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## Contact Us

- Via [Facebook](#)
- Via [WWW.AC6EE.ORG](http://WWW.AC6EE.ORG)
- U.S. Mail:  
TARA  
P.O. Box 134  
Keene, CA 93531

## A Word

Dan Mason, AB6DM, President

Greetings, TARA.

Our VE sessions have been fruitful with many people getting both new or upgraded amateur radio licenses. Our June session looks promising as well with 5 attendees scheduled to test.

At each VE session, we offer people a free first fiscal year membership to TARA. Most accept the offer. Some of the new members jump in with both feet and bring TARA added energy and inspiration. We have new operators doing great things like satellite, SOTA, presentations to cub scout families, and more.

ARRL Field Day is near and we have secured our location at High Country Park in BVS, including camping overnight both Friday and Saturday, but no fires. Normally, this is a day use camp. We will have a porta potty in the close vicinity. Setup starts Friday, operations are 11 AM Saturday to 11 AM Sunday, and teardown is after 11 AM Sunday. More to come.

73, Dan

**EDITORS' Note:**

For the July newsletter we'll recap your Field Day adventures — Did you participate in Field Day? If so how did it go? Please share your experience by sending a paragraph or more describing your Field Day activity to [w6qpa@ac6ee.org](mailto:w6qpa@ac6ee.org)

73 ...Ray [W6QPA](#)

## Favorite Amateur Nets

### Dan Mason AB6DM

As some of you know, we have two regularly scheduled amateur radio nets in our region each week, The BVS Emergency Radio Team check-in (Sundays at 7 PM) and the TARA Just Because Net (Wednesdays at 7 PM). These are my two favorites because they are relevant to where I live and to the spirit of amateur radio, that is, both public service and expanding knowledge/skills.

Despite its name, the BVS Emergency Radio Team net is for the entire region around Tehachapi, and the participation numbers get forwarded to Western Kern County ARES on yet another net on Monday nights. I feel it's important that we be able and willing to serve our communities with our radio skills.

My other main favorite net, the TARA Just Because net, is great because a bunch of us get together and help each other learn radio skills or simply keep each other in the know of new radio equipment and event opportunities.

Back to the Western Kern County ARES Monday night net. As I mentioned earlier, this is the net we report our BVS ERT numbers to. It is a directed net, but all of you can participate for at least an equipment check to any of several stations operating on several bands and modes. You can test your ability to reach various zones in and around Bakersfield, and try modes like 2 meter sideband and packet.

Now just one more thing; while we are on travel in other parts of the country, I look up ham clubs in those regions, check their net schedule, and check in with them when possible. They have so far been welcoming to us. They appreciate fellow hams making the effort to guest check-in while on vacation.

### Valerie Mason KK6WLQ

I participate in the Sunday night emergency preparedness net (BVSERT), and sometimes call into the "Just Because Net", I also help with traffic nets during high traffic seasons sometimes.

## Dave Walter WA5GUL

Amateur radio nets were originally formed to pass traffic via normal message format or phone patches. Over the decades they have morphed to include special interest groups and trivia nets. I have been involved in nets for many years. My first nets were Army MARS (Military Affiliate Radio Services) in the 1960's and Navy-Marine MARS in 2003. As with any government effort, the check-in and traffic protocols were very detailed requiring weeks of training.

In more recent times I have been active in both HF and UHF/VHF nets. My HF focus has been on the Golden Bear and Mission Trail traffic nets. The Golden Bear meets daily at 7:00 pm Pacific on 3975.0 KHz. The Mission Trail, established in 1937, meets daily at 8:00 pm Pacific on 3857.5 KHz.

My UHF/VHF net participation is directed toward the Just Because Net and the BVS Emergency Radio Team Net. The Just Because Net meets on Wednesday at 7:00 pm Pacific and BVS ERAT meets Sunday at 7:00 pm Pacific. Both are on the W6SLZ 2m repeater (146.7).

New members and visitors are always welcome.

## On the Bench

This is a semi-regular column for members to share the off-the-air aspects of their ham radio activities. Using a sports metaphor, on-the-bench refers to a player not currently active in the game. So, applying that in a ham radio context, what is "On-the-(work)bench" in your shack?

### *Temporary Ham Setup in truck for Burro Schmidt trip*

#### MicahMartin KN6VUT

For the TARA trip to the Burro Schmidt tunnel, I brought my Dad and took his truck since my Dodge Dart wouldn't have made it through the desert.



I wanted to bring my B-Tech 25w Mobile and try out APRS using a Baofeng UV-5r connected to an old cellphone.



I fashioned an antenna mount from a hinge to mount the antenna above the right headlight.



The antenna cable went through a grommet in the firewall, under the dashboard, then came out to a conveniently sized spot to put my mobile rig secured with heavy duty velcro.



