MBARC Beacon
The Morongo Basin Amateur Radio Club Newsletter

DECEMBER 2024 EDITION

🌐 w6ba.net   f Morongo Basin Amateur Radio Club

Yucca Mesa Community Center. – *Photo by* **KO6DAV**

Radio Club Holiday Meeting and Party

Our annual officer installation dinner and holiday party will be held on Saturday, December 14 at 2PM at the Yucca Mesa Community Center.

This year, Chris Nichols **WB6CDF**, a locally renowned desert chef, will be providing and cooking the food. The main course is PRIME RIB. *We know not everyone eats red meat, so Chris will also have chicken breast as an alternative meat. Just let us know which one you prefer.*

Please email Glenn Miller **N6GIW** and let him know how many people with be coming so we can plan and purchase accordingly. This will be a sizable meal, so please prepare by leaving room in your digestive system.

We encourage people to dress in holiday attire, to bring a wrapped white elephant gift to exchange, and if you want, please bring your favorite holiday desert to share with the club.

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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 ongoing discussion about changing the time and/or location. 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	⸑	⊤
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	∅	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	⸑	⊤	🖥 System	# Node/TG
KD6DIQ YV	145.770	∅	67.0	AllStar	28855
WB6CDF YV	447.000	−	🆒 10	DMR/BM	TS1:TG 3106 TS2:TG 2

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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 is the last month of 2024 and this will be my last message as your club president. I totally enjoyed my position for the past 5 years but it's time for a break so I can visit my granddaughter in Okinawa, Japan.

Congratulations to all the 2025 **MBARC** officers & board members. Thank you for volunteering your time and talent to make this a great club.

The Installation Dinner Holiday Party will be held at 1400 Saturday, 14 December at the Yucca Mesa Community Center. The dinner is free to all club members. All participants are encouraged to dress in holiday attire. We will have a "White Elephant" gift exchange, so please wrap up something in your home that you no longer want, and bring it to the party. You are also encouraged to bring your favorite holiday desert to share with the club. Please contact Glenn **N6GIW** if you plan on attending.

Please contact me if you, or someone you know, wants to take the Amateur Radio Exam on Saturday 25 January 2025, at the Yucca Mesa Community Center.

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

Club History – A Tribute to Bill Adams **W6BA**

*A collection of contributions by Cindy Bernard (granddaughter of Bill Adams), Lis Schwitters **N6NDC**, and Larry Mollica **AD6G**.*

Dedication

Thanks to the family of our friend Bill Adams, **W6BA**, for allowing the **Morongo Basin Amateur Radio Club** to obtain Bill's call sign when he passed away. Our club maintains a linked repeater system in the Morongo Basin. The call sign **W6BA** is used for the 146.790MHz repeater in Yucca Valley, and is used on the HF bands during club Field Day.

Prominent Personalities of Amateur Radio

*Laco Polák, **OK1AD***

> *Editor's note: Lis **N6NDC** provided the translation from Czech to English. Cindy found some errors in the source. I found some, too. I have added* ~~strike-through~~ *to the errors which are respectively followed by* underlined *corrections. The article's photos can be seen in the original document excerpt to the right.*

The series contains information about radio amateurs who made a significant mark in the history of amateur broadcasting, or were celebrities in various areas of public life.

William A. Adams, **W6BA**

> *Photo. Caption: Bill Adams, **W6BA**.*

Bill Adams was born in 1908, and he and his wife Grace had three children, Virginia, William Jr., and David. He was an enthusiastic and successful radio amateur throughout his long life.

He has been involved in the amateur hobby since 1923. He started broadcasting in 1924 with the **6ANN** call sign and while studying at Long Beach Polytechnic High School he became a member of the radio club there. Gradually the prefix of his call changed to **U6ANN**, **NU6ANN**, **W6ANN** and from 1966 he changed the call to **W6BA**.

> *Photo. Caption: QSL card **W6ANN**, year 1936.*

He lived in ~~the city of San Pedro~~ Miraleste, California. He built an excellent broadcast center in ~~Twentynine Palms~~ Joshua Tree (which later became Twentynine Palms) with an extensive antenna farm of over 16 hectares.

Since 1967, he participated with his friends **K6CU**, **N6AW**, **N6MJ**, **N6RT**, **W6KK**, **W6KP** and **W6RW** in important world amateur radio competitions such as the CQWW DX Contest, ARRL Contest and others, in which they achieved excellent results. At the end of his life, he devoted himself to training novice radio amateurs.

> *Photo. Caption: Antennas **W6BA**.*

Bill **W6BA** became the first president of the South California DX Club in 1948, whose members included the outstanding radio

Original excerpt of a series written by Laco Polák OK1AD, detailing Bill's life and contributions to amateur radio. – Provided by Cindy Bernard, granddaughter of Bill Adams

amateurs **W6AM**, **W6AQ**, **W6EE**, **W6HX**, **W6RR**, **W6SAI** and many others. In 1969, he received the annual SCDXC award, which is given to members for many years of active activity. He died on October 29, 1999.

