



# Ham Radio Hawaii Newsletter

#6, Issue 2021-1

KH6OWL

January 2021

Welcome to the only newsletter for Amateur radio across all the Hawaiian Islands. Please send in any events or topics and be a contributor for your islands to [KH6OWL@arrl.net](mailto:KH6OWL@arrl.net).

Meeting ID: 811 0338 2631

Passcode: 357041

Find your local number:

<https://us02web.zoom.us/j/81103382631>

ARRL opposes Increase in FCC application fee: <http://www.arrl.org/FCC-Fees-Proposal>

## Maui: [Repeaters on Maui](#)

The Maui Amateur Radio Club website can be found by clicking [here](#). The Club is meeting on-the-air and/or via ZOOM until further notice.

**Events:** [HAM COM closes after 41 years.](#)

## Big Island: [Repeaters on the Big Island](#)

ISS sending [SSTV images December 24 through December 31, 2020.](#)

The Big Island Amateur Radio Club website can be found by clicking [here](#).

## Upcoming Amateur Radio Classes:

Oahu: <http://www.earchi.org/education/>

Are you looking to take the FCC Amateur Radio exam? You can register at this website.

<http://hameducation.org/register/>

## Beginners Corner

Website for new hams. Click [Here](#)

Ham Radio School: [The Basics](#)

Another good site for coax cable can be found [here](#).

## Around the Islands

Oahu: The Emergency Amateur Radio Club website can be found by clicking [here](#).

The 2021 EARC Officers & Board of Directors

President: KH6WG - Steve

VP: KH6HT - Darrell

Secretary: KH6FHI - Joe

Treasurer: WH7GG - Keith

Board Members:

AH7RF - Heather

KH6MOI - Bernard

WH7PD - Ralph

KH6DK - Peter

KH6OWL - Stacy

Steve KH6WG is inviting you to a scheduled Zoom meeting.

Join Zoom Meeting

<https://us02web.zoom.us/j/81103382631?pwd=Njl0SDhRWUYxRTUwNlR5SSGkweGZTd09>

Meeting ID: 811 0338 2631

Passcode: 357041

## And the 'State of the Club' is good

In his "State of the Club" report at the November general membership meeting, President William Polhemus, NH6ET, described the Big Island Amateur Radio Club as "very strong" despite an unusual year. He noted the many out of pocket monetary contributions by members and dedication of time and talent which allow BIARC to thrive. It constantly amazes him how much the club accomplishes on a "shoestring budget."

Throughout the meeting, William and the other officers and committee chairs reported on the year's activities and sought feedback from members about what was, what is and what might be. After all, "this is your club," he addressed the onscreen faces lined up and lit up via Zoom. This flexible Internet service has been a boon during this year of social distancing, allowing the club to keep meeting and providing some good long distance tutorials and programs from afar. Secretary Les Hittner, K0BAD, has a professional Zoom contract and lets BIARC use it at no charge, said William. In his financial health report, Treasurer Tony Kitchen, WH6DVI, noted that the club has 97 paid up members. "We've over all done quite well this year," said Tony.

Vice President Jim Huntley, WH6FQI, also chairs the Programs Committee. He thanked club members for their kokua this year and said "we want your input" relating to future program topics. Jim also pointed out how access to Zoom has helped provide off Island expertise in various aspects of amateur radio. Paul Ducasse, WH7BR, chair of the "ad hoc nominating committee," presented nominees for the three open board positions. With no additional nominations forthcoming, the quorum in attendance unanimously elected the three: William, Les and Jim Sugg, AH6AE. William again encouraged BIARC members to give feedback to any of the board members at any time. The board handles the operations inherent to an organization,

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but always seeks to know where the members “want us to go as a club.”

