May 2023

The Big Island Hamgram

The newsletter of the Big Island Amateur Radio Club

The President's Corner

Alan Okinaka, KH6ATU

Hacks and burglaries

As humans, one of our greatest human attributes is that we are sociable. We like to share stories, experiences, skills, and update each other about what's happening in our lives. Someone once said that having this quality brings meaning to our lives, and I agree.

With the technologies available today, we have extended face-to-face encounters to where you can have a friend without ever meeting that person. Something like having a pen pal, which I did for a few years as a student in elementary school. As mentioned in a previous article in our HamGram, our socializing on amateur radio networks allows us to develop friendships without ever meeting a person, in-person, and this leads to sharing information about ourselves.

It is fun to make virtual friends, but there is a down-side!

The concern I have is that we don't know who is listening to our conversations. As we announce our call signs periodically to follow FCC rules, our call signs can easily be looked up on several websites on the internet to obtain detailed information like our full name, address of our residence, and contact information.

Someone with ill intentions can use this information, combined with what we share with each other on the nets, to commit a burglary.

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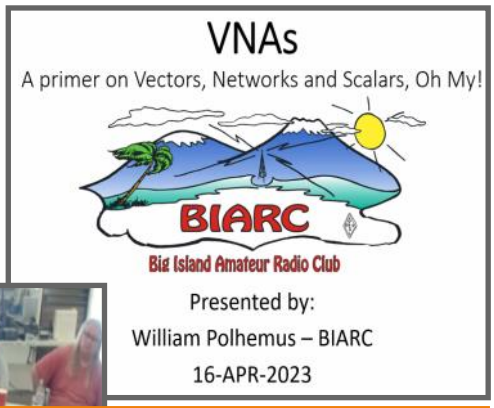

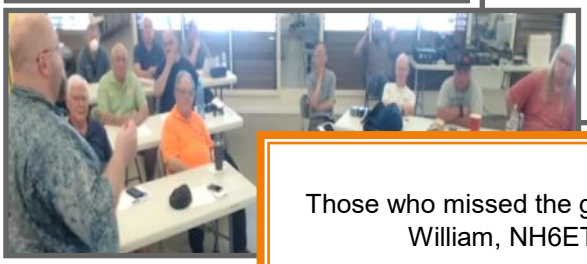

NH6ET schools members on VNAs.

From Les, K0BAD:

Those who missed the great presentation on VNAs by William, NH6ET, Sunday, April 16, may see it on YouTube at the following link:
https://youtu.be/lV7RoCu3-uc

Notes from April 16 BIARC session:

BIARC Treasurer Tony said he needs some help from club members, noting that he has wound up wearing a lot of different hats in club, community, county and statewide public service missions and emcomms responsibilities. He asked BIARC members to please volunteer for a club committee. Especially, he stressed, he needs someone to handle the BIARC website. Please contact him if you can kokua.

President Alan Okinaka, KH6ATU, distributed copies of a trifold informational pamphlet just produced by Les Hittner, KOBAD, to spread the word about amateur radio. It tells how to get involved in the hobby and the potential it offers those who do.

It's a good way to encourage additional BIARC memberships and to let the community know

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~ Date change ~

Club will meet May 21 at Kamana Senior Center

Because Mother's Day falls on the second Sunday of the month, the club will meet the following Sunday, May 21, at Kamana Senior Center at 127 Kamana St. in Hilo.

The Executive Board will meet at noon, with the first of the club's twice-a-year general membership meetings following at 2 p.m.

Zoom access is provided courtesy of Les Hittner, *K0BAD, at: https://us02web.zoom.us/j/51813601322?pwd=bTVFTG5HZXowYVJ6OHpFcEV1dHJRUT09*

During the general membership meeting, each of the standing committees will give a report on activities since the last membership meeting and talk about future endeavors and plans.

Also, the winners of the club's recent silent auction of assorted donated radio equipment will be announced.

At the April 16 BIARC gathering, John Bush, KH6DLK, discusses and demonstrates the UNUNs he built and tested successfully. They will be used back home on Ulithi in Yap. He built them using a compensating coil and a 33-foot resonant counterpoise.

THE PRESIDENT'S CORNER

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While chatting on our handheld radios, we often describe where we are and how long we may be away from our residence. This provides an opportunity for someone listening to this conversation to burglarize your home. Any information that tells a burglar that we are not at home provides an opportunity.

