

The Jersey Broadcaster

NEWSLETTER OF THE NEW JERSEY ANTIQUE RADIO CLUB

February 2020

Volume 26 Issue 02



MEETING/ ACTIVITY NOTES

Reported by
Marv Beeferman

The ON-LINE Broadcaster
The *Jersey Broadcaster* is now on-line. Over 160 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.

SECOND CALL FOR DUES

With the new year comes our second call for 2020 dues. Your E-Board, with the support of an excellent job by treasurer Harry Klancer, has held the annual cost at \$25 (\$30 for a family membership). This still remains quite a bargain in light of the many club benefits:

- Twelve issues of the *Jersey Broadcaster*.
- An entertaining and informative web site.
- The NJARC Communicator - an efficient forum for the exchange of member information.
- Two convenient and historic meeting locations.
- Unique technical presentations by knowledgeable members and experts in the field.
- Repair clinics and challenging contests.
- Capacitors, tubes and parts at bargain prices.
- Resources for schematics and technical information.
- An award-winning radio museum, an expanding technical library and a vintage radio repair facility for member use.
- Auctions, "PAL" swapmeets and an InfoAge tailgate.
- A subsidized Holiday Party.
- A ham radio station...and much, much



MEETING NOTICE

The next NJARC meeting will take place on Friday, February 14th, at 7:30 PM at Princeton's Bowen Hall. Directions may be found at the club's website (<http://www.njarc.org>). At this month's meeting, Technical Coordinator Al Klase will talk about Bluetooth installation in antique radios. We'll also discuss participants' experiences with our recent DX contest and continue to collect annual dues for 2020.

more.

Dues will be collected at monthly meetings and other club activities or you can mail a check made out to the "NJARC" to our membership secretary:

Marsha Simkin
33 Lakeland Drive
Barnegat, NJ 08005

Payment via PayPal is also available at the club's website but it will cost us a fee. Membership cards will be mailed to those who have paid in advance and to honorary and lifetime members.

For members receiving the *Broadcaster* by mail, check the code next to your name on the mailing label. Honorary (H) and Lifetime (L) members are exempt from paying dues. If you're receiving your *Broadcaster* by email and you're not sure about your membership status, it will be provided when you pay your dues. You can also contact Marsha at 609-660-8160 / mhsimkin@comcast.net.

We had a very nice turnout for our BCB DX contest and I've included as many photos and comments as space permitted in this month's *Broadcaster*. Member Bill Hemphill, WD9EQD, submitted a nice article on his experience with his first contest entries but unfortunately, I wasn't able to include all the photos he posted. I'll try to get the remainder on the Communicator and you can expect contest results and additional comments in the March issue.

Charles A. Bliley had an interesting posting on the AWA website:

"I recently started to read a book on being a family history archivist. The most important information was found in the first chapter. The better physically organized and documented your collection,

the more respect it will have after you pass. Therefore, the more likely it will be valued as a historical resource/collection and able to be used in someone else's research.

In addition, written stories relating on the acquisition and historical 'value' of selected items sweetens the pot. Stories that you may tell a visitor of what you think are some of the most interesting or 'valuable' items. You may also consider physically segregating these gems and marking the area as key pieces."

Upcoming Events

- February 8 - Winter Repair Clinic at InfoAge room 9032A
- March 13 - Monthly meeting at Princeton's Bowen Hall; presentation by Prof. Mike Littman, topic TBA
- March 28 - Spring swapmeet/hamfest at Parsippany PAL
- April 10 - Monthly meeting at InfoAge room 9032A; Larry Rubins talks about audio HiFi
- April 25 - International Marconi Day celebrated at NJARC station W2RTM at InfoAge
- May 7,8,9 - Kutztown radio swapmeet
- May 15 - Monthly meeting at InfoAge room 9032A; Show & Tell and Hints & Kinks
- May 23 - Spring Repair Clinic at InfoAge room 9032A
- June 3 - E Board meeting at the RTM at InfoAge
- June 12 - Monthly meeting at Princeton's Bowen Hall; Joe Jesson presents "What You Didn't Know About the AR-88"
- June 27-28 - ARRL Field Day on InfoAge grounds
- July 25 - Summer Tailgate/Hamfest on InfoAge Grounds

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
amcmataador@aol.com

SERGEANT-AT-ARMS (EAST):

Rotating

TRUSTEES:

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

Phil Vourtsis (732)-208-4284
pvourtsis@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:

Matt Reynolds (567)-204-3850
mattr04@hotmail.com

RESISTOR PROGRAM:

(To be announced.)

