MBARC Beacon

The Morongo Basin Amateur Radio Club Newsletter

MAY 2024 EDITION

🌐 w6ba.net   f MorongoBasinAmateurRadioClub

*Chris **WB6CDF** and Bryan **KF6YGK** ready a dilapidated roof for professional roof repair. — Photo by **N6GKB***

Paxton Hill Roof Repair Milestone

Our Paxton Hill communications site has finally received the bulk of long overdue roof repair. ... COVER STORY, page 3

Courtesy Endorsement

The owner of Rauschenberg Roofing has generously donated their time, service, and materials to our not-for-profit club toward the repair of the Paxton Hill roof. We owe a debt of gratitude for their in-kind donation. Pictures of their work on our building can be seen on page 3.

Rauschenberg Roofing   **(760) 418-5404**

Information At A Glance

Upcoming Club Meetings

Monthly club meetings on the 3rd Thursday at 1800.

📅 Date & Time		📍 Location
May 16	@ 1800	Yucca Valley Church of the Nazarene
June 20	@ 1800	Yucca Valley Church of the Nazarene
July 18	@ 1800	Yucca Valley Church of the Nazarene

Local Nets

📶 Net Name	📅 Day & Time	
Amateur Radio Emergency Service	MON	@ 1915
MBARC Club 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
AllStarLink	503085	**KM6IAU** to 146.520 Ø Ø 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 Board of Directors

Member-Provided Resources

The Digital Ham – Ken W6BZY

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

OpenWebRX – Aaron KM6IAU

Aaron Chesney **KM6IAU** has set up publicly-accessible OpenWebRX servers. OpenWebRX is a "web-SDR," a web server which provides access to one or more SDR receivers. Aaron has a pool of SDRs both at his home and atop Paxton Hill. You can reach them here: https://sdr.**KM6IAU**.net

Paxton Hill Webcam – Chris WB6CDF

Chris Nichols **WB6CDF** has a publicly-accessible webcam atop Paxton Hill. http://**WB6CDF**.com/paxton-cams.htm

More resources are available at his site, **WB6CDF**.com.

Hobby Notes – Rob WO4ROB

Rob Cloutier **WO4ROB** has collected and organized his hobby notes on his personal website, **WO4ROB**.com.

President's Message

Hello radio operators! Summer is around the corner and it's going to get HOT! Field Day plans are now in motion. If you want to participate on the last weekend of June, then please contact Keith **N6GKB**.

Judy and I will be traveling in Europe until the end of July. We can still be reached via text or email and we will respond when we have internet access. We will post photos in Facebook at my RobCloot page. We will do our best to check-in to the morning "Cawfee Tawk" and Tuesday evening nets while we are away.

We have a new logo! Maja **KO6DAV** is currently designing club shirts. Please contact her for more details.

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 from 1000 to 1100.

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

… On two separate days in late April 2024, working parties met atop Paxton Hill to make significant headway on this undertaking.

On Sunday, April 21, preparation for the new roof began. On site was Glenn Miller **N6GIW**, Chris Nichols **WB6CDF**, Bryan Heveron **KF6YGK**, Larry Mollica **AD6G**, and Keith Board **N6GKB**.

While the work preformed on Sunday was not *entirely for* the requirements to ready the roof for professional service, it was optimal to give attention to those other matters on the same trip. **More on the auxiliary work that later in this article**.

Each member on site shared a portion of the workload—a hallmark of our club and the spirit of amateur radio at large.

For the purposes of the roof repair, Sunday's objective was to relocate antennas and equipment mounted on or near the roof, which would be necessary to maximize the roofer's ability to work unobstructed and, of course, to protect said antennas and equipment from accidental damage.

Having this preparatory work sorted out, the roof was ready for a visit from Rauschenberg Roofing on Wednesday.

