May 2022

The Big Island Hamgram

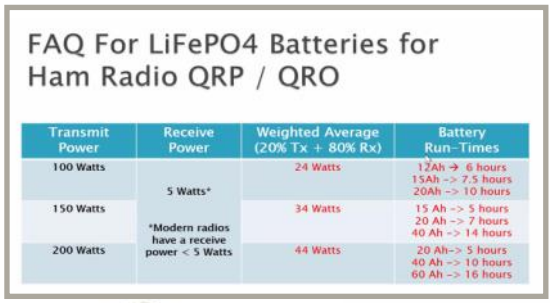
The newsletter of the Big Island Amateur Radio Club

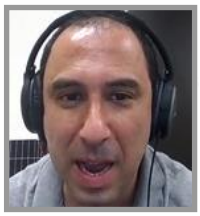
Comex report

A big mahalo goes out to all of the operators who stepped up for the April 16 ARES COMEX, from Tony Kitchen, WH6DVI, Hawaii ARES ASEC-Hawaii & Maui County Ops.

"I would like to thank everyone for their interest in EMCOMM," said Tony.

At ACS net control in Volcano, Jim Tatar, WH6EMN, at left, handles UHF radio calls; Doug Wilson, KH7DQ, at right, deals with HF calls, and Linda Quarberg, WH6LQ, receives and responds to Winlink messages. In addition, ACS net control transmitted a simulated Emergency Alert Message from the Hawaii County Civil Defense Agency during the exercise.





Kevin Zanjani

Lots of news, updates to report this month

May certainly has been an eventful month.

First, we had a resignation from the BIARC Board. Roy Kunishige is backing away from his active participation in BIARC activities in order to deal with other more important things in his life. According to the BIARC Constitution, the Board is to appoint a member to fill that open position on the board until November. That position will then be permanently filled at the board election in November. The board will also assign a board member to fill the Vice President position, and the chair of the Operating Activities Committee, which Roy held, as well.

Second, the County of Hawaii has again reserved the back room of the Keaau Community Center for BIARC's use on the second Saturday of each month. We can resume in-person monthly activities! The board had previously specified that in-person meetings must include Zoom access.

Continued on Page 3

THE PRESIDENT'S CORNER

K0BAD

GOOD NEWS!

The Big Island Amateur Radio Club will resume in-person meetings at the Keaau Community Center at 2 p.m. on Saturday, May 14. As it turns out, this will not only be a monthly activity but rather a full Membership Meeting — one of two that the club holds each year.

In addition to the in-person meeting, the event will also be on Zoom. A Zoom invite will be sent on the BIARC Listserve on Friday, May 13.

All Amateur Radio operators are invited, although business and voting will be limited to paid BIARC members.

Getting to know the Bioenno

The April 9 BIARC monthly activity on Zoom featured a presentation about advanced battery technologies for amateur radio emergency power use.

Kevin Zanjani's presentation is now posted on YouTube at: **https://youtu.be/nMcozuxkAU8**, said President Les Hittner.

Kevin represents a California manufacturer, Bioenno Power (**https://www. bioennopower.com**), and talked to BIARC members about the company's new technology, specifically the benefits to ham radio operations and solar energy systems.

