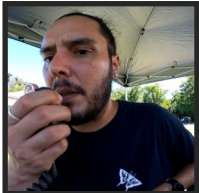


August 2024

# THE BIG ISLAND HAMGRAM

The newsletter of the Big Island Amateur Radio Club



## THE PRESIDENT'S CORNER

Thomas Avila,  
WH6GWL

### The sound of meetings

This month I want to tackle the topic that was brought up the most after the last meeting.

I will be bringing a large speaker that can hopefully interface with our online connection and help make things a bit more clear.

It was nice to hear that you fine people wanted to know more about last month's program and I hope to bring you more riveting content that you can actually hear and learn from.

I wanted to at least make a list of the topics that I think you might want to look up when you have a chance.

- Meshtastic
- Reticulum
- AREdn
- Mesh networking (in general)
- Sideband
- LoRa

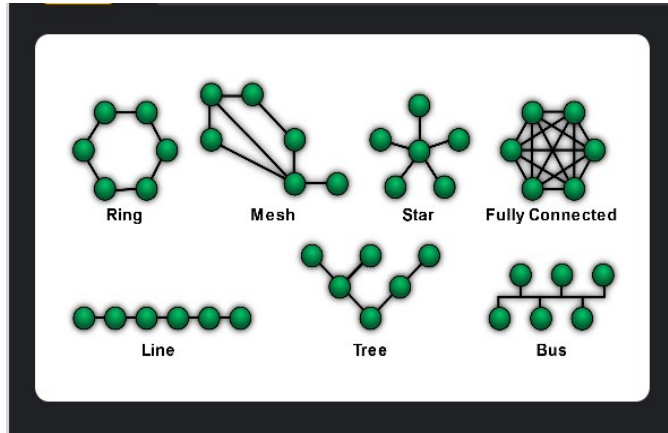
I know I didn't have a chance to go over a few of these topics but I urge you to look them up online.

I've found that a few of those keywords will pique most of your interest. I know that having to invest in another piece of gear isn't what

*Continued on next page*

### Club auction update:

"Most of the items were auctioned off and the club will have another \$215 to help with expenses," reports coordinator Jim Tatar, WH6EMN.



## Mesh networking ensures each group member, even those the farthest away, can get messages

Mesh networking was the main topic of discussion at the July 14 BIARC gathering at Kamana Senior Center in Hilo.

A mesh network, sometimes called mesh network topology, is a network that connects a group of devices to each other. Devices, also referred to as nodes, are connected in a way that some, if not all nodes, have multiple paths to other nodes.

Tony WH6DVI opened the mesh presentation, and was joined by William NH6ET and Thomas WH6GWL.

William showed graphics differentiating a mesh network from one that might look similar, but is not of mesh design.

"Mesh networking is the physical architecture," said William.

*Continued on next page*

## Mesh'in around

**Meshtastic:** An open-source, off-grid, decentralized, mesh network built to run on affordable, low-power devices

**Amateur Radio Emergency Data Network (AREdn™):** A high-speed data network built with amateur radio operators and emergency communications infrastructure in mind. It is self-configuring and self-healing. Where possible, it will establish connections with as many other AREdn™ compatible devices (nodes) as possible and form a redundant mesh-like network.



*Above: Net control station for Volcano runs. At right: BIARC outreach mission introduces ham radio to Hilo YMCA keiki. See more photos and stories on Pages 3-4.*



**KH6CZ photo**

## MESH: From previous page

He discussed Meshtastic and AREDN mesh.

Meshtastic utilizes LoRa, a long-range radio protocol, which is widely accessible in most regions without the need for additional licenses or certifications, unlike HAM radio operations.

These radios are designed to rebroadcast messages they receive, forming a mesh network. This setup ensures that every group member, including those at the farthest distance, can receive messages.

Depending on the settings employed, the Meshtastic mesh network can support up to 100 devices concurrently.

Additionally, Meshtastic radios can be paired with a single phone, allowing friends and family to send messages directly to your specific radio. It's important to note that each device is

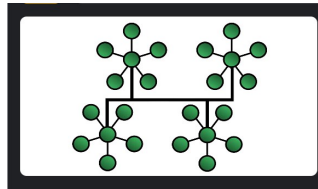
capable of supporting a connection from only one user at a time.

