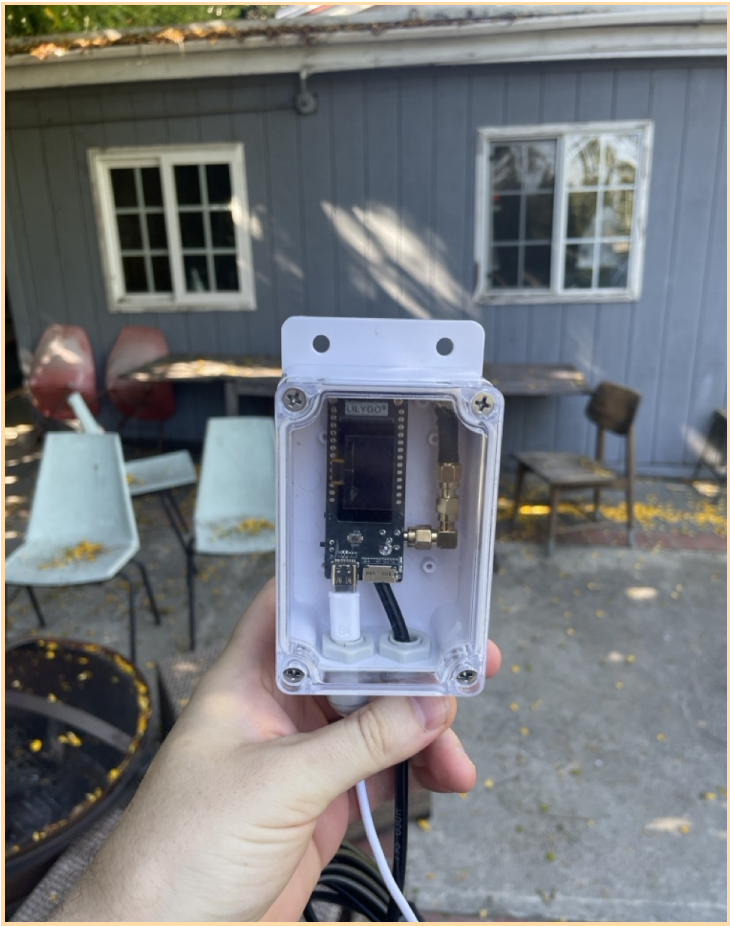
MBARC Beacon

The Morongo Basin Amateur Radio Club Newsletter

SEPTEMBER 2024 EDITION

w6ba.net MorongoBasinAmateurRadioClub



A LILYGO LoRa T3-S3 board in a waterproof enclosure.

Meshtastic / LoRa

*By Gottfried Haider **KK6JBU** – submitted August 6, 2024*

Meshtastic has been making quite the waves recently with folks interested in long-range off-grid messaging using open-source tooling. The project makes use of LoRa on 915 MHz, and has very active communities around the world experimenting with it (e.g. SoCalMesh on Discord).

Since I lack the permanent internet connection to run a MQTT-connected node in the High Desert myself (what would comparatively be an IGate in APRS): I'd love to donate the necessary hardware to … COVER STORY, page 3

Information At A Glance

Upcoming Club Meetings

Monthly club meetings have been held on the 3rd Thursday at 1800 at Yucca Valley Church of the Nazarene. There is discussion that this may change. ***Stay tuned.***

Local Nets

Net Name	Day	&	Time
Amateur Radio Emergency Service	MON	@	1915
MBARC Weekly Net	TUE	@	1900
MBARC "Cawfee Tawk"	DAILY	@	1000

MBARC Linked Repeater System

*For more info, see the 2nd to last page for detailed diagram of the **MBARC** Linked Repeater System or visit w6ba.net.*

Site	MHz	+/-	T
W6BA Yucca Valley / Paxton Hill	146.790	−	136.5
W6BA Twentynine Palms / Donnell Hill	147.060	+	136.5
WB6CDF Landers / Fire Station	447.580	−	173.8
AD6G Pipes Canyon	446.120	Ø	146.2

Local VoIP-to-RF Nodes

System	# Node	RF Link
AllStarLink	503088	**KM6IAU** to **W6BA** YV
EchoLink	KM6IAU-L	**KM6IAU** to **W6BA** YV
EchoLink	WO4ROB-L	**WO4ROB** to **W6BA** YV

Local RF-to-VoIP Nodes

Site	MHz	+/-	T	System	# Node/TG
KD6DIQ YV	145.770	Ø	67.0	AllStar	28855
WB6CDF YV	447.000	−	CC 10	DMR/BM	TS1: TG 3106 TS2: TG 2

MBARC Beacon –·– Sep 2024 EDITION

Editor	Aaron Chesney	**KM6IAU**
Story Contributors	Larry Mollica	**AD6G**
	Aaron Chesney	**KM6IAU**
	Glenn Miller	**N6GIW**
	Paul Edwards	**AA6SM**
	Gottfried Haider	**KK6JBU**
Additional Content	Maja Chesney	**KO6DAV**

Table of Contents

Your Newsletter, Your Voice.

