
SIGNALS

Rockwell Collins Amateur Radio Club

Volume 34 Issue 08

Web Site <http://www.w5rok.us>

May 2013

RCARC Membership Meeting

Tuesday 28 April 2013
1700 Social 1730 Meeting
1800 Program

Methodist Richardson Medical Center
At Bush/Renner/Shiloh Intersection
Second Floor Conference Room 200

Subject:
Program in Process—Come and See

If you wish to see what will be in these presentations, the current versions are now linked on Steve's TEX Website www.k6jt.com. Steve hopes some of the club members who are interested in traffic handling will be able to attend. (Continued on page 4)

HAM 35 COM
AMATEUR RADIO 35 YEARS CONVENTION

ARRL
The national association for AMATEUR RADIO

Plano Centre Friday & Saturday, 7-8 June

2013 HAM-COM CONVENTION

SAVE THE DATE AND BUY YOUR TICKETS TODAY!
The convention is approaching quickly, buy your tickets online, today!
It's quick, easy, and safe!

CALENDAR
THE CONVENTION IS JUST WEEKS AWAY!

Amateur Radio at its best

- Commercial Exhibitors
- Flea Markets
- Speakers
- Workshops
- Special Interest Groups
- Door Prizes
- And Much, Much More...

PURCHASE TICKETS **LODGING INFO** **PARKING INFO**

Local Club News

Meeting Notice

The May program is still being finalized as Signals is approaching publication. Whatever the program, it's always worth the trip. By the way, we still need an Activities Chair.

Steve Phillips, K6JT to participate in Traffic Handling Program at 2013 HamCom

The program presentation will cover the ARRL Message form including the basic parts, how to write a message and send it. Also covered will be basic NET procedures including checking into a NET and netNEToperations during an emergency. CW NETs operations will also be included

Steve will be giving a sub-presentation on the National Traffic System and CW Traffic Net Operation as part of the "Message Handling" session(s) from 10 AM to Noon on Saturday the 8th at HAMCOM. Jo Ann Keith, KA5AZK, will present the message formatting part of the presentation and talk a little about voice traffic net operation. Steve will then present info about CW traffic nets and an introduction to the National Traffic System, including the nighttime CW, daytime SSB, and NTS Digital operations.

Get all the information on HAM-COM 2013 by downloading the Ham-Com 2012 brochure at http://www.hamcom.org/pdf/2013_HamCom_Brochure.pdf

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VE SESSIONS

Dallas tests are held 4th Sat of each month at 1000 hrs. 13350 Floyd Rd. (Old Credit Union) Contact Bob West, WA8YCD 972.917.6362

Irving tests are held 3rd Sat of each month at 0900. Fifth and Main St. Contact Bill Revis, KF5BL 252-8015

McKinney VE test sessions are held at the Heard Museum the first Sunday of the month. The address is 1 Nature Place, McKinney TX. The time of the testing is 1430, ending no later than 1645. **Note: no tests given on holiday weekends.**

Garland testing is held on the fourth Thursday of each month, excluding November, and begins at 1930 sharp. Location is Freeman Heights Baptist. Church, 1120 N Garland Ave, Garland (between W Walnut and Buckingham Rd). Enter via the north driveway. A HUGE parking lot is located behind the church. Both the parking lot and the Fellowship Hall are located on the east side of the church building, with big signs by the entrance door. Contact Janet Crenshaw, WB9ZPH at 972.302.9992.

Plano testing is on the third Saturday of each month, 1300 hrs at Williams High School, 1717 17th St. East Plano. Check Repeater 147.180+ for announcements.

Greenville testing is on the Saturday after 3rd Thursday, 1000 hrs at site TBA, contact N5KA, 903.364.5306. Sponsor is Sabine Valley ARA. Repeater 146.780(-) with 118.8 tone.

Richardson The Richardson Wireless Klub (RWK) VE team hold license testing on the third Thursday of each month at St. Barnabas Presbyterian Church, 1220 West

Beltline Rd. Testing begins at 1900 hrs in room 12. Enter through the Northern most door on the east side of the church building. For further information contact Dave Russell W2DMR, at 972.690.9894 or E-mail warhog4@tx,rr.com.

