****

SIGNALS

Rockwell Collins

Monthly Newsletter of the

Amateur Radio Club

Volume 39 Issue 06 **Web Site** http://www.w5rok.us **Mar 2018**

****

RCARC Membership Meeting

Tuesday 27 Mar 2018
1700 Social 1730 Meeting
1800 Program

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

Subject:

The Bald Eagles of Iowa

By Gene Duprey K1GD

Local Club News

Meeting Notice

This month's meeting program will be a departure from the norm. Gene Duprey, K1GD, will be giving a presentation on his trip to Iowa last month. It will be a photography presentation featuring his bald eagle photographs. Be sure to wear your club shirt or if you don't have a shirt, the meeting will be a great time to order yours.

RCARC Community Service Activities

Siren Testing Dennis Cobb WA8ZBT, John McFadden K5TIP and Jim Skinner WB0UNI participated in the Richardson emergency siren testing on 7 March 2018. At least 4 of the 25 sirens malfunctioned. Most of the others functioned better than last month. The siren testing is performed at 12:00 on the first Wednesday of each month. 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 Department Training, patrol their neighborhoods and report all suspicious activities to the Police Department.

Norwegian 787-9 landing at KPAE after a test flight.

Norwegian Air will feature Arthur Collins, the founder of Rockwell Collins, as a "tailfin hero" on the airline's Boeing 737 MAX and 787 Dreamliner aircraft throughout 2018. Collins joins over 80 other tailfin heroes depicted on Norwegian aircraft since the airline began operations in 2002.

"Norwegian is a technology-progressive airline that's pushed aviation forward by challenging industry norms," said David Nieuwsma, senior vice president, Information Management Services for Rockwell Collins. "It has embodied a spirit of adventure and accomplishment, which is quite fitting with Arthur Collins' legacy."

(Contributed by Jim Skinner, from airsoc.com article)

RCARC OFFICERS

PRESIDENT
Gene Duprey K1GD
319.270.8159
geneduprey2015@gmail.com

VICE-PRESIDENT
AVAILABLE

SECRETARY
Jim Brown AF5MA
972.495.2209
jhksbrown@verizon.net

TREASURER
Rohan Thomas KG5RCN
972.697.3512
Rohan7066@yahoo.com

ACTIVITIES
AVAILABLE

WEBSITE MANAGER
Mike Hollingsworth W5QH
972.571.6060
w5qh@arrl.net

STATION TRUSTEE
Bob Kirby K3NT
319.360.0500
k3nt@arrl.net

NEWSLETTER EDITOR
Jim Skinner WB0UNI
214.535.5264
wb0uni@arrl.net

MEMBERSHIP
Joe Wolf N5UIC
214.202.2757
n5uic@arrl.net

W5ROK CLUB STATION
972.705.1349
461-290

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 17th 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 Dave Russell W2DMR, at 972.690.9894 or E-mail warhog4@tx,rr.com.

President and VP Messages

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

Secretary's Report

27 Feb 2018

Mike Schmit WA9WCC called the meeting to order at 1747.

The following were present at the meeting:

Jim Brown	AF5MA
Dennis Cobb	WA8ZBT
Mike Schmit	WA9WCC
Jim Skinner	WB0UNI
Rohan Thomas	KG5RCN

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

Old Business:
None.

New Business:
The members present observed a moment of silence for Vin Tran, a long-time Rockwell Collins employee and friend of many of the members, who passed away recently.

Jim Skinner WB0UNI nominated Rohan Thomas KG5RCN to serve as club treasurer for the remainder of the current term; the motion was seconded by Dennis Cobb WA8ZBT. Rohan's election was approved by a unanimous vote of the members present.

Adjournment:
Following a general discussion period, the meeting was adjourned at 1813.

DX Contesting – Lessons Learned

Working a contest is an exciting thing. The exhilaration of using your equipment to talk to someone far away is immense. Getting through the pile-up is an achievement unto itself and, even more, getting a good score to compete against yourself. Here are a few lessons I have learned from the recent ARRL DX SSB Contest while in central Belize this weekend. Keep in mind that I am not a regular contester. But there are a few things I learned and tried that might help someone to get into radio sport.