If you have material you'd like to share in a future newsletter, get in touch.

Aaron Chesney **KM6IAU**
442-205-1873, extension 5
Aaron@**KM6IAU**.net

President's Message

Hello radio operators! It's finally cooling down. This is one of the best months of the year where we don't have to use our AC or heater for most of the day.

I am sad to say that Judy and I can no longer safely travel at night. We will no longer participate in any club events without sunlight, to include the **MBARC** monthly meetings, if they are not rescheduled during daylight hours.

A new **MBARC** Banner was ordered, using the design by Maja **KO6DAV**, that the club voted on. I should receive it in the mail on 4 September. It will be used for our club displays during local events like the annual Orchid Festival 5-6 October at Gubler Orchids, 2200 Belfield Blvd, Landers.

Please schedule time to check in on the 7 PM Tuesday net, and if you can, please join us on the "*Cawfee Tawk*" net everyday from 1000 to 1100 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
760-401-6666
WO4ROB@gmail.com

COVER STORY, continued

… anyone who is interested in doing so.

- LILYGO LoRa T3-S3 board in a waterproof enclosure (WiFi and BT),
- Fiberglass antenna 5.8dBi with mounting kit and 20ft cable,
- LILYGO T-Echo portable for testing (Bluetooth).

If you're interested putting this up, please reach out.

73,

Gottfried Haider **KK6JBU**
Gottfried.Haider@gmail.com

–·–

*Top: LILYGO T3-S3 in enclosure. Bottom: LILYGO T-Echo. Underneath, inside the cardboard box: Fiberglass antenna. – Photo by **KK6JBU***

Yucca Valley Repeater News

*By Glenn Miller **N6GIW**, Repeater Committee – submitted August 19, 2024*

I've set the repeater to silence all announcements so that the repeater doesn't interfere with conversations, or wake you up from a nap. It will still identify itself as required by the FCC. I think by now we all know when the nets and meetings are held.

Enjoy the silence.

–·–

Club History – Feb 1996

*By Glenn Miller **N6GIW**, submitted on August 19, 2024*

During this period, our club was meeting at the Joshua Tree Community Center at 6171 Sunburst St. We were welcoming our new officers at that time. Club president was Randy Whitney **KN6SH**. The board of directors included Cal **WB6AMY**, Tom **KD6QKO**, Dave **KE6BHL**, Bill **KD6CQO**, Bruce **KD6VYK**, Charlotte **KD6CQP** (my wife, now **K6EEF**), Bob **W6QYY**, Robert **KE6NIJ**, Jim **KE6MUT**, Stan **WB6QFE** and Phil **KE6LQO**. First VP Jules **KD6QKX**, VP Ron **KD6TVP**, Secretary Shelly **KD6IBW**, Treasurer Helene **KE6LQS**, and past President Glenn **N6GIW**.

You can see that our club leadership structure was quite different back then.

At the Board Meeting that month, we met to establish committees to handle upcoming events and projects during the year, including the Stephens Charity Walk, ALS Charity Run, club photo album, fund raising, Basin-wide disaster drill, Auction, Repeater Chairman, Town fireworks show, boys and girls basketball tournament in 29 Palms, JOTA, Grubstake Days, Pony Express run, Field Day, and member welfare and establishing an open 70cm/440MHz repeater.

Stan Spaeth **WB6QFE** was planning on ordering another batch of club magnetic signs.

–·–

View Live Usage of KM6IAU's AllStar / EchoLink NASH

*By Aaron Chesney **KM6IAU** – article submitted August 22, 2024*

Who is keying the repeater? It can be difficult to know for certain. Anyone with an ubiquitous $20 handheld radio could potentially transmit into the repeater.

… But why use a $20 handheld radio when you can use a $400 mobile radio in a $300 rust-bucket and simply wedge the mic's PTT into the cup holder or between the seat cushions?