WEB COORDINATOR:

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

MEMBERSHIP SECRETARY:

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

RE-CREATING A DEBATED BROADCAST

By
Justin Wm. Moyer

The following article first appeared in the Dec. 31st, 2019 Washington Post and was later reproduced in Radio News under the heading "Virginia Man Re-Creates Purported 113-Year-Old Christmas Eve Radio Broadcast Each Holiday." It is being repeated here with permission of the author...Ed.



Proof that the world's first radio show was broadcast 113 years ago on Christmas Eve doesn't exist, but the purported occasion is still marked annually during the holidays. Since 2012, radio engineer Brian Justin, from his rural Virginia home near Lynchburg, has spent part of his holidays commemorating the apparent achievement of a Canadian inventor. The audience is small, but it ushers in a sense of nostalgia for listeners, alongside mistletoe, hot chocolate and Hallmark movies.

"It's a ritual," Justin said. "It's kind of geeky enough that the average person on the street is not going to get anything out of it. I can't see it on my cellphone ... [but] the mystique of radio is there." Justin, 55, broadcasts a re-creation of what radio pioneer Reginald Fessenden claimed to have transmitted at 9 p.m. on Dec. 24, 1906, from a studio in Brant

Rock, Mass. Fessenden, who had worked with the U.S. Weather Bureau (renamed the National Weather Service) to improve Morse code transmissions, used a 420-foot tower in the coastal town to transmit and receive Morse code messages across the Atlantic.

Fessenden, however, also had an ear for entertainment. His wife, Helen M. Fessenden, described the pioneering holiday transmission in her 1940 biography "Fessenden: Builder of Tomorrows." She wrote of his recollection:

"The program on Christmas Eve was as follows: first a short speech by me saying what we were going to do, then some phonograph music. - The music on the phonograph being Handel's 'Largo.' Then came a violin solo by me, being a composition of Gounod called 'O, Holy Night,' and ending up with the words 'Adore and be still' of which I sang one verse, in addition to playing on the violin, though the singing of course was not very good. Then came the Bible text, 'Glory to god in the highest and on earth peace to men of good will,' and finally we wound up by wishing them a Merry Christmas and then saying that we proposed to broadcast again New Year's Eve."

On Christmas Eve, Christmas Day and New Year's Eve, Justin - with a call sign of W12XLQ - uses a home-built transmitter based on an early-1920s design to send the program from his home in Forest, Va., to a small, devoted group of listeners. Broadcast below frequencies used by AM radio, the eight-minute program, on a loop for about 24 hours, is audible to other amateur radio junkies with appropriate gear. About two dozen tune in, by Justin's estimation, although he said he has "no real way of knowing."

In a medium where successfully sending or receiving a distant signal offers an operator bragging rights, Justin said the holiday transmission has become a tradition. "It's just sort of taken on a life of its own," he said. "They ask every year ... are you still going to do this?"

David Isgur, spokesman for the National Association for Amateur Radio, said Justin is marking "one of the significant events in terms of the growth of radio technology at the turn of the 20th century." A hundred years ago, he said, scientists and tinkerers were starting to discover how to send sounds through the air, but they couldn't have envisioned the worldwide communications network and entertainment industry built on their efforts.

"That spirit of experimentation and

exploration of how to make technology is something that runs through the backbone of amateur radio," Isgur said. "There's always been people that do 'home-brew' - trying to find newer, ingenious ways of generating radio waves."



Brian Justin in 2013.



Brian Justin's transmitter.

Among radio "home-brewers," meanwhile, a controversy occasionally bubbles to the surface over whether the Fessenden broadcast actually happened the way it has been described. Fessenden recounted the broadcast decades after he said it occurred, and there is no recording. One sleuth who dug through radio logs around the broadcast's centennial found nothing that pointed to what would have been an unusual radio event.

