



MARC Beacon

Volume 10, Issue 5

The Morongo Basin Amateur Radio Club Newsletter

MAY 2021

Good day fellow HAM radio operators!

Judy and I will be visiting the last three states this month (Oregon, Idaho, Montana). After this trip, we will have visited all 50 states in the USA. To us, flying over a state, or spending a few hours in the airport doesn't count as visiting the state. While we are out of the area, we will be checking into the net remotely via my AllStar node. ***I have decided to keep my node up 24/7. It is connected to a Baofeng radio tuned to the Yucca Valley 2 meter repeater at my home in Joshua Tree.*** If you want to connect to it via Zoiper or EchoLink, then please contact me for details. If my node disrupts the repeater system in any way, then text me and I will remotely turn it off. It's good to see more HAMS using their talents to communicate, and I highly encourage everyone to share their knowledge.

If you would like to join our next Zoom meeting 1800 Thursday 20 May, then please send an email to Glenn, N6GIW, at deacon733@msn.com to receive the invitation.

"Field Day" is the end of next month. Time to ensure your HF radio is working properly, because it's the most popular weekend of the year for communicating on the 160, 80, 40, 20,15, and 10 meter HF frequency bands. Contact Keith, N6GKB, at n6gkb@live.com for more information.

Please schedule time to check in on the 7 PM Tuesday net and if you can, please join us on the "Cawfee Tawk" net every morning at 10 AM.

Take care of yourself and enjoy each day. If you're not having fun, then you're doing something wrong.

This is WO4ROB, Rob from Joshua Tree.

Rob Cloutier
WO4ROB

Joshua tree
Club President
(760)401-6666

rob_cloutier@hotmail.com



Linked Repeaters

Yucca Valley, W6BA

146.790 MHz (- shift = 146.190 MHz) 136.5 Hz PL/CTCSS

Twentynine Palms, W6BA

147.060 MHz (+ shift = 147.660 MHz) 136.5 Hz PL/CTCSS

Landers, WB6CDF

447.580 MHz (- shift = 442.580 MHz) 173.8 Hz PL/CTCSS

OTHER AREA REPEATERS

IRLP Node KD6DIQ 145.770 pl 67.0

ONYX Peak N6LXX 446.880 (-) pl 110.9

San Jacinto TRAM one 145.480 (-) pl 107.2

Snow Peak 445.160 (-) pl 67.0

ALLSTAR NODE on the mesa 147.705 pl 146.2

29 PALMS rptr linked to KELLER peak
448.580 pl 146.2

Nets

Amateur Radio Emergency Service (ARES)

Mon @ 1915

Morongo Basin Amateur Radio Club (MARC)

Tue @ 1900

MARC Daily unformal Kawfee Talk

1000-1100 DAILY

Social Media,

Club web page: <http://www.w6ba.net>

Facebook:

<https://www.facebook.com/MorongoBasinAmateurRadioClub>

Club Meeting

(Cancelled Until Further Notice)

Every 3rd Thursday of the month at 6 PM. At the church of the Nazarene in Yucca Valley at

56248 Buena Vista Dr



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WEATHER UNDERGROUND

The weather station on Paxton Hill at the W6BA repeater site is working great. It will show accurate wind speed and direction measurements for the top of the mountain .

<https://www.wunderground.com/personal-weather-station/dashboard?ID=KCAYUCCA57>

Glenn N6GIW

I also have A weather station by the high school in Yucca Valley N6GKB. Showing the temps and wind speeds in the center of Town.

https://www.wunderground.com/dashboard/pws/KCAYUCCA35?cm_ven=localwx_pwsdash

Keith N6GKB



**We are still having our informal DAILY net, 1000-1100 7 days a week
Join us with your own cup!**

OUR MONTHLY CLUB MEETING WILL NOW BE HELD ON THE REGULAR THIRD THURSDAY OF THE MONTH VIA A ZOOM ONLINE MEETING AT 6:PM

CONTACT GLENN N6GIW TO BE PUT ON THE EMAIL LIST .