California's **Morongo Basin Radio Club** in Yucca Valley has the call **W6BA** on a 2m ~~transmitter~~ repeater and on packet radio in ~~Joshua Tree~~ Yucca Valley since 1971 to honor his memory. His granddaughter, Cindy Bernard, at the turn of 2008/2009 held an extensive exhibition of photographs and QSL cards from his estate at the Boston Center for the Arts.

Thanks to Ivan **OK1MOW** for editing the images.

Source:

[1] ~~https://bit.ly/3jvzKjC~~ [broken link at time of publishing]

> *Photo. Caption: QSL card **W6BA**, year 1998.*

Bill Adams W6BA, in the biography of Don C. Wallace: W6AM, Amateur Radio's Pioneer

By Larry Mollica AD6G, article submitted October 26, 2024

The biography "Don C. Wallace: **W6AM**, Amateur Radio's Pioneer" (1991), details the life of famous ham radio contester [Don Wallace](#). Don for many years had a massive [rhombic antenna](#) 'farm' on a high ridge on the Palos Verdes Peninsula. A few times in the mid-1970s, I'd driven past his by then downsized antenna ranch on the way to a 220MHz repeater I was involved with in Palos Verdes. The reduced rhombic arrays were pretty impressive, I can only imagine what the thing looked like in it's heyday.

Anyway, the book mentions Bill Adams **W6BA** (his original call was **6ANN**, in the days before the national letter/s prefixes were established) in at least two places. Here is an excerpt:

> "*Bill Adams, 6ANN (W6BA), had recently spent a lot of time operating on the shorter waves. Progressing from 20 to 10 meters, the 28 MC band seemed to have its own characteristics. On Sunday, April 29, 1928, Bill worked 2JN in New Jersey. In his letter to Bill, Mr. Atwater remarked, 'As far as I know OM this transmission of ours is the premier from coast-to-coast (on 10 meters) and we can claim the Transcon laurels. [...]' [...]*
>
> *In relating his operations on the shorter wave-lengths, Bill Adams recalled, 'I was licensed in 1923. There were five other hams who lived close to me. I grew up on East 7th Street in Long Beach. We all operated on 80 meter CW, and the interference to each other was tremendous. Our early home-built receivers were not very selective, you know. The six of us got together and decided to draw straws. I was one of the three who got a short straw; we had to go up to forty meters. That way there would be less interference between us local stations. We thought we were getting gypped at first, because everybody figured 80 meters was the better band. The trans-Atlantic contact had been made on 110 meters just about then. Well, 40 meters turned out to be a great DX band. We worked stations a lot farther away than the other fellows on 80 meters. Pretty soon I was trying out 20 meters and then up to 10 meters when I worked 2JN. Later that year we started working European and Pacific stations on 10 meters.'"*

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Left: Bill Adams, portrait. – Used with permission. Source: https://www.cindybernard.com/works/silent-key-portraits-stations/

Right: Bill's rhombic antenna, 2007. – Used with permission. Source: https://www.cindybernard.com/works/silent-key-antennas/

Software-Defined Radio (SDR) in the Morongo Basin
A Multipart Series: Part 2

*By Aaron Chesney **KM6IAU** – submitted October 25, 2024*

2.0. Prologue

Last month, I introduced a series which I originally conceived to be a short write-up about how to use the OpenWebRX server at Paxton. I considered how to include sufficient information for hams that were unfamiliar with SDR, it's value, and it's limitations. Having a finite attention span myself, I decided to arrange the story as a multipart series. Last month, we covered fundamentals. This month, we get to play with it!

2.1. Hardware

Having previously established the reason for web-based SDR, let's look at the hardware for an OpenWebRX setup.

In **Figure 1**, we see a block diagram and photo of a very simple setup. An antenna plugs into the RTL-SDR, which plugs into the Raspberry Pi's USB port. The OpenWebRX software is installed on a Raspberry Pi's microSD card.

Figure 2 shows an expansion of the same basic idea – and is fundamentally how the SDRs at Paxton are set up.

The [Comet DS-150S discone antenna](#) has a receive frequency range of 25MHz to 1500MHz. The [Stridsberg MC104 multicoupler](#) (splitter) has a passband of 100kHz to 500MHz. This means that the Paxton SDRs may not hear weak signals below 25MHz and will be completely deaf to frequencies higher than approximately 500MHz.

