

**Change in
location for
July BIARC
meeting**

See Page 7

July 2017 Newsletter

Big Island Amateur Radio Club

Digital modes can shine when other routes are dead

AX.25 (packet), PSK31, Olivia, Thor, etc. in the mix

BIARC June 10, 2017 meeting minutes

President Gary Schwiter convened the regular monthly meeting at 2 p.m. at the Keaau offices of the Big Island Substance Abuse Council at 16-179 Melekahiwa St. Due to the Keaau Community Center being under renovation into July, Gary has arranged for the club to meet temporarily at his workplace in the nearby Shipman business park. It is a great venue, and the club offered Gary and BISAC a big "mahalo."

BIARC members and guests filled the non-profit agency's big meeting room, with several folks traveling over from West Hawaii for the special presentation on digital radio that was the highlight of the afternoon.

Following the traditional opening round of self-introductions, area VE coordinator Doug Wilson thanked and recognized his



At the June meeting, Pascal Nelson discusses ham radio digital modes. Foreground, from left: Irene Kubica, Norm Cohler, John Buck, John Bush and Tommy English.



crew of Volunteer Examiners who loyally assist throughout the year in the testing of potential new hams and amateur radio licensees wanting to upgrade their licenses. He handed out ARRL/VEC pins to Linda Quarberg, Barbara Darling, Richard Darling, Bob Schneider, Tommy English, Peggy Gentle, Pascal Nelson and Debbie Nelson. Others, not present, who will get their

Photos by Linda Quarberg, WH6LQ

pins later are Paul Ducasse, Ted Brattstrom, Les Hittner and Stan Froseth.

Gary noted that the minutes from the May meeting were circulated in the June newsletter.

On the matter of club repeaters, Gary recapped the recent work party in Naalehu, where volunteers cleaned and painted, and refitted some hardware for the repeater building. The Naalehu repeater, itself, is being tuned and is in the good hands of our in-house techs. Good progress is being made.

A new "controller" is in the works for the Mauna Loa repeater.

Continued on next page



BIARC President Gary Schwiter conducts the business session, prior to the special presentation on amateur radio digital modes.

Up on Kulani Cone, Paul Agamata and Paul Ducasse took a trip up and removed "the annoying hum," but the Kulani repeater still needs more power and tweaking of the controller. Lots of testing of various equipment is ongoing at, and between, the repeaters and operators employing various modes.

John Buck reported that the Girl Scout Camp repeater link up north is on the fritz. The repeater does not respond to "on-the-air reset requests," reported John, who said his crew will be going up to check it out next week.

Treasurer's report: Bank balance stands at \$2,270.72. Gary said we still need a few more shirt orders to reach our minimum order of 34 club shirts. Interested? Contact Treasurer Paul Ducasse.

Field Day: Gary encouraged folks to attend the June 24-25 ARRL Field Day event in Mountain View. There was a good show of hands of members planning to participate. BIARC earlier voted to join in the event sponsored by the Puna Emergency Radio Club and ARES. We will be providing a three-day rental of a port-a-potty as our club's contribution.

Following a break for refreshments, the group settled in again for the main feature of the day, an intro to "Ham



During the intermission, hams enjoy refreshments and chatting about various elements of the hobby. Above, Glenn Kadota and Hank Kaul; at left, Cory Allen, Debbie Nelson, Peggy Gentle and Robert Collesano.

Continued on next page

From previous page

"communications sustainability" into the sunspots minimum. This will prove invaluable in emergency situations.

Out in Yap, another forward-thinking element has been introduced into the computer system he has set up on Ulithi for education and communication. And that is the Raspberry Pi. In a locale where saltwater spray and ever-present humidity corrode radios and computer equipment in record time, this little compact unit is providing what looks to be a good fix.

The Raspberry Pi, successful on sideband as well as digital modes, is an "amazingly powerful computer," said John.

How to find out more about digital? John recommends checking out the ARRL publications and products link.

Look for two books by Steve Ford WB8IMY: "Get on the Air with HF Digital" and "Work the World with JT65 and JT9." And, as Hank Kaul KH6HAK noted from the audience: ARRL has a deal now where you can get the JT book free when you buy the

S/N = signal to noise ratio
measured in dB using 2500 Hz bandwidth (audio baseband)

BW = bandwidth
Measured in Hz. How much room does the signal take in the spectrum?
Digital signals can take up much less room than analog signals.
Higher speed transfers require more BW.

WHAT ARE THE ADVANTAGES OF DIGITAL MODES?