## So, who was the first?

By William Polhemus, NH6ET

Who was the first? I was recently presented an interesting question by Sheldon Remington, KH6SR: Who made the first amateur radio transmission from Hawaii, and when exactly did they do it? Sheldon, whom many of you may know as the penultimate expert on DXing NDBs, also has an interest in radio history. Sheldon related that he has reason to believe we may just have missed the opportunity to celebrate the 100-year anniversary of the birth of our hobby in our state. Sheldon’s interest was struck when he read a blurb on page 95 in the October 2020 QST Magazine, which referenced an editorial that had been published 100 years ago, in the October 1920 QST Magazine. That 1920 editorial celebrated the one-year anniversary as having passed since amateur radio operators had been permitted to resume operations after WWI. Noted in that editorial was that a ham had been heard in the Territory of Hawaii. This was significant an event as to warrant mention in the 1920 editorial to such an extent that it was carried over into the blurb 100 years later. Was this possibly the first confirmed QSO from Hawaii? Was it a QSO at all? Or, did they just over hear the transmission? If so, how did they know it was Hawaii? After all, there were no licensed amateur radio operators in Hawaii until 1921. And, it’s not like QRZ.com search results loaded very fast in those days. Perhaps the original 1920 editorial text could shed some light on this. The ARRL’s digital archive only goes back to January, 2012, so I wasn’t able to help Sheldon answer the question on my own.

This is an interesting question, and potentially a significant milestone to celebrate. So, I bring this to you, dear members of BIARC, and other readers of this newsletter. Can we determine who made the first amateur radio QSO from Hawaii, and when they did it? Do any of you still have your October 1920 copy of QST Magazine? There is happy hunting to be had even if you left it on the bus. Sheldon shared some interesting factoids with me, and I’ll share them with you. I hope he doesn’t mind. I have found references to other breadcrumbs which could be helpful too. It appears that Wah Chan Chock was the first amateur radio operator to be actually licensed in Hawaii. Though, Wah Chan Chock didn’t receive his license until 1921, at least a year later than the transmission mentioned in the 1920 QST Magazine editorial. However, he is known to have

built his first radio as early as 1915. Did Wah Chan Chock make the first QSO, before he was licensed? Perhaps if we can find “Hams in your air,” an article in The Sales Builder (Vol. 13, No. 4, April 1940) we will know for sure. The confirmation we desire might be on about page 12. But, as my dear friend Andrew Owens, KE0OET, will tell you, first to be licensed does not mean first to be on the air...It is believed that the first non -navy radio broadcast in Hawaii occurred in about October 1920.

Marion Mulrony and T.C. Hall set up a transmitter in the Electric Shop in downtown Honolulu, and transmitted at least an hour of voice and music. It was a small audience though. Only one receiver is known to have been available in the area. It was at the home of Tong Phong in Pacific Heights. The Phong family is said to have sat listening to the entire transmission, deeply engrossed in the wonder and magic that is radio. Mulrony went on to build KGU, the first commercial broadcast station in Hawaii, The President's Corner Continued from previous page which he built for the Advertiser. KGU is said to have beaten the Star - Bulletin’s KDXY to the Hawaii airwaves by a matter of only about 15 minutes on May 11, 1922. Was perhaps Mulrony the first ham in Hawaii as well? He was obviously a technically adept fellow. A friend of Alexander Graham Bell, he is certainly a likely suspect, simply if only through ‘running with the wrong crowd.’ On January 18, 1922, Clifford J. Dow, callsign 6ZAC, is believed to have received the first amateur radio message actually destined for Hawaii from the mainland. He received the message in Wailuku, which had been sent by A.H. Babcock, call sign 6ZAF in Berkley California. Dow had already been receiving DX signals for a year or two before the QSO with Babcock. However, this is believed to have been the first known instance of a DX signal calling Hawaii directly. Does this mean that the amateur radio transmission referenced in the 1920 QST magazine editorial was not a QSO with the mainland? Perhaps if someone has a copy of “200 meters and down” by Clinton B DeSoto we can learn more about 6ZAC and his radio activities. Was he perhaps operating in Hawaii even earlier than this? I’d like to thank and credit Robert C. Schmitt, the former Hawaii State Statistician, for his article Some Firsts in Island Leisure, which is in the Hawaii state archives. An article which I found very helpful in validating these dates. And, thank you to Sheldon Remington, for not letting another significant achievement slip by without commemoration. On another note; many of you have reached out with messages of support following my recent health scare. I thank you for that. I have been told