Review The Rules

Before you can compete in any kind of event, you must know the rules. Most contests run on a similar set of rules, but there are differences. Some of these may be bands used, multipliers, power levels, and objectives. Most have some kind of exchange, whether it is a serial number, state or ITU Zone along with the received signal report and your call sign. Most contests will have various operating categories. You, as a contester, must know and choose a category. The choice may be obvious, but you can build options into your plan, which may include partnerships with other hams to achieve other categories. You do not always have to work alone. And with that, you start building your objectives. But whatever contest you want to work, know your rules and review them a couple of times to insure you will operate well.

Beef Up Your Station

Long before the contest, you can take the time to consider some small improvements to your station. The biggest improvements one can make are with the antenna. The most bang for the buck, the antenna will help you get better signal to noise and improve your ability to get your signal out. Consider using a friend's antenna analyzer to find deficiencies with your antenna. Consider a special antenna construction to help reach a new region you could not get before. If the US is your target, select an antenna position that will give you good coverage towards the North Eastern coast, where higher populations of hams persists. Good logging software will make or break a contest for you. So, select software that will meet your needs, and is dependable. That is just the beginning; you must know how your software is configured and how it works. The hot keys must be understood and practiced before the contest begins so that you can log while you talk and listen at the same time. In addition, while we are on the subject of logging software, insure your rig's CAT connection to your logging software is working and dependable. Some rigs have TTL levels and others can accept RS232 voltage levels, but insure you have the proper interface that is impervious to RFI in all the bands you plan to operate.

Take A History Lesson

You do not need to go back to school to get a history lesson in order to help build a strategy that will help improve your score in a contest. However, looking over past logs and reviewing your history will help you see patterns. Did you change bands at the right time? Did you operate the best frequency during the optimum propagation? Having a good understanding of how you performed in past contests will help you improve your score. N1MM logging software has wonderful log statistical analysis tools, such as graphs and tables, which can help identify points where you can do better this time.

Work Out A Strategy

Everyone has a strategy or plan before entering a contest. But it is always good to review that strategy mentally long before the contest. Consider your station and how best to use it within your plan. Consider the hours you will operate it and to maximize those hours you work. Know what bands you will work and when that will maximize the propagation for those bands. Make a quick chart to help you remember what bands will work best. You do not have to hold to that plan if your current band is wide open. However, if you need more contacts on another band, then plan when you can use it for maximum points. While operating, you will have to choose between RUNNING and SEARCH & POUNCE modes of operating. You may use both at times. Nevertheless, when RUNNING, search for a blank area that does not interfere with others. You can choose two strategies; way off by yourself or near a popular station. Avoid populated areas that will cause QRM. Avoid areas of manmade or atmospheric QRN on the bands. You may have to ask someone how the QRM/QRN sounds like on their end, if you are running. Do not forget that you can freely work near the band edges, particularly the upper regions. However, you may need to strategize who your target stations are and what part of the band they will or will not work. It should be understood that one should not operate at the band edges in order to stay within the permitted ranges of your license class and the bands themselves, taking into account your modulation bandwidth and which side band you are modulating.

Listen Listen Listen

Contesting starts with listening. Listening involves learning to train your ear to pick out call signs and exchange elements. Listening involves learning how a RUNNING station operates and matching your call to gain an advantage. Listening involves tuning out QRM and QRN signals to get a good copy. In addition, it is a good idea to listen for multiplier stations; stations that can help you get more points. Knowing these and listening to how they answer or operate can help you gain an edge.

Making Your Contest Count

Here are some additional things you can do to make your efforts count in a contest. Obviously, you should be careful not to waste your time and make every minute count, but you can also do other things to help make the score substantial. One way is to portray yourself on the air as if you really need this contact. A monotone answer to a station's CQ will not make it through the crowd as fast. If you use an inflection that conveys some excitement and a desire to make this contact, that will grab the attention of the caller. You need to come up with inventive ways to break through

the pile-up, such as speeding up or slowing down. Getting a grasp of the rhythm of the caller and predicting when to answer is good. Use different methods to answer a CQ, such as a higher pitch voice. Women have a better chance of punching through a pile-up due to their higher pitched voice. Tuning off frequency does not help to get this higher pitch. In any case, showing excitement will increase your odds. You also need to concentrate while you are calling. Keep watch of the rhythm and stay alert to changing conditions. However, the best way to make it count is to NOT GIVE UP TOO SOON. Many operators make a few attempts in a pile up and give up soon after. When the big guns get all worked off, it will leave more room of opportunity for you to break through. So, keep trying and do not give up.

