend too much money on new equipment. I will be going up on Thursday and returning on Sunday.

will need a couple of members to take care of awards night in November Mark KJ4DGZ will be in charge of the meeting this month.

**May 18th** there will be a special event station at Raffertys. probably will need some help, call W4HTB, N4HID or KI4KFD See John's write up in this issue.

Ed N4HID

**Secretary/Treasurer**  
Claire Rinehart, KF4IWX

(No Submission)

## From our Vice President and Program Chairman

Mark Gillim KJ4DGZ  
(no submission)

## SPECIAL EVENT INFO- by John KI4KFD

Relay for life is the American Cancer Society's signature event and fund raiser. Communities organize teams to participate in the walk to raise money for the American Cancer Society. Rafferty's has taken part in this event for the past several years in the name of "Team Laura Siler". Laura was a long term employee at the local corporate office of Rafferty's and lost her battle with breast cancer several years ago. In honor of her, Rafferty's donates 20% of all the sales that evening and has raised thousands of dollars for the event. The event to raise money for "Team Laura" will be held this Monday the 18th, starting at 4:00pm. The portable smoker will be parked outside of Rafferty's with a special BBQ Ribs dinner for faster service and fund raising for the event. The local Chapter of the Kentucky Colonels Ham radio group with an "event check in" would only help promote a worthy charity. Of course we invite everyone to come and financially support the event as well and hopefully you'll enjoy a nice dinner in the process! Almost everyone has

been touched in their lives by cancer in one way or another. Including myself, with the loss of my father and the successful recovery from breast cancer for my wife. So it always feels good to help in something that everyone can relate to. Thanks, John Renfrow KI4KFD Managing Partner, Rafferty's Inc.

## The following article submitted by Bill KI4B

### Atomic Synchronicity

Outside Fort Collins Colorado lays the 340 acre government NIST site off Colo. Hwy.1 in Larimer County. Since 1962, the site of NIST or National Institute of Standards and Technology, known by folks my age as the National Bureau of Standards, keeps the time for the world.

Douglass Sutton, Matt Deutch, Glen Nelson and Bill Yates are the electrical engineers, aka. snowplow drivers, tower climbers and all-around folks who run the place, after major fund cuts reduced the staff down from dozens of people. That is why you can no longer drive in and see the place. The rusty old padlocked farm gates across gravel road entrances have signs warning people to stay out, as there are no avail-

able tour guides. Soooo, since they are too busy for a "Show-n-tell", I will just write a few words about the place and a little about what goes on there. Pay attention, as Editor Hank or Pres. Ed may have a quiz to follow.

Control burns keep site fire risks low. OJT, not engineering school, teaches you that. Climbing 400ft. towers to change light bulbs is ditto. Sutton has been doing that for 14 years. If the place burned down, or a plane took out a tower, many of your watches, your GPS, your alarm clock, your new camera, your computer, your airplane and even many traffic signal would not be on time. Note: I think some red lights near Marshal's house may not be connected! While these and millions of other items have quartz crystal timing, they still lose or gain seconds frequently and rely on WWV for a reset.

Historically, the nation's railroads first raised the need for better time. Local time was then estimated by the high noon sun in each town along the way in 1883. About 4 hours difference existed between Boston and LA. They divided the world into 24 hour zones in 1883, which is pretty much the same today. In 1950s, Ike moved the WWV time synchronization operation to its present site.

In the atomic age, time has gotten a little more complicated than the first Navy radio messages of 105 years ago. A type of energy change in the cesium atom takes place, where 9,192,631,770 cycles occur every second. This is good, but off by one full second over 80 mil-

lion years... So last year NIST developed a better clock that now would neither lose nor gain a second in 200 million years. That should make you feel much more secure! Seriously, that accuracy is actually used in the military. They can now practically tell the difference or the distance between the tip of the barrel of a soldier's rifle and his shoulder. They can tell which side of the road a person is standing on, or place an explosive projectile down a chimney from a ship rolling in heavy seas 50 miles off the coast. This all depends on accurate time. The police may eventually be able to automatically cite speeding drivers everywhere directly from orbiting satellites. That may or may not make you feel more secure! Think of the jobs created by the need to build more traffic schools.

