

CARC Membership Meeting

**THE MARCH 2020 MEETING IS
CANCELLED. SEE THE NOTICE BELOW**

Local Club News

MARCH MEETING CANCELLED

The March 24th meeting of the Collins Amateur Radio Club has been cancelled as a result of the cancellation of all meeting room schedules by the Methodist Richardson Medical Center. Additionally, the CARC ARRL VE test session, which normally follows the meeting, is cancelled.

We hope to be able to re-schedule our speaker, John Hill, KF5VO, for a future date, with his presentation on "Winlink Express."

Most ham clubs in the area have cancelled their meetings, VE sessions, and other outside activities for 2 to 4 weeks. The Board of Directors will be looking into an alternate venue or electronic form of meeting in the event our April meeting schedule at the Medical Center is cancelled.

For March, let's use the time we would have spent at the meeting by joining in on-the-air on the N5CXX UHF Repeater (441.875 MHz, +5 MHz, PL=131.8 Hz). KR1ZAN will be acting as an informal Net Control, so please check-in as you're on the way home from work, traveling around, or from your home QTH. This will be a good opportunity to evaluate the coverage of our repeater. It's not necessary to stay around the full time, but check-ins will be recorded from 5 to 7 p.m. (our typical meeting time).

If you have announcements for the club, this will be a good opportunity to pass them on to other members. Also, any comments on alternate meeting locations or electronic conferencing methods will be welcomed.

We hope to see you for the CARC on-the-air meeting Tuesday, March 24th.

CARC Community Service Activities

Siren Testing Dennis Cobb WA8ZBT, John McFadden K5TIP and Jim Skinner WB0UNI participate in the Richardson emergency siren testing. The March test was cancelled

by the city of Richardson 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 participates 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.

Special Message from Our Section Manager

Friday March 13th Evening

The evening before Saturday's Belton Ham Fest (Temple, Texas) I met with our West Gulf Division Director, John Robert Stratton.

We discussed how leadership within in the ARRL wanted to proceed through the next 30 days of Social Distancing.

John (Our ARRL West Gulf Director) stated that the Red Badges at Headquarters level met by telephone conference earlier that same day and have all decided they would abstain from attending any club meetings or Ham Fest over the next 30 days as of 14 March. This is in an effort to Promote Social Distancing

As your North Texas Section Manager, I endorse this direction with hope that this will encourage social distancing and help our country heal.

ARRL leadership, as a whole, stands ready as always to the continued support of members and their clubs, as well as the conventions we all look forward to attending once again.

We will support our members through the use of virtual sessions via the internet, email, and other social media tools.

Please follow the Social Distancing Guidelines given to us by our health professionals.

Many radio clubs, large and small, have decided that their next meeting will be held virtually either on their local repeater or via teleconference / video internet.

Steve

KG5VK

CARC OFFICERS**PRESIDENT**

Frank Krizan KR1ZAN
214-563-6679
kr1zan@arrl.net

VICE-PRESIDENT

Bill Swan K5MWC
972-529-3906
bill@swanshome.net

SECRETARY

Jim Brown AF5MA
972.495.2209
jhksbrown@verizon.net

TREASURER

Rohan Thomas KG5RCN
972.697.3512
Rohan7066@yahoo.com

ACTIVITIES CHAIRMAN

Kerry Weeks K5WKS
214-563-6679
weeks.kerry@gmail.com

WEBSITE MANAGER

Mike Hollingsworth W5QH
972.571.6060
w5qh@arrl.net

STATION TRUSTEE

Bob Kirby K3NT
214.478.3230
k3nt@arrl.net

NEWSLETTER EDITOR

Jim Skinner WB0UNI
214.535.5264
wb0uni@arrl.net

MEMBERSHIP

Bill Swan K5MWC
972-529-3906
bill@swanshome.net

N5CXX CLUB STATION

972.705.1349
461-290

VE SESSIONS

Collins Amateur Radio Club (CARC) Test sessions take place on fourth Tuesdays, immediately following the regular CARC monthly membership meeting (about 7:30 p.m.). The test sessions are held in Conference Room A of the Methodist Richardson Medical Center, at the Bush/Renner/Shiloh intersection in Richardson. Walk-ins are welcome, but it's best to register with the lead examiner, Kerry Weeks, at weeks.kerry@gmail.com or by phone at (214) 478-3230.