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President's Message

No President's Message this month. Check this spot next month.

73,
Michael Schmit
WA9WCC
RCARC President

Secretary's Report

23 April 2013

The meeting was called to order by President Mike Schmit WA9WCC at 1733.

The following members were present at the meeting:

Jim Brown	TBA
Loney Duncan	W0GZV
Michael Ketchum	K5MDK
John McFadden	K5TIP
Mike Schmit	WA9WCC
Jim Skinner	WB0UNI
Bill Swan	K5MWC
Joe Wolf	N5UIC

Officers and Committee Reports:

President's Report: There was no formal President's Report.

Vice-President's Report: We currently have no Vice-President.

Secretary's Report: The Secretary's Report is in this newsletter.

Treasurer's Report: There was no Treasurer's Report.

Website Manager's Report: There was no Website Manager's Report.

Station Trustee's Report: There was no Station Trustee's Report.

Database Manager's Report: There was no Database Manager's Report.

Old Business:

President Mike Schmit WA9WCC reminded the organization of previously-announced upcoming events needing support:

Rockwell Collins Fun Days (first week in May) - No lead was identified

Richardson Wild Ride (May 18) - Contact is Mike Kilgore KD5UG

MS-150 Bike Tour (May 4/5)

Field Day

New Business:

It was confirmed by Mike Ketchum that the current club treasurer, Andrew Robinson, will continue in his present role.

Status of purchases in support of FIFI was discussed. The equipment is needed by 16 May. Loney Duncan offered to temporarily fund the purchase if Bob Kirby has not already made the approved purchases; plans were made to verify Bob's actions.

The meeting was adjourned at 1753 for a presentation, "Solar Effects on Ionospheric Propagation," by Bill Swan K5MWC.

Did You Know? Someone Else Wrote Maxwell's Equations

The truth behind those well-known formulas

By MICHAEL GESELOWITZ 20 May 2013



Photo: SSPL/Getty Images

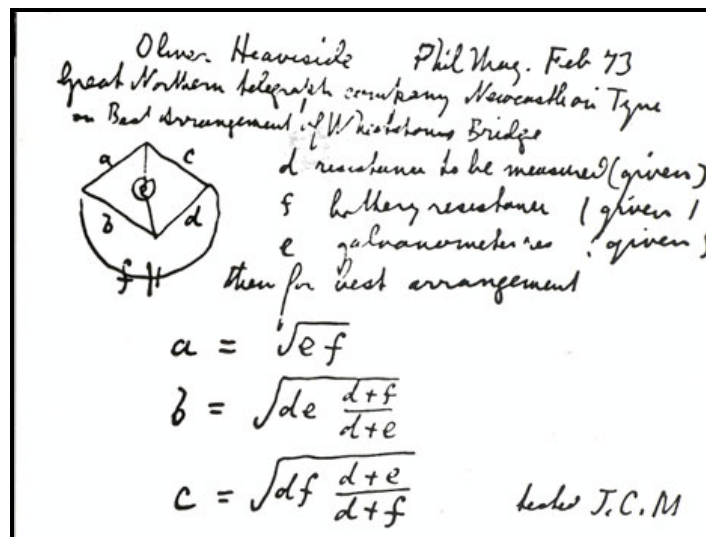
Another in a series of "Did You Know?" articles that uncover interesting historical, technical, and IEEE-related facts.

One often hears the cliché "a musician's musician," or "a poet's poet." Well, if there was an engineer's engineer, it was probably Oliver Heaviside [above].

When Michael Pupin invented the loading coil to improve telephone transmission in 1899, it was based explicitly on

the work of Heaviside more than a decade earlier. Guglielmo Marconi transmitted and received a radio signal beyond the horizon in 1901, and Heaviside explained a year later how it was possible. And, most importantly, James Clerk Maxwell established the laws of electromagnetism, but Heaviside rewrote them so they could be better understood and applied.