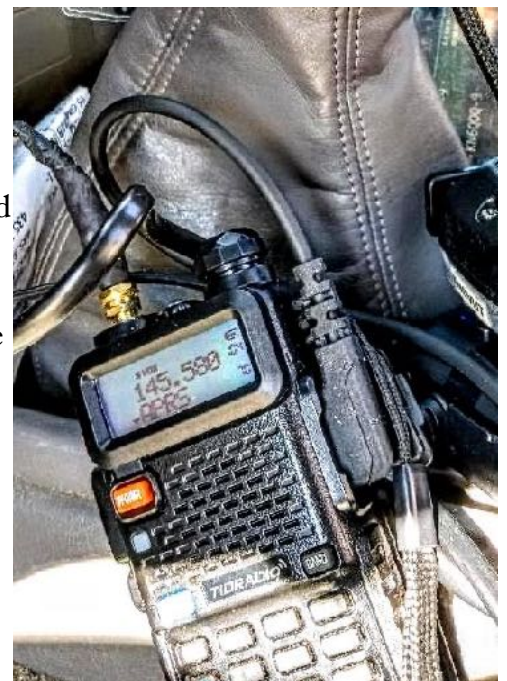
I installed a permanent power cable with an in-line fuse as well. I want the truck ready to go for the next time I need to go over rough ground.



I also wanted to try APRS with my Baofeng UV-5r just to try it out as I have a spare Handheld.

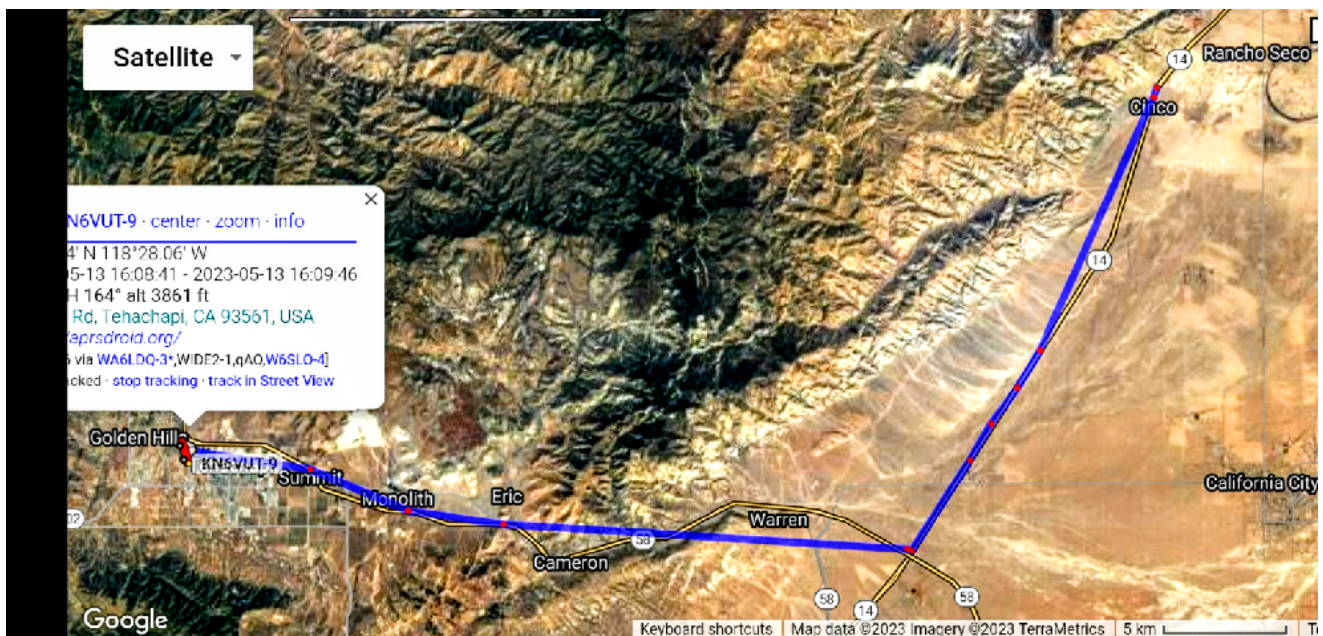
The UV-5r used a battery eliminator power plug, an old Android phone running APRSDroid, plugged into the radio with an APRS Cable.

The Android was plugged into a USB charger and put under the seat, the Handheld was on the side of the gearshift.





I used my old mag-mount attached to the back behind the driver side of the cab. The magnet on the mount is worthless over 5MPH so I taped it in place, then ran the antenna cable into the cab, under the seat and plugged into the radio.



I was surprised that the 5w Handheld with \$10 mag-mount actually was able to send my APRS location as KN6VUT-9.



