

Issue 68
June 2026



Utah Valley Amateur Radio Club

The UVARC Shack

Reaching for the stars



Indeed, a tall order. Club member and *UVARC New Ham Net NCS* (Net Control Station) Will Barrett W7EBK saw an ad for a 56-foot broadcast radio station antenna mast that came with a free van, so he bought it. On the left, he took the liberty of setting up his mast and van right outside the meeting room at the May 2026 club meeting. The newly purchased wonder drew quite the crowd, and had us wondering how he was going to get that into his garage.

In this issue of the *UVARC Shack*

Club meetings feature the RDAP app, the latest on the 60-meter band, and MARS.

My Shack spotlights K7BOM. *Silent Key* for Alan Osmond. *Amateurs in Action* in Kerala, India. *Brass Tacks* on CW.

Dear Annette on insulated vs. bare radials. *Hot Tips* for using

the Reverse function. *DIY* for a simple 40-meter transmitter. *The Amateur in You* on your first HT and how to serve as Net Control. *The Past* on the coherer inventor. *Utah Portable Day* photos.

Please send your ideas, stories, questions, gripes, and photos to uvarcshack@gmail.com

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Club meetings

Recap

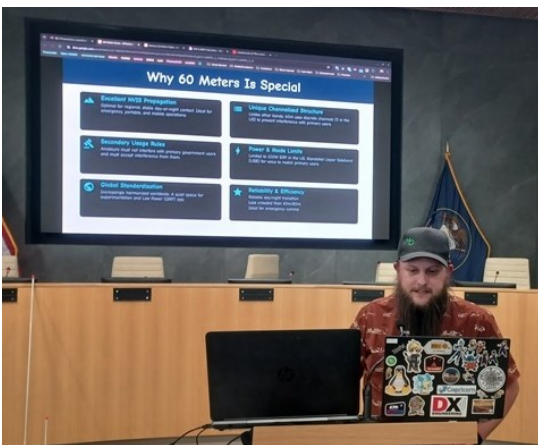


April 2026 club meeting – The RDAP Pro app



With help from the State of Utah DEM (Department of Emergency Management), Aaron Gilbert KØAKG developed the RDAP (Rapid Disaster Assessment Program) app for iOS and Android. Aaron and his two colleagues, Steve Boyack K1SMB and Tanner Davis, presented and explained their ground-breaking software to us. The app is designed to be a versatile status and check-in tool to help people within community, church, and other groups remain in contact during a disaster, even without internet. You can see a [recording of the meeting](#), thanks to Trevor Holyoak AG7GX.

May 2026 club meeting – The 60-meter band and MARS



The FCC has recently made some interesting changes to the 60-meter band, and Matthew Barnes KL7KUY told us about them, and how to calculate compliance with its rules. Because the 60-meter band is being shared with the military, Jody Dollar K7BUX explained to us about MARS (Military Auxiliary Radio System) and the fact that many transceivers can be modified to transmit on their frequencies to allow civilians to assist the military with communication. You can see a recording of the meeting [on this link](#), thanks to Trevor Holyoak AG7GX.

By the way, many of our past meetings are recorded and posted on the [club YouTube channel](#).



Silent Key

Memorial for a ham who has passed on

Another ham friend and music famer, **Alan Osmond KNØIZE**, passed away on Monday 20 April 2026 surrounded by his family at his Lehi home.

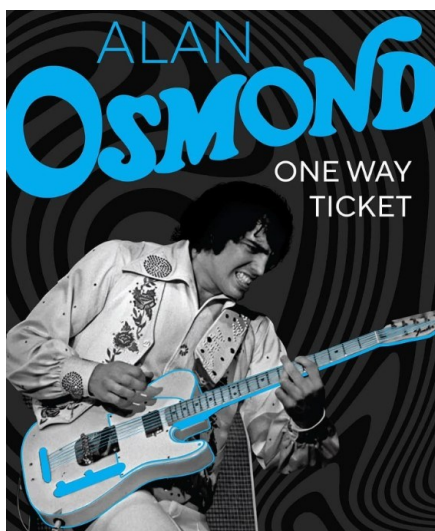
Yes, Alan Osmond is an older brother to Donny and Marie Osmond, if that isn't already clear, and a younger brother to Viri and Tom. You might also be aware that he and his brothers *The Osmonds* are music legends, with Alan as the group leader and primary songwriter for most of their songs, alongside Merrill and Wayne. He was also the executive producer of the *Donny and Marie Show*, Alan was a co-founder of the *Stadium of Fire*, prime show of the annual *Provo Freedom Festival*.



Alan and his brother Wayne have always been tinkerers at heart, and obtained their amateur radio licenses early in their career as a fun way to keep in touch with some of their fans. Just like with many of us, their amateur interest faded with their busy lives. Alan kept his license current, hoping that his boys would some day follow in the interest of maintaining communication, should they ever find themselves in a disaster.

From Larry Jacobs: *I had the privilege to have a long conversation with him across a dinner table recently. He was so proud of what his kids were doing in life and the crazy things he did, like light off more than a million firecrackers at once. Alan and Suzanne were a match made in heaven; sets an example for the rest of us to follow.*

From Noji: *Lisa and I are no strangers to the Osmond family, with Viri having served with Lisa's dad in the bishopric and Lisa having hung out with Donny backstage. Alan knew of our involvement in ham radio, and he and Suzanne had already been licensed for several years, but wanted their kids to learn about it too. So, Alan asked Lisa and me to teach their boys about ham radio, and we set up a private family class for them. A couple of them allegedly ended up getting licensed, but I don't know which ones, especially now that some have moved to Missouri.*



Later, Alan asked me to install a mobile radio and antenna in their Orem home, so I mounted a Pockrus J-pole up on their roof, LMR-400 coax into their dining room, to a Yaesu FT-7900R on their counter. Another happy customer. At another time (2014), Alan asked UVARC to participate in the Freedom Festival to showcase amateur radio, but that venture never materialized. You win some, you lose some. We're gonna miss Alan. Heartfelt condolences to Suzanne and their family.

You can read more about Alan in [his obituary](#).

7-3, Alan.



My Shack

Highlighting the shack (ham equipment and room) of a member, to give others an idea of the possibilities that might work for them



Tim Julian, K7BOM

My name is Tim Julian. For some bizarre reason I was asked to share my ham story, so here it is.

As a member of the Church of Jesus Christ of Latter-day Saints, our Bishop called me to serve over Self-reliance (SR) in our Ward several years ago. I had no idea what that entailed at the time. I soon discovered that we had 13 Block Captains and each one had a walkie-talkie, and that each only had a range of about one mile, if that much. Our group had a few Baofeng ham radios, but all this weird talk about frequencies was way over my head.

I finally came to the conclusion that to become better equipped to handle a real emergency I would need to become a certified (licensed) ham operator. So, I set a date, immediately paid my money (so I couldn't chicken out), signed up on HamStudy.org, got a set of Technician License Exam Flash Cards from Mometrix, and started studying like a madman. I missed one question (which to this day, I still do not believe I missed), and suddenly I was a licensed ham operator: K7BOM; that is, the BOMB for people not part of the LDS faith, or the Book of Mormon for those who are.

So, now I knew everything about ham radio operation, right? ...uh...nope...still baffled, and I was still not very useful. Fortunately for me, a kind ham radio helper and resource by the name of Noji Ratzlaff sent me an email asking if I needed any help, and so started our great relationship: the NOOB and the ELMER!

I finally got a good handheld ham radio: Baofeng BF-F8HP, and with Noji's help, I used the CHIRP program to start making sense of all those frequencies. Soon I realized I needed to have access to more frequencies. With Noji's help once again, and the two test-study-guides listed above, I passed the General exam with zero mistakes and the more advanced Extra exam with just two mistakes.

Now, let it be known, that I have a Bachelor's Degree in Chemical Engineering and a Master's Degree in Computer Science, yet ham technology is still very foreign. I could however, memorize test question-answers well, so memorizing 1,488 answers was a breeze. :-)

We then decided that for improved reception we needed better antennas, and I purchased the following:

For VHF/UHF: Diamond X-300A, Dual Band, 10 feet tall

For DX HF: Diamond BB7V, 14 feet tall

For local HF: 7-band Off-Center-Fed Dipole Antenna, 140 feet long

I wanted one transceiver that could handle it all, so Noji recommended the Yaesu FT-991A.