Without doubt, RF engineers would have endless feedback (no pun intended) about how this system might be improved. For the purpose of this article, I hope it will suffice to assert that this has been an iterative development funded mostly out of my own pocket. (There were also donations of
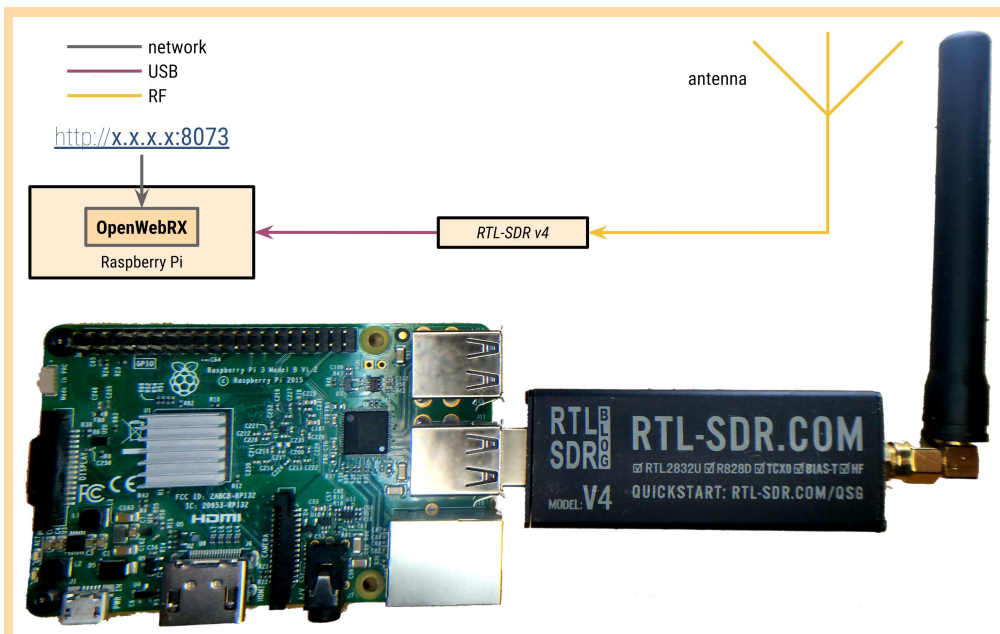
Figure 1: *Block diagram and photo of a very simple setup.*
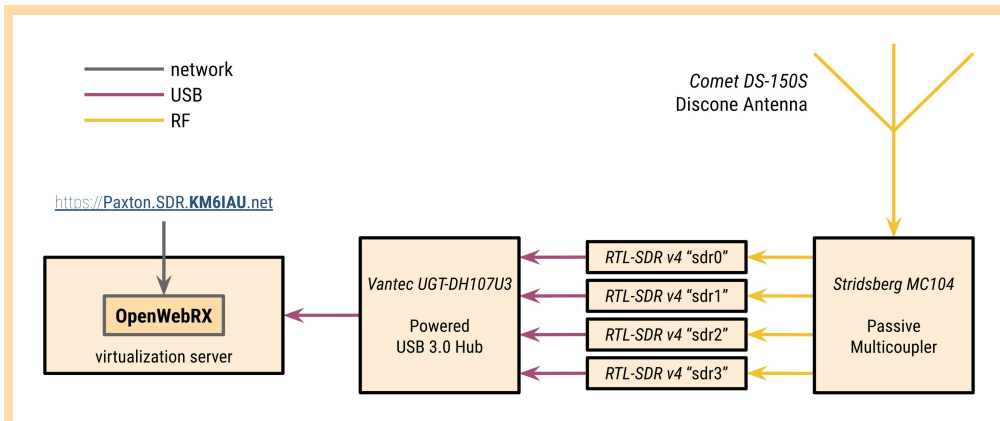
Figure 2: *Block diagram of the OpenWebRX setup at Paxton.*

equipment, time, and skill – for which I am very grateful.) I'd love to continue improving this system.

Focusing on the strengths of this system, having four SDRs is approximately four times better than having one, by most assessments. A Raspberry Pi however doesn't have the processing power to support this demand – especially when decoding digital modes. A modest server platform, however, does. (Virtualization is not necessary; I'm using it here as a means to share hardware, isolate services, and unify management.)

2.2. The User Interface

OpenWebRX+ (note the plus) is a fork of OpenWebRX (without plus) which includes more features. OpenWebRX+ is the version running at Paxton. For simplicity's sake, I'm using the term "OpenWebRX" generically.

Whether OpenWebRX is providing access to one SDR or more, the interface is the same. The OpenWebRX server at Paxton can be accessed at this link:

[https://Paxton.SDR.**KM6IAU**.net](https://Paxton.SDR.KM6IAU.net)
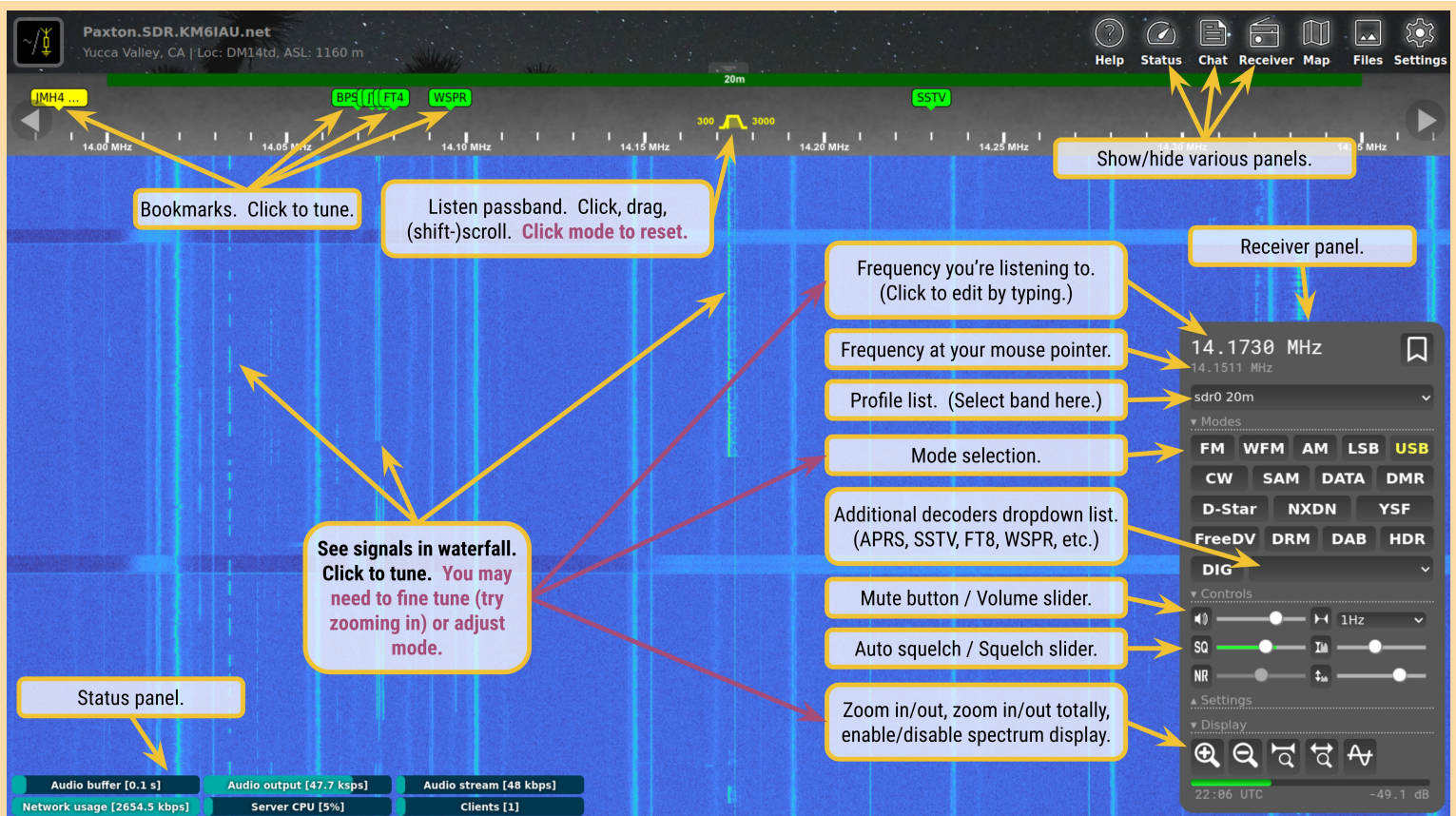
Figure 3: *The main screen for OpenWebRX. Labels and arrows are added to indicate key features and functions.*

Figure 3 shows the main screen for OpenWebRX. Let's go over what we're looking at.

The Waterfall

The most prominent feature is the sea of blue. This is called the waterfall. It is a representation of signal strength across a range of frequencies over time. The time component is vertical. As time passes, signals 'fall' downward toward the bottom of the screen. Left to right is a range from lower frequency to higher frequency. An area which is lighter in color indicates a stronger signal than an area of darker color. Drag left or right on the waterfall when zoomed in to adjust visible the range of band.

The Receiver Panel

Just as important as the waterfall is the receiver panel; the large gray box on the right with a bunch of buttons. In **Figure 3** you can see a group of labels that I've added to indicate their function.

I'd like to draw your attention to the profile list. Last month, I discussed some of the limitations of sharing SDRs across a pool of users. In order to mitigate demand collision, profiles are used to set limits in a SDR's active configuration.

In the drop-down list, the profiles are ordered by name. The name begins with "**sdr0**", "**sdr1**", "**sdr2**", or "**sdr3**". This indicates which physical RTL-SDR will be used.

A single SDR may only use one profile at a time.

"**sdr0**" and "**sdr1**" each contain a range of bands from DC (0MHz) to 30MHz.

By selecting "**sdr0 HAM 80m, 2.7~5.1**", for instance, **sdr0** will be forced into the "**HAM 80m, 2.7~5.1**" profile. If other users were using **sdr0**, they will be forced into the same profile as well. If they were already there – then no harm done. Or, if they were using another

SDR – such as **sdr1**, **sdr2**, or **sdr3** – again, no harm done.