OUR FEBRUARY ZOOM MEETING WAS GREAT HAD ABOUT 20 PEOPLE SHOW, WE ALL HAD A GREAT TIME SEEING AND TALKING WITH THE CLUB MEMBERS AGAIN!

The Ryan Doyle KK6WCX Project

It all started with the need, nay, the want to connect into and participate in the local repeater nets here in my town of Yucca Valley.

I had an old Pixel XL smartphone laying around after upgrading to the Pixel 4. I also have an extra Baofeng UV-5R Dual Band amateur radio.

I have in the past built my own audio cable interface that would connect the UV-5R to my PC via a USB soundcard. This allowed me to play with FLDigi and send the sound generated by the software out on air via the UV-5R.

Fast forward to today, I purchased an APRS cable on amazon that allows you to plug your UV-5R radio directly into your 3.5mm 4 pole headphone jack. So theoretically any cell phone that has a 3.5mm headphone jack.

First you need to download the zello app from the google Play Store, and create a free account, I used my call sign KK6WCX as my username for my personal account. Now I wanted to use my new Pixel 4 to go over the internet and talk to the Pixel XL at home. So I had to create two accounts second account I created was KK6WCX_R. This account would be logged into the Pixel XL at home.

Now that you have the accounts taken care of. Let's go over some settings. For your daily phone that you'll be using outside of your home network the default settings work just fine nothing to change here. Now the phone that you plan to use at home as your digital crosslink repeater, you have to go into the settings and enable VOX, and adjust some of the levels to help trigger the VOX function. On the UV-5R that will be connecting to this phone via the APRS cable you'll also have to enable VOX, and adjust levels to help trigger the vox function on the radio itself.

Once you have set up your repeater account connected the radio and adjusted the VOX levels, then you can make sure your UV-5R is set to frequency on which you wish to transmit and receive on. In my case it was the W6BA repeater local to my area.

I have my Google Pixel XL plugged into mains power. I also have developer mode enabled on Android, you can do this by going to the settings going down and finding the build number and clicking on it five times. Once you have developer options enabled, then you can enable a setting for leaving the screen



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on while while the phone is charging. This will prevent the screen lock from locking the phone when the phone is plugged in. this was necessary for this to work in my case. As VOX was unable to perform correctly with the screen locked.

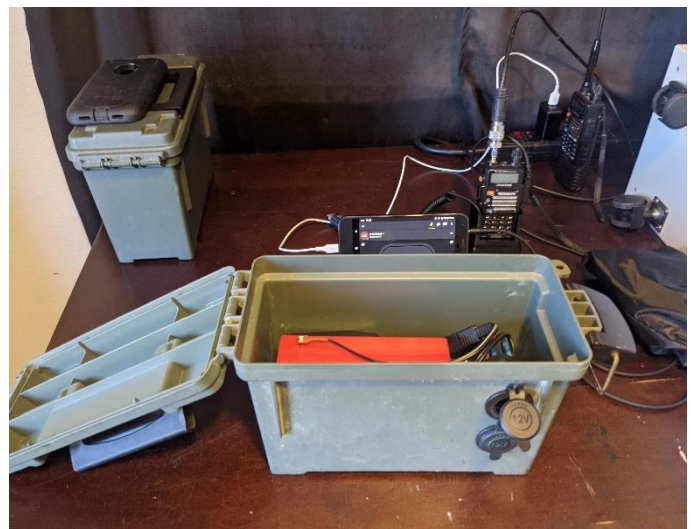
That's it, you now have a functional Zello CrossLink Repeater. I would highly recommend creating a private channel on the repeater account, that way you can whitelist incoming connections. Anyone can listen, but only those on the whitelist can transmit over the zello internet and come out over RF at the other end of the radio.