Some members (probably retirees) may actually care less about time and more about radios, so let us talk about the radios, antennas, etc! The site ground chemistry includes many metals including uranium, which along with fairly high ground water makes the site conductive and conducive for radio communications.

The 400ft. towers are not actual antennas, but just supports for hoisting wire antenna that radiate the timing signals. Other towers, ranging from 25ft. to 200ft., are actually live radiators. Most are ground planes with radials attached about halfway up. The radials make 45 degree angles to the towers and the ground. This is also normally the feed point or

where the feed line attaches. These vertically polarized signals travel around the world, but arrive at receiving antennas with a variety of polarities depending on ionosphere bounces between. There are five frequencies transmitted, from 2 MHZ to 20 MHZ. You should look them up and know them by heart! Ha! You thought I would tell you the frequencies, didn't you?

All but the newest hams perhaps know about the MUF, or Maximum Usable Frequencies. Propagation path absorption losses are always less at the highest frequencies where communication is known to be possible. In these days of rigs having a hundred favorite frequency memories, it is easy to set up the five WWV frequencies (as well as other beacons) to check propagation at any time on any particular day. If your antenna farm has a rotatable beam, you can also check both long and short path propagation, as one or the other can be boosted or blocked by the action of the sun.

You music majors probably already know that the 440 Hz. tones are modulated onto the signals so you can properly tune your piano. Well there is so much more I would like to tell you, but then, as Mr. Napoleon Solo or Mr. Illya Kuryakin from U.N.C.L.E. used to say in the 1960s, I would have to kill you. You young folks can Google that! Besides, Mr. Hank probably cannot allocate any more space to my article, and if Uncle Ed found it more interesting he would want me to do more articles, but it is now your turn.  
73, KI4B, Bill

Thanks Bill send more....Editor

New Vanity Calls

KY2V – Chip (formally N4AAL)

KY3B- Greg (formally KF4ENE)

KY4TV- ATN-KY ATV Repeater

**Coming Events and Hamfest**

May 15-17<sup>th</sup> Dayton Hamvention

**May 18<sup>th</sup> Relay For Life Special  
Event Station from Rafferty's  
Restaurant. KY4BG**

June 27,28<sup>th</sup> Field Day Resvor Hill  
Details at June Club Meeting

NEXT KCARC CLUB MEETING:  
May 15th **7pm Bowling Green  
Police Department  
911 Kentucky ST.  
Program by Mark Gillim**

**Traders Net -  
Each Monday 1900 cst  
147.330 rpt. Tone 107.2  
KCARC Net -  
Each Tuesday 1900 cst  
147.330 rprr (Tone 107.2)**

**4<sup>th</sup> ARES NET MEETS 7 NIGHTS  
A WEEK AT 9 PM LOCAL TIME.**  
Frequency: 147.165  
MHz. W4WSM Repeater.  
Secondary  
Frequency: 147.330 MHz. PL Tone  
107.2  
KA4CFW Repeater

**REMINDER-**

If you have any equipment that be-  
longs to the club please let Mike  
KW4MAC or Chirs W4BGN  
know as they are putting together a  
list .I hope to publish this list in  
one of the Hamcalls.

2009 KCARC OFFICERS

**President: Ed Gann N4HID  
Vice President: Mark Gilliam  
KJ4DGZ  
Sec-Treas: Dr. Claire Rinehart  
KF4IWX**

**Chris Shaw W4BGN  
John Renfro KI4KFD  
Mike McClure KW4MAC  
Fred Painter KA4CFW  
Tom Williams WB4SCV  
HAMCALL EDITOR: Hank  
W4HTB email [w4htb@insightbb-.  
com](mailto:w4htb@insightbb-.com)  
**WEBMASTER: Dean K4NQV**  
email [k4nqv@insightbb.com](mailto:k4nqv@insightbb.com)**