Thomas said the best thing about Meshtastic is it utilizes simple nodes that pass messages to each of the other nodes. You don't need a router. And Meshtastic is only one of the available mesh designs.

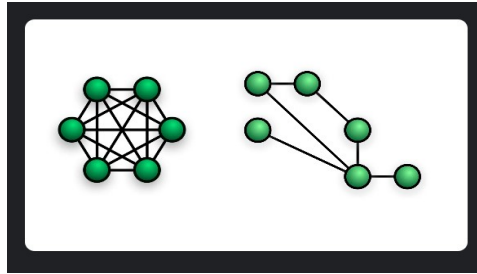
William explained that a self-healing mesh network works like a "bucket brigade..."

Tony explained that these are a couple of different ways that CERT, for instance, can keep a team in the field in contact with leadership during times of emergency... for tactical communications and monitoring.

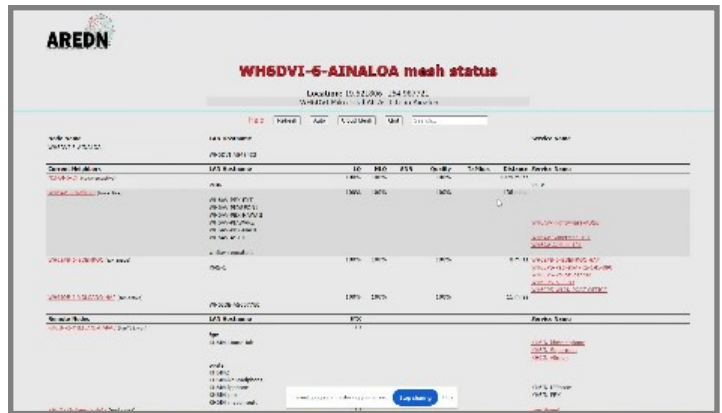
"Interoperability" is the key to all of this," said Tony.



Hub and spokes, not a mesh network.



Both of these are mesh networks.



# CQ World Wide DX Contest

Home



Welcome

The CQ WW is the largest Amateur Radio competition in the world. Over 35,000 participants take to the airwaves on the last weekend of October (SSB) and November (CW) with the goal of making as many contacts with as many different DXCC entities and CQ Zones as possible.

## CQ WW Contest Dates

SSB: October 26 - 27, 2024

CW: November 23 - 24, 2024

Starts: 0000 UTC Saturday  
Ends: 2359 UTC Sunday

## Search Results

Search the online database for any station or operator call sign:

Call sign

## Online Certificates

Online certificates are available for all past CQ WW contests. Use the search to find your call in the database. Then click on the [Cert] link to view the certificate in pdf format.

## Log Checking Reports

Log checking reports are available for all entrants. A link to the report is sent by email after April 1 for SSB and May 1 for CW. If you did not receive yours, please contact us through the [Contact Form](#).

## Future Contest Dates

SSB is always the last full weekend of October.

2025: October 25 - 26  
2026: October 24 - 25  
2027: October 30 - 31

CW is always the last full weekend of November.

2025: November 29 - 30  
2026: November 28 - 29  
2027: November 27 - 28

## CQ WW RTTY

CQ WW RTTY contest, held the last full weekend of September each year, is the world's most popular digital mode contest. While it has many similarities, there are different scoring and multiplier rules. Visit [cqwwrtty.com](#) for more information.

## THE PRESIDENT'S CORNER

From previous page

we're about and that's why I think RETICULUM and Sideband will be interesting topics.

The kicker is that each topic listed above is a form of networking and some don't require anything extra. No fancy box or soldering.

I will bring my Meshtastic units to pass around so you can have a look at what I've been working on.

Next up on my personal agenda is getting my General and my Part 107 commercial drone license. I think having a drone drop a line over a tree will help set up more experimental antennas and possibly help more of you just get a wire up.

I look forward to our next meeting and I hope you look into some of the options I listed above.