- Establish communications when conditions are poor.
- Facilitate transfer of critical information.
- Facilitate transfer of structured information (forms and files)

FEC = forward error correction
add redundancy which allows correction of errors

Checksum
arithmetic calculation which gives confidence of correct reception

ADVANTAGES OF DIGITAL MODES

- Assure clean copy in the presence of propagation perturbations - fading, multipath, doppler, etc.
- Provide for error free transfers when needed

ARQ = automatic request for repeat
allows repeating info until it is received error free

Perseverance! Keep on trying until you get it right.
Break message up into small pieces.
Can take a long time.

ADVANTAGES OF DIGITAL MODES

- ARQ techniques allow for guaranteed error free
- Can be handled "automatically"

JT modes can provide decodes as low as -29dB *Pretty freaking amazing!*
But they're not a magic show mode - and they're slow!

Olivia and Thor modes can provide useful copy (>80%) as low as -18dB
good for regular qso - deeper modes are slower

ADVANTAGES OF DIGITAL MODES

- Assure effective communications in the presence of poor propagation.
- Provide for useful copy (>80%) at very low s/n

SSB requires at least +6dB s/n to be copyable
this is a fuzzy value, depending on skill level and many other factors

CW requires at least 0dB s/n to be copyable
again, a fuzzy value. Typically requires +3dB

YMMV

ANALOG VS DIGITAL MODES

- Analog modes require much better band conditions
- May require excessive repeats to confirm information

Typical sound card interface connections.

HOW IS DATA SENT OVER RF?

MODEMS CHANGE DATA TO/FROM SOUND

WHAT ARE INTERFACES?

CONNECT BETWEEN RADIO AND COMPUTER

Provide sound card and CAT interface

MANY CURRENT TRANSCEIVERS ALREADY HAVE BUILT-IN AUDIO/CAT INTERFACES

REQUIRE ONLY SINGLE USB CONNECTION

Provide sound card and CAT interface

MODEMS MODULATE AND DEMODULATE

Modems are implemented in software

EXAMPLES of DIGITAL MODEM SOFTWARE:

- WSJT-X, JTDX
- DireWolf (packet, APRS)
- NBEMS - FLDIGI
- WINLINK EXPRESS (WINMOR)
- Ham Radio Deluxe
- * Not currently FOS, but freely usable by Hams

HAM DIGITAL MODE SOFTWARE

Programs are both FOS and Commercial

* FOS = Free and Open Source

FLDIGI family of programs
created by
W1HKJ - David H Freese, Jr
<http://w1hkj.com>

FOCUS ON NBEMS

Narrow Band Emergency Messaging Software
(or Service or System)

Both HF (using SSB transceivers) and VHF/UHF (using FM transceivers)

FOCUS ON NBEMS

Narrow Band Emergency Messaging Software

HF - NVIS * Near Vertical Incidence Skywave - 160m, 80m, 40m, 30m

VHF/UHF - Simplex or via Repeaters

FOCUS ON NBEMS

Narrow Band Emergency Messaging Software

ARRL Handbook.

In closing, John thanked the BIARC group for recently establishing a fund for the Yap hams and thanked members who have individually donated to this fund.

Money will be used for such highly appreciated ham-related expenses as the ARRL dues for

The GREAT

2017 Hawaii-Micronesia

Digital Communications Experiment

KH6DLK / V63JB John Yap, Micronesia

WH6EBS Tommy Volcano, Hawaii

AC7N Pascal Volcano, Hawaii

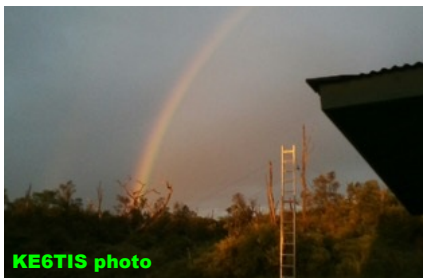
Micronesian hams, who reportedly read their monthly "QST" magazines until they are dog-eared.

Gary adjourned the meeting shortly after 4 p.m.

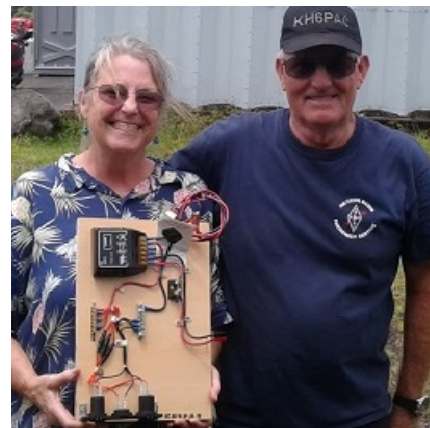
Respectfully
submitted for
Secretary Angelina
Schwiter,
Leigh Critchlow,
secretary pro tem



Sean Fendt, KH6SF, mans the pancake booth.