Demand collision *can* be completely mitigated – but it would come at the cost of a dedicated SDR for each band. This is more easily doable if focusing only on the HF bands – but much more expensive trying to cover 30MHz of 70cm band.

(Incidentally, decentralizing the receivers would also be a benefit to SDR in the Morongo Basin. The web address "Paxton.SDR.KM6IAU.net" is actually a reverse proxy across an AREDN link. The notion is that other users would set up their own systems, perhaps over AREDN, and a reverse proxy could unify their presentation. I digress. Don't worry; not on the test.)

sdr2 profiles contain 6m ham band, broadcast FM, air band, 2m ham band, and a few other bands near 2m.

sdr3 profiles mostly contain 70cm ham band, GMRS / FRS frequencies, and a few other bands.

Obviously the 6m, 2m, and 70cm ham bands all individually exceed the 2.4MHz of bandwidth of an RTL-SDR. These bands are therefore provided across a number of profiles, such as:

✴ "**sdr3 HAM 70cm: 419.8~422.2**",

✴ "**sdr3 HAM 70cm: 421.8~424.2**",

✴ "**sdr3 HAM 70cm: 423.8~426.2**",

✴ "**sdr3 HAM 70cm: 425.8~428.2**",

✴ and so on.

The Chat Panel (not pictured)

Perhaps a thoughtful way to coordinate usage is by using the chat window. I haven't used this feature much, but it works.

The Status Panel

Referring to **Figure 3**, indicators in the lower left provide information about the audio buffer, the server CPU, and the network.

You may notice the server CPU usage momentarily spike every 15 seconds. In the background, the server is actually listening on idle SDRs. You may further recognize 15-second intervals if you've even used FT8. Indeed, OpenWebRX is actively decoding such digital signals.

Currently, idle SDRs use the following profiles at a given time of day:

	daytime	grayline	nighttime
sdr0	HAM 20m	HAM 20m	HAM 40m
sdr1	HAM 10m	HAM 10m	HAM 20m
sdr2		AIR: 135.4~137.8 - VDL	
sdr3		HAM 2m: 144.0~146.0 - PACKET	

Background decoding is currently limited to: FT8, FT4, JT65, JT9, WSPR, MSK144, JS8Call, AX.25 "Packet" (including APRS), AIS, Page, SSTV, Fax, EAS, HFDL, VDL2, and ACARS.

This leads us to joyfully to the next feature…
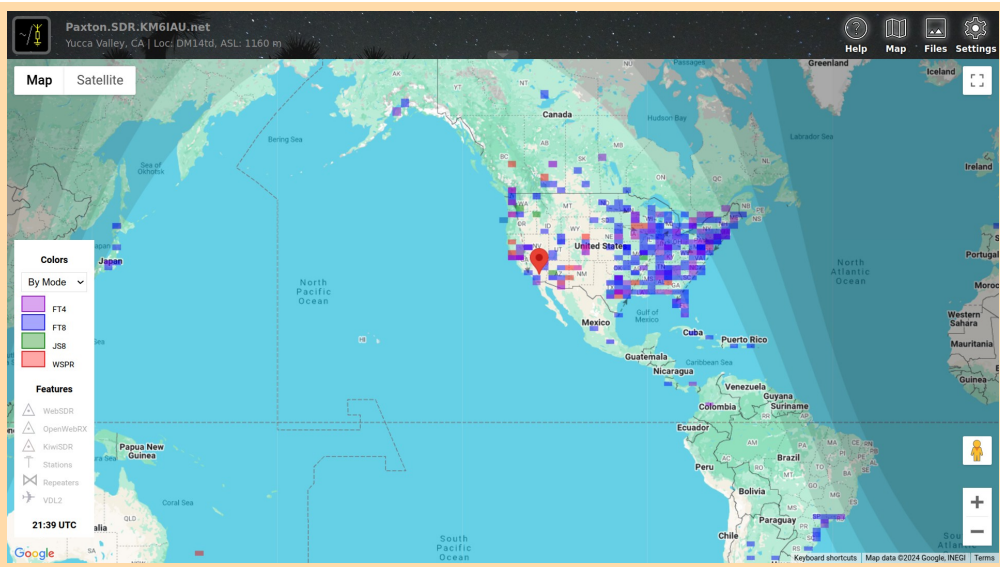
Figure 4: Grid squares of recently heard stations using FT4, FT8, JS8, and WSPR.
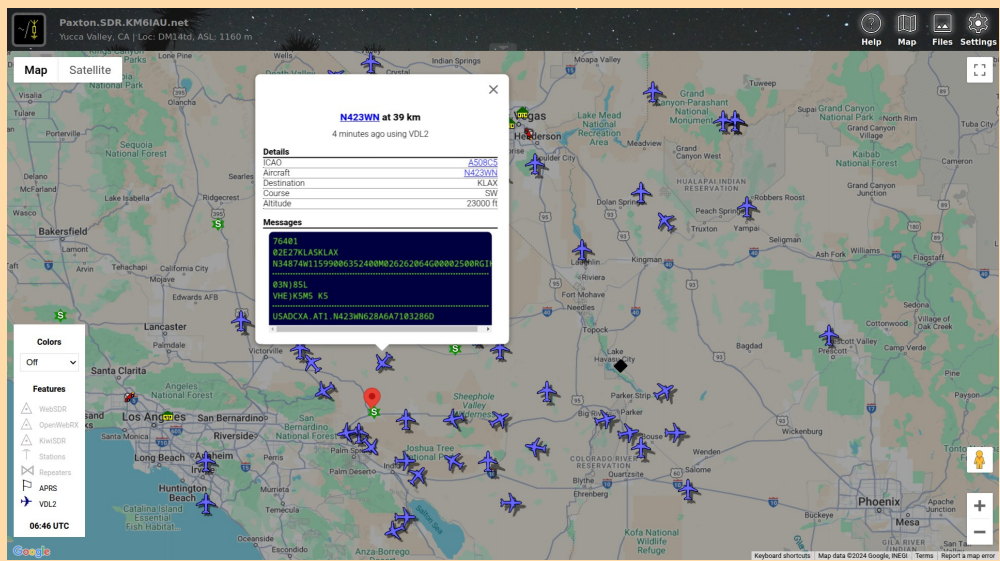
Figure 5: Heard VDL2 transmissions from aircraft, and ham radio APRS packets.