73, WH6GWL (EI Presidente)



# BIARC Outreach Team takes its show on the road to YMCA

## Younger keiki get to try their hand at ham radio

Things were hopping at the Hilo YMCA – and on the air – on July 16 as the BIARC Outreach Team took its show on the road again to reach out to the younger generation about the joys of amateur radio. The introduction to ham radio was part of the YMCA Summer Program.

Next up for the Outreach Team: August 20 – presentation at the Keaau Elementary School Science Fair under the auspices of the Hawaii Science and Technology Museum.

“Our usual BIARC cadre is in action at any given time: Jim WH6EMS, Mark WH6FSA, Joe WH6JOE, Les K0BAD, John KH6DLK, Fred WH6HAA, as well as all those who jump in on the Kulani repeater to handle voice traffic,” said David Miller, KH6CZ, chair of the BIARC Education and Outreach Committee.

“To the team, once again, thank you all for being on board for the event at the YMCA,” said David. “BIARC and the Education and Outreach Committee were presented in an engaging and friendly manner; a credit to the Big Island Amateur Radio Club. And, Linda WH6LQ, you are worthy of two gold stars for your patience and calm demeanor on the radio with Joe and the children.”



WH6FSA, WH6HAA, WH6JOE



WH6EMN

*KH6CZ photos*



WH6FSA



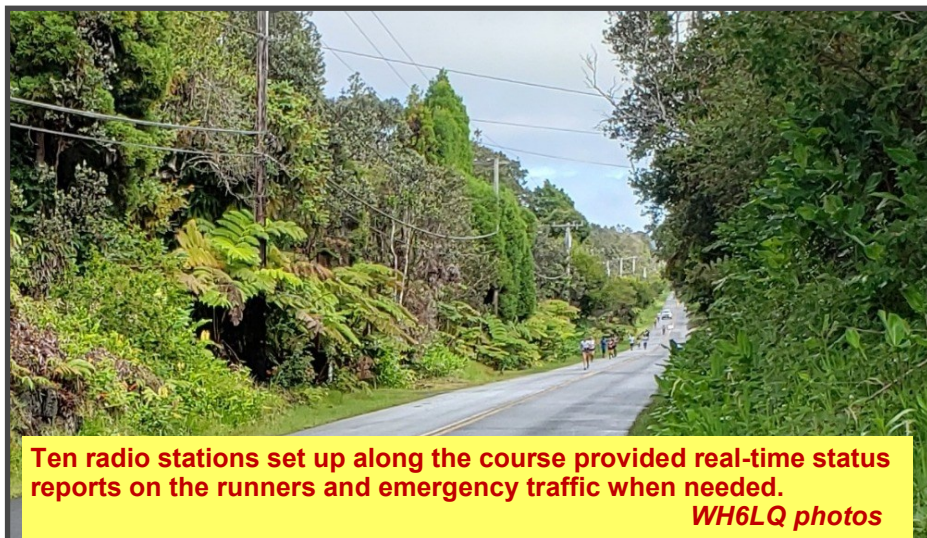
# Ham volunteers provide radio comms for Volcano races

"Our ham radio community once again stepped up to provide radio communications for the 2024 Volcano's 'Ohi'a Lehua half-marathon and 5K runs held on July 27," reports Doug Wilson, KH7DQ, who coordinated the communications coverage.

Ten radio stations were set up throughout the course, including net control at the start/finish line, to provide real-time status reports on the runners and emergency traffic when needed.

Participating radio operators included KH7DQ as the Net Control Station, David Miller (KH6CZ) at Aid Station #1, Joe Rosenbaum (WH6JOE) at Aid Station #2, Ellen O'Dunn (WH6FRV) with Course Marshall #2, Jim Tatar (WH6EMN) with Course Marshall #3, Bob Becker (WH6ESC) with Course Marshall #4, Linda Quarberg (WH6LQ) at the 5K Turnaround, Tom Fischer (KH6TD) at the Haunani Road Turnaround, Paul Ducasse (WH7BR) with Police Officer #1 and "newly minted" Jason Estrella (WH6GZZ) at the Old Volcano Road and Highway 11 Road-block.