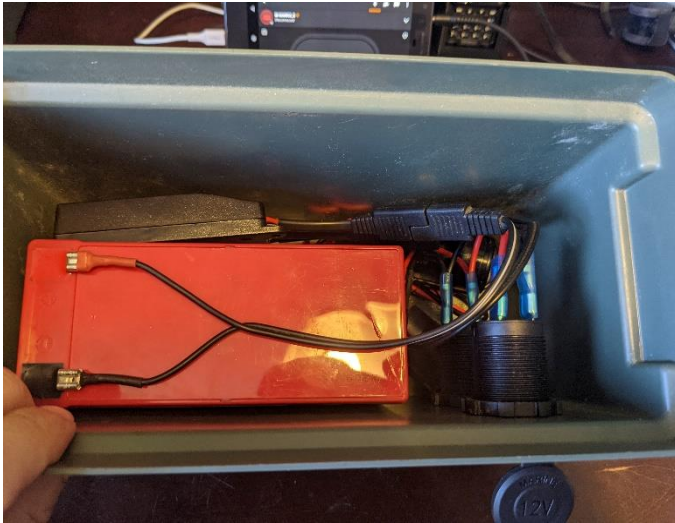
I only have this setup when I'm not home, I don't run it 24/7. In the event that something goes wrong you can sign into your repeater account from another device and that will force your actual repeater to drop connection.

You can also use some type of IOT (Internet of things) smart outlet connected to your personal internet connection to drop power to the setup. Of course this will not stop the phone because it has a built in battery, but if you have a battery eliminator connected to your radio and have it running on mains then that will drop the power to the radio. My wife stays home and if I have any issues she can always pull the plug. I haven't really had any issues outside of my own user error. It usually preforms as intended, unless of course I am home playing with it and I click on something I shouldn't. I would recommend powering off they radio first if you want to play with the repeater, or use some simplex frequency on low power.

If anyone has questions you can contact me at KK6WCX@GMAIL.COM

PICTURES OF RYANS PROJECT





ROBS AWESOME GAGETS AND IDEAS! [EchoLink on a HamVoIP AllStar node](#)

If you are away from the high desert and you want to join us on “Cawfee Tawk” at 10AM, then you can now do so with EchoLink. MARC members just need to contact WO4ROB to be placed on the white list and connect to WO4ROB-L within their EchoLink application.

Here’s how you can add EchoLink to your own Raspberry Pi AllStar node.

Go to <https://secure.echolink.org> to download the program on a Windows computer. Install and run the program, and register your callsign.

EchoLink can be set up with any of the following callsigns.

1. The callsign with no suffix is used in Single-User mode.
2. The callsign with a -L suffix is a link or simplex frequency.
3. The callsign with a -R suffix is a repeater.

Each of these three is considered a separate callsign and node, and must be validated/registered separately with EchoLink.

I registered two nodes, the one without a suffix is used on my EchoLink iPhone app, the one with the -L suffix I use on my Raspberry Pi AllStar node.

WO4ROB = node 263331
WO4ROB-L = node 492882

Edit the HamVoIP EchoLink file
Edit the /etc/asterisk/echolink.xxx file and save it as echolink.conf

Example:

```
call=WO4ROB-L  
pwd=P@$w0rd ;not my real password  
name=Robert Cloutier  
email=wo4rob@gmail.com  
node=492882 ;the node # for your -L callsign  
astnode=51454 ;your AllStar node #  
permit  
WO4ROB,N6IY,KK6WCX,N6GKB,KF6BIG,WA6FSJ  
,KM6IAU
```

Note: Permit is a white list that allows specific callsigns to use the node. Restart the Asterisk Server for changes to take effect.



Disable courtesy tones

To disable un key courtesy tone or roger beep, edit the following line in /etc/asterisk/rpt.conf:
(nano /etc/asterisk/rpt.conf)

duplex=0 ;zero = half duplex with no elementary tones or hang time

Note: Restart the Asterisk Server for changes to take effect.

Port Forwarding

Login to your home router and go to Firewall, Port Forwarding.