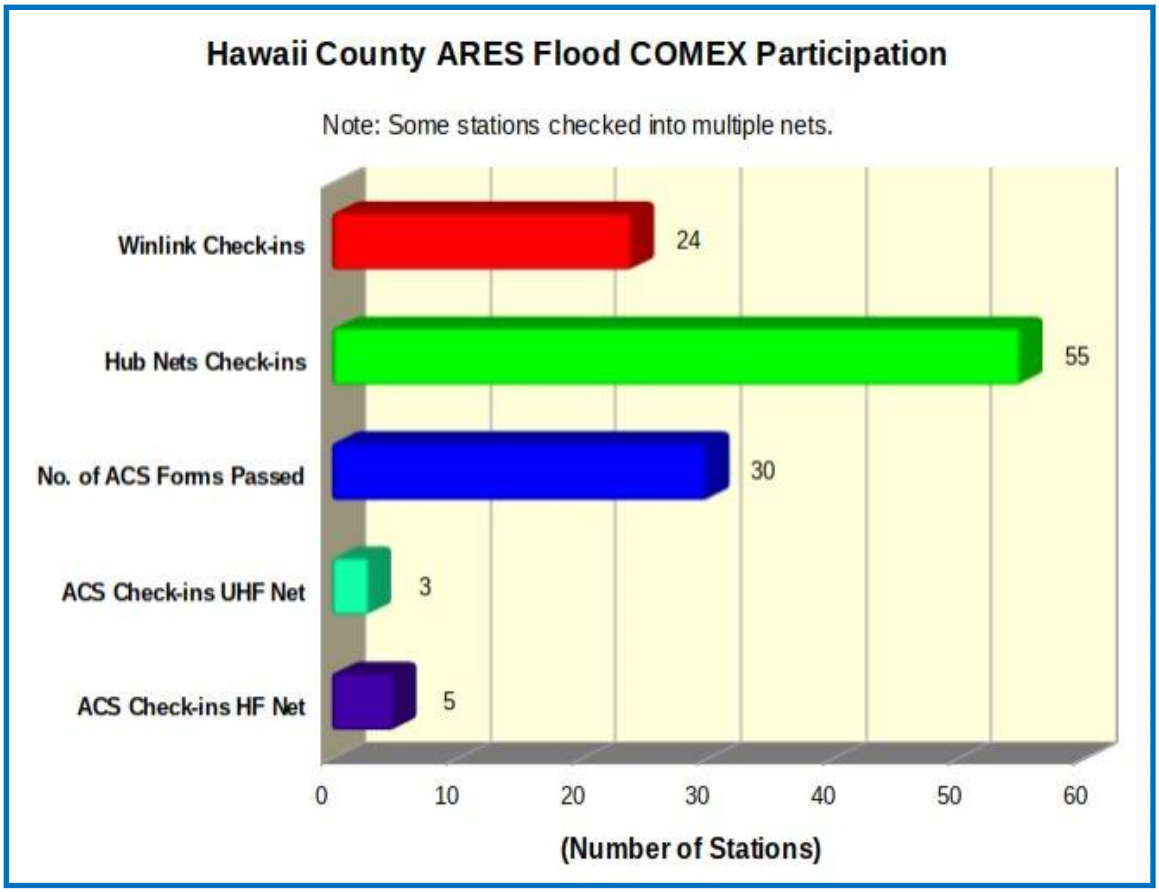
Weighing only one-quarter of its traditional lead/acid counterpart, the lithium iron phosphate battery offers impressive advancements in form and function.

Kevin introduced us to pertinent products and answered members' questions. He noted use of the new technology by government agencies, universities and the oil and gas industry.

Following the main program, BIARC Treasurer Tony Kitchen, WH6DVI, discussed the big, statewide ARES COMEX exercise set for the following weekend. The drill was to simulate a severe weather event with high winds, heavy rains, as well as loss of grid power and conventional communications. The COMEX was to take place on multiple bands and modes, using hub and spoke configurations for voice, as well as Winlink digital modes.

Re: Hawaii ARES April 16 Kawailani 'Ino Flood Drill

Here's the summary of results for Hawaii County



The Hawaii ARES flood COMEX was successful in our county, with 132 logged exchanges on the submitted ICS-309 communications logs.

These logs listed stations that checked in, performed radio checks, provided band condition reports, and transmitted simulated situation reports and requests for assistance.

The logs also included acknowledgment of message receipt and the relay of the simulated emergency alert message from Hawaii County Civil Defense.

Doug Wilson, KH7DQ who represents ACS, reported that the traffic received was accurate and contained the essential elements of information needed.

This was a multi-band multi-mode COMEX held statewide. Local hub stations, typically with VHF, UHF, HF and digital capabilities, stood up in many communities islandwide along with designated relay stations. The hub stations each ran their own local net, and ACS ran nets on HF and UHF. ACS also received digital traffic via Winlink.

The purpose of the local hub and relay stations is to provide support for amateur radio operators who may not have the capability of reaching their intended destination directly.

This would typically include those stations that may only have handheld radios, limited mobile capabilities, or locations with challenging terrain.

Local nets also help to facilitate situational awareness within each community.

Future ARES communication exercises will follow a similar multi-band, multi-mode format, and will include hub and relay stations. These stations are documented via the Assignment List (ICS-204) for each district. The intent of the Incident Radio Communications Plan (ICS-205) is to document primary, alternate, and contingency frequencies for stations to meet on, as well as frequencies associated with other amateur radio infrastructure. Plans are coordinated and documented by the local ARES District Emergency Coordinator, and Community Emergency Coordinators, in cooperation and collaboration with amateur radio operators who wish to participate.