I wasn't sure if the APRS handheld would interfere or cause problems with the regular mobile, or the mobile would interfere with the APRS handheld, but everything seemed to work, and on the trip, others in the caravan reported they could track me.

Since the handheld with the mag mount actually worked for APRS, I'm currently working on installing a handheld and an antenna onto the trunk of my car.

My regular permanent antenna is on the roof of the car.

I'm going to modify the Handheld battery eliminator and phone charger to run directly to the fuse, so it will automatically power up when the car starts and start sending APRS.

Since this setup will be automatic, I plan on installing under the passenger seat in a ventilated plastic container from the Dollar Tree, out of the way.

Here is a parts list from Amazon for the equivalent equipment I used.

*Amazon List current as of 6-1-2023*

1. BAOFENG UV-5R- \$18.40  
<https://a.co/d/Ieqo5GK>
2. BTECH APRS-K1 Cable- \$22.49  
<https://a.co/d/43MPYVf>
3. Dual Band VHF UHF Magnetic Mount Antenna- \$9.99  
<https://a.co/d/8IeXF5Q>
4. Fused DC Power Cable for Mobile Radio- \$11.98  
<https://a.co/d/7Ww5kMD>
5. APRSDroid App for Android- \$4.95  
[https://play.google.com/store/search?q=aprsdroid&c=apps&hl=en\\_US&gl=US](https://play.google.com/store/search?q=aprsdroid&c=apps&hl=en_US&gl=US)

APRS station **KN6VUT-9** show graphs

**Comment:** <https://aprsdroid.org/>

**Location:** 35°08.24' N 118°28.06' W - locator **DM05SD32VX** - [show map](#)  
 1.1 miles West bearing 289° from Tehachapi, Kern County, California, United States [?]   
 1.3 miles East bearing 105° from Golden Hills, Kern County, California, United States   
 35.1 miles Southeast bearing 118° from Bakersfield, Kern County, California, United States   
 76.0 miles North bearing 350° from Los Angeles, Los Angeles County, California, United States

**Last position:** 2023-05-13 16:09:46 PDT (4h41m ago)  
 2023-05-13 16:09:46 PDT local time at Tehachapi, United States [?]

**Altitude:** 3061 ft  
**Course:** 164°  
**Speed:** 36 MPH  
**Device:** Open Source: APRSDroid (app, Android)  
**Last path:** KN6VUT-9→APDR16 via **WA6LDQ-3**→**WIDE2-1**→**qAO,W6SLO-4** **Good path!**

**Positions stored:** 296  
**Packet rate:** 124 seconds between packets, on average during 1990 seconds  
**Other SSIDs:** [knevut](#) [knevut](#) [knevut](#)

Stations near current position of **KN6VUT-9** - [show mcra](#)

callsign	distance	last heard - PDT	callsign	distance	last heard - PDT
<b>WB6FQZ-7</b>	0.8 miles 222°	2023-04-23 04:54:25	<b>DW8220</b>	0.9 miles 206°	2023-05-13 20:45:
<b>KN600G-9</b>	1.2 miles 112°	2023-05-13 16:27:50	<b>FW8620</b>	1.4 miles 260°	2023-05-13 20:48:
<b>CW1020</b>	1.9 miles 289°	2023-05-13 20:48:04	<b>CW6906</b>	2.7 miles 327°	2023-05-13 20:48:
<b>CW0464</b>	3.0 miles 288°	2023-05-13 20:48:03	<b>W6/SS-434</b>	3.3 miles 65°	2023-05-09 05:11:
<b>GW2395</b>	3.6 miles 134°	2023-05-13 20:48:43	<b>KJ5YKQ-7</b>	3.6 miles 133°	2023-04-29 16:19:
<b>KR5RRI-7</b>	3.7 miles 130°	2023-04-29 16:17:44	<b>W6/ACT-101</b>	3.9 miles 297°	2023-05-08 05:00:
<b>N5XL</b>	6.2 miles 235°	2023-05-13 20:45:03	<b>WA6LDQ-3</b>	5.6 miles 206°	2023-05-13 20:50:
<b>KM60XY-9</b>	7.2 miles 97°	2023-04-23 11:22:30	<b>WA6LDQ-7</b>	8.0 miles 285°	2023-05-12 17:31:
<b>WA6LDQ-12</b>	8.0 miles 285°	2023-05-06 08:05:01	<b>WA6LDQ-10</b>	8.0 miles 285°	2023-05-12 07:53:
<b>W6SLZ-1</b>	8.8 miles 285°	2023-05-13 20:49:38	<b>W6SLZ-8</b>	8.9 miles 285°	2023-05-03 16:10:

Stations which heard **KN6VUT-9** directly on radio - 2023-05-13

callsign	pkts first heard - PDT	last heard	longest	(tx => rx)	long
<b>WA6LDQ-3</b>	14	2023-05-13 09:02:29	2023-05-13 16:09:46	<b>DM03JC</b> > <b>DM05RD</b>	14.8 miles 285° 2023
<b>N6VYT-7</b>	2	2023-05-11 16:31:58	2023-05-11 16:34:29	<b>DM03SD</b> > <b>DM05RU</b>	48.9 miles 355° 2023
<b>W6RE-1</b>	8	2023-05-13 09:56:50	2023-05-13 15:52:34	<b>DM05WC</b> > <b>DM15DL</b>	36.1 miles 44° 2023

Only position packets which were originated by the station are shown here. The range statistics show some

6. VELCRO Industrial Strength- \$3.74  
<https://a.co/d/d1VQL49>
7. Dual USB charger for car- \$1.25 (Dollar Tree)
8. Phone Charging cable - \$1.25 (Dollar Tree)

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## Multi-band Auto-sensing Low Pass Filter

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### Ray Gretlein W6QPA

One of my goals for this year is to assemble something of my own design. This project may meet that objective ... sort of. It is assembling pieces designed by others in ways that meet my objectives.

The Multi-band Auto-sensing Low Pass Filter project came to mind when QRPLabs announced their latest QRP rig the [QMX](#). QMX is a five band CW, Digital and, in the future, SSB transceiver. Up to this point most of their transceivers have been mono-band. They also make a 50 watt amplifier designed to work with their mono band transceivers. With the introduction of the QMX, I thought it would be a fun project to see if I could create a multi band low pass filter that could effectively convert their 50 watt mono-band amp into a multi-band amp as a companion to the QMX.

The amplifiers differ only in the low pass filter (LPF). It appears that if I used an amplifier built for the highest frequency band I intend to operate then an outboard LPF appropriate for each lower frequency band should be workable. At least that's the theory and basis for my approach.

### **Objective**

A multi-band low pass filter to use after a power amplifier. Covers at least 80-40-30-20 meters and handle 50 watts. Filter selection must be automatic based solely upon the frequency of the RF on the input. Operating power should be 12V since that is what my station power pack provides.

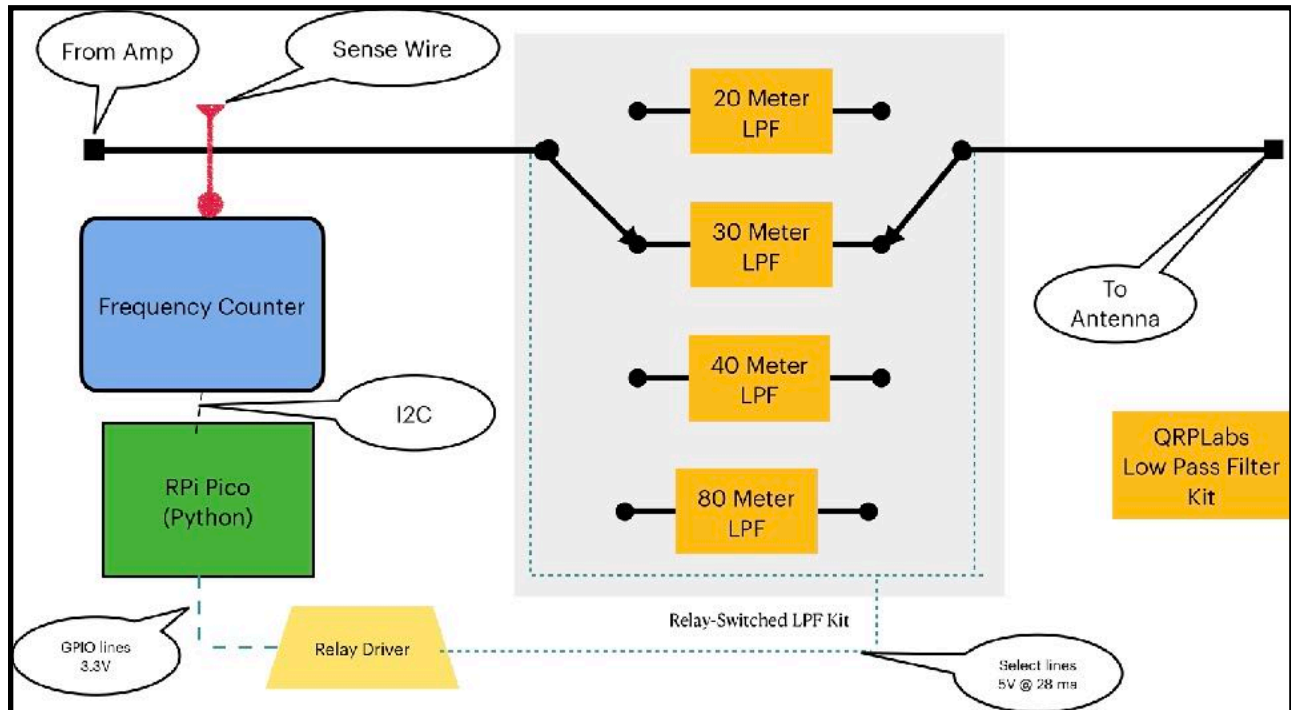
### **Approach**

QRPLabs already has a kit to support [relay switched LPFs](#) and [plug-in LPF kits](#). I will use these as a starting point. From the LPF kit, I'll use the design, the PCB, but will have to upgrade the toroid, wire size, and voltage rating for the capacitors to handle the 50 watt requirement.

