

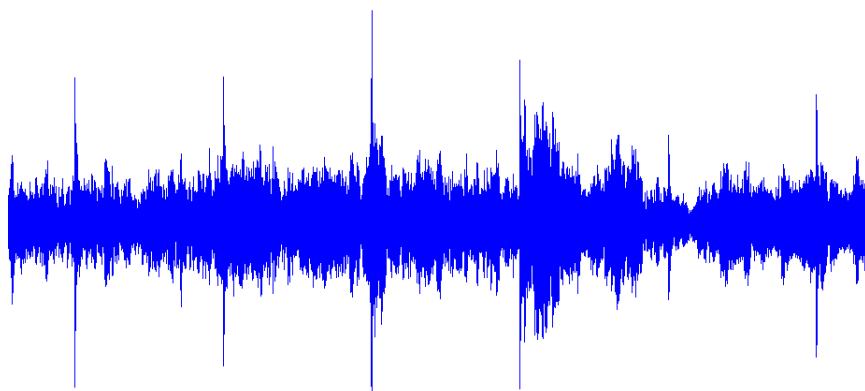
Microvolt

Monthly newsletter of the Utah Amateur Radio Club

September 2025



Audio



In the amateur world, people say, *If you can't hear 'em, you can't work 'em*, meaning that it's difficult to make a radio contact with another operator if you don't hear that other station very well. In spite of physical impairment, such as blindness, speech, wheelchair, and even autism, today's ham can still enjoy the craft. But with few exceptions, being able to hear still seems to be a necessary sense in our circle. **Audio** is sound, yet its quality, loudness, and accompanying noise, are among the important considerations that determine whether we're able to make that distant contact.



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Cover – Audio

Attention to audio in amateur radio is important because our goal is **successful communication**. However, a focus on audio does not necessarily imply high fidelity or high quality; often, just well enough for you to understand each other is sufficient. Your priority in audio improvement, therefore, should be for **clarity and intelligibility rather than quality**.

Just as important as the **sound you hear** is the **sound that others hear from you**, so audio concerns are often two-way considerations. The ability to complete that successful contact is admirable in itself, but your willingness to help other operators hear you better demonstrates respect for them, and contributes to a more pleasant experience in both directions.

You can purchase audio equipment that can enhance, clarify, even boost your audio beyond your natural ability to speak. Yet, there are simple things you can do to help improve your audio without the need for special equipment:

- Locate your microphone hole or input screen and talk close to it
- Use proper microphone technique, such as talking across your mic instead of “puffing” into it
- Speak up
- Quit fidgeting or bouncing your leg while you’re talking
- Remove surrounding environmental noise, such as pets, children, music, the TV, and others
- Request a signal report or feedback from others (can be subjective, so get a second opinion too) or the [WebSDR](#) if that’s appropriate

Still, don’t underestimate the value of a good microphone. It doesn’t need to be expensive to produce a high-quality sound. Also, depending on your transceiver and microphone, you can sometimes adjust your microphone gain so that your ALC (automatic level control) is within a reasonable range, to avoid distortion. Also, disable the VOX and COMP (speech processor/compression) unless you’re certain you know how to use them to your advantage.

Once upon a time audio pioneers such as [Harvey Fletcher](#) deeply investigated audio and provided a wealth of information that we continue to use today. One of the findings most applicable to amateur radio was how our ears process sound, and how SSB



([single sideband](#)) could be modified to adjust how well the human ear can understand the demodulated speech.

Today, many of us recognize the value in reducing the power presentation of lower-pitched sounds (**de-emphasis**) and increasing that of the higher-pitched sounds (**pre-emphasis**). For example, operators such as women and kids who have higher-pitched voices than men, tend to be heard a little better through pileups than men. You can watch [an interesting video](#) on this very topic by a long-time broadcast engineer who is also a ham.

Keep in mind that, while FM 2-meter repeaters typically afford us plenty of audio space, on SSB HF all our audio must fit within about 3.0 kHz of bandwidth. Some amateur radio gear manufacturers claim they can produce a high-fidelity signal for transmission, but even they are subject to the same bandwidth limitations. It’s kind of like trying to push a live chicken through a one-inch pipe and expecting a live chicken to emerge through the other end. As a result, the listener at the distant rig might hear some audio quality improvement, but not likely as much as some audio equipment sellers would have you believe.

One more thing to keep in mind. Unless your transmission is urgent, once others report that your audio sounds rough, is noisy, or your signal is not holding the repeater, disregarding those reports and continuing to transmit is often a little inconsiderate and shows disrespect for other operators. It’s better to correct the poor transmission or sign off until you improve your signal and your audio.

Microvolt editorial staff

Editorial – Numerical signal reports

When people ask us on the radio for a signal report, it's perfectly acceptable to say that they sound good, clear, loud, or something a little more technically meaningful. In law enforcement or the military, you might hear them say something like "five-five" or "five-by-five". In the world of amateur radio, we like to say "five-nine" for a perfect signal, but what does that mean?

The numbers come from the **RST System**, which stands for "readability, strength, and tone". **Readability** means how clearly understandable the sound is being received, and is rated from "one" to "five", with "five" being the clearest. **Strength** means how strongly the RF signal is being received by your radio, and has little to do with how it sounds. It's rated from "one" to "nine", with "nine" being the strongest signal detectable by your radio.

Many hams confuse the **signal strength** with **audio loudness**, and might offer that report as a reflection of how loud it sounds, and because of sheer usage, we take that confusion for granted. **Tone** refers to the quality of the Morse code dits and dahs. So, if you're not listening to CW, then you simply omit the tone report, and just use the first two. When you hear somebody say "five-nine", they're reporting the best non-CW signal possible.

