GARDEN STATE
AMATEUR RADIO ASSOCIATION
TINTON FALLS, NJ
W2GSA

September
2021

The Propagator

Well, there sure seems to be a lot going on at the GSARA these days. And that's a good thing.

The Hamfest is going to be this month, the meetings are happening on a regular basis, the repeater is busy and there is a lot of ham radio activity that people are experimenting with in the coming weeks and months. I guess we are kind of like hibernating animals in that when the colder weather comes, we get ready for it in a variety of ways.

How have you been getting ready for the Fall and the Winter - ham radio-wise? Share it with the club. We would love to hear what you are doing.

In this issue of the Propagator, you can see what Paul AD7I has been working on. His CW oscillator is not your run-of-the-mill oscillator but rather a wonderfully robust accessory that is going to be fun to build and use.

And, Paul AD7I also did a product review for a TYT handheld radio. This is one of the super inexpensive rigs for VHF and UHF that almost everyone has. The great thing about these radios is if they break (unlike your Kenwood or Yaesu) you simply throw it out or use it as a bookend in the shack and get another one. Paul's review is great, by the way, and very comprehensive. It is worth reading especially if you are interested in one of these little guys.

This issue is also filled with other news from around the ham radio world. Once again, we have information on Bouvet Island (which has been in the ham radio radar for more than 4 years now with this 'super DX-pedition' that never really seems to get quite there - but we are all hopeful!). As well, some local ham radio news - congratulations Ria! And some national information as well. In other words there is lots of info to digest in this issue. Enjoy!

As we are entering the holidays months (yes, I saw a Christmas display already!) let me wish those who celebrate Rosh Hashanna and Yom Kippur a shanna tova and gemar hatima tova.

Do you have anything you want to share with the club? Drop me an article and a picture and let everyone know what is going on in your ham radio life!

Cy Stanway, K2CYS
Propagator guy

Mark your calendar now to reserve Saturday, September 25 to attend the 2021 GSARA Hamfest at the MOESC Parking Lot in Tinton Falls. It will feature QSL Card Checking, door prizes, food, hot and cold beverages with a VE test session to start at 11 am. Vendors can come at 7 am and buyers at 8 am. Admission fee is $5 per person. Please volunteer to make this Hamfest successful by signing up at our web site, www.gsara.club. We're looking forward to nice weather and a big turnout.

From the Editor

There are two local Hamfests coming up in September and I will be at both of them representing the ARRL. The first, on Saturday, September 18, is sponsored by OMARC and is at the Spring Lake Heights Fire Company No. 1 at 700 Sixth Avenue in Spring Lake Heights. The event opens to buyers at 7:30 am and goes until noon. Admission is $5 per person with food and drinks available at modest cost. There is a VE test session at 10:00 am.

The other September Hamfest is a week later on Saturday, September 25 and is sponsored by our own GSARA. It is at our usual spot at the MOESC Parking Lot near the corner of Tornillo Way and Shafto Road in Tinton Falls. It is open to buyers from 8 am until noon. Admission is $5 per person with food and beverages available at modest cost. Card checking will be available and there will be a VE test session at 11:00 am. We still need volunteers for this Hamfest. If you haven't already done so, please check our website and help out wherever you can.

I am donating a 2021 ARRL Handbook for a door prize at the GSARA Hamfest. For both Hamfests, I will be offering a free ARRL book to anyone who joins, rejoins, or renews ARRL membership for at least a year ($49.00). You may pay by cash, check, or credit card and you can choose one of the following books:

HF Dipole Antennas
Grounding and Bonding

Get on the Air with HF Digital

Listed again this month but with a suggested price, is the linear amplifier and high-power antenna tuner from the estate of Bob Boulle, W2OKM. His son (also named Bob) is not licensed but is using his father's rig for SWLing. He realizes that he has no use for the amplifier and tuner and hopes to convert these items to cash. If interested, make him an offer.

The program at the September 2 Zoom meeting will feature one of our newest members of GSARA, Ulric Lewis, KC2VWB. Ulric will show how to design enclosures or other ham-related designs that can be easily printed with a 3D printer. 3D printers have become common among several GSARA members so if you have an idea for a custom plastic part, contact one of them for assistance. It's a fascinating technology.

The Friday luncheons have resumed at noon each Friday and are now back at the All Seasons Diner on the corner of Wyckoff Road and Route 36 in Eatontown. We usually meet in the gathering space just inside the doors until most of us have arrived a little before noon. If you're available, come join us.

As always, I appreciate feedback or material for The Propagator. The deadline for the October issue is September 15.

73 de Bob, w2od@arrl.net

Meetings

In lieu of the current NJ proclamations with regard to the Corona Virus, the regularly scheduled meetings of the GSARA at the Red Cross have been canceled until further notice. We will conduct the September 2 program meeting via video conferencing using the Zoom App.

The Thursday, September 2 program meeting at 7:30 will have a program devoted to designing for 3D printing by new member Ulric Lewis, KC2VWB. Ulric will show how to design enclosures or other ham-related designs that can be easily printed with a 3D printer. The presentation will be via Zoom. We look for a good turnout.

GSARA will also have a business meeting on the third Thursday in September, the 16th at 7:30 pm. Unless otherwise notified, this will be a Zoom meeting. Don't miss it!

