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  TARA
  P.O. Box 134
  Keene, CA 93531

A Word

Dan Mason, AB6DM, President

Hello, TARA friends,

This month's Dummy Load theme is "Field Day Preparations".   That being the case, I would like to remind you all what exactly we are preparing for.   The ARRL describes Field Day as "Field Day is ham radio's open house. Every June, more than 40,000 hams throughout North America set up temporary transmitting stations in public places to demonstrate ham radio's science, skill and service to our communities and our nation. It combines public service, emergency preparedness, community outreach, and technical skills all in a single event."

So first, we are encouraged to set up an "Open House" where we invite people from outside the house, such as the general public and/or dignitaries, to visit us.   TARA typically sets up at a park and with a table of flyers describing amateur radio to people who may not be familiar with our hobby.

Second, we set up "temporary transmitting stations".   This is because, in an emergency, we may have to bring the comms to an incident response location and may even have to move it again.

Third, we must use skill and preparedness to demonstrate what ham radio offers to our communities in the event of emergencies and disasters.   There are many times that conventional communications are inoperable at these times. Tying back into the first two points, we invite city officials, police and fire departments to see the potential of what we offer.

Now don't forget, many of our other events/activities in this club do the same things as Field Day, and give us more practice.   Events like POTA, SOTA, bike rides, rally car races, and now our little over-landing jaunts.

73,

Dan Mason - AB6DM

TARA President 2023-2024

EDITORS' Note:

For the May newsletter the focus is your **Favorite Ham Activitie**s — Whether it's assembling kits or building your own design, rag-chewing, contesting, DX'ing, Fox hunts, QRP'ing, portable operation (SOTA, POTA, IOTA), public service or ?? Introduce us to your favorite HAM related activities by sending a paragraph or more describing your favorite activity to w6qpa@ac6ee.org

73 …Ray W6QPA

Preparing for Field Day

Dick Brown, W6SLZ

My planning involves a number of steps:

- The first in planning is where to hold Field Day.

    What area or state do you want to set up Field Day? Start by looking for [BLM land that has dispersed camping](#), then look for an area away from power lines and main roads. Find a flat open area away from any mountains. Then drive to the location and check it out.

    We are planning on operating from central Idaho if the review of the site confirms it meets the need.

- Plan on your operation shelters (mine is a 5th wheel trailer).

- The next big thing then is equipment and antennas.

    In the past we have used verticals and the rocket launcher with a beam antenna. Last year the wind was so high that we were not able to put the rocket launcher and beam up. We were just shy of 9000 feet and open for miles in any direction.

    This year our plans are to use the 40 meter vertical and 20 meter triangle. The 40 meter vertical will work 15 meters and we may add a 10 meter triangle.

The "Rocket Launcher" with beam on top

- Solar power will be the prime power but generator will be backup.

And finally — Plan Ahead, have spare everything. Murphy will always be at Field Day

Mike Hardee, AC6PC

I love planning, it is so much fun!

I typically get my go box ready with my ICOM 718, my Alpha Antenna and a Bioenno 30Ah battery charged up.   I've got a "lean to" sun tent packed and ready, throw in a couple of camp chairs and a very small camp desk that folds flat, sort out the camping gear and have all of it ready to load in the car.   We make a menu list of snacks and cold drinks, dig out the coolers from the garage and make everything ready.   We pore over maps of the local area and check them out first to see where the best spots are for camping.   I keep and update a checklist right after winter field day so that I don't forget anything critical…and then I stay home and operate on emergency power out of my shack…

Stephen Lee, KN6ZGI

I hope to have my license well before Field Day [Editor's note. Stephen's call was issued 7 April 2023, congratulations] and acquire some radio equipment, so I am able to get on the air. Those are my preparations.

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?

More Power

Ray Gretlein, W6QPA

I've been a QRP/low power operator the vast majority of my ham experience. So, it's kind of hard for me to confess that I may want more power…occasionally. I've been trying to work a CW practice schedule with a ham in Cottonwood, AZ. That is only 394 miles. I've reached New Zealand 6650 miles away with 2.5 watts. But this short hop is in my skip zone most of the time. I've broken down … gone to the dark-side, I've assembled an amp to give me and extra 10 db. From 5 to 50 watts!