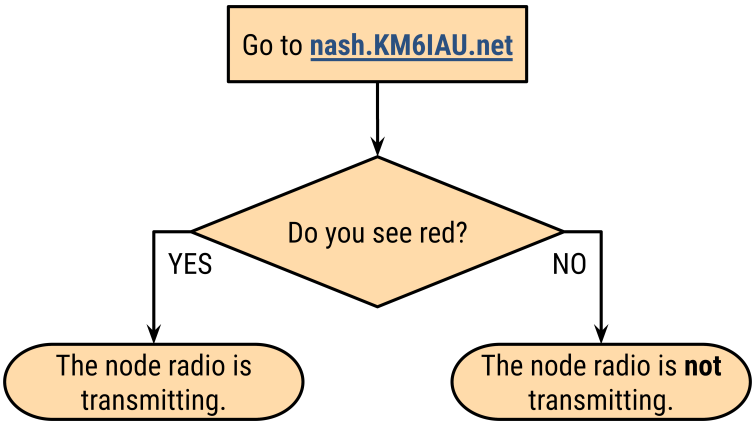
… But why use $700 worth of mobile mayhem when you can use the very worldwide, *inter*-connected *net*work – lovingly and originally endeavored by the *United States Department of Defense* for the sole* purpose of sharing cat videos?

As many know, I have an Internet-connected VoIP node which links to the Yucca Valley repeater. The node is co-managed by myself and Larry **AD6G**. The node has been in-place for several years now, and is used by many club members to stay connected to the club while out-of-town, in-town-but-without-radio, and even simply as a means to test one's own equipment.

*From the start, a design requirement of this system was to avoid disruption to the core, RF-linked repeater system. As a measure of assurance, we provided a web page which **anyone** can use to see the status of the node.* ***If you hear the repeater locked up, and you suspect the NASH is the problem, you may see for yourself.***

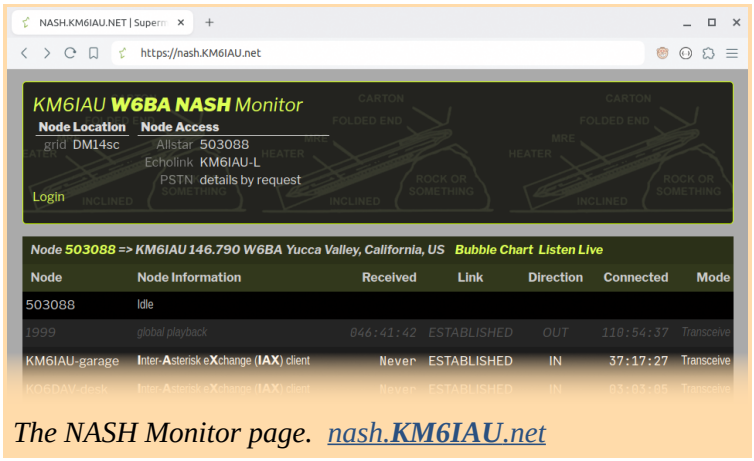
The web app itself is a modified version of SuperMon. Of point, I've done my best to make the interface more visually intuitive.

TL;DR; or, *"How I Learned To Stop Worrying And Love The NASH"*



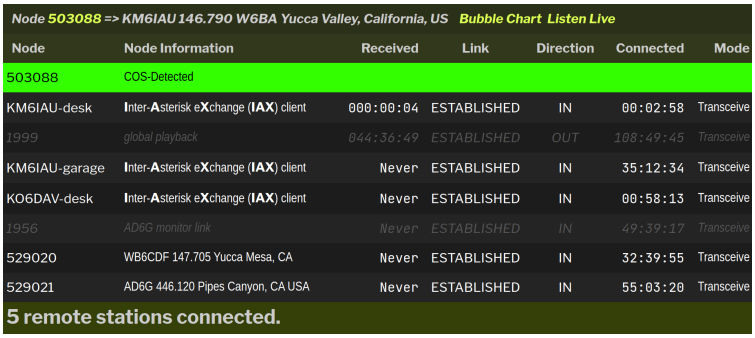
Information At A Glance, Detail

The NASH monitor page shows which stations are connected and what the node radio is doing. The list is sorted in order of most recent transmission (PTT event) to least recent. Colors have been selected to quickly identify the what the node is doing without the need to examine further. (I have a monitor which always displays the node status. From across the room, I can quickly know the status based on the color alone. More detail about the activity can be seen in the text, if necessary.)



