

# Big Island Amateur Radio Club Newsletter June 2018

Photo courtesy of Paradise Helicopters



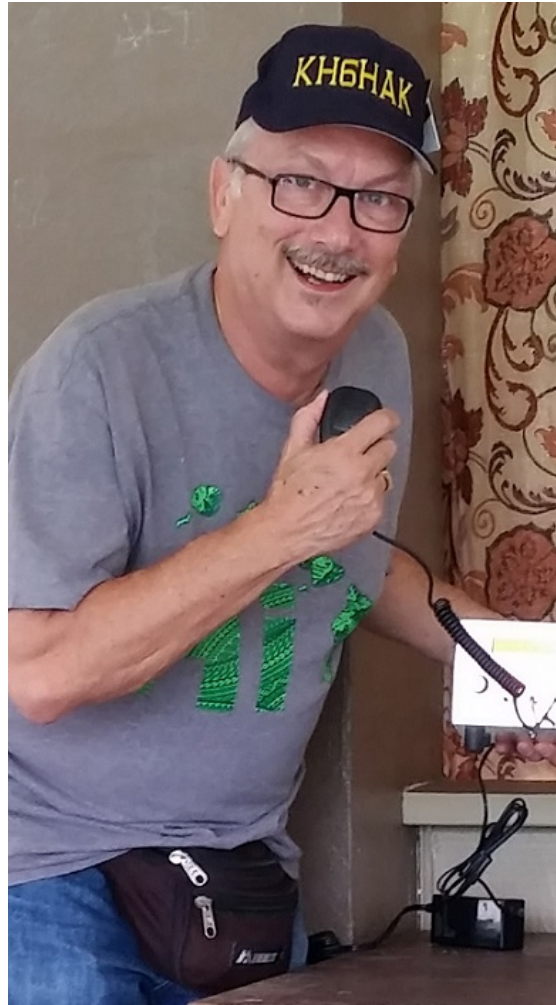
## **S. Army on duty**

*Majors John and Lani Chamness updated us on Salvation Army coordination of food, supplies and shelter for the many hundreds of Puna lava flow victims.*

## **BIARC to meet at PCC, with Field Day on tap**

BIARC will meet at 2 p.m. Saturday, June 9, at Puna Covenant Church.

The meeting will be devoted to planning for the BIARC Field Day, to be staged June 23-24 at Reed's Bay Hotel, thanks to Darrell Asuka, KH6RDO, who secured the venue for us.



## **A fun talk, full of tips**

*Hank, KH6HAK, at left, entertains and enlightens the membership, below, at the May 12 meeting held at Puna Covenant Church. His topic: Microbit X.*

**BIARC  
photos by  
Linda  
Quarberg,  
WH6LQ**





***WELCOME: New licensee Mark Watanabe, WH6FSA, gets a round of applause as he attends his first BIARC meeting.***

***BIARC photos by  
Linda Quarberg, WH6LQ***



***NOW, HEAR THIS: Gary Schwiter, WH6EPS, BIARC repeater chair, discusses the current status of units in the field and plans for future work on our islandwide repeater network.***

## ***Paragraphs from the President***

These have certainly been interesting times that we have been living through since the first of May. It is a challenge to live on and with an active volcano. All of us have been riveted with interest in the daily happenings. Some of us have been facing real hardships and loss, as the lava flows into our neighborhoods, across our highways, and maybe even causes destruction to our houses and properties. Others, like me and my neighbors near the summit of Kilauea, have been shaking and rattling much too frequently and sometimes too roughly.

This has been an emergency situation, though often in slow motion. I have been very

proud of the actions of the ham community standing up to do what has needed to be done. Providing updates, sharing observations and experiences, and coordinating actions: these are the things that we have done as individuals and as groups networking together.

There is still an uncertain future ahead of us. No-one knows when Madame Pele will settle down again and leave us with our sense (illusions) of normalcy. We all hope it is soon. Until then, let's keep our ears open, and our radios close, and render whatever aide that we can. Sometimes the best thing is a friendly voice to let someone know that we are with them in the midst of the turmoil.



There are many people in our community who have suffered real losses. Especially those who are displaced from their homes - and some who have tragically lost their homes to the lava flows. The Pahoia and Keaau Community Centers are still being used to serve the displaced. We plan to have our meeting at the Puna Covenant Church where we have met a couple of times recently. The June meeting will be dedicated to talking story as needed, and preparation for upcoming Field Day operations by the BIARC team.

Hope to see you at the meeting on June 9th.

Aloha and 73,  
**Pascal, AC7N**



## The view at the top

*Doug Wilson, KH7DQ, snapped this action shot on May 4 on the 18th hole at the Volcano Golf Course, following the first big earthquake of the day and just a few minutes before the 6.9-on-the-Richter Scale event that whapped the island. Here are a couple of websites to access updated related info: <http://www.ivhnn.org/vog/> and [https://volcanoes.usgs.gov/volcanic\\_ash/](https://volcanoes.usgs.gov/volcanic_ash/)*

# **Big Island Amateur Radio Club Meeting Minutes**

***Saturday, May 12, 2018***

The meeting was called to order by President Pascal Nelson, AC7N, at 1400.

Pascal stated that he was changing the meeting format slightly in order to reduce overall meeting time. Introductions were made only of new members and attendees and of those who had not been to BIARC meetings for a long period of time.

New members and guests, and people who had been away for a long period of time introduced themselves.

Treasurer's Report (End of month – March 2018):

Bank: \$ 2410.04 – up from \$2250.04 as reported in April. One check to renew the club's insurance policy is outstanding.

Additional funds are being received today from new and renewing members.

Announcements:

Doug Wilson, KH7DQ: We are in the second week of a licensing class being held in Oceanview. The next class will begin in Kea'au on November 1, 2018.

