Radio **A**mateur **I**nformation **N**ews

Number 486 September **2017**

Ham Radio in Humboldt county and *BEYOND…*

Humboldt Amateur Radio Club

Minutes of Meeting – September 5, 2017

Officers Present: Jim Armstrong **KW6JIM**, Pres./ Peter Esko **W6IES /**
Dan Eaton **KB6DE**, Secretary / Marcie Campbell, Treasurer **KE6IAU /**
Anthony Wiese **KG6LHW** Event Planner and Librarian /
Jaye Inabnit **KE6SLS**, Newsletter Editor Pro Tem

Jim called the meeting to order at 19:03 PDT in the Eureka Municipal Auditorium (Muni) Meeting Room @ 406 11th St. (11th and E).
Introductions were made and the log book was passed around. 21 members attended.

Health and Welfare: Don Campbell **KE6HEC** is up and about after his hip replacement surgery.

Secretary Report: Dan's August minutes were reviewed. Gary Welborn's call was corrected to read **K6JXM**. Del Freret **W6KOZ** motioned to accept, Jackson Ridlon **KM6DFQ** seconded and all voted AYE.

Treasurer's Report: Marcie reported our checking account balances were as follows:
End of June $3,741.60

End of July 3,193.31
End of August 3,239.31
Don C. motioned to accept the report and Peter seconded the motion. All voted AYE.

- Marcie reminded us its time to pay your annual HARC dues (August, really). Dues are $20 for a member and $25 for a household. Please put your call sign(s) on your check.

New Business: None

Past Event Report: Anthony, Jim, Howard Lang **KB6NN**, Carl Eggleston **KM6LIQ** and Kai Wagner **N6ZZO** set up a 2m radio display and talked many public attendees at the ***Lighthouse Weekend*** event in Trinidad on **August 5th**. They decided the outreach effort was more important then making contacts that day, so they made no contacts.

- Jim presented the **August 8th *Second Tuesday Workshop***. Although his WINLINK demonstration had technical difficulties, the meeting was well worth attending. We will also need to explore the WINLINK, WINMOR (a global radio based internet link) and Packet communications modes since they are commonly used in EMCOMM activities. On the same note, Don Nelson **WA6NBG** mentioned Crescent City's FM Packet was up and running again and can be contacted. For more on Packet, refer to : https://www.tapr.org/pr_intro.html.
- Don C., Marcie, Peter and Don Nelson **WA6NBG** provided communications for the ***Redwood Endurance (horse) Race*** **in** Orick on **August 19th**. Contestants competed on either a 30 mile or 50 mile course.
- HARC'S attendance at the ***Humboldt County Fair***, **August 23 – Sept. 4** was planned. Fair officials failed to respond to us in a timely manner due, in part, to a Humboldt Fair staff change-over, and Jim reluctantly canceled our event. Maybe we can attend next year.

Future Events: Don't miss the ***Far West Repeater Association Annual Picnic*** and swap meet in Scotia on **Sunday September 10th** .

- Don C. announced the ***Fall Technician Class*** starts at 7:00pm on **Monday**, **September 11th** here at the Muni.
- Next ***2nd Tuesday Workshop*** on **September 12th** will be presented by Howard. He will demonstrate FLDIGI. We are encouraged to bring our laptop to try this mode out.
- For the ***2nd Tuesday Workshop*** on **October 10th** Jaye will show us the ins and outs of APRS (you can run but you can't hide) radio.
- Peter reminded us ***The Sustainable Living and Preparedness Expo*** will be on **Saturday October 14th** from 10am – 5pm at the Arcata Community Center. This would be an EMCOMM related event and we may want to participate.
- ***Pacificon*** is being held from **October 20 - 22** at the San Ramon Marriott Hotel in San Ramon.
- AMSAT NA announced that the ***2017 AMSAT Space Symposium*** will be held from Friday through Sunday, **October 27- 29** in Reno, Nevada. Jaye, Anthony and Don N. may be going to this really cool event.

August Action Items review: Anthony reported the trailer build-up is on standby for the planned desk and shelves. Jaye said a battery bank and solar cells are in the works.

EMCOMM Report: The next ***EMCOMM*** meeting is scheduled for **October 20th** at 7 PDT at the Muni. Peter has planned no EMCOMM meeting for September as he will be on vacation, however others may hold a meeting, of course.

Donations: Howard generously donated to our club a very nice computer and a desktop computer running MS Win7. We are gradually populating the machine with Ham stuff. It now has Ham radio Deluxe and FLDIGI software.