September VE Session

The next VE Test Session sponsored by GSARA will be held on Saturday, September 25, 2021. This will be held in the MOESC building at the GSARA Hamfest site at 11 am. The fee is $15 and you should bring the original and a copy of any amateur license presently held and the original and one copy of any credit (CSCE) forms that you have (copies will be sent in with your test results). Also bring 2 forms of ID with one being a photo ID. A new ruling, the FCC requires all applicants to have previously obtained an FRN number from them as no applications will have Social Security numbers recorded. For more information, contact Marlo Montanaro at ka2irq@comcast.net or 732-207-7343.

IIn the last session in June and the four sessions in July, we had 90 check-ins for an average of 18.0 per session. The following 33 members checked into this net this period (number of check-ins in parenthesis):

N2AJO (5), K2NPT (5), W2OD (5), WB2RPW (5), KD2SFF (5), KD2WOZ (5), KC2YNL (5), N2BCS (4), KA2IRQ (4), K2MFS (4), W2NAZ (4), KD2ROF (4), N2BMK (3), AC2MB (3), KD-2NAD (3), KD2OXR (3), KC2WAN (3), KA2F (2), KZ2G (2), N2MEP (2), KD2VZT (2) W2CET (1), N2FSB (1), NJ2GL (1), W2IWW (1), WA2JOE (1), W2KQ (1), W2NIR (1), KG2NV (1), K2RLF (1), WA2SFF (1) N3SIQ (1), and K2SMM.

Mark your calendar so you remember to participate. The more participation, the more fun!

Welcome to GSARA

The following new member was voted into the GSARA at the July 15 GSARA meeting:

Steve Morlino, K2SMM from Howell was first licensed in 2010 and holds a General Class license. An ARRL member, he likes Rag-chewing and is presently on 160, 80, 10 and 2 meters with his IC-7000 and TM-281. He is a retired facilities administrator and likes a wide variety of do-it-yourself projects.

The following new member was voted into the GSARA at the August 19 GSARA meeting:

Ulric Lewis, KC2VWB from Red Bank holds a Technician Class license and was first licensed in 2010. An Electronic/Mechanical Design Engineer, he joined GSARA to get more active on the amateur bands and is working on his General Class upgrade. His amateur interests include Field Day, Contests, and building ham gadgets and gear. An ARRL member, Ulric is also interested in RC model airplanes, electronics and guitar.

Details of these new members (address, phone number, e-mail address, etc.) are available on the official Roster on the member's portal of the GSARA website (www.gsara.club).

Please extend a hearty WELCOME to both of these new members of the GSARA!

Tuesday Night Net

In the first four sessions in August, we had 77 check-ins for an average of 19.25 per session. The following 34 members checked into this net this period (number of check-ins in parenthesis):
N2AJO (4), KA2F (4), K2NPT (4), KG2NV (4), W2OD (4), WB2RPW (4), KD2SFF (4), N2BCS (3), N2BMK (3), N2MEP (3), K2MFS (3), W2NAZ (3), KD2ROF (3), KC2YNL (3), KZ2G (2), KA2IRQ (2), AC2MB (2), KD2NAD (2), KD2OXR (2), K2SMM (2), KD2VZT (2), KD-2WOZ (2), KD2EPA (1), N2FSB (1), NJ2GL (1), AD7I (1), WA2JOE (1), KA2MAT (1), W2MJP (1), N2MN (1), WA2SFF (1), W1SHA (1), KC2WAN (1), and KD2WAZ (1).
Mark your calendar so you remember to participate. The more participation, the more fun!

Fusion Net

The next digital Fusion net is on Wednesday, September 22 at 7 pm with Cy, K2CYS serving as Net Control. Simply set your radio to the Digital Narrow (DN) mode and check in. It's fun and educational.

Product Review of TYT TH-UV88

Written by Paul, AD7I

The TYT TH-UV88 a dual band analog handheld FM transceiver that I found on Amazon Prime for $35 delivered. The contents of the box included the radio, rubber flex antenna, 7.4V 1400 mA/hr (rated) Lithium ion battery and a USB programming cable.

I bought this particular HT because it claimed it included an internal two-tone paging decoder (like that used by volunteer fire departments in our area). I didn't expect much and if the paging decoder didn't work I planned to return the radio to Amazon.

What I found when I opened the box was a radio that had a solid feel to it, much much better than the typical Baofeng. It felt like my Yaesu FT-60, my personal gold standard for ham analog HTs.

In operation I found that I had to set the TH-UV88 mic gain to high (low, medium and high are the possible values) and after doing so got good audio signal reports. The audio from the radio's internal speaker was loud, clear and without much distortion (although I'm hearing impaired so you would need to judge for yourself). The receiver seems to hear what my FT-60 hears, but I don't have a service monitor on which to test the receiver sensitively on the ham bands and outside the ham bands. Transmitted power is a solid 2 watts, not the 5 watts claimed.

The front panel LCD can display the frequency or an alphanumeric name of up to 10 characters (like "AsburyPark") and shows both the primary and secondary frequency at the same time. The radio is programmable on the PC with TYTs software as well as CHIRP. Neither program is like RT Systems, but between the two programs one can configure most all the features. Many features can also be controlled from the front panel.