So, we need to take steps to stop these bad-buggers from harming us.

First, I strongly recommend that we do not give out location information of ourselves and others on our net gatherings. This would include our upcoming trips off island no matter how much we want to share our excitement.

By the way, it is just as much fun to share your excitement after you return from a trip.

Secondly, when you are going to be away for a while, tell your neighbors to keep their *maka,* eyes, on your place. I have the eyes of two neighbors who do this for me.

So, enjoy amateur radio, but stay safe.

73,
Alan, KH6ATU

Notes from April 16 BIARC session:

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how the club serves its members and the community at large. (*See brochure on Page 8 of this newsletter.)*

On behalf of the executive board, Alan thanked Jeremy Punsalan, KH7CN, for donating several items of radio equipment to BIARC.

John Bush, KH6DLK, discussed and demonstrated the UNUNs he built and tested successfully. They will be used back home on Ulithi in Yap. He built them using a compensating coil and a 33-foot resonant counterpoise.

Not a typo in the Ham world, UNUN stands for UNbalanced to UNbalanced. An UNUN (a type of transformer) matches an unbalanced antenna to an unbalanced feedline, minimizing transmission line losses caused by SWR, removing unwanted RF from coaxial shield, and boosting overall efficiency.

John had put together a 40-meter endfed half-wave antenna from an ARRL kit. "This antenna has worked out even better than I expected," he said.

"10 meters at 10 watts worked great," he reported.

From William Polhemus, NH6ET, we learned about *"Eli the Iceman."*

E = Voltage
L = Inductance
I = Current flow (amps)
C = Capacitance

This is a mnemonic to help electrical engineers remember:

Voltage leads current in an inductive circuit

Current leads voltage in a capacitive circuit

William demonstrated how to use VNA and nano VNA and gave a presentation on the ins and outs and do's and don'ts of using analyzers.

And he offered to test units brought in by members on a Rigol UltraReal spectrum analyzer.

Check out a book from the BIARC Library

Current custodian Jim Tatar, WH6EMN, announces that the club library will be at all meetings on a white folding table in the back of the meeting area.

"Everyone should feel free to browse through the collection, and please check out and sign the register book if you decide to take a book home to read so we know where it is," said Jim.

"The library will be stored in my Hilo garage between meetings. If someone wants to, they can come over and get, or return, a book between meetings. Just give me a call at 808- 960-1545, or email me, and see when I'll be home."

Operating in a rainforest brings unique challenges

By Joseph Rosenbaum, WH6FZH
BIARC Board Secretary

If you plan on operating in the Hawaiian rainforest, it's important to understand the challenges of this environment.

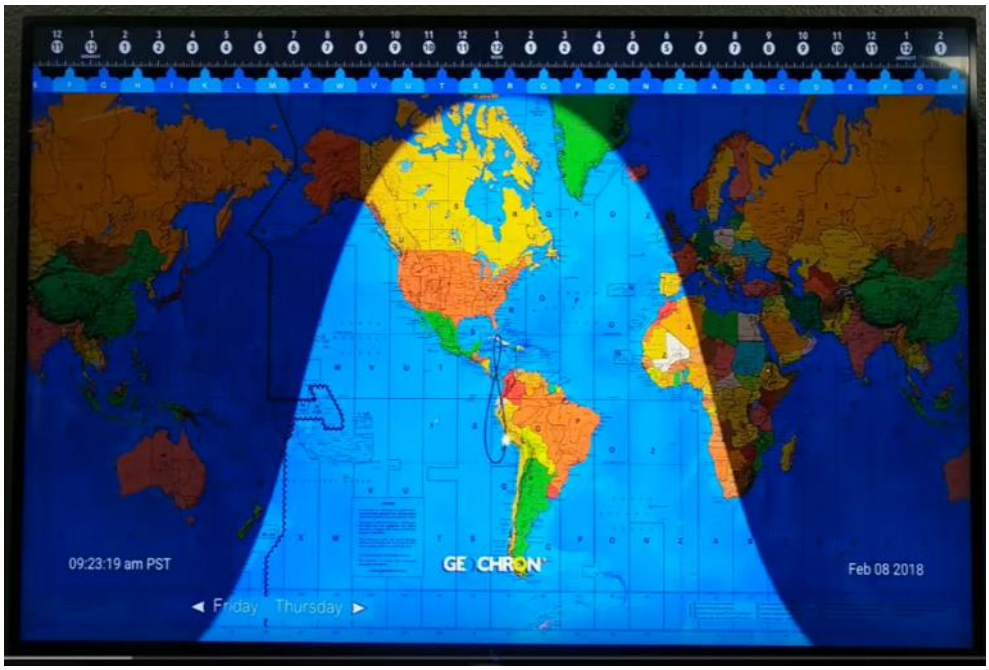
The thick vegetation and hilly terrain can make it difficult to get a clear signal, and heavy rainfall can also impact your equipment.