My Shack

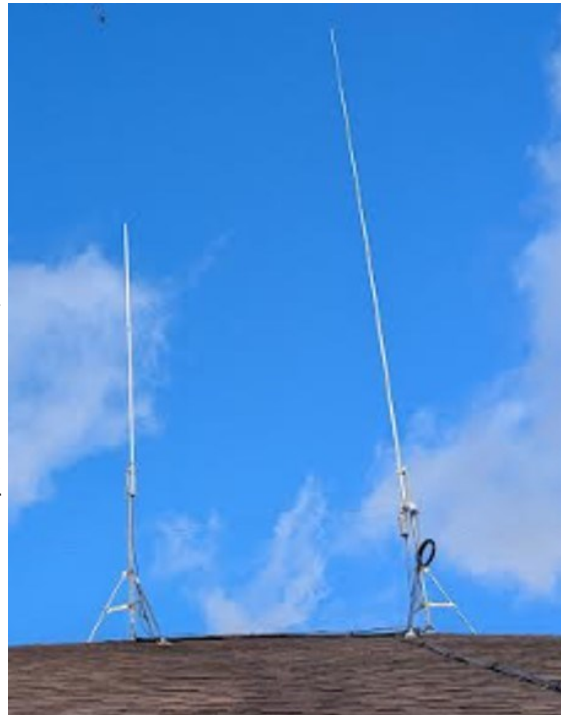
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I recently had two knee replacements, so Noji climbed up on my roof several times to set up the antennas and lay out and install the coax. He also pounded in the ground rod, attached the lightning arresters, laid out the grounding system, drilled holes through our foundation, and installed a coax switch. With my new antenna analyzer, we tested out the three antennas, and did everything else to bring my new ham shack to life.

In this photo you can see my Diamond X300A VHF/UHF vertical antenna on the left and my Diamond BB7V HF vertical antenna on the right. I use the X300A for all my nets and local ham communication, while I use the BB7V for log-distance (DX) contacts. It's very difficult to make out the balun to my Buckmaster OCFD antenna hanging near the base of the BB7V. I use the Buckmaster OCFD for NVIS contacts, primarily to reach the HF ERC nets in my nearby counties.

Currently, my favorite VHF/UHF nets are the LDS Church ERC Net on Tuesdays at 11:45 am, our once-a-month Stake net, and the Sandy Bishops' Storehouse net on Tuesday nights. My favorite HF nets are the Lindon Bishops' Storehouse on Saturday mornings and the Beehive Net on weekdays.



It's a little difficult to see the horizontal Buckmaster OCFD balun and wires

I'm still learning a ton, and would like to personally



Tim's ground rod, which supports the lightning arresters, through which runs the coax for his three rooftop antennas

thank my Elmers: Noji Ratzlaff KNØJI, George Oates K7BFI, Alan Rasmussen AJ9R, Dave Becar KI6OSS, and too many others to mention, for all the help they have rendered and the patience they have shown me. The bottom line: if you want to succeed as a ham operator, understand well that all noobs need great ELMERS to achieve that success!

Tim is a member of UVARC, UARC, the LDS Church ERC (Emergency Response Communications), and his weekly stake net.

— 73, Tim

Amateurs in Action

Recounts of ham radio operators who have used their effort and skills to help others in a time of need



Landslide in Kerala

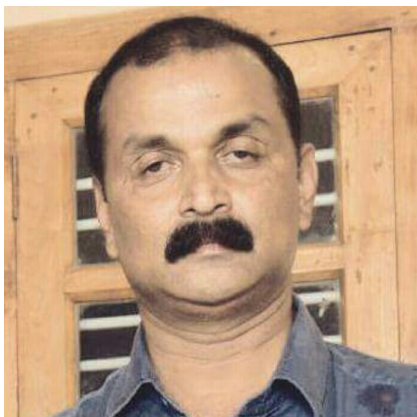
Kerala is a state located on the western shore of the southern tip of India. In the early hours of Tuesday 30 July 2024, a series of landslides took place in Wayanad District (equivalent to a county) of Kerala. The [2024 Wayanad Landslide](#) was one of the deadliest in Kerala history, claiming more than 250 lives. The towns of Chooralmala and Mundakkai, both in Wayanad, were essentially wiped from the map by huge landslides from monsoonal rainfall that saturated the ground and caused hillsides to collapse onto the towns below.



Abraham Jacob VU2OJ

As soon as they learned of the disaster, Sabu Mathew Kadavil VU2ELJ and Abraham Jacob VU2OJ of the Sulthan Bathery DX Association went to work immediately, setting up their stations, and helping a few other hams with theirs. The phone lines were down, so they offered their services to district officials, who accepted their help immediately. This team of ham radio operators was the only way that the affected area and citizens could get any sort of assistance from the outside, and the only way for loved ones to make any contact with each other for assurance.

A later press release credited ham radio operators for establishing crucial communication by delivering important updates to impacted communities and authorities, and the help they provided in the rescue and relief effort. *District Collector Dr. Meghashree reached out to the ham radio operators, and they have been instrumental in keeping the lines of communication open, read the release. The situation was dire, with mobile phone services available only to a very limited extent.*



Sabu Mathew Kadavil VU2ELJ

Other ham radio operators in the effort included VU3HBC, VU3MLY, VU3YWT, VU3OYI, VU3AYR, VU2EMR, VU2KNT, VU2MIE, VU3WMU, VU3OJO, VU3FRS, VU2JLE, and VU2SIO. You can read more about amateur radio involvement following the Wayanad, India, landslide disaster on [YouTube](#), another [YouTube video](#), links on [Spreaker](#), and [india.com](#).



New Hams and Upgrades



New hams

KM7FFJ = Kaleb Dodson

KM7FKY = Mario Ruiz

KM7FML = Arie Johnson

KM7FOJ = Jace Sperry

KM7FON = Michael Taylor

KM7FOR = Chet Steele

KM7FPI = Herold Andersen

KM7FPJ = Elbert Eastmond

KM7FPK = William Green

KM7FPY = Gary Hoskins

KM7FPZ = William Shefchik

KM7FQA = Jack Tanner

KM7FQB = Toni Whitney

KM7FQC = Daniel Wydner

KM7FQQ = Daniel Bowers

KM7FQR = Norman Bowers

KM7FRN = Tyler Hawkins

KM7FST = Jay Christofferson

KM7FTD = Trevor Beaumont

KM7FTT = Taylor Johnson

KM7FTU = Jonathan Coats

KM7FTW = Kathleen Wellman

KM7FWB = Ethan Kikuchi

KM7FWG = Miguel Vargas

KM7FYJ = Byron Faux

AJ7KY = Kyle Butt

KM7FZB = Don Kasch

KM7GBZ = Isaac Marchant

KM7GCA = Scott Marchant

KM7CGM = Rodger Taylor

KM7GCN = Michael Holley

KM7GCO = Isaac Jex

KM7GCP = Sydney Peel

KM7GCQ = John Black

KM7GCR = Chris Blinzinger

KM7GCS = Amy Holley

KM7GDJ = Porter Peel

Upgraded hams

AJ7KE = Michael Brown (Extra)

KM7DUL = Steven Wuthrich (General)

AJ7KS = Josh Gubler (Extra)

KK7QXJ = Wade Massey (General)

Congratulations to all these diligent folks! We look forward to hearing you on the radio soon.

Events

Upcoming happenings



Summer Field Day

Heads up for Field Day 2025! Noon Saturday 27 June through noon Sunday 28 June. Our location this year will be at [the same place as last year](#), up Trout Creek, about a quarter of a mile north off Highway 40. Our Field Day Potluck will feature a taco bar that Saturday afternoon. Dave Becar KI6OSS also plans to hold an exam session at there.

We've received plenty of help from generous club members to provide RVs in which we can establish our stations, and nearby antennas. And of course, we'll need help taking it all down Sunday at noon too. Three terrific folks have stepped up to tow the GOTA trailer, the club trailer, and the port-a-potty trailer. Thank you so much!

76ers Annual Barbecue

Lynn Hancock K7LSH and Carl Pockrus WE7OMG have once again secured the pavilion at [Highland Glen Park](#) for our annual barbecue, this year on Saturday 06 June, from 10 am to 3 pm.

If all goes as planned, we'll have an HF station set up for you to get on the air, a door prize drawing, and maybe even a fox hunt. If you'd like to contribute toward the food or door prizes, please get hold of [Carl](#) or [Jeremy K7TEH](#). The address is 4800 Knight Ave, Highland.

UVARC Ham Radio Fair

Our annual Ham Radio Fair, will be held 6:00 pm on Thursday 16 July, in the large pavilion at [Pheasant Brook Park](#), 400 N 800 W in Lindon. Families and friends are welcome to check out the stuff, the stations, and the fun of amateur radio. ***But wait...there's more!***

We'll be holding our second-ever ***Ugly Antenna Contest*** in conjunction with the Fair. As a licensed ham, you are welcome to enter the contest, but you must demonstrate in front of three judges that your ugly antenna can be used to transmit farther than a city block.