Peggy Gentle, KE6TIS, wins a portable solar charging station made by Mike Stratton, KH6PAC, at right.



Kim Fendt, WH6KIM, and grandson Joshua, below, at the kids' table. Above, Irene Kubica, NH7PE.

**Photos by
Cory Allen,
KN6ZU**



Bob Gomez, KB6EGA, stands next to QSL card display promoting HF contacts and contesting created by Rick Gardner, WH6LU.

Field Day a hit in Mt. View

BIARC members joined hams from other Big Isle radio clubs at the Puna Emergency Radio Club Field Day event June 24-25 at the Eden Roc Community Center in Mountain View. The event was part of the annual ARRL activity held across the United States and Canada on the last full weekend in June.

Hams and non-hams alike stopped by during the 24-hour communications, info-sharing and rag-chewing event from 8 a.m. Saturday to 8 a.m. Sunday. Operators kept tally of contacts made on various bands. Good

food was another main feature of the fun via barbecue, potluck and a pancake grill.

As always, Field Day provided a good chance for new operators to get their feet wet. There was a CW practice oscillator, a kids' table, lots of info in brochure and display formats. And coordinators delivered on their promise of a good, fun, stress-free time.

The event was chaired by Bob Gomez, KB6EGA, the PERC president. Bob invites anyone interested to a recap and review session at 11 a.m. Friday, July 14, at the Hilo Coffee Mill in Mountain View.



Sue Tsuyuko Nishiyama, WH6AG, SK

Recently we were informed of the passing of former long-time BIARC member Sue Tsuyuko Nishiyama, WH6AG, in Shoreline, WA on May 22 following a cardiac episode. She was part of the Hilo High class of 1945. She was 88. Her late husband was Harry Nishiyama, KH6FKG, who had pre-deceased her on February 4, 2009. Her ashes will be laid to rest next to her husband in Hilo's Veterans Cemetery at a later date. Her obituary was in the June 29th edition of the Hawaii Tribune-Herald.

Talking to some old folks, they remember and described Sue as a

"pretty" usher and always "smartly dressed" at the local movie theater in downtown Hilo. Her parents owned a popular candy and mochi confectionery. Among other things, she worked and retired from the Queen's Court restaurant in the Hilo Hawaiian Hotel and because of her connection, the Big Island Amateur Radio Club used to meet there weekly.

Harry was known worldwide as an Honor Roll DXer (over 300 countries). He was active in many aspect of Amateur Radio including as a volunteer examiner and "Elmer". In his early



Sue Tsuyoko Nishiyama, WH6AG, SK, and Harry Nishiyama, KH6FKG, SK.

life he was a car enthusiast and there is even a display about him in the 50's Highway Fountain in Laupahoehoe. He was a Sansei (3rd generation of Japanese ancestry) who along with mostly Nisei (2nd generation) joined the Military Intelligence Service during WW2. Part of the time Harry was stationed in Japan during the U.S. occupation. He retired a first sergeant at the Army Reserve Center in Hilo. -- **By Bob Schneider, AH6J, and Harvey Motomura, AH6JA**

Hawaiian Islands Grid Madness 2017 set for Sept. 17

A VHF/UHF simplex event

Sunday, September 17th from 1300 to 1700 HST

Put it on your calendar!

More info at gridmadness.blogspot.com



The Hawaiian Islands Grid Madness mascot

*****2017 BIARC leadership*****

President Gary Schwiter, wh6eps@gmx.com; Vice President Peggy Gentle, radiopeg@gmail.com; Secretary Angelina Schwiter; Treasurer Paul Ducasse, ducasse@hawaii.rr.com; directors Cory Allen, KN6ZU@yahoo.com; Barbara Darling, nh7fy@yahoo.com; Richard Darling, ah7g@yahoo.com; Kim Fendt, wh6kim@gmail.com; Bill Hanson, whanson@co.hawaii.hi.us, and Bob Schneider, ah6j@arri.org; Program Co-Chairs John Bush, amsjbush@gmail.com, and Les Hittner, lhittner@hbc.com. (*Big Island Amateur Radio Club. P. O. Box 1938, Hilo, HI 96721-1938*)

Temporary BIARC meeting site



Due to the Keaau Community Center's recent summer renovation closure, President Gary Schwiter arranged for the club to meet temporarily in the nearby Shipman business park at the Keaau offices of the Big Island Substance Abuse Council at 16-179 Melekahiwa St. See map, above. The next meeting will be at 2 p.m. Saturday, July 8, at the BISAC site, with Stan Froseth, AH6KO, scheduled to give a presentation (see info, below). Gary will check on possible use of the Keaau CC for our August meeting. Stay tuned.