Moisture can impact radio transmission by absorbing and scattering radio waves, which can result in weaker signals and reduced range. To combat this issue, some operators use specialized equipment designed for use in wet environments. They may also take steps to protect their equipment from moisture, such as using waterproof covers or storing it in sealed containers.

To ensure a strong signal, it is recommended to set up your antenna in an open area where there is no obstruction and to use antennas that are optimized for the frequencies used, such as vertical or dipole antennas. It is also helpful to place antennas as high as possible, such as on a tree, to help improve your chances of making contacts.

One of the most significant challenges of operating a ham radio in the Hawaiian rainforest is the high level of atmospheric noise caused by thunderstorms, lightning, and the sound of rain. This can make it difficult to hear other operators and can make it challenging to maintain clear communication. However, with the right equipment and techniques, it is still possible to make successful contacts.

Another challenge is the potential for interference from other radio sources, such as nearby power lines or communication towers.



Grey line conditions allow for very efficient propagation.

You can use filters and shielding techniques to minimize this interference.

One great advantage of operating a ham radio station in the rainforest is the lack of urban noise pollution, which can cause interference with radio signals. This makes the rainforest an excellent location for making long-distance contacts.

During grey line (The "grey line" is a band around the Earth that separates daylight from darkness. Propagation along the grey line is very efficient. One major reason for this is that the D layer, which absorbs HF signals, disappears rapidly on the sunset side of the grey line, and it has not yet built upon the sunrise side. Ham radio operators and shortwave listeners can optimize long distance communications to various areas of the world by monitoring this band as it moves around the globe.) several local operators, including myself, were able to get a contact with South Africa, which is near antipode (halfway around the world from us.)

A popular location is the summit of Mauna Kea on the Big Island of Hawaii. At an altitude of over 13,000 feet, the summit provides a clear line of sight to other islands in the Hawaiian chain and the Pacific Ocean. Many radio enthusiasts have set up portable stations on the summit, making contacts with other operators around the world. For the Grid Madness contest a few years ago I made simplex contacts in Maui and Oahu while I was near the summit using just a cheap HT and a mag mount antenna.

There are also many active ham radio operators in Hawaii, making it possible to participate in contests and events. The Hawaii QSO Party is very popular with hams from all over the world. In this contest operators compete to make as many contacts with Hawaii as possible in a single weekend.

May 13 free Ham Bootcamp will be online and open to all

The Nashua Area Radio Society will be holding an online Ham Bootcamp on Saturday, May 13 from 10 a.m. to 6 p.m. Eastern Time.

The New Hampshire hams are hosting the training program to help new, inactive, and prospective hams gain the skills and information that they need to Get on The Air.

It is open to any interested ham or prospective licensee in the U.S. and Canada and there is no charge to attendees.

The morning session is geared toward operating on the VHF/UHF bands:
~ Putting together a Station for Repeaters - How to pick an HT or Mobile Radio and an Antenna
~ Radio Programming Tutorial
~ Making Contacts and Joining a Repeater Net
~ Getting Started with Amateur Radio Satellites
~ Getting started with Fox Hunting

The afternoon session is geared toward operating on the HF Bands:
~ Putting together an HF Station for SSB, CW, and Digital
~ Picking and putting up an HF Antenna, Feedlines, and Grounds
~ Operating on the HF bands using SSB Voice
~ Getting started with WSJT-X and FT8 Digital

There will also be breakout sessions where attendee can choose one of the following topics:
~ Learning CW
~ Intro to EmComm
~ Finding DX, Logging and QSLing
~ Portable Operating
... and more!

Registration is now open for the May 13 session. You can get more information about Ham Bootcamp, including a link to register at n1fd.org/bootcamp If you have any questions, you can contact us at bootcamp@n1fd.org. Registration is required to receive the link to the web conference.

