

News flash

April meeting canceled,

BUT:

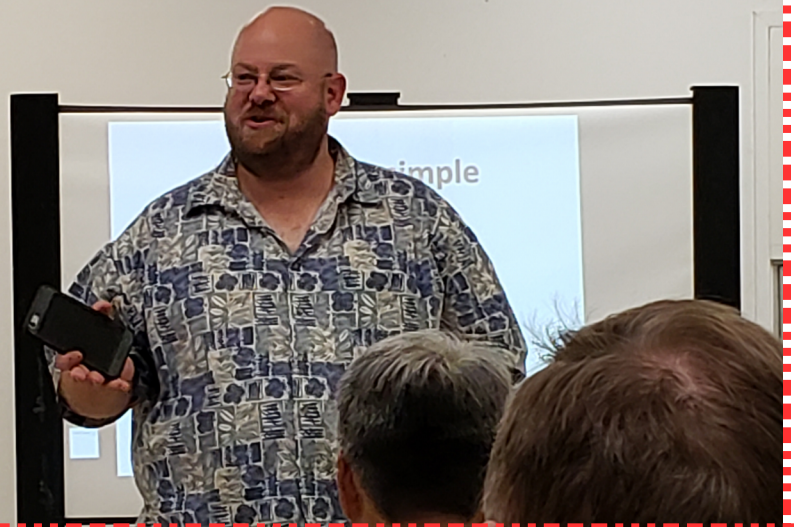
Special net for members

2 p.m. Saturday 4-11

Details on Page 5

DMR made simple: aka 'New Tricks for old dogs'

President William Polhemus, NH6ET, offered an introduction to Digital Mobile Radio at the March 14 gathering at Keaau Community Center. These photos of his presentation were taken by Linda Quarberg, WH6LQ.

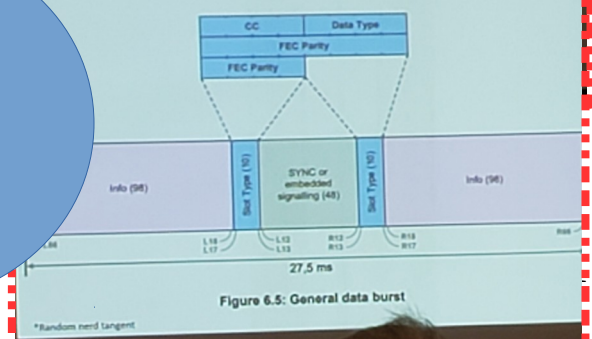


So, just what IS DMR?

- DMR stands for Digital Mobile Radio.
- Comes from a European business radio mode.
 - ETSI technical specification 102 361-1
- It is a Common Air Interface, just like P25 and D-star.
- It is a mode, not a modulation.

It's weird, they put the header in the *middle* of the frame.*

It's like trying
to understand
the smell of
the number
9 ...



But, best of all:

It's RADIO!



It's like trying to understand the smell of the number 9!

- DMR has something like the CTCSS tone too.
 - It's the poorly named "Color Code!"
 - There are 16 possible codes: 0 through 16
 - There are no pretty colors to program in; sorry.
 - Why do they call them "Color Codes?" It believe goes back to the business band roots of DMR.
 - For the nerds: The color code works like a MAC address. Frames without the right color code in the header are ignored.

Learning to speak DMR: More from the March meeting



This brings us to the bad part...

- You have to program every talkgroup you want to use on a repeater as a separate entry.
 - This means that you have to program the SAME repeater into the radio over and over again, until you want to cry.
- Some radios let you import this from a spreadsheet. That makes it all better.

Most importantly, DMR is:

- Radio!
 - Still need to have a frequency on which you are licensed to transmit.
 - Still need to use a split if you are talking through a repeater.
 - Still need to follow all of the other rules and best practices we adhere to as responsible operators.



DMR stands for Digital Mobile Radio

Stay one wavelength away

“Freedom is the most contagious virus known to man.”