- The club has a donated Collins radio Tx and Rc units from the early 50s for sale. They are very **HEAVY.** Interested parties in search of heaviness may contact Jim or Jaye. These might be models 32V and 75A. see: http://www.wa3key.com/qst/qst5105.jpg
- John Anderson **KF6AAR** (a HARC member now living in Denver) kindly donated $100 to our club. We are most grateful.

Misc.: Anthony has had recent success with SCTV satellite communication. He hopes to assemble a 2 meter circularly polarized beam 14el yagi.

- Jim demonstrated his cool laser devise. It was powerful enough to light matches from a distance.
- Jim showed us his planned club T-shirt idea. He likes the radio symbol over an outline of Humboldt County.

Break and Raffle : Thanks to Marcie and Don for the cookies and juice.

- Raffle winners were: Carl, Don C., Anthony, Daniel Moyer **KG6WFX**, Jim, and Sherry Eaton **KK6MPY**. Thanks to Don N. for running the raffle.

Presentation: Jim showed us recent NOAA weather satellite images he downloaded and printed. He used Orbitron 3.71 software, SDR-Sharp software, a virtual cable, and WXtoIMG software. See:
https://www.rtl-sdr.com/rtl-sdr-tutorial-receiving-noaa-weather-satellite-images/

The meeting was adjourned at 20:26 PDT.

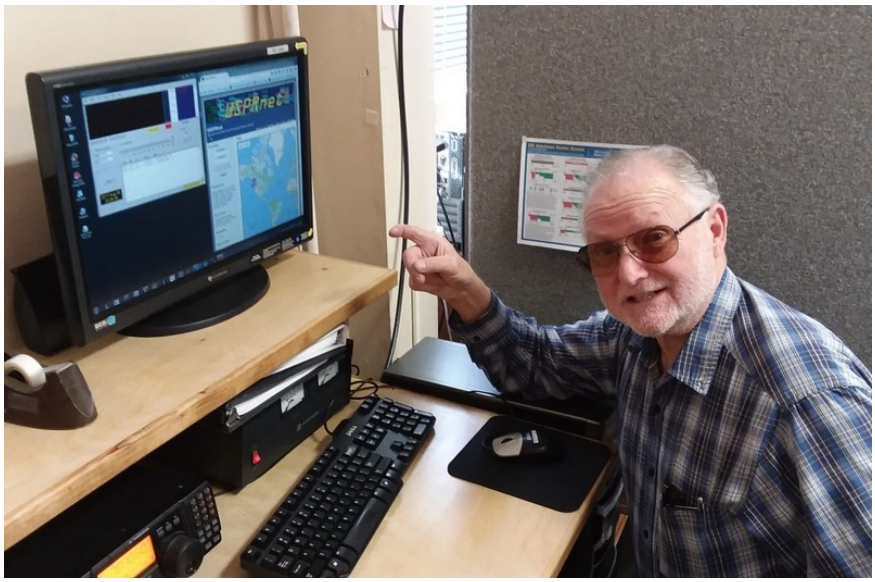
Note to new or prospective Members:
The club has an informal lunch every Thursday, 11:30 at the Pantry Restaurant on Broadway in Eureka (next to the Motel 6). All are welcome.

Minutes submitted by Dan Eaton KB6DE

New Computer for HARC Radio Shack

Howard Lang - KB6NN, has donated a desktop computer and an amazing monitor to the Humboldt amateur radio club! It is equipped with Windows 7 and has Wi-Fi capability as well as a UPS, uninterrupted power supply, in case the power goes out while we are using it.

Howard has spent many hours wiping it clean and prepping it for our use. He's loaded a plethora of amateur radio software onto it to include Ham Radio Deluxe, JT65, WinLink, fldigi, and WSPR software.



We will be able to use it for digital communications, logging, teaching, and general computer use.

Thank you, Howard!!

Jim Armstrong – KW6JIM

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Jaye Inabnit ke6sls, ke6sls@arrl.net

For more information, please visit our website http://www.humboldt-arc.org
or write to:

Humboldt Amateur Radio Club
BOX 5251
Eureka, CA 95502-5251

ARRL Headquarters

Newington CT September 15, 2017

SB QST ARL ARLB018
ARLB018 FCC Opens 630- and 2200-Meter Bands; Stations Must Notify UTC Before Operating

The FCC has announced that the Office of Management and Budget has

approved, for 3 years, the information-collection requirement of the Commission's March 29 Report and Order (R&O) that spelled out Amateur Radio service rules for the two new bands - 630 meters and 2200 meters. The R&O in PDF format can be found at, https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-33A1.pdf .