Gary, WH6EPS: Gary is still looking for a Field Day coordinator to set up and coordinate the operation at the Reed's Bay Hotel covered patio near the beach. Peggy, KE6TIS, and Leigh, WH6LC, agreed to deal with food and Darrell, KH6RDO, agreed to deal with the site preparation. Now we need someone to coordinate the actual Field Day operation itself. Otherwise it will become just a club picnic. The June meeting will be dedicated to Field Day organization and planning.

Debbie, WH6DN: Described the new sign-in sheet that is being used for meeting registration.

Reports:

Gary, WH6EPS: (a) Recent volcanic activity has delayed all planned repeater work. (b) As a result of discussion at the HPP Radio Day event, Gary is seriously looking at the possibility of repeater site at or near the Mauna Loa



***Two excellent 1/4 wave filters were built by Hank, KH6HAK, and presented to the club for installation at the Pepeekeo repeater site (146.28/88).***

Observatory. More will be known about this in the next few months. (c) Two excellent 1/4 wave filters were built by Hank, KH6HAK, and presented to the club for installation at the Pepeekeo repeater site (146.28/88).

There being no further business, Pascal adjourned the meeting at 1456.

Following a brief break for pupus, an open "show and tell" discussion was held.

Major John Chamness, of the Salvation Army, was introduced and he described the activities of the Salvation Army relating to emergency response in general and their activities in support of the current emergency situation in lower Puna.

Respectfully Submitted,  
**Leslie D. Hittner**, Secretary

## *Commentary*

# It's vital we work together to develop organized communications network

*By Les Hittner, K0BAD*

On Wednesday, May 23 my wife and I went as Kiwanians to the Pahoa Community Center to volunteer with the Salvation Army.

Three days prior to that, the Salvation Army had contacted our Kiwanis club Secretary seeking volunteer help in Pahoa. They needed people from 8:30 Wednesday morning to 5:00 pm in the afternoon. We volunteered to work in the afternoon and arrived at 1:00 pm.

We were stopped at the entrance to the parking lots and told the woman at the gate why we were there. She directed us “over there” and said that the Salvation Army was “there.” The security people at the entrance to the complex did not confirm that we were on any sort of access list. They merely took our word that we were with Kiwanis and directed us “over there.”

We went “over there” and found two shipping containers marked with Salvation Army banners. There were no people around, however. We then went up to the shelter itself and looked for the Salvation Army. We found the canteen – but no people from Salvation Army.

We were referred to a Red Cross table near the entrance. The woman in charge told us that the Salvation Army people came around meal time and then left and that they were gone right now and she didn't know where they were. She further stated that they had taken “their book” with them so she did not have access to their phone numbers.

In short, THERE WAS NO COMMUNICATIONS BETWEEN RED CROSS AND SALVATION ARMY.

My wife and I returned to Hilo. Because of inadequate inter-agency communications, we

were not able to donate our time to Salvation Army that day.

While we were there, I saw no evidence that there was any organized communications network between this support site and Hawai'i County Civil Defense.

The Amateur Radio clubs on Hawai'i Island have an excellent system of installed equipment and infrastructure. More amateur radio facilities are coming on line every year. What we lack is, however, organization.

We do not have working agreements with Civil Defense.

We do not have working agreements with Red Cross.

We do not have working agreements with other involved agencies.

In some cases, we may have written agreements – but those agreements certainly are not working!

Instead, we argue amongst ourselves about ARES, the roles of CERT radio operators, ACS, etc.

Instead, we hold numerous nets and talk story about what's happening.

Sometimes, we have actually helped someone, but it has usually been another amateur and not organized assistance as a part of a communications network that benefits the commons.

If we had had effective working agreements, we would have had hams shadowing the principles of serving agencies as soon as the ICS was established by Civil Defense.

We would have had a communications network connecting the Red Cross, Salvation Army, Security personnel, and other serving agencies with the Civil Defense ICS and with each other.

We would have had a repeater designated for these communications. If we showed up on that repeater to talk story, we would have been directed elsewhere.

But none of that has happened. I venture to say that many of us do not know where the ICS is located. I'm not sure the Red Cross – an important player – even knows.

It is clear that there is no central authority for obtaining needed information. It is also clear that when important people – like the Salvation Army representatives – leave a facility like the Pahoehoe Center, security does not check them out and security does not know where they are going to be.

These are the sorts of things a communications system run as an open star network can solve. Cellphones are fine, but they are one-to-one links. They are NOT well-suited as an open coordinating communications network.

The Hawaii County Civil Defense Agency has a Local Emergency Planning Committee. The committee met twice in 2017 and has not met at all in 2018. I believe the committee should meet more regularly (something which we have no

direct control over) and that when it meets, the Amateur Radio Service should have a seat at the table. That Amateur Radio Service member should represent BIARC and other radio clubs with extensive infrastructure responsibilities, and ARES, itself, which is the “personnel” arm of our emergency communications capabilities.

At this level of involvement, it should not be necessary to have two such representatives. The committee member should be tasked with the responsibility of representing local amateur radio operators – all of us – and should report back to us accordingly. I don't know if that is possible in the political climate of this county (It is being done where I came from in Minnesota.), but we simply MUST build the sort of a relationship with Civil Defense and other involved non-profit emergency service providers so that if it IS possible, it can actually happen.

We have to do more than talk story and pat ourselves on the back in order to satisfy the emergency communications mandate obligations imposed on us by Part 97 of the FCC rules and regulations.

## **~~ 2018 BIARC Leadership ~~**

### **BIARC 2018 Leadership:**

President Pascal Nelson,  
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and Bob Schneider,  
ah6j@arrl.org.

Program Committee co-  
chairs are John Bush and  
Les Hittner.