"The weather was good for the runners, with overcast skies and some light rain! In spite of the on-off rain though, radio operators performed their duties all the way until the end of the race," said Doug. "There were 370 runners participating in this year's race, no one was injured and all runners, except for two, finished the race



Ten radio stations set up along the course provided real-time status reports on the runners and emergency traffic when needed.  
WH6LQ photos

on time.

"Our ham radio volunteers did an excellent job, as usual, keeping track of runners as they made their way around the course and provided real-time runner status reports from the field to Net Control and race headquarters throughout the race.

"The ham radio operators also got in some good radio procedure practice, including the use



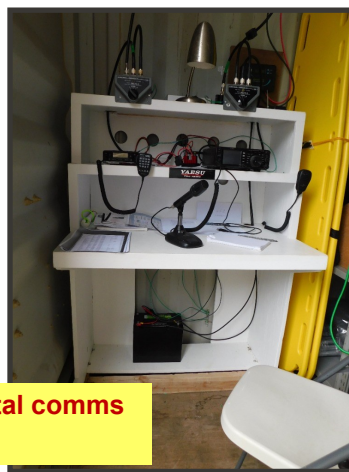
of tactical call signs and finding the best spot at their respective stations for the optimal signal into the Volcano Repeater."

## Honokaa Hospital communications installation is nearing completion

Jim Tatar, WH6EMN, reports that the amateur radio installation at Honokaa Hospital is nearly complete.

"We put in a 365-watt solar panel, a 30-Amp Renogy charge controller and a 75-AH Interstate battery with 1.4 KW storage. They now have a Yaesu 991A with an ATAS120 antenna and a Yaesu FT6000 with a Diamond 30 antenna.

"The entire unit is attached to, or inside, the container so it is moveable. And it has been moved once already. All I had to do was reconnect the ground wire after the move.



Photos of Honokaa Hospital comms installation by WH6EMN.

"Luke McKay added the 12V lite for night work. It worked great for RIMPAC. There are Delta switches to

protect the radios from transmitting into each other's receivers, with dummy loads in case someone accidentally keys down on the wrong mic.

"And there is a shade cloth stored under the solar panel to pull out and protect them from the afternoon sun," said Jim. "One more trip to tidy up the wiring and make it look pretty."



# 46<sup>th</sup> MONTHLY SIREN REPORT FOR AUGUST 2024

## WH6DVI & WH6GBS (NCS) 27 Check-ins – 31 Reports

Location	Observer	Mode	Status	Notes
			<b>2 NOT WORKING</b>	
Ainaloa (HA910)	WH6HAF	Allstar	Not Working	
Waa Waa (HA937)	NH6ET	Allstar	Not Working	
			<b>0 PARTIALLY WORKING</b>	
			<b>29 WORKING</b>	
Ainako Park (HA117)	WH6FSA	Mauna Kea	Working	
Banyan / Kam (HA104)	KH6ATU	Allstar	Working	
Captain Cook (HA702)	WH6WF	Text	Working	
Cooper Center Volcano (HA936)	WH6GRW	Mauna Kea	Working	
Cooper Center Volcano (HA936)	KH7DQ	Mauna Kea	Working	
Hakalau (HA113)	KH6RDO	Allstar	Working	
Hakalau (HA113)	WH6EPX	Allstar	Working	
Hawaiian Beaches Park #1 (HA907)	KH7LM	Mauna Kea	Working	
Honoapu (HA802)	WH6HC	Allstar	Working	
HPP #1 Paradise / Ala Kai (HA925)	KH6CZ	Mauna Kea	Working	
Kaimu Beach Kalapana (HA908)	KH6PGA	Allstar	Working	
Kawaihae Harbor (HA407)	WH6EHJ	Mauna Kea	Working	
Kolekole (HA112)	KH6RDO	Allstar	Working	
Laupahoehoe Lookout (HA201)	WH6FSE	Allstar	Working	
Laupahoehoe Point (HA202)	WH6FSI	Allstar	Working	
Leleiwi (HA101)	KI6HBZ	Allstar	Working	
Mountain View (HA901)	WH6LC	Email	Working	
Naalehu (HA801)	WH6HC	Allstar	Working	
Ookala (HA304)	WH6GDC	Allstar	Working	
Paauilo (HA301)	AH6JA	Email	Working	
Pahala (HA804)	WH7BR	Allstar	Working	
Palani / Kuakini Kona (HA609)	NH6SP	Winlink	Working	
Puako General Store #1 (HA405)	WH6EHJ	Mauna Kea	Working	
Punaluu / Sea Mountain (HA803)	AJOT	Allstar	Working	
Waiaka Bridge Kamuela (HA402)	WH6EHJ	Allstar	Working	
Waikauamalo Park Ninole (HA123)	WH6FIQ	Text	Working	
Waimea Park Kamuela (HA401)	WH6EHJ	Mauna Kea	Working	
Waimea Park Kamuela (HA401)	WH7FZ	Allstar	Working	