Notice of the action appears in today's edition of the Federal Register. Before using either band, stations must notify the Utilities Technology Council (UTC), formerly the Utilities Telecom Council, that they plan to do so, and if UTC does not respond within 30 days, they may commence operation.

The website to notify the UTC is, https://utc.org/plc-database-amateur-notification-process/ .

Last March 27, the FCC adopted the 2012 World Radiocommunication Conference (WRC-12) implementation Report and Order (ET Docket 15-99), amending its Amateur Radio rules to - in the FCC's words - "provide for frequency-sharing requirements in the 135.7-137.8 kHz (2200-meter) and 472-479 kHz (630-meter) bands."

Section 97.313(g)(2) of those rules requires that, prior to starting operation in either band, radio amateurs must notify UTC that they intend operate by submitting their call signs, intended band(s) of operation, and the coordinates of their antenna's fixed location. The new rules do not permit any mobile operation.

"Amateur stations will be permitted to commence operations after a 30-day period, unless UTC notifies the station that its fixed location is located within 1 kilometer of Power Line Carrier (PLC) systems operating on the same or overlapping frequencies," the FCC said. PLC systems are unlicensed. "This notification process will ensure that amateur stations seeking to operate [on 630 or 2200 meters] are located beyond a minimum separation distance from PLC transmission lines, which will help ensure the compatibility and coexistence of amateur and PLC operations, and promote shared use of the bands."

The FCC announced that it is making effective immediately the Part 97 rule amendments, Part 97.3, 97.15(c), 97.301(b) through (d), 97.303(g), 97.305(c), and 97.313(k) and (l), which do not require OMB approval.

Antenna Party Resounding Success!

Antenna maintenance and feed line improvements had been on hold for many months since my ATV

wreck last November. I was (and am still) on the mend. My homebrew vertical on the roof had been up there for at least 6 years and the coastal air had been relentless on the joints. I couldn't get to tune consistently, even on the same frequency. It needed to be brought down, disassembled, cleaned, and reinstalled. I didn't have a tilt-over mast fitting for that size of tubing, so doing it solo was tricky.

The gamma matches on my two yagis for 440 an 2M on the mast next to the shack were full of dead bugs, the RG-58 coax was marginal even when it was new (Linear Attenuators), and I didn't really need them anyway. They were installed on a cumbersome, heavy, 25' Rat-Shack sectional mast that had rusted together years ago. Maneuvering it solo was out of the question.

So, what does a bent-up, gimpy Ham do when he needs a helping hand? He puts the word out and hosts an Antenna Party! This turned out to be very well attended.

Home made coffee and Happy Donuts were the starter, and the Wrecking Crew hit the roof first. The vertical came down in short order and was taken completely apart on the back lawn (sorry for the canine "land-mines" > I thought I'd got them all.). All the joints were cleaned, sanded, and re-greased before reassembly. Everyone regrouped on the roof and the antenna went up again, this time without the recycled discone antenna I'd used as a capacity hat. Our own Radio-Wizard, Joe NU6O, said it was a nice thought, but not nearly big enough to do any good - best if it was left off altogether. This eliminated the need to re-guy the antenna, so the reinstallation went smoothly.

Dan KB6DE brought out his antenna analyser, and we immediately discovered the vertical was nowhere resonant on 40. Actually, it was all over the place, and Joe NU6O figured that this was because I had the window line feeders laying on the roof - D'oh….a big NO-NO. Coax is shielded, but has loss and SWR problems, so I'd used Window line feeders thinking it was the Silver Bullet to get past that. Although open line feeders are very low-loss, and can tolerate high SWR issues, they interact readily with their immediate environment: the roof was part of the antenna system. When it was wet, even more so.

The solution was to get the feed line up off the roof for testing purposes. Many cardboard boxes were pressed into service. Dan and Joe then found the antenna "sort of resonant" on 40M, but I had no pipe of the right diameter to make up the needed extra length. Joe saved the day by retrieving a section from his scrap pile. It was added to the antenna, and after several iterations (up and down), the Crew got the antenna tuned to the low (CW and digital) end of 40, where I spend a lot of my time anyway.

Steve (insert callsign here) and a couple other fellas even raked the heavy accumulation of redwood litter off the roof, and did the three sky lights which had become a nasty green with the ever-present Humboldt algae that grows on everything in my shady yard. Note to self: South facing yard next time.