76ers Annual Ice Cream Social

It's time once again for the 76ers Annual Ice Cream Social, at [Leatherby's in Orem](#), 304 E University Parkway. Bring your family on Saturday 05 September at 1:00 pm, and join us for lunch and treats. They have burgers, fries, and deli sandwiches, as well as world-class shakes. And of course, the friendliest hams in the state!

UVARC 2026 Swap Meet

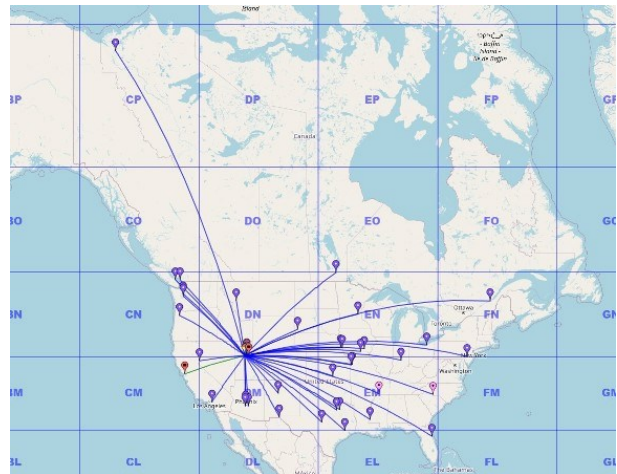
Heads up! The [Utah Valley Swap Meet](#) this year will be 9:00 am Saturday 26 September, at the [Spanish Fork North Park Pavilion](#), 1185 N 400 E. One of our few fund-raisers, entrance is \$5 per person or \$10 per family, plus \$10 per half-table to display your wares. The fees are waived for outside clubs and service (ARES, RACES, CERT, etc.) groups who want to use our swap meet to promote their activities. Dave Becar KI6OSS said that he plans to hold an exam session just outside the pavilion, under the Laurel VEC. We'll post that info as we get closer.

Events

Utah Portable Day 2026



On Saturday 09 May 2026 the Utah Area ERC of the Church of Jesus Christ of Latter-day Saints held its first-ever **Utah Portable Day** to experiment with and demonstrate the effectiveness of state-wide communication by amateur radio. The result was a success, with many on the air throughout the state from 10 am to noon using HF, VHF, and UHF, making largely simplex contacts and logging them for submission to the Area. The effort was not without its bumps, especially using the [what3words app](#) to identify locations, but the **success** came in the form of numbers of people responding to the request to help and the fun we had doing so.



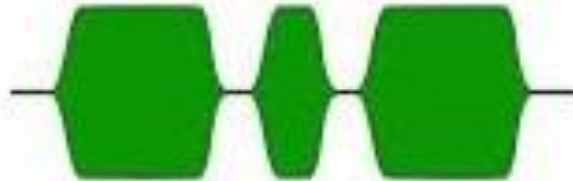
Brass Tacks

An in-depth look at a radio-related topic



CW

CW stands for *continuous wave*, a signal made of a simple sine wave of a particular frequency at a constant amplitude. This doesn't begin to explain its characteristics and meaning to today's radio amateur. It's a radio transmission *mode* (short for modulation method) by which information is encoded before it's sent over the air. This discussion is a medium-dive into the mode of CW, what it means, why we created it, and how it works.

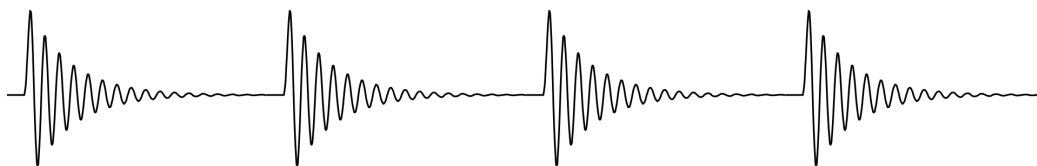


In the early days of radio, [Heinrich Hertz](#) proved [James Clerk Maxwell](#) correct about the predicted existence of radio waves, but he did so using a spark. In fact, the [spark-gap transmitter](#) became the *de facto* transmission method because for years it was believed that a spark was *the only way* to create radio waves. Before long, listeners realized that sparks created a problem, in that a single spark occupies not just one frequency, but a huge spread of frequencies.

The problem with spark

To understand why spark was such an issue, let's take a close look at what it's made of. When you hear one, a spark creates an audible static sound, which in itself is not a problem at all. But hidden within that audible *keck!* sound is an invisible and inaudible electromagnetic pulse (yes, an EMP) of radio frequency. The seemingly on-and-off instance of the spark makes it sound like it's made from a chalkboard scratch, but behind that scratch lies the problem.

When a spark occurs, it first emits a radio signal pulse at a specific frequency ω_0 ($\omega_0 = 2\pi f_0$), and the pulse doesn't last long. This spark pulse doesn't simply turn on-and-off, but decays (reduces to near zero) within about 0.1 milliseconds (100 microseconds). Here's a graph showing four spark pulses and how the amplitude of each decays over a short time:



The decaying amplitude of each spark event is known as a [damped signal](#), the root of the problem. Because of its dampening, each original peak signal $A_0 \sin(\omega_0 t)$ (A_0 is the starting amplitude) is modulated by the dampening effect $e^{-\alpha t}$ (α is known as the dampening factor) making $y(t) = A_0 e^{-\alpha t} \sin(\omega_0 t)$. The dampening effect on frequency is found by solving for \hat{X} (the amplitude at a particular frequency) in the frequency domain using a Fast Fourier transform:

$$\hat{x}(\omega) \propto \frac{1}{\alpha + i(\omega - \omega_0)} - \frac{1}{\alpha + i(\omega + \omega_0)}$$

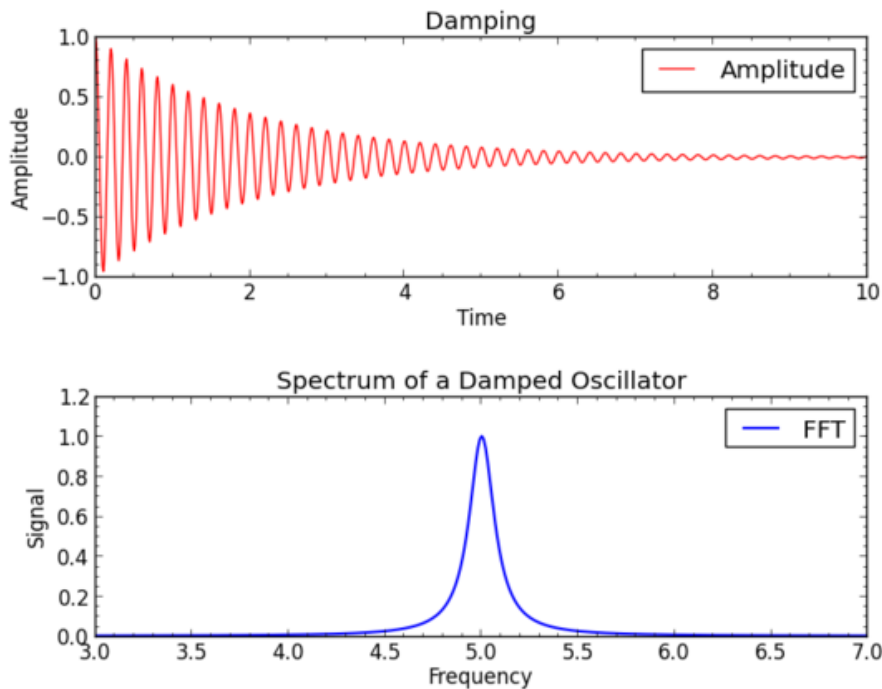
meaning that each spark generates a frequency spread $\omega - \omega_0$ given a dampening α .

Brass Tacks

continued



The original sine wave $A_0 \sin(\omega_0 t)$ produces no harmonics because a sine wave can only result in itself. But when modulated (multiplied) by the dampening e^{-at} , it then generates harmonics due to its non-sinusoidal nature. If there was a way to prevent dampening, therefore, harmonic generation could be avoided, and all that would remain is a constant-amplitude, constant-frequency continuous wave.



Problem solved

In 1897, [Reginald Fessenden](#) was musing in a conversation with his uncle, and coined the term **continuous wave** as a possible solution to the broad-spectrum headache presented by spark-gap transmitters. He asserted that such a signal would not only be effective for communication, but efficient, since it would occupy a much smaller **bandwidth** than spark did.