Of the work Wednesday, Glenn Miller **N6GIW** writes:

"*Present were Clint Rauschenberg and his employee Angel, Frank Barber* **KD6RNS***, Perry Eaton* **KN6WTI***, and me. We arrived at 0700 and began the project of replacing the roof shingles on the repeater building. We (meaning not me) used 3 bundles of shingles provided by Rob* **WO4ROB***. Clint purchased 3 more bundles. I was*

there to provide access to the site, take photos and answer questions. Frank and Perry did a lot of manual labor, carrying out the old shingles and putting them in Frank's trash trailer, and doing cleanup. Perry paid for the dump fee and purchased a crown shingle set that we needed at Home Depot. Perry will be reimbursed by the club. Rauschenberg did not charge for labor. Clint also did some reinforcing on the deteriorating fascia board, so we can now paint it and it should last several years.

I was really impressed by the generosity and positive spirit of all involved. We have great people in our community and in our club. The roofers did a great job. Now it begs for a new coat of paint!"

The roof is nearly prepared for the new shingles. — Photo by **N6GKB**

The new shingles installed. — Photo by **N6GKB**

Regarding the **auxiliary work** preformed on Sunday, Larry Mollica **AD6G** writes:

"*[T]he coax and antenna were inspected in an attempt to find the intermittent noise source on the Yucca Valley repeater. Chris* **WB6CDF** *went up the tower. A noise source was found on the antenna's feed line connector. When Chris tugged on the coax jumper (this is coax cable jumper that connects the hardline coax to the antenna) a crackling sound could be heard on the repeater's transmission. After removing the tape, the coax connector was found to be a bit loose. This was tightened and the connection re-taped with silicone tape.*

Hopefully this will eliminate or at least reduce the incidences of noise on the Yucca Valley repeater."

Chris **WB6CDF** *repairs the repeater antenna's coax connection. — Photo by* **N6GKB**

Landers Repeater Rebuild

*By Larry Mollica **AD6G***

Some may remember the MBARC linked repeater system blowing raspberries on top of their transmissions in the earlier part of 2022. Starting June 15th, 2022 and finishing June 17th, Chris **WB6CDF** and I replaced most of the equipment at the Landers repeater (447.58 MHz) site. On a previous visit some months before, we had observed that the persistent and annoying noises frequently heard on the MBARC system at that time were originating at the Landers repeater. Since the Landers repeater is used as the relay between the Yucca Valley and Twentynine Palms repeaters, the Landers noises affected the entire system. For example, while a station listening to the YV repeater would not hear the noise on top of the transmission of another station transmitting locally through the YV repeater, they would hear it only on the repeater drop-off "tail". If instead, listening on the YV repeater to a station transmitting from the 29 Palms or Landers repeater (over the link instead of local), they would hear the noise on top of that station (instead of just the tail), sometimes obliterating the entire transmission.

The most likely source of the noise was probably a failing connection somewhere in the Landers repeater's transmitter RF path. It could come from the transmitter, duplexer, feed line, or antenna, with the latter two being the most likely suspects as they are out in the weather. Before doing any changes we made some effort to try and localize the fault, but in spite of our efforts of vigorous thwacking on the various components we were not able to find the source. Since we were there to replace three out of the four elements likely to cause the noise anyway, we proceeded with doing that.

Items replaced or removed were:

- Antenna
- Feed line
- Repeater
- Controller

The only items left over from the old installation are the power supply (charger and battery) and the duplexer. The duplexer was re-tuned.

*Chris **WB6CDF** checks the dulplexer using a communications analyzer. — Photo by **AD6G***

The old antenna had been mounted on a short tripod on the roof of the fire station. This was removed and the new antenna was installed on the lower tier of the antenna structure next to the building. This puts it somewhere between 15 to 20 feet higher than the old antenna. Chris had rented a hydraulic lift platform from Home Depot and this allowed easy access to the antenna structure, which would have otherwise been difficult and time consuming.

The old feed line, which I think was probably LMR400 or equivalent was replaced with half inch hardline, a much superior product to the old feed line.