### **'Mahalo' to all of our dedicated volunteers!**

Good turnout this month, with 27 check-ins and 31 Siren Status Reports.

Both Ainaloa and Waa Waa sirens were not working.

Mahalo to Jim WH6FDE for creating the log spreadsheet (it looks great), to Darrell KH6RDO (DEC) for compiling and sending out the data requested by HCCDA, and to Dave AH6OD for linking Allstar.

Excellent job as always, Siren Spotters and NCS. Looking forward to next month!

*73 es aloha,  
Bev KH7LM*



## ~ 2024 BIARC Roster ~

### Executive Board officers and committee chairs

#### President

Thomas Avila, WH6GWL

#### Vice President

Les Hittner, K0BAD

#### Secretary

Joseph Rosenbaum, WH6JOE

#### Treasurer

Tony Kitchen, WH6DVI

#### At-Large directors

Mark Watanabe, WH6FSA, and  
David Miller, KH6CZ

#### KH6EJ station custodian

William Polhemus, NH6ET

#### Public Service/ Communications Committee

Chair Les Hittner, K0BAD

### Operating Activities Committee

Chair Joseph Rosenbaum, WH6JOE

### Education and

### Outreach Committee

Chair David Miller, KH6CZ

### Programs Committee

Chair Les Hittner, K0BAD

### Digital Systems Committee

Chair Shawn Farley, WH6GXZ

### 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>*

**During the 2024 Summer Olympics in France, which runs through August 11, amateur radio operators can contact a special event Olympic station.**

Special callsign TM24PRS, from Chatillon, France, will be active by Franck Menard, F4DTO, and Patrick Menard, F4GFE, on all HF bands and special award QSL cards will be available in 4 categories:

Bronze -- 3 bands QSO

Silver -- 4 bands QSO

Gold -- 5 bands QSO

Platinum -- 6 bands QSO

The awards are free, only by sending a request to [f4dto.franck\\_f4gfe.patrick@orange.fr](mailto:f4dto.franck_f4gfe.patrick@orange.fr) or via mail to Franck Menard, P. O. Box 61, Chatillon cedex 92321, France. Also, after the 2024 Olympic Games, there will be a special event station for the 2024 Paralympic Games, August 11 through September 8. TM2024JPP will be active on all bands from 0000Z - 2359Z. For additional information visit: <https://log-et-qsl.associations-radioamateurs.org/wp>.





# BIARC Executive Board Regular Meeting

July 14, 2024

Kamana Senior Center

The meeting was called to order at 12:08 pm by Board President Thomas Avila. A quorum of 6 board members were present.

## Attendance:

- Board members: Thomas Avila, Tony Kitchen, William Polhemus, David Miller, Mark Watanabe and Joseph Rosenbaum.

## Secretary's Report and Minutes:

- William moved and Thomas seconded to approve the June 2024 Secretary's report. Motion passed.

## Treasurer's Report:

- See operating statement and donated funds summary. William moved and Joe seconded to approve the treasurer's report, subject to audit. Motion passed.

## Committee Reports:

### Digital Systems:

- No report.

### Education and Outreach:

- See report. Discussion was held on ideas for the school science events and other presentations.

### Operating Activities:

- Discussion was held for planning of the CQWW SSB contest on October 26.

### Programs:

Today's program is on mesh networking.

### Public Service Communications:

- No report.