For the auto-sense portion I'm thinking of a [simple frequency counter](#) designed by [Scott Harden](#). The frequency counter is read via I2C bus of a microcontroller, [RPI Pico](#), which will execute a MicroPython program to control the selection of the LPF based upon the frequency. The RPI Pico is my choice because I already have a few in the parts bin. On first look it seems capable. The microcontroller is an [RP2040](#) and can run Python (or rather [MicroPython](#)). The Python environment is widely supported with libraries for accessing the hardware of the Pico and an Integrated Development Environment (IDE) I can run on the Linux based (formerly a Mac) computer I use for Ham projects. The python script (yet to be developed) will read the frequency counter, execute logic that will activate GPIO pins to energize the appropriate relay and connect the LPF into the RF path. Easy Peazy right? I hope so.

## Block Diagram

I have a lot to learn to make this work, but, that's a good part of the fun in ham radio for me! I'll update progress as I go along.



## Checking Spectral Purity

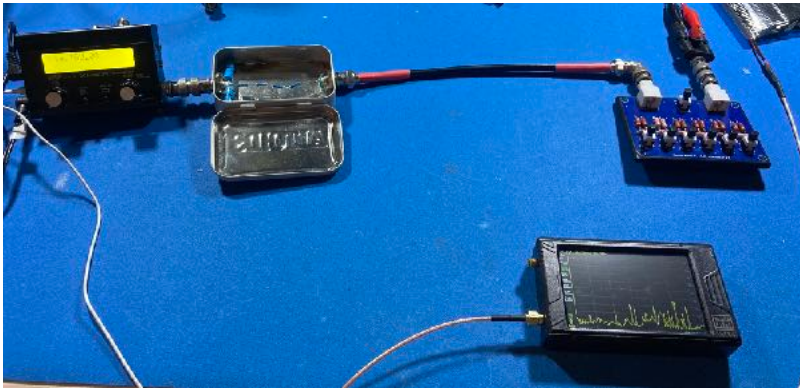
### Ray Gretlein W6QPA

A few editions back I mentioned that I had received a [TinySA Ultra](#) for Christmas. In another article I discussed building a 40 dB fixed attenuator as well as a 41 dB step attenuator. I finally paired all these into a test jig to examine the spectral purity of QRP projects I've assembled.

As hams we must assure that our signals comply with FCC requirements in [CFR part 93.307\(d\)](#), which basically holds that spurious emissions (aka harmonics) must be at least 43 dB below the level of the fundamental emission. When you buy commercial rigs, that requirement is part of the radios certification process for US sales. When we build a kit, we are still responsible for compliance, but can generally rely on the kit designers assertions of compliance. However, when we assemble our own design, it is all on us to assure compliance.