Actually, I've assembled three QRPLabs [50 watt CW single-band amplifiers](#) one each for 20, 30, 40 meters. Each of these are inexpensive (~$30 plus an enclosure) fairly efficient (around 67%) and compact (6"x 2.5" x 2").

I cleared the work bench, inventoried the parts into the muffin backing pan, and downloaded the most recent [assembly manual](#).
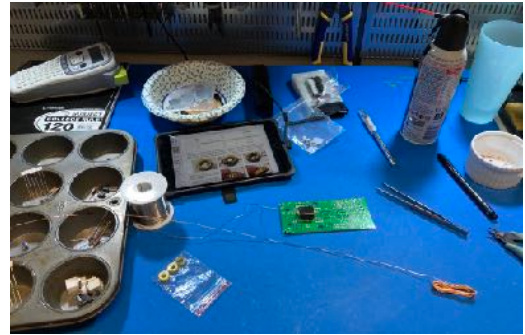
Assembly is not too demanding. The most tedious activity is winding the low-pass filter coils and two transformers.


All components are thru-hole mounted and the density is within my skill set with the soldering iron.

After something like 10 hrs of assembly I applied power and was relieved to see no smoke!

After a simple adjustment of the PA transistor bias I put it on the air.

I use the [Reverse Beacon Network](#) to get an idea of its reach. Here is the first outing with the 20meter version running at ~45 watts. Not bad for $30 worth of kit!
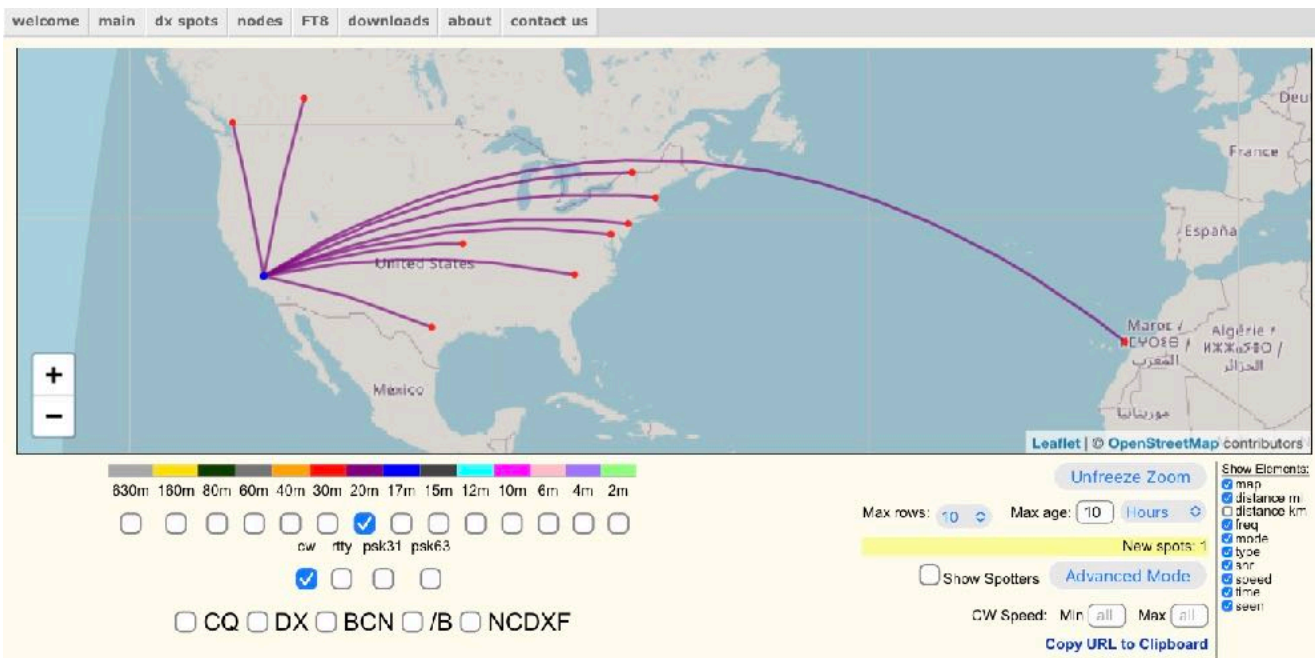
DIY 40 db Attenuator