## Rocker Joe Walsh, WB6ACU, helps ARRL promote hobby he loves

Legendary rock guitarist Joe Walsh, WB6ACU, of the Eagles is featured in a just-released set of ARRL audio and video public service announcements promoting Amateur Radio. ARRL will provide the 30- and 60-second PSAs to Public Information Officers (PIOs) to share with their Section's television and radio stations.

The ARRL Media and Public Relations Department also will provide these announcements files directly to interested television and radio outlets, and the announcements are available for downloading from the ARRL website for members to use in promoting Amateur Radio at club meetings and public presentations, such as ARRL Field Day on June 23-24 (PSAs specifically for ARRL Field Day also are available). Those PSAs will also be available for download from the ARRL website, so that members can present them at club meetings and other public gatherings.

Walsh, who visited ARRL Headquarters last year for taping, wanted to deliver two main messages in his PSAs: Get involved in Amateur Radio, and become a member of ARRL. The messages highlight the tremendous service that radio amateurs provide to communities, and convey how ARRL advocates on behalf of Amateur Radio on a wide range of legal and political issues.

An ARRL Life Member and longtime radio amateur, Walsh personally has been a strong supporter and advocate of ARRL and Amateur Radio, and his ham shack is just as impressive as his home recording studio.

"I want to give back to the hobby that has



***An ARRL Life Member and longtime radio amateur, Eagles guitarist Joe Walsh has been a strong supporter and advocate of ARRL and amateur radio. "I want to give back to the hobby that has given me so much enjoyment," he said.***

given me so much enjoyment," he said.

The setting for the PSAs was W1AW, which Walsh was especially eager to revisit. The occasion also offered him an opportunity to see equipment he'd donated to W1AW years earlier. Walsh's past on-the-air forays on W1AW have always attracted enthusiastic pileups. While at W1AW, he spent some time chatting with station manager Joe Carcia, NJ1Q, about the station's operations. Walsh is a well-known collector of vintage Amateur Radio equipment.

Creating the videos were Media and Public Relations Assistant Michelle Patnode, KC1JTA; freelance videographer/photographer Chris Zajac, and former Media and Public Relations Manager Sean Kutzko, KX9X, who also recorded a tag line for ARRL Audio News with Walsh.

## Ambitious Arizona STEM Planetary Rover Project is a winner

An Amateur Radio-based science, technology, engineering, and mathematics (STEM) initiative at an Arizona elementary school culminated on May 22, as youngsters competitively deployed their own radio-controlled rovers to explore a simulated planet set up in the Sonoran Desert. Following in the footsteps of NASA scientists, 25 pupils at Bouse Elementary School -- several already holding ham radio licenses -- took part in the APS Arizona Rover Project, which is aimed at promoting STEM subjects through Amateur Radio and preparing young participants to earn an Amateur Radio license.

The rover is a dual-motor small tank chassis running off 6 V worth of AA batteries. Remote control of each rover is accomplished by using dual-tone multi-frequency signal tones from their radios.

"It was awesome!" said Dave Anderson, K1AN, the president of My La Paz, which sponsored the project in cooperation with Arizona Public Service (APS) and community volunteers. The nonprofit My La Paz promotes health, education, and community in La Paz County. "The youth all had the chance to explore the artificial planet, the event was well attended, and the radio links for remote control and video were rock solid."

The APS Arizona Rover project was part of a 5-month-long in-curriculum education program at Bouse Elementary that Anderson hopes to expand to other schools in La Paz County.

"Its primary goal was to lift up and inspire the youth into science and learning via instruction and exploration of radio science, Amateur Radio, and space research," Anderson told ARRL. "The



***Anna Dautel, K17WOJ (right), and Skyla Herman, K17WPC, pose with one of the 20-some rover prototypes. The rover is a dual-motor small tank chassis running off 6 V worth of AA batteries. Remote control of each rover is accomplished by using dual-tone multi-frequency signal tones from their radios.***

goals of the program were to deliver science instruction that met and exceeded Arizona Common Core educational guidelines and to help the youngsters prepare to attain their Amateur Radio licenses."

Anderson said 23 students got their Technician licenses while also learning and developing electronic circuits, breadboarding, and more within the school day.

Leading up to launch day, participants were challenged to complete different missions using only Amateur Radio technology for remote control, data, and video feeds. In a matter similar to what the Mars Rover scientists do, the students had to complete these missions from a remote location without actually being able to see their robots. Rovers competed in



several categories. These included completing specific objectives remotely from mission control and safely returning to their landing vehicle in an allotted time using only a computer interface with their Amateur Radio.

Anderson said first-place winners in their respective categories included Eliyah Jagroop, KI7IZL; Christena Baker, KI7WOI, and Savannah Holden.

Seven radio amateurs mentor in the youth-led Arizona Amateur Radio Association (AZARA). In addition to Anderson, they include Joe Lewellen, K7JEL; Daryl Duffin, NU7X; Neil Hays, W6FOG; Alexander Fulcher, N4SVD; Pat Delong, KD7KEL, and Heather Caton, W8GEM, an educator who teaches Amateur Radio in the schools as part of the curriculum.

A unique facet of My La Paz is its focus on Amateur Radio, Anderson said, because of what it can offer the county's young people in sparsely populated La Paz County, where many families live at the poverty level.

"In many ways, Amateur Radio has become the students' first social media, since many of their homes have no computers or internet access," he told ARRL. "It no longer matters where a youth lives or their family income; they can now participate in learning opportunities or making new social connections and friends via the Desert Amateur Radio network." The number of youngsters now licensed across La Paz County is approaching 100.

"The students of this generation are fascinated by space exploration and robotics," Anderson said. "And the rover project provides a way to let them explore this with radio science and be inspired into learning while making science fun."

Anderson said more information, including a rover block diagram, schematics, parts list/sources, and source code, is available on the AZARA website.