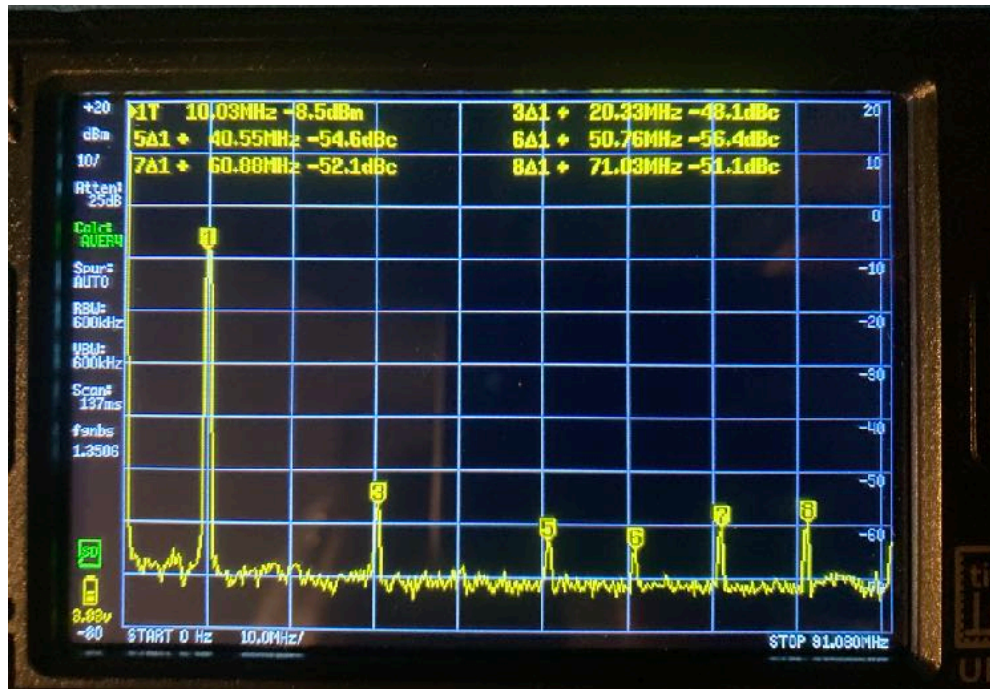
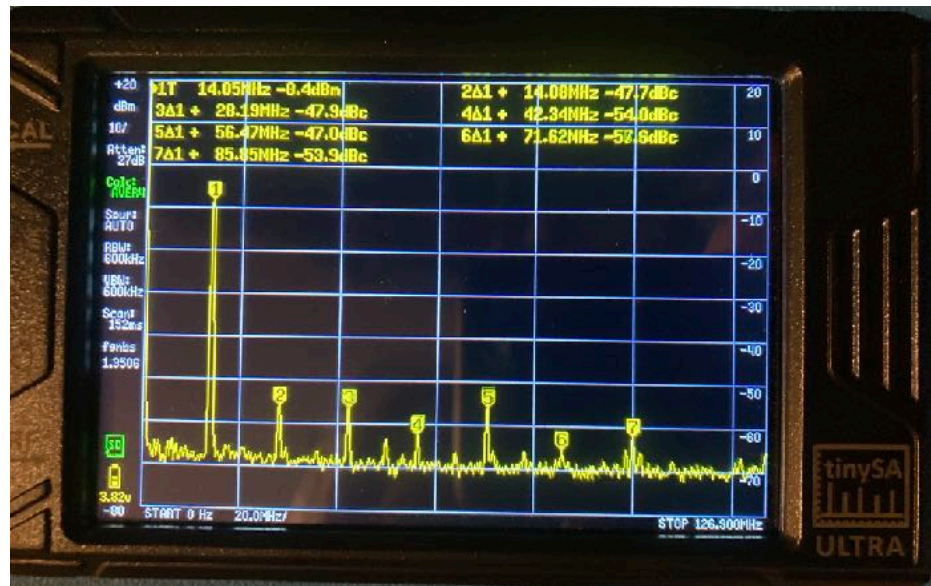
To get familiar with these measurements I set out to examine the signals produced by three QRPLabs rigs I've assembled.





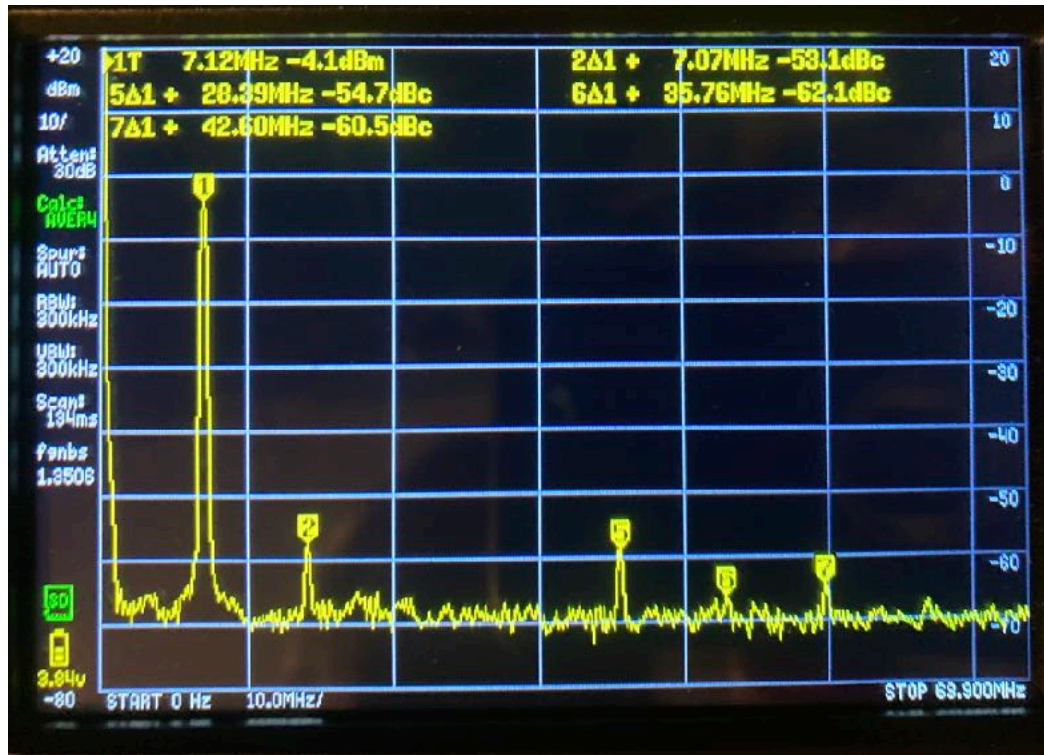
The photo, to the left, shows the test configuration I used. The Unit Under Test is at the left (a QCX Mini built for 20 Meters), then the 40 dB fixed attenuator (in the Altoids tin), feeding the 41 dB step attenuator, finally feeding the TinySA in the lower right.