Ray Gretlein, W6QPA

I mentioned in a previous edition (January 2023 I think) that I received a TinySA spectrum analyzer for Christmas. It is a great little device to help me convince myself that the kits I assemble are operating in accordance with the FCC rules regarding spectral purity. However, to use it, I needed to greatly reduce the signal power applied to the TinySA input. There are plenty of attenuators commercially available, but where's the fun in that? I ran a Google search for an RF attenuator that would accept at least 10 Watts and reduce it by at least 40 db. There were a number. This one on [QSL.net](#) met the needs and was suited for one of my favorite project boxes … an Altoids box! The project has a short parts list, only eight resistors and two BNC connectors. Of course the resistors were nothing close to any of the hundreds of resistors I've accumulated in my parts boxes. So I had to order them all, and not just in the quantity of one … it was in quantities of 10 to 50. SO, if any of you should decide to build one of these, contact me as I may have parts available.

It has a built-in dummy load capable of dissipating 10 watts and the output side also presents a 50 ohm load to the TinySA. It is a great match for the TinySA and allows me to test my QRP projects by feeding the RF directly into the spectrum analyzer, eliminating the environmental noise I had when using an antenna to feed the SA.

The Operating Room

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

Working on Head Copying CW...

Mike Hardee, AC6PC

My grandfather could head copy CW. My mom could head copy CW. Granted, they were both in wars and were in jobs that required it, so I understand the forcing function there. But why couldn't I get some of their "CW DNA"...? Or maybe, I should just look at this as a new way of achieving new neuroplasticity in my brain...?

Over 45 years ago I learned just enough CW in Navy flight school to identify air navigational aids by their three letter identifiers. Recently I've taken three courses in CW, all from CW OPS Academy. I've taken the basic course, then an intermediate course, and then after a year's hiatus, another beginner course. They all helped with the learning of CW characters for sure. But, I've never been able to copy better than 10 words per minute and then only for a short exchange. Even if I were writing it all down, I've been one dit away from CW oblivion. Once a letter/character was lost, it was game over for me as I would drown in a sea of dit/dah gibberish after I missed a character.

I've been on the air too, trying to participate and gain experience out there in CW land, all thumb-fingered and slow, working easy exchanges like the Slow Speed Transmissions (SST) from K1USN on Fridays and Sundays. I listen for POTA and SOTA exchanges and try to jump in later after I've listened to the call signs repeated enough times for them to soak into my brain. Lurking around in the lower CW frequency ranges, I quickly get lost in exchanges of 20 wpm or faster...but I'm just not consistently head copying...not quite yet.

I really want to learn how to head copy well. I feel like it is a rite of passage for me. Some days I feel like I'm on the verge of doing it, so I keep going with daily practice. I can't practice too

long, or my brain explodes and I burn out, but there's a need to send and copy CW every day. So here's what I've learned so far in this stumbling about in my quest to head copy CW…

Writing the CW exchange down will not help you. It actually slows you down because you have to think about writing it down while you're listening to the characters. I've learned that if you start by closing your eyes while listening to CW, even sending it, it helps me visualize the character and associate it with the sound—not the dits and dahs. I've also learned that starting out by saying each character helps a lot. It helps visualize and aurally connect to the character in your brain. That works for me up until about 10 wpm, at which point I won't be able to stutter out the characters fast enough to keep up with any character string. I practice daily, but cut it up in easy to digest periods, say about 10 to 15 minutes.