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that there has been an interest in an update on my condition. I am doing OK. I am still operating at a greatly reduced physical capacity, which I have been told will persist for some time. But I'll take this life as the blessing that it is. Thank you again for your well wishes. William – NH6ET

**Kauai** [Repeaters on Kauai](#) The Kauai Amateur Radio club website can be found by clicking [here](#).

**Lania:** [Repeaters on Lanai](#)

**Molokai:** [Repeaters on Molokai](#)

I tried to hypnotize myself to learn morse code.  
[Click here](#)

**Pacific HF Frequency Assignments - Aircraft:**  
<https://radio.arinc.net/pacific/>

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**YouTube Video:** [Spy Radio & Indoor Antennas - If they can do it, so can you!](#)

**These two are Interesting!**  
[Part 2 + learning morse code](#)

[Building a Copper-Tape VHF Window Antenna.](#)

**Media:** Los Angeles Times  
<https://www.latimes.com/business/story/2020-12-23/ham-radio-and-astronauts>

Another good article:

[Two Kids, a Ham Radio, and the World at Their Fingertips: How the Madey Brothers Made History in Clark](#)

**Earthlings and astronauts** [chat away, via ham radio](#)

**Time on the Beach: Working at NIST Hawaii:**  
<https://www.nist.gov/blogs/taking-measure/time-beach-working-nist-hawaii>

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## THE HISTORY OF AMATEUR RADIO

The history of amateur radio, dates from the dawn of radio communications, with published instructions for building simple wireless sets appearing at the beginning of the twentieth century.[1] Throughout its history, amateur radio enthusiasts have made significant contributions to science, engineering, industry, and social services. Research by amateur radio operators has founded new industries,[2] built economies, empowered nations, and saved lives in times of emergency.

### Beginnings

Amateur radio came into being after radio waves (proved to exist by Heinrich Rudolf Hertz in 1888) were adapted into a communication system in the 1890s by the Italian inventor Guglielmo Marconi. In the late 19<sup>th</sup> century, there had been amateur wired telegraphers setting up their own interconnected telegraphic systems. Following Marconi's success many people began experimenting with this new form of "wireless telegraphy". Information on "Hertzian wave" based wireless telegraphy systems (the name "radio" would not come into common use until several years later) was sketchy, with magazines such as the November, 1901 issue of Amateur Work showing how to build a simple system based on Hertz' early experiments. Magazines show a continued progress by amateurs including a 1904 story on two Boston, Massachusetts 8th graders constructing a transmitter and receiver with a range of eight miles and a 1906 story about two Rhode Island teenagers building a wireless station in a chicken coop. In the US the first commercially produced wireless telegraphy transmitter / receiver systems became available to experimenters and amateurs in 1905. In 1908, students at Columbia University formed the Wireless Telegraph Club of Columbia University, now the Columbia University Amateur Radio Club. This is the earliest recorded formation of an amateur radio club, collegiate or otherwise. In 1910, the Amateurs of Australia formed, now the Wireless Institute of Australia.

The rapid expansion and even "mania" for amateur radio, with many thousands of transmitters set up by 1910, led to a wide spread problem of inadvertent and even malicious radio interference with commercial and military radio systems. Some of the problem came from amateurs using crude spark-transmitters that spread signals across a wide part of the radio spectrum. In 1912 after the RMS Titanic sank, the United States Congress passed the Radio Act of 1912 which restricted private stations to wavelengths of 200 meters or shorter (1500 kHz or higher). These "short wave" frequencies were generally considered useless at the time, and the number of radio hobbyists in the U.S. is estimated to have dropped by as much as 88%. Other countries followed suit and by 1913 the International Convention for the Safety of Life at Sea

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was convened and produced a treaty requiring shipboard radio stations to be manned 24 hours a day. The Radio Act of 1912 also marked the beginning of U.S. federal licensing of amateur radio operators and stations. The origin of the term “ham”, as a synonym for an amateur radio operator, was apparently a taunt by professional telegraphers.