Fessenden subsequently began experimenting with viable ways of creating a continuous, non-dampening radio frequency signal, and in 1900 invented AM (**amplitude modulation**) during the process. He decided to use the [Alexanderson](#) alternator to provide the sinusoidal signals needed for a continuous wave, which he demonstrated on Christmas Eve 1906, the first-ever AM radio entertainment broadcast.

But it wasn't until [Edwin Armstrong](#) developed the vacuum tube oscillator in 1912 that Fessenden was able to use his electronic method of creating a carrier signal to produce a continuous wave. So, although technically AM predated CW, AM did not become popularly available until after Fessenden used CW to transmit voice, then later, Morse code.

Brass Tacks

continued



So, the difference between spark and CW is that spark needed to charge a capacitor, start the discharge, then wait until it sufficiently discharged, while CW is always “on” and the operator simply connects or disconnects the “on” signal to the transmitter. Spark is like turning on the water hose spigot, then turning it off, each time you want to send a “dit” while CW is like leaving the water on, and you simply press and release the nozzle to send the same character.

Morse code and CW are not the same thing

Today, we amateurs often speak of CW, when we actually mean *Morse code*. Morse code is a *language* made of dits, dahs, and spaces, while CW is a *format method* that allows the language to be transmitted. Still, to us amateurs, a discussion about CW simply would not be complete without mentioning Morse code. If a radio amateur happens to say that he or she “operates CW” of course it’s understood that the person is referring to the language, not the signal, and there’s no need to correct the person.

Hallmarks of CW

As previously mentioned, one advantage of CW is its very small bandwidth and high signal-to-noise ratio, allowing for numerous transmissions of different frequencies to simultaneously occupy a small section of any band. The typical CW signal occupies between 200 Hz and 300 Hz, often as little as 100 Hz. CW filters in modern transceivers range from 250 Hz to 500 Hz, with some as wide as 1.2 kHz.

The truth (to us purists), however, is that the on-off keying of CW occupies a nearly infinite bandwidth, because you’re in essence creating a square wave, which according to its Taylor expansion, produces an infinite series of harmonics. Fortunately, in practical application the harmonics are filtered out or smoothed prior to transmission, and when they’re not, generates a spurious noise known as *key clicks*. The same filtering could not be applied to spark because the spark artifact *is* the transmitted signal.

Finally

To send Morse code, the transmitter is not generating a tone for the dits and dahs and modulating a carrier wave. Rather, the simple carrier signal is just being turned on and off by the operator using the transmitter’s keyer. The audio tone you hear results from mixing the carrier signal with the output of a *beat frequency oscillator* to create a tone in the audio range.

Because of the small bandwidth of CW, it’s easy for one transmitter to be off-frequency from that of a person being contacted. We say that one person must *zero beat* the frequency (resulting in zero Hertz difference between the two), so that when their audio tones match, they’re centered on the same frequency, preventing the two of them from potentially occupying an excessive bandwidth.

Summary

CW stands for continuous wave, and is a radio transmission mode on which amateurs typically operate the language of Morse code. It originated partly as a solution to the broad-band noise generated by spark-gap transmitters. CW tends to occupy a very small bandwidth because of its nearly single-frequency nature.

Noji Ratzlaff, KNØJI (kn0ji@arrl.net)

Dear Annette

What's on your mind? Serious, humorous, technical, and thoughtful answers to your deepest, (mostly) ham-related questions.



Dear Annette:

I'm about to install a ground-mounted vertical HF antenna, but I also need to lay down radials for it. Should the radial wires be insulated or can they be bare?

Michael in Provo

Dear Michael:

You might have missed the [article last issue regarding radials](#), but to answer your question, bare wires and insulated wires perform similarly, yet the largest difference you might experience is that bare wires (exposed to either soil or weather) will corrode faster than insulated, requiring you to replace them before too long.

Dear Annette:

I have never wanted to learn about electronics. Until now, and it's only a curiosity. From what I've been told, there's a lot to learn, so I want to pick up just a little here and there, without getting overwhelmed. YouTube videos are no help, because they get over my head too quickly, and I refuse to waste money on books. Is there a resource where I can learn at my own pace, a little at a time?

Allison in Eagle Mountain

Dear Allison:

Are you familiar with [Noji's website](#)? I recommend browsing [this page](#). I especially encourage you to start with his [Getting Started](#) guide and [Electronic Components Overview](#).

Dear Annette:

I've looked around quite a lot, and could not find any radio that can transmit both GMRS and ham. So, if they don't make such a radio, why don't they?

Gene in Riverton

Dear Gene:

As you've discovered there is no single transceiver that can be approved for both GMRS and ARS (amateur radio service), primarily because of the rules that govern GMRS. Holding an amateur radio license, you can pretty much use anything you want, to transmit on amateur frequencies, as long as your device also adheres to the power, bandwidth, harmonic / spurious emissions, and other (band-specific) requirements. But to legally transmit on GMRS frequencies requires a device that has been specifically certificated (formerly "type-accepted") for GMRS, and as I understand it, nothing that can transmit on amateur frequencies are allowed to be submitted for GMRS certification ([Part 95.1761.c](#)).

Dear Annette:

I have a 40-meter EFHW mounted as a sloper and an 80-meter EFHW mounted in an inverted-V. Why is my noise floor so much higher using the 80-meter antenna? I've worked many on the 40-meter EFHW that I just couldn't hear well on the longer antenna.

Chris in Saratoga Springs

Dear Chris:

A longer wire has greater aperture, which will collect more noise (Faraday's Law of Induction), and the difference is often exhibited by your two different antennas on the same frequency. Also, 80 meters will naturally be noisier than 40 meters anyway (generally, the lower the frequency, the higher the noise). In either case, if you have common-mode noise, you might be able to mitigate some of it by using a simple inline choke such as [this one](#).

Got a question for Dear Annette? Email it to uvarcshack@gmail.com and include your town name. Sorry, no guarantees.



The Amateur in You, Part 1

What have you been pondering?



Now that you have a handheld radio

By now, you've likely taken the time and effort to pass the ham radio exam, and you might even have gone online and purchased your very own HT (handheld transceiver) to take your adventure to the next level. But within minutes of tearing open your precious package, you're met with an unpleasant surprise. You pull out the little radio, slip on its battery, attach its antenna, turn it on, and hear nothing but noise. Or worse, you hear nothing at all.

As you start playing with knobs and buttons, and watching a variety of numbers and icons flash on and off the screen, your frustration mounts. *Why doesn't it work? Why can't I hear anything? When I push the big button labeled PTT on the side and call out, why doesn't anybody answer? Did I purchase a defective unit?* In all reality, your little radio is likely not broken, but your heart might be.

Your radio must be programmed

Unlike your phone, which comes pre-programmed to connect with nearby cell towers, your HT arrived with a semi-blank slate, and requires you, the owner, to tell it what frequencies to use. The only frequencies already "programmed" into your brand new HT are one or two arbitrary ones used by the factory to test your HT for final inspection.

You might have pointed out that other radio types, such as CB, GMRS, FRS, MURS, and other **channelized** radio services do not require this customer-programming, so why does a ham radio need it? It's because **ham radio is not channelized**, allowing you the freedom to use any frequency allowed by your license privileges. And this freedom is one of the purposes of licensing, to ensure that users understand that they possess the ability to communicate using any permitted frequency, regardless of channelized restrictions.

For convenience, you can store your own favorite frequencies into built-in channels of your HT, but the built-in channels will largely be empty until you program them. This way, "Channel 4" of your HT will probably have a different frequency from the one that your close ham friend will have in his "Channel 4" location, and it'll be up to you to keep track of that.

What frequencies to program into it

Perhaps the most difficult step in your HT adventure is to locate the frequencies you should program into your radio. The two best ways of finding these out are by your local club and from a general online resource. Taking the online road seems like a no-brainer, but can actually be much more difficult and therefore time-consuming.

Each ham radio club has (or should have) a published list of frequencies known as the **Standard Load**, which is specific to its **geographical area** and **service type**. The geographical area is typically a county, a city, or large neighborhood. The service type can be emergency, church, casual, information, public safety, weather, and more. Many Standard Loads contain a mixture of service types, or even all the above. Here is an example of a Standard Load for Utah County, Utah, containing both emergency and casual service types, with the CSV file provided to import into many modern CPS (customer programming software) applications:

- [CSV format file](#) containing the frequencies
- [PDF](#) that describes the above CSV contents

If you'd like to tackle the online approach to collecting the frequencies required for your HT, you can visit a website hosted by your local [Frequency Coordinator](#) (again, a Utah example), or other popular resource, such as



The Amateur in You, Part 1

Continued



[RepeaterBook](#) or [RadioReference](#). Look up or sort the list of frequencies by your geographical area and type of frequencies (typically 2-meter and 70-cm) that your HT can hold.