*New antenna connected to hardline. — Photo by **AD6G***

The original repeater comprised two Motorola CDM mobile transceivers (one for receive and one for transmit) and an Arcom controller. These were replaced with a Motorola SLR5700 repeater. While you can make a pretty fair repeater out of the two mobile radios, the replacement is a "real" repeater, built for continuous duty in harsh environments.
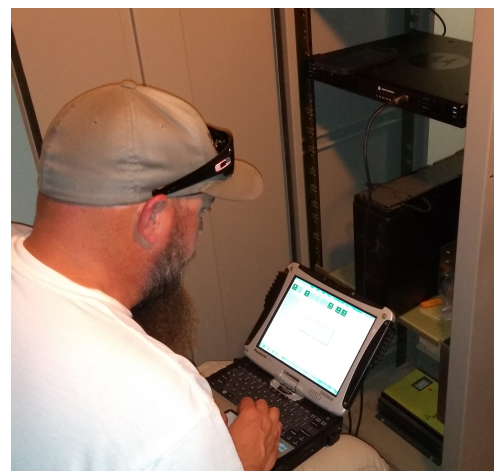
*Chris **WB6CDF** programs the new repeater. — Photo by **AD6G***

So far so good. Luckily the duplexer was

apparently not at fault. There are still a few bugs left to be sorted out. Sometimes we are not hearing the "courtesy" tone on the Yucca Valley repeater tail, possibly due to some sort of timing issue. And there are occasional mystery noises now and then, originating at other sites, though nothing like the daily loud harassment we were subjected to for so long.

Chris deserves most of the thanks for the Landers fix; he provided all the replacement gear, rented the lift (expenses of about $5k), and did almost all of the work. I did most of the nagging.

POSTSCRIPT: A few weeks later I had the old Landers Motorola transmit radio on the bench, going through the tune-up procedure. It seems as though it was this radio that was the source of the Landers noises, or one of the sources anyway. When the radio was transmitting, I started to hear familiar crackling noises on the service monitor. Investigating further, I found that when I tried to wiggle the radio's mini-UHF coax connector it would affect the noises. This could be a fault of the center lead of the connector to the PC board (or at least, this was the "low hanging fruit" of possible causes). The shield connects at 4 solder joints, all 4 would have to be faulty for the shield connection to the cause, further pointing to the center lead (see photo). I reflowed the solder joint on the PC board for that lead and so far the noises cannot be reproduced. At some point this radio may go back into service as a link radio or part of another repeater.
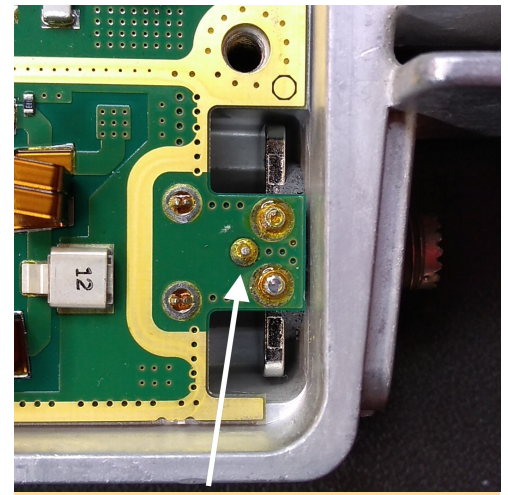
Center PCB pin of coaxial connector, which was reflowed. Solder flux can be seen, which is used to help the solder flow and bond evenly — Photo by **AD6G**

Thank you, Keith N6GKB

By Aaron Chesney **KM6IAU**, *Incoming Newsletter Editor*

Thanks, Keith **N6GKB**, for your many years of service to the club as the newsletter editor.

Maja and I were looking over the newsletters from months and years past which Paul **AA6SM** has made available on the club website.

It was clear that you've had a heart of service to the club for many years.

Thank you also for your assistance in getting the various digital materials necessary to get me going on this, such as new newly-approved club logo and photos of news stories.

It's been a huge help for a smooth transition. You're a team-player for the club and a good friend to me.