## **Informal amateur radio nets being maintained in wake of volcanic eruptions in Hawaii**

Two informal informational nets remain open on the island of Hawaii in the wake of recent and ongoing volcanic eruptions and seismic activity, reports Pacific Section Emergency Coordinator Clement Jung, KH7HO.

No formal traffic had been passed, at the time of Jung's report, but frequencies were being monitored.

"All normal communications, such as cell, landline phones, internet, and public safety, are operational," Jung told ARRL. Fissures associated with the Kilauea volcano on The Big Island began erupting on May 3, spewing lava and venting high levels of sulfur dioxide.

An amateur radio net is in operation on 7.088 MHz (SSB), and the Voluntary Organizations Active in Disaster (VOAD) 146.720 MHz repeater (100 Hz tone) on Mauna Kea was activated after Hawaii's governor issued an emergency declaration. A federal disaster declaration has been approved.

The Hawaiian Volcano Observatory reports active venting of lava and hazardous fumes continue, with no end in sight.

Hawaii Volcanoes National Park closed after roads and trails were damaged, Halemaumau Crater began its ongoing series of steam-generated explosions spewing ash and debris thousands of feet in the air, and noxious air quality varying in accordance with explosive and eruptive activity and prevailing winds. The observatory increased the Aviation Color Code to RED, due to increased ash emission.

FEMA reports hundreds of evacuees have been staying in emergency shelters. Several thousand residents have been evacuated in all, and access routes overrun by lava include those for the Kapoho area. More than 20 fissures have been active at one time or another. "Air quality in the southeast area of Lanipuna Gardens has been rated 'condition red' (immediate danger to health) for high levels of sulfur dioxide. Volcanic-tectonic seismicity continues," was a recent report.

The US Geological Survey continues to warn that new lava outbreaks could happen "at any time," as well as "more energetic ash emissions." Flows have reached the ocean on the Puna coastline.

# Amateur Radio Parity Act Language inserted in National Defense Authorization Act

ARRL has praised the work of US Representatives Joe Courtney (D-CT/2), Vicky Hartzler (R-MO/4), and Mike Rogers (R-AL/3) for their successful efforts in securing language in the FY 2019 National Defense Authorization Act (NDAA) that asks the FCC to grant radio amateurs living in restricted communities the right to install effective outdoor antennas. Text from the proposed Amateur Radio Parity Act (HR 555) formed the basis for the Courtney-Hartzler-Rogers Amendment to NDAA.

"The bill does entitle each and every Amateur Radio operator living in a deed-restricted community to erect an effective outdoor antenna.

Full stop. That is the principal benefit of this legislation," ARRL General Counsel Chris Imlay, W3KD, stressed. "There are tens of thousands of ham radio licensees who now, absent the legislation, cannot erect any outdoor antenna at all. This enables them in the same way PRB-1 has enabled hams to address unreasonably restrictive zoning ordinances during the past 33 years."

Imlay pointed out, though,



that certain conditions apply. Prior to erecting an antenna in a deed-restricted community, an applicant for an outdoor antenna may have to apply to the homeowners association (HOA) for prior approval of the particular antenna system proposed by the ham. The Act would not empower an HOA to deny approval of all outdoor antennas. But neither does it entitle radio amateurs residing in deed-restricted subdivisions to erect whatever antennas they want.

"This legislation is a good, solid balance that favors hams and, as I say, allows tens of thousands of hams to erect effective antennas that they have no right to erect now," Imlay said. The amendment, offered by the bipartisan trio and accepted by the House Armed Services Committee by voice vote, will ensure that Amateur Radio operators will continue to play a vital role in supporting communications in a disaster or emergency. Amateur Radio has long-standing relationships with the

Department of Defense through the Military Auxiliary Radio Service (MARS) and spectrum sharing.

The Armed Services Committee passed the NDAA by a 60-to-1 voice vote after a 14-hour markup that ran well into the night. The bill now awaits House floor action. The Senate was set to begin its markup of the NDAA during the week of May 21.

Reps. Courtney and Adam Kinzinger spearheaded the effort to include the Parity Act language in the NDAA. Both are cosponsors of the Parity Act, which has passed the House by voice vote twice in the past 2 years.

Recognizing the long-standing relationship between Amateur Radio and the Department of Defense, Congressman Kinzinger -- who served multiple tours for the USAF as a fighter pilot and is still a Major in the Air National Guard -- and Courtney have been champions of the legislation in Congress.

"The steadfast support of the Amateur Radio community continually demonstrated by Congressmen Kinzinger and Courtney has been a godsend," said Hudson Director Mike Lisenco, N2YBB. "The Parity Act wouldn't be anywhere close to this stage without their strong support, and our organization is extremely grateful." ARRL has pledged to continue pressing for support to enact the Amateur Radio Parity Act throughout the legislative process.





**Denny Berg, WB9MSM, completed DXCC on FT8. FT8 activity bumping up at some expense to other modes**

Despite largely dismal HF conditions, there is no doubt that the recent FT8 digital protocol has hams on the air. The mode has caught on so quickly that co-developer Joe Taylor expressed surprise last fall at the rapid uptake of FT8 for making contacts on HF bands. Judging by Logbook of The World (LoTW) data, more than 2.3 million FT8 contacts were uploaded in 1 month -- a net gain of 1.2 million contacts on all modes over the same month last year, ARRL Radiosport Manager Norm Fusaro, W3IZ, said. Over the same period, activity in some of the other modes has declined.

"Year-to-date DXCC applications are up by 11% over the same period last year," Fusaro said. "So far, we have processed 898 Worked All States (WAS) applications -- a 72% increase over the same period last year. Of those applications, 347 -- or 39% -- were FT8 endorsements. Application for VUCC are also up by 33% over 2017."

Fusaro said that while some

feel that FT8 is "taking over the world," subsuming all other modes, that's not the case. "Activity in the traditional modes of SSB and CW has decreased only slightly, by 10%," he said.