James E. O'Neal, a retired broadcast engineer and an editor for the Broadcast Technology Society, said he told the story of the Fessenden broadcast for years before researching it around its 100th anniversary. Though Fessenden completed a well-documented radio demonstration with reporters present around Dec. 21,

1906, O'Neal said, he found no evidence for the "very romanticized" myth that has been passed down by engineers for generations. "I did not set out to debunk the story," he said. "Nothing lined up to make it factual. ... There's just nothing there."

Justin's ritual might not be based on actual events, but listeners say it's still a powerful tradition. Ria Jairam - call sign N2RJ - tuned in to Justin's program, live-streaming the signal more than 400 miles away from Wantage, N.J. She captured, amid a host of snaps and pops, a presentation that sounded a lot like what Fessenden described, including the swelling strings of "O, Holy Night."

A 40-year-old mother of triplets, Jairam said she became interested in amateur radio in high school in Trinidad and Tobago. She credits the medium with pushing her toward a career in technology, working in systems engineering in the financial industry while serving as a National Association for Amateur Radio volunteer. Her 9-year-old children are studying for their FCC licenses, she said. (Editor's Note: Some members might remember Ria's talk at one of last year's meetings. She is the Director of the Hudson division of the ARRL.)

Though the world has moved on from Fessenden's accomplishments, Jairam said the holidays are a fitting occasion to revisit them. "I had this playing while my kids and I were having Christmas dinner," she said. "There's a nostalgia factor. ... It's a window into the past."



Ria Jairam listens to a radio broadcast with her 9-year-old triplets - from left to right, Mahi, Kari and Adi.

Editors' Notes:

1. If you would like to listen to a 2013 recording of Justin's transmission, go to:

<https://shortwavearchive.com/archive/3x62q55j8wcuca3650gly0s6jms90b>

2. Member Harry Klancer recommends the following articles to supplement the Fessenden debate:

<https://www.radioworld.com/news-and-business/fessenden-worlds-first-broadcaster>

<https://www.radioworld.com/columns-and-views/in-search-of-the-truth-about-fessenden>

MORSE CODE MARITIME RADIO IS STILL ALIVE

**Edited by
Marv Beeferman**

February 1999 marked the last time a commercial Morse code message was supposedly transmitted to ships at sea. The following Reuters article published in July, 1998 (although somewhat dated in 2020), "Maritime Morse is Tapped Out," marked this date in radio history:

Morse code - which has signaled disasters at sea since the sinking of the Titanic - is slipping silently into the sea. As of February 1999, passenger and cargo ships of 300 gross tons or more will no longer use Morse code for SOS calls.

The beginning of the end came in 1988, when an international treaty on safety and rescue at sea was amended to phase out Morse worldwide, beginning in 1992, in favor of the satellite communications setup dubbed the Global Maritime Distress and Safety System. US civilian ships dropped Morse for distress calls in 1995. On 31 January 1997, France's coast guard tapped out its final, poetic message - "Calling all. This is our last cry before our eternal silence."

The fading away of Morse at sea provides food for thought on how new technologies change the world, only to fall by the wayside when the next new thing comes along. The telegraph was the information superhighway of the 19th century, enabling rapid communication between distant cities and across oceans. The first public telegram was sent from Washington DC to Baltimore in 1844 by inventor and artist Samuel F.B. Morse, who tapped out "What hath God wrought?" in a demo for Congress.

The first sea rescue resulting from a radio telegraph message came in 1899, when a lightship in the Dover Straits reported the grounding of the steamship Elbe, according to the International Maritime Organization, a UN agency. But it was the legendary sinking of the Titanic

in 1912 and the loss of more than 1,500 lives that spurred the use of radio by ships at sea. Although 700 people were saved when the liner Carpathia picked up the Titanic's distress call, fewer might have died had the California, which was relatively close to the Titanic, also received the doomed ship's call for help. The California's wireless operator was off duty.

Three months after the disaster, an international conference in London decided that, while all ships did not have to have radio equipment aboard, some craft should have to maintain a permanent radio watch. At the same 1912 conference, the letters "SOS" – dot dot dot, dash dash dash, dot dot dot in Morse – were adopted as the international distress call. Before, it had been "CQD." "Contrary to popular myth, the letters are not an abbreviation (for 'Save Our Souls') and have no special significance except that ... (they are) easy to remember and transmit in the Morse code," the International Maritime Organization said in a paper on the subject.



