

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

February 2021

Volume 27 Issue 02



MEETING/ ACTIVITY NOTES

Reported by
Marv Beeferman

The ON-LINE Broadcaster
The *Jersey Broadcaster* is now on-line. Over 200 of your fellow NJARC members have already subscribed, saving the club a significant amount of money and your editor extra work. Interested? Send your e-mail address to mbeeferman@verizon.net. Be sure to include your full name.

Loop antennas were a critical component of this year's BCB DX contest. Professor Joe Jesson is an adjunct ECE Professor at The College of New Jersey and CEO of RFSigint Group, a consulting company. At the February meeting, Joe will discuss the earliest 1924 patent which adds regeneration to a loop antenna to get improved selectivity and other performance enhancements. The regenerative loop inventor, Vladimir Kosmich Zworykin, went on to work for RCA and is considered to be a pioneer of television technology. Joe will reverse engineer a commercial regen loop, the Kiwa Medium Wave air core loop antenna, with the idea of designing and making one. (This could be a cool NJARC project if we can get a critical mass of members interested.)

If you didn't attend our December Holiday Party club meeting or our January meeting, it is important that you are made aware about a recent "gift" by club member Jerry Ingordo. Jerry has invested over a year scanning PhotoFacts from their initial publication in June of 1946 to December 1963 - folder 1 to folder 671. This resource is now available to all club members at our website www.njarc.org. Just click on "Library" at the top of the page, then "Sams PhotoFacts." If you lost the passwords sent by president Lee, contact him at radiatorich@prodigy.net.

Jerry has already received some well-deserved comments:
"Very impressive. Jerry ROCKS the



MEETING NOTICE

The next NJARC meeting will take place on Friday, February 12th, at 7:30 P.M. The meeting will be conducted "on-line" via the video conferencing app Zoom. Information may be found at the club's website (<http://www.njarc.org>) with a link being sent out on the NJARC Communicator prior to the meeting. This month's presenter is Professor Joe Jesson who will talk about regenerative loop antennas. The topic is explained further in Meeting/Activity Notes.

SPECIAL DX CONTEST ISSUE

HOUSE!"

"I'm new to the Club. What a great thing having the Photofacts available and I am already using one. Thank you very much for all your hard work, time and effort!"

"I recently looked over the new addition to the website. What a great resource for antique radio enthusiasts. Jerry Ingordo should be commended for the effort and the results of this project. The folders are easy to access and the content is very clear, Truly, a welcome gift."

While on our website and utilizing another great NJARC resource, you might want to take a minute to renew your membership for 2021 or join/contribute to InfoAge. You can easily accomplish both via PayPal or send a \$25 check (\$30 for family membership) directly to our membership secretary at:

Marsha Simkin
33 Lakeland Drive
Barnegat, NJ 08005

On Sunday, January 10th, the InfoAge Space Exploration Center (ISEC) bounced a radio signal off the surface of the moon to celebrate the 75th anniversary of Project Diana. The project proved that radio signals could penetrate the earth's ionosphere and led to making communications with astronauts in space possible. The celebration was held via Zoom and featured eight presentations educating the 100 participant Zoom limit about the history of the project, how much work went into the feat, as well as the future of space exploration. Among the presenters were NJARC members Al

Klase and Ray Chase who discussed Edwin Armstrong's contribution to the success of the project. One member who viewed the presentation congratulated the duo on an "awesome job" and said "it promoted me to renew membership in InfoAge."

Member Joe Devonshire reminds us that the AWA has released a classic Bruce Kelley video from its vaults, "The Trans-Atlantic Test of 1921" which explores the pioneering efforts by amateur radio operators to successfully use short wave frequencies to communicate across the Atlantic. <https://youtu.be/b1-Xr4fbpsQ>

Upcoming Events

February 24th - Presentation: "Deco Radio: The Most Beautiful Radios Ever Made;" Art Deco Society of New York; registration required

March 12th - Monthly meeting via Zoom; presentation by Dr. Alex Magoun (TBA)

April 9th - Monthly meeting via Zoom; Ron Negra discusses "Waves of Hope"

April 24th/25th - International Marconi Day Contest/Celebration at infoAge station W2RTM

May 6th/7th - Kutztown Antique Radio Show

May 14th - Monthly meeting via Zoom, Show & Tell/Hints & Kinks

May 22nd - Spring Repair Clinic at InfoAge (Tentative)

