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# SIGNALS

## Rockwell Collins

Monthly Newsletter of the

## Amateur Radio Club

Volume 39 Issue 12

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

September 2018

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### RCARC Membership Meeting

Tuesday 25 September 2018  
1700 Social      1730 Meeting  
1800 Program

Methodist Richardson Medical Center  
At Bush/Renner/Shiloh Intersection  
Conference Room A in Hospital Building

**Subject:**

*The program for this month's meeting was not finalized at newsletter publication time*

Department Training, patrol their neighborhoods and report all suspicious activities to the Police Department.

### Save the Date: Family Day/Open House

Saturday, October 27, 2018 11:00 a.m. - 3:00 p.m.

Please note that the date for this event has been changed to **27 October** and is **only for employees and their immediate families. Retirees are not included.** Look for more information in the next few weeks. (Contributed by Dennis Cobb WA8ZBT)

### Demonstration of the FlexRadio 6600 System by Bill Owens AD5EW at August Meeting



## Local Club News

### Meeting Notice

In addition to the monthly business meeting, this month's meeting is expected to include a presentation by one of our esteemed members (if he manages to remain in town).

### RCARC Community Service Activities

**Siren Testing** Dennis Cobb WA8ZBT, John McFadden K5TIP and Jim Skinner WB0UNI participate in the Richardson emergency siren testing. The siren testing in September was cancelled due to inclement weather. The sirens are monitored by amateur radio operators and reports made using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz. Siren testing occasionally uses the University of Texas at Dallas (UTD) repeater at 145.430 MHz, which is designated as the backup repeater.

**Crime Watch Patrol** Jim Skinner WB0UNI participated in Richardson Duck Creek Crime Watch Patrol (CWP). CWP members, after successful completion of Richardson Police

### Joe, N5UIC/P with Dash's Ham Friend



RCARC OFFICERS	
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## President and VP Messages

### VE SESSIONS

**Dallas** tests are held on the fourth Saturday of each month at 1000 hrs. 13350 Floyd Rd. (Old Credit Union) Contact Bob West, WA8YCD 972.917.6362

**Irving** tests are held on the third Saturday 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 17<sup>th</sup> St. East Plano. Check Repeater 147.180+ for announcements.

**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 Bill Owens

This space reserved for President and/or Vice President Messages

Hope to see everyone at the meeting.

See you at the meeting & 73's,  
Gene, K1GD  
RCARC President

## Secretary's Report

28 August 2018

President Gene Duprey K1GD called the meeting to order at 1739.

The following were present at the meeting:

Brian Belcher	WA5M
Jim Brown	AF5MA
Dennis Cobb	WA8ZBT
Gene Duprey	K1GD
John McFadden	K5TIP
Bill Owens	AD5EW
Mike Schmit	WA9WCC
Jim Skinner	WB0UNI
Joe Wolf	N5UIC

### Officers and Committee Reports:

There were no formal reports other than the Secretary's Report, which is contained in this newsletter.

### Old Business:

Gene Duprey K1GD provided a review of headset purchase activity. After evaluation of a number of other products Gene purchased one pair of RadioSport RS20s for the club based on prior club approval. He recommended purchase of an additional two sets to allow simultaneous use of three radio positions in the ham shack. Mike Schmit WA9WCC moved to approve the additional purchase and Jim Brown AF5MA seconded the motion; a purchase not to exceed \$500 was approved by unanimous vote of all present.

### New Business:

Per Dennis Cobb WA8ZBT the Rockwell Collins open house has been delayed to late October.

### Adjournment:

The meeting was adjourned at 1810, followed by a demonstration of the FlexRadio 6600 system by Bill Owens AD5EW using a local Maestro unit to control his rig at home.