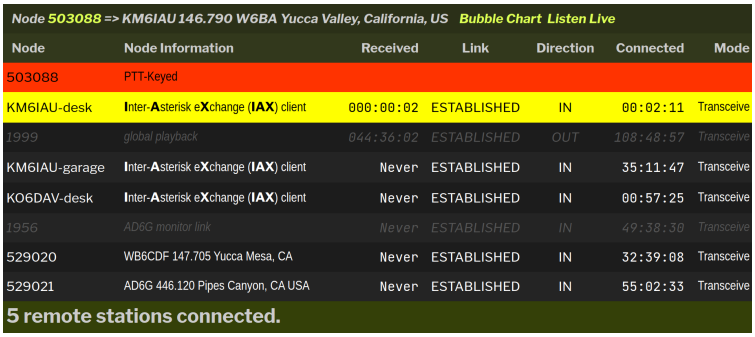
The NASH Monitor page. nash.KM6IAU.net

Receive (COS-Detected)



When the node radio is ***receiving*** – or more precisely, hearing carrier with the correct tone *(presumably transmitted from the repeater)*, there is a bright green bar near the top of the list. None of the VoIP stations connected to this node are transmitting. The radio is not transmitting. It is receiving. The connected VoIP stations are hearing the radio.

Transmit (PTT-Keyed)



When the node radio is ***transmitting***, there is a bright red bar

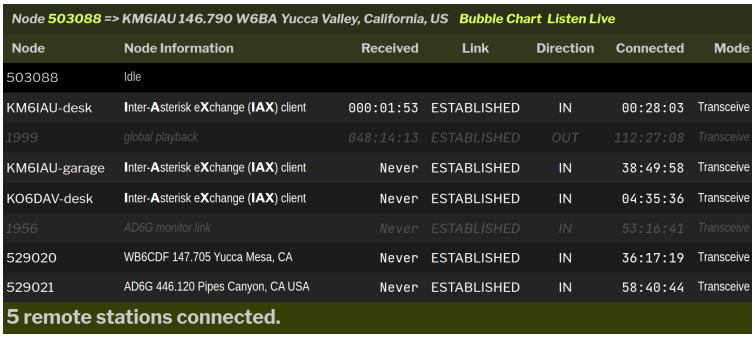
** Probably not. (But maybe. Just maybe.)*
*"NASH" is short for "**N**ode **A**t **S**omeone's **H**ouse."*

near the top of the list. Immediately below that red bar will be *at least one* yellow bar. The yellow bar is highlighting which VoIP station(s) is/are asserting the node radio into transmit.

It *is* possible for multiple VoIP stations to simultaneously assert PTT. Those stations effectively "double" with each other, albeit without the phenomenal side-effect of FM heterodyning. *In plain-English, those stations can all be heard clearly.*

Each station which asserts PTT must release PTT for the node radio to stop transmitting. The node radio will timeout after 3 minutes. Timeout will reset when all stations release the PTT.

Idle



When the node radio is ***idle***, there is a black bar at the top of the list. The node radio is neither transmitting nor is it hearing carrier *with* the PL-tone required to open the squelch.) –·–

What If The Repeater Is Out Of Service?
A Talk About Talk-Around

*By Larry Mollica **AD6G**, article submitted August 16, 2024*

Note: In this article, I will be using the terms "CTCSS" and "PL" interchangeably – I'm lazy.

The subject of what frequency to use if the repeater system goes out of service came up at the August **MBARC** meeting. So I'm going to talk here about "Talk-Around": what it is, how to set it up, followed by a FAQ on why it's useful when the repeater is down, why it's better than "Reverse" mode for the same purpose, and other details.

What is Talk-Around?

Simply put, talk-around is communicating via simplex on a repeater's **output** frequency. That is, your radio's RX *and* TX are operating on the repeater output channel only, and not using the repeater input channel. That's it. (Typically it's a good idea to program the repeater CTCSS on your transmit; see the following section.)

Setting up Talk-Around

Some radios and HTs have a Talk-Around or T/A button as a built in feature, but most of the ham radios I've seen do not. Here is an example for programming a channel in your radio for Talk-Around use on the Yucca Valley repeater channel:

	Receive	**Transmit**
Frequency	146.79 MHz	146.79 MHz (or *zero* offset)
CTCSS/PL	Carrier squelch, or optionally 136.5 Hz (more on this below)	136.5 Hz

You can likewise set up Talk-Around on the Twentynine Palms or any other repeater output channel. Ideally you could set up talk-around for both the Yucca Valley repeater and the Twentynine Palms repeater. More on this below.