I don't think I'll make the newsletter as colorful and festive as you did—I'm too boring for that—but your enthusiasm and zeal leaves large shoes for me to fill. You've certainly set a high bar, in that regard.

As a tribute to your work, I got you this highlighter. May this highlighter give you many years of excitement highlighting entire paragraphs, every day and every number on every calendar, and the left-justified whitespace of spacebar-centered text.

Thanks again, brother.

– Aaron **KM6IAU**

KD6DIQ's IRLP Node Converted To AllStar Node #28855

*By Larry Mollica **AD6G***

Todd **KD6DIQ** has been operating an open IRLP node at his residence in Yucca Valley for many years on 145.77 MHz (simplex), PL 67.0 Hz. As of 4/20/2024, the node has been converted to an AllStar node running HamVOIP software. As with the previous IRLP node, the new AllStar node is operated by Todd as an "open" system that any licensed radio amateur may use. The node automatically connects and disconnects to certain ham networks automatically throughout the week. Users are free to use Todd's node to connect with other AllStar nodes as they wish. The system covers the valley fairly well and is usable to a degree in Joshua Tree and other areas.

The change from IRLP to AllStar was undertaken mainly because of recent difficulties with the IRLP network which consequently resulted in poor audio. The automatic linking schedule is nearly the same as before, with these exceptions:

- The Outdoor Adventures Net is unavailable on AllStar,
- The Keller Peak system operator's wishes to not link.
- For the moment, Amateur Radio Newsline (normally heard at 1700 on Saturday) is not scheduled while a little more software work is completed.

The hardware and software conversion were performed by myself.

DTMF Commands

Please keep in mind that when you key your radio to control via DTMF—and the node is already connected to a network—you are keying up all systems on that network. Ideally, the node attempts to mute the DTMF tones for minimal disruption to the network, but it's not perfect. Please use with consideration for others; do not attempt to control the node with a weak signal when it has an active connection—this can be highly disruptive. Please ID your transmissions.

TIP: The courtesy beep when you key the node locally will be a double beep when connected to another node—or a single beep when not connected.

Linking commands

*70   Say link status: The system will respond with the node numbers involved in the current link, including itself 28855. If it is not currently linked, it will respond with "Repeat only". This will only be heard by local on-air stations, and will not be sent over the network.

*76   DISCONNECT: Use *76 before attempting to make a connection. If the node is already linked to another node, the system will respond "Disconnect active link first". Todd asks that you please refrain from disconnecting a scheduled net while there is still activity.

*2 node#   CONNECT in Monitor mode: audio is 1-way. E.g. *22560 will listen to the WIN System.

*3 node#   CONNECT in Transceive mode: audio is 2-way. E.g. *345225 will connect to the East Coast Reflector.

Status commands

The following will cause the node to respond with information. These commands are only available when the node is not connected.

*81   Local Time (12hr) & Temp: Responds with the time and brief local weather.

*82   Local Time (24hr) & Temp: Responds with the time in 24 hour format, and brief local weather.

*83   Responds with detailed weather information from a nearby Yucca Valley Weather Underground station.

Node Schedule

See **KD6DIQ AllStarLink Node #28855 Schedule** on the calendar page for the current schedule.

Your Newsletter, Your Voice.