A couple of Papa Murphys pizzas and salad, lotsa cold drinks were brought out for the well-earned lunch break. Then they tackled the VHF/UHF mast. The guy wires were unhitched, and the mast was lowered like a reverse version of the flag on Iwo Jima. The two beams and all the related coax were removed, the remaining dual band whip was cleaned up and reassembled. Once the mast was upright, we got all the guys in place again, and ARS K6FWT was ready to roll again!

The Crew ended up having a good time, and I literally could not have done any of it safely without them. As a result, my XYL Laura is NOT a widow, the vertical is much more efficient on the bands, and the un-needed yagis went to Anthony KG6LHW to be pressed into satellite service.

Thanks go out to (alphabetically)

Ben Adams KK6SYJ
Greg Deja AA6GD
Dan Eaton KB6DE
Joe Lowe NU6O
Dexter Luther AG6DA
Anthony Wiese KG6KHW
Steve KK6MPV

I can't thank you all enough. It meant the world to me!

73 ALL DE JIM FALLS K6FWT

VE Exams

Testing for Amateur radio

Humboldt ARC
September 16, 2017
10:00 AM <walk ins OKAY>
Contact Irma Ruegg
(707) 826-0767
Email: hamradio1991@hotmail.com
Fire Dept (Classrooms)
6th & C Street
Eureka CA 95501

Fortuna ARC
October 21, 2017
10:00 AM <walk ins OKAY>
Contact Daniel R. Martin
(707) 768-9147
Dan.AG6JW@gmail.com
Fortuna Volunteer fire Dept
320 S Fortuna Blvd
Fortuna CA 95547

September's 2nd Tuesday Workshop

Presented by **Howard, kb6nn**

Howard kb6nn, presented a training program regarding digital modes. There was a lot of information shared with attendees. Howard reports the following, as well as a nice hand-out I am adding to this addition of RAIN:

Last night's workshop was more well attended than I had anticipated. Because unanswered questions need to be addressed, please reply here if you think the answer to your questions will benefit the group or contact me at KB6NN at arrl.net and I will respond individually.

Although the topic mode was PSK-31, a discussion of other modes available on FLDIGI might include reference to the below times, frequencies and modes for regular digital nets here in our area.

Use FLDIGI to copy/monitor, participate when ready:

----------MONDAY PACIFIC TIME----------

6:55PM 146.460MHz FM DIGITAL BULLETIN - MT63-200L
- ONE WAY (QST to all amateurs): announcements
- this is the only local net not on HF
7:30PM 3581.0USB HUMBOLDT DIGITAL NET - MFSK-32
- check-ins ok, plus repeat of above QST

----------TUESDAY PACIFIC TIME----------
7:30PM 3581.0USB ORCA DIGITAL NET - MFSK-32
- check-ins requested, a directed net
for more information go to:
http://orcadigitalnet.com/ and
http://orcadigitalnet.com/quick-start/ for more information.
ORCA is a practice net, with emphasis on FLDIGI and NBEMS traffic using FLMSG and FLAMP.

KB6NN Skillshop: FLDIGI and PSK31
September 12, 2017

"This is not Plug and Play"

Digital modes:
When we say "Digital Modes", we mean using a computer to send text or data over ham radio. We need a program to convert that text or data to audio tones to transmit, and something at the other end to do the opposite on receive. There are many programs and many digital modes. Today we'll mainly talk about FLDIGI and PSK-31. Digital mode and radio mode mean different things.

The computer side of digital modes:
You can use a desktop or a laptop. Install the software. Set it up. Then you can type something on your screen, and at the other end, the receiving station sees what you are typing. You don't even need to physically connect the radios to the computers, you can use acoustic coupling, speaker to microphone, microphone to speaker. In fact, you don't even need a radio. You can be in the same room and can do it laptop to laptop, acoustically. In fact, this is a good way to test your setup.

The radio side of digital modes:
As to the radio and mode, on HF, we use Upper Side Band and on 2 meters we use FM (some radios need to be set in Packet mode). A CW-only QRP rig won't work, but all-mode QRP radios work quite well. There are portions of each band set aside for digital modes for casual operating. Here locally, there are several nets each week that use digital modes for check-ins.

Connecting computer and radio:
You can do acoustic coupling in an emergency if you have to, but most hams wire their radios to their computers. Some try 1/8-inch phone plug patch cables and adapters. They connect the computer's internal sound card microphone and headphone jacks to the radio's headphone and microphone jacks using adapters if needed. But this is not generally recommended, and most hams use some kind of interface box to isolate the computer from the radio and to control levels, etc.