The ARES team thanks all those who participated. We greatly appreciate all those who stood up or helped at a hub, relay, or at ACS. We recognize that these are the key operators that enable disaster communications locally when other modes of communication fail.

Please refer to the accompanying chart for a summary of the stations that participated in each mode and the number of ACS messages passed.

73,
Tony Kitchen,
WH6DVI,
for the
Hawaii ARES
April 16, 2022
COMEX Planning
Team

Mahalo, Doug,

THE PRESIDENT'S CORNER

Continued from Page 1

We are working on that right now. We have a backup plan but hope that we will ultimately be able to use the very fast community hot spots that Spectrum offers. It turns out that they have one on the roof of the community center itself.

Third, we will finally be able to introduce our BIARC Share Library to the members. For the time being we will transport it back and forth but ultimately, we hope to be able to store it at the Community Center between meeting dates.

Fourth, the ARRL has introduced a club grant program that I would like to discuss with the board and with the members in May.

And finally, May is the first of two formal Membership Meetings required by our Bylaws. On Saturday, May 14, the board members and the chairs of our standing committees will make written and/or verbal reports to the membership. The membership will also have an opportunity to give direction to the board. How are we doing? What should we do differently?

Come, listen, direct, and talk story in-person.

Les, K0BAD

Patrick Chu, KH6KL, SK

Patrick Kalani Tan Chu, 79, of Hilo died March 15 at home. Born and raised in Honolulu, he was a circuit designer for the former GTE Hawaiian Telephone, technician for City and County of Honolulu Wastewater Management Division, U.S. Army veteran and amateur radio operator, call sign KH6KL.

We are sorry to lose "Pat Chew, KH6KL". He was active in many aspects of Amateur Radio over the years and was well known in the "Ham Radio Community". Most recently he was active in analog, Allstar, DMR, Winlink and AREDNMESH repeaters, according to his QRZ profile. He was also active in the ARRL Volunteer Examiner program.

Services were held on Saturday, April 23, at Church of the Holy Apostles in Hilo. He is survived by his wife, Penelope, of Hilo.

BIARC WSPR station on Mauna Loa a big help to international beacon project

Courtesy of the WSJT Home Page by Joe Taylor, K1JT
www.physics.princeton.edu

Our club is making a terrific contribution to the International WSPR Beacon Project.

In April, Jim Huntley, WH6FQI, the BIARC Digital Systems Chair, reported that the BIARC WSPR station on Mauna Loa was ranked third for uptime out of all of the WSPR stations involved in this worldwide project.

At the BIARC Zoom meeting in September, 2021, Jim had offered an update on the WSPR beacon.

He explained that he and Gary Schwiter, WH6EPS, had installed it at the Mauna Loa site in August.

"I'm pretty impressed what it can do with a small amount of power," Jim reported in September. As an example, over the previous 24 hours, stations from as far away as Africa had made contact.

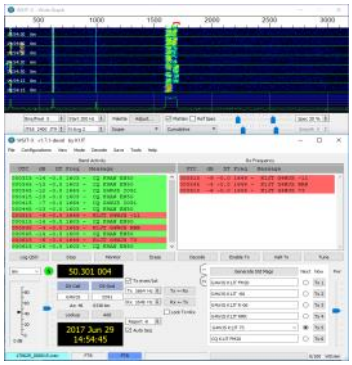
"It's amazing," said Jim. He said he and Gary would continue to tweak and make adjustments to expand its reach on various bands.

For info on the international project and its participants, visit WSPRnet, the central database for the Weak Signal Propagation Reporter Network.

WSJT-X Version 2.4 offers eleven different protocols or modes: **FST4**, **FT4**, **FT8**, **JT4**, **JT9**, **JT65**, **Q65**, **MSK144**, **WSPR**, **FST4W**, and **Echo**.

According to WSJT-X, WSPR implements a protocol designed for probing potential propagation paths with low-power transmissions.

Normal transmissions carry a station's callsign, Maidenhead grid locator, and transmitter power in dBm (decibels per milliwatt).