Now You Can Get On The Air

Once you have done all you can to prepare for the contest, get on the air. Many times, after working hard on a station improvement for a contest, I get tired, and lose some of the interest and drive to get on the air. Another issue for me is not committing to a contest. It is easy to simply let another contest that you were interested in pass you by. However, the most important thing you can do in your hobby, concerning contesting, is to force yourself to get on the air. Get on the air, even when you have not prepared for that contest. Get on the air, even if you did not have time to improve your station equipment. Get on the air, even when you are late getting started. Make it your mission to simply get on the air and work all you can. Each opportunity gets you closer to a major improvement and more ideas for success in the next contest. Most likely, you will not break into the top group of your category at first. Nevertheless, the key to contesting is enjoying the chase, competing against yourself and gaining the skills needed to be a good ham operator. After all, these skills will help greatly in a time when you are involved with emergency communications as well as every day radio use. Getting on the air is the best thing you can do and you will never regret it.

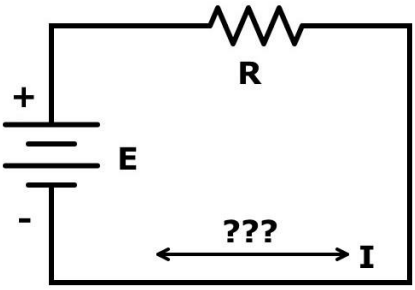
(Written by Vice President Michael Ketchum – K5MDK)

Early Current Shunts and Meters

Bob Kirby K3NT found this really interesting article on early shunts and meters while researching causes of corrosion. It has some great pictures of early Weston and Westinghouse shunts, voltmeters, and current meters, many with beautiful wood cases. Here are some pictures to pique your interest. The article is entitled *Historic Corrosion Tools Tell the Story of Early Corrosion Control* and can be found at http://www.materialsperformance.com/uploads/documents/2018/Historic-Corrosion-Tools.pdf.

Which way does current really flow?

By Dan Romanchik, KB6NU



I was recently taken to task by one of my blog readers regarding my description of current flow in my *No Nonsense Technician Class License Study Guide*. He wrote:

> You casually say that current flows from Positive to Negative (with cool accompanying directional arrows), without any accompanying qualifying statement. Over the years I have looked at ALL the views on the subject. Positive to Negative is NOT what I was taught 48 years ago, and I have never seen a good reason to change my view.

In a subsequent email, he pointed me to a Nuts 'n Volts article, "Which Way Does Current Really Flow?" and asked my opinion. In the article, the author, who is a ham by the way, does a good job of explaining the various types of current flow.

I agree that in electronic circuits electrons flow from negative to positive, but it really doesn't matter. I agree with one the article's commenters who says,

> This is a silly argument. It's like comparing apples and oranges and challenging people to take sides.
>
> Electron flow is not current flow. Electron flow is easy to understand, an actual physical property, and a real help in understanding vacuum tube operation. But it falls apart when one needs to understand complex electronic systems.
>
> [Conventional] current flow is a mathematical abstraction. It is defined as a net flow of positive charge, irrespective of the polarity of the physical charge carriers — whether electrons, holes, positive or negative ions, or whatever.

> When looking at any circuit containing a resistance with a voltage across it, conventional current through that resistor says that the voltage drop occurs as the current through it meets resistance. On the other hand, in negative (electron) flow, a voltage INCREASE will correspond to the 'current' flow through it, clearly violating physical laws. Conventional current flow is consistent with the laws of physics and those of other engineering disciplines.
>
> You are correct that engineers, professors and scientists use conventional current flow. That is not because they are too obtuse to understand electron flow; I assure you they fully understand it. It is because in their world they have to solve more general problems involving complex math and science, and, again, conventional current flow is consistent with physical laws.
>
> It is unfortunate that electron flow and current flow are so often confused. They both have their place.