Winlink demo at BIARC meeting July 8

You probably have heard the buzz about Winlink, and – you can see it in action at the July BIARC meeting! Stan AH6KO will demonstrate using Winlink on the 40 meter HF band, and explain how you can get connected.

Winlink 2000 (www.Winlink.org) is a worldwide system for sending and receiving e-mail over radio. It works great with the Internet, and can also be used by amateur radio operators in a situation where the Internet is not available.

You can see where this is going – amateur radio operators can use Winlink for Emergency Communications (EmComm). With a simple HF radio, battery power, and a modest antenna, you

can send an email to another island, or to the mainland. You can also attach standard emergency forms, including the General Message ICS-213.

Stan has three years of experience with Winlink, and currently uses it to send and receive email from his isolated location in Lower Puna. Stan says “We can drive a couple miles and get a cell phone connection, so the Winlink is not essential. But still, it is convenient, interesting, and good practice for EmComm. Plus, it’s a lot of fun!”

Come with ideas, questions and your smart phone!



Calling all Hawaii hams: SET 2017 scheduled for October 7

What is SET 2017?

Each year, the American Radio Relay League (ARRL) sponsors the Simulated Emergency Test (SET), based on a simulated emergency scenario. Amateur radio operators in the state of Hawaii use a common scenario, and hams in each Emergency District practice working with each other and with local served agencies. We practice using standard EmComm procedures, voice and/or digital modes, and try to find our strengths and weaknesses.

The four Emergency Districts on the Big Island (South, West, North and East) will work together. Operation in each District is directed by your District Emergency Coordinator (DEC).

Hawaii County Civil Defense Agency (HCCDA) will also participate this year from the County Emergency Operations Center (EOC) in Hilo.

When is SET 2017?

Saturday, Oct. 7, from 0800 to 1300 local time.

What is the simulated emergency scenario for SET 2017?

The Hawaii scenario will be a Great Aleutian Tsunami, with disastrous impact on all of the Hawaiian Islands. Basic information will be posted in advance on the Internet, and details will unfold on SET day.

Who can participate?

All amateur radio operators are encouraged to do the SET! You do not need to be a member of Amateur Radio Emergency Service (ARES) to participate. But, we invite you to go to HawaiiARES.info and register to join ARES!

How can I participate?

The simple answer: Check into your local VHF/UHF net, listen to understand the situation, and follow the directions of the Net Control Station.

To get detailed information later in the summer, please register on HawaiiARES.info. You can choose to play a specific role during the SET. You can also get basic training and information that will help you to participate more effectively. Planning is still in progress, and your DEC will keep you informed!

If you want to help with the

planning, great! Please contact your DEC (see below).

Where can I get more info?

General info about the National SET: arrl.org (search for "simulated emergency test")

Info about Hawaii and your Emergency District: HawaiiARES.info

Big Island DEC contacts:

South: Rick Ward WH6FC

reward20a@gmail.com

West: Joe Crable KH7AX

kh7ax.mail@gmail.com

North: Eric Grabowski

KH6CQ

ejgrabowski@yahoo.com

East: Kim Fendt WH6KIM

wh6kim@gmail.com

Assistant Section
Emergency Coordinator (Big Island): Stan Froseth
ah6ko@arrl.net

Second-largest Hamvention ever

The tally is in, and the recent Hamvention 2017, at its new venue in Xenia, Ohio, attracted 29,296 attendees, said spokesperson Mike Kalter, W8CI. That is the second-largest attendance in the history of the event.

Consent decree, forfeiture close FCC interference case

The FCC has again used a consent decree to resolve an enforcement matter. The FCC Enforcement Bureau recently concluded a radio interference investigation with "a negotiated settlement" and a \$90,000 civil penalty. The case against AFX Inc. involved the marketing of unauthorized RF devices that interfered with AM/FM radio reception.

After the company's NLL Series LED lighting fixtures were reported to be causing interference to broadcast radio reception last year, the Enforcement Bureau's Spectrum Enforcement Division issued a Letter of Inquiry (LOI) to AFX directing it to submit a sworn written response regarding its marketing and sale of the fixtures, considered unintentional radiators under FCC rules. According to the FCC, evidence revealed that the suspect lighting fixtures had not been tested and authorized under FCC rules prior to marketing, and that AFX continued to market them during an approximately 5-month period after receipt of the LOI.