June 11th - Monthly meeting via Zoom; Prof. Joe Jesson presentation (tentative)

June 26th/27th - ARRL Field Day; station W2RTM on grounds of InfoAge

July 9th - Monthly meeting via Zoom; Alan Wolke presentation (tentative)

THE JERSEY BROADCASTER is the newsletter of the New Jersey Antique Radio Club (NJARC) which is dedicated to preserving the history and enhancing the knowledge of radio and related disciplines. Dues are \$25 per year and meetings are held the second Friday of each month at InfoAge or Princeton University. The Editor or NJARC is not liable for any other use of the contents of this publication other than information.

PRESIDENT:

Richard Lee (914)-589-3751
radiorich@prodigy.net

VICE PRESIDENT:

Sal Brisindi (732)-308-1748
salb203@optonline.net

SECRETARY/NEWSLETTER EDITOR:

Marv Beeferman (609)-693-9430
mbeeferman@verizon.net

TREASURER:

Harry Klancer (732)-238-1083
klancer2@comcast.net

SERGEANT-AT-ARMS (WEST):

Darren Hoffman (732)-928-0594
amcmator@aol.com

SERGEANT-AT-ARMS (EAST):

Rotating

TRUSTEES:

Ray Chase (908)-757-9741
raydio862@verizon.net

Phil Vourtsis (732)-208-4284
philvourtsis@gmail.com

Bill Zukowski (732)-833-1224
n2yeg@optonline.net

TECHNICAL COORDINATOR:

Al Klase (908)-892-5465
al@ar88.net

TUBE PROGRAM CHAIRMAN:

Al Klase tubes@njarc.org

SCHEMATIC PROGRAM:

Aaron Hunter (609)-267-3065
ahunter01@comcast.net

CAPACITOR PROGRAM:

Joe Giliberti (732)-609-9777
starbase89@gmail.com
capacitors@njarc.org

RESISTOR PROGRAM:

(To be announced.)

WEB COORDINATOR:

Dave Sica (732)-382-0618
dave.sica@njarc.org

MEMBERSHIP SECRETARY:

Marsha Simkin (609)-660-8160
 33 Lakeland Drive
 Barnegat, N.J. 08005
mhsimkin@comcast.net

GOOD TURNOUT EXPECTED FOR BCB DX CONTEST

By
Marv Beeferman

By the time you read this, the club's 2021 BCB DX contest will be over. Based on commentary posted on the Communicator, it appears that interest was high and a good entry submittal is expected. A vote of thanks goes out to Technical Coordinator Al Klase for fielding some tough questions, providing the materials and coaching to support the contest and for cheering on some great contacts. Thanks also go out to Tom Provost who will tally the logs.

Al will be downloading the photos and communicator commentary for future enjoyment and club history, but, as usual, we'll bring a more immediate summary to members via the *Broadcaster*. Any late comers will be included in next month's issue along with the results.

- Henry Sonntag's (W2HES) station consisted of a Tecsun PL-990 and a Tecsun AN-100 tunable loop. The radio and antenna were placed on a cart that could be rotated.



- Aaron Hunter put together Al Klase's loop antenna to use with his 1931 Model 21 Majestic. It worked well. Aaron found that signal strength was only slightly less than the 30-foot wire he strung up in his house. "Since I can't turn the house, the loop is much better. Plus, since the loop is tunable, it gets rid of some of the static and station bleed over." Aaron was pulling in the Cuban time station at 570, though it faded in-and-out.

A photo of Aaron's "not so pretty" antenna with extra form follows. The loose wires at the top are where Aaron put the radio connection wires to try to keep them away from his cats. (If not already taken, the extra form is available

to the first person that requests it - sorry, no shipping. You can contact Aaron at ahunter01@comcast.net.



Here I am DXing on my newly restored Model 21 Majestic. You can see the top of the plywood loop antenna I built from Al's plans. Recapping the radio meant melting the tar out of all the tin cans that held the paper capacitors, including the IF transformers. This radio uses the same model chassis (20) that deceased member Richard Hurff and I hauled to the radio clinic time after time. (This radio was a running joke at our clinics. When Richard hauled it in every session, he would typically get a "hey Dick, still working on that piece of junk!" ...Ed) We finally got it to work, but I don't know what eventually happened to it. I was able to receive Cuba and Dallas, but not able to log Dallas as I couldn't find it the night I was DXing.