Frequently Asked Questions

Q What is the purpose of this Talk-Around scheme if the repeater is out of service? Why not use a regular simplex channel like 146.52?

A You certainly can use a regular simplex channel – if people know to switch to it. The main advantage of using repeater talk-around is that everybody who regularly monitors the repeater will hear you without having to look for you. This includes folks who don't yet know that the repeater is down. It's true that some users might have their radios in scan mode and might pick you up on, say, the 146.52, the national 2 meter "calling" frequency. Sometimes, I put my radio in scan (when I remember to do it). But most often, folks park their radio on one channel and that channel is the local repeater. They will hear traffic on Talk-Around without taking any action, whereas they might miss a net forming up on a regular simplex channel.

Another advantage of using talk-around: if the repeater should pop back on the air, everyone using talk-around can hear it and know that it is back in service.

Q Why not use "Reverse" mode? My radio already has a button for that.

A It's impractical to run a net using Reverse mode. Reverse mode is practical mainly **when there are only two stations communicating with each other**. When you push the "Reverse" button on a repeater channel, the radio swaps the RX and TX frequencies and CTCSS. In this way, the Reverse radio listening on the input hears the Normal radio. The Reverse radio transmits on the output and is heard by the Normal radio. All well and good for just two stations.

However as soon as a *third station* (or more) wants to join, there is a dilemma in that no matter which mode the 3rd party chooses (repeater normal vs. repeater reverse), they can only communicate with a radio in the opposite mode. They can neither hear nor talk to a radio in the same mode. If the 3rd party radio is in Normal, they can only converse with the Reverse party. If the 3rd party chooses Reverse, they can only communicate with the Normal party. Needless to say, this is close to useless for three parties, let alone more.

If all the parties use Talk-Around, then like any simplex channel, everybody hears everybody regardless of the number of stations, including those monitoring on the regular repeater channel. All this is of course, provided if within simplex range of each other.

Q If the repeater is not involved, why do I need to use TX CTCSS/PL?

A Typically, PL tone is not used for simplex operation. But the people who normally monitor the repeater using PL on their radio's receiver will not hear a station transmitting using talk-around, unless the talk-around station is transmitting with the the repeater's PL tone. While some people may have their repeater channel set up for carrier squelch, a lot of locations around here often pick up co-channel interference from a Nevada digital repeater, thus using PL to keep the receiver quiet is very common. So transmitting PL tone on talk-around for the Yucca Valley repeater is a must, so that all stations parked on the repeater can hear them.

As to receive, it's up to you whether to use carrier squelch or PL squelch. The advantage of carrier squelch is that you will hear every transmission on the channel, regardless of whether or not they are transmitting PL. You might want to use PL on your receive, if you are subject to hearing interference, such as from the Nevada co-channel system. I rarely hear the Nevada system at my location, so I typically use carrier squelch.

Q I normally use the Twentynine Palms repeater. Which talk-around channel do I use?

A This is where things get a little tricky. There is no formal plan that I know of as of yet. For now I'll say; if it's just the Twentynine Palms repeater which is off the air, try and use the Yucca Valley repeater. I believe most of the people who regularly use the Twentynine Palms repeater can at least get into the YV repeater, albeit weakly in some cases. Use Twentynine Palms repeater talk-around for local comms when practical.

If BOTH Yucca Valley and Twentynine Palms repeaters are off the air, using talk-around on the Yucca Valley frequency makes more sense, as the repeater is more central and in general has a better coverage area, therefore probably more users are parked on it than Twentynine Palms. Other folks may have a different take on this (I don't know what ARES plans are like) so don't consider this the final word.

Q I've only got an HT. I've tried but I can't talk very far on simplex. What should I do?

A This is a topic for another article but for now: by far, the poorest performing station is an HT using it's HT antenna at an indoors location (including inside a car), at ground level. Any one of the following will improve your HT (or any radio's) coverage, often drastically. The more of these points you can accomplish, the better the coverage:

- A more efficient antenna than one on your HT. Even if it's just a mag-mount mobile on top of a metal filing cabinet, refrigerator, dryer, large cookie sheet (you must have a chunk of 'ground plane' metal under a mobile antenna).
- Get the antenna outdoors. That includes outside of your car's interior.
- Get the antenna elevated:
  - Car/truck: center of metal roof works best for mobile. Trunk okay but less so.
  - Base: at least get it above the local neighborhood roofline clutter.
- Coax quality becomes more and more important as the frequency and/or length goes up:
  - Mobile: keep RG-58 runs as short as possible, trim excess.
  - Base: use at least RG-8 or better coax. There are on-line coax loss calculators that can tell you how much loss a coax run will have.