Device address: (your node's local IP address)
Application Name: EchoLink
Protocol: UDP
Global Port Range: 5198-5199
Local Base Port: 5198

Note: Reboot your router and node for the port forward to take effect.

WO4ROB, Rob from Joshua Tree

Solar Panel Framing

For years I wanted to build a frame for a few solar panels so I could move them around and adjust their angle facing the sun. You could mount the panels on your house roof, but then you can't move them to another location, and you will be putting holes in your roof. My plan was to design a solar panel frame for 4 of my solar panels that I could transport to a remote site and easily set it up once I got there. Initially I thought about using wood to build a frame but quickly realized how bulky and heavy it would be. I decided to use Zinc-Plated, Slotted Angle, Steel.

Each of my 4 solar panels measure 13 inches wide by 48 inches high, so the frame would have to be about 4 feet by 4 feet. I purchased the following Zinc-Plated, Slotted Angle, Steel, at The Home Depot for about \$112.

1-1/2 in. x 14-Gauge x 60 in. \$15.48 x4 = \$61.92

1-1/4 in. x 18-Gauge x 48 in. \$10.52 x2 = \$21.04

1-1/4 in. x 18-Gauge x 60 in. \$12.48 x1 = \$12.48

1-1/4 in. x 18-Gauge x 72 in. \$16.48 x1 = \$16.48

I also purchased a roll of 16-Gauge Galvanized Steel Wire for \$7 to be used as cross bracing to prevent the frame from warping, and twelve 5/16", 18 x 1" Hex Head bolts & nuts at Walmart for \$4 to attach the steel pieces together like the "Erector Set" I use to have when I was a kid.

I used four pieces of 14-gauge 1.5" x 60" steel to build the solar panel frame. I initially used 18-gauge steel but the solar panels were too heavy and warped the steel. Make sure you use the galvanized steel wire to create cross bracing to keep it square.

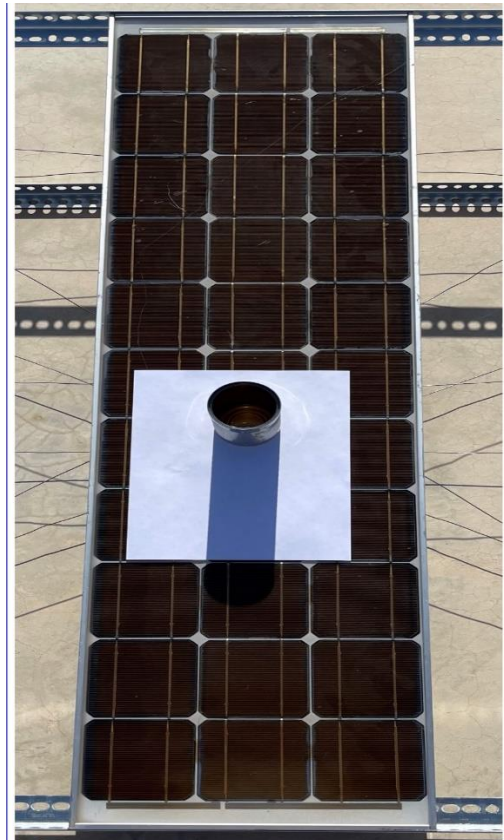
The 18-gauge steel was used to create a bottom base and 30 inch adjustable sides, but you could also use 14-gauge steel for about \$9 more to make it sturdier. Again, the galvanized wire was used to keep the bottom and back square.

I discovered that one of the easiest ways to determine the best position of the frame to face the sun is to place a piece of white paper on the solar panel with a soup can on top and adjust the frame until the soup can shadow disappears. A strong magnet behind the solar panel will keep the can in place. The best time of the day to do this is high noon, which is the mid time between sunrise and sunset, normally around 1300 or 1PM.

You can use the following website to determine the best solar angle for your area.