Good Winlink web session

This link below points to a good presentation on Winlink put out recently by the RATPAC group.

It discusses several topics including propagation and new Winlink RMS express features.
https://www.youtube.com/watch?v=eVladwKy3_4

73,

Tony Kitchen, WH6DVI

~ 2023 BIARC Roster ~

Executive Board officers and committee chairs

President
Alan Okinaka, KH6ATU
Vice President
James Huntley, WH6FQI
Secretary
Joseph Rosenbaum, WH6FZH
Treasurer
Tony Kitchen, WH6DVI
At-Large directors
Roy Kunishige, KH6KU, and David Miller, KH6CZ
KH6EJ station custodian
William Polhemus, NH6ET
Public Service/ Communications Committee
Chair David Miller, KH6CZ
Operating Activities Committee
Chair John Bush, KH6DLK
Education and Outreach Committee
Chair Leslie Hittner, K0BAD
Programs Committee
Chair James Huntley, WH6FQI
Digital Systems Committee
Chair James Huntley, WH6FQI
Voice Repeaters Committee
Chair William Polhemus, NH6ET
Meeting Refreshments Committee
Chair Robert Schneider, AH6J
BIARC Hamgram
Editor Leigh Critchlow, WH6LC
Club website: https://biarc.net

ARSA Announces 2023 Award Winner

The Amateur Radio Software Award (ARSA) Committee has announced that GridTracker, a project led by Stephen Loomis, N0TTL, and the GridTracker.org team, has been selected as the recipient of the 4th annual Amateur Radio Software Award.

The award recognizes software projects that enhance amateur radio and promote innovation, freedom, and openness in amateur radio software development.

The committee received many nominations for the 2023 award, and after careful consideration, GridTracker was chosen as the winner. The committee was impressed by the breadth of features in GridTracker, its innovative graphic interface, and its ability to make amateur radio more fun.

GridTracker is a tool that visualizes WSJT-X amateur radio traffic, like FT8 and contacts from log files, which makes it easier for radio amateurs to track their contacts and participate in contests. Its unique approach to visualizing radio traffic adds a new dimension of enjoyment to the radio art.

To learn more about GridTracker, visit https://gridtracker.org.

everythingRF

Aloha everyone,

I was taking a class recently dealing with mobile telecommunications and as part of the class we briefly reviewed frequency and wavelength calculations. As a learning aid, the instructor pointed us to the website https://www.everythingrf.com/rf-calculators

Looking down the list of different utilities, I thought it might come in handy for this group.

Enjoy!
73,
Kevin
WH6OHM

Ham operators test coverage on VHF with new monthly Sunday simplex net

Ham radio enthusiasts across East Hawaii are invited to participate in the next Amateur Radio Monthly Sunday Night Simplex Net on May 21, starting at 7 p.m. HST. The net will begin on the 76 repeater and then move to the VHF simplex frequency of 146.52 for the simplex round. The net debuted in March, and is held on the same day as the monthly BIARC meeting.

This event provides an excellent opportunity for radio operators to test their coverage on VHF and to connect with other ham radio enthusiasts in the community. This is a good opportunity to check your equipment and operation readiness.

"We are hopeful the net will become a popular event, and are excited to welcome both new and experienced operators to participate," said net coordinator Gary Schwiter, WH6EPS. "The Sunday Night Simplex Net is a great way for ham radio operators to come together and practice their skills, while also testing their equipment and coverage. We encourage anyone interested in amateur radio to attend and join in on the fun."

"Ham radio, also known as amateur radio, is a popular hobby that involves using radio communication to make contact with other operators around the world or in just your little part of the Island. It's a great way to learn about electronics and radio technology, as well as to develop communication skills and connect with people who share similar interests," said WH6EPS.

The net is open to all licensed amateur radio operators, and newcomers are welcome to join. To participate, simply tune in to the 76 repeater at 7 p.m. HST and follow the instructions from the net control.

"Don't miss this opportunity to connect with other radio operators and test your coverage on VHF. We hope to see you on the airwaves!"

Volcano VERT Radio Check Net open to all on second Saturday of the month

Coordinator and net controller Doug Wilson, KH7DQ, invites all licensed amateur radio operators to participate in the Volcano VERT Radio Check Net on the second Saturday of each month.