The 20 meter rig showed compliance with the worst case, marker 5, being 47 dB below the fundamental.



The 30 meter rig showed compliance with the worst case, marker 3, being 48 dB below the fundamental.

And finally the 40 meter rig was also compliant. Worst case being maker 2 at 53 dB below.



## The Operating Room

This is a semi-regular column for club members to share the on-the-air aspects of their ham radio activities.

No operating adventures were submitted this month, maybe next month will see some stories.

## ARRL Contest Calendar

This page provides a summary of events sponsored by the ARRL, the national association for amateur radio. The most current information is on the website at:

<http://www.arrl.org/contest-calendar>.

Another source for contest and on-the-air activity is WA7BNM Contest Calendar at <https://www.contestcalendar.com/weeklycont.php>

### July 2023

- 8-9 — [IARU HF World Championship](#)

### August 2023

- 5-6 — [222 MHz and Up Distance Contest](#)
- 12-13 — [EME - 2.3 GHz & Up](#)
- 19-20 — [10 GHz & Up - Round 1](#)
- 20 — [Rookie Roundup - RTTY](#)

### September 2023

- 9-11 [September VHF](#)
- 16-17 [10 GHz & Up - Round 2](#)
- 9-10 [EME - 2.3 GHz & Up](#)

## TARA Calendar

This page is a summary of events sponsored by or involving our club.

All dates are subject to change. Please check the club Facebook and [website](#) for updates.

### July 2023

- 5, 12, 19, 26 – 1900 hrs PDT “Just Because” Net (W6SLZ VHF rpt, 146.70 - / 123.0)
- 6 – 1900 hrs PDT, TARA Board Meeting, Via Zoom (invite via email)
- 8 — 0830 hrs PDT, TARA Club Breakfast at P-dubs 20800 Santa Lucia St, Tehachapi, CA  
Reserve a spot with [Valerie Mason](#) by 5 July
- 8 — 1100 hrs PDT — VE License Exam Session Salvation Army Community Room  
538 E Tehachapi Blvd, Tehachapi, CA
- 13 – 1900 hrs PDT, TARA Club Meeting, Tehachapi Police Department Conference Room,  
220 W C St, Tehachapi.
- 22 — 0800 hrs PDT, TARA Club Breakfast at BVS Mulligan Room. Reserve a spot with  
[Valerie Mason](#) by 19 July

### August 2023

- 2, 9, 16, 23, 30 – 1900 hrs PDT “Just Because” Net (W6SLZ VHF rpt, 146.70 - / 123.0)
- 3 – 1900 hrs PDT, TARA Board Meeting, Via Zoom (invite via email)

- 10 – 1900 hrs PDT, TARA Club Meeting, Tehachapi Police Department Conference Room, 220 W C St, Tehachapi.
- 12 — 0830 hrs PDT, TARA Club Breakfast at P-dubs 20800 Santa Lucia St, Tehachapi, CA Reserve a spot with [Valerie Mason](#) by 9 August
- 26 — 0800 hrs PDT, TARA Club Breakfast at BVS Mulligan Room. Reserve a spot with [Valerie Mason](#) by 23 August.

### September 2023

- 6, 13, 20, 27 – 1900 hrs PDT “Just Because” Net (W6SLZ VHF rpt, 146.70 - / 123.0)
- 7 – 1900 hrs PDT, TARA Board Meeting, Via Zoom (invite via email)
- 9 — 0830 hrs PDT, TARA Club Breakfast at P-dubs 20800 Santa Lucia St, Tehachapi, CA Reserve a spot with [Valerie Mason](#) by 6 September.
- 14 – 1900 hrs PDT, TARA Club Meeting, Tehachapi Police Department Conference Room, 220 W C St, Tehachapi.
- 30 — 0800 hrs PDT, TARA Club Breakfast at BVS Mulligan Room. Reserve a spot with [Valerie Mason](#) by 27 September.