The program can decode signals with S/N as low as -28 dB in a 2500 Hz bandwidth. Stations with internet access can automatically upload their reception reports to **WSPRnet**, which includes a mapping facility.

WSJT-X is a computer program designed to facilitate basic amateur radio communication using very weak signals.

The first four letters in the program name stand for "**W**eak **S**ignal communication by K1**JT**," while the suffix "**-X**" indicates that *WSJT-X* started as an extended branch of an earlier program, *WSJT*, first released in 2001.

Bill Somerville, G4WJS, Steve Franke, K9AN, and Nico Palermo, IV3NWV, have been major contributors to development of *WSJT-X* since 2013, 2015, and 2016, respectively.

WSJT-X ("Weak Signal Communication, by K1JT") offers specific digital protocols optimized for EME (moonbounce), meteor scatter, and ionospheric scatter, at VHF/UHF, as well as for LF, MF, and HF propagation.

The program can decode fraction-of-a-second signals reflected from ionized meteor trails and steady signals more than 10 dB below the audible threshold.

WSJT-X incorporates nearly all popular capabilities of programs *WSJT* and *WSPR*, while adding comprehensive rig control and many other features.

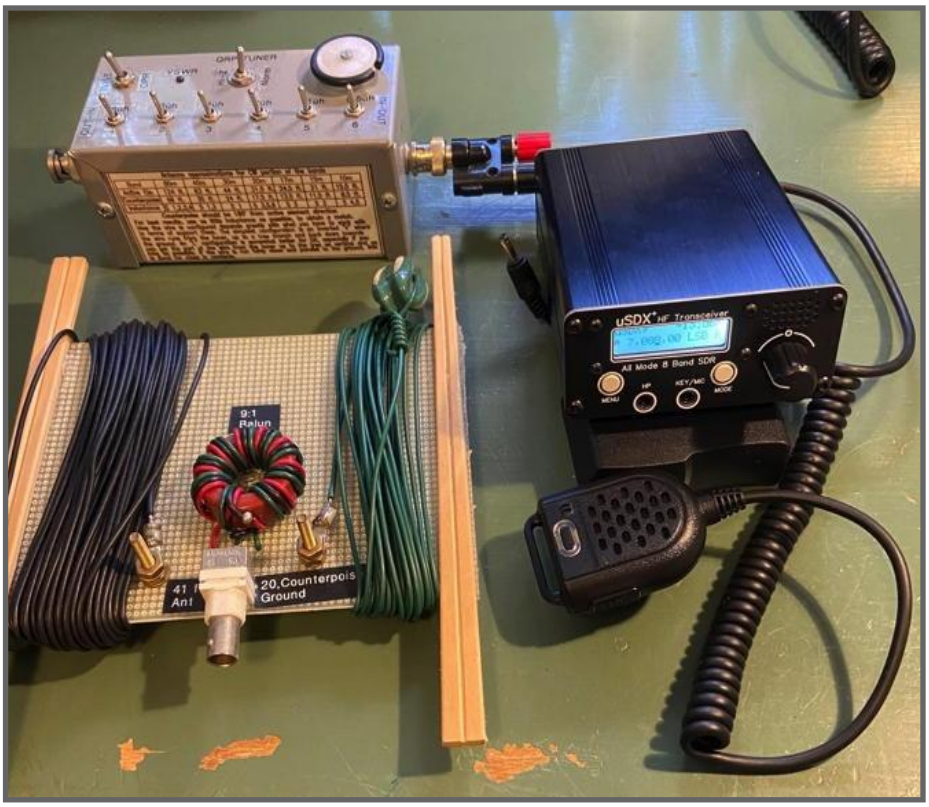
Check the ***WSJT-X*** page and links therein for details about modes FT4, FT8, FST4, FST4S, JT4, JT9, JT65, Q65, MSK144, and WSPR.

PRODUCT REVIEW

(AKA: So, what did HAK get in the mail from eBay today?)

Super stealthy: Meet the ultimate 'spy radio'

By Hank Kaul, KH6HAK



Meet the uSDX+ Plus, Version 2 QRPocket Transceiver. Little SDR unit plays well with FT8, Winlink, other digi modes.

I seem to have an attraction to tiny toys lately. I will blame this one on Jim, WH6FQI, who introduced me to this one.