One drawback of this online approach is that it provides you with no idea of whether a particular repeater is up and running at the moment. Another is that it also does not tell you which repeaters are heavily used and which are seldom used, if that's important to you. Furthermore, these online lists don't tell you what simplex frequencies, if any, are important to monitor in your selected area.

One last thing about frequency selection: before you start storing random or arbitrary frequencies in your radio, be sure the frequencies you have chosen follow your [local band plan](#), even if they seem to fall within your license privileges.

Going about the programming

While compiling your frequency list, here are a couple of important things to keep in mind:

- **Never set a receive tone in your radio**, a selection marked "R-CTCS" or "R-DCS" (Baofeng) or "TSQL" (Yaesu) or "ct" (Icom). That setting will prevent you from hearing anything if the repeater does not send a particular tone.
- Set your power level to the highest setting for each entry.
- Be sure an antenna is attached before programming your HT.
- Optionally, turn off the tone for simplex entries. The tone is unnecessary and can cause interference in some cases.

Now that you know what frequencies to store in your HT for eventual use, you'll need to actually perform the programming. For most radios, the easiest and least expensive way is to use [CHIRP](#), a freeware app you can install on your desktop or laptop. To allow communication between your computer and your HT,

you'll need to secure an appropriate programming cable, which can usually be purchased from [Amazon](#).

Another popular CPS is by [RT Systems](#), which includes the software and cable, and are unique to each radio. On one hand, the RT Systems CPS costs \$49 per cable-software combination; on the other hand they're guaranteed to work, while there's no such guarantee with freeware.

How to use your HT

Now that your little guy is programmed with all the right stuff, it's time to use it. If you're attempting to talk with a friend through a repeater, make sure you and your friend are **at least a hundred or so feet apart**, or you'll likely become the victim of [desensitization](#) ("desense" for short).

You might have noticed that you can assign names to the frequencies you store in your HT. The advantage of using the Standard Load might not become apparent until your friend asks you to switch to the "Emer 4" repeater, when you've named the same one the "Bald Mountain" repeater. The Standard Load helps create a standard frequency naming convention between operators. So, don't assume that everybody's HT has a "BLDMTN" repeater they can reference or turn to.

If you'd like to call out to nobody in particular and see who's out there, turn on your HT, select a repeater or simplex frequency, place your HT **less than an inch from your mouth**, press the PTT, and say

- *This is K17ABC. Anybody out there who would like to talk with a new ham?*
- *This is K17ABC, trying to make a contact.*
- *This is K17ABC, monitoring.*

Please **don't call "CQ"** on a repeater and please **don't ask for a radio check**. No need to say **over** or **clear** when you're finished, just your call sign.



The Amateur in You, Part 2

What have you been pondering?



How to serve as Net Control

Most ham radio operators love a good **net**, an on-air *network*, or gathering of licensed amateur radio operators who share a common interest. Depending on the net type or style, each net tends to be led by a licensed ham designated by the Net Manager as *Net Control Operator* (NCO) or *Net Control Station* (NCS) or simply **Net Control**. Basically, Net Control is in charge of the net.

But you already knew that, and you've likely checked into a number of these nets. And now you're wondering whether you can handle that responsibility. The answer is, Of course you can! Ok, but what does it really take to be Net Control? The only qualification required to act as Net Control is the amateur radio license. The class of license (Technician, General, Extra) only matters if the net is held on HF where a Technician licensee is not privileged to operate, such as 20 meters.

The Net Manager has already dictated the theme (social, religious, family, etc.), type of net (call-in or roll-call), net format (preamble, order, formality), time, and frequency of the net, and you're obligated to follow those guidelines. Other than that, it's left to your expertise to run the net according to your experience and best judgment. No matter your net, you'll typically have a lot more listeners than participants, so you should keep in mind the presence of your background listeners when you say and announce things.

As Net Control, your responsibility is to organize the net, manage the net, and keep it running smoothly. It's perfectly normal for you to feel all of that sounds a little daunting, but in time, with a little experience, often within your first net as the boss, you'll start to feel more comfortable handling your net.

Normally, your net will be uneventful, and run as smoothly as you've always heard it. You



read the preamble, you jot down check-ins as you hear them, and you run the program as usual until you're ready to close the net. Often, that program will include possible traffic (announcements), a **training topic**, a Q&A forum, or even a roundtable, all of which are up to you. This might mean, therefore, that you'll have to plan your net, and arrange in advance for a training topic to be given, or other parts of your program that require some commitment from others.

You are in charge

It'll be up to you to **control the net**, as your title suggests, meaning keeping themes on topic, resolving conflicts, and to handle unexpected incidents, such as an emergency. Occasionally, a participant might bring up an offensive or awkward topic, and you'll need to ask the person to move the discussion offline, while reminding him or her that your net does not permit such discussion or language. Never berate or criticize a participant, but kindly inform all participants about your net protocol expectations.

One of your privileges as Net Control is traffic-



The Amateur in You, Part 2

Continued



Occasionally, you might encounter a difficult participant who might be having a bad day or who has an abrasive disposition. You are not expected to endure abuse, but always treat the operator with respect. If appropriate, kindly ask the operator to return to the net the following week after a cooling-off period.

Another interesting situation is the check-in of an unlicensed participant. Often, the best thing to do is refer the person to a mentor or your local club, where he or she can learn about licensing.

If you ever find yourself in the midst of an incident or emergency, you are fully empowered to start a **Health and Welfare Net** in behalf of your neighborhood or church group, without requiring any authorization from any governing body. It'll be up to your experience and skill to plan and run the net smoothly and handle any questions regarding the purpose or propriety of the net.

Finally

You can do it! Acting as Net Control of a net can be nerve-wracking, rewarding, and a lot of fun. It'll be up to you, the person in charge, to control your net and manage it as you see fit. In spite of all the challenges mentioned, you've got this, although it might take a little practice.

handling, and there are generally two kinds of *traffic* that might be integral to your particular net type. One is a very formalized message, passed in the format dictated by the NTS (National Traffic System), as defined by the [ARRL](#). Some nets are specifically organized around the NTS protocol to promote message-handling during an emergency.

The other kind of traffic is given by any participant to make a very informal announcement, such as an upcoming activity, meeting, or a personal achievement. In that case, participants state "No traffic" when they check in and don't have any announcements to make.

Handling challenging situations

There might be times when it pays to be a quick thinker. But even if you're not, you can still rely on a couple of tips to help you, should an operator throw you a curve ball. For example, if a participant asks you a question to which you don't know the answer, never make up an answer, but tell the person you'll get back to him or her offline or at a later time with it. You can also refer the questioner to another person, provided you have the permission of the one to whom you're referring.



Hot Tips

Good info for the new ham, and old stuff to refresh your memory



Learn to use the Reverse function

In our ever-charitable desire to be helpful to other hams, we sometimes encounter those who have difficulty getting into or even reaching the repeater. When we hear somebody struggling like this, it might be worth our while to help out by communicating with the person directly rather than through the repeater. But if he's tuned to the repeater, and you don't know his phone number, how can you alert him, so that you can help him?

One way is to switch to what we call **Reverse** mode, which most radios support. The *reverse* function merely switches the repeater input and output frequencies on your radio. Normally, when communicating through a repeater, you use your radio to talk into the repeater input frequency and listen on the repeater output frequency. On *reverse*, you talk into the repeater output frequency, so that your friend can hear you, and listen on the repeater input frequency, so that you can hear him.

But communicating on *reverse* like this only works if the other person can reach you better than he can reach the repeater, because the repeater is possibly out of his range on one side (to the north of him, for example), but you're within his range on the other side (to the south of him, for example). Or this might work when your friend is being obstructed from the repeater because of a mountain or tall building, but you have a clear shot of both him and the repeater.

Using the *Reverse* function

So, how do you use this *reverse* function? Many mobile units and some HTs have a button labeled **REV**. Just press that button once, and your radio switches its repeater input and output frequencies, then press it again to get out of reverse, and back to normal repeater communication. If you're on a Baofeng or



Wouxun, simply press the * (star) button for *reverse*. If you have a Yaesu HT (handheld transceiver), simply press C. Then press the same key to exit *reverse* mode. There's no need for your friend to go into *reverse* mode.