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 Don Klick KG5CK. 972.464.2889 or E-mail rwkhamtest@gmail.com.

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THE PREZ SEZ ...

by Frank Krizan, KR1ZAN

On behalf of the newly elected officers, thank you for putting your trust in us to lead the club in 2020. We shall endeavor to do our best. Your inputs are very important, as is your participation in club meetings and activities.

The Coronavirus pandemic has really shaken up all our lives. Our club was directly affected when the Medical Center notified us that they are cancelling all outside meetings "for the duration." Not only has CARC been affected, but, most of our other cousins in area clubs, usually based on where they meet.

Several clubs have announced they are investigating the use of electronic conferencing for the next few months. That's certainly a possibility, and I would certainly entertain that as a possibility. If you have suggestions, send them to me at kr1zan@arrl.net. Ideally, find solutions that don't cost money!

I wish to extend a BIG Thank You to Gene Duprey, K1GD, who didn't want to see the Collins Amateur Radio Club fall to the wayside and accepted the job as President for the past 3-plus years. Gene has also been supported by an exceptional group of team members who need our Thanks:

- Our Secretary, Jim Brown, AF5MA
- Our Treasurer, Rohan Thomas, KG5RCN
- Our Repeater Trustee & Station Manager, Bob Kirby, K3NT
- Our Newsletter Editor, Jim Skinner, WB0UNI
- Our Webmaster, Mike Hollingsworth, W5QH
- Our Major Supporters: Dennis Cobb, WA8ZBT, and Steve Phillips, K6JT

I'm very pleased to have Bill Swan, K5MWC, as the Vice President and Database Manager of the club. Bill, in spite of some difficult times, has dug through all the club records and produced as accurate a roster as can be had. As we transition to Ham Club Online, we'll probably uncover a few problems, but, this conversion should help all officers in the future.

Kerry Weeks, K5WKS, has joined the Board as the Activities Manager. He created and maintains the CARC ARRL VE Team that conducts testing sessions after each club meeting. Kerry would like to hear your inputs on programs and activities for the club.

As we progress through this year, the Board plans to implement activities and projects which I hope you'll find an interest in and offer to help with. An active, healthy club is one in which every member is involved, and, ideally, has a job that they can perform — whether at a club meeting, a club activity, or at home.

If you didn't attend the February meeting and would like a copy of the "CARC Service Survey" which reflects the many tasks needed to make our club successful, send me an email, and I'll get a copy back to you.

Until next month, stay safe, stay healthy and good DX.

de KR1ZAN

VP REPORT

The membership roster has been updated to include new members, editing of previous roster to address input errors and including a new column that contains the expiration date for each member. The expiration dates were established using the process and parameters introduced last year. All expiration dates will be stated as 12/31/xx. The year of expiration (xx) is based on how many years the member signed up for and submittal of the renewal fee.

Regards,

Bill

SECRETARY'S REPORT

25 Feb 2020

President Gene Duprey K1GD called the meeting to order at 1733.

The following were present at the meeting:

Brian Belcher	WA5M
Jim Brown	AF5MA
David Cheek	WA5MWD
Gene Duprey	K1GD
John Galvin	N5TIM
Frank Krizan	KR1ZAN
John McFadden	K5TIP

Daryl Morgeson	AF5QJ
Dick Sander	K5QY
Mike Schmit	WA9WCC
Kane Schneider	K5ANE
Jim Skinner	WB0UNI
Jim Stafford	W5DTG
Bill Swan	K5MWC
Kerry Weeks	K5WKS
Mark Wells	K9MDI
Joe Wolf	N5UIC

Officer and Committee Reports:

Following member introductions, President Gene Duprey offered a President's Report for the past year. Key points were:

1. Funding was received from club sponsor Collins Aerospace for the current year.
2. Work continues on acquisition and integration of equipment to support remote control of the club radio shack.
3. Two new amplifiers are being added to the K3 station.
4. An initial set of retiree badges were issued for retiree access to the club radio shack located on company premises; requests are being accepted for additional badges.

Gene also offered the Treasurer's Report in the absence of the Treasurer. Club funding was determined to be sound.

Secretary Jim Brown AF5MA summarized the Secretary's Report which was included in the last newsletter.

The Membership Chairman's Report by Bill Swan K5MWC summarized efforts to publish an updated club membership roster in the near future. He noted that the club currently has 36 members, with two recent additions: Tom Wright NN2X and Adam Wright KI5FJE.