Heaviside, the nephew of the electrical pioneer Charles Wheatstone, was born in London in 1850. Tutored at home and mostly self-taught in his home laboratory, he took a job in 1868 as a telegraph operator—which gave him experience with the emerging electrical science and engineering fields in which his uncle was a leading light. Within six years, Heaviside had enough experience to return to his laboratory, and he began a remarkable career in electrical engineering, despite never holding a professional position.



Oliver Heaviside worked with his uncle, Charles Wheatstone, who popularized the Wheatstone bridge (shown above). Photo: IEEE History Center

His first work that drew the public's attention was the formulation of the telegrapher's equations, which define the behavior of an electrical transmission line. That work led him in 1880 to invent and patent coaxial cable, which is still used today. He next made a splash developing operational calculus, the technique whereby one solves differential equations—a frequent need in engineering—by transforming them into polynomial equations that can be solved algebraically. The mathematicians of the time were suspicious of the rigor of his methods, but he was able to use his mathematical techniques to make his greatest contribution yet.

Every electrical engineer is aware of Maxwell's equations: four mathematical expressions that in elegant form explain the full behavior of electromagnetism—and grace many an engineering school sweatshirt. However, many are not aware that between 1860 and 1861, Maxwell actually developed a set of 20 equations to explain electromagnetic

radiation, and they included terms for both fields and potentials.

Heaviside, along with a few contemporaries, was a firm believer in Maxwell's approach to understanding electromagnetism, but their complexity made the equations difficult to apply. So, using a new notation, Heaviside simplified Maxwell's original equations to the four, using only terms for fields that we employ to this day. At first those equations were referred to by various combinations of the names of Maxwell, Heaviside, and Heinrich Hertz, who was the first to demonstrate Maxwell's waves. However, for all his otherwise brilliance, Albert Einstein referred to them as Maxwell's equations in his 1940 monograph "Considerations Concerning the Fundamentals of Theoretical Physics." The name stuck, and Heaviside faded from public view. (Hertz at least had a unit named after him.)

Nevertheless, Heaviside was recognized in his own lifetime. As a result of his work on Maxwell's equations and his other contributions, in 1891 he was made a Fellow of the U.K.'s Royal Society, unusual for an "amateur" engineer at the end of the 19th century. And in 1922, the Institute of Electrical Engineers in the U.K. (today known as the Institution of Engineering and Technology) awarded him its first Faraday Medal, which recognizes achievements in engineering, science, and technology. His name is also given to a layer of ionized gases in the atmosphere.

Heaviside died in 1925 in Devon, England, in genteel poverty, having received little profit or broader name recognition from his vast contributions to technology and to society.

This article has been corrected from a previous version

(Reprinted by permission from IEEE, the Institute website, <http://theinstitute.ieee.org/technology-focus/technology-history/did-you-know-someone-else-wrote-maxwells-equations>)

Steve Phillips, K6JT to participate in Traffic Handling Program at 2013 HamCom

(Cont. from page 1) The following are excerpts from the presentations:

National Traffic System (NTS),
(NTSD) , WL2K System, An Introduction


Steve Phillips
K6JT
Manager Texas CW NTS Section Net
TCC Echo and Fox Rep Cycle 4
NTS Digital Target Station
NCS Central Area Net
Liaison Region Net 5
Member at Large, Central Area Staff
50 Years of Traffic Handling



Updated May 2013

CW NET OPERATION

- CW net operation is similar to voice nets but uses "QN" signals and is very terse
- A full "CW Netiquette" primer is available on the TEX Website (www.k6jt.com) -- scroll down to find the "CW Traffic Net Operating Guide"
- A list of QN and other signals is on the "Q Signals Card", also from the TEX Website
- The following will show a brief net start-up and check-in sequence. More details in the Guide.
- CW nets typically last a very short time versus voice nets (10-15 minutes typical with only a few pieces of traffic - so be on time!)