So where am I now? Well, I practice every day for a total time of about 45 minutes, three 15 minute sections with breaks in between. I'm learning how short words and CW shorthand sounds. I still have a tough time with names. I get on K1USN SST on Fridays and Sundays. I manage the initial exchange but typically goon it up on picking out the names of the operators. It is important but difficult to get that it is OK to make mistakes, so I press on. I'm going to try to get some sort of standing CW meeting on the air with Keith (NE7R) and Ray (W6QPA) on some frequency, (Thank you Keith and Ray!) where I just park on that frequency every Saturday and/or Sunday (or some other day) at some time, call CQ and see if they show up to play. That way I can practice my CW, get more experience on the air and hopefully, gain more confidence. I'll keep looking for other courses that will help me further my progress. But most of all, I keep practicing, because I've learned that persistence overcomes all obstacles…and I want to head copy CW.

https://cwops.org/cw-academy/cw-academy-student-resources/

Slow Scan TV Beginner's Guide

Micah Martin, KN6VUT

This is an introduction to SSTV or Slow Scan Television.   Here are a few links giving more background on SSTV:

https://en.wikipedia.org/wiki/Slow-scan_television
http://www.arrl.org/sstv-slow-scan-television
http://www.arrl.org/files/file/Technology/tis/info/pdf/99753.pdf

To begin with, I'll start with a very basic easy as possible guide, then advance to wired Ham radio transmission of video.

The cellphones I used don't have cell service, but still work with Wi-Fi to download the SSTV apps, discussed below. After the apps are loaded into the cellphones, they can be placed in "Airplane Mode" if wanted. The phones do not need any outside signal. At this point, the phones are only used to translate the audio signals, no cell, Wi-Fi, or Bluetooth signal is needed, just the phone's microphone and speaker.

Below is a video link to show and hear the phones handling the video. There is no radio involved in this yet. This demonstrates what is happening before adding radios.

[Video Demonstration of cellphones Sending and Receiving Image](#)

Video Transmission using HTs

To start with I'll use the following-

1. 2 HT radios (Baofeng in my case)
2. 2 cellphones (I use Android)
3. 2 apps downloaded to each phone using Wi-Fi, "SSTV Encoder" and "Robot36"

After the apps are loaded into the cellphones, they can be placed in "Airplane Mode" if wanted, they do not need any outside signal. At this point, the phones are only used to translate the audio signals, no cell, Wi-Fi, Bluetooth, or any other signal is needed, just the phones microphone and speaker.

SSTV can be decoded with phones, tablets, or computers. For this demonstration I am keeping it easy by using what most people have, cell phones. Most people also probably have working, old or unused Android, or I-phones.

I use Android, but the same or similar apps are available for iPhones.

SSTV Encoder — https://play.google.com/store/apps/details?id=om.sstvencoder&hl=en_US&gl=US&pli=1

Robot36 — https://play.google.com/store/apps/details?id=xdsopl.robot36&hl=en_US&gl=US

[Editor's note: I use iOS on iPhone and iPad. I found the CQSSTV from BlackCat works providing both receive and transmit of images sourced from the photos library and the built-in cameras available from the Apple Apps store for $2.99]

Getting started

Set both radios to the same frequency. For 2m VHF the ARRL Band Plan doesn't specifically call out an SSTV allocation. However, the frequency I've chosen, 145.625MHz, falls in a portion set aside for "Miscellaneous and experimental modes" — SSTV fits in this category.

The transmitting radio will need a cellphone running the SSTV Encoder, by default it displays a test pattern, this is fine to see how it works and keeps it simple. There are options to add your messages such as callsign, recommended as you need to identify your station. Other text commonly used is CQ or locations.

The receiving radio will need a cellphone running Robot36 (or other SSTV apps). Once this app is activated the screen will show it listening and the display will fill with static until it hears an SSTV signal.

Listen for traffic on your radio, ask if the frequency is in use before sending your image. Give your callsign and state that you're sending SSTV.

Hold the transmit button and press the Play button on the SSTV Encoder app to start the SSTV transmission. You must hold the transmit button down during the entire video transmission, which can be a couple of minutes.