My primary dislike about the radio is that it doesn't have a channel selector knob and doesn't have a knob for squelch. The user selects memory channels by pressing the UP or DOWN buttons on the keypad. Not bad if you only use eight to ten channels, not so good if you have 70 memories programmed. There is no auto-repeat if you hold the UP or DOWN button active for an extended time. As for no squelch knob, in the commercial world most all analog radio systems are operated with CTCSS (PL) required so a noise squelch isn't all that important, but noise squelch remains necessary for ham operation.

I don't know about receiver sensitivity and I don't know how bad the harmonics are from the transmitter. Harmonic radiation is a problem for most Baofeng models and it's not clear if TYT invested in decent harmonic TX filtering for this radio. The Amazon product listing says that the radio is "FCC Certified". That certification is only for Part 15, not Part 97, and means only that the receiver's local oscillator does not leak above limits, the same requirement as for a $7 AM transistor radio. Another dislike for the radio is a lack of DC power input jack. DC battery eliminators are available so that's an alternative.

But what I do like about the radio is that it has a good solid feel to it, that the TX and

RX audio sounds good, and has a price low. If you are an operator who only uses a few channels, or if you need an APRS or FoxHunt transmitter and don't want to be out a lot of money in case a curious person walks off with your unattended transmitter, this might be a good radio for you to consider.

And yes, the TH-UV88 internal two-tone paging decoder and encoder both work. I'm not sure yet how well the two-tone decoder works, but determining that is a project for the future.

-AR-

OMARC HAMFEST SEPTEMBER 18

Mark your calendar now to reserve Saturday, September 18 to attend the 2021 OMARC Hamfest at the Spring Lake Heights Fire Company No. 1 and 700 Sixth Avenue in Spring Lake Heights. It will feature door prizes, food, hot and cold beverages with a VE test session to start at 10 am. Vendors can come at 7 am and buyers at 7:30 am. Admission fee is $5 per person.

ANOTHER TERM FOR RIA JAIRAM

As you may have heard by now, the candidate certification deadline at ARRL has passed. I am pleased to announce that I'm unopposed and will serve 3 more years.

Vice-Director William Hudzik,W2UDT will also serve another term. I thank him for his service to ARRL and for helping me along the way, especially for his insight into the state Government here in NJ. We work as a team.

To all of the members of ARRL and the affiliated clubs they belong to, I thank you. Especially the members of the Hudson Division whom we represent. It is a great joy attending club meetings both in person and virtually, and hanging out at hamfests and events.

For those who are not members, we hope to win them over so that you join us. We have a lot of great things going on including a new push to get more video content and learning. We have a new CEO who is from this division and who is leading this effort vigorously.

This is the future of amateur radio and we are proud to be part of it.

I work hard because I love amateur radio and want to help ensure its future survival, including defeating threats to its existence and growing its numbers of licensees and ARRL members.

Thanks to all of you.

ARRL Hudson Division
Director: Ria Jairam, N2RJ
n2rj@arrl.org

GSARA DISCORD ONE YEAR OLD

It had been one year ago on Aug 4th that I had created the GSARA Discord server and offered it for approval to begin a test program. The platform quickly gained traction and has been adopted and grown since that time. Today we have 63 subscribers, nearly half the membership participates in it.

I had created the GSARA Discord server for the purpose of uniting the membership during times of lockdowns and social distancing which I had felt was harmful to the wellbeing of the club. The Discord server permitted our members to share ideas and retain a sense of belonging all while being isolated from each other.

Not yet a member? Contact me at n2edx@mac.com to join.
73, Phil

FCC FEES DELAYED UNTIL 2022

The previously announced schedule of FCC amateur radio application fees likely will not go into effect before 2022. FCC staff confirmed during a recent virtual meeting with Volunteer Examiner Coordinators (VECs) that the agency is still working on the necessary changes to the Universal Licensing System (ULS) software and other processes and procedures that must be in place before it starts collecting fees from amateur applicants.

Once it's effective, a $35 application fee will apply to new, modification (upgrade and sequential call sign change), renewal, and vanity call sign applications.

"Once the FCC application fee takes effect, new and upgrade applicants will pay the exam session fee to the VE team as usual, but they'll pay the $35 application fee directly to the FCC using the FCC Pay Fees system," she explained. When the FCC receives the examination information from the VEC, it will email a link with payment instructions to each successful candidate, who then will have 10 days from the date of the email to pay.

After the fee is paid and the FCC has processed an application, examinees will receive a second email from the FCC with a link to their official license. The link will be good for 30 days. Licensees also will be able to view, download, and print official license copies by logging into their FCC ULS account. The FCC no longer provides printed licenses.

Licensees can log into the ULS with their 10-digit FRN (FCC Registration Number) and password at any time to view and manage their license and application, print their license, and update anything in their FCC license record, including adding an email address.