"[W]e find that the public interest would be served by adopting the Consent Decree and terminating the referenced investigation regarding AFX's marketing of unauthorized radio frequency devices, and compliance with Section 302(b) of the Communications Act of 1934, as amended and Sections 2.803(b)(2), 15.107(a), and 15.109(a) of the Commission's rules (Rules)," the FCC said.



The Canada C3 vessel Polar Prince departed Toronto on June 1. It's trackable via the WSPR network.

Canada C3 Sesquicentennial Voyage may be tracked via WSPR beacon

An Amateur Radio WSPR (Weak Signal Propagation Reporter) beacon has been activated onboard the Canada C3 vessel. The Polar Prince left Toronto, Ontario June 1 on a 150-day expedition to Victoria, British Columbia, via the Northwest Passage as part of the Canadian Sesquicentennial celebration.

Sponsors are calling it an "epic journey to celebrate Canada and connect Canadians." According to Radio Amateurs of Canada (RAC), Canada C3 organizers permitted a group of enthusiasts under the leadership of Barrie Crampton, VE3BSB, to install the WSPR beacon on the C3 vessel.

"This provides a unique

opportunity to track the vessel on its 150-day sailing voyage around the Canadian coast -- the longest coastline in the world," an RAC bulletin said. The WSPR beacon identifies as CG3EXP. A live tracking link, generated by QRP Labs, the supplier of the tracking hardware, has been activated, hosted by Jeff Milne, VE3EFF. It generates a series of dots -- one for each Maidenhead grid square the vessel traverses.

Stopping at a different location every day, Canada C3 will visit 50 coastal communities, 36 indigenous communities, 13 national parks, and 20 migratory bird sanctuaries. The WSPR project is part of the science experiments and research to be carried out during the voyage.

FCC and OSHA release Communications Tower Best Practices Guide

The FCC and OSHA have announced the release of a free publication, Communications Tower Best Practices Guide. While aimed more at those who tend commercial communication towers, the guide offers information applicable to the Amateur Radio community and contractors working on Amateur Radio antenna support structures. The FCC said the guide is a result of two tower safety workshops.

"Recognizing the risks that tower employees face, OSHA and the FCC held a workshop on communication tower employee safety on October 14, 2014," the new guide explains.

"During this workshop, industry stakeholders, along with employee safety advocates and the families of communication tower employees who had been killed on the job, gathered to discuss issues affecting the safety of communication tower employees."

A second workshop followed in February 2016, during which a panel of industry stakeholders and advocates discussed best practices that could reduce injuries and fatalities among tower workers.

"This document is a collection of the best practices gathered from those workshops and from the discussions that continued beyond those events," the guide says.



The guide stresses the need for proper safety equipment, and also notes an increasing use of drones for tower inspection. "This technology has the potential to reduce unnecessary climbing and can avoid putting [tower workers] at risk," the guide points out.

Among other points, the guide emphasizes that all tower workers need "to have and use proper safety equipment at all times," and that, "no work should be done if proper safety equipment is unavailable or if the safety equipment available is not functioning properly."

The guide also notes an increasing use of drones for tower inspection: "This technology has the potential to reduce unnecessary climbing and can avoid putting tower workers at risk."

"Every tower climber death is preventable," stresses FCC Chairman Ajit Pai.

Centenarian claims oldest active radio amateur crown



A 105-year-old ARRL member, **Cliff Kayhart, W4KKP**, of White Rock, South Carolina, is claiming the title of "World's Oldest Operating Ham." No official record of such milestones exists, but ARRL is not aware of any radio amateurs senior to Kayhart, and he is now quite likely the oldest active ham, at least in

the US. Early this year, Charlie Hellman, W2RP, died at 106; he also may have been the longest licensed. Hellman outlived the former "oldest US ham," Harry Wolf, W6NKT, by 8 days. Wolf was just shy of turning 108.

Born in 1911, Kayhart was first licensed in 1937 as W2LFE in New Jersey. He then was W9GNQ before becoming W4KKP. Kayhart's interest in Amateur Radio began in the early 1920s, when he built a crystal radio. After modifying the inductor, he began hearing hams on AM.

Bear is unwanted volunteer, as ARES team supports Colorado road race

Lots of things can go awry when Amateur Radio volunteers are supporting public service events, from technical and weather problems to lost or injured participants.

The 2017 Garden of the Gods 10-mile and 10-kilometer races in Colorado was no exception.

On Sunday, June 11, the Pikes Peak Amateur Radio Emergency Service (ARES) deployed a dozen operators to support more than 1,400 runners in scenic Garden of the Gods Park just west of Colorado Springs.

John Bloodgood, KD0SFY, Region 2, District 2 Emergency Coordinator and Public Information Officer said all was going well, with cooperative weather and only a slight delay due to traffic -- nothing out of the ordinary.