 The other radio should have the volume up and next to the phone running Robot36.

The receive-side is automatic. As the SSTV transmission comes through the receiving radio, the Robot36 app will automatically decode and save the image.

Congratulations!

You can now send photos off-the-grid. If the internet and cell towers are down, you can still send a Selfie!

Using Audio Cables to connect Radio to Laptop

Now let's improve the quality a bit by using a wired interface. For ham radio, I used the following based on my radios and laptop, you'll need to choose for your specific equipment:

- 2 Baofeng UV-5r handheld radios
- 1 cellphone with SSTV encoder (I use an old android phone)
- Windows Laptop
- K-Type microphone with audio jack for UV-5r (Amazon)
- Audio extension cable Male to Male (Dollar Tree)
- USB Audio to Jack converter (Amazon $7.99)
- Audio Interface (APRS) Cable K type (Amazon $22.49)
- Windows free program MMSSTV
- Laptop Audio Adapter Mic and Headphone (Amazon $9.99)
- Baofeng Microphone with built in Headphone jack (provided with radio).

I am using two Baofeng UV-5r 5w Handheld radios on the frequency of 145.625, as discussed above under Getting Started. As shown and heard in the video (link above), the radio is only

sending and receiving audio, which is what the radios are built to do. The work is done by the program on the phone to change the image into sound, and another program to change the sound back into an image.

First thing that must be done if not changed already, the Transmission Time Out needs to be changed to a longer time. On the Baofeng UV-5r it is the "TOT" Transmit Time-Out Timer. SSTV transmissions can be from several seconds to a couple of minutes, so set your radio transmission timer to allow for SSTV.

Do NOT use a repeater to send SSTV without checking if it is allowed. An SSTV transmission can take several minutes, and to most people listening on a normal FM repeater, they will only hear an annoying screeching sound and it will block normal use of the repeater. A Google search will show there are some listed repeaters for SSTV and SSTV nets, but I'm not sure if the information is current, or nets are active. I looked up a few SSTV repeaters, but the websites were offline. I wouldn't recommend using a repeater. In my search, I have found most people agree that you should contact the repeater owner or club that uses the repeater, and request permission for SSTV. HF radios can be used to send SSTV using the method described above, there are frequencies on HF bands in the Band Plan allocated to SSTV images. Some people share on social media such as AMATEURSSTV on Facebook.

I connected the sending HT to a cellphone running SSTV using the audio cable. The sending HT needs to have VOX on.

The receiving radio is plugged into the laptop and took me some trial and error runs with different cables to get it to work. As a tip, to check audio levels set your receive radio on one of the weather station frequencies (see a listing here) then adjust volume until you see audio is coming through. I used the waterfall display on the SSTV program to make sure the audio was getting into the computer.

The receive HT was connected to the laptop via:

- Microphone audio jack,
- through the extension,
- into the Mic and Headphone adapter,
- and finally, into the USB audio jack.

This allows my laptop to receive the HT audio into the microphone input.

When you turn off the receiving radio there should be no audio signal to the computer, the display should be flat, when the radio is turned on, there should be a bump as the UV-5r announces "Channel Mode" then quiet if not receiving any signal.
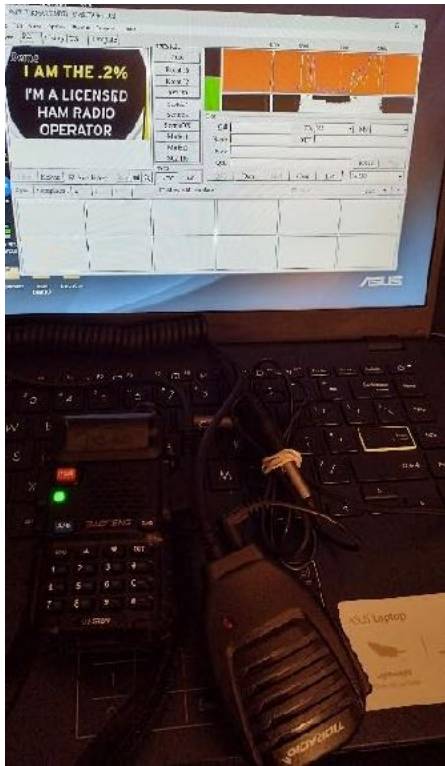
Listen to the frequency to see if it is in use. Ask if it is in use. If not in use, give your callsign then state you're going to send SSTV. Reconnect whichever radio you sent your call and listened with (if necessary) then press play on the cellphone running SSTV Encoder. The transmitting radio VOX should activate the transmission and the receiving radio should send the audio to the MMSSTV program and automatically start decoding then save the image.