Once you're in communication with the other ham by *reverse*, kindly let him know that his signal is not making it into the repeater. Offer helpful, non-critical suggestions on what he could do to improve his transmission, like move to a different location, point his speak closer or louder into his microphone, and so forth. It's possible that his antenna has come loose or is pointed sideways instead of up.

The last thing to keep in mind when communicating in *reverse* is that you might want to let others know you're in *reverse* mode, since even though you're not technically using the repeater, you're tying up the repeater, because you're preventing others from using the repeater output. You might get a lot of **You're not in the repeater** reports from others. Another thing is that switching to *reverse* is no guarantee that you can reach him better; in fact, it might be worse, but it's something you can try, in your quest to be the helpful ham.

Noji Ratzlaff KNØJI (kn0ji@arrl.net)

DIY

Worthwhile projects you can build on your own



Simple 40-meter CW QRP transmitter

First, you've probably been looking for an actual radio that you can actually build. Second, you've probably been looking for a kit that's easy to build in a reasonably short time, yet will work during an emergency. Third, you want something compact, that doesn't weigh a lot, or take up too much room. If so, this might be your next project.

To work this little radio, you'll need to supply the 9V battery, a Morse code (straight) key (with a mono 1/8" plug), 40-meter antenna (with BNC-M connector), and a good ground connection.

For transparency, and to make sure you aren't blindsided, this transmitter has the following caveats, which might be important to you:

- Unable to receive, only transmit
- Transmits only one frequency (7.030 MHz)
- Maximum transmit power is 300 mW (QRP)
- Has very little filtering
- Requires Morse code to use it
- Accepts only a straight key (not paddle)

To be clear, this device is not a *transceiver*, because it possesses no receiver, leaving the receiving function to some other device, such as a [shortwave radio](#) or the [WebSDR](#). The Optional parts are for installing in a nice, little enclosure, if you want, including external connectors.

Parts list

- | | |
|-------------------------------------|--------------------------------|
| One 2" x 2" prototype circuit board | 2 feet 22 AWG hookup wire |
| One 9V battery connector | Two 1 M Ω ¼ W resistors |
| One SPST rocker switch | One 10 k Ω ¼ W resistor |
| One 7.030 MHz crystal | One 100 nF capacitor |
| One 2N3904 transistor | One 22 pF capacitor |

Optional parts

- | | |
|---------------------------------------|-------------------------------------|
| One enclosure 83 mm x 58 mm x 33 mm | One BNC-F panel-mount connector |
| Four each M3 pan head screws and nuts | Four 3.1 mm x 6 mm x 6 mm standoffs |
| One 3.5 mm (1/8") mono jack | |

The construction

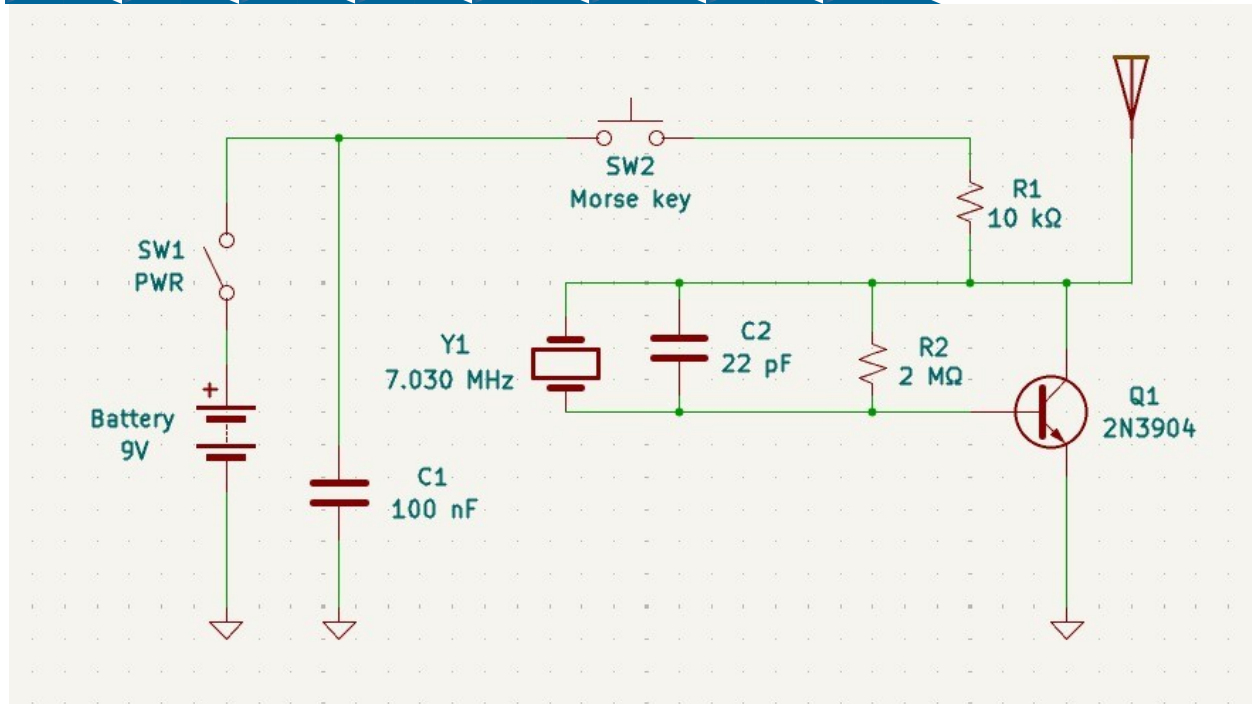
Wire the components together according to the schematic on the next page. 2 M Ω resistors are not nearly as common as 1 M Ω values, so just wire two 1 M Ω resistors in series. None of the components are very static-sensitive, so a wrist strap is not necessary for this project. If you're unsure about your soldering skills, it might help to wire up this circuit on a [breadboard](#) before committing it to a PCB (printed circuit board). If you have trouble following the schematic, or have questions about anything in the circuitry, please feel free to reach out and ask.

Obvious to the casual observer, this "transmitter" is actually nothing more than a crude oscillator, crude because I'm trying to keep it really simple. I mean, it's about the simplest transmitter you can make, but it does work (transmits) as designed.



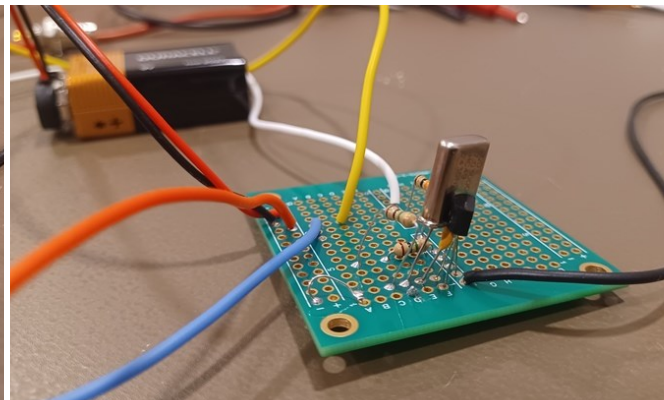
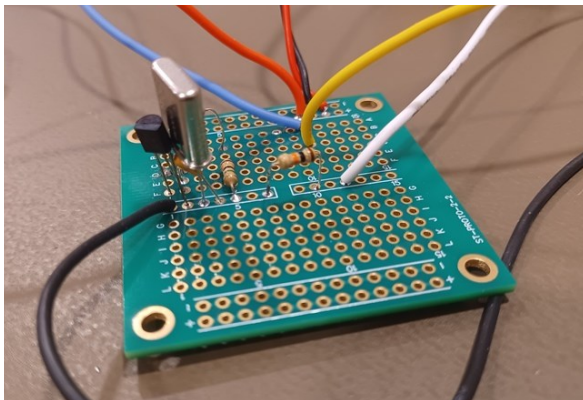
DIY, continued

Simple 40-meter CW QRP transmitter

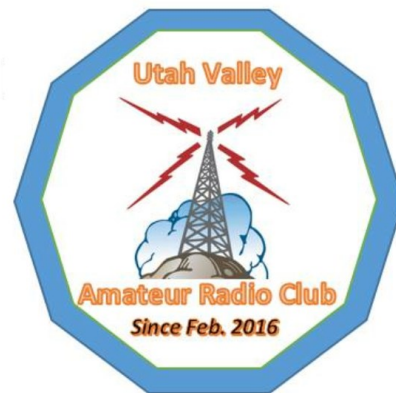


Optional construction

If you want to package this little transmitter in a nice-looking box, drill appropriately sized holes for the BNC connector and mono jack in convenient places on the enclosure. Drill holes on the bottom for the screws. Connect the collector of the transistor to the center conductor of the BNC connector and the circuit signal ground to the outer conductor of the BNC connector. Connect the mono jack in place of the Morse key, then install a mono plug onto your straight key.