"The real decrease is in RTTY and PSK activity and in the other WSJT-X modes. I believe poor propagation would have cut into SSB and CW activity, regardless of the new mode." Anecdotal reports support Fusaro's hard numbers, with wall-to-wall signals surrounding the FT8 watering holes.

Late last year, Denny Berg, WB9MSM, achieved his goal of completing DXCC using FT8. It took him just 4 months.

"I can tell all of you that this mode is spreading like wildfire throughout all the HF bands," Berg told The Daily DX at the time. He said he was able to work all states on FT8 in about 6 weeks of operating.

Taylor has characterized SSB and CW as "general-purpose modes" that are good for ragchewing, DXing, contesting, disaster communication, and other purposes. On the other hand, he has said, FT8 and the other protocols in the WSJT-X suite are "special-purpose modes," designed for making reliable, error-free contacts using signals that may be too weak to work using more traditional modes -- and sometimes even too far down in the noise even to hear.



**Last summer, Brian Lloyd, WB6RQN, of Texas, successfully flew his single-engine aircraft Spirit on a solo, round-the-world adventure to commemorate Amelia Earhart's attempted circumnavigation 80 years earlier.**

**ARRL to show off ham radio at EAA AirVenture Oshkosh 2018**

With support from member volunteers, ARRL will put Amateur Radio on display for visitors to EAA AirVenture Oshkosh 2018 -- the giant, annual airshow July 23 - 29 in Wisconsin, organized by the Experimental Aircraft Association (EAA).

The event attracted more than 10,000 aircraft and nearly 600,000 visitors in 2017 to enjoy aerobatics displays, informative programs, hands-on workshops, and diverse aircraft spanning all eras of flight.

"The crossover between Amateur Radio operators and pilots, aviation enthusiasts, and air show attendees has a strong correlation," said ARRL Central Division Director Kermit Carlson, W9XA, who is part of





the volunteer team organizing the ham radio exhibit at AirVenture. "Attendees include many licensed and prospective Amateur Radio operators."

ARRL's exhibit will promote Amateur Radio to newcomers and inform all attendees of the similarly diverse technology and innovation enjoyed by both hams and pilots.

"Ham pilots are doing all sorts of things from the sky, including long-distance HF communications, aircraft tracking using APRS beacons, and search and rescue," Carlson said. "Developing the capability to communicate from your aircraft to a ham on the ground is also fun!"

ARRL has posted a short survey that invites pilots who are radio amateurs to share their ideas for exhibiting at EAA AirVenture 2018.

The ARRL display will build upon existing ham radio demonstrations at the show, including EAA Amateur Radio Special Event station W9ZL, organized annually by the Fox Cities Amateur Radio Club in Appleton, Wisconsin, and set up at the Pioneer Airport airstrip in Oshkosh.

W9ZL will be on the air throughout the week of the Oshkosh air show.

## **Space Station Digital Amateur Television signal not being seen on the ground**

The signal from the digital amateur television (DATV) transmitter aboard the International Space Station (ISS) cannot be detected on the ground, the Amateur Radio on the International Space Station (ARISS) has reported. The unit indicates that it is functioning. So far, ARISS has not been able to pin down the problem.

"A series of steps are currently being undertaken to try to diagnose the problem," a May 10 announcement from ARISS said. "However, if an actual failure occurred, only a ground-based evaluation will fully diagnose the problem. The ARISS International team is working diligently to bring [the system] back to full operation as soon as practical." The DATV system is known variously as "HamVideo" and "HamTV."

ARISS said it has begun coordination with its space agency partners and sponsors to "expeditiously troubleshoot the issue onboard and, if necessary, troubleshoot and repair the device on the ground."

The DATV transmitter has proved to be a valuable educational asset that ISS crew members have enjoyed employing during ARISS school and group contacts. In particular, astronauts Tim Peake, KG5BVI; Paolo Nespoli,

IZ0JPA, and Thomas Pesquet, KG5FYG, made routine use of the DATV system to enhance the ham radio contact experience for students and educators.

Ground stations in Australia and Europe have functioned to receive and distribute the Amateur Radio TV signal from the ISS. Ground stations are under development in the US. Several hams in Japan have set up ground stations that have received the DATV signal from the ISS.

Peake inaugurated formal use of the DATV system for a 2016 ARISS school contact with students at a school in Rickmansworth, England. The DATV system, located in the Columbus module of the ISS, allowed students at Royal Masonic School to both watch and listen as Peake, operating under the ISS call sign GB1SS, answered their questions about life in space. The one-way DATV downlink took place near 2.4 GHz, while the two-way FM audio component was maintained on 2 meters.

The DATV system was first proposed more than 17 years ago. It was commissioned during a series of tests in 2014.

## **National Hurricane Center's WX4NHC takes to the air for annual station test**

WX4NHC, the Amateur Radio station at the National Hurricane Center (NHC) in Miami, was to be on the air for the annual station test on

Saturday, May 26, 1300 until 2100 UTC. This marked the station's 38th year of public service at the NHC. The purpose of the annual event is to test Amateur Radio station equipment, antennas, and computers in advance of the Atlantic Hurricane season -- June 1 through November 30.

"This event is good practice for ham radio operators worldwide as well as for National Weather Service (NWS) staff to become familiar with the Amateur Radio communications available during times of severe weather," said WX4NHC Assistant Coordinator Julio Ripoll, WD4R. "We will be making brief contacts on many frequencies and modes, exchanging signal reports and basic weather data (sunny, rain, etc.) with any station in any location."

### **Maritime Radio Historical Society's Museum Station K6KPH is back**

Maritime Radio Historical Society (MRHS) Amateur Radio station K6KPH is back on the air after a brief hiatus, although still at a minimal level at this point. K6KPH, intended as a tribute to KPH, the "wireless giant of the Pacific," relays the W1AW Field Day Bulletin, and W1AW Morse code practice qualifying runs for west coast amateurs.