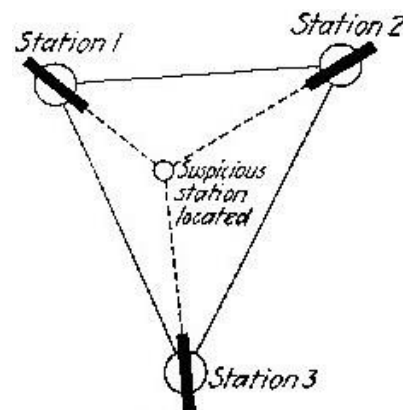
## Guarding the Ether During World War I

*Radio Amateur News* - September, 1919

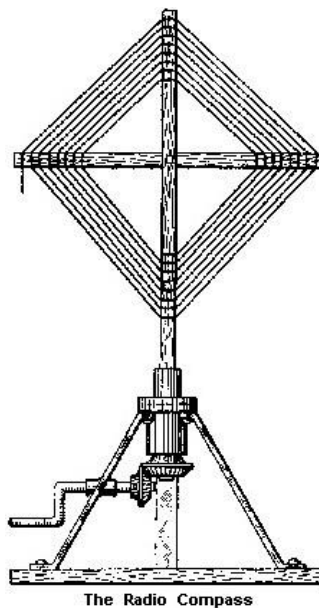
*Editor's Introduction... During the hostilities of World War I, amateur radio operators in the U.S. weren't just ordered off the air, but were additionally ordered to lower their antenna's and dismantle their station equipment so as to render it inoperable.*

From April 3, 1917, until November 11, 1918, specially trained Naval radio operators, were constantly on watch at listening stations erected in various parts of the United

States for the purpose of carefully listening to all radio activity, and all signals which could not be readily identified by Naval communication experts as the official transmission of Allied radio stations were immediately investigated and traced to their source of origin. A regular department was established which worked in cooperation with all United States Naval radio stations in the country. Operators at the listening stations soon became experienced in recognizing allied from enemy radio transmissions.



Three Receiving Stations Forming a Triangle Would Adjust Their Direction Finders for Maximum Strength and Locate Suspicious Stations



The Radio Compass

That new and valuable aid to navigation - the Radio Compass - played an important part in this work of investigating illegal radio activity. It was owing to the timely necessity of having a reliable means of ascertaining the direction of strange signals that the Navy Department developed the radio compass to its present stage of efficiency. The manner of operation was simple; as soon as a listening operator became suspicious of a certain signal or spark, he immediately communicated the fact to the radio compass operators stationed at various points of the district in

such locations as to form a triangle, and they in turn secured the approximate location of the suspicious signal by plotting a point at the line of intersection resulting from the three different directions secured by each of the three radio compass operators forming the triangle.

After having ascertained the approximated position of a strange or suspicious signal, Naval investigators would immediately reach the spot in fast automobiles.

It must be understood, however, that very few radio compass directions were ever so accurate as to give the exact spot from which signals emanate, but it does give the location within a mile. It is then a comparatively easy matter to search the particular neighborhood given by the direction finder and investigate any suspicious-looking overhead wires which might be employed for transmission.

It is surprising to what lengths young men of a playful turn of mind went in using substitute antenna; some of these were unused telephone wires, clothes-lines where the rope had been substituted with flexible stranded wire, insulated iron fence, chicken netting, etc.

After the executive order had been sent out by the authorities instructing all amateurs and private owners to dismantle their radio apparatus and store them away, many, being of a perverse turn of mind, attempted to see for themselves just how far the Government officials were prepared to locate those who had failed to comply with instructions by persisting in sending to each other, sometimes using pre-arranged call letters not known to anyone else.

Much to their surprise, however, they were soon located by the investigators, who, would be on the spot in a very short time, and having discovered them, would confiscate their complete installations as well as give them a good scare, inferring what might befall them and their friends were they ever heard from again by radio until after the cessation of hostilities. While some of these boys did not exactly act as all law-abiding citizens should, their number was very small indeed as compared to the large body of amateurs in the country.

Under these circumstances, and by giving wide publicity in the press to the cases detected, it was comparatively a short time before all radio stations not under the direct supervision of the Army or Navy had been effectively dismantled and closed for the duration of the war. Running down receiving stations, however, was not so easily accomplished since there was little external evidence of anyone doing this, the only possible clues being in the accidental discovery of a secret antenna.