*Jim **KI6WTI** cleans house during the 50/50 raffle at the August club meeting. – Photo by **KO6DAV***

Meeting Minutes – August 2024

*Recorded by Paul Edwards **AA6SM**, Club Secretary*

The President Rob **WO4ROB** opened the meeting at 1800.

Introductions were made.

It was announced that several items collected in Europe by Rob **WO4ROB** and Judy **KK6NWG** would be given away, including volcanic ash from Sicily, rosaries from Vatican City purchased the day the Pope was elected 13 October 2013, and several Euro coins.

Glenn **N6GIW** provided the Treasurer's report:

Current balance:	$ 2472.33 with 1 check outstanding.

The Secretary Paul **AA6SM** read the minutes of the May 2024 meeting. (June and July meetings were canceled.)

A brief discussion was held on Winter Field Day. It is planned that we shall participate.

Maja **KO6DAV** has custom **MBARC** shirts available as well as decals.

The members chose a new banner design to reflect the new updated club logo.

The membership was reminded to be prepared for an emergency, including multiple radios and the means to be able to charge handhelds via solar panels if need be.

Perry **KN6WTI** presented the club with a twenty-foot trailer which can be used both for demonstrations and for emergencies.

The 50/50 raffle was held and the winner received $31. Based on the ticket stubs received from the 50/50 raffle, Rob **WO4ROB** gave away small items from his and Judy's **KK6NWG** trips to Europe.

The meeting was adjourned at 1907 by Rob **WO4ROB**. –·–

Member-Provided Resources

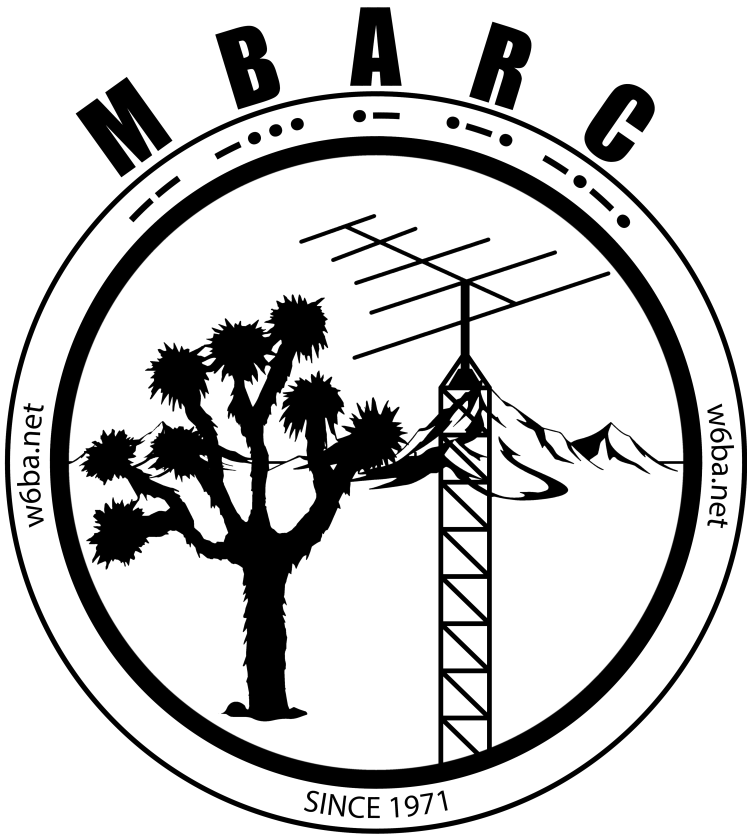
If you'd like to include your links here, get in touch.

Member Websites

- Aaron **KM6IAU** has a pool of publicly-accessible, OpenWebRX servers, or "Web SDRs". You can reach them here: https://sdr.**KM6IAU**.net/
- Chris **WB6CDF** has a publicly-accessible webcam atop Paxton Hill. http://**WB6CDF**.com/paxton-cams.htm More resources are available at his site, **WB6CDF**.com.
- Rob **WO4ROB** has collected and organized his hobby notes on his personal website, **WO4ROB**.com.