<http://www.solarelectricityhandbook.com/solar-angle-calculator.html>

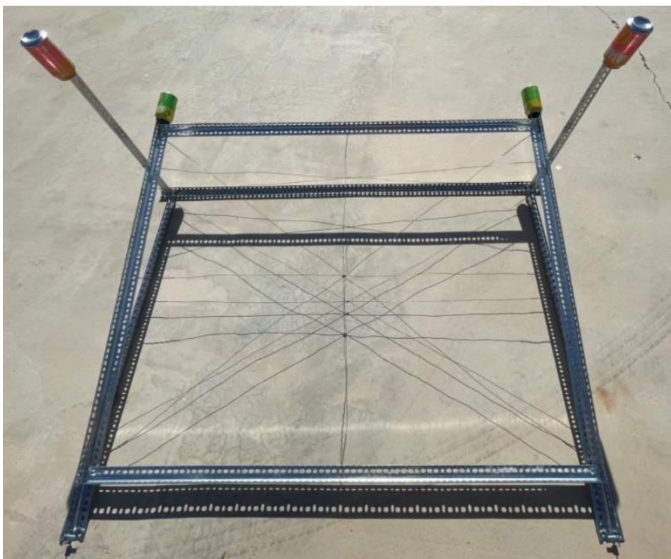
WO4ROB, Rob from Joshua Tree





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(End of Robs Solar panel mounts.)

Baofeng Car Battery Adapter Modifications

A Baofeng car battery adapter can be purchased for less than \$10 to power your Baofeng UV-5R radio using a cigarette lighter outlet. The problem is, they're not made very well. The strain on the cigarette lighter connector pulls the small wires off of the small circuit board from inside the plastic case. In order to fix it, you must break the glue seal around the case. Once you get inside, you realize the glue that secured the cable failed, allowing the cable to be pulled from the circuit board. Here are the modifications I made to the battery adapter:

1. I never did like the cable being routed to the bottom of the case because I could not stand the radio up on a shelf, so I drilled a new hole at the back of the case to reroute the cable.

2. Cable strain was eliminated by wrapping a small piece of wire around the cable on the inside and outside of the case and applying some superglue in the entry hole.

3. The small circuit board was initially held in place with some double sided tape, so I drilled another hole in the case and installed a small bolt and nut through the plastic case, aluminum heat sink, and transistor to hold the board in place.

4. The terminals that make contact with the radio were loose, so I superglued them to the case.

5. The cigarette lighter plug has an internal 3-amp fuse. One of my adapters had a blown fuse, so I replaced it with another fuse.

After putting it all together it worked fine, but I realized that if I transmitted a lot, the back of the radio would get hot. The small circuit board was doing its job reducing the 12 volts from the cigarette lighter outlet down to 8 volts in the way of heat through the L7808CV transistor. The 7808 transistor is rated for 8 volts at 1.5 amps. (By the way, the back of the radio says 7.4 volts, but a fully charged battery is 8 volts.) When the radio transmits it draws about 3 amps from the 12 volts source, which is why a lot of heat is generated through the transistor and why some fuses are blown. I decided to replace the original circuit board with a very tiny adjustable step down power module, also known as a buck converter. The ones I purchased at Banggood are rated for 1.8 amps, 3 amps max, but not for prolonged use. Each module was only about 50 cents. You can order 3 amp rated modules on Amazon for about \$1.50 each.



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In conclusion, the small buck converter works great, with very little heat coming from the board while transmitting. If you need a 3A fuse, then I have plenty to give away. If you want a buck converter for your Baofeng, then I have a couple to give away. Have fun with your radio projects and share your work with the club.



The buck converter pictured below is a 5 amp version.

- Input voltage range : 4~38V (Note: input voltage not over 38V)
- Output voltage range : 1.25-36VDC adjustable. Output current: 0-5A, Output power: 75W



4 for \$13.99 on Amazon





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THERE IS A SEPARATE NEWSLETTER FOR FIELD DAY INFO, IF YOU WANT TO BE ADDED TO THE FIELD DAY NEWSLETTER CONTACT KEITH N6GKB.