-- Hubert H. Humphrey



William –
NH6ET

As you may have heard, there is a pandemic afoot. This rapidly evolving situation quietly crept into our lives, and then suddenly leapt out at us, like a miscreant child in a Halloween mask. We went from having a vague awareness of a new health threat, to a total upending of our routines, and indeed our very way of life. We went from business as usual to whatever you call this really quite quickly. Still, I have to say, this has been the slowest apocalypse ever!

We amateur radio operators are ahead of the game. We are better suited for social distancing than most. In fact, you can't get more socially distant than some of us always have been. However, our world is immense, in that our chosen method of social contact is largely unaffected by flight cancellations, quarantines, lockdown orders, and whatever else is getting thrown at us. In fact, the HF airwaves are busier than I have ever seen them at solar minimum, outside of a contest; the repeaters are abuzz; and digital signals are flying about. It seems that many amateur radio operators are flourishing in these times, by retreating into their hobby, to get out into the world and socialize.

This is not to say that there have been no affects to the club. As you may have heard, the BIARC board had to cancel the upcoming April meeting. It was too infeasible to hold the meeting in a way that accommodated the 6 feet, or 2 meters, of separation recommended by the CDC and other sources. The best we could manage was a little over 2 feet, or 70 centimeters. Additionally, the Department of Health, and the various emergency management agencies all recommended cancelling the event, as it would involve more than 10 people being in too close of quarters. Finally, the county facility in which we hold the meetings was shut down by the county. Not only was cancelling the meeting the responsible thing to do, we essentially had no choice. The BIARC board will still meet. Only, they will do so by Zoom teleconference. We will overcome, and adapt as necessary. Options are being evaluated for conducting the meetings over the air, as a net; or by teleconference.

Who knows how long this will disrupt our routines, and to what degree. There is so much that will simply have to be played by ear. When will it be permissible to meet again? I don't know. Will the state and county facilities be open by Field Day? No clue. What I do know is that I won't be lonely between now and then. Every time I turn on my radio, there you are – only a wavelength away from me.

William – NH6ET

Remote amateur radio testing and Covid-19

Aloha all and hope you all stay safe!

The EARC club is assembling a team of Hawaii VEs to provide some remote amateur radio license testing. They have the skills and tools to provide limited testing

First a little history of remote testing. In 2010 the ARRL petitioned the FCC to conduct a remote VE testing system for residents in Antarctica – almost the definition of a remote location. <http://www.arrl.org/antarctic-vec>

The following year a group of Amateurs in Hawaii, with support from the ARRL VEC petitioned the FCC to allow remote testing in Kalaupapa on Molokai.

<https://tinyurl.com/w7r4gsc>

The ARRL conducted at least seven test sessions for Antarctica thru August 2017.

<https://tinyurl.com/ydcdsr8a>

In July of 2014, the ARRL VEC successfully petitioned the FCC to permit VECs to proctor exams without the need for a case by case petition to the FCC.

"Part 97.509 (h) Upon completion of each examination element, the administering VEs must immediately grade the examinee's answers. For examinations administered remotely, the administering VEs must grade the examinee's answers at the earliest practical

opportunity. The administering VEs are responsible for determining the correctness of the examinee's answers"

Last year the EARC VE team on Oahu Hawaii conducted remote testing for US military on Okinawa.

Under the part 97 regulations any ARRL VE team has the ability to test, with the agreement of the ARRL VEC.

There has not been an overwhelming need for remote testing so few VE teams are trained in the process. As a result of the Covid-19 virus there may now be a need. Many are staying close to home and declining to participate in VE team sessions with many candidates.

Internet video conferencing technology has advanced to the point of making remote testing more easily applied to current Amateur Radio VE test session rules.

An EARC VE team has decided to schedule remote test sessions for ARRL Pacific residents (Hawaii, Guam, CNMI, American Samoa) and US military in the Pacific. This is not intended to replace club planned VE test sessions. Candidates working with VE teams in their clubs should follow the club guidance.