YouTube channels

- Ken **W6BZY** has put together some helpful YouTube videos about Linux, Raspberry Pi, and amateur radio: https://youtube.com/@Kensownvids –·–



HAM RADIO

THE ORIGINAL SOCIAL NETWORK

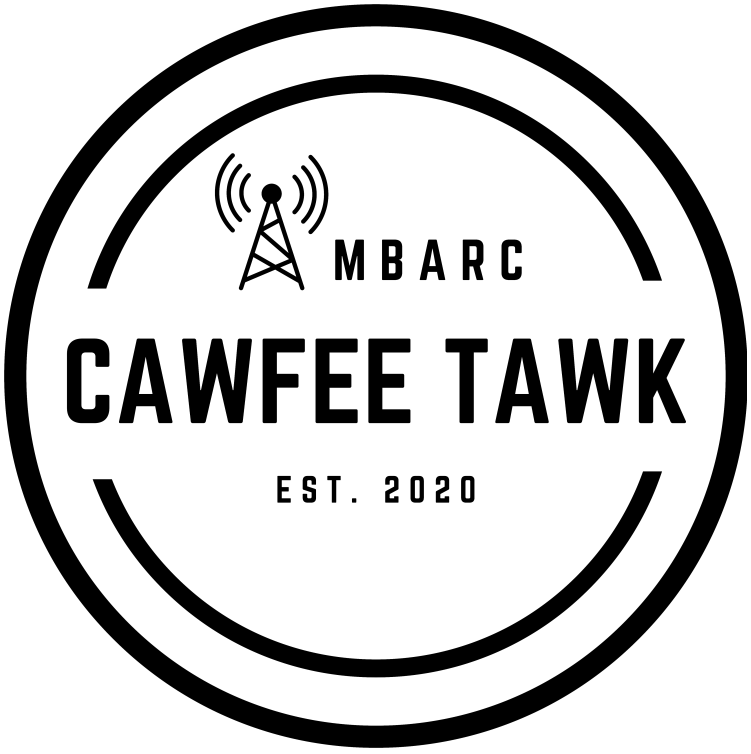
MAY THE

MORSE

BE WITH YOU

DON'T MAKE ME USE
MY RADIO VOICE

MBARC

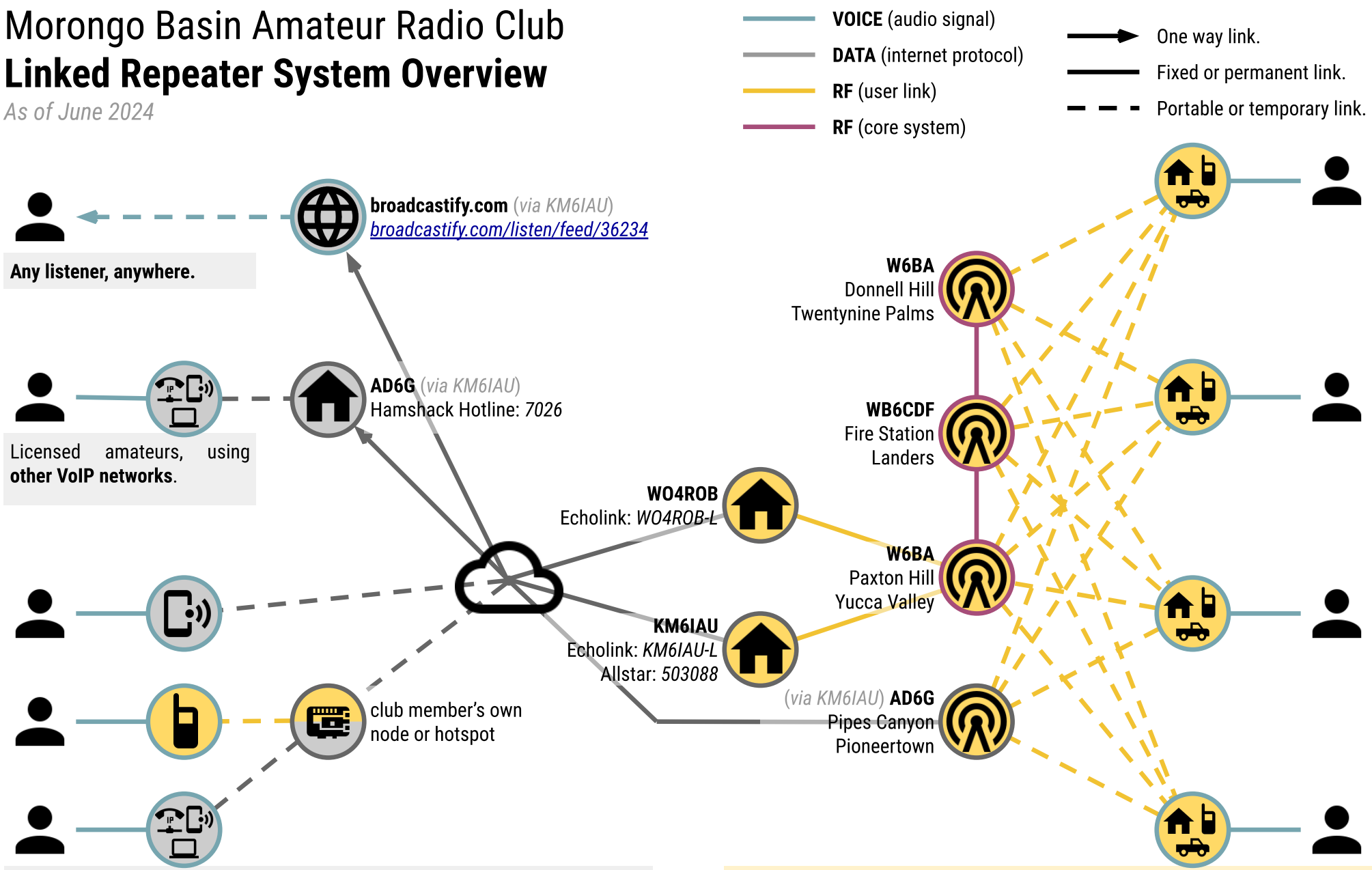


MBARC

EST. 1971

Morongo Basin Amateur Radio Club
Linked Repeater System Overview

As of June 2024



Licensed amateurs **with** club membership, using **Allstar*** or **Echolink****.

Please use restrictive access means, such as PL tone and low-gain antenna for RF links, or password access for IP links. Do not link-in broad-access systems, such as other repeaters or reflectors, where such linking could transmit onto our club's system. Thank you.

* Allstar access needs to be manually set up. Contact linkrequest@W6BA.net to submit your request.
** Echolink access may need to be manually set up. Contact linkrequest@W6BA.net to submit your request.

Licensed amateurs **with or without** club membership, using **RF**.

Please do not link-in broad-access systems, such as other repeaters or reflectors, where such linking could transmit onto our club's system. Thank you.

Calendar – SEPTEMBER 2024

SUN	MON	TUE	WED	THU	FRI	SAT
1	**2** 1915 – **ARES** net	**3** 1900 – **Club net** ctrl: Larry **AD6G**	**4**	**5**	**6**	**7**