Activity Manager Frank Krizan KR1ZAN identified upcoming programs for the remainder of 2020. The March program will be a presentation on Winlink by John Hill KF5VO.

Old Business

The plan to elect officers to manage club activities for the remainder of the 2020 was announced at the January meeting. At that time a slate of officers was proposed by the Board of Directors, recognizing that additional nominees, if any, would be considered at the February meeting. The slate proposed by the Board of Directors included:

- President: Frank Krizan, KR1ZAN
- Vice-President: Bill Swan K5MWC

Secretary: Jim Brown AF5MA

Treasurer: Rohan Thomas KG5RCN

Activities Manager: Kerry Weeks K5WKS

No additional nominees were offered by the members present at the February meeting. It was moved and seconded that the slate be accepted for installation; this was approved by a majority of voting members present.

New Business

No new business was addressed.

The meeting was adjourned at 1804, followed by a presentation on "Low-Noise Receiving Antennas" by Dick Sander K5QY.

ACTIVITIES MANAGER REPORT

by Kerry Weeks, K5WKS

Hi everyone. I'm honored to be able to help with the success of our club. With Frank's assistance from his previous job, here's what we have lined up for the coming year. It's not fully fleshed out, but will be soon.

Let me know if you see any conflicts, make suggestions and offer help where you can. I can be reached at weeks.kerry@gmail.com or by phone at (214) 478-3230.

Mar 24 - Winlink — John Hill, KF5VO — *** CANCELLED (WE PLAN TO RESCHEDULE) ***

***** All of the following are subject to cancellation, re-scheduling, venue change or use of electronic conferencing. *****

Apr 28 - 3905 Century Club Net — Milton Withers, AD5XD

May 26 - Field Day & Fun Day Prep

Meeting Program: How to use FD Logging Software & FD Rules

June 9-10 (Tue & Wed) Collins Aerospace Employees Fun Day

June 12-13 HamCom

Jun 23 - Field Day Final Review & Fun Day Wrap-up

Meeting Program: Working the FM EasySats — Frank Krizan, KR1ZAN

June 27-28 ARRL Field Day

Jul 28 - Ice Cream Social

Field Day Summary Report

Aug 25 - DXing for Non-DXers — Dave Jaksa, W0VX

Aug 15 NAQP SSB (at Club Station, 1pm to 1 am)

Sep 22 - Adventures on Ascension Island & Diego Garcia - Steve Coleman, WB4GHY

Oct 27 - Nomination of Officers for 2021

Meeting Program TBD

Nov 24 - Annual Meeting; Annual Report; Election of Officers for 2021

Meeting Program TBD

Dec 8 - Christmas Dinner (date tentative)

Dec 12-13 (Fri-Sun) ARRL 10 Meter Contest-club competition-club station and member's homes

New CARC Discussion Group

by Frank Krizan, KR1ZAN

If you've worked for Collins for a while, you probably remember the old saying "We may be the best communications company in the world, but we can't communicate among ourselves!" A lot of ham clubs are that way too.

Our club, in days gone by, had its own discussion group and later used the Telecom Corridor Info Group on Yahoo. Both are now defunct. There have been a number of times in recent years that members wished to convey announcements to our membership in general, but could only do so via the newsletter (a monthly publication) or at our club meetings. A few attempted to do so via the club's 70cm repeater.

To provide a forum for discussion, the club has created a Groups dot IO Discussion Group (simply named CARC) which allows for discussion on any topic you find of interest. Our group has been configured for CARC members only. This will be a great way to buy, trade, sell equipment, ask questions (and hopefully get answers), and make suggestions on how to improve our club.

Our discussion group is "By Invitation Only". So, in order to JOIN, you should do one of two things: 1) login to your groups.io account, search for CARC and click on JOIN. This will require an administrator to approve your membership in the group; or, 2) send an email to kr1zan@arrl.net requesting membership (please include your name, call and email address in the request). The administrator will send you an invitation email. Follow the instructions, and, you'll soon be a part of the Group. It's not necessary to setup a groups.io account, but, useful if you wish to search the archives and examine files, databases, photos, etc. that may be included. Such an account also allows you to change your email address for receiving posts, select individual or daily summaries and more.

We want this group to be beneficial to our membership. Please keep postings polite and courteous, related to ham radio or the club, and minimize attachments.