As time passed, Morse began losing some of its importance at sea. As early as 1907, a radiotelephone was installed on a Hudson River ferry boat by Lee de Forest, whose invention of an electronic component made wireless voice communication possible. In 1975, radiotelephone equipment was recommended for all ships more than 300 gross tons by the International Maritime Organization. Six years later, it was made mandatory in an amendment to the treaty known as the International Convention on the Safety of Lives at Sea.

Why scrap conventional radio in favor of satellites? According to the International Maritime Organization, its drawbacks include, in the case of Morse, the

need for years of training and practice. There are other reasons, too: reception problems, uncertainty of the message being received and the airwave congestion that came with the development of radio on land.

So what's taking old-fashioned radio's place? A network of satellites: two positioned above the Atlantic Ocean and one each over the Indian Ocean and the Pacific. Only the North and South poles, where shipping is infrequent, go uncovered. Big cargo ships and passenger liners will also have to carry equipment designed to improve the chances of rescue, including satellite radio beacons to indicate a vessel's location in an emergency and search-and-rescue transponders for ships and survival craft.

This is not to say that Morse is dead. The US military still uses Morse. On Navy ships, for example, sailors have to know how to use lights to flash out ship-to-ship messages in the code. And the Federal Communications Commission requires proficiency in Morse for some amateur radio licenses.

Morse has its fans. Recent searches of the Web and discussion groups on the Internet turned up thousands of Web pages and hundreds of discussion group postings containing the words "Morse code." Which leads one to wonder what will overtake the Internet, where it will come from, and when.

KPH at Point Reyes

In Point Reyes, California, Morse code is still alive and well at KPH, the last Morse code maritime radio station in North America. KPH is run by Richard Dillman, President of the Maritime Radio Historical Society (MRHS). There are almost no ships that send out Morse code signals, but for the ones that do, Dillman and his fellow volunteers can receive them.

KPH was one of hundreds of Morse code stations all over the world fighting to communicate with ships, and getting that business required big radio antennas. "During the glory days, this was a forest of antennas. You could not see the ocean from here because there were so many antennas," Dillman noted in a recent interview. On June 30th, 1997, Dillman witnessed KPH transmit the station's last commercial message. "That day, it was just these rough looking guys who spent their life at sea as radio officers and they were just weeping because here's their life."

The National Park Service took over the KPH property, and it would be another

two years before Dillman returned to the defunct station. But when he opened the door, he heard something familiar...Morse code, ships are calling, static and I am thinking. How? The joint was closed for two years. "Radio operators left KPH but they never shut off the equipment. So, in a sense, the station's signal never ended. "That's what we like to say - there was never a time when the station was not standing watch over the airwaves."



Today, KPH is a maritime radio museum and functioning radio station staffed with volunteers who preserve, restore and repair the historic artifacts with which they have been entrusted. It is a place where relics of radio's past are preserved and this station's last commercial Morse code message lives on.

The museum specializes in coast stations, ships and companies of the west coast of the United States. But anything to do with maritime radio anywhere in the world is of interest to the museum's membership. The goal of the museum is to assure that the culture, techniques and traditions of the men and women who came before are not forgotten. It is felt that the best way to achieve this goal is through actual "on-the-air" operations.



MRHS president Richard Dillman commemorates "Night of Nights," an annual event held on the 12th of July to note the history of maritime radio and the closing of commercial Morse operations in the USA.

For more information on the MRHS including stations, frequencies and hours of operation, go to radiomarine.org.

COMMENTS DUE ON ALL-DIGITAL AM

By
Marv Beferman



As has been previously reported in the *Broadcaster*, the FCC recently released a notice of proposed rulemaking to establish rules governing all-digital broadcasting by AM radio stations in the United States. The NPRM number is 19-123. The comment deadline for these rules are due by March 9th with reply comments due by April 6th. *Radio World* is providing an ongoing sampler of what people are telling the FCC, and some of them are apropos to our hobby. I thought you might be interested in a few examples:

Kirk Mazurek told the FCC that he is an avid AM listener who has "invested time and money in equipment towards my hobby as many others have. If this proposal goes through it will make the millions of receivers obsolete requiring the purchase of new equipment. This is needless, there are a lot of people who have vintage radios and a lot of them have been restored. This proposal would make them useless. I urge you not to ratify this proposal."