If you have material you'd like to share in a future newsletter, contact me. — 73 de **KM6IAU**
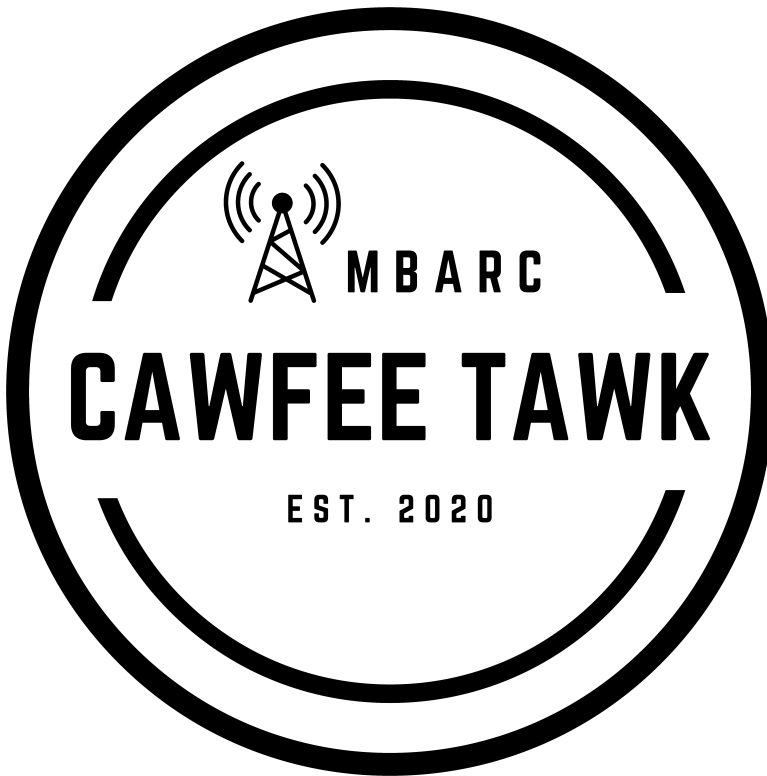
👤   Aaron Chesney **KM6IAU**
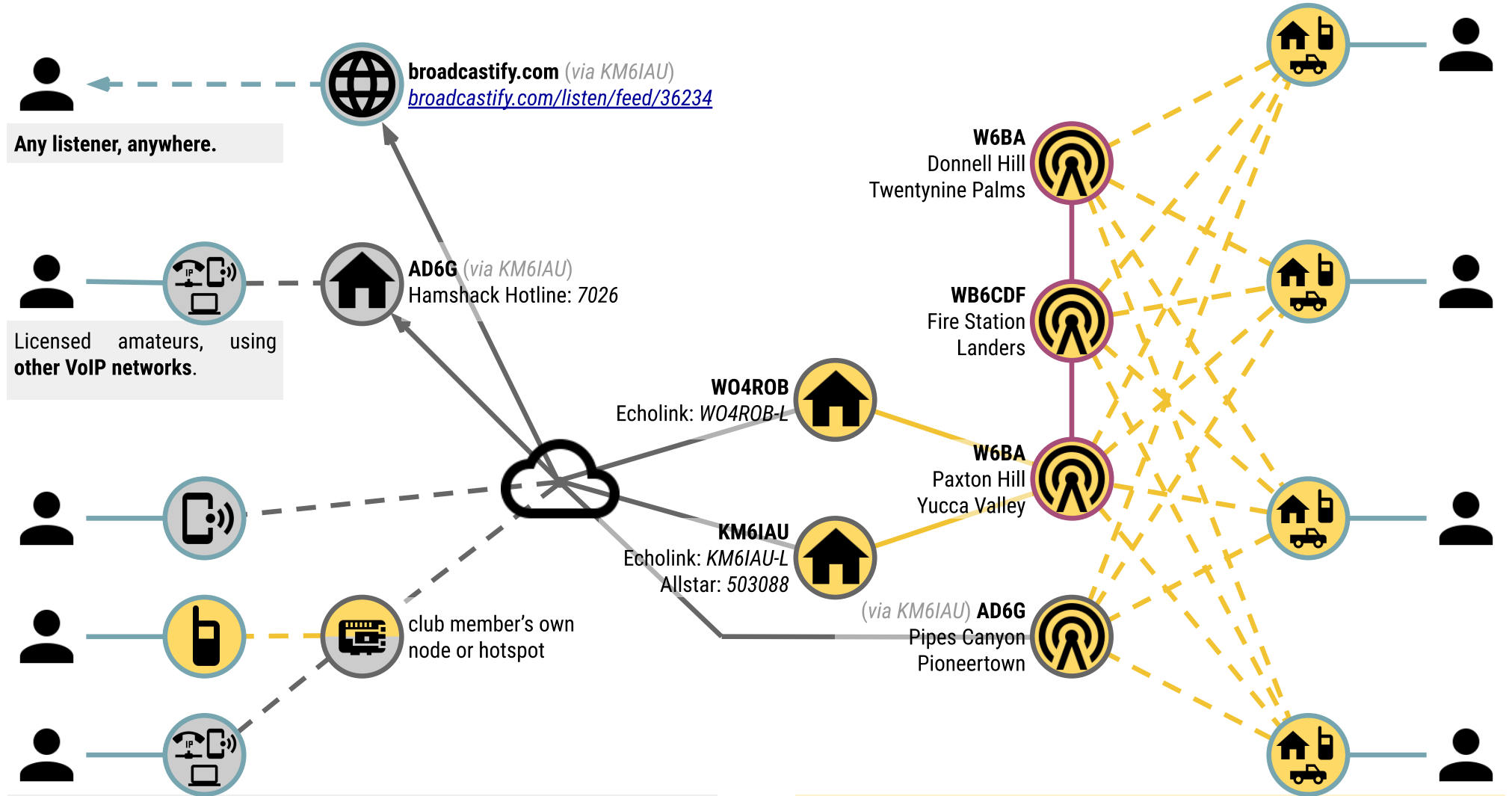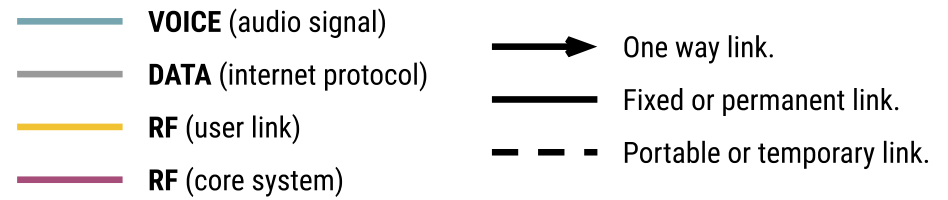
📞   (442) 205-1873, ext 5