Ham Club Online Transition

by Frank Krizan, KR1ZAN

Our club (CARC) is transitioning our membership database to Ham Club Online (HCOL). You may already be familiar with this service if you are a member of other clubs in DFW.

We are registered as a Beta user of this service, and, for the time being, it's free. The creator of the service indicates

that those clubs who participate in Beta will be given a substantial fee reduction (if not free or token cost) for future use once the full system is released for general use.

Over the next month, Bill Swan, K5MWC, and I (Frank KR1ZAN) will be entering club member information into Ham Club Online. As we do that, we will first verify your information as recorded in our current roster. You can expect an email from Bill or me asking you to confirm this information. Then, when confirmed, you'll receive additional emails from HCOL letting you know that you are part of the system.

One important thing to note is that HCOL uses your official FCC address as your mailing address. As we verify Roster information, we'll be contacting you to confirm your address. Virtually all our club communications is via email — very little is sent via USPS. If you need help getting your FCC address changed, we'll be happy to help.

HCOL uses your personal email as the User ID. Therefore, if you are a member of another local club (RWK and PARK use HCOL), please use the same email address that you use for those clubs. You do not have to create an account with HCOL, but I recommend that you do. It will give you access to your full member information, allow you to add/change phone numbers and select any information you do not want shared with the public and/or other members. We'll send you instructions about setting up an HCOL account if you don't already have one.

For those who don't have a personal email address (several members and spouses share the same address), we can arrange for a unique [name] @ n5cxx dot us email address that simply forwards to the shared email address.

This system will not be used for chatting, discussions, advertisements, etc., but, is intended for announcements of club meetings and activities, notification of newsletter releases, meeting changes (such as this month's meeting cancellation) and other important club information.

As we cut over to HCOL, you may receive emails notifying you of membership status, etc. I would recommend just ignoring them until we send out the formal announcement that the membership database is complete.

If at anytime you have questions, please feel free to contact Bill Swan (k5mwc@arrl.net) or me (kr1zan@arrl.net).

Sporadic SIGNALS

captured by Frank KR1ZAN

Steven Lott Smith, KG5VK, ARRL NTX Section Manager, writes: "In the interest of protecting our Members and the general public and in complying with the latest CDC recommendations, I have decided, after consultation with Bill Caldwell,

AC5BC, Mentor Fest Chairman and NTX Leadership to postpone **Mentor Fest** until this Fall. "When" in the fall will depend on facility availability, conflicts with other currently scheduled events and the status of the COVID-19 virus."

Posted March 2, 2020, on the Tanner Electronics, Inc. Facebook page:

"With heavy hearts we must announce that we will be closing the store permanently effective June 1st ☹️. This was a very hard decision for our family but unfortunately it was our only choice. We have been truly blessed to have been in business for over 33 years in Carrollton and had the opportunity to serve such amazing customers. Stop in and shop: We are still ordering and restocking inventory daily and Jim is finding unusual deals in the warehouse that is he selling for low prices."

FROM AMSAT NEWS SERVICE MAR 8, 2020:

Replacing the International Space Station?

Aboard the International Space Station (ISS), humanity has managed to maintain an uninterrupted foothold in low Earth orbit for just shy of 20 years. But as the saying goes, what goes up must eventually come down. The ISS is at too low of an altitude to remain in orbit indefinitely, and core modules of the structure are already operating years beyond their original design lifetimes. As difficult a decision as it might be for the countries involved, in the not too distant future the \$150 billion orbiting outpost will have to be abandoned.

Naturally there's some debate as to how far off that day is. NASA officially plans to support the Station until at least 2024, and an extension to 2028 or 2030 is considered very likely. However, one commercial partner is betting on a longer-term future. Axiom has been selected by NASA to develop a new habitable module for the U.S. side of the Station by 2024.

While the agreement technically only covers a single module, Axiom hasn't been shy about their plans going forward. Once that first module is installed and operational, they plan on getting NASA approval to launch several new modules branching off of it. Ultimately, they hope that their "wing" of the ISS can be detached and become its own independent commercial station by the end of the decade.