I have additional pictures of the Majestic while under repair. Purchased at Kutztown, everything except the cabinet was in a box. No tubes and no screws to hold the side panels and bottom cover and no idea how it went back together. LOL Someone had started the repair and I had to undo what he did.

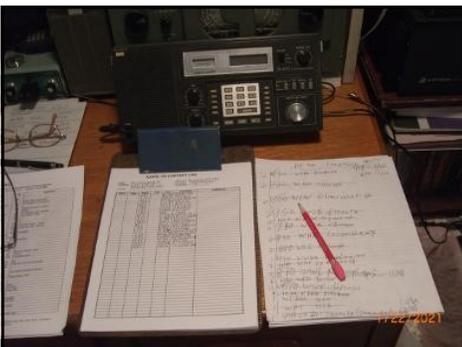


Here is a Benmar Direction Finder Navigator 555 radio with a Tecsun AN-200 loop antenna. Benmar was manufactured by Kodan and also sold under the name Bendix. I had to make a few repairs but got it working in time for the contest. I did not need the additional loop for signal strength as the radio has lots of gain, but it helped in nulling stations and slightly decreasing static. I think I did rather well with it.

• Fred Wawra (W2ABE) didn't use a loop or "anything old and fancy" but settled on a Yeasu FT450 and an external 55-foot long wire.



• Owen Gerboth also said his station set-up was "nothing fancy." He used an 80-foot or so long wire antenna. He was able to hear quite a few stations including two of the "hard ones." Due to noise in his area, Owen couldn't get any Texas stations.



For his second entry, Owen went somewhat more vintage with this Lafayette HE-10.



• Our Florida contingent, Frank Feczko, put a Zenith B-600 Trans-Oceanic through its paces using a Select-A-Tenna. His second entry was a 1963 Zenith Royal which pulled in KMOX, WOAI, WLS, WJR, WMVP, WABC and WCBS. Note the use of a lazy Susan.

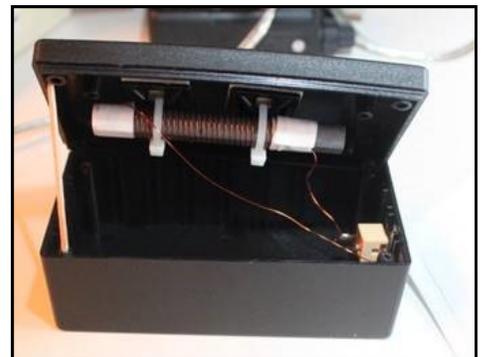


• Bill Hemphill (WD9EQD) noted that the easiest way to use a loop antenna is to just put the radio in the middle of the loop that is mounted on a rotating base. But sometimes difficulty arises when the radio is just too big, a table radio or ac powered. However, if the radio has antenna terminals for connecting directly to an AM broadcast antenna, it's easy to make an interface box that can be placed on the loop and wired to the radio.

Here's one that Bill has constructed:



The box has a 1/8" phone jack for connecting to the radio. Inside is a broadcast band loop connected to the jack.



Here's how Bill's "magic box" looks mounted in his loop and connected to a Tecsun PL-330 portable:



Bill says that the arrangement works great. The Tecsun PL-330 is a new model that he recently received and has an undocumented feature that allows you to disable the internal loop and use an antenna jack on the AM broadcast band. "This is very unusual for a portable radio. The radio becomes quite a performer with the loop. Of course, it is not as good as my Panasonic RF-2200 or Philco T-9, but it's pretty close."

There were a few questions with regard to the 27" loop that Bill used. Unfortunately, it is no longer available but it would probably be in demand if it was. It was called a Torus-Tuner and manufactured by Edmund Wawzinski (K3FDY). It utilized a switch to select the high or low end of the broadcast band and was

tuned via a transistor radio variable capacitor. Tuning only half the broadcast band at a time allowed for really smooth tuning and sharp peaking.

Household and outdoor noise generation were major topics of interest by our club DXers. Bill suggests that if you are using an indoor loop or built-in radio antenna, you want to reduce in-home noise generators. (Easier said than done, especially if you don't live alone.) He shuts down and unplugs all his computers, wall-wart power supplies, TV's, cable boxes and UPS's. He finds that the noise floor is quite a bit lower by doing this. Bill also says to make sure that all LED lamps and CFC lights are off. "I actually unplug everything." Similar recommendations were made by Paul Mondok.