Mark Wells raised concern about interference from digital to analog signals on the same channel. "This is especially applicable at night when one is listening to distant stations in out-of-state markets, he wrote. "For example, clear channel stations WBT in Charlotte and KFAB in Omaha are both on 1110 kHz. Let's say one switches to digital, and one does not. As it is they both may fade in and out as the atmosphere does its nightly tricks, but the signals remain mostly useable. But, if one is digital and the other analog, would it not 'blank out' the analog station?"

Wells also noted that existing analog AM receivers would become obsolete. "Adding a digital to analog converter as they did when switching to HDTV would perhaps not be a very practical solution, as it would require a not so easy installation." And he reminded the FCC of AM's

role during disasters. "Analog AM receivers are among the most simple of devices to build. In a major disaster, a person with the knowledge of how to do so can build a receiver literally out of debris and remain in contact with the outside world. This capability cannot be overstated - to say that a voice coming in on a dark, fright-filled night is comforting cannot be denied, as well as the value of receiving emergency information." He said one solution would be to limit all-digital stations to Class C local operations in the 1610-1700 kHz range "and leave the rest of the AM band as it is now."

Amateur radio operator Edward Thierbach, AB80J, worries about the distribution of emergency information to the general population. "I suggest that the proposed rules be amended to require the following types of AM stations to retain analog AM broadcast capability for a period of 10-15 years: Clear-channel stations; Emergency Advisory Radio Stations; Other stations officially designated as emergency information stations, whether the official designation is made locally or nationally," Thierbach wrote.

He said few if any emergency radios (typically hand-cranked or solar-charged) can receive HD Radio, and that relatively few people have portable radios of any type with digital AM capability. Not enough receivers in vehicles have digital AM capability either, he argued, and predicted that proliferation of digital AM radio would likely take much longer than digital TV, "due to less consumer incentive." He thinks it would take 10 to 15 years before emergency information can be widely and reliably disseminated via digital AM.

And David Bowers takes pleasure in the fact that in radio's 100th anniversary year, antique radios can still be used to listen to modern AM broadcasts. But he predicted that the dawn of digital AM transmission "would require the design, build and distribution of millions of converters, as was done with DTV in 2009." He also looked further down the road, saying, "Keep in mind the consequences of this proposal. I know it starts as voluntary, but wheels of progress suggest it could evolve to universal."

It seems that the FCC "likes" the idea of giving U.S. stations on the AM band an option to turn off their analog transmissions. We'll continue to keep you posted on latest developments.

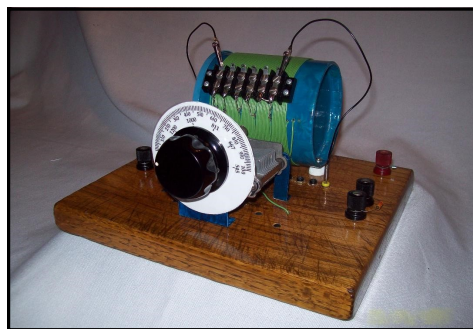
STRONG RESPONSE TO 2020 BCB DX CONTEST

By
Marv Beferman

Member Tom Provost reports that as of January 28th, there was a "very good response" to our 2020 BCB DX Contest with 18 logs from 14 DX'ers. Quite a few entries logged stations from over 1500 miles. In a recent comment and with tongue in cheek, Tom expressed the true spirit of the contest: "I guess I'm just getting old, but I'm going to pretty much take people at their word. Everyone is just having a good time and if there is an error, it's not a big deal. It's a good group of people." Thanks Tom for the hard work you put into the contest and the fairness and kind attitude to which you approach it. Thanks also to Al Klase for providing all the material and tips for a successful contest.

I appreciated all those who sent me photos and comments and those who reported on conditions via the Communicator. I'll try to include as many as space permits but some may have to wait until the March issue when the contest results are published.