The net starts promptly at **9 a.m. on the Volcano Repeater; 147.260 MHz; (pl 103.5 on the input only, i.e., transmit only).**

"At the end of the regular two-round format on the Volcano Repeater, we will QSY to our alternate repeater **442.150 MHz (Kulani Mauka; pl 100.0)** for roll call and signal reports. We will then close this portion of the Net and QSY to the Volcano VERT **146.490 MHz** simplex frequency," said Doug.

"On our Volcano VERT simplex frequency **(146.490 MHz)** we will do a roll call and exchange signal reports with each station until all stations on this frequency have been contacted. This will conclude the Volcano VERT Radio Check Net.

"The purpose of this net is to 1) check our equipment, 2) test your ability to reach the Volcano Repeater, 3) check signals from various locations in the Volcano area and the East side of Hawaii Island, 4) have a short open discussion in a "normal" two-round net format, and 5) practice switching to our alternate emergency frequencies.

"Everyone should make sure that their radios are programmed with the above frequencies, offsets and pl tones."

BIARC EXECUTIVE BOARD MEETING

BEGIN MEETING

- The meeting was called to order at 12:03 pm on Sunday, April 16, by Board President Alan Okinaka. Venue was the Kamana Senior Center in Hilo.

Quorum

- Board Members: Alan Okinaka, William Polhemus, James Huntley, Roy Kunishige, Tony Kitchen, David Miller and Joseph Rosenbaum

Secretary's Report and Minutes

- William moved and David seconded that the March Biarc Board minutes be approved as published. Motion passed.

Treasurer's Report

- No written report. There were two recent disbursements. The first was for $83.49 to Jim Huntley to reimburse him for the sector antenna to be used in the linking project. The second was $186.85 for Mercer equipment insurance. Tony Kitchen (Treasurer) will be sending out a report before the May meeting to the BIARC listserve.

Committee Reports:

Public Service Communications Report:

- Recruitment of new members remain a high priority. Biarc volunteers are needed to support new PSCC activity. Helped with the HI-EMA repeater relocation during January Mauna Loa activity. Facilitated a CERT two day training in Waimea with an emphasis on radio and emergency communications. As the Biarc point of contact and a member of Hawaii Volunteers Organized Against Disaster (HVOAD) we represent Biarc and vote at HVOAD general meetings. This committee has supported maintenance of the HVOAD membership list and have planned support of tsunami awareness information.

Operating Activities:

- No meeting or written report. The Field Day site and an alternate site have been chosen. Kuhio Kalanianaole Park on the shores of Reed's Bay will be the primary location and Reed's Bay in Hilo as the alternate. Plan to have a foxhunt and demonstration of a relatively easy way to set-up an antenna for portable operations such as Field day, Parks on The Air, etc.

Programs:

- This month's presentation is on Vector Network Analyzers.

Digital Systems:

- Received request from Frank Roff, amateur call sign KH6BFD to help facilitate and set-up a Winlink digipeater on the West side of the island to link in with the East. A Digipeater is a station that does digital repeating. Unlike full-duplex VHF/UHF voice repeaters, a digipeater will receive a packet, process it, and retransmit on the same frequency. A digipeater which

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operates on multiple frequencies or routes between RF and Internet traffic is called a gateway. Plan to explore the feasibility of project and will report back when more is known.

Voice Repeaters:

- No meeting or written report. Several open projects are in various stages. The public safety repeater installation that we did at the Pohakuloa Training Area compound was used to work a grass fire and several motor vehicle accidents. The other repeater we installed for the Hawaii Fire Department and the other PTA public safety agencies at the Mauna Loa site has an alarm tone but is still passing traffic. The work party will diagnose and fix alarm tone. In the worst case scenario the club has another repeater we can install.
  There is a planned work party to the Pepeekeo tower site in concert with digital systems to install equipment for the link to the Kulani Cone tower repeater. The equipment includes a sector antenna and mesh node gateway. The pipe to pipe adapter, tapered leg for Kulani Cone tower expected within the next 4-5 weeks. Jim Huntley will install the repeater previously discussed and the diplexer, etc. at the container for the Orchidland CERT team at their next exercise.

Education and Outreach:

- There was no meeting in March. Les Hittner designed and printed a tri-fold pamphlet to hand out to new licensees and anyone interested. Still searching for a lending library storage solution, any ideas would be welcome.

The Biarc Executive Board has decided for the May meeting to have all committee chairpersons present their committee accomplishments and future plans.

Old Business:

- Continued search for speakers, presentations and committee members.