✉   Aaron@**KM6IAU**.net

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CAWFEE TAWK
EST. 2020

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HAM RADIO
THE ORIGINAL
SOCIAL NETWORK

Morongo Basin Amateur Radio Club
Linked Repeater System Overview
As of May 2024

VOICE (audio signal)
DATA (internet protocol)
RF (user link)
RF (core system)

One way link.
Fixed or permanent link.
Portable or temporary link.

broadcastify.com *(via KM6IAU)*
broadcastify.com/listen/feed/36234

Any listener, anywhere.

AD6G *(via KM6IAU)*
Hamshack Hotline: *7026*

Licensed amateurs, using **other VoIP networks**.

WO4ROB
Echolink: *WO4ROB-L*

KM6IAU
Echolink: *KM6IAU-L*
Allstar: *503088*

club member's own node or hotspot

(via KM6IAU) **AD6G**
Pipes Canyon
Pioneertown

W6BA
Donnell Hill
Twentynine Palms

WB6CDF
Fire Station
Landers

W6BA
Paxton Hill
Yucca Valley

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.

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.

* 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.

May 2024

SUN	MON	TUE	WED	THU	FRI	SAT
April 28	April 29 1915 – **ARES** net	April 30 1900 – club net Aaron **KM6IAU**	1 SCE "summer rates" begin.	2	3	4
5	6 1915 – **ARES** net	7 1900 – club net Glenn **N6GIW**	8	9	10	11
12	13 1915 – **ARES** net	14 1900 – club net Larry **AD6G**	15	16 1800 – meeting	17	18
19	20 1915 – **ARES** net	21 1900 – club net Chris **WB6CDF**	22	23	24	25
26	27 1915 – **ARES** net	28 1900 – club net Fred **WO6C**	29	30	31	June 1

KD6DIQ AllStarLink Node#28855 Schedule

YV: 145.77MHz, ∅ shift, ⊤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
1830 – 1900 Newsline #516229
(when available)