Ed Suhaka: Ed used a crystal set for this year's entry but noted that "I had better results in past contests for similar effort...it is my version of Al Klase's *Pretty Good Crystal Set*. It is built on a real breadboard, one that we used for years. The tuning capacitor came from one of our swap meets. The coil is wound on a paper container that once held hard Christmas candies...the closest I could get to the traditional cardboard oatmeal container."



Tom Provost: "Here's a couple of homebrew, 5-tube regens and homebrew loop. Very effective and sensitive, but when parked on a really distant station like Denver or Texas, I really miss the AVC of a superhet to deal with the flutter and signal

pumping. AVC makes it much easier to extract the speech.



Phil Vourtsis: "This year I'm using a Zenith Transoceanic 8G005YT."



Richard Lee: "Pix of me 'working the world' on my vintage crystal set, alternating between a 1N34 diode and a cat whisker detector. As for 'working the world,' I did manage to catch a Canadian French language station in Toronto, CJBC at 860. Otherwise, just the local powerhouse stations."



John Ruccolo: "My DX contest radio for this year is an unusual Stoddard radio interference and field intensity measurement set. This unit once belonged to the US Navy, and was known as to the military as an AN/PRM-1A. It can operate either battery or AC. Fortunately, I got it with the AC power supply. It covers 125 KHz to 25 MHz in 7 bands. I fed the audio into a Heath signal tracer so I would not have to wear headphones."



Bill Zukowski: "Modest setup here in FL. Yaesu FT-757GX HR transceiver with BCB coverage, and 20' wire thrown into palm tree from my window. Note roll of tape at end of wire. Figured it was safer than a rock, for when I have to take it in, lest it swings and hits my neighbor's window below me."



"Florida" Frank Feczko: "I'm using a Philco 40-180."



Gary Berg: "Here's a picture of me with a Sony SRF-59."

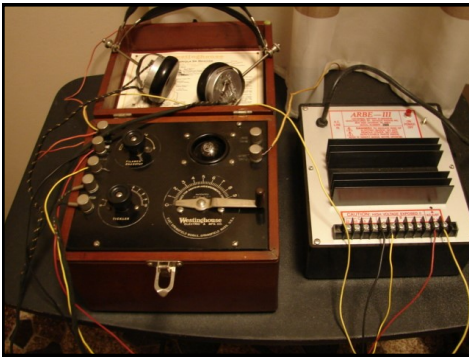


Marv Beeferman: Your editor entered two radios in this year's contest, a 1923 Westinghouse Aeriola Senior regen receiver using a single WD-11 and a 1925 Tuska 305 "Superdyne" TRF/regen set using four 01A's. I have tried to use the Aeriola in the past with not much success but did much better this year when I decided to attach the ground connection directly to my house's service ground rod.

A great history of the Aeriola Senior may be found at the following site:

<https://davidsarnoff.tcnj.edu/2017/06/15/item-of-the-week-aeriola-senior-receiver-radio>

My Tuska 305 was exhibiting excess noise until I discovered an open grid leak resistor. An interesting point about the Tuska Superdyne was described by Bart Lee in a California Historical Radio Society article. Oscillation in the regenerative detector stage of the receivers of the early 1920s turned them into "bloopers" interfering with other sets. Tuska's Superdyne solved this problem by adding a variometer to provide negative feedback to stabilize Armstrong's regenerative circuit. He coupled the variometer from the plate to the grid in opposite polarity. Rotating the variometer provided a controlled amount of negative feedback that would cancel the radio's stray capacity positive feedback.



Tuska 305 "Superdyne" showing variometer supplying negative feedback.

Well, that's about all the room we have available this month but stay tuned to the March issue which will include the contest results and additional photos and commentary on our DX contest.

MARCONI RADIO AND THE S.S. RAPHAEL

By Gary Berg

Recently, I saw a book for sale online: "The Marconi International Marine Communication Co. Ltd. Technical Instructions." The book contents were described as tanned and grubby with some foxing, and there was no publication date, but I thought "why not take a chance on this book - it may have details about early Marconi equipment."