From the ARRL Letter, August 19, 2021

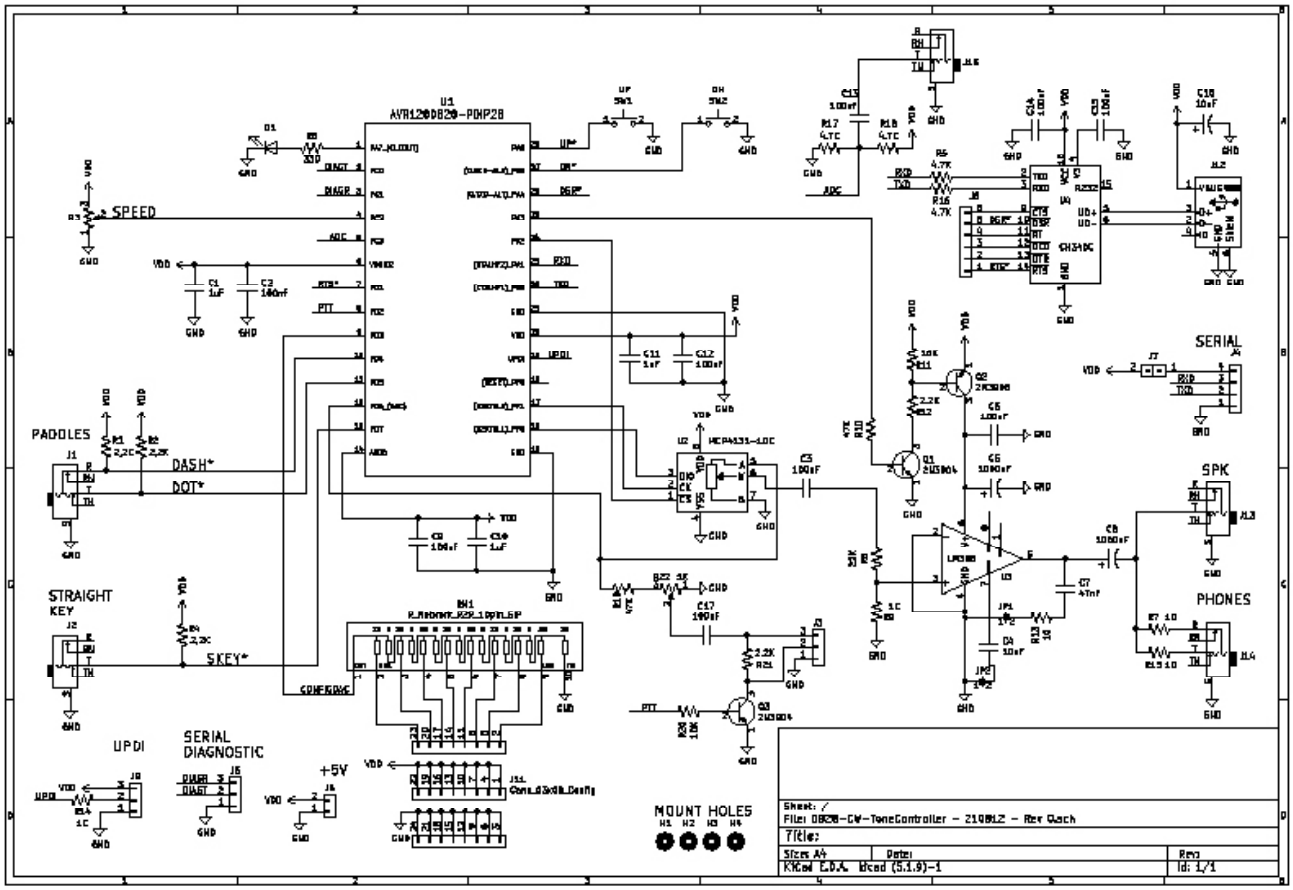
HOMEBREW PROJECT
THE FUTURE OF CW OSCILLATORS

Paul, AD7I

I've been on a quest, on and off, for the last 20 years to create what I think is a full featured Code Practice Oscillator that is a useful CW training aid. The more important function that I wanted to achieve was a CPO that produced a tone output with a user selectable, well controlled rise and fall times of the tone amplitude envelope, so that the CPO did not have clips or chirps at key down or key up times, like many LM555 based CPOs. I wanted something that sounds like code emanating from a well constructed CW radio receiver. The user can control how soft or hard they want the CW to sound. The user should also be able to easily adjust the frequency of the CW note in 50 Hz steps and control the amplitude of the tone produced by the speaker or phones in 2 dB steps (not some flakey control implemented with a linear pot that puts all the frequency or volume adjustment on the last 20% of control shaft rotation). Additionally, I wanted a CPO that included an iambic keyer for paddles but would also simultaneously work with straight keys and bugs.

Additionally, I wanted a CPO that had the potential to be used with internet based telegraph conference bridges at up to 35 WPM, so that CW students could communicate with their instructor (and other students) over the internet without requiring a radio (and all the associated radio propagation issues).

Additionally, I wanted a CPO that could be connected to a VHF/UHF FM HT or FM mobile



transceiver so that the user could easily send tone modulated CW over an FM voice radio channel, for training or demonstration purposes.

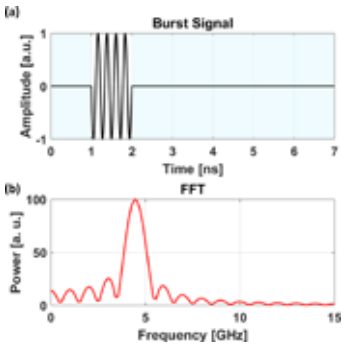
So, those are the major features I hope to include in this CPO that I'm tentatively calling the CW Widget.