Read the full article at <https://bit.ly/39tsc6V>

[ANS thanks Hackaday for the above information]

Jon Suehiro, NN5T, posted the following on the RWK Discussion Group Mar 7, 2020: [TowerTalk] **VHF/UHF Transmitting Chokes** I've added Cookbook recommendations for VHF/UHF chokes. <http://k9yc.com/ChokesVHF.pdf> 73, Jim K9YC

For many years, there's been quite a bit of discussion about whether to install **fuses in both the positive and negative leads** at the car battery. Here's a great article by Bob K0NR with lots of references. Read all the way down



to his Conclusions for a good summary and recommendations. <https://www.k0nr.com/wordpress/2020/03/one-fuse-or-two/>.

Many of us got our start in RADIO as a broadcast band (BCL) or short-wave band (SWL) listener. I started out very young fascinated by all the radio stations one could hear, especially at night, when local stations went off the air and SKIP rolled in. After saving up for over a year, helping my dad at his service station, and getting a bit of help from my parents, I purchased my first ALL-BAND RADIO - a National NC-60. This opened up a whole new world of listening and learning. This was 1958. Propagation was good. Shortwave broadcasts from major countries poured in from power transmitters - Canada, Switzerland, Voice of America, Radio Moscow, and, one that I always enjoyed, Radio Australia.

Of course, sending off for QSL cards was the “in thing” for SWLs. Radio Australia, and many of the other SW stations, had regular “listener” programs. I wrote to Radio Australia and got a wonderful written reply saying that portions of my letter were going to be read on a certain day and time on their “Radio Mailbag”. I couldn’t wait. It was around 6 a.m. on a Sunday morning. Their signals, like always, just boomed in. I didn’t have a tape recorder back then — couldn’t afford one. But, RA was nice enough to send another letter, later, with the full transcript.

Over the years, as I’ve had the occasion, I’ve tuned in to Radio Australia. Then, in 2017, with world-wide listenership on the decline, they announced they were shutting down their shortwave broadcasting service. How sad.

But, and you may have heard the announcement on various ham news sites, a group of hams from the Shepparton and District Amateur Radio Club, with the permission of BAI Communications (Broadcast Australia) were able to connect amateur transceivers to the curtain array and rhombic antennas at the Broadcast Australia site in Shepparton, which is located in North Central Victoria, Australia. A unique call sign was issued for the special event the weekend of March 14-15, VI3RA.

Band openings are somewhat limited to the central US, but I noted from a propagation prediction tool that openings were consistent with what I remember from my youth — right around sunrise. I overslept on Saturday, but, Sunday, Mar. 15th, I got up in time and listened on several bands. At 6 a.m., the strongest signal on the 40 meter band, was VI3RA. They were using a curtain array, an Icom 7300 and 400 watt amplifier and just boomed in (S9+20). I, along with what sounded like a hundred others, was calling them. After an hour-and-a-half, I almost gave up. I was getting anxious, because, at 8 a.m. Dallas time, they were shutting down.

And, then, the magic of sunrise occurred. Right at 7:30 a.m. I noted that the other stations calling seemed to fade out, VI3RA peaked up, and I gave my call twice, slowly, phonetically. I was so happy to hear “Zulu Alpha November, give

us your full call.” We had about a two-minute chat. How exciting. My SWL ventures with Radio Australia that began on this huge antenna 62 years ago ended with a final contact on amateur radio.

I kept on listening after my contact and at 7:55 a.m. local, the operator announced they were preparing to shut-down. A couple of minutes later, akin to the Radio Australia of old, I heard a “tuning signal” for about 30 seconds, followed by the playing of *Waltzing Matilda*, Australia’s unofficial national anthem, for another 30 seconds and the official sign-off and good by from the VI3RA crew.

Unless something transpires to interrupt the plan, the last remaining antennas at Broadcast Australia in Shepparton will soon be torn down. The operator who signed off gave a hint that they might try to do a special event operation again if permission can be obtained.

We all have our special ham stories about those special radio contacts, and, for me this was one of those events that gives you goose-bumps. 73 RA

Hamfests & Conventions

The Dayton Hamvention Executive Committee just announced that Hamvention will be cancelled for 2020. The message posted by the Committee reads as follows:

“The Hamvention Executive Committee has been monitoring the COVID19 pandemic. We have worked very closely with our local and state health Departments. It is with a very heavy heart the Hamvention Executive Committee has decided to cancel Hamvention for this year.

Jun 12-13 HamCom remains on the calendar for June 12-13, 2020 at the Plano Event Center. Check out hamcom.org.