N6gkb@live.com

FIELD DAY WILL BE LOCATED:

WE WILL BE HOLDING OUR LOCAL FIELD DAY AT:
Yucca Mesa Community Center
3133 Balsa Ave.
Yucca Valley, California 92284

Greetings fellow hams. It appears that someone may be using the national calling frequency of 146.520 as a cross-band frequency to access the club repeater on 146.790. This is not allowed. Please refer to the attached document from the Two Meter Area Spectrum Management Assn. (Tasma). They set the rules for the use of the 2-meter band.

The band plan is located at the following website:

<https://www.tasma.org/TASMA-2m-Band-Plan.pdf>

Glenn N6GIW

Yucca Valley 447.000 Repeater

We had a Yaesu FM/Digital repeater at our repeater site on 447.000 MHz for several years. It wasn't being used very often, and buying a Yaesu digital radio can be expensive. The repeater crew decided to try something new, so Chris WB6CDF installed a Motorola DMR (digital mobile radio) repeater at his expense. A ham can get on DMR fairly cheaply, and it's use is more common than the Yaesu system in our region. The DMR repeater receives signals over the air like a normal repeater, and connects to the internet to create access to other hams and groups (talkgroups). The DMR system can be accessed by interfacing an HT with an internet hotspot, or via a DMR repeater. There are a few local hams using DMR. If you're interested, please search for videos on Youtube and other sources to get an idea of how it works. Then you can contact local hams for further information: Chris WB6CDF or Glenn N6GIW.

Glenn N6GIW
Repeater Committee

HAM.BAND

Ham.band, the easy to remember site that shows you the US amateur radio band plan!

Check out ham.band ... Easy to read on desktop and mobile!

Just type ham.band into your browser!

Aaron C. KM6IAU

JOCKULARITY CORNER

An insurance company asked for more information regarding a work-related accident claim. This was the response. "I put 'Poor Planning' as the cause of my accident. I am an amateur radio operator and was working on the top section of my new 80 foot tower. When I had completed my work, I discovered that I had, over the course of several trips up the tower, brought up about 300 pounds of tools and spare hardware.

Rather than carry the material down by hand, I decided to lower the items using a pulley. It seemed safer. Securing the rope at ground level, I went to the top of the tower and loaded tools into a small barrel. Then I went back to the ground and untied the rope, holding it tightly to insure a slow descent of the 300 pounds of tools. You will note in block number 11 of the accident report that I weigh 150 pounds.

Due to my surprise of being jerked off the ground so suddenly, I lost my presence of mind and forgot to let go of the rope. I proceeded at a rather rapid rate of speed up the side of the tower.

In the vicinity of the 40 foot level, I met the barrel coming down. This explains my fractured skull and broken collarbone. Slowed only slightly. I continued my rapid ascent, not stopping until the fingers of my right hand were two knuckles deep in the pulley. I regained my presence of mind, and was able to hold on to the rope in spite of my pain. At the same time, however, the barrel of tools hit the ground and the bottom fell out of the barrel. Devoid of the weight of the tools, the barrel now weighed approximately 20 pounds. I refer you again to my weight in block number 11. As you might imagine, I began a rapid descent down the side of the tower. In the vicinity of the 40 foot level, I met the barrel coming up. This accounts for the two fractured ankles, and the lacerations of my legs and lower body. The encounter with the barrel slowed me enough to lessen my injuries when I fell onto the pile of tools so only three vertebrae were cracked. I am sorry to report, however, that as I lay on the tools, in pain, unable to stand and watching the empty barrel 80 feet above me, I again lost my presence of mind and let go of the rope

From Roger KF6BIG

You know I got a knock on my front door from my neighbor at 2am kind of startled me at first but that's OK I wasn't upset, I was still up play my bagpipes!