I'm now wrapping up a PCB breadboard of the CW Widget. I think the parts cost for the project will be under $30, including the PCB. All parts on the board are through hole parts, except for the USB connector and the USB to Serial bridge chip (which has a 50 mil pitch). The CW Widget might make for a nice club build project. I hope to get the Rev 0 PC boards in about 15 days and once those are in hand I will start assembling and debugging.

If you are so inclined, you can see a video review of the schematic that I placed on an unlisted area of my YouTube channel at https://youtu.be/yrfMsN7819.

Let me know if this project may be of interest to you. 73, Paul, ad7i

MORE "BURST SIGNAL" INTRUDERS



The International Amateur Radio Union (IARU) Region 1 Monitoring System (IARUMS) reports that in addition to the already well-known intruders, some new or rarely heard signals have been spotted, including a burst signal from an over-the-horizon radar (OTH-R) in China. The IARUMS July newsletter reported that this signal -- in 3.8-second bursts -- was encountered repeatedly on different 40-meter frequencies as well as on 20 meters.

NATO (North Atlantic Treaty Organization) military systems were more active in various amateur bands using a variety of modes, such as MIL188-110A, LINK 11 CLEW and SLEW, STANAG 4285, STANAG 4481-FSK, and MIL188-14A ALE.

FSK-ARQ and PSK-ARQ emissions with typical 600 baud, 600 Hz, or even 1200 Hz, have been conspicuous for some time. These are known as DPRK 600 and 1200, respectively, and are attributed to North Korea.

For many days, a LINK 11 CLEW station was active on 7159.0 kHz in DSB mode (double sideband, 6 kHz wide), at times causing heavy interference.

Predominant over-the-horizon radars monitored included the Russian Contayner, as well as the British PLUTO system from Cyprus, generating annoying interference. On 14301.9 kHz, an orthogonal frequency division multiplexing (OFDM) 60 signal could be found occasionally.

Some broadcasters interfere regularly. Radio France Internationale on 7205 kHz splatters down to 7186 kHz, 2100 - 2200 UTC. The Voice of Broad Masses is regularly found on 7140 and 7180 kHz. China Radio International is often found on 14000 kHz, and Sound of Hope from Taiwan is sometimes audible if conditions permit, but the signal is often jammed.

From the ARRL Letter, August 19, 2021

DEEP THOUGHTS

HAM RADIO IN THE FALL: JUST LIKE PIES MAMA USED TO MAKE

ONLY WITH RF!!!

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SCHOONER "BOWDOIN" 100 YEARS

The schooner Bowdoin is a century old this year. Now owned by the Maine Maritime Academy (MMA) as a training vessel, the ham radio history of the 88-foot (LOA) Bowdoin is often neglected. Constructed in Maine specifically for Arctic exploration, the vessel relied on amateur radio for communication during explorer Donald B. MacMillan's Arctic Expedition of 1923 and on the MacMillan-McDonald-Byrd Expedition of 1925 -- thanks in part to ARRL co-founder Hiram Percy Maxim, W1AW.

The venerable vessel, the official vessel of the State of Maine and the flagship of Maine Maritime Academy's Vessel Operations and Technology Program, recently underwent a complete hull restoration and refitting and has done a little touring to mark its centenary. Its home port is Castine, Maine.

The longwave transmitters MacMillan used on his earlier missions had proved "unable to penetrate the screen of the aurora borealis," ARRL historian Michael Marinaro, WN1M, explained in his article, "Polar Exploration," in the June 2014 issue of QST.

In 1923, MacMillan turned to ARRL for help in outfitting his next expedition with better wireless gear. Marinaro recounted, "It was enthusiastically provided." Maxim and the ARRL Board recruited Donald H. Mix, 1TS, of Bristol, Connecticut, to accompany the crew as its radio operator.

M.B. West, an ARRL Board member, designed the gear, which was then built by amateurs at his firm, Zenith Electronics. The transmitter operated on the medium-wave bands of 185, 220, and 300 meters, running 100 W to a pair of Western Electric "G" tubes. Earlier exploratory missions had used gear that operated on longwave frequencies. The shipboard station on board the Bowdoin was given the call sign WNP -- Wireless North Pole.

"WNP transmitted weekly 500-word press releases and listings of stations worked and heard," Marinaro said. "Once received by amateur stations, these reports were delivered to local affiliated newspapers of the North American Newspaper Alliance; from there, they were distributed syndicate-wide by telegraph."

MacMillan's subsequent attempt at the North Pole centered around wireless. The objectives supported by the Navy and the National Geographic Society were to determine the full capabilities of radio north of the auroral belt and to explore the northern reaches by air. The outstanding accomplishment of the 1925 expedition was in the sphere of radio. Utilizing shortwaves, the expedition was in consistent contact with the outside world throughout the journey, to the delight of the

amateurs who were able to work them. The phenomenal success proved to the Navy that shortwaves were definitely superior to the longwaves and ultra longwaves that fleets had been using.

From the ARRL Letter, August 19, 2021

BOUVET ISLAND PLANNING

Parallel planning is under way by three entities for DXpeditions to Bouvet Island in 2021, 2022, and 2023. The remote volcanic, glacial sub-Antarctic island in the South Atlantic is the second-most-wanted DXCC entity, according to Club Log. In June, the Intrepid-DX Group canceled its 3Y0J DXpedition, planned for 2023, after the RV Braveheart was put up for sale. Not long after, the Intrepid-DX Group revived its plans and was seeking a suitable vessel.