"Not all the K6KPH frequencies were back on at first, as we had to change antenna assignments to get the



***Maritime Radio Historical Society (MRHS) Amateur Radio station K6KPH is back on the air after a brief hiatus, although still at a minimal level at this point. The north lead "H-Frame" temporary repair: Feed lines to about half the antennas go through this frame. Cracking boards were causing wires to touch the frame, risking collapse. A final rebuild will be done later this year.***

minimum service we have now," said Steve Hawes, WB6UZX, who explains that K6KPH is "sort of" back, as some repair work is pending.

Hawes said the crew of K6KPH volunteers made some temporary repairs to get some antennas back in service, and the station now is usable on 80, 40, 20, 17, and 15 meters. He said K6KPH expects to be ready to handle the qualifying run transmissions starting with June's, and also will be transmitting the ARRL Field Day bulletins.

"For the [Field Day] digital transmissions, I'll have to wrestle 7/8-inch Heliac between two different transmitters on 7 and 14 MHz," Hawes noted.

K6KPH uses the original KPH transmitters, receivers, and antennas; no amateur equipment is employed. The transmitters for most bands are Henry HF-5000 commercial units, but the 1950s-vintage RCA commercial units, known as "K" and "L" sets, are used on special occasions. Transmitting antennas are double extended Zepps for frequencies below 12 MHz (K6KPH and KPH prefer megacycles to megahertz), and H over 2 for 12 MHz and above, all fed with open-wire line.

The Bolinas, California, site that's now home to K6KPH and KPH originally was a 1914 Marconi Company facility with a

350-kW low-frequency rotary-gap transmitter for overseas radiotelegraph traffic.

The south lead H-frame was severely damaged when a large tree branch fell on it, and about half of the feed lines are not usable. It will be rebuilt later. This photo shows one of the poles that is farther out. Line spacers now have been added and the line "dress" adjusted for maximum clearance of cross-arms. The wire is #4 solid copper.

Hawes said the Bolinas/Point Reyes sites were dark until the Maritime Radio Historical Society made a proposal in 2000 to the National Park Service -- Point Reyes National Seashore -- to restore and "interpret" the site, which would include putting it on the air.

"The NPS does maintain the building and pay for the power, but there isn't a regular budget for radio and antenna maintenance," Hawes explained. "MRHS has been buying tubes and parts and paying for some antenna repairs and tree trimming. The park has obtained grants over the years for major antenna work, and there is another one pending for later this year to rebuild some of the 'H-Frames' -- transmission line supports. The work we did -- and paid for -- was to get back on the air until the full rebuild work is done."

### **Three CubeSats with Amateur Radio Payloads Deployed from ISS**



*Tim Allen as Mike Baxter, KA0XTT, in a 2014 episode of Last Man Standing, now relocated to the Fox Network.*

The Japan Aerospace Exploration Agency (JAXA) has announced that three CubeSats carrying Amateur Radio payloads, including one with a V/U linear transponder, were deployed from the International Space Station (ISS) on May 11 at around 1030 UTC. Irazú (Costa Rica) and 1KUNS-PF (Kenya) carry beacon/telemetry in the 70-centimeter Amateur Radio band, while UBAKUSAT (Turkey) carries an Amateur Radio linear transponder for SSB and CW, in addition to CW and telemetry beacons. Irazú is a 1U CubeSat developed by students at the Costa Rica Institute of Technology, with a telemetry beacon at 436.500 MHz. 1KUNS-PF is a 3U CubeSat developed by students at the University of Nairobi, with a telemetry beacon (9.6 kbps) at 437.300 MHz. UBAKUSAT, a 3U CubeSat developed by

students at the Istanbul Technical University, has a CW beacon at 437.225 MHz, and a telemetry beacon at 437.325 MHz. The linear transponder downlink is 435.200 - 435.250 MHz; the uplink is 145.940 - 145.990 MHz. -- **Thanks to Masa Arai, JN1GKZ, via AMSAT-UK**

### **Last Man Standing moving to Fox Network**

There will be a season 7 of the TV show Last Man Standing, in which Tim Allen -- a real radio amateur -- plays Mike Baxter, KA0XTT. The primary difference is that the show now will appear on the Fox Network. A year ago, ABC axed Last Man Standing, which had attracted more than 8.3 million viewers. The network did not own the show but was licensing it from 20th Century Fox. John Amodeo, NN6JA, has been a co-executive producer, producer, or



supervising producer of the comedy and was instrumental in Allen's getting his ham radio license in 2014; more than 2 dozen members of the crew were also inspired by the show's Amateur Radio component, and got licensed. Allen tweeted news of the Fox reboot on May 11. "Thanks to all you guys for the support," Allen said. "We are back."

### **ARRL announces 2018 QST Antenna Design Competition**

The 2017 QST Antenna Design Competition was such a success that ARRL is doing it again this year, with a special twist. The 2018 competition challenge is to design the best LF, MF, or HF antenna for limited space applications. Entrants should send their best designs for evaluation according to the competition rules.

Even designs that don't win a prize might still be eligible for publication in a future issue of QST. Only one entry per person (or team) can be accepted. The submission deadline is September 1, which allows plenty of time to build and test designs.

ARRL is offering three cash prizes for this competition. First place is \$600, second place is \$250, and third place is \$150.

**Design and Submission Requirements:** Antennas must be designed for one or more bands between 2200 meters and 10 meters, must fit within a

30 × 50 foot area, and stand no taller than 30 feet at any point.

Participants must submit:

Drawings with dimensions (hand drawings are okay)

List of materials: Description and summary of any measurements taken, including modeling and files (modeling is not a requirement)

Photographs

Discussion of observed on-the-air results and any comparisons with other antennas

Submitter's name, postal address, and email address

All antennas based on submitted designs must be the sole creations of the entrants and not available for sale. Winners will be chosen based on ingenuity of design, mechanical and electrical safety, expected performance, and durability.