Another thing about reports is when giving them to people who are talking through a repeater. The "five" can be legit, but the "nine" is simply the strength of the repeater signal. It's probably more accurate to say, "full quieting into the repeater", which means "I can hear you clearly as it's being received by the repeater".

The readability report can only go from "one" to "five", but the signal strength report can go higher.



S-meter

Although "nine" is the strongest signal listed on the RST scale, actual radio signals can be much stronger, and we report them as the number of decibels greater than "nine" or **over nine**. If your radio registers a signal ten times the maximum strength of the RST scale, we say it's coming in at **ten over nine**. If it's a hundred times as strong, we say **twenty over nine** and so forth. This, in turn, has forced us to quantify exactly what a "nine" signal strength report means, and today we calibrate our **S-meters** at 6 dB per whole graduation. This means a strength report of S8 is 6 dB over, or four times the strength, of an S7 signal, for example.

Anything to add? Email editor@utaharc.org

Level	R - Readability	S - Strength	T - Tone (CW only)
1	unreadable	barely perceptible	too rough
2	barely readable	very weak	very harsh
3	readable with difficulty	weak	very rough
4	readable with little difficulty	fair	rough
5	perfectly readable	fairly good	strong ripple
6	N/A	good	definite ripple
7	N/A	moderately strong	trace of ripple
8	N/A	strong	near-perfect tone
9	N/A	very strong	perfect tone

Letters to the editor

Dear Editor:

Is the separation width between windings on a toroid in a 49:1 unun important?

Simon in Logan

Dear Simon:

The separation between toroidal windings in an RF transformer such as an unun can vary the flux density, depending on the target frequency and core material. Furthermore, as you change the winding separation, their capacitive coupling could play an even more pronounced effect on transformer characteristics. In most cases, you might not notice much difference until you start tuning it or examining its frequency response on an analyzer in real time as you play with the wires.

Dear Editor:

I've been looking around at used HF rigs, and I'm amazed at their high prices. For instance, I just saw a listing on [QRZ](#) for a Kenwood TS-480SAT that's asking for more than a brand new Yaesu FT-710 (comparable bands), but that's far from a unique example. Why so high?

Cameron in Salt Lake City

Dear Cameron:

Unfortunately, what you've discovered is not an anomaly. Many amateur radio transceivers hold their resale value due to simple supply-and-demand; there's a fairly high demand for quality transceivers, which keeps prices high, and sellers are willing to charge what the market can bear.

Dear Editor:

There were two wildfires that recently ignited in Utah County, and it seems like people were hearing the fire dispatch on the radio. Where can I see the list of frequencies they use for their communication?

Charles in Saratoga Springs

Dear Charles:

To see the listing of frequencies used by Utah fire authorities, you can visit [RadioReference.com](#) and navigate to the list of interest. To navigate specific-



ly to the Utah County list, click **Database > Browse > Utah > Browse by County > Utah**, or just go straight there [by this link](#). Keep in mind that some frequencies are on a digital system, like DMR and P25, and you might need a scanner to decipher it. Also, some are **trunked**, allowing your analog radio to only present you with part of the conversation. Finally, some of the listed frequencies are accompanied by a tone, which can allow you to use the frequency and talk to emergency personnel. But understand that ***you should never interfere with ongoing incident communication, and only use public safety frequencies if there is an immediate threat to your life.***

Dear Editor:

How can I find out when my deceased grandfather received his amateur radio license?

Blair in Tremonton

Dear Leslie:

Depending on how long ago your grandfather first got licensed, it could be difficult, because the FCC has been keeping records for only a few decades. Here are some links that might help your search:

- [National Silent Key Archive](#) (click on the American flag, then in the left column click Research Hams, then enter his call sign on the right side)
- [Internet Archive—Amateur Radio Call Books](#) (searchable by name or call sign)
- [Old Amateur Radio Call Books](#) (1906 through 1997)

Send your questions to editor@utaharc.org

Club news

As you know, UARC doesn't hold an August club meeting, so instead, let's take a couple of (non-Utah) stations.



BTW, you can view past club meeting presentations on [our YouTube channel](#).



UARC 2025 Fall Potluck

This is a repeat announcement, so please skip it if you've already read it. But since you don't know for certain that you've actually read it the first time, you'll need to read it again. We plan to hold a Fall 2025 Potluck dinner on Thursday 11 September at the same location as the Spring Potluck, the [Salt Lake County Facilities Management Cafeteria](#), 2001 S State St, room S1-100.

But wait, there's more, and this one is not a complete repeat, so aren't you glad you kept reading? Yes, we've discovered that our members enjoy eating and socializing so much that we're planning a third dinner (not counting the one at Field Day or Steak Fry) for this year, this one in time for the Holidays. This [UARC Christmas Dinner](#) (not a "potluck" after all) will replace the December club meeting on Thursday 11 December 2025, to be held at the [Golden Corral on 665 E 7200 S](#) in Midvale.

For your information

Fall 2025 Potluck Dinner

The next club potluck dinner is 6:30 pm Thursday 11 September 2025 at the [Salt Lake County Facilities Management Cafeteria](#), 2001 S Sate St.

UARC Homebrew Night

Many of you are not only inclined to building, fixing, or modifying your gear, but are also itching to show it off. Thursday 09 October 7:30 pm at the [UofU Warnock Building](#) is the time and place of our annual Homebrew Night for you to come and do just that.

Christmas 2025 Dinner

The club Christmas dinner is 6:30 pm Thursday 11 