On August 8, a DXpedition using the 3Y0J call sign announced the signing of a contract with the expedition vessel Marama, a 101-foot sailing ketch with "a proven track record and experienced polar crew." Co-leaders for the November 2022 effort are Ken Opskar, LA7GIA; Rune Øye, LA7THA, and Erwann Merrien, LB1QI. Opskar, who holds the 3Y0J license, split from the Intrepid-DX Group DXpedition effort he headed with co-leader Paul Ewing, N6PSE.

In a brief announcement on August 3, Ewing had said that a Bouvet DXpedition team under "revised leadership" had found "a suitable/affordable vessel willing to take us to Bouvet," and was negotiating the terms of that charter contract. Ewing's co-leaders would be David Jorgensen, WD5COV, and Kevin Rowett, K6TD. The Intrepid-DX Group now must secure a new license and landing permission from the Norwegian Polar Institute.

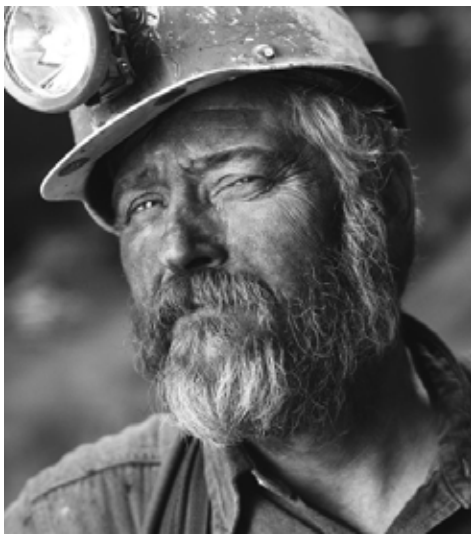
Meanwhile, Polish radio amateur Dom Grzyb, 3Z9DX, says planning continues for a second expedition on Bouvet Island in late 2021, using the call sign 3Y0I. "As you probably know, our first attempt to reach the island of Bouvet in March 2019 failed," Grzyb says on the DXpedition's website. "We were so close -- just 63 nautical miles off the shore of Bouvet Island."

The reconstituted 3Y0J group under the LA7GIA/LA7THA/LB1QI triumvirate said in its August 8 announcement that it planned to begin fundraising "immediately." It would field a team of 12 operators for a 20-day stay "around Bouvet." They would set up at Cape Fie at the southeastern part of the island, which they called "the only feasible part where a DXpedition can safely set up camp on rocky ground; we will not set [up] camp on the glacier."

MINES ON THE AIR (MOTA) ACTIVITY

Many hams enjoy getting out of the house to operate, engaging in such activities as Summits on the Air (SOTA), Parks on the Air (POTA), or Islands on The Air (IOTA). Now it's time to try Mines on the Air (MOTA) -- but banish any thoughts of underground operating. The spark plug for this activity is John "JohnnyF" Fuller, WJ0NF, in Colorado.

"I decided to start the MOTA project because mines are everywhere in my area, and I was already checking them out and researching their history," Fuller explained on the MOTA website. He got into ham radio after losing "internet, cell, and landline service for the fourth time in 2016."



MOTA aims to see operators get out of the shack, enjoy the hobby, and take others (spotters) along for the ride. "It is meant to promote the hobby, enjoy the world around us, and bring a bit of history into our lives," Fuller said. "I encourage Activators to document their adventure with photos and videos that they can share with everyone -- either via this site, their own sites, or YouTube videos."

He continued, "I would also encourage activators to bring back part of the enjoyment via QSL cards. If you have the means, spend a few dollars, and create one-of-a-kind, limited-edition QSL cards for the spotters that couldn't be there."

Fuller said he's planned on limited runs of 20 - 30 cards for each activation, each card bearing an image of the relevant mine.

"We are just starting out, and I am sure things will change as the project grows," Fuller said. "For now, I would like to create a form where MOTA Activators can fill out the relevant information and submit it for addition to the database. Once the project grows past a critical point, we will have to move to a more interactive site where you can search through the database and upload information on your own."

Fuller said to activate a mine and have it added to the database will just include information describing where the site is located and photographic proof that the operator was there. If a link to a website for the mine is available, he'd like that included too. Fuller's Activation Requirements page has more details.

John "JohnnyF" Fuller, WJ0NF.

Fuller has one important caveat: activating a mine for MOTA "is not meant for people to risk their health or lives by exploring unsafe locations. No more than SOTA or IOTA. In each activity, you need to use common sense. Stay out of these old mines and be safe."

He notes that not all mine sites are open to the public. "Make sure you know ahead of time what legal access you have to the location," he said.

ARRL RF EXPOSURE CALCULATOR

The FCC has adopted guidelines and procedures for evaluating environmental effects of RF emissions. The new guidelines incorporate two tiers of exposure limits based on whether exposure occurs in an occupational or "controlled" situation, or whether the general population is exposed or exposure is in an "uncontrolled" situation.

Under the new FCC rules, some amateurs need to perform routine station evaluations to ensure that their stations comply with the RF exposure rules. This can be as simple as running an online calculator to determine the minimum safe distance between any part of your antenna and areas where people might be exposed to RF energy from your station. Although amateurs can make measurements of their stations, evaluations can also be done by calculation.