Bill noted that the above efforts were rewarded by pulling 820 WBAP Dallas out of the noise. "Also was able to pull in 540 WFLF Pine Hill, FL and 530 Cuban Radio Enciclopedia. This was all on my 1958 Philco T-9 radio with the larger 2' x 2' tunable rotating loop antenna. So it was a great night for me."

Bill noted that one night he tried "something a little different." He put his Philco T-9 inside the Hula Hoop antenna described above and also had it wired directly to a wood loop antenna. It meant that he had two tunable, rotatable loops AND the T-9 would also rotate with the hula hoop. He found tuning interesting. He would off-tune the wood loop, then rotate and peak the hula hoop, and then rotate and peak the wood loop. "Worked great. I was able to pull in WOAI. The two loops are about six feet apart so that they don't seem to influence one another."



• Another "modest" setup was described by Bill Zukowski. He brought down his Yaesu FT-757GX transceiver, which covers the broadcast band, to Florida. He also included an antenna tuner to try and work some HF. Bill was only able to "erect" a 30' wire out of his 4th floor bedroom window that was thrown into a palm tree with a roll of electrical tape as ballast.

"My first DX night was the long wire connected directly to the center connector on the transceiver. On a whim, I tried

using the antenna tuner to see if it would help at all, as it does go down to 160m. **What an improvement!** It's only good above 1300KC, but above that frequency the signal strength increased between 5 and 6 units. That's about a 24db increase! For example, last night at about 7 PM, WFED, Washington DC, about 875 miles, came in between S-1 and the noise floor. With the tuner, it came up to S-5 and S-6."



• John Ruccolo's Hallicrafters SX-17 got bumped three years in a row from the DX contest. Since he found the matching speaker at the Columbus flea market back in September, he thought that this was a sign that he should give it another try. Antenna is a random-length long wire about 70-80 feet long. The radio does not have a rear-lighted dial so it's hard to use in a dimly lit room. That's what the small lamp in the photo is for. "The picture kind of reminds me of a 1930's QST magazine covers." A personal touch on top of the receiver - one of the greatest and sexiest album covers of the 1960's.



• Bill Sloma entered the contest with a 1955 Zenith R600.



• Tom Provost's entry was a 1965 Norwegian-built Mascot Regent Type 652. This 5-tube, 5-band receiver was teamed with a Czech-designed loop that Tom built. "They worked very well together."



• President Richard Lee decided on a Tecson Model PL-380 paired with a 4" FSL (Ferrite Sleeved Loop) that he constructed and attached to a rotating platform. The radio uses the innovated Silicon Labs Si4734 DSP chip which has greatly enhanced the ultralight market. The antenna is built using eight 4" x 1" x 1/8" Russian surplus ferrite rods formed into an octagon-like cylinder. It is then wrapped at 90 degrees with 36 turns of 250/46 litz wire. There's nothing more rewarding than spending sunset at the beach and pulling in KXEL (Waterloo, IA).



• For starters, James Doran headed out to the Catskills, rented a cabin in the woods with no wifi or appliances other than an outlet to run his Trans-Oceanic. He is still organizing his DX information. His A600 was "once the proud property of Radiowild," better known as Bob Bennett. It was "lovingly restored" by Bob and now considered a "jewel" in Jim's working collection. Requesting suggestions on using a TO for Dxing, Jim Whartenby responded:

"My only suggestion to using the TO is to remove the Wave Magnet from the top of the TO and rotate it to get the best reception instead of rotating the whole radio. You could also string a long wire to the top of the cabin and wrap a few turns around the Wave Magnet to increase signal strength. Grounding the wire end after the Wave Magnet may help reception."

At home, James tried using a variety of antennas including a Tecsun, Select-A-Tenna and Terk Advantage. He also used the TO's built-in, detachable Wave Magnet, sometimes in conjunction with the Terk and Tecsun. He also tried a 70' inverted-L running east-west from a second floor bedroom window to an elevated birdhouse in the backyard. "The jury is still out on which setup gave the best results."