Anyone interested in access to testing can register for a remote session using the web page,

<http://hameducation.org/register>

Planning each test session needs information about available Internet service, computer, printer, scanner and candidate software skills. The process may be able to be tailored to a candidate's situation. It will take some thought to plan each session and, in some cases, they may not be able to approve a specific testing situation.

But the team will try!

ARRL Pacific Section
Section Manager: Joseph Speroni, AH0A
ah0a@arrl.org

Tower-mounted Christmas lights cheer California neighborhood

According to media reports, some Southern California residents have been turning their Christmas lights back on to bolster the mood of the neighborhood during the coronavirus pandemic.

"That caught my eye," Chip Margelli, K7JA, of Garden Grove, told ARRL. "Every year, I put lights up on my 70-foot fixed tower, turning it into the tallest Christmas tree in Garden Grove; it is quite a beacon in the neighborhood."

Because of knee replacement surgery last December, Margelli had not yet taken down his Christmas lights, so he re-lit them and put an announcement on the local Neighborhood Watch Facebook page. Margelli said a lot of positive comments indicated his neighbors would follow suit.

"So, hams everywhere can use amateur radio to do something to increase the cheer factor in their neighborhoods, even though it's not over the air," Margelli suggested.

"Spreading goodwill like this can surely only improve our image in the community."

– Thanks to Chip Margelli, K7JA

10-10 International Aloha Chapter is open to all

**Local hams
active on 10
meters
encourage
amateur radio
licensees at all
levels to join in
the fun.**

**[More info on
the
world of Ten-
Ten is
available on
Facebook
and at [https://
www.ten-
ten.org](https://www.ten-ten.org)].**

Tune in Saturday on 146.760

Due to the COVID-19 outbreak, the BIARC meeting scheduled for April 11th has been canceled. Jim Huntley, WH6FQI, will instead be holding a net on the Kulani Cone repeater, 146.760 MHz, negative offset, PL 100 starting at 2:00 PM.

The BIARC Executive Board meeting will be held at Noon via Zoom video conference. If you are a BIARC member and would like to listen to the Executive Board meeting, then please make sure you have joined the BIARC Listserve by visiting the website at <http://mailman.qth.net/mailman/listinfo/biarc>.

A link to the Zoom meeting URL will be emailed out on the listserve prior to the meeting. All BIARC members are welcome to join in.

If you plan to Zoom into the meeting we ask that you leave your mic audio muted unless you are asked to speak.

73,

**Tony Kitchen
WH6DVI
Chair, Public Service Communication
Committee
2020 BIARC Treasurer**

Radio amateurs team up to help university design low-cost ventilator

Amateur radio volunteers from around the world have volunteered to assist University of Florida Professor Sam Lampotang and his engineering team in their quest to rapidly develop an open-source, low-cost patient ventilator that can be built anywhere from such commonly available components as PVC pipe and lawn-sprinkler valves.

The amateur radio volunteers are developing Arduino-based control software that will set the respiratory rate and other key parameters in treating critically ill coronavirus victims.

Multiple volunteers responding to a call for help from Gordon Gibby, MD, KX4Z, include noted software developer Jack Purdum, W8TEE,



and uBITX transceiver maker Ashhar Farhan, VU2ESE.

University of Florida physicians are to address the critical legal aspects as the design moves closer to fruition. The ventilator's valves would precisely time compressed oxygen flow into patient breathing circuits under Arduino control, allowing exhausted patients with "stiff" lungs impacted by viral pneumonia to survive until their body can clear the infection.

The software design team is also adding simple features such as an LCD display, encoders to choose parameters, and watchdog safety features.

Scheduling changes due to coronavirus

Pohakuloa 'PTA Day' postponed

At PŌHAKULOLOA TRAINING AREA (PTA), the "Experience PTA Day" scheduled for April 23, 2020, is postponed until further notice due to the developing situation with COVID-19. PTA's leadership team is continually reviewing all events involving the community with the safety and health concerns of the workforce and community as a primary focus. For more up-to-date information, please visit the PTA Facebook page or call 808-969-2411.