"The real excitement came when a couple of the reporting positions called in to report that a bear was on the course," Bloodgood said.

"Bears are not uncommon in this area, and most of the locals aren't too fazed by them; we know they will be out foraging this time of year."

But for runners unfamiliar with the lay of the land there, the sudden appearance of a bear can be alarming, he added.

"This bear was apparently trying to get across the road and wasn't quite sure why all these people were running through its home so early on a Sunday morning," Bloodgood said. "It finally saw a gap between groups of runners and dashed across the road, but not before local runner Donald Sanborn managed to get a few pictures of it. In the end, the problem



resolved itself before any intervention was necessary."

Bloodgood said Dan Huber, KN0MAP, saw the bear and was the first operator to call it in. Matthew Bowker, KD0THF, reported it based on reports from runners.

Bloodgood said the ARES volunteers tracked the first three male and female runners from both the 10-mile and the 10-kilometer races, reported on any medical issues, supported aid station logistics, helped to ensure the course was clear, tracked the last runners, and

provided an operator on a bicycle for the sweep function.

Bears notwithstanding, Bloodgood said the event has been a fairly easy one to support and offers a good training ground for less-experienced operators. "Our most intense and demanding events, the Pikes Peak International Hill Climb (vehicle race) and Pikes Peak Ascent and Marathon (half and full marathons) are coming up," he added.

Quicker-turnaround digital modes in experimental stage for WSJT-X Suite

Recent sporadic-E propagation openings on 6 meters and elsewhere have demonstrated the need for a digital mode with a faster turnaround time than what is offered by currently available software versions. A recent WSJT-X reflector discussion allowed that, while the slow 'JT modes like JT65 and JT9 have excellent sensitivity, their nearly 1-minute-long transmissions may not permit completion of a contact when evanescent signals pop up and quickly disappear under certain E-skip conditions. MSK144 and the fast JT9 submodes allow much shorter transmissions, but they do not offer the multi-decode capability that JT65 users find so effective. Iain MacDonnell, N6ML, was among those remarking that, while the use of JT65 for working E-skip on 6 meters has really taken off, it's too slow to be practical for openings that only last a couple of minutes or so.

Joe Dzekevich, K1YOW, of Harvard, Massachusetts, sounded a similar theme. "A few days ago we had a great opening on 6 meters, especially here in the New England area, given our latitude," he noted. "I often find that often one cannot complete a QSO due to QSB and the ins and outs of Es. Yet, being a propagation buff, I love the idea that I can leave the rig on 50.276 in JT65 mode and then see who I hear throughout the day via PSK Reporter."



W8CDX takes Field Day back to its roots

Some younger radio amateurs may not realize that ARRL Field Day has been a staple operating event for more than 80 years. Former ARRL Communications Manager F. E. Handy, W1BDI, is credited with conceiving "International Field Day" in 1933, although it wasn't until the following year that he described it as the "test of the emergency availability of portable stations and equipment" we know today. This year, the Karns City Amateur Radio Club, W8CDX, again took Field Day equipment back to the 1930s -- a time when the notion of "portable" applied only loosely to equipment of the era. Last year, W8CDX used a National HRO-5 receiver and a style of transmitter similar to something that could have been used at

that first Field Day. This time, everything was home built.

"We had a lot of fun putting up another 1930s-style station for Field Day 2017," said Eric Tichansky, NO3M, the trustee of the W8CDX station. The transmitter was based on an August 1934 QST article, "A Medium-Powered Phone-C.W. Transmitter with Pentode Power Tubes," the receiver on a May 1934 QST article, "A De Luxe Crystal Type S.S. Receiver."

"This would have been a possible setup used in the third Field Day in 1935," Tichansky told ARRL. "The entire station was 100% homebrew, including the power supplies, T/R switching, and link-coupled antenna tuner -- inspired by a 1935 ARRL Handbook project." Power supplies were based on standard designs from that era, using 866s in the amplifier supply and 83s in the buffer and oscillator supplies. The bias supply used an 80 rectifier and an 874 regulator of late 1920s vintage to supply the needed -90 V bias.



ARRL to sponsor 2017 Atlantic Hurricane Season webinar

The ARRL will sponsor a 2017 Atlantic Hurricane Season Webinar on Monday, July 17, at 8 PM ET (0000 UTC on Tuesday, July 18).

Webinar registration is free and open to all, but this session should be of particular interest to radio amateurs in hurricane-prone areas. The webinar will conclude

with a question-and-answer session. For more information, contact ARRL Emergency Preparedness Manager Mike Corey, KI1U.