The price was right so I purchased it, and when I received the book, I was pleasantly surprised to find a bound volume of 18 booklets dating from 1921 to 1925 that described shipboard spark transmitters, direction finders and early crystal and "valve" (tube) receivers. One section was particularly interesting as it described the Marine Receiver No. 3 which consisted of a Type 31A or 31C receiver with a type R.M.3 amplifying tuner. The receiver appears to be a simple, 1-tube crystal radio which was state of the art back in the early 1920s.

The wavelengths listed comprise a spread in frequencies from 16 KHz to 500 KHz. The table is shown on page 8.

N 11

Marine Receiver No. 3
S.S. Raphael
(Type 31, No. 286761 Type R.M.3 No. 55119)

Best Adjustment Table.

| Wavelength or Wave Length | Trans. Aerial in | Range | A.T.I. | Grid | Slide | Setting | Switch | 500 Cycle | Coupling |
|---------------------------|------------------|-------|--------|------|-------|---------|--------|-----------|----------|
| SPY | | | | | | | | | |
| CWA | 200 | 600 | 1.5 | 2 | 1 | 700 | 7.0 | 1 | 5.0 |
| LH | 1,000 | 600 | 3 | 3 | 1 | 500 | 5 | 1 | 6.0 |
| FL | 2,100 | 600 | 3 | 3 | 1 | 300 | 3.0 | 1 | 4.0 |
| POZ | 3,100 | 600 | 3 | 3 | 1 | 100 | 1.0 | 1 | 3.7 |
| GVA | 4,100 | 600 | 3 | 3 | 1 | 100 | 1.0 | 1 | 3.2 |

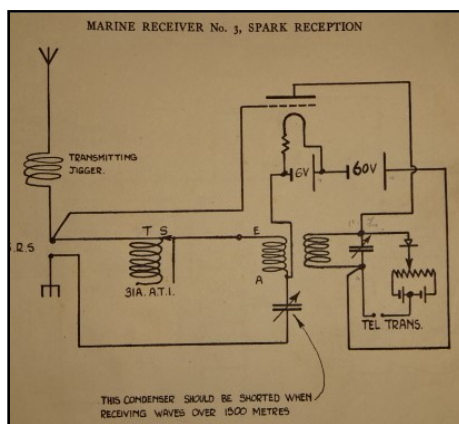
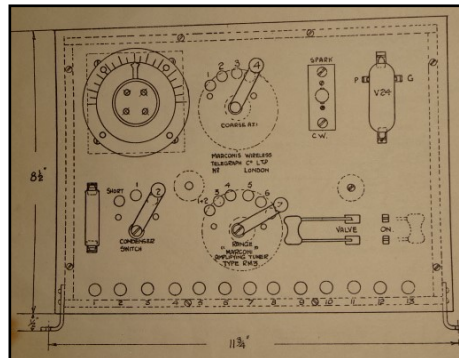
MY FIRST DX CONTEST

By Bill Hemphill (WD9EQD)

Being a recent new member of NJARC, this is my first time competing in this contest. I have always been a big fan of BCB DXing and have recently got back into it - especially with the amateur radio bands being in such poor conditions. The acquisition of a couple of Loop antennas plus two Panasonic RF-2200 radios have just enhanced my enjoyment.

For the contest, I used two completely different radios. First was the RF-2200 and second was a spur of the moment creation.

The RF-2200 was its usual good performer. While the RF-2200 has a beautiful built-in rotating bar antenna, I enhanced it with the 27" Torus-Tuner Loop Antenna as made by K3FDY, Edmund Wawzinski. I think I had picked this antenna up at one of NJARC's swap meets. So I wish to thank whoever it was that was nice enough to bring it and sell it at the meet. I have really enjoyed using it. With this setup, I was hoping that I might be able to pull in Denver, Salt Lake City and maybe even a Mexican station, but it was a complete bust on them. But I did have a nice surprise in receiving the Cuban station, Radio Enciclopedia, on 530 in addition to the usual Radio Reloj time signal station.



What was even more interesting was the tuning calibration table. The table listed the condenser, coupling and tuner settings for numerous spark and C.W. stations including the ship's name. The attached example identifies the S.S. Raphael, is dated Dec, 31st, 1924 and gives the wireless operator's name as W. Graham Davison.