From Keith N6GKB



KEN HENDRICKSON, W6BZY



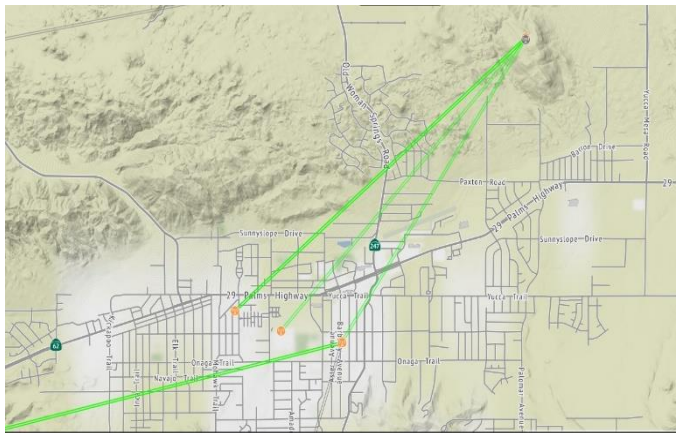
Some helpful youtube videos from Ken W6BZY about Linux and raspberry Pi.



Search **W6BZY** on YouTube.

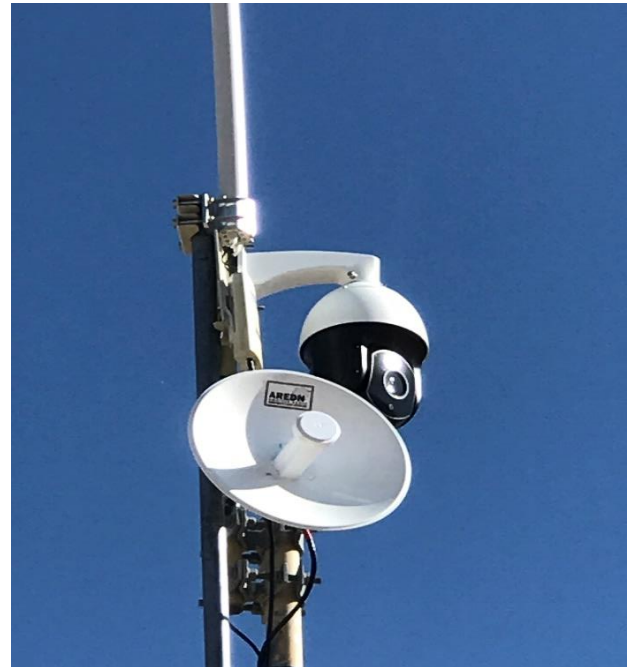
AREDN

Amateur Radio Emergency Digital Network



This is a map currently connected HAMs on the AREDN network here in the Morongo basin. If you are inline of site of PAXTON Hill you most likely can get on the AREDN system.

Contact Aaron KM6IAU or Keith N6GKB for more information.



This is the Equipment up on Paxton Hill.





[TAPR](https://tapr.org/) is polling the amateur radio community as to whether or not it should have a live Digital Communications Conference this fall. Visit the TAPR website and click on the "TAPR 2021 DCC Survey" link to register your opinion.