• Your editor normally enters the contest with early battery sets but decided to try something different this year. It's an ultra-ultralight AM/FM radio weighing only 1.090 ounces (30.91 grams) - a HanRongDa "Radio for Sporting Man" (Model HRD-602). This little gem measures only 90 x 39 x 7 mm, has an AM sensitivity of < 20mV/m, an SNR of > 30dB and set me back about \$7 (earphones, charging cable, lanyard and pouch included). A neat feature is the radio's "step counting mode" where you enter your stride length and weight and after your walk is done, calories consumed and walking distance are calculated. Frequency (in 9 or 10 KHz steps), volume, time, battery charge and "walking" information is displayed on a relatively large green backlit LCD

display.

The performance of this miniature beauty was amazing. Using a Terk AM1000 antenna in the wireless mode did add some advantages but the radio performed quite well on its own, competing quite well with my Tecsun PL-360. Unfortunately, a disadvantage was the inability to tune in less than a 10 KHz step.



On the opposite side of the spectrum, I decided to try a Grebe CR-12 which I purchased a few years back but never got a chance to operate. This four-tube, 1923 TRF-Regen (detector, RF stage and two audios) uses 201A's but other combinations are suggested. (For some reason, I found that ST-type tubes did a better job in the detector and RF stages than globe-types.)

After doing my online homework regarding how to operate the set and best settings (this radio has LOTS of knobs to play with), I was rewarded with a nice glow from the 201's that varied with the filament rheostats - but only very low static in my earphones and no ability to increase volume. After playing with the set for about an hour, I decided to check voltages at the tube pins. When I removed the second audio, I discovered a small paper tag across two terminals. What had happened was that the original owner had tagged the base of each of his tubes with its test parameters. Since I didn't trust the originals, I replaced them with my own. Apparently, I didn't notice that one of his tags had slipped off and was laying across the B+ pins!

With significantly more static and the ability to adjust volume, I thought I was back in business. However, I couldn't find any stations. I spent another hour playing with the knobs. Although rec-

ommended, a good ground did not change anything. Then I started to suspect the antenna switch.

The CR-12 has a three-position, push-pull antenna switch similar to the power switch found on most early battery sets. It determines if one, two or no capacitors are in the antenna circuit. I found this switch extremely difficult to operate and even Deoxit had a minor effect. I kept on playing with it for about a half hour in coordination with the regen control. Then, out of the blue, with the switch fully in, a strong station emerged from the ether. I fought with this switch for another half-hour more until I could get it in a position where more stations started to come in.

My hopes of the CR-12 winding up to be a great performer never materialized but, after at least getting the set to operate, entering a log was the least I could do after all my work.



The best laid schemes of mice and men often DO go awry...especially in DX contests. John Stoll was going to enter a Minerva Tropic Master, but as you can see, repairs were not completed soon enough to get it ready for prime time.



What a shame, since John was going to pair his radio with an interesting loop antenna. Here's its story:

"No clue as to what console it came out of. Kutztown purchase years ago. It had that ancient look, since the top and bottom wood spreaders are curved...I just had to buy it. I added the tuning cap and a single loop of wire as a pickup. It's two foot high, almost a foot wide. The popstick is to keep my hands away from affecting the cap. The length of the stick helps fine tuning since it is a relatively long lever. The base was some sort of bedroom valet 'thing' to hold ties and dress pants that I picked from the trash. Someday I will make a much better looking transition board between the loop and the stand."



Joe Giliberti intended to use his Grebe Synchrophase as a contest entry but the 112A amplifier tube "crapped out." A 201A was suggested as a substitute but I haven't heard back from Joe yet. Hope he was successful.

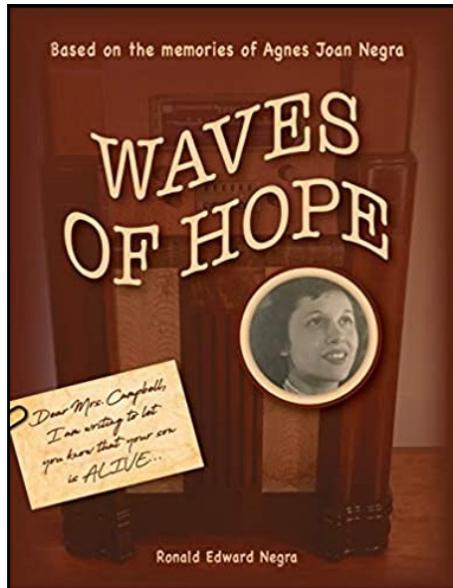
WAVES OF HOPE

By
Ray Chase

On October 16th, 2020, I returned a call to InfoAge from Valerie Negra whose 100-year old mother-in-law performed a unique, heart warming service during WWII - she used her home radio to receive short wave broadcasts from Berlin where listings of captured American soldiers were broadcast. She took the information and contacted POW relatives

all over the U.S. to tell families that their loved ones were still alive.