Here we have a 3-5 watt transceiver that covers the eight ham bands from 80-10 meters in all modes. It has its own internal battery and speaker, or can be used with the included speaker/mic as shown, and has external CAT/KEY connections for use with an amplifier.

It is documented to play well with FT8, Winlink, or other digital modes also. This is a SDR… "Software Defined Radio" to minimize the hardware. General coverage receiver down to below the AM broadcast band.

Slip this tiny station into your backpack, and go.

Lots of the usual expected functions of a transceiver are buried in software menus that one must explore. But the hardware and software are "open source" and available on the web.

Users groups are constantly updating, if needed or wanted. The Chinese construction shops have taken the open source stuff and run manufacturing now.

This is based on the original uSDX design, now the PLUS, and this is VERSION 2. The latest and greatest. They are available on eBay and Amazon for around $160.

This is the ultimate "spy radio." You could throw this complete station into a backpack and work anywhere you could throw up a wire. Shown here is my homebrew QRP tuner, along with a 41-foot longwire with a 20-foot counterpoise and the 9-1 balun from the EARC antenna kit.

The radio includes a 4000mAh battery, and you can connect an external 13.8v supply or battery also. I tried it out just briefly in the shack. It hears the 40-meter inter-island net just fine.

I only tested the transmit section into my QRP dummy load so I could listen to my own signal on the home IC7300. The little uSDX transceiver sounds a little muffled on voice, but that is expected.

The docs indicate the method of software generating the sideband signal, and it is workable, but not the very best that a bigger modulator would do. But it passes voice, and that's what counts. The tiny little speaker/mic supplied with the transceiver is likely not the best fidelity, either.

It is just another tiny toy for the radio collection. I'm sure glad I don't collect boat anchors.

BIARC Executive Board Meeting

April 9, 2022

A Begin Meeting

- **Call to Order –**
  - The meeting was called to order at 12:04 pm by Board President Les Hittner.
  - Quorum Call
    - § Present: Leslie Hittner, James Huntley, Paul Ducasse, Jim Sugg, Tony Kitchen. William Polhemus
- **Secretary's Report and Minutes (3/10/2022)**
  - James H. **moved** and Jim S. **seconded** that the March BIARC Board Minutes be approved as published. Motion **passed**.
- **Treasurer's Report**
  - Paul **moved** and Jim S. **seconded** that the Operating Statement and the Funds Summary be approved, subject to audit, without changes. Motion **passed**.

B Member Input and more

- No club members present or input given.

C Committee Reports

- **Digital Systems –**
  - No written report submitted.
- **Education and Outreach -**
  - No written report submitted.
- **Operating Activities -**
  - No written report submitted.
- **Program –**
  - No written report submitted.
- **Public Service Communications –**
  - ARES moving to 4 exercises a year.
  - Written report submitted.
  - Jim S. **moved** and Jim H. **Seconded** that that Public Service committee report submitted be approved. Motion Passed.
- **Voice Repeaters –**
  - No written Report.

Continued on next page

From previous page

D Old Business

- **Club Activity Update**
  - No response to Letter sent requesting use of Keaau Community Center for club meetings.
  - William **moved** and Jim S. **Seconded** that we not return to in person meetings, board and club, unless a hybrid (in person / Zoom) meeting is possible. Motion Passed.
  - Field day discussion to be tabled due to no one present from that committee. William **moved** and Tony **Seconded** to table the discussion. Motion Passed.

E New Business

- **Club Archive Storage Location**
  - Les needs to find a new home for archive material. The three ring binders will be passed off to Jim H.
  - Antenna project supplies to be turned over to the Program Committee.
  - Large plastic case of QSL manager material to be passed off to the new QSL manager.
- **KHRC Request for Assistance**
  - This would replace the old existing batteries at the repeater site with new lead acid batteries to match with the current solar charge controller setup. KHRC will be installing and maintaining the power system.
  - Tony **moved** and William s**econded** to pay $290 dollars for batteries for the Girl Scout camp repeater. Motion Passed.
- **Request from Joe Speroni, AH0A**

  Tony **moved** and Paul **Seconded** that we reply to Joe Speroni with the names of a couple of members of those now defunct clubs and that he should contact them directly. Motion Passed.
  - Tony will send a letter to Joe Speroni, regarding this issue.

There being no further business, Les adjourned the meeting at 12:38 pm HST.

Respectfully Submitted,

James R. Huntley, Secretary