8	**9** 1915 – **ARES** net	**10** 1900 – **Club net** ctrl: Rob **WO4ROB**	**11**	**12**	**13**	**14**
15	**16** 1915 – **ARES** net	**17** 1900 – **Club net** ctrl: Glenn **N6GIW**	**18**	**19** 1800 – **Club mtg** (Tentative, pending possible schedule change. Stay tuned.)	**20**	**21**
22	**23** 1915 – **ARES** net	**24** 1900 – **Club net** ctrl: Aaron **KM6IAU**	**25**	**26**	**27**	**28**
29	**30** 1915 – **ARES** net	**Oct 1** 1900 – **Club net** ctrl: Keith **N6GKB**	**Oct 2**	**Oct 3**	**Oct 4**	**Oct 5**

KD6DIQ AllStarLink Node#28855 Schedule

YV: 145.77MHz, Ø shift, T 67.0Hz

EVERYDAY

0000 – 0100 WIN System #2560
2200 – 2400 WIN System #2560

SUN

No additional program, system open.

MON

0400 – 0730 East Coast Refl. #45225
1000 – 1300 Alaska Morning #29332

TUE

0400 – 0730 East Coast Refl. #45225
1000 – 1300 Alaska Morning #29332
1700 – 1900 East Coast Refl. #45225

WED

0400 – 0730 East Coast Refl. #45225
1000 – 1300 Alaska Morning #29332
1700 – 1900 East Coast Refl. #45225

THU

0400 – 0730 East Coast Refl. #45225
1000 – 1300 Alaska Morning #29332
1700 – 1900 East Coast Refl. #45225

FRI

0400 – 0730 East Coast Refl. #45225
1000 – 1300 Alaska Morning #29332
1830 – 2400 WIN System #2560

SAT

0400 – 0730 East Coast Refl. #45225
1000 – 1300 Alaska Morning #29332
1700 – 1720 Newsline
2000 – 2200 East Coast Refl. #45225