For a considerable period of time trained observers, many of them former amateurs who were familiar with the various tricks anyone might resort to, were constantly traveling about the country on the lookout for any indication of secret receiving or sending apparatus. In this way, many innocent-looking telephone and telegraph wires were often found to lead to elaborate and very business-like receiving outfits. One interesting case in particular was that of two young electrical engineers who had cleverly installed an antenna made from very fine enamel wires which circled two high apartment houses in such a manner as to be practically invisible and making it impossible for anyone to detect it.

Eventually the wire was accidentally discovered by an electrician who was repairing the electric bell system of the house and reported his find to the authorities. Investigators found a complete long-distance receiving set installed on a table and along with it, an accurate log of the signals transmitted by European stations.

It must be said in fairness to the amateurs in general, that incidents of willful and deliberate attempts to engage in illegal radio activities were small compared to that large body of men. As a matter of fact, the greater part of these young

men immediately enlisted at the entry of the United States in the war, in either the Army or the Navy, to serve their country in the best way known to them, making use of the practice and experience gained while amateur radio operators.

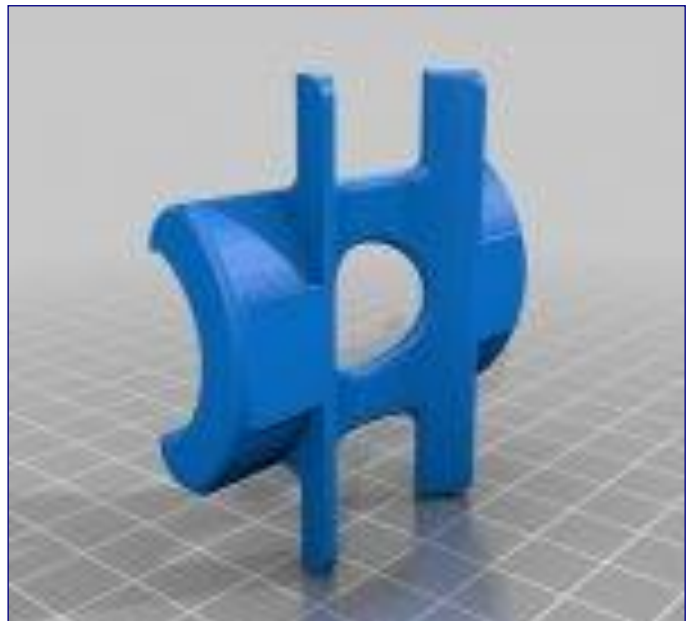
*(Reprinted with permission from CTARC September 2018 newsletter)*

### 3D Printed Parts for Ham Radio

By Dan Romanchik, KB6NU

One of the things that I keep telling myself that I need to learn how to do is 3D printing. This morning, I ran across a couple more 3D printing projects for ham radio that I thought I'd pass along.

The first I found on reddit: 3D Printed Parts for Portable Tape Measure Yagi Designs ([https://www.reddit.com/r/amateurradio/comments/963br3/3d\\_printed\\_parts\\_for\\_portable\\_tape\\_measure\\_yagi/](https://www.reddit.com/r/amateurradio/comments/963br3/3d_printed_parts_for_portable_tape_measure_yagi/)).



The summary on Thingiverse (<https://www.thingiverse.com/thing:3042505>), which is a website where "makers" share their designs, says:

These parts are made for use with 1-in. PVC pipe and 1-in. Harbor Freight tape measure steel. You can use electrical tape to attach the element holders to the side of the pipe, and use the driven element bridge to give structural rigidity across the driven dipole element. I have used this with up to 5 elements on 2m with good success. When not using the antenna, just pinch the elements to remove them from the holders, and store them INSIDE the tube! you can add some end caps to make this ultra portable. Use these parts with any of the multitude of tape measure YAGI design guides online.