And, **later in the summer** there’s the **Austin Summerfest, August 7-8**, at the Crowne Plaza, 6121 North IH-35, Austin, TX 78752. Info at www.austinsummerfest.org/

73 until next month ...

Field Day 2020 - June 27/28

by Frank Krizan, KR1ZAN

Before you know it, summer will be here — and that means Field Day. We started talking about CARC’s participation in Field Day at the February meeting and a member survey was taken.

The results are mixed. Not every member in attendance participated in the survey. A few members are already committed to working with another club. For those wanting to have a CARC Field Day, here were the choices:

1. Conduct Field Day in the CARC Club Station in Building 461

2. Conduct Field Day in an outdoor location (some options include on the Collins Aerospace campus, a nearby city park, or a suggested location)
3. Participate in Field Day with another local club (i.e., Garland, Richardson, Plano, other)

Members were asked to rank the choices as their 1st, 2nd or 3rd choice. Using a weighted scale for the opinions, the 3rd option had 17 points, the 1st option scored 16 and the 2nd option had 15 points. You can see that it's a virtual tie.

We need more input. Please send your thoughts to me at kr1zan@arrl.net, especially if you weren't at the February meeting or if you didn't submit a completed survey.

We also asked for volunteers to help with Field Day. There were about 50% who offered to help, the majority being operators and loggers, and this was from folks who picked the club station as their No. 1 choice.

So, unless we hear from more members about Field Day, it will make sense to hold the CARC Field Day in the Bldg. 461 club station. We need a Field Day Captain. Who's willing to step up? We may be able to get special approval for our retirees to escort visitors. As it stands now, we have 3 people who picked this as their 1st choice. This may be a limited Field Day operation from the club station.

Another option is to conduct the club's Field Day from the club station and partner with the Garland ARC to help staff a shift or GOTA station. The reason for this option is that we have at least 3 members already committed to Garland.

Send your thoughts to kr1zan@arrl.net. And, once our [groups.io](https://www.groups.io) group has more members, post your comments there.

February CARC VE Team Report

by Frank Krizan. KR1ZAN

The February ARRL VE Test Session hosted by the Collins ARC VE Team, on Tuesday, February 25, 2020, had 2 applicants.

A total of 3 exam elements were administered. Earning his Technician license was William, KI5ILR, of Carrollton, and, upgrading to General was Stephen, KI5IIL. Congratulations to you both. And, on checking license status, I see that Stephen has already upgraded to Extra.

VEs taking part in January were Kerry Weeks, K5WKS, Daryl Morgeson, AF5QJ, Mark Wells, K9MDI and, Frank Krizan, KR1ZAN.

Our next Test Session date and time is uncertain. We are at the mercy of Methodist Richardson Medical Center, and, until the COVID-19 issue is resolved, we don't have access to meeting rooms at the hospital. Please watch the CARC website for future announcements (www.n5cxx.us). If you have questions about a testing session contact the lead examiner, Kerry Weeks, via email at weeks.kerry@gmail.com or by phone at (214) 478-3230.

How the National Bureau of Standards Helped Make "Radio"

This was originally published as "NIST's Role in the Early Decades of Radio (1911-1933)" on the National Institute of Science and Technology's blog, *Taking Measure*. The original post, and additional photos are available at <https://www.nist.gov/blogs/taking-measure/nists-role-early-decades-radio-1911-1933>

Even if you weren't able to watch the recent Super Bowl on TV, you could still listen to the play-by-play commentary on the radio. But radio does more than just broadcasting sporting events or playing music. It plays a major role in emergency response, navigation and science.

The word "radio," however, didn't become part of our regular vocabulary until 1911, and it happened thanks in part to J. Howard Dellinger, a radio scientist at the National Bureau of Standards (NBS), the agency that became the National Institute of Standards and Technology (NIST). This came about when the second International Radiotelegraph Conference was being planned in London, and a professor sent Dellinger a paper that he was going to present to the conference for review.

At the time, "wireless" was used as the term for radio communication, especially by the British. However, NIST was charged with revising standards in preparation for the conference, and Dellinger suggested that the professor use "radio," which was already becoming a popular word in the U.S., instead of "wireless." The professor agreed, and the word "radio" went on to become the universally accepted term.