**Mahalo,
73 and aloha, Eric KH6CQ**

Dayton Hamvention cancelled

For the Hawaii hams planning on attending the Dayton Hamvention, we've learned that the Dayton Hamvention 2020 has been cancelled. Here is a copy of the email received,

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

"This decision is extremely difficult for us but with around two months until the Great Gathering we felt this action necessary.

"More specific details regarding the closure will soon be posted on our website, <http://www.hamvention.org>.

"Thank you for your understanding in this time of international crisis.

**Jack Gerbs
General Chairman HV2020"]**

ARRL Pacific Section

Section Manager: Joseph Speroni, AH0A

ah0a@arrrl.org

(Note: This is the first time in its 68-year history that the Dayton Hamvention will not take place. Ohio's Dayton Amateur Radio Association sponsors the international gathering, which attracted more than 32,000 visitors in 2019.)

ARRL suspends visits to W1AW

As part of efforts under way to help protect the health and safety of ARRL Headquarters employees and volunteers from the impacts of the coronavirus, ARRL suspended all tours and guest visits to Hiram Percy Maxim Memorial Station W1AW and ARRL Headquarters, effective Monday, March 16.

"Out of an abundance of caution, this suspension will be in effect until further notice. We apologize for any inconvenience this may cause to our members and their guests who had been planning to visit us in Newington, Connecticut. We feel, however, that this is a necessary precaution and is in keeping with the guidance being provided by federal and local health professionals. We appreciate everyone's patience and understanding as we all endeavor to deal with this difficult public health situation," said ARRL officials.

BIARC Board Meeting

March 14, 2020

12:12 Meeting called to order

Role Call: Present (6) Quorum (4)

Board Members:

William Polhemus – President
James Huntley – Vice President
Leslie Hittner, Secretary
Tony Kitchen, Treasurer
Mel Uchida
Bob Schneider
Paul Ducasse – Station Custodian arrived at 12:20

Visitors: Gary Schwiter, WH6EPS

Minutes of last Board meetings: Regular meeting on 02/08/2020

William **moved** and Tony **seconded** that the minutes be approved as published and distributed by email. Motion **passed**.

Treasurer's Report: The treasurer's report was submitted in writing.

02/28/2020 bank balance \$3576.67 with \$40.00 of member dues yet to be deposited. Complete report can be found in the March issue of the BIARC Newsletter.

William **moved** and James **seconded** to accept the Treasurer's Report subject to audit. Motion **passed** by a unanimous vote.

Committee Reports:

(1) Digital Systems (No written report): The Digital Systems Committee discussed the following:

- a. The Digital Systems Committee would like to put on a program for the club and will work with the Program Committee to do so. Heather Flewelling (AH7RF) and Sidik Isani (WH6FUS) – both from the Keck Observatory - are willing to come to Hilo to present a workshop on Winlink, the RA25 kits and VARA. Joe Speroni, AH0A is willing to donate up to six VARA licenses to stations who would have financial difficulty in purchasing them on their own, and who are willing to commit to using them during EMCOMM exercises and events. Joe would be willing to send BIARC up to ten RA board kits for the build workshop free of charge, for those willing and able to build them. He would also be willing to send to BIARC assembled and tested RA boards and cables with either the mini-din or RJ45 connectors to have available for stations to purchase, without requiring money upfront.
- b. Tony will book the Kea'au Community Center for this all-day event.
- c. TNC-X manufacturer has sold rights to MFJ. The TNC-X is used in devices like the PiGate, which provides email via packet to Winlink.

- d. There is some thought about placing a VARA RMS site at Roy Kunishige's QTH. A big plus, besides location, is the fact that Roy has satellite internet.
- e. William picked up some items from the widow of silent key in Seaview. The equipment included an Astron power supply and an HF amplifier.

(2) Education and Outreach (Written report): A licensing class and testing session was completed on Thursday, March 12. Seventeen (17) people took the examination with the following results: 11 Technician licenses, 3 General licenses, and 3 failures.