To make this easy for amateurs, ARRL now provides an RF exposure calculator on its RF Exposure page. To use the calculator, enter your transmit peak-envelope power (PEP) and operating mode, and answer the questions about the maximum amount of time you might be transmitting. The calculator will give you the minimum distance people must be from your antenna and human exposure.

You can print the results and keep them in your station records. There is no requirement to send your results to the FCC.

From the ARRL Letter, August 5, 2021

NEW ARDUINO BOOK RELEASED

The new book More Arduino for Ham Radio by popular author and experimenter Glen Popiel, KW5GP, builds on the success of his two previous titles, Arduino for Ham Radio and More Arduino Projects for Ham Radio.

More Arduino for Ham Radio introduces many of the new Arduino boards and add-on modules, followed by an overview of the software, tools, and techniques needed to bring projects to life. These concepts are put to work in 10 practical projects that showcase a wide variety of applications and include detailed descriptions of how the software "sketches" work. Each is complete as-is, with ideas for adding your own personal touches or creating your own projects using the techniques and modules presented.

That's part of the fun of the Arduino and open-source communities -- building on the work of others, and then sharing your designs and innovations for others to learn, modify, and improve.

More Arduino for Ham Radio is available from the ARRL Store or your ARRL Dealer. (ARRL Item No. 1472), ISBN: 978-62595-147-2, $39.95 retail, special ARRL Member Price $34.95). Call (860) 594-0355 or, toll-free in the US, (888) 277-5289.

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ARRL LEARNING NETWORK WEBINAR

Visit the ARRL Learning Network (a members-only benefit) to register, check on upcoming webinars, and to view previously recorded sessions.

Introduction to DMR and Digital Voice -- Tim

Deagan, KJ8U / Thursday, September 9, 2021 at 3:30 PM EDT (1930 UTC)

An introductory overview of digital voice (DV) technologies for ham radio. This presentation will focus on DMR with notes on System Fusion, D-STAR, and more. Included will be a description of DV architecture and components, and the interesting opportunities and challenges that DV presents.

ARRL members may register for upcoming presentations and view previously recorded Learning Network webinars. ARRL-affiliated radio clubs may also use the recordings as presentations for club meetings, mentoring new and current hams, and discussing amateur radio topics.

The ARRL Learning Network schedule is subject to change.

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POWER AMP AND TUNER FOR SALE

By Bob Boulle

I would like to sell the Linear Amplifier and Antenna Tuner that belonged to my father, Bob Boulle, W2OKM-SK:

Ameritron AL-811H Linear Amplifier with modification to operate on 10 meters. Purchased shortly before his death so little used. Asking $725 or best offer.
MFJ-989D Versa Tuner V high-power antenna tuner. Asking $240 or best offer.
They can be picked up in Middletown. If interested, contact:

Bob Boulle 732-241-7469

EQUIPMENT FOR SALE

By Bob Buus, W2OD

GSARA member Lou Russo, W2HAM has moved to an assisted living facility in Marlboro and is selling his amateur equipment. Prices too high? Make a reasonable offer.
MFJ-949E Deluxe Versa Antenna Tuner II with Manual. $100

Radio Shack HTX-202 2-Meter FM Handheld with Manual, extra Ni-Cad battery pack, speaker mic, and wall wart charger. $20

Radio Shack 13.6 volt, 2.5 amp Power Supply. $10

MFJ-407C Deluxe Electronic Keyer with Manual. $40

Straight Key on wooden base. $10

Veritas V372 Stereo Headset with cord. $10

Optimus XTS 25 Speaker in finished case. $10

AT&T white telephone and answering machine. $10

Sears 5-inch Analog portable B&W TV with Manual. $20

Interested? Call Bob, W2OD at 732-946-8615 for more information. All reasonable offers will be accepted.

Looking Back on GSARA

FIVE YEARS AGO

From the September 2016 Propagator: GSARA member Matt Bregoff, W2AOJ from Oakhurst became a silent key at age 79. A letter from GSARA was published in the Two River Times commending them for their coverage of our Field Day activity. The Dayton Hamvention is moving from HARA Arena to the Greene County Fairgrounds. The lead letter in the September 2016 QST was written by our own Cy, K2CYS who documented his struggle to obtain WAS on SSTV.

TEN YEARS AGO

From the September 2011 Propagator: Bill Hudzik, W2UDT is the new Vice Director of the Hudson Division and gave a talk at our August 17, 2011 meeting on how the incoming W2 QSL Bureau works. The GSARA Mission Statement was published. The GSARA Hamfest is coming on September 10 and the OMARC Hamfest is September 28.

FIFTEEN YEARS AGO

From the September 2006 Propagator: Access to Fort Monmouth is being simplified with the issuance of a yellow card good for a year. The vanity fee is dropping from $21.90 to $20.80. A Chinese jammer, dubbed "Firedragon" has been on 14.260 for some time and seems to have moved to 14.050. It transmits Chinese music continuously. ARRL is gearing up for their first on-line auction in October.