## World War I

By 1917, World War I had put a stop to amateur radio. In the United States, Congress ordered all amateur radio operators to cease operation and even dismantle their equipment. These restrictions were lifted after World War I ended, and the amateur radio service restarted on October 1, 1919.

## Between the wars

In 1921, a challenge was issued by American hams to their counterparts in the United Kingdom to receive radio contacts from across the Atlantic. Soon, many American stations were beginning to be heard in the UK, shortly followed by a UK amateur being heard in the US in December 1922. November 27, 1923 marked the first transatlantic two-way contact between American amateur Fred Schnell and French amateur Léon Deloy. Shortly after, the first two way contact between the UK and USA was in December 1923, between London and West Hartford, Connecticut. In the following months 17 American and 13 European amateur stations were communicating. Within the next year, communications between North and South America; South America and New Zealand; North America and New Zealand; and London and New Zealand were being made. These international Amateur contacts helped prompt the first International Radiotelegraph Conference, held in Washington, DC, USA in 1927–28. At the conference, standard international amateur radio bands of 80/75, 40, 20 and 10 meters and radio call sign prefixes were established by treaty. In 1933 Robert Moore, W6DEI, begins single-sideband voice experiments on 75-meter lower sideband. By 1934, there were several ham stations on the air using single-sideband.

## World War II

During the German occupation of Poland, the priest Fr. Maximilian Kolbe, SP3RN was arrested by the Germans. The Germans believed his amateur radio activities were somehow involved in espionage and he was transferred to Auschwitz on May 28, 1941. After some prisoners escaped in 1941, the Germans ordered that 10 prisoners be killed in retribution. Fr. Kolbe was martyred when he volunteered to take the place of one of the condemned men. On October 10, 1982 he was canonized by Pope John Paul II as Saint Maximilian Kolbe, Apostle of Consecration to Mary and declared a Martyr of charity. He is considered the Patron saint of Amateur radio operators. Two radios in the ARC-5 series. Unit on the left is a BC-453-B, covering 190-550 kHz; the one on the right is a BC-454-E, covering 3-6 MHz. Both have been modified for Amateur Radio use by replacing the front connector with a small control panel. Again, during World War II, as it had done during the first World War, the United States Congress suspended all amateur radio operations.[9] With most of the American amateur radio operators in the armed forces at this time, the US government created the War emergency radio service which would remain active through 1945. After the War the amateur radio service began operating again, with many hams converting war surplus radios, such as the ARC-5, to amateur use.

## Post war era

A U.S. Postage Stamp from 1964, commemorating amateur radio. In 1947 the uppermost 300 kHz segment of the world allocation of the 10-meter band from 29.700 MHz to 30.000 MHz was taken away from amateur radio. During the 1950s, hams helped pioneer the use of single-sideband modulation for HF voice communication. In 1961 the first orbital amateur radio satellite was launched. OSCAR I would be the first of a series of amateur radio satellites created throughout the world. Ham radio enthusiasts were instrumental in keeping U.S. Navy personnel stationed in Antarctica in contact with loved ones back home during the International Geophysical Year during the late 1950s.

## Late 20th century

At the 1979 World administrative radio conference in Geneva, Switzerland, three new amateur radio bands were established: 30 meters, 17 meters and 12 meters.[21] Today, these three bands are often referred to as the WARC bands by hams.