The committee was asked to consider publishing the names of new licensees in the BIARC Newsletter.

(3) Operating Activities (No written report): Committee members, Roy and Tony, will be asking for permission to conduct Field Day in Wailoa State Park rather than a County park, which is restricted during night-time hours.

(4) Program (No written report): Upcoming programs include: March-DMR (William); April-RF Propagation (Les); May-Stub Filters (William); June-Field Day (Operating Activities); July-Antenna build project; August-PiGate; September-C4FM/Fusion (Les);

(5) Public Service Communications (No written report): Tony noted that MOU with HCCDA is ready for their approval. Tony had attended a ZOOM ARES Conference which is spurring us all to the use of Winlink/VARA. Tony is also attending weekly AREDN Mesh Conferences on Sunday evenings with a couple of other local amateurs. Les asked to be included in those conferences by getting a ZOOM link invitation.

Winlink ACS forms must be stored in "Global Templates" or risk loss during Winlink system upgrades. These forms can be found on the *Training* page of the biarc.net website. Visiting club member, Gary (WH6EPS) asked if there was any concern about content training and the need to conduct an AUXCOMM class on east Hawaii Island. Training recommendations included ICS 100, 200, 700, 800 – all of which have links on the biarc.net *Training* page. In addition, EC001 (There is a Hawaii version) is also linked on the biarc.net *Training* page.

(6) Voice Repeaters (No written report): William stated that the committee had not met, but that progress – especially as relates to the Kulani repeater – is being made. He has heard back from HCCDA regarding the MOU and the County Corporate Attorney, Craig Masuda, was asking for 6 minor changes and clarifications, as follows:

- a) Is BIARC the only association that would benefit from such an agreement and obligation, why this group over another amateur club?
- b) HCCDA should be providing training only as funding deemed available. As it is written HCCDA owes an obligation to provide training.
- c) Provision to assist BIARC to secure locations and resources: the concerns of a) and b) apply here.
- d) Provision to provide access to Hawaii County resources is overly broad and should be only when Hawaii County deems it necessary for BIARC to have access for emergency purposes.

- e) It does not seem that HCCDA gets much out of this MOU. They should have to provide communications to and from strategic locations HCCDA has identified and guarantee operators to man them when HCCDA calls them out.
- f) If HCCDA is going to expend funds on training and providing access on towers etc., BIARC should have some liability for broadcasting or reporting accurate information. It could be as simple as BIARC shall be liable for any and all broadcasting (or whatever appropriate term), transmitting or repeating of, false or untrue information.....by its members. announced important news that was not included in his report.

The board authorized William to make the minor changes in wording needed to address Mr. Masuda's concerns and then to seek an email approval. Because of the need for a quick response, alert notifications will be sent to all board members by telephone text when William is ready for the vote.

Upon approval of the MOU, William will submit our request to move the Kulani Repeater to the County site. Ron Solemsaas of HCCDA is supportive and will assist with the movement of our application through the bureaucracy. This may involve meetings with William, Ron, and Paul Ducasse. Eventually, we hope that Magno Talmadge, Civil Defense Director, will take the application to the Corporate Council with a recommendation to approve. Here are the conditions for approval, that we know of now:

- a) We must have the approved MOU.
- b) We must provide a Certificate of Liability Insurance.
- c) We must not *add* an antenna to the tower, although eventually we may be able to *change out* the existing antenna. This existing antenna is tuned to 167 MHz and is side-mounted. It may be necessary to use a tuner between the duplexer and the antenna. Another option may be to use a separate antenna located on top of the tower for receiving. This would eliminate the need for a duplexer and reduce antenna system-related losses.
- d) Odds are very good that we will be able to arrive at an agreement with the County.