## Reference Information

Local Repeater Information				
TARA APRS Digipeater	144.390	No tone	AC6EE-3	APRS
BVS APRS Digipeater	144.390	No tone	WA6LDQ-3	APRS
BVS Repeater Backup Freq.	146.700 145.580	123.0 Hz Tone Simplex	W6SLZ	Open Machine
BVS Repeater	440.625	100.0 Hz Tone	W6SLZ	Open Machine (WIN System node)
Tehachapi Repeater	444.225	100.0 Hz TONE	KG6KKV	Overlooks Bakersfield
DMR Digital	442.675	Offset: +5.000 ColorCode: 1	K7RET	Brandmeister, Bakersfield, CA The location is in the Tehachapi Mountains near Cummings Mountain

Local Repeater Information				
DMR Repeater	447.120	Offset: -5.00 ColorCode: 1	KR6DK	Brandmeister, McKittrick, CA The location is in the Tehachapi Mountains near Double Mountain This repeater is permanently linked to the KR6DK analog repeater system.
Tehachapi Simplex	145.58	No Tone		Local Simplex
Tehachapi Simplex	146.54	No Tone		Local Simplex

In addition to the repeaters listed above the following repeaters, part of the Kern System, can be reached from locations throughout the Tehachapi area and much of the San Joaquin Valley. They are linked together and more information may be found at <http://www.KernSystem.org>

KERN System Linked Repeaters				
Frazier Mountain (8,000')	447.860	141.3 Hz Tone	KK6AC	Jerry Garis
Cummings Mountain (7,800')	442.95	141.3 Hz Tone	KI6HHU	Lee Bouchard
Double Mountain (8,000')	446.320	151.4 Hz Tone	KI6HHU	Lee Bouchard

ARRG Linked Repeaters				
Cummings Mountain (7,800')	444.425	100 Hz Tone		

**ATTENTION:**

For those interested in monitoring dispatch for the Bear Valley Springs Police Department

- KCSO Eastern Dispatch — 460.225
- KCSO East TAC — 460.125

All dispatch for BVSPD will be handled by the Kern County Sheriff’s Department

Club & Other Websites	
TARA website	<a href="http://www.ac6ee.org">http://www.ac6ee.org</a>
TARA Facebook	<a href="https://www.facebook.com/TARAtchapiamateurradio/">https://www.facebook.com/TARAtchapiamateurradio/</a>
Antelope Valley Amateur Radio Club (AVARC)	<a href="http://www.k6ox.club/index.html">http://www.k6ox.club/index.html</a>
Kern County-Central Valley Amateur Radio Club (KCCVARC)	<a href="http://www.w6lie.org">http://www.w6lie.org</a>
ARRL	<a href="http://www.arrl.org">http://www.arrl.org</a>
West Kern County Amateur Radio Emergency Services (WKCARES)	<a href="http://westernkerncountyares.org/index.html">http://westernkerncountyares.org/index.html</a>

Officers & Committee Chairs			
Officer/Committee Chair	Name	Call	Email
President	Dan Mason	AB6DM	<a href="mailto:ab6dm@arrl.net">ab6dm@arrl.net</a>
1st Vice President	Dan Mason (Interim)	AB6DM	<a href="mailto:ab6dm@arrl.net">ab6dm@arrl.net</a>
2nd Vice President	Ray Gretlein	W6QPA	<a href="mailto:w6qpa@ac6ee.org">w6qpa@ac6ee.org</a>
Secretary/Treasurer	John Dyer	KM6DXY	<a href="mailto:km6dxy@ac6ee.org">km6dxy@ac6ee.org</a>
Technical Director	Dick Brown	W6SLZ	<a href="mailto:db24130@sbcglobal.net">db24130@sbcglobal.net</a>
Web Page & FaceBook Committee Chair	John Dyer	KM6DXY	<a href="mailto:km6dxy@ac6ee.org">km6dxy@ac6ee.org</a>
Hospitality Committee Chair	Valerie Masson	KK6WLQ	<a href="mailto:val3mason@yahoo.com">val3mason@yahoo.com</a>

## Meeting and Club Membership Information

The Tehachapi Amateur Radio Association meets every second Thursday of the month at 7:00 PM (except for July - no meeting). Our meetings are on Zoom and in-person, our meeting site is now the Tehachapi Police Department Conference Room, 220 W C St, Tehachapi.

Member Annual Dues: \$25.00/year

Additional Family Member: \$12.50/per person

## Membership Application

Download a copy of our Membership Application [here](#). Please share this with any friends, family or neighbors that are either hams or may be interested in amateur radio. Applications are accepted at all club meetings or you may mail your application along with the applicable dues to the club Post Office Box:

Tehachapi Amateur Radio Association (TARA)  
P.O. Box 134  
Keene, CA 93531