In 2019, her son, Ronald Negra took all of her collected letters and writings about her endeavors and self-published a book that he presented on his mother's 100th birthday. Ron made a few copies for friends, one of whom decided that it should be more broadly published. In August, 2020, it was released on Amazon and other outlets and immediately went to five stars.



The Negra family originally lived in Northern New Jersey but now Valerie and Ronald live in Waretown while Ronald's mother lives in her own house in Forked River. The book is creating a spirited response and Valerie and Ronald made a presentation of those responses to his mother, who is still "sharp as a tack," on her 101st birthday.

Since *Waves of Hope* involved the use of short wave radio listening, the book piqued my interest so I bought a copy and read it. Agnes Joan Negra (nee Verdi), a young mother whose husband was off on the battlefields of Europe, was told that radio Berlin was sending out nightly broadcasts of the names and addresses of captured allied prisoners. Since many of these prisoners were airmen shot down over Germany, their families only received government notice that they were missing in action. Agnes Negra learned how to navigate the short wave bands of her Philco console radio and she copied down the names of addresses reported each night from Berlin. She then sent letters to the captured soldier's families telling them that their sons or fathers were safe as prisoners of war. The recipients of these letters replied to Agnes

expressing their extreme gratitude on learning that their loved ones were still alive and well.

It is these letters and postcards that Agnes saved in her attic for 75 years and that her son only recently discovered and brought to light. Reviewing them inspired him to document the extraordinary role that his mother played during WWII. The book also covers many details of family life just before Pearl Harbor and during the war itself, much of it narrated by Agnes. In all, five young men from the Negra and Verdi families served in WWII in various services. Fortunately, they all returned home safely even though all served in combat areas.

The book has a picture of the author as a child taken in 1951 sitting in front of the radio that Agnes Negra was tuned to during those nightly broadcasts. The picture obscures most of the radio's details but our eagle-eyed member Bill Sloma identified it as a Philco Model 41-629P. The radio itself is long gone but our resourceful NJARC members located pictures of the radio and they were sent to the author.



Ronald and Agnes Negra in 1951 with their Philco 41-629P in the background.

Waves of Hope has a five-star rating and sells for \$16.95 on Amazon. Recently, Ron and his wife Valerie visited our Radio Technology Museum at InfoAge and were impressed at what they saw. They graciously offered to donate some books for sale at the gift shop with all proceeds going to InfoAge. If you are interested in the book, please purchase a copy at the museum shop in order to support InfoAge. Ron Negra, who has an interesting background, has also agreed to be a

presenter at our April meeting.



Ron Negra and his wife Valerie at a recent visit to the NJARC Radio Technology Museum at InfoAge.

FOOD FOR YOUR "RADIO" THOUGHT

Edited By
Marv Beferman

Radio World is one of the few publications left that still covers a wide range of radio interest - from the newest innovations and recent developments to a rich history. Over the years, I have received permission to publish a few articles that I felt would be of historical interest to our members. What follows are some edited odds and ends that don't fit into any particular niche but I thought might give you some food for thought.

FCC Warning: Don't Use Ham Radio or CBs to Plan Crimes

This article was written by Paul McLane and published January 17th and updated January 19th. It appears that the FCC has issued an enforcement warning that can be summarized as follows: Don't use ham radio, CBs, FRS walkie-talkies or other personal radio services to plan crimes. The warning is a result of concerns over possible terrorist attacks from disgruntled Trump supporters enraged by the outcome of the election and stoked by the recent attack on the Capital.

As part of the statement issued by the FCC:

"The Bureau recognizes that these services can be used for a wide range of permitted purposes including speech that is protected under the First Amendment of the Constitution...(but) Amateur and Personal Radio Services, however, may not be used to facilitate crimes."

The warning applies to ham radio operators and users of services like Citizen's Band, Family Radio Service walkie-talkies and General Mobile Radio service. Specifically, amateur licensees are reminded that they are prohibited from transmitting "communications intended to facilitate a criminal act" as well as "messages encoded for the purpose of obscuring their meaning."