William noted that a new repeater would be built prior to the installation and that the present Yaesu Fusion DR-2X would be re-purposed. The new repeater would be one of the Motorola commercial units donated to the club last year. Power output – at least for the time being – would remain at about 20 watts. The tuner and needed bandpass filters are available to the club. If we eventually replace the antenna, a new commercial quality antenna and duplexer should be considered (at a cost of roughly \$2,000.)

Bob Schneider asked the board to consider obtaining a 501c3 designation from the IRS as the current 501c7 designation does not allow BIARC to receive tax-free donations, which severely restricts fundraising efforts. He also felt that a 501c3 designation would be more credible to organizations like HCCDA. Club member Gary Schwiter and Les agreed to look into this and to report back to the board in April.

New Business:

- (1) **MOU with County of Hawaii Department of Water Supply:** William noted that the Department of Water Supply is one of the easiest departments to work with. Their towers and water tanks are well-located at higher elevations. The MOU would be worded very much like that being offered to the HCCDA. They may ask for 7-10 watts of solar power for their equipment in return for our presence on a site. This would obligate us to harden our sites by installing a small solar array, but is necessary anyway and would be a small price to pay for access to good communications sites. We could also assist them with data backhaul and camera (Part 15) links that could also benefit our communications linking needs.

Les **moved** and Paul **seconded** that the Public Service Communications Committee prepare a proposed MOU with the County of Hawaii Department of Water Supply and present that MOU to the board in April. The motion **passed** (U).

- (2) **BIARC Lending Library:** Joe Spironi donated two ARRL publications; (1) 2020 ARRL Handbook and the 24th Edition of the ARRL Antenna Handbook. The board thought this would be an excellent opportunity to establish a lending library that would be available to club members during each Second Saturday Club Activity. The task was assigned by William to the Education and Outreach Committee.
- (3) **Equipment Donations:** Letters of acknowledgement and thank need to be sent to donors. The Secretary and Treasurer will need to coordinate that action and have it completed by the April meeting.
- (4) **Newsletter Distribution:** Tony was asked to update the BIARC newsletter web page to invite anyone interested and tell them how to join the "BIARC Newsletter" distribution Google group.
- (5) **Wide Area – Members or Donors:** Tony would modify the newsletter web webpage to encourage people visiting and those signing up for our newsletter distribution group to donate to BIARC, and add information on how they could do so. If we find that a significant number of stations outside of Hawaii island are joining BIARC, the board will revisit the issue and discuss further actions.
- (6) **Digital Workshop:** Discussed during Digital Systems Committee report.
- (7) **Provide Equipment to CERT Teams:** Rather than providing equipment to CERT teams, the board preferred to consider the needs of CERT teams in the placement of club infrastructure such as short-range repeaters, etc.
- (8) **Concern about on-site meetings/activities** (Written presentation): No decision was made, but the board will monitor the ongoing epidemic and social distancing situation and make an on-line decision.

Old Business:

- (1) **Club T-Shirts:** No report.
- (2) **PayPal:** Tony present the results of his research in an email prior to the meeting (attached). With a PayPal account, members could use either PayPal or a credit card to make on-line electronic dues payments. The cost of those transaction differed.

Les **moved** to add the transaction cost of electronic dues payments to the dues amount. That motion did not have a second.

William **moved** and Les **seconded** to amend the By Laws to allow on-line electronic dues payments with an increase of ten (10) percent in the dues amount. The motion **passed** with Bob voting "no."

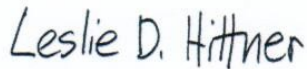
William directed the Secretary to write and present the proposed By Laws amendment and to review the procedures for amending the By Laws all at the April Board meeting.

Other Business:

(1) **Silent Key W2AUI:** (W2AUI) widow contacted Paul to let him know that she has a lot of old amateur and military electronics equipment and that she wants it out of her hair soon. The equipment is in Orchidland. William will announce it to the club and ask interested persons to contact Paul.

Adjourn: There being no further business, William adjourned the meeting at 13:56.

Respectfully Submitted,



Leslie Hittner, Secretary

Enc: Education and Outreach Committee Report
COVID-19 Response
PayPal Research