### Voice Repeaters:

- No report.

### Club Discord channel update:

- Thomas has added more sub-folders to the channel. Discussion was held to allow committee members into the channel. Thomas will transfer all the information to a dedicated BIARC Discord server channel.

### Old Business:

- ARRL and BIARC handouts are needed for school science events and other programs. Discussion was held on printing costs. William proposed to ask the membership if anyone has a laser color printer who would be willing to print the handouts at a reasonable cost. Discussion was also held on BIARC identification cards for certain events, updating the BIARC logo and creating a seal for ID and official documentation.

### New Business:

- Discussion was held on the ARRL Foundation club grant. William moved and Thomas seconded to find a solution to record meetings and programs by the August meeting. Motion passed. William moved and Tony seconded to form an ad-hoc committee to explore pricing plans for online services (such as Zoom, Google Meet, etc.) and authorize the committee to take the actions necessary to purchase a subscription not to exceed \$16 per month. Tony, William, Thomas and Joe volunteered to be on the ad-hoc committee. Motion passed. Tony moved and William seconded to adjourn. Motion passed. Thomas adjourned the meeting at 1:35 p.m.

Respectfully submitted,  
Joseph Rosenbaum, secretary



# Isle hams join in RIMPAC — world’s largest naval exercise

***36 amateur radio operators from Hawaii volunteered to demonstrate the value of amateur radio in emergency preparedness and response***

“Partners: Integrated and Prepared” was the theme for **Rim of the Pacific (RIMPAC) 2024**, the world’s largest international military maritime exercise, which began June 27 and came to a close on August 1. Conducted from Joint Base Pearl Harbor-Hickam on Oahu, the exercise encompassed many islands in the Hawaiian chain.

The event included 29 nations, 40 surface ships, three submarines, 14 national land forces, more than 150 aircraft, and more than 25,000 personnel, including amateur radio operators working with health care facilities.

The amateur radio portion of the exercise was deemed a success. ARRL Assistant Section Manager and State Government Liaison Michael Miller, KH6ML, said 36 amateur radio operators from Hawaii volunteered to demonstrate the value of amateur radio in emergency preparedness and response.

“It turned out very good,” said Miller. “Some of hospitals, staff and administrators involved had their first experience with amateur radio. The operators were able to blend their skills using public service radios, satellite phones, as well as amateur radio.”

Miller pointed out that hospitals on the smaller islands don’t usually have a full-time communications officer, so working with amateur radio gives them experience for future emergencies. The amateurs worked with **Health Comm Hawaii**, which provides amateur radio communications to health care associations in Hawaii during emergencies and disasters.

“Health Comm Hawaii really needs 100 more operators for backup and to build skill sets through monthly exercises,” Miller added.

Vice Adm. John Wade, commander, U.S. 3rd Fleet and RIMPAC 2024 Combined Task Force (CTF) commander, said the Rim of the Pacific exercise has grown over the years to be the world’s largest and premier joint maritime training opportunity. “The exercise’s purpose is to build relationships, to enhance interoperability and proficiency, and, ultimately, contribute to the peace and stability in the vitally important Indo-Pacific region.”

Many of the volunteers participating in RIMPAC 2024 are also members of other vital emergency communication groups, such as Amateur Radio Emergency Service®(ARES®), Radio Amateur Civil Emergency Service (RACES), and Community Emergency Response Team (CERT).



**The GQRP Club, a low-power amateur radio club in the United Kingdom, will celebrate its 50-year anniversary in September 2024.** Founded in 1974 by the Rev. George Dobbs, G3RJV (SK), the all-volunteer, non-profit club has nearly 4,000 paid members and has produced 200 editions of its quarterly journal, *Small Powered Radio Amateur Transmissions (SPRAT)*. Reverend Dobbs, who passed away in 2019, was the editor of SPRAT and author of *QRP Basics*. He was a frequent Hamvention® attendee, and in 2015, received the Hamvention Technical Excellence Award. The anniversary will be marked at the club’s annual convention, held in conjunction with the **Telford Hamfest**, the weekend of August 31 – September 1. For more information about the GQRP Club, visit their website, **www.gqrp.com**.