The Map Page

Many of the aforementioned digital modes include location information in the transmission. Conveniently, those locations are automatically plotted on the map page.

Figure 4 shows highlighted grid squares of recently heard stations. **Figure 5** shows the positions and data reported by aircraft transmitting VDL2 data, as well as ham radio APRS packets.

2.3. **Wrapping it Up**

There is much I haven't touched on in this article – it would be difficult to cover everything… and that's not really the goal of this article, either. My goal was to drive enthusiasm for radio by presenting what I think are some super cool ways to explore it – perhaps enabling you to have the same joy of discovery that I had early on in my amateur radio endeavor.

The RTL-SDRs aren't perfect, but for the price, they aren't without value. Try to forgive phenomena like signal imaging and local oscillator birdies. ***Have fun.***

2.3. **Beyond the Morongo Basin**

Another resource you might check out is the Receiverbook Map. This is a global map of receiver stations which have registered their web-based SDRs. *__73__* –·–

The WO4ROB GPS Unit

*By Rob Cloutier **WO4ROB** – submitted November 21, 2024*

The **WO4ROB** Global Positioning System (GPS) Unit is not a tracker. It does not transmit information. The unit does not use WiFi, the internet, or cell phone services. It receives information from GPS satellites to show your current location, speed, time, and how to navigate back to 10 saved locations.

This unit is an electronic clock, alarm clock, timer, stopwatch, compass, speedometer, odometer, navigator, position locator, and thermometer. It also displays the current moon phase as well as the current sunrise and sunset time for your location.

The unit can be powered by a 3.7 volt battery that will last for over 8 continuous hours, or by any 5 volt USB connection. The red power switch should be off when you are not using the unit to save the battery life. However, it must be turned on when charging the battery with a USB cord.

The tiny black button at the bottom left side of the screen reboots the system. The left white push button at the bottom of the screen, button A, is used to change map settings. The right white push button at the bottom of the screen, button B, cycles through the screen modes.

The mode number is displayed at the bottom right of the screen. In most cases, the bottom center of the screen displays the battery voltage and percentage of battery power. When the unit is receiving data from GPS
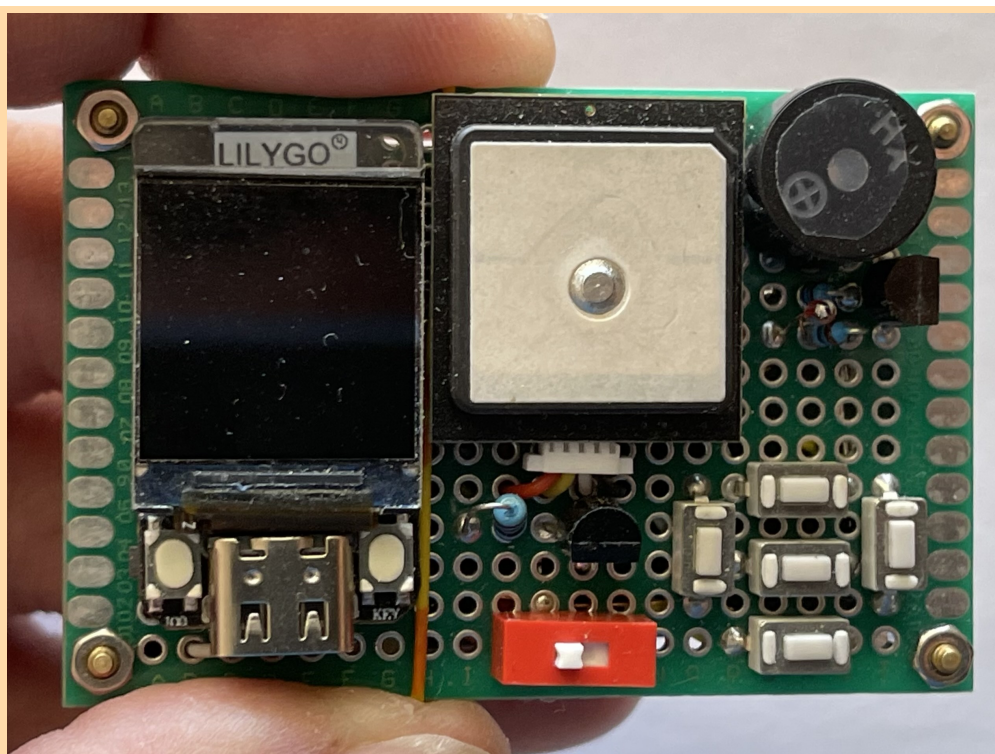
*Fully assembled main board of the **WO4ROB** GPS Unit. – Photo by **WO4ROB***