The rocker switch is also optional, since the straight key turns on the power to the circuit with



DIY, continued

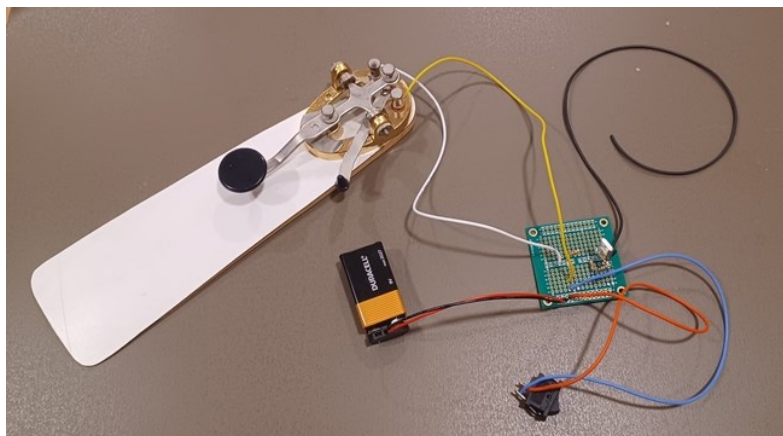
Simple 40-meter CW QRP transmitter



each key-up. Ok, that's not exactly superior engineering, but it does minimally work. So, the transmitter circuit doesn't actually produce any signal until you key up, because the straight key enables power to the oscillator in series with the power switch. To install the rocker switch, cut a 19 mm x 12.5 mm x 11 mm rectangular hole in the enclosure.

Testing the transmitter

Using my trusty Yaesu FT-100D as my receiver, I powered it with an SLA (sealed lead-acid) battery, turned on the rig, and tuned to 7.030 MHz. Using CW as the mode, and no filtering, I monitored as I flipped on the power switch to my oscillator circuit. And when I keyed up, I heard CW loud and clear from my HF rig, so the transmitter worked.



Then, I dialed around to see how wide my signal was, and it turned out that my Yaesu received the signal clearly from 7.0273 MHz through 7.0305 MHz, a 3.2 kHz bandwidth, which is both encouraging and a little concerning. The lower Technician portion for CW of the 40-meter band spans 7.025 MHz to 7.075 MHz, so both the carrier (7.030 MHz) and the entire bandwidth of my transmitter falls safely within that range, allowing Technician class licensees to use

this transmitter. Typically, a CW signal does not need to take up more than 400 Hz to 500 Hz, while my signal takes up 3200 Hz. That's not a clear FCC violation, since there is not bandwidth limit for CW, but the rules ([Part 97.307.a](#)) do state that we shouldn't occupy more bandwidth than is necessary for the communication. So, a gray area.

I didn't take the time and trouble to pull out my spectrum analyzer or wattmeter to measure the power output, but I'm pretty sure this transmitter output falls well within the [200-watt limit](#) for this portion of the 40-meter band.

Finally

This simple transmitter project has a few shortcomings, but it also has a lot of potential. If you're concerned that you aren't able to enjoy this device because it can only transmit CW, then it might just be time for you to learn Morse code. This little guy is missing two major sections that could make it into a more robust transmitter: an output PA (power amplifier) and a LPF (low-pass filter), simple schematics for both of which could easily be found by an online search. The PA (made only from a biased 2N2222A transistor) would help boost the signal to 600 mW or more, and the LPF would confine the bandwidth better and prevent spurs (spurious emissions) on harmonics. I leave the enclosure work to you, for cosmetic appeal.

Noji Ratzlaff KNØJI (kn0ji@arrl.net)

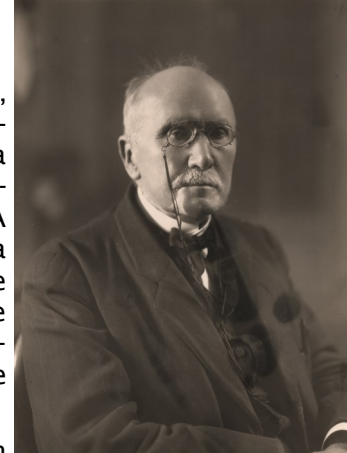
Living in the Past

Historical perspective



Inventor of the coherer

The existence of radio waves, as proven by [Heinrich Hertz](#) in 1889, prompted many to begin pursuing radio technology experimentation with vigor. While it was easy enough to generate and transmit a radio wave, many found it a lot more difficult to *detect* the radio signal, meaning the simple identification of a radio wave presence. A subsequent circuit would then convert that on-off detection into a human-perceptible notification, such as a sound. Hertz detected the signal by a loop, but that proved effective only within feet of the transmitter, not a very practical application. (Today, detection arguably includes *demodulation* as well, but that detail is outside the scope of this discussion.)



In 1890, French physicist [Edouard Branly](#) was experimenting with temporary electrical conduction through metal filings, prompted by some metal filing research performed by [another experimenter](#). Essentially, when metal (primarily zinc or copper) filings were placed between two electrodes (in a glass tube for convenience), they measured a high resistance, due primarily to the oxidation on their surfaces. When a DC or AC voltage was applied to electrodes across the filings, however, oxidation resistances were largely overcome, yielding a much lower resistance, as determined by a galvanometer (voltmeter) connected to it. Once the current is removed, the filings are returned to their normally high-resistance state by a simple tap to the glass tube that holds them.

Edouard took the experiment a step (indeed, a leap) forward, and attempted to apply Hertz's effect to the tube of filings. Instead of using a DC or AC voltage, he used a nearby (as in, not connected to the tube electrodes) spark to induce a current through the filings in the tube, and found that the metal filings *cohered* (clumped together) the same way as when they had a battery across the tube electrodes. He tested this effect from a small distance, then later in a different room, and finally over 80 meters away, to be sure his experiment was telling the truth.



Original Branly coherer

Edouard became the inventor of the *coherer*, the first device that could detect a radio wave at a practical distance.

At that time, the effect that Edouard identified was called *radio-conduction*, but his original *coherer* stuck, and his device became the de facto detector of the [spark](#) era for about ten years. A person operating the receiver still had to tap the glass each time a dit or dah was received, so a little later [Oliver Lodge](#) came up with an automatic tapper that reset the filings after each Morse code symbol, greatly improving its speed.

Edouard proved that radio waves could be detected at distances much greater than the inside of a laboratory room, which revolutionized the science of radio, paving the way for greats such as [Marconi](#) to perform their contributions to radio history. You can read more about Edouard Branly in [Invention & Technology](#), and [IEEE Xplore](#).

Side of Bacon

A little ham humor

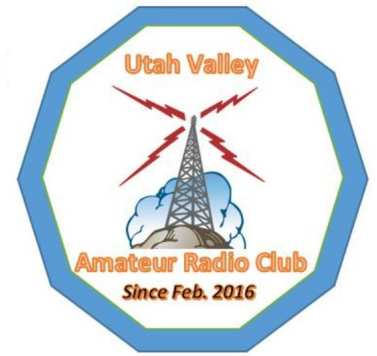


Surprised my wife today ❤️



For Your Insight

Information you could use



Club meeting format

Here's the usual agenda for club meetings, at the [Orem City Emergency Operations Center](#), 56 N State St, 2nd Floor:

Talk-in frequency on the club repeaters

6:30 pm : Eyeball QSO

socialize / put faces with call signs

radio programmers available to help you

6:45 pm : Call the meeting to order

meeting lineup (agenda)

announcements / calendar / new hams

7:00 pm : Discussion / presentation

7:45 pm : Door prizes

7:55 pm : Dismiss and disassemble

8:00 pm : *Club QSY* to a local eatery

Something you'd like to see at the meetings?

Thanks to Heath Stevenson for making our monthly meetings possible!

Monthly meeting help

We're grateful for the volunteers who help with various tasks that make our club night just that much more friendly and useful to everybody. Monthly, we need help with

- programming radios (thanks, Ralph!)
- taking photos or videos during the meeting (thanks, Joe!)
- setting up tables and chairs (thanks, Heath!)

Lynx

Websites for your education and leisure

[Ham Radio Equipment](#)

[Ham Radio Nets](#)

[Radio Programming](#)

[Complete ham radio education](#)

[Net Training Topics](#)

[76ers Group](#) and [UVARC Group](#) pages

[New Ham Page](#)

Send your input to uvarcshack@gmail.com

Test your knowledge

General and Extra review (answers next page)

G6A06 : Why should wire-wound resistors not be used in RF circuits?