There is a signal strength bar on the left of the waterfall display. If its red, the receiving radio volume is too loud, if it's barely showing, volume is too low. Adjust volume until it's in the middle.

Enjoy and 73!

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

May 2023

- Nothing on ARRL contest calendar

June 2023

- 3-4 — International Digital Contest
- 10-12 — June VHF
- 17 — Kid's Day
- 24-25 — ARRL Field Day

July 2023

- 8-9 — IARU HF World Championship

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.

May 2023

- 3, 10, 17, 24, 31 – 1900 hrs PDT "Just Because" Net (W6SLZ VHF rpt, 146.70 - / 123.0)
- 4 – 1900 hrs PDT, TARA Board Meeting, Via Zoom (invite via email)
- 11 – 1900 hrs PDT, TARA Club Meeting, Tehachapi Police Department Conference Room, 220 W C St, Tehachapi.
- 13 — 0830 hrs PDT, TARA Club Breakfast at Gracian's Grill, 860 E Tehachapi Blvd. Reserve a spot with Valerie Mason by 10 May.
- 13 — Burro Schmidt Tunnel visit — Depart after Club Breakfast. Click HERE for more info
- 27 —0800 hrs PDT, TARA Club Breakfast at BVS Mulligan Room.   Reserve a spot with Valerie Mason by 24 May.

June 2023

- 7, 14, 21, 28 – 1900 hrs PDT "Just Because" Net (W6SLZ VHF rpt, 146.70 - / 123.0)
- 1 – 1900 hrs PDT, TARA Board Meeting, Via Zoom (invite via email)
- 8 – 1900 hrs PDT, TARA Club Meeting, Tehachapi Police Department Conference Room, 220 W C St, Tehachapi.
- 10 — 0830 hrs PDT, TARA Club Breakfast at P-dubs 20800 Santa Lucia St, Tehachapi, CA Reserve a spot with Valerie Mason by 7 June.

- 10 — 1100 hrs PDT — VE License Exam Session Salvation Army Community Room 538 E Tehachapi Blvd, Tehachapi, CA
- 24 —0800 hrs PDT, TARA Club Breakfast at BVS Mulligan Room.   Reserve a spot with Valerie Mason by 21 June.

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 atat 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

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	http://www.ac6ee.org
TARA Facebook	https://www.facebook.com/TARAtehachapiamateurradio/
Antelope Valley Amateur Radio Club (AVARC)	http://www.k6ox.club/index.html
Kern County-Central Valley Amateur Radio Club (KCCVARC)	http://www.w6lie.org
ARRL	http://www.arrl.org
West Kern County Amateur Radio Emergency Services (WKCARES)	http://westernkerncountyares.org/index.html

Officers & Committee Chairs			
Officer/Committee Chair	Name	Call	Email
President	Dan Mason	AB6DM	ab6dm@arrl.net
1st Vice President	Dan Mason (Interim)	AB6DM	ab6dm@arrl.net
2nd Vice President	Ray Gretlein	W6QPA	w6qpa@ac6ee.org
Secretary/Treasurer	John Dyer	KM6DXY	km6dxy@ac6ee.org
Technical Director	Dick Brown	W6SLZ	db24130@sbcglobal.net
Web Page & FaceBook Committee Chair	John Dyer	KM6DXY	km6dxy@ac6ee.org

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