Commentary: "The Old Goats are Going Away"

In an article published January 7th, Ron Schact talked about a shortage of a special breed of broadcast engineers. "I am not speaking of IT people. I am speaking of the guy in a T-shirt and jeans who gets to the transmitter, looks for the problem, reads the schematic, crawls inside the box and replaces R-16, R-17, C-232 and Q-4, and the music again blares forth." Schact bemoans the fact that these "old goats" are being replaced by the guy who walks into a site, looks at the box, grabs his cell phone, calls BE or Nautel to find which board to pull, and ships it back while waiting for a loaner to get the rig going.

Schact attributes one of the problems to lack of interest:

"When I was young, I got a ham license at 12, built my own CW rig with a 6L6, turned it into a phone rig with another 6L6 and a Heising choke, built a superregeneration receiver and went on 80, 75 and 40 meters. Parts came from a few old television chassis and old radios my dad brought home or from the military surplus store down the road - in 1960, there was still a lot of WW2 surplus. Try that today...there is limited surplus and most of the corner parts stores are gone. You can't even build a Heathkit anymore."

Schact notes that kids have no interest in this kind of stuff anymore. A concerted effort has to be made to get high school and college kids interested in broadcast engineering as a career. Those that do show some interest should be partly educated by shadowing an "old goat" who can show them the tricks of the trade:

"We, the limited number of old-timers who learned from the old-timers and through the wisdom of age and smelly fingers from getting too close to the ATU coils, have to keep alert for anyone who might express the slightest interest in our business. I ask around schools, especially science teachers, if they have

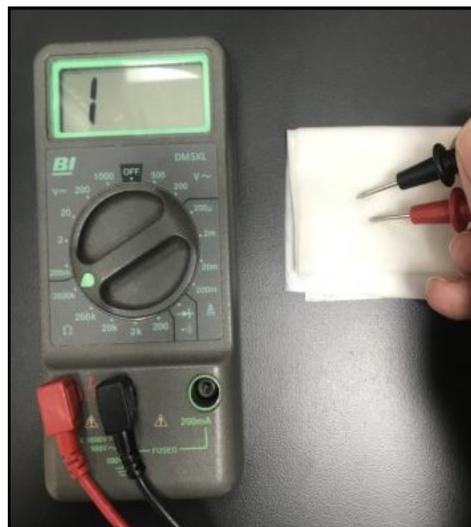
any students who seem interested in electronics...If our ranks aren't refilled soon, the radio dials are going to start getting really quiet."

The points that Ron comments on are easily reflected in our hobby and what we experience at the Radio Technology Museum. Perhaps we have underestimated the importance of what us "old goats" are trying to accomplish through our preservation of radio history and electronic education programs conducted at InfoAge.

Workbench: Germicidals May Kill Your Electronics

In his January 3rd article, John Bisset warns that not all wipes are created equal. Although sanitizing wipes are a popular way to clean desks, countertops, door-knobs, etc., especially when trying to stop the spread of COVID-19, not all sanitizing wipes are safe for electronics. He notes the case where the liquid in the wipes leaked between the modules in a PR&E BMX console and ran down the printed circuit boards below the console's surface. Channels began turning on and off on their own and the board became inoperable for a short time until the solution evaporated.

Later, resistance measured across a small area of the wipe was 28 Kohms - it should have been infinite. Such a resistance was certainly low enough to interfere with normal circuit operation of the board and represented dropping hundreds of stray resistors across circuit board traces. A paper towel saturated with 91% isopropyl alcohol measured infinite.



Moral of the story? Don't assume that cleaning wipes are non-conductive! Check them first.

Water Water Everywhere

When I was in the Navy, one of my Chief's favorite methods for cleaning a cruddy chassis was to drown it in a sink with fresh water under low pressure. As long as you let things dry out and made sure nothing collected in some hidden nook or cranny, it seemed to work quite well.

John Bisset, in an October 24, 2020 article, said he received a 50/50 divided response when he related the anecdote about running a transmitter through a car wash as the best way to get years of grime out of a transmitter.

A similar story was related to him by Edd Monskie, VP of engineering with Hall Communications:

"He recalls that when he moved to Lancaster, Pa., in 1977, he lived in a rented ranch house along a beautiful creek. After deep snowfall followed by a day of heavy rain, the cute creek became a flooding torrent. The entire ranch house was flooded with mud and dirty flood waters, up to 48 inches deep.