satellites, the bottom left of the screen displays the number of GPS satellites the unit is communicating with.

The screen will turn off when the screen time expires to save battery life. Pressing button A or B will turn the screen back on.

The unit will only display accurate GPS information if it can communicate with 4 or more GPS satellites. This happens when the red GPS LED starts blinking and the screen indicates that it is communicating with 4 or more satellites.

The GPS antenna can communicate with the GPS satellites through the unit case,

clothing, car or home windows, and window shades.

This is a great tool for hams because it displays the Universal Time, your current Ham Radio Maidenhead Grid Square location, and it will sound off the local time, temperature, and 12 character text in Morse Code.

The cost for parts is $45. I am happy to share the parts list, schematic diagram, and 2,250 lines of Arduino code to anyone who wants to build their own. I am also willing to build one for you for $55.

Contact me for more information. –·–
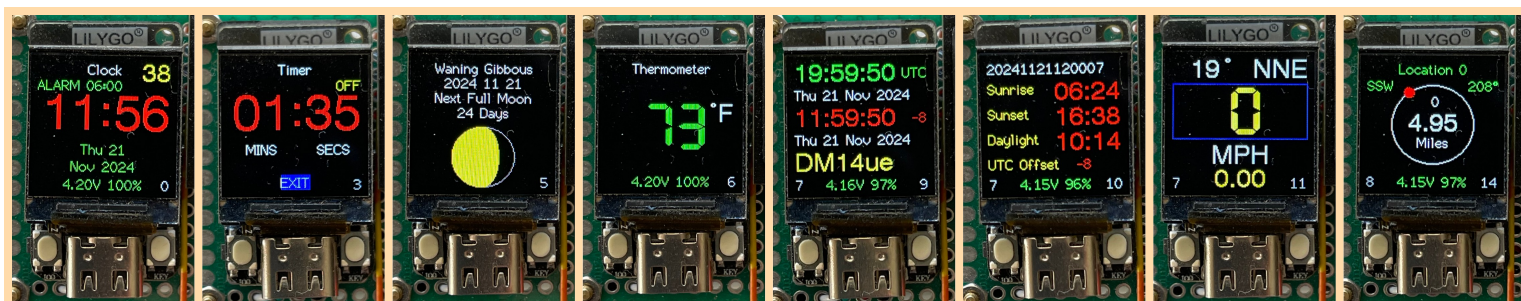
*A collage of images showing the various modes of the **WO4ROB** GPS Unit. – Photos by **WO4ROB***

Meeting Minutes – NOVEMBER 2024

Submitted by Paul Edwards AA6SM, Club Secretary, on November 18, 2024

The President Rob **WO4ROB** opened the meeting at 1302.

It was announced that the election of club officers for 2025 would be held at this meeting.

Introductions were made of all who were present.

The treasurer's report was given by Glenn **N6GIW** with the following reported:

Starting balance:	$ 2678.42
Donation:	$ 750.00 from Gubler/Orchid Festival
Revenue/Expenses:	$ 170.00
Balance:	$ 3598.42

It was noted that there are a large number of members who are delinquent on their dues and will be dropped from the membership if not paid.

The Secretary Paul **AA6SM** read the minutes of the October 2024 meeting.

Elections were held for the 2025 club officer positions with the following results:

President	Paul **AA6SM**
Vice President	Larry **AD6G**
Secretary	Jake **N6XIV**
Treasurer	Glenn **N6GIW**

Board positions:

Aaron **KM6IAU**

Bryan **KF6YGK**

Rob **WO4ROB** (previous President)

The formal installation of the 2025 club officers will occur during the club's annual Christmas party in December.