- The resistor's tolerance value would not be adequate
- The resistor's inductance could make circuit performance unpredictable
- The resistor could overheat
- The resistor's internal capacitance would detune the circuit

E3A04 : In what direction does an electromagnetic wave travel?

- It depends on the phase angle of the magnetic field
- It travels parallel to the electric and magnetic fields
- It depends on the phase angle of the electric field
- It travels at a right angle to the electric and magnetic fields



Calendar

*What's happening
(times are Mountain Time)*



Provo Ham Exam Sessions

Provo Fire Station #2, 2737 N Canyon Rd

Sign up at HamStudy.org/sessions/nv7v

Wed 18 Jun, 7:00 to 8:00 pm

Wed 16 Jul, 7:00 to 8:00 pm

Wed 20 Aug, 7:00 to 8:00 pm

Wed 17 Sep, 7:00 to 8:00 pm

Sat 20 Sep, 2:30 to 5:00 pm

Email uvhamtest@gmail.com for info

Provo One-day Technician Courses*

Third Saturday Monthly at 8:00 am

Provo Fire Station #2, 2737 N Canyon Rd

** September through April*

2024 Orem Ham Radio Courses

Sign up at psclass.orem.org

Extra: Jul 15, 22, 29, Aug 5, 12

Technician : Sep 16, 23, 30, Oct 7

Club Meeting Calendar (6:30 pm)

On YouTube Live, and Facebook Live

June 5 July 17 †

August 7 September 4

October 2 November 6 *

† *Ham Radio Fair, Pheasant Brook Park*

* *At the Orem Friendship Center*

Regular Nets

UVARC Family Net, Sun 3:30 pm, 146.780

NE UC ERC Net, Sun 9:00 pm, 147.540 (s)

Health & Fitness Net, Mon 7 pm, 146.780

UVARC Ladies' Net, Tue 7 pm, 146.780

DMR Utah Net, Wed 6 pm, TG 3149, CC 1

Utah 76'ers, Wed 7 pm, 146.760

UVARC HF Net, Wed 9 pm, 28.345 / 7.220

UVARC New Ham Net, Thu 7 pm, 146.780

CERT Ham Net, 2nd, 4th Thu 8:pm, 146.780

Utah County 6-meter Net, Fri 8 pm, 50.140

Family History Net, Sat 8 pm, 146.780

See a larger list of nets at noji.com/nets

Upcoming Contests

ARRL International Digital Contest

Noon Sat Jun 7 to 6 pm Sun Jun 8

ARRL Kids Day

Noon to 6 pm Sat Jun 21

ARRL Field Day

Noon Sat Jun 28 to noon Sun Jun 29

IARU HF World Championship

6 am Sat Jul 12 to 6 am Sun Jul 13

See a larger list at contestcalendar.com

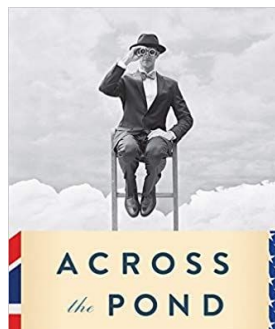
Answers to *Test your knowledge*

G6A06 : B (The resistor's inductance could make circuit performance unpredictable)

E3A04 : D (It travels at a right angle to the electric and magnetic fields)

Across the Pond

That is, the Utah Lake 'pond'



Eagle Mountain ham radio activities

A list of amateur radio activities near Eagle Mountain, organized primarily by Dave Bearc K16OSS. Unless otherwise noted, all these activities will be held at the [Eagle Mountain City Hall](#), 1650 Stagecoach Run. Please contact Dave at ki6oss6365@gmail.com to register for any of the classes or exams, for any additional information, or questions in general.

May 2026 General Course

Thu 14 May, 7 to 9 pm
Thu 21 May, 7 to 9 pm
Thu 28 May, 7 to 9 pm
Thu 11 June, 7 to 9 pm
Thu 18 June, 7 to 9 pm

Open to all, for any license class

October 2026 Technician Course

Thu 15 October, 7 to 9 pm
Thu 22 October, 7 to 9 pm
Thu 29 October, 7 to 9 pm
Thu 05 November, 7 to 9 pm
Thu 12 November, 7 to 9 pm

Ham Radio Exam Session

Sat 20 June, 10 am
Sat 27 June, 10 am ([Field Day](#))
Open to all, for any license class

Ham Radio Exam Session

Sat 14 November, 10 am
Open to all, for any license class

August 2026 Technician Course

Thu 13 August, 7 to 9 pm
Thu 20 August, 7 to 9 pm
Thu 27 August, 7 to 9 pm
Thu 10 September, 7 to 9 pm
Thu 17 September, 7 to 9 pm

Ham Radio Exam Sessions

Sat 19 September, 10 am
Sat 26 September, 10 am ([Swap Meet](#))

Ham Radio Nets

Eagle Mountain ECT Net

Sundays, 9 pm 147.220+ MHz (151.4 Hz)

Eagle Mountain Chimney Rock Stake

Sundays 8:30 pm 446.500 (s)

Eagle Mountain Central Stake

Saturday 8 pm 145.650 (s)

Vendors

For your convenience



Pockrus Joystick J-pole

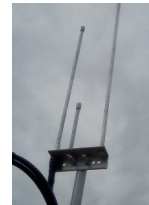
\$30, open-stub aluminum half-wave, dual-band J-pole antenna

\$40, 6-meter dipole, \$20 for the 220 MHz (1.25 m) antenna

by Carl Pockrus, WE7OMG (email omgantennas@gmail.com to order)

Half-wave performance, solid construction, weather-proof, low wind-load

Probably the best-performing outdoor antenna you can get for the price



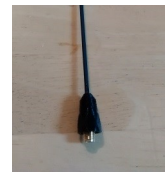
Super-Elastic Signal Stick

\$22, vertical quarter-wave flexible antenna

by Richard Bateman, KD7BBC, of *SignalStuff* (and maker of *HamStudy*)

Super-performing antenna for your HT (handheld transceiver)

Visit [SignalStuff](#) and select [SMA-Male](#), [SMA-Female](#), or [BNC](#)



Ham Radio Podcasts v1.50

by Trevor Holyoak, AG7GX (email android@holyoak.com)

Stream podcasts (such as *100 Watts and a Wire*, *Amateur Radio Newsline*, *ARRL Audio News*, etc.) or download for later listening

For Android 4.1 and up (ad-free available for [purchase](#))



Club Logo and Call Sign Embroidering

Want your call sign or name (or both!) embroidered on your shirt, your hoodie, your duffle? Or how about a club patch with your call sign?

by Glenna Gardner, WE7SEW (glenna0354@gmail.com or text [801-592-2503](tel:801-592-2503))

Call sign or name = \$5, Both = \$8, UVARC patch = \$5, Patch with call = \$9



Portable Aluminum J-pole

\$60, sectioned, open-stub aluminum half-wave, dual-band J-pole antenna

by Stan, KJ7BDV and Kent, N7EKF (email skantenna@yahoo.com for info or call 801-372-7260)

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We are the *Utah Valley Amateur Radio Club*, a 501(c)(3) non-profit (EIN 81-360-6416) Utah corporation (9752825-0140) that was organized in an obscure Orem fire station on 02-05-2016 to provide amateur radio enthusiasts in Utah County and surrounding areas a way to gather and discuss all things ham. Our primary purposes are to provide a local amateur radio resource, help new hams in their new-found adventures, and to give more experienced hams a reason to share their wealth of knowledge and wisdom in a friendly atmosphere of fellowship. We're an ARRL Affiliate and work in cooperation with the Utah VHF Society, but are not subsidiary to them, to ARRL, ARES, or any other organization, although many of our members and leaders might also belong to the same.

The *UVARC Shack* is copyrighted and published by the Utah Valley Amateur Radio Club, and its purpose is to convey the tone and temperament of the club, to inform and entertain its members, and to entice the rest. To join, go to uvarc.club/join, then sign up at www.facebook.com/groups/uvarc/ to stay informed. For more information about our club or about amateur (ham) radio in general, please email or text or call us.

More than just a club, we invite you to become part of a great ham radio friendship in Utah Valley and around the world

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Club Sponsor

Heath Stevenson, KK7KOU
Orem City Emergency Manager
From all of us to you, 73



Nora Nemes HA5YN of Budapest, Hungary, YL and YOTA queen of Europe, racking up an impressive 300,000 contacts from over 200 countries. BTW, this is last year's photo, so she's much older now. We guys have a long ways to catch up to her!