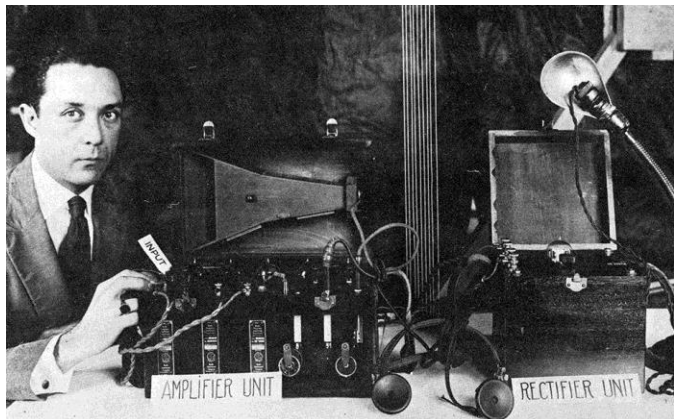
Dellinger not only played a role in popularizing the word "radio," but he also played a role in the first radio work done at NIST. A commercial company asked NIST to calibrate a wavemeter, a device developed by one of its engineers that measures electromagnetic waves like those of radio. Dellinger was known as the wireless expert and took on the project of calibrating the first radio instrument at NIST.

A New Type of Radio Receiver

But for radio to become mainstream, it first had to be commercialized, which began with its introduction into households. However, the challenge was building a radio set that used the electrical current, called alternating current (AC), which powered lights, fans and kitchen appliances when plugged into wall sockets. The predecessor to this technology was developed and patented by two researchers, Percival D. Lowell and Francis W. Dunmore, at NBS in 1922. They called their invention the "mousetrap."

The "mousetrap" was a receiver for a radio amplifier that could run on AC. This was considered a breakthrough because at that time radios were only able to be powered by direct current (DC) provided by batteries. These batteries were bulky and heavy, had to be charged from time to time and were considered dangerous because of the acid used

in them. The researchers' prototype meant the radio could be used in homes without causing damage and with the same performance quality.



Percival Lowell with his patented radio set powered by alternating current. Credit: NIST

Lowell and Dunmore filed two more patents together for other innovations, and for the “mousetrap” they sold the rights to the Dubilier Condenser Corporation. Little did they know that, because there was no uniform policy on patents issued to government employees, their actions would result in more than a decade of litigation over who legally had the rights to the patent.

While they were tied up in court, the Radio Corporation of America (RCA) developed its own model of the AC radio in 1926. Its model later became the first AC-powered radio sold to consumers.

Flying by Radio

During the early years of flight navigation, NIST was doing research to assist pilots while they were flying and landing. Pilots needed three things to get their bearings when flying “blind,” meaning it’s foggy, too dark or too cloudy to see. They needed to know the longitudinal position, altitude and speed of the aircraft, which were all achieved by various beacons installed in the plane. The remaining issue was that there were two frequencies the pilot constantly had to switch between the frequency that the Department of Commerce used to send weather information to planes and ships, which sometimes caused interference for pilots, and the frequency the radio beacon operated on, which gave altitude and other information.

Dunmore created a prototype, but Harry Diamond, a radio engineer who joined NIST in 1927, completed the device, called the radio guidance system. Diamond solved the problem by developing a separate device that allowed for voice communication to the pilot without receiving any outside interference from ships’ radios.

A Curtiss Fledgling, a trainer aircraft developed for the U.S. Navy, was equipped with the device, and flight tests were performed between NIST’s experimental air station at College Park, Maryland, and Newark Airport in New Jersey in

foggy weather. After a series of successful tests were performed, the device was turned over to be used by the Department of Commerce in 1933.

Praise From a Famous Inventor

While mostly intended for serious users, some of NIST’s journals and publications were popular with the public. One such book, titled *The Principles Underlying Radio Communication*, covered topics such as elementary electricity, radio circuits and electromagnetic waves and was also published as a textbook for soldiers in the U.S. Army. The famous inventor Thomas Edison received a copy from NIST and wrote a letter thanking the first director, Samuel W. Stratton, for publishing it, saying it was “the greatest book on this subject that I have ever read.”

As these and other examples show, NIST had a significant influence on radio research between 1911 and 1933. However, NIST’s radio work didn’t end with the first blind landing. NIST would continue to contribute to the field leading up to and during World War II, and research continues to this day in areas such as 5G, public safety communications and spectrum sharing.