The judges' decisions are final. Entrants must be ARRL members. ARRL staffers and QST advertisers are not eligible.

Mail entries to: QST, ATTN: Antenna Design Competition, 225 Main St., Newington, CT 06111. Participants also may email their entries, including call sign and subject line of "2018 Antenna Design Competition." Those who need to submit more than 6 MB of material should use separate email messages. Do not send compressed ZIP files, as these will be rejected.

Full details are in the June 2018 issue of QST.



### **Show me the money!**

For the second year, the Barry Amateur Radio Society (BARS) of South Wales in the UK gained permission to operate within the Royal Mint, and regulator Ofcom granted the call sign GB4RME ("Royal Mint Experience").

The theme of the June 1 - 2 event was "Covert Radio as used in World War II." At the same time, The Royal Mint released a new 10-penny coin bearing a James Bond 007 theme.

"They asked for our support in setting up a World War II covert radio display in keeping with James Bond exploits in the movies," said ARRL member Glyn Jones, GW0ANA.

"Shame we can only 'play with our toys' for 2 days, but the mint is a very busy place, pressing coins and awards for around 82 countries, 24 hours a day."

The building's lead roof "RF killer" and razor-wire "Faraday cage," plus electronic alarms, give the radio amateurs "loads of technical problems to overcome," Jones said. GB4RME operated on SSB, CW, digital modes, and satellite.

## ARRL renews memorandum of understanding with SATERN, promotes partnerships at forum

On May 18 at Hamvention, ARRL and The Salvation Army Team Emergency Radio Network (SATERN) renewed the Memorandum of Understanding (MoU) between the two organizations that spells out how they will work together in disaster and emergency responses.

ARRL President Rick Roderick, K5UR, signed the MoU on behalf of ARRL on Hamvention's opening day.

SATERN National Liaison Bill Feist, WB8BZH, represented SATERN at the signing and delivered a copy of the MoU already signed by The Salvation Army.

ARRL Emergency Preparedness Manager Mike Corey, KI1U, said ARRL and SATERN have enjoyed a formal working relationship since 1976, and the MoU was up for renewal.

"We spent the last year fine-tuning, updating, [and] revising it," Corey said. "SATERN is celebrating its 30th anniversary this year, so it was a double celebration for them."

The MoU "defines the partnership" between ARRL and SATERN and The Salvation Army, in which ARRL

and SATERN agree to work together toward common goals, particularly in disaster response,

Corey said, adding that the MoU opens the possibility for sharing resources.

Corey said ARRL and SATERN also have agreed to coordinate their disaster response activities, to eliminate duplication of effort.

"We had an effective and coordinated Amateur Radio response in Puerto Rico and the US Virgin Islands last fall," Corey said.

SATERN meets regularly on 14.265 MHz SSB, and is activated for extended periods during disaster and emergency responses.

Cooperation was the focus of an ARRL Hamvention forum, "Building Partnerships," attended by more than 100 people. Leading the discussion were Corey and FEMA Community Partnership Specialist Sarah Byrne, who outlined the four "Cs" of partnerships: Collaboration, Communication, Cooperation, and Coordination.

Corey reminded those attending the forum that



partnerships are only as good as the people participating in them. "It can often come down to one person, and how they

interact with the group," he said.

To illustrate their points, Corey and Byrne called up three volunteers from the audience and gave each a scenario that required a partnership to achieve. The volunteers then picked three more volunteers as partners. After a few minutes of intense discussions, the new "partners" outlined what resources they had determined were available to them and the partnership's next steps to achieve its objectives.

"Successful partnerships don't always mean that everything went right," Corey reminded the audience. "In fact, it's learning from the things that didn't work out as planned that strengthens and deepens a relationship between partners."

**-- Thanks to ARRL  
Communication Manager  
Dave Isgur, N1RSN, and QST  
Editor Steve Ford, WB8IMY**

## What is the Ten-Ten International Net?

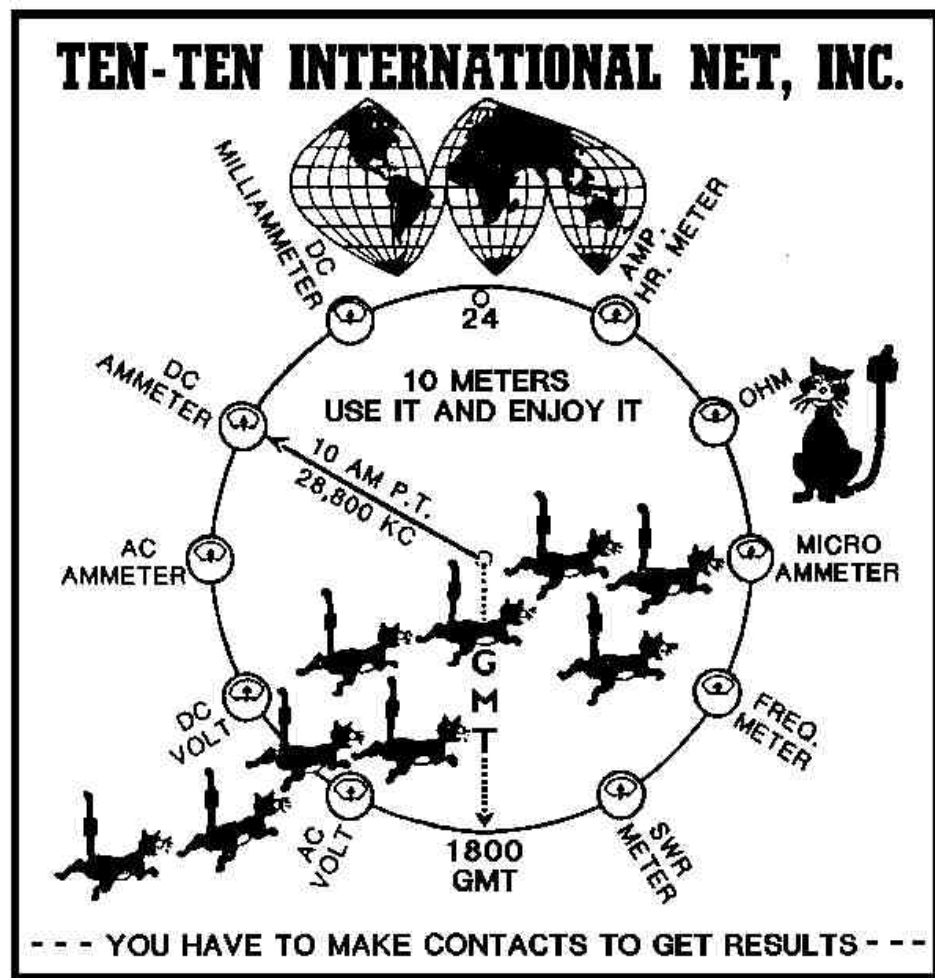
The Ten-Ten International Net, Inc. was formed back in 1962 as the Ten-Ten Net of Southern California. Its purpose was to promote activity and good operating practice on the ten meter amateur band. During the first few years the organization grew slowly, but by 1975 there were 10,000 members, and the word "International" had crept into the name. There have now been over 75,000 10-10 numbers issued world wide.