Here's a look at an antenna made with these parts:



The element holders are attached to the boom with electrical tape in the photo above. While I haven't tried it, I'd suggest that the antenna might be a bit more robust if you could screw or perhaps glue the holders to the boom.

There are lots of other cool amateur radio 3D printing projects available on Thingiverse (<https://www.thingiverse.com/search?q=ham+radio&dwh=415b6d8da129c3c>). Browsing through the list quickly, here are just two that look like they might be useful to me:

- Soldering Fingers (<https://www.thingiverse.com/thing:1725308>). This project looks simple and quick.
- µBitx Case (<https://www.thingiverse.com/thing:2925336>). I still gotta do something with the µBitx I bought. This looks like it might get me started.

**Finally getting in gear**

Last week, I attended a 3D printing class at our local maker space, All Hands Active ([allhandsactive.org](http://allhandsactive.org)), and now I feel like I can finally attempt a 3D printing project. I'm thinking about starting out with the simple Soldering Fingers project. If that goes well, I'll try a Raspberry Pic case and finally start using that in the shack. And, while these projects all seem pretty cool, I feel like I'm only scratching the surface.

Have any of you 3D printed anything cool for your ham radio projects? Is there another source of designs for ham radio 3D printed stuff besides Thingiverse?

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 When he's not 3D printing enclosures for his ham radio projects, Dan blogs about amateur radio, writes exam study guides ([www.kb6nu.com/study-guides](http://www.kb6nu.com/study-guides)), and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him about your experiences with 3D printing at [cwgeek@kb6nu.com](mailto:cwgeek@kb6nu.com).

**Upcoming Events**

<b>Daily</b>	DFW Early Traffic Net (NTS) at 6:30pm 146.88 – PL 110.9Hz
<b>Daily</b>	DFW Late Traffic Net (NTS) at 10:30pm 146.72 – PL 110.9Hz
<b>Daily</b>	Texas CW Traffic Net at 7:00pm on 3541 KHz and at 10pm on 3541 KHz <a href="http://www.k6jt.com">www.k6jt.com</a>
<b>1<sup>st</sup> Wednesday</b>	Richardson Emergency Siren Test. At noon using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz.
<b>2<sup>nd</sup> Wednesday</b>	ARES North Texas HF Net Every month—3860 KHz at 8:30 pm—9:30pm
<b>SEPTEMBER</b>	
<b>29-30</b>	<b>EME – 2.3 GHz and Up</b> —Work as many amateur stations as possible via earth-moon-earth path on authorized frequencies above 50 MHz. From 0000 UTC Saturday through 2359 UTC Sunday. Details at <a href="http://www.arrl.org/eme-contest">http://www.arrl.org/eme-contest</a> .
<b>OCTOBER</b>	
<b>15-19</b>	<b>School Club Roundup</b> —Objective: To exchange QSO information with club stations that are part of an elementary, middle, high school or college. Non-school clubs and individuals are encouraged to participate. event runs Monday through Friday from 1300 UTC Monday through 2359 UTC Friday. A station may operate no more than 6 hours in a 24-hour period, and a maximum of 24 hours of the 107 hour event. Details at <a href="http://www.arrl.org/school-club-roundup">http://www.arrl.org/school-club-roundup</a> .
<b>27-28</b>	<b>EME - 50 to 1296 MHz</b> —Objective: To work as many amateur stations as possible via the earth-moon-earth path on any authorized amateur frequency above 50 MHz. Full weekend 48-hour period (0000 UTC on Saturday through 2359 UTC Sunday). Details at <a href="http://www.arrl.org/eme-contest">http://www.arrl.org/eme-contest</a> .

# Rockwell-Collins

Amateur Radio Club

Mail Station 461-290

P.O. Box 833807

Richardson, TX 75083-3807

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 25 September 2018**  
 1700 Social      1730 Meeting

**Methodist Richardson Medical Ctr**  
**At Bush/Renner/Shiloh Intersection**  
*Conference Room A in Hospital Building*

**NEXT SIGNALS INPUTS DEADLINE:**  
**→→→ 12 October 2018 ←←←**