ABOUT THE AUTHOR

Alex Boss is a general assignment writer in the NIST Public Affairs Office and covers standard reference materials (SRM). She has a B.S. in biology from Rhodes College and an M.A. in health and medical journalism from the University of Georgia. Her favorite pastimes include playing in DC’s recreational soccer leagues and drinking chai lattes.



Coronavirus Pandemic, Day 16.

If anyone is still out there, I’m alive but struggling. Food is running low. Down to only 459 days-worth. My hands are super sanitized and my butt is super clean. Down to 1599 rounds of ammo (dropped 1 round down the heat vent while doing daily inventory). Power still on, but for how long? Missing human interaction but I have my dogs....for now.. (I’m soaking their food in BBQ sauce in an attempt to marinate them from the inside in case I have to eat them). I fear dark days ahead. News is all bad. Neighbors have attempted to leap from windows to their death, (or near death—most have single story homes so they are badly bruised). Blew through most Amazon Prime TV series so may have to watch some again.. Basic survival is a definite challenge. I vow to persevere to the end. I am a survivor! Please, if there is life out there, communicate with me to help preserve my sanity. *Copy and pasted from another fellow survivor *

(Contributed by “Anonymous”)

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	
19	<p>Rookie Roundup—Phone Mission: To encourage newly-licensed operators (“Rookies”) to operate on the HF bands and experience competitive Amateur Radio operating. Experienced operators are encouraged to participate and help new operators – either on the air or in person.</p> <p>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.”</p> <p>The event runs from 1800 UTC through 2359 UTC. Details at http://www.arrl.org/rookie-roundup.</p>
JUNE	
13-15	<p>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</p>
20	<p>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</p>
27-28	<p>Field Day Objective: To contact as many stations as possible on the 160, 80, 40, 20,15 and 10 Meter HF bands, as well as all bands 50 MHz and above, and to learn to operate in abnormal situations in less than optimal conditions. Details at http://www.arrl.org/field-day.</p>

Basic protective measures against the new coronavirus

Take care of your health and protect others by doing the following:

Wash your hands frequently

Regularly and thoroughly clean your hands with an alcohol-based hand rub or wash them with soap and water.

Why? Washing your hands with soap and water or using alcohol-based hand rub kills viruses that may be on your hands.

Maintain social distancing

Maintain at least 2 meter (6 feet) distance between yourself and anyone who is coughing or sneezing.

Why? When someone coughs or sneezes, they spray small liquid droplets from their nose or mouth which may contain virus. If you are too close, you can breathe in the droplets, including the COVID-19 virus.

Avoid touching eyes, nose and mouth

Why? Hands touch many surfaces and can pick up viruses. Once contaminated, hands can transfer the virus to your eyes, nose or mouth. From there, the virus can enter your body and can make you sick.

Practice respiratory hygiene

Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately.

Why? Droplets spread virus. By following good respiratory hygiene you protect the people around you from viruses such as cold, flu and COVID-19.

If you have fever, cough and difficulty breathing, seek medical care early

Stay home if you feel unwell. If you have a fever, cough and difficulty breathing, seek medical attention and call in advance. Follow the directions of your local health authority.

Why? Calling in advance will allow your health care provider to quickly direct you to the right health facility. This will also protect you and help prevent spread of viruses and other infections.

Stay informed and follow advice given by your healthcare provider

Follow advice given by your healthcare provider, your national and local public health authority or your employer on how to protect yourself and others from COVID-19.

Why? National and local authorities will have the most up to date information on whether COVID-19 is spreading in your area. They are best placed to advise on what people in your area should be doing to protect themselves.



Richardson, Texas

Mail Station 461-290

Richardson, TX 75083-3807

TO:



Richardson, Texas

<p>CLUB STATIONS (972) 705-1349</p> <p>N5CXX REPEATER 441.875 MHz +5 MHz Input 131.8 Hz PL - RX and TX</p> <p>N5CXX-1 PACKET BBS COL Node 145.05 MHz</p> <p>N5CXX-N1, NRCXX-N2 & N5CXX-N3 HSMM-MESHNET Nodes 2.4 GHz</p>
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<p>THE MARCH 2020 MEETING IS CANCELLED. SEE THE NOTICE ON PAGE ONE</p>
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<p>NEXT SIGNALS INPUTS DEADLINE: →→→ 17 April 2020 ←←←</p>