The Ten-Ten International Net is a non-profit entity incorporated under the laws of the State of California.

Ten-Ten (or more commonly "10-10") has no paid employees. All of its officers and managers serve on a voluntary basis, and are reimbursed for necessary expenses only. With the great expansion of the organization in recent years, it has been necessary to employ computer processing for membership records and mailing labels. This has also permitted publication of a Membership Roster at suitable intervals and has facilitated mailing the quarterly 10-10 International News, which is sent to all paid-up members.

Ten-Ten's principal expenses are for printing, postage, and computer processing. Annual dues are \$15.00 US members and \$18.00 DX members to provide funds for expenses.

A membership card, certificate of membership and other items are sent to new members when



***BIARC's chief advocate of Ten-Ten is Irene Kubica, NH7PE, who encourages hams of all license levels to get involved.***

membership is granted. Each new member is assigned a unique "10-10 Number" which is retained for life, regardless of a change of callsign. A 10-10 number is never re-issued. When one becomes an SK (Silent Key), his/her number is still listed in the membership records and Membership Roster.

Paid-up (ACTIVE) members receive a copy of the 10-10 International News, 10-10's own magazine which is published each quarter, and are eligible to participate in various 10-10

activities.

### **Questions and Answers...**

The following questions are most commonly asked by those interested in 10-10 or by new members.

#### **1) What are the benefits in belonging to 10-10?**

10-10 is like any other ham radio organization, a group of hams who are interested in promoting 10 meters. In order to keep interest up on the 10 meter band, the idea of collecting "10-10 numbers" as an incentive in keeping the 10 meter band occupied was



developed. The ultimate benefit is to keep the 10 meter band for Amateur Radio. Personally, each member enjoys the camaraderie of kindred spirits, whether the activity is informal rag chewing or numbers chasing or a more formal 10-10 QSO party.

## **2) What does it cost to belong to 10-10?**

The dues are \$15.00 per year for members with a US zip code, and \$18.00 per year for all DX members. There is also a Life Membership available for \$500.00 for US members and \$650.00 for DX members. A Senior Life membership, with proof of age over 65, is \$150.00 US and \$200.00 for DX members.

There is also available a Family Membership for members of a family, who are 10-10 members in addition to the prime member. Family memberships are \$5.00 per year for each additional family member. Family members do not receive copies of the 10-10 International News, but do vote in elections, and participate in all other 10-10 activities, awards and contests. Family members must all reside at the same address as the primary member. Family membership runs concurrently with primary membership.

## **3) How do I join and where**

## **do I get my 10-10 number?**

Any licensed amateur authorized to operate on the 10 meter band can join 10-10. It is required that you contact 10 10-10 members (on 10 meters), listing their information as noted on the Membership Application form. Please use this application form for new / renewal available at: Application DX amateurs: Please remember that dues must be paid in US dollars and by International

Postal Money Order only.  
**4) What do I do with my 10-10 number now that I have received it?**

You can exchange it with other 10-10 members (on 10 meters, of course) and keep a record of their number. There are numerous awards for collecting 10-10 numbers. These are briefly explained in the section entitled AWARDS. You can just give your number to others when asked for it and not participate in any of the 10-10 Awards, Contests, etc. It is strictly up to you as to how involved you want to get in 10-10.

## **5) What happens to my 10-10 number if for some**

## **reason I lose interest in 10-10 or do not wish to continue my dues each year?**

Once you are issued a 10-10 number, it is yours for life. If you decide to not participate in 10-10 and do not continue paying your dues each year, your number is still yours. You can still give it to other 10-10 members and you can still collect numbers yourself. Non-dues-paying members cannot participate in the "BAR" award program, cannot receive awards for contests and other 10-

10 awards such as the Worked All States Award, the DX Award, the Worked All Continents Award, etc. You will also be removed from the list of those receiving the 10-10 International News each quarter. As you must

recognize, it is the dues paying members that are the backbone of any organization.

## **6) Who runs the 10-10 Net?**

The Ten-Ten International Net is a not-for-profit organization incorporated under the laws of the State of California. All Officers, Committee Chairmen, Award Managers, and other function leaders associated with 10-10 serve the organization on a voluntary basis. These dedicated 10-10'ers devote a great deal of their spare time to the operation of 10-10.