TWENTY YEARS AGO

From the September 2001 Propagator: Roy Jacques, KS2B became a silent key on July 26 at the age of 65. The GSARA Hamfest at the Red Cross on September 16 is cancelled. Gene Niemiec, K2KJI made a presentation at the July 18 meeting about the Icom 706 MK II G. Bill Hudzik, W2UDT is the new NNJ SM and was a guest at the August 15 meeting. He presented GSARA with a framed certificate commemorating 50 years of GSARA affiliation with the ARRL. The August 15 program was by Joe Cramer, N2XYZ talking about the battleship New Jersey and its station NJ2BB. The FCC is accepting comments on opening

TWENTY-FIVE YEARS AGO

From the September, 1996 Propagator: The GSARA picnic at Fireman's Field in Ocean was a big success with 35 attendees. New RF Safety standards go into effect January 1, 1997. Bob, W2OD was elected Director of National QCWA. The special event station from Sandy Hook lighthouse went well with about 350 QSOs. The August 21 program featured Ken, N2SMT demonstrating ATV through the Brookdale repeater. Walter, W2HOZ changed his call to KZ5WP (SK).

NOTES ON CALENDAR (see next page)

Call letters denote birthdays e.g. KD2TPL on September 1. All times are EDST. Contests are listed i
ember QST, p. 70. The W1AW CW Qualifying runs are shown each day as "CW" followed by the tim
wed by either "35" for 10-35 WPM or "40" for 10-40 WPM and the optional letter "R" at the end shm
the speed decreases rather than increases. For complete Qualifying Run information, see September
' page 75 and www.arrl.org/qualifying-run-schedule

ber 2 – Holiday City ARC Meeting at 7 pm at Holiday City South Clubhouse in Toms River on Zoom.

ber 2 –GSARA Meeting at 7:30 pm via Zoom teleconferencing. This will be a program meeting that
are Ulric Lewis, KC2VWB who will talk about designing for 3D printing such as enclosures or other
ted designs. Don't miss it!

5 – All Asian DX Phone Contest, HF from 8 pm Friday to 7:59 pm Sunday. See http://www.jarl.org/En

ber 6 – Labor Day Holiday

ber 7 and every following Tuesday – GSARA 10 Meter Net on 28.390 at 8 pm, SSB

ber 7 and every following Tuesday – GSARA Net on 147.045 PL=67 at 8:30 pm.

ber 7 - W1AW CW Qualifying Runs (CW 7 pm 35R) at 7 pm (35-10 wpm).

ber 8 – Holiday City VE Session at 7 pm in Toms River. Contact Larry Puccio, KC2QDY at 732-349-
-mail to lpuccio@comcast.net

ber 9 - W1AW CW Qualifying Runs (CW 10 pm 40) at 10 pm (10-40 wpm).

ber 10 – W1AW CW Qualifying Runs (CW 9 am 35) at 9 am (10-35 wpm).

ber 11 – OMARC Meeting at 9:00 am at the Firehouse on 600 Sixth Ave. in Spring Lake Heights.
meeting may be on Zoom.

1-12 – ARRL VHF Contest, all modes, from 2 pm Sat. to 11 pm Sun. See http://www.arrl.org/septem
vhf

ber 11 – North American CW Sprint, 20 through 80 from 8 pm to midnight. See http://ncjweb.com

ber 14 – W1AW CW Qualifying Runs (CW 4 pm 35) at 4 pm (10-35 wpm).

ber 15 – GSARA Digital Fusion Net on 147.045 DN at 7:00 pm. Note that time has been moved from
pm. Also, this net is now only once per month instead of weekly.

ber 16 – GSARA Meeting at 7:30 pm via Zoom teleconferencing unless otherwise notified. This will
business meeting.

ber 18 – New Jersey QSO Party, HF, all modes from noon to 11:59 pm. See http://k2hl-berc.org/njqp

ber 18 – North American RTTY Sprint, Digital from 8 pm to midnight. See http://ncjweb.com

1-26 – CQ WW DX RTTY, HF, Digital from 8 pm Friday to 7:59 pm Sun. See http://www.cqwwrtty.c

SEPTEMBER 2021

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 KD2IPL	2 HGARC Mtg GSARA Mtg	3 Asian Phone HK	4 Asian Phone HK
5 Asian Phone HK	6 Labor Day	7 CW 7 pm 35K GSARA 10 Mtr GSARA Net 8:30	8 Hist. City VE	9 CW 11 pm 40	10 CW 9 am 35	HGARC Mtg 11 VHF Contest
12 VHF Contest	13	KD2FZN 14 CW 4 pm 35 GSARA 10 Mtr GSARA Net 8:30	15 N2AJO GSARA Big. Net CW 7 pm 40	16 CW 9 am 35K GSARA Mtg	17 CW 10 pm 35	N2FSB 18 NJ QSO Party N.A. Sprint
19	20	21 CW 9 am 35 GSARA 10 Mtr GSARA Net 8:30	22 CW 10 pm 35K	23 CW 7 PM 35	24 CW 4 pm 40 CQ WW DX Big.	25 WB2RPW CQ WW DX Big
26 CQ WW DX Big	27 CW 10 pm 40	28 KC2WAN GSARA 10 Mtr GSARA Net 8:30	29 CW 9 am 35K	30 N2VFK CW 4 PM 35K		

GARDEN STATE AMATEUR RADIO ASSOCIATION
W2GSA Tinton Falls, NJ

First Class

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