The approximately 90-minute session will address the role of Amateur Radio during the 2017 Hurricane Season. Anyone interested in hurricane preparedness and response is invited to take part in this online presentation.

Stay tuned: Radio Day II set for Sept. 30

Kimberly Fendt, the ARES East Hawaii District Emergency coordinator, said ARES already has plans to hold a second Radio Day on Saturday, Sept. 30, at the "Great Organic Lava Farm," otherwise known as the Kopua Farm Lots Golf Course.

The inaugural event was staged April 29 at the nearby Eden Roc Community Center.

For more info, contact Kim at wh6kim@gmail.com or 430-7297 (call or text).

Vintage DXpedition logs sought

ARRL continues to solicit paper logs of prominent DXpeditions that took place predominantly in the 1950s, 1960s, and 1970s, for inclusion in The DX Log Archive Endowed by JA1BK. The DX Log Archive program was created, thanks to an endowment established by Kan Mizoguchi, JA1BK, to obtain, preserve, and utilize paper logs from rare and significant DXpeditions. The archive can include pre-1950 paper logs as well as those from rare operations, and logs kept by longtime residents of very rare entities. All logbooks received to date have been inventoried and are housed at ARRL Headquarters. ARRL Field Services Manager Dave Patton, NN1N, said the archive contains logs "from 3D2 through HZ3 -- nothing after the Hs. That's just the way it has worked out." Contact the program administrator with information about any logs that are available or known to be available, and ARRL will make a determination on their suitability for the archive.

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The ARRL Pacific Section webpage is at:

<http://www.arrl.org/Groups/view/pacific-section>

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DX calendar: www.dxwatch.com
Heads-up on propagation:
www.solen.info/solar
<http://ARRL.org/propagation>
<http://dx.qsl.net/propagation>

~~~~Free classified ads~~~~  
 (Send text for ads by 20th of month to [lcritchlow@mac.com](mailto:lcritchlow@mac.com))



## **New Jersey radio amateur receives International Astronomical League's Gold Certification**

Blair Hearth, KD2EPA, of Oceanport, New Jersey, has joined the select group of individuals who have received Gold certification in the Radio Astronomy Observation program of the International Astronomical League for making at least 10 galactic observations. Hearth, who already had qualified for Silver certification, used the InfoAge Science History Museum's TLM-18 dish for a few of his observations, but most were accomplished by using Amateur Radio equipment to scan the void.

A member of the Garden State Amateur Radio Association and the Society of Amateur Radio Astronomers, Hearth was the recipient of the ARRL Hudson Division Technical Achievement Award in 2015 for his work in radio astronomy and RFI.

As Hearth explains on his QRZ.com profile: "I use a low-frequency receiver to collect data that indicates sudden ionospheric disturbances. My venerable Kenwood R-600 receiver is dedicated to receiving Jovian radiation at 20.1 MHz. I also monitor and count meteors via radio reflection using a NooElec 2 dongle, SDR#, and HDRFFT software. I attempt observations of extra-solar radio objects in the 408 MHz 'band' using GNU Radio, an excellent LNA, and a DB8 bow-tie antenna."

Hearth said he uses the TLM-18 60-foot dish for research into "the velocity of the sun with respect to the



***Blair Hearth, KD2EPA, at left.***

***The TLM-18 dish at InfoAge, above.***

Local Standard of Rest." He also will take part in data-gathering during the August solar eclipse. He will deliver a presentation, "How to Use Ham Radio Gear to Do

Radio Astronomy," at the International Astronomical League's 2018 international meeting. He enjoys QRP operating and has a WSPR beacon on 20 meters.



## **Fish and Wildlife Service okays Baker Island DXpeditions, with strict conditions**

The US Fish and Wildlife Service (FWS) has agreed that a DXpedition to Baker and Howland Islands (KH1) -- the fourth most-wanted DXCC entity -- would be an acceptable use, but has detailed strict conditions under which it would issue a special use permit (SUP). The FWS recently completed a compatibility determination for Amateur Radio operation on Baker Island National Wildlife Refuge, and two dozen comments showed "strong support" for Amateur Radio operation on the ecologically sensitive island refuge, the FWS said. Baker Island is 1,830 nautical miles southwest of Honolulu -- an 8-day voyage.

"While...not a wildlife-dependent public use according to National Wildlife Refuge Administration Act of 1966, as amended, Amateur Radio operation is a use that assists in the management of the resources indirectly," the FWS said in its Compatibility Determination, released on June 8. "By allowing Amateur Radio operators to visit the PRIMNM [Pacific Remote Islands Marine National Monument] refuges, the refuges benefit through the ability of staff to visit remote island sites to monitor wildlife populations, habitats, detect invasive species introductions, and perform management actions that would otherwise require the Service to charter a vessel."

Citing an estimated cost of at least \$250,000 to charter a vessel with a 14-day layover, the FWS noted that "most of the remote island refuges within the PRIMNM



are rarely visited due to budget constraints."

Baker and Howland are part of the PRIMNM, created by former President George W. Bush under the authority of the Antiquities Act of 1906. The monument was expanded by President Obama.

The Compatibility Determination mandated 18 stipulations for an Amateur Radio DXpedition visiting the refuge. It could last up to 14 days, with only 12 days of radio operation. The last DXpedition to Baker was in 2002.

"Complete avoidance of seabird colonies will minimize nest disturbance and prevent burrow nest cave-ins," the FWS said. "Activities on Baker Island will always attract the land crabs that inhabit this location. All efforts must be taken to avoid inadvertently feeding or entrapping these animals."

The FWS would also have to approve QSL cards to ensure that they include "an informative or educational statement about the refuge." -- ***Thanks to The Daily DX, FWS***

## **Hundreds of stations report hearing WSPR signal from Canada C3 expedition**

*(See background  
story on Page 9)*

Hundreds of Amateur Radio stations have reported receiving the WSPR signal being transmitted by CG3EXP on 20, 30, and 40 meters from the Canada C3 expedition to track the vessel Polar Prince as it transits Canada from east to west via the Northwest Passage in 150 days to celebrate Canada's 150th anniversary. This marks the first time that WSPR has been used to track a vessel. The expedition, which started on June 1, will continue until October 28, ending in Victoria, British Columbia. It's currently on the third of 15 planned legs of its journey, en route from Baie-Comeau, Quebec, to Charlottetown, Prince Edward Island. The 220-foot-long Polar Prince, a former Canadian Coast Guard vessel, is a research icebreaker.

CG3EXP has been transmitting on 20, 30, and 40 meters at 20-minute intervals.



# Ten Ten International

You have to make contacts to get results!



Irene Kubica, NH7PE, is an avid participant in 10-meter activity and encourages hams at all levels to join in the fun.

Be sure to check [www.ten-ten.org](http://www.ten-ten.org) for details.

## Upcoming Events

Mon Jul 03, 2017 00:00 -  
Sun Jul 09, 2017 23:59

[Spirit of 76](#)

Sat Aug 05, 2017 00:00 -  
Sun Aug 06, 2017 23:59

[Summer Phone](#)

Tue Oct 10, 2017 00:00

[10-10 Sprint](#)

Tue Oct 10, 2017 00:00

[SPRINT](#)

Sat Oct 21, 2017 00:00 -  
Sun Oct 22, 2017 23:59

[FALL CW](#)

Sat Nov 11, 2017 00:00 -  
Sun Nov 12, 2017 23:59

[FALL DG](#)

Mon Jan 01, 2018 00:00

[10-10 Anniversary](#)

Mon Jan 01, 2018 00:00

[10-10 Meet the Volunteers](#)

## The 10-10 Connection

with NH7PE,

**10-10 Aloha Chapter**

**10-10 QSO Party, now underway:**

### *Spirit of 76*

July 3-9 Spirit of 76 (7 Days 6 Modes) QSO Party  
Make as many contacts as you can during the week using 6 modes.

The modes that will be used are as follows (as well as the suggested frequencies to monitor):

1. USB [28345]
2. CW [28050]
3. Psk 31 [28120]
4. Rtty [28086]
5. FM [29600]
6. AM [29000]

### ***Have a hankering for rag-chewing?***

Check into the daily (except Sunday) SSB nets at 8 a.m. HST on 28.380 and 28.800MHz. They are called from Illinois, California, Arizona, Florida, North Carolina and Michigan. Try them out.

Remember: You have to make contacts to get results!

### **Ten-Ten International QSO Parties**

For those who join in the Ten-Ten QSO Parties, remember: You can assign your score to the Aloha Chapter. Logs must be postmarked no later than 15 days after the respective QSO Party.

To see what's open on 10 meters, listen to the beacons from 28.175-28.300 so you will know where DX is coming from.

The Ten-Ten International News has reprinted several antenna articles by L.B. Cebik (SK), W4RNL #41159.

Ten-Ten International pins are available for purchase at \$2 each. See [www.ten-ten.org](http://www.ten-ten.org) for details.

CW news: FISTS Get Your Feet Wet Activity Day! Every third Sunday from 0001 to 2400 UTC on 80 and 40 meters (3.558-7.110 MHz); exchange name, QTH, FIST #, RST.