Edd figured that everything he owned was ruined but he had no flood insurance, so, with nothing to lose, he decided to take a garden hose and open every item, one by one, to wash the mud out. Kitchen appliances, radios, tube television and even a washer and dryer.

He says almost all of these continued to work once they were allowed to dry completely, even the old tube console. The TV worked for another two years! The washer and dryer were good for at least another five years."

Another story was told by someone who had purchased a load of studio equipment that had been exposed to a station fire. The equipment had no heat damage but it was covered in soot and a creosote-like substance that had dripped from the ceiling. The transformers and meters were removed from the gear and the remains taken to a car wash lot and coated liberally with Easy-Off oven cleaner. After 15 minutes, the grime was hosed off. The equipment looked like new and, after it had been dried and reassembled, it actually worked!

Editor's Note: According to Leo Lambert, Technical Director of the EPTAC Corporation: The problem with water is the capillary forces that pull the water in to tight spaces and makes it very difficult to remove. This is not just a drying issue but a rinsing issue. It is essential that the contaminated wash water is removed with

DI water to prevent potential corrosion problems. Once the assembly has been effectively rinsed, then it must be effectively dried. Residual water will also pose a potential reliability risk to the assembly. If all of this is done correctly there is no reason why assemblies can't be cleaned in an aqueous or semi-aqueous process.

DIGITAL AM UPDATE

Edited By
Marv Beeferman

At its October 2020 open meeting, the FCC voted unanimously to allow U.S. AM radio station owners to convert their stations to all-digital HD Radio transmissions if they choose to do so. All HD Radio receivers in the market are capable of receiving the MA3 signals, but making this switch would end analog listening on the given frequency.

The order establishes technical rules to protect existing stations from interference. Stations that want to convert will be required to notify the FCC and the public 30 days in advance.

"These stations must provide at least one free over-the-air digital programming stream that is comparable to or better in audio quality than a standard analog broadcast," the FCC wrote in a summary. "They also must continue to participate in the Emergency Alert System."

Some broadcasters find digital a great option for AM stations that couldn't find spectrum for a cross-band translator and that it will probably benefit large markets with a crowded radio dial that still have the need to compete using an AM signal. The change to digital is the latest in a series of "revitalization" steps that the commission has taken to help broadcasters that operate in the AM band, which is troubled by declining listenership, noise and changing consumer habits.

In January 2021, a Florida AM radio station announced that it is now on the air full-time with all-digital transmission, committing its 1470 signal strictly to listeners who have digital receivers. The station airs Spanish musical programming. If all-digital HD Radio technology for AM takes off in the United States, WMGG's move would be seen as an important milestone.

WMGG is a Class B station in Egypt Lake, near Tampa, airing a directional

signal via a diplexed array. It has 2.8 KW power by day and 800 watts at night. The station has expressed excitement about the digital quality and the lack of noise in areas where the signal usually fights noise sources.



The station noted that among reasons for making the switch was the receiver penetration of HD Radio in cars in the market which was in the mid-30% range and growing. It is expected that, over time, major broadcast groups in the country will come to embrace the all-digital format.

In general, the level of radio owner interest in actually switching off analog signals still remains uncertain. Existing analog radios (including our 1920 antiques) would not be able to pick up these new transmissions. Some observers also doubt that major groups would be eager to convert assets to all-digital in the middle of a pandemic.

However, Joel Oxley, senior VP/GM for Hubbard Radio, Washington, DC, said that the band cannot survive in its current form:

"I firmly believe that AM needs to go digital and say goodbye to the skywave (Al Klase excepted...Ed). Having stations that are unlistenable when the sun goes down makes no sense. The extra coverage for just a few stations is not justified in this day and age. If changes aren't made quickly to improve distribution, there will be no viable business plan for AMs."

The FCC says it has no plans at present for additional windows for FM translator applications exclusively for AM licensees. One veteran engineering professional said that he sees no major U.S. radio company showing any interest in investing in AM all-digital. For many owners, keeping their AM stations on the air now is pretty much just about retaining their FM translator footprint rather than keeping the AM on the air on its own merits.

Another expert envisions a day when AM broadcasters are able to geo-locate several FM translators around its service area to offer hyper-localized content.

Finally, receiver manufacturers have not shown an inclination to make digital-AM receivers available.