During the Falklands War in 1982, Argentine forces seized control of the phones and radio network on the islands and had cut off communications with London. Scottish amateur radio operator Les Hamilton, GM3ITN was able to relay crucial information from fellow hams Bob McLeod and Tony Pole-Evans on the islands to British military intelligence in

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London, including the details of troop deployment, bombing raids, radar bases and military activities. During 1999 NATO bombing of Yugoslavia, Yugoslav amateur radio operators exchanged information from posts in public shelters. However, owing to an informal code of conduct, radio hams usually avoid controversial subjects and political discussions. Major contributions to communications in the fields of automated message systems and packet radio were made by amateur radio operators throughout the 1980s. These computer-controlled systems were used for the first time to distribute communications during and after disasters. American entry-level Novice and Technician class licensees were granted CW and SSB segments on the 10 Meter Band in 1987. The frequency ranges allocated to them are still known today throughout much of the world as the Novice Sub Bands even though it is no longer possible to obtain a Novice class license in the US. Further advances in digital communications occurred in the 1990s as Amateurs used the power of PCs and sound cards to introduce such modes as PSK31 and began to incorporate Digital Signal Processing and Software-defined radio into their activities.

## 21st century

For many years, amateur radio operators were required by international agreement to demonstrate Morse code proficiency in order to use frequencies below 30 MHz. In 2003 the World radio communications conference (WRC) met in Geneva, Switzerland, and voted to allow member countries of the International Telecommunications Union to eliminate Morse code testing if they so wished. On December 15, 2006, the United States Federal Communications Commission (FCC) issued a Report and Order eliminating all Morse code testing requirements for all American Amateur Radio License applicants, which took effect February 23, 2007. The relaxing of Morse code tests has also occurred in most other countries, resulting in a boosting in the number of radio amateurs worldwide. While there is no longer a requirement for hams to learn “the Code”, it remains a popular communications mode.

Most of Europe allows licensed operators from other countries to obtain permits to transmit in Europe during visits. Residential permits are available in many countries globally whereby a valid license from one country will be honored by other countries under international treaties.

In early 2010, only North Korea had an absolute ban on ham radio operator licenses, although many countries still maintain careful records of ham licensees, and limit their activities and frequency bands and transmit power output. Amateur radio emergency communications assisted in disaster relief activities for events such as the September 11 attacks in 2001,[29] Hurricane Katrina in 2005,[30] and the Sichuan earthquake in 2008. In 2017, the Red Cross requested 50 amateur radio operators be dispatched to Puerto Rico to provide communications services in the wake of Hurricane Maria

[https://en.wikipedia.org/wiki/History\\_of\\_amateur\\_radio](https://en.wikipedia.org/wiki/History_of_amateur_radio)

## QRZ.COM

I recommend all amateurs create a free account on QRZ. They provide logbook services, forums, swap and shop and a free webpage. Please add your email to the website so others can contact you. You can talk about your station set up, what you like to do, photos and other items. <https://www.qrz.com/>

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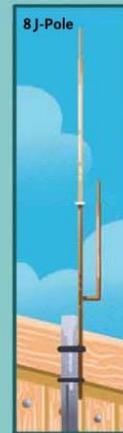
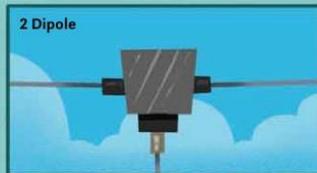
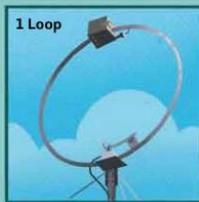
THE BIG PICTURE

## A World of Antennas

Regardless of the type of radio you own, or the type of signal you choose to transmit or receive, an antenna is essential. Without it, your amateur radio station is useless.

The antenna is the critical component that launches your RF energy into the world, and receives the energy radiated by others. In the earliest days of radio, antennas were sometimes referred to as “skyhooks.” It was an apt metaphor because, like fishing hooks, they connected stations amid the ever-flowing river of signals.

There are dozens of antenna designs in use today, and many variations on these designs. Here are several classic amateur radio antennas that we use for most of our communication needs.



10 ON THE AIR

From the Nov 2002 issue of “On the Air” Magazine from the ARRL.