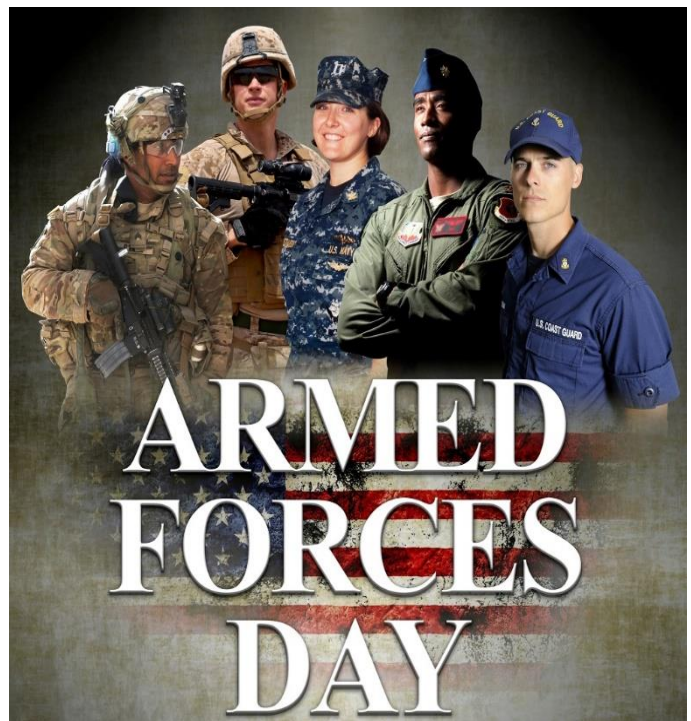
<https://tapr.org/>

Hawaii's King Kamehameha

A June special event will commemorate Hawaii's King Kamehameha and the history of the 50th state. K6K will be on the air from 1600 UTC on June 11 until 0800 UTC the next day. Those working K6K are eligible to receive a full-color K6K: King Kamehameha Celebration certificate.



May 15th





Radio Amateur Helps Rescuers to Locate Lost Hiker

The keen and practiced eye of ARRL member Ben Kuo, AI6YR, helped to guide rescuers to a hiker stranded on a mountainside on April 12. Hiker Rene Compean, 45, had spent the night in a remote region of the Angeles National Forest after getting in a tough spot. After a concerned friend reported Compean missing on Monday, the Los Angeles County Sheriff's Department dispatched search-and-rescue (SAR) teams. Although



amateur radio played no direct role in the rescue, Kuo cited his enthusiasm for technology and ham radio satellites and for Summits on the Air ([SOTA](#)) for helping him to develop the skills he needed

to guide searchers to the most appropriate area.

"This is actually very applicable to being a SOTA activator -- map, navigation skills," Kuo told ARRL. "Also, understanding RF propagation was key to this. The SAR teams were searching the other side of the mountain, where there is no cell signal." Kuo knew that from having hiked there before. As Kuo described it, Compean was found between four SOTA peaks.

SAR teams were deployed in the Mount Waterman area of the San Gabriel Mountains to find the hiker. According to the LA Sheriff's Department, a low-flying helicopter team spotted him Tuesday afternoon between Triplet Rocks and the east bump of Twin Peaks in the San Gabriel Mountains, and he was airlifted to safety with no serious injuries. Kuo pointed the rescuers to the likely search area by matching satellite images Compean had transmitted over Twitter.

Kuo [told](#) the *Los Angeles Times* that he has an odd hobby of looking at photos and determining where they had been taken. He was able to employ his skill to determine the hiker's likely location using a tiny photo the hiker posted on Twitter that shows his legs and the valley below. As the newspaper reported on April 15, "When [Kuo] saw the photo posted by the Sheriff's Department, he set to work pulling publicly available satellite images and matching them to the vegetation and terrain below the hiker's legs."

Kuo's eye was good. He sent authorities the GPS coordinates of the most likely area, and the rescue team found Compean less than a mile from that location.

As the *LA Times* reported, the area where Compean was located on steep slopes and very difficult to access, requiring advanced climbing skills. The Sheriff's Department credited Kuo with saving them hours of fruitless searching. Kuo said this was the first time he'd been involved in a rescue like this one.



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Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
	KAFEE TAWK 10AM DAILY CLUB REPEATER					
2	3	4	5	6	7	8
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS N6GKB	Cinco De Mayo	ARES Meeting 6:00 pm		
9	10	11	12	13	14	15
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS KA6CMJ				Armed Forces Day
16	17	18	19	20	21	22
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS W04ROB		NO CLUB MEETINGS STILL HO-HUMM		
23	24	25	26	27	28	29
	ARES Net 7:15 pm	MARC Net 7:00 pm NCS N6GIW				
30	31					
	ARES Net 7:15 pm					