A 50/50 drawing was conducted by the Vice President. A total of $42 was collected with half going to Jake **N6XIV**.

The meeting was adjourned at 1405 by Rob **WO4ROB**.   –·–

Member Birthdays – DECEMBER 2024

Happy Birthday

DEC. 8   JAMES DUNHAM KO6FAY

DEC. 22   MIYA FERRELL

From your MBARC Family
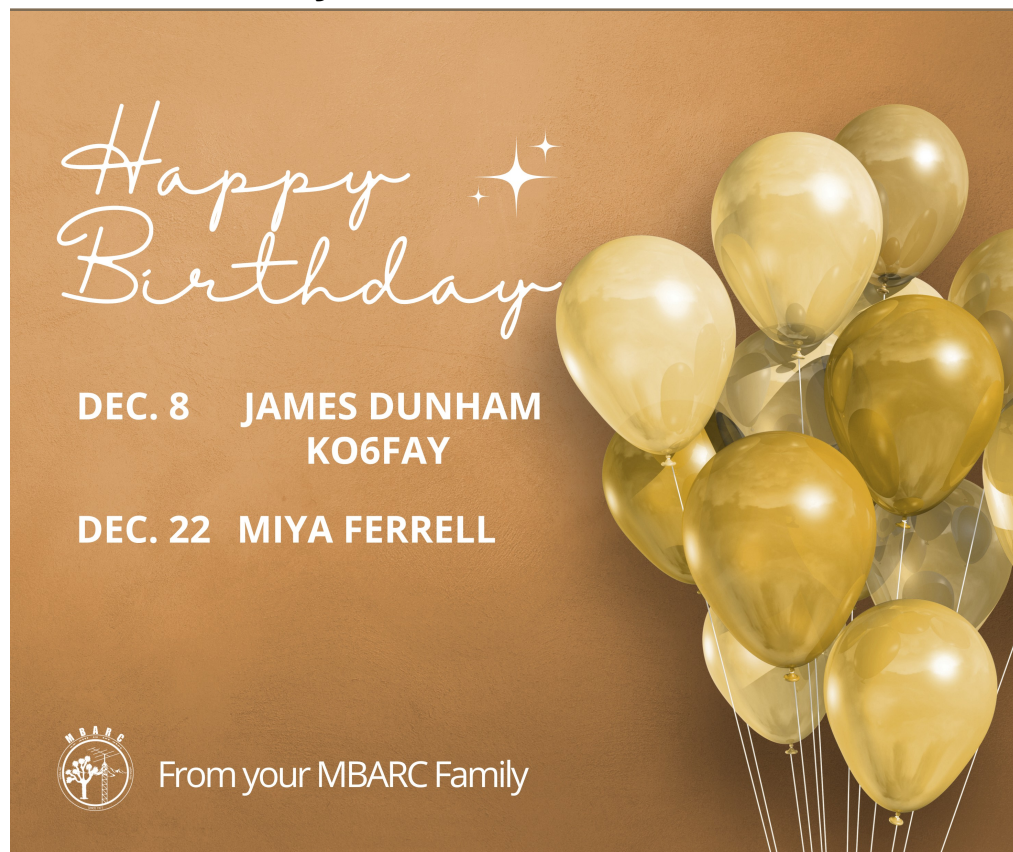
On behalf of the club, I extend our warmest birthday wishes to these cherished members.

May your special day bring joy, love, and peace. Stay happy and blessed.

If you'd like your birthday to be included for recognition here and on the club's Facebook page, get in touch.

👤 Maja Chesney **KO6DAV**

📞 442-205-1983, extension 6

✉ maj.chesney@gmail.com

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Morongo Basin Amateur Radio Club
Linked Repeater System Overview

As of December 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

W6BA
Donnell Hill
Twentynine Palms

WB6CDF
Fire Station
Landers

W6BA
Paxton Hill
Yucca Valley

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

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

Calendar – DECEMBER 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 bday: James **KO6FAY**	**9** 1915 – **ARES** net	**10** 1900 – **Club net** ctrl: Glenn **N6GIW**	**11**	**12**	**13**	**14** 1400 – **Club mtg**, Yucca Mesa Community Center
15	**16** 1915 – **ARES** net	**17** 1900 – **Club net** ctrl: Aaron **KM6IAU**	**18**	**19**	**20**	**21**
22 bday: Miya Ferrell	**23** 1915 – **ARES** net	**24** 1900 – **Club net** ctrl: Keith **N6GKB**	**25** Christmas Day	**26**	**27**	**28**
29	**30** 1915 – **ARES** net	**31** 1900 – **Club net** ctrl: Fred **WO6C** (station tentative at time of publication)	**Jan 1, 2025** New Year's Day	**Jan 2**	**Jan 3**	**Jan 4**

KD6DIQ AllStarLink Node#28855 Schedule

YV: 145.77MHz, Ø 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
1700 – 1720   Newsline
2000 – 2200   East Coast Refl. #45225