To buy or to build:
You can build a low cost homebrew interface or you can buy one ready-made for around $100. Your interface needs to pass audio tones back and forth between the computer and the radio. You also need to have a means to switch between transmit and receive. VOX is helpful, either the radio's own VOX, or the one inside the commercially made interface. Most home-brewers use the radio's own VOX.

FLDIGI:
FLDIGI, a free program by Dave Freese, W1HKJ, is available for PC, Mac, and Linux. Install and setup is easy until you get to the sound card configuration. There is no one set of settings that works for all computers, sound cards, and radios. Trial and error may be needed. Once set up, it will amaze you. Dozens of modes and FLDIGI can even control your radio, but let's wait on that.

PSK-31:
Let's start with PSK. Often called BPSK (binary PSK), PSK stands for Phase Shift Keying, which makes for higher data rates with less bandwidth than tone shift keying used in RTTY. BPSK-31 is the slowest speed of BPSK, about 50 wpm, and it has a narrow bandwidth, about 60 Hz. The narrower the bandwidth, the less the background noise, so PSK-31 can get through under adverse conditions. That may be why PSK-31 is the most popular for contesting, DX, and QRP.

Tid Bits

Dan ag6jw, passed the word that we now have four new hams waiting for their FCC call signs to be issued. All these testees arrived as non-hams, and two became technicians, but two more took, and passed the General class exam! WAY TO GO folks! We are happy to have you aboard. Make sure to ask as many questions of any and all of us and get on the air!
I can't wait to hear each of them as my "first contact"! Congradulations to all of you new hams. May your new FCC call signs be wonderful.

Jack km6te, reports that the Grasshopper repeater (147.330MHz, +600KHz, 103.5 tone) is back on the air. Historically, I've been able to work this repeater reliably from my location until it failed. I tried to bring it up this evening without success. Perhaps you can try it from your location and report your findings to Jack.

The 2017 FWRA Picnic was a great success. We had a LOT of great food; a LOT of great sun shine; and a lot of gabbing and trading gear. I don't think we could have asked for better conditions. I think Mike w6grg, from Anderson, was the most distant ham to make the trek. It is always great to see all you folks that I hear on the various amateur bands.
So lift your mugs and make a solute to next years PICNIC!

This editor will be presenting a training program on Amateur Packet Reporting System (APRS.) Some folks think of it as amateur *POSITION* reporting system, but, now you know "The Rest Of The Story". My plan is simple, quick low down of what APRS is, how we use Global Positioning System (GPS) data, and how we take all that and transmit it over our ham bands for fun! If you have a radio that is able to use APRS, bring it, and your manual, so we can get you up and running. I do run an "IGATE" that reports local data to our global servers, where you can see it all appear on a map in real time. This training session will be at the HARC club, 11 & E street, on October 9th, at 7:00pm.
Howard kb6nn, mentioned there was still much to talk about "digi modes", so if there is more questions I will do my best to help answer them!

If you're interested in the International Space Station, check out this youtube video. It's an amazing tour of the Station. <from kw6jim>
https://youtu.be/QvTmdIhYnes

Remember this editor? :)

Clem wa6tvq!

RAIN
Box 5251
Eureka, California, 95502-5251

North Coast Nets

Sunday	0800	North coast emergency net	3.855 MHz LSB
Monday	1900	Arcata Emergency simplex net	146.430 MHz
Monday	1900	Eel River Emergency net	147.090 PL103.5
Monday	1900	Eureka Emergency simplex net	146.460 MHz
Monday	1900	Southern Humboldt Emergency net	146.790 PL 103.5
Monday	1915	Eureka & north UHF Emergency net	444.400 +5000 PL103.5
Monday	1930	Humboldt county Emergency net	146.700 PL103l.5 147.000 PL103l.5
		(nearest FWRA repeater to you)	146.760 PL103l.5 146.610 PL103l.5
Monday	1930	Humboldt HF Digital emergency net	3.581 USB MFSK32
Monday	1945	Humboldt County HF emergency net	3.955 MHz LSB
Monday	2000	California State net	3.992 MHz LSB
Tuesday	1930	ORCA digital operations net	3.581 MHz USB
Tuesday	1930	California-Mendocino net	3.915 MHz LSB
Wednesday	1000	California State net	7.230 MHz LSB
Wednesday	1930	FWRA net	146.760 PL103.5

http://www.humboldt-arc.org/

humboldt-arc.org