I compiled a list of the wireless call signs from the book and determined where most of the stations were located.



| Call Sign | Wavelength (m) | Type of Station | Location | Comments |
|-----------|----------------|-----------------|------------------------|-------------------------------------|
| SPY | 600 | C.W. | | |
| CWA | 800 | Spark | Cerrito, Uruguay | Meteorological reports |
| CTV | 1000 | Spark | Massanto, Portugal | Naval station |
| LIH | 1000 | Spark | | |
| FL | 2600 | Spark | Paris, France | Eiffel Tower meteorological message |
| FL | 2650 | Spark | Paris, France | Eiffel Tower time signals |
| CTV | 3000 | C.W. | Massanto, Portugal | Naval station |
| POZ | 3100 | Spark | Nauen, Germany | Time signals, meteorological |
| GFA | 4100 | C.W. | UK | Air Ministry meteorological report |
| NBA | 6663 | C.W. | Darien station, Panama | U.S. Navy station time signals |
| GBL | 8750 | C.W. | Leaffield, Oxford UK | Post Office Radio Station |
| GBL | 12,300 | C.W. | Leaffield, Oxford UK | Post Office Radio Station |
| POZ | 13,000 | C.W. | Nauen, Germany | Time signals |
| YN | 15,100 | C.W. | Lyons, France | Service to Central Africa |
| NSS | 17,130 | C.W. | Annapolis, VA USA | U.S. Navy station |
| LY | 18,000 | C.W. | Bordeaux, France | |
| POZ | 18,050 | C.W. | Nauen, Germany | Time signals |
| GBR | 18,740 | C.W. | Rugby, Warwickshire UK | Post Office Radio Station |

Wireless call signs compiled by Gary Berg from his Marconi book.

(First DX Contest continued...)

Originally, I had thought that my second contest entry would be done with a 1962 Sony TR-910T, three-band transistor radio. This radio has a fairly wide dial along with a second fine-tuning knob which would be a big help. I would have again used the 27" hula-hoop antenna. But I made the nice mistake of running across Dave Schmarde's Makearadio website: <http://makearadio.com/>. Dave's site is a wonderful resource for creating your own crystal, tube, and solid state radios as well as audio amplifiers and loop antennas. While going down the rabbit hole of his site, I ran across his Loop Crystal Set, #19 Crystal Radio:

<http://makearadio.com/crystal/19.php>

What grabbed my attention was the wood frame loop antenna which is similar to one I had acquired a couple of years ago at a hamfest. It was a really nicely constructed, nice swivel base. I replaced the tuning capacitor with one that has a 6-1 ratio.

At this point I started thinking that I could create something similar with my loop. I randomly grabbed a diode from my parts box. (Not sure at first what the exact model was; I later found out that it was an IN-34, which is what I was hoping

it was.) Then I quickly soldered the diode, a resistor and capacitor to an RCA plug. I then proceeded to use some jumper cables and just clip it to the tuning capacitor on the antenna base. The RCA plug was then the audio out (I hoped) from the radio.

I quickly realized that I did not have a crystal headset or any headset that would reproduce any audio. So I used an old Marantz cassette recorder to act as an amplifier. I fed it into the mic jack and then tried to listen to the monitor out. Bingo – I could pick up a local station on 1340 but really weak. So I then fed the audio from the Marantz into a Ediro digital recorder. Now I was getting enough audio for the headphones plus I could make a recording of the audio.

At last I was receiving some signals. To boost the audio some more I removed the resistor from the circuit. I found out the I could only tune from about 530 to 1350. I probably needed to clip the lead on one of the loop turns, but I really wanted to see how it would do at night. I spent several hours and was just totally amazed at how well it performed and how good the audio was. The hardest part was when there were very strong signals on the adjacent frequency. What I found really interesting was that it was not linear in its tuning. At the low end of the band the stations were more spread

out than at the higher end. This made tuning fairly easy at the low end and very touchy at the high end. I was able to hear a couple of Chicago stations along with Atlanta and St. Louis.

I have created an audio file of the station ID's heard with the diode/loop radio:

<https://archive.org/details/bcbstationids-ondioderadio>

I had a lot of fun in the contest and especially enjoyed trying something really different with the diode/loop radio. Now I have a whole year to try to think up something really creative for next year's contest.



Bill Hemphill's loop antenna.