After reading that article, I thought I'd see what the ARRL Handbook has to say about current. In the 1963 edition, they don't mention electron flow at all. They have one diagram showing the direction of current flow in both series and parallel circuits, but the voltage source has no polarity. It's simply labelled "Source of E.M.F." Diagrams giving practical examples of series and parallel circuits do include a battery, and if the reader were to mash up the two diagrams, they would conclude that current flows from the positive terminal to the negative terminal.

The most recent edition of the Handbook that I have is the 2005 edition (it might be time to get another copy!). It says,

> Electrons move from the negative to the positive side of the voltage, or EMF, source. Conventional current has the opposite direction, from positive to negative. This comes from an arbitrary decision made by Benjamin Franklin in the 18th century. The conventional current direction is important in establishing the proper polarity sign for many electronics calculations. Conventional current is used in much of the technical literature. The arrows in schematic symbols point in the direction of conventional current, for example.

Having said all that, I really don't see that there's much of a controversy here. I did learn to think of current as conventional current in college, although it was mentioned that electrons actually flow in the opposite direction. Using the concept of conventional current has never seemed to hold me back. I've been able to design circuits and repair electronic equipment thinking that current flows from positive to negative.

Although it's a departure from my "no nonsense" style, I am thinking of including a sidebar, similar to the paragraph above from the 2005 Handbook explaining the two ways of looking at current flow. What do you think?

When he's not trying to figure out which way current flows, Dan blogs about amateur radio at KB6NU.Com, teaches ham radio classes, and operates CW on the HF bands. Look for him on 30m, 40m, and 80m. You can email him at cwgeek@kb6nu.com.

(Contributed by Jim Skinner WB0UNI)

Upcoming Events

Daily	DFW Early Traffic Net (NTS) at 6:30pm 146.88 – PL 110.9Hz
Daily	DFW Late Traffic Net (NTS) at 10:30pm 146.72 – PL 110.9Hz
Daily	Texas CW Traffic Net at 7:00pm on 3541 KHz and at 10pm on 3541 KHz www.k6jt.com
1st Wednesday	Richardson Emergency Siren Test. At noon using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz.
2nd Wednesday	ARES North Texas HF Net Every month—3860 KHz at 8:30 pm—9:30pm
	APRIL
3-4	**Rookie Roundup—Phone** Mission: To encourage newly-licensed operators ("Rookies") to operate on the HF bands and experience competitive Amateur Radio operating. Experienced operators ("Non-Rookies") are strongly encouraged to participate and help new operators – either on the air or in person. Objective: Rookies exchange information with as many other stations as possible on the 80, 40, 20, 15, and 10 meter HF bands. Rookie entrants are encouraged to read "*HF Contesting – Good Practices, Interpretations and Suggestions*." Details at http://www.arrl.org/rookie-roundup**.**
	JUNE
9-11	**June VHF** For amateurs in the US and Canada (and their possessions) to work as many amateur stations in as many different 2 degrees x 1 degree Maidenhead grid squares as possible using authorized frequencies above 50 MHz. Stations outside the US & Canada (and their possessions) may only work stations in the US (and its possessions) and Canada. All legal modes are permitted. Details at http://www.arrl.org/june-vhf.
16	**Kids Day** Twice a year, ARRL offers an event designed to promote Amateur Radio to our youth. Share the excitement with your kids or grandkids, a Scout troop, a church or the general public! Kids Day is designed to give on-the-air experience to young people and hopefully foster interest in getting a license of their own. It is also intended to give older hams a chance to share their station and love for Amateur Radio with their children. Details at http://www.arrl.org/kids-day.

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 27 Mar 2018

1700 Social 1730 Meeting

Methodist Richardson Medical Ctr
At Bush/Renner/Shiloh Intersection

Conference Room A in Hospital Building

NEXT SIGNALS INPUTS DEADLINE:
➔➔➔ 13 April 2018 ➔➔➔