Simple, Inexpensive Coax Connector Tool

By Joseph Lawrence, K9RFZ

I use a lot of PL-259 connectors to build feedline cables for friends and recent Technician hams that need some help getting on the air. I have streamlined the process by using a coax prep tool similar to the DX Engineering DXE-UT-8213 and the K4AVU crimp tool mounted in a bench vise. The slowest step in the process is attaching the connector to the prepared coax. Aside from aligning the connector and making certain the center conductor wires all fit into the center pin, I still use a pair of vise grips to grab the connector and thread it onto the coax outer covering. I take special precautions to assure the vise grip is snug enough so the jaws don't grind the connector and yet not too snug that it deforms the connector. With a little creativity and time, I've replaced the vise grips with a simple and inexpensive tool that protects the connector and requires minimal effort to get the connector all the way onto the coax.

I reused a PL-259 barrel and glued it inside a PVC T-connector with the threads pointed outward. I found the 3/4" with threaded 1/2" PVC connector gives a modest fit to the PL-259 barrel. I used Gorilla Glue and coated the PVC threads before inserting the barrel. This glue expands as it dries and some glue wicked up the connector along the knurled edge.



Prep the coax as usual, but then thread the PL-259 connector into the new tool.



Line up the connector on the coax and twist away.



The T-connector side openings allow you to see when the center conductor has reached the tip of the connector. Just unthread the tool from the installed connector and I'm ready to crimp the connector and solder the tip for another flawless installation. For the price of a PVC connector, a leftover PL-259 barrel, and some glue, I have a tool that does the job quickly every time.

(Reprinted by permission from eHam.net)

Building My Own Stealth Antenna

By Penny C Larson, KG7MCH on January 28, 2013

I read the article from KB2DHG about making his own antenna, and I wanted to try it too. One month earlier, I had obtained my general license and was excited to get on HF. But I had a couple things I needed to work out. One, I lived in a CCR, and two, my radio would be on the second floor of the house.

A local 2-meter net gave me some wonderful ideas to try on making a good ground and about hiding antenna wire under the eaves of the house.

So, with several of these ideas in my mind, I took apart a "slinky" antenna I had purchased on eBay. Due to my restrictions, the "slinky" wasn't a good choice, but the PVC tee and the way that the coax wound around the PVC several times before running up through the center to meet the ends of each "slinky" seemed to work very well. I removed the two slinky ends and soldered 12 gauge wires (51 feet each) to the coax and covered the connection with tape.

I secured the PVC with nylon rope and a screw-in hook, and placed it into the top peak of eaves (on the back-side of the house). Each wire leg of my antenna was stapled to the under-side of the eaves as they ran down from the second story to the first.

To add to the stealth of the antenna, I painted everything I could with the same color as the house.

I have found that this wire antenna works very well on 75 meters, as I check into the Night-Train Net (3.900) on a regular basis at 9 P.M (pacific-time), using a MFJ 949E tuner and using either my Yaesu ft-101EE, or an Icom 706MKIIG. It is really thrilling to be talking on something I built and put up.



I would like to thank the many HAMS that submit to these sites. Without you, many of us would just give up amateur radio before giving it a chance due to the hurdles we must overcome.

My next antenna project will be the "flag-pole" Hustler 5-BTV. I have already begun reading the many different versions of this on-line.

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Rockwell-Collins

Amateur Radio Club

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TO:



CLUB STATIONS
 (972) 705-1349

W5ROK REPEATER
 441.875 MHz +5 MHz Input
 131.8 Hz PL - RX and TX

W5ROK-1 PACKET BBS ROK Node
 145.05 MHz

W5ROK-N1, W5ROK-N2 & W5ROK-N3 HSMM-MESHNET Nodes 2.4 GHz

Tuesday 28 May 2013
 1700 Social 1730 Meeting

Methodist Richardson Medical Ctr
At Bush/Renner/Shiloh Intersection
Second Floor Conference Room 200

NEXT SIGNALS INPUTS DEADLINE:
→→→ 14 June 2013 ←←←