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## Antennas for Every Application

### HF Dipole

Dipoles are at the heart of every antenna design because, like a battery, an antenna must have two poles: "di" is the "two" in *dipole*. It is more appropriate to think of a dipole as a light bulb. When you apply power to the dipole, the resulting energy field completes the "circuit," and the antenna glows. (Antennas really do glow, but our eyes can't perceive it.)

For HF communication, the classic dipole, usually made of wire and hung as high in the air as possible, is standard equipment at many stations. They are easy to assemble, inexpensive, and perform reasonably well.

### Yagi-Uda

Imagine a dipole antenna that is flanked by other wires that act to shape its radiation pattern in a particular direction. That's a Yagi-Uda antenna, known as a *Yagi*.

Yagi designs are popular for use from HF frequencies on up to the microwave bands because they allow stations to focus the signals they send and receive. Sometimes referred to as *beam* antennas, you'll often see Yagis attached to electromechanical *rotators* that allow operators to point them in desired directions.

### End Fed

End-fed wire antennas have become increasingly popular because they are easy to set up for HF operating when only one vertical support is available (such as a building or tree). Some amateurs believe that end-fed antennas skirt the dipole requirement of having two poles, but this is not true. In an end-fed design, the outer shield of the coaxial feed line acts as the other pole of the antenna.

### Vertical Monopole

Usually called a *vertical*, you'll find these antennas in applications where space is tight, or where the size of a Yagi or horizontal dipole for a given frequency would be too great (as frequency decreases, antenna size tends to increase).

Although it may seem like a vertical antenna isn't a dipole, appearances can be deceptive. The vertical part is one pole of the antenna. The opposite pole is in the form of wires buried on or in the ground or suspended near the ground. These are known as *radials*. In mobile applications, the body of the vehicle acts as the opposite pole of the antenna.

### Loops

Loop antennas seem impossible at first glance. If you attach the ends of a dipole antenna to each other, you have a short circuit, don't you? When it comes to RF energy applied to antennas, however, this is not so. The short explanation is that the properties of the loop create a load circuit for the transceiver, allowing it to pump energy into the loop without going up in smoke!

Loop antennas for HF frequencies can be quite large, although there are also small HF loops that offer acceptable performance for portable operating and other applications.

### Rubber Duck

The venerable rubber duck antenna has been a staple of VHF/UHF handheld transceivers for 50 years. It is little more than a metal spring surrounded by plastic or rubber, which is the reason for the slang label "rubber duck." (Technically speaking, they are "flexible helical antennas.") The spring is one pole of a dipole and the chassis of the radio is the other. In terms of performance, they are poor antennas, but they are extremely rugged and nearly impossible to break.

### Ground Plane

A ground plane antenna is just a vertical with several radial wires elevated above the ground. It is called a ground plane because the radial wires create a kind of electrical surface, or "plane," that completes the antenna circuit, allowing it to radiate efficiently. You'll encounter ground planes primarily at VHF frequencies because they are small and simple to build. However, you can create ground plane antennas for HF frequencies as well.

### J-Pole

This may be one of the most widely used base station antennas at VHF and UHF. Like ground planes, they radiate in all directions at once. And like ground planes, they are relatively simple to build.

A J-pole consists of a single vertical conductor with another vertical conductor parallel to it. The parallel conductor acts like a tuner to create a low standing wave ratio (SWR) at the desired frequency. It makes the antenna look like the letter J, hence the name.

You'll notice that a J-pole lacks radials, so where is the other pole of the antenna? Like the end-fed, the opposite pole is the shield of the coaxial feed line.

From the Nov 2002 issue of "On the Air" Magazine from the ARRL.

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<http://www.hamradiohawaii.com>

<https://www.facebook.com/groups/HamRadioHawaii/>

<https://twitter.com/hamradiohawaii>

<https://www.instagram.com/hamradiohawaii/>

<https://www.youtube.com/channel/UC0ZN8N7aGnJS9yuVOCrPc9Q>

<https://www.qrz.com/db/KH6OWL>

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