The next BIARC meetings will be on May 14th at the Kamana Senior Center in Hilo at 12:00 pm for the board meeting and 2:00 for the club meeting.
There being no more business, Alan closed the meeting at 1:33 pm.

Respectfully submitted,
Joseph Rosenbaum, WH6FZH, secretary

(The board later voted to move the May meetings to the third Sunday of the month because Mother's Day falls on May 14. The same schedule will be followed, but it will be on Sunday, May 21, instead.)

The Big Island Amateur Radio Club

BIARC is dedicated to community service and providing education to the general public about the history, operation, functions, and benefits of the Amateur Radio Service. BIARC members adhere to the Radio Amateur's Code and are considerate, loyal, progressive, friendly, balanced, and patriotic.

KH6EJ

Spreading the word about BIARC

At the April 16 club gathering, President Alan Okinaka, KH6ATU, distributes copies of a new membership recruitment and informational pamphlet created by Les Hittner, KoBAD, to spread the word about amateur radio and BIARC.

The BIARC Mission Statement

The mission of the Big Island Amateur Radio Club (BIARC) is to recruit, educate and help committed Ham Radio operators carry on the traditions of amateur radio by using our network of technical resources and expertise to provide equipment, skilled operators, and emergency services when called upon in times of need and to assist and protect the citizens in the communities in which we live and serve.

Want to learn more about Ham Radio? Consider joining BIARC

Standing Committees

BIARC has six Standing Committees. We are confidant you will find something that you are interested in:

- Voice Repeaters
- Digital Systems
- Operating Activities
- Public Service Communications
- Programs
- Education and Outreach.

License Classes

Our lead Instructor, Douglas Wilson (KH7DQ), conducts several introductory license classes every year. Perhaps this is how YOU got your license.

License Exams

Doug also conducts testing sessions after each class. Test sessions are important for obtaining an introductory Technician Class license as well as higher classes of license like General or Extra Class.

Feel free to speak with me:

Name/Call: _____

Telephone: _____

Email: _____

Amateur Radio Field Day

Ham operators conduct an emergency exercise contest – with temporary towers and antennas and emergency power.

Contact BIARC:

Big Island Amateur Radio Club
PO Box 1938
Hilo, HI 96721

Email: biarc.board@gmail.com

Website: https://www.biarc.net

BIARC is one of the most active Amateur Radio Clubs in the State of Hawaii.

The Big Island *Hamgram*

BIARC's monthly newsletter is fantastic. Learn about club activities, Dxing, EMCOMM, and Amateur Radio in general. Our *Hamgram* editor, Leigh Critchlow (WH6LC), was in the newspaper business and she absolutely knows what she is doing!

The BIARC Monthly Activities

You won't get tied up with business meetings in BIARC. The club is run by an Executive Board and our monthly club meetings are called activities – because we get together primarily to do "ham stuff."

The BIARC Executive Board

Interested in helping BIARC to continue to be a healthy and active organization. Join the Executive Board or one of its standing committees.

Annual Armed Forces Day Crossband Test May 13

The US Department of Defense (DoD) will host this year's Armed Forces Day (AFD) Crossband Test on May 13, 2023. This annual event is open to all licensed amateur radio operators and will not impact any public or private communications. For more than 50 years, military and amateur stations have taken part in this event.

The AFD Crossband Test is a unique opportunity to test two-way communications between military communicators and radio stations in the Amateur Radio Service (ARS), as authorized in 47 CFR 97.111. These tests provide opportunities and challenges for radio operators to demonstrate individual technical skills in a tightly controlled exercise scenario.

Military stations will transmit on selected frequencies and will announce the specific ARS frequencies monitored.

All of the times are Zulu (Z), and all frequencies are Upper Side Band (USB) unless otherwise noted. The frequencies used for the test will not stray outside the confines of the exercise.

A complete list of frequencies, time periods, QSL cards, and other information can be found at **DoD MARS - Armed Forces Day.**

AFD is a time of honor. It will be celebrated on Saturday, May 20, 2023. The first AFD was celebrated with parades, open houses, receptions, and air shows. Today, many events and activities take place and may include multi-service military displays in areas open to the public, various educational activities that teach children about the armed forces, and large parades with local celebrations.

The longest running AFD parade in the United States is held in Chattanooga, Tennessee.

Certain types of music will be played at AFD 2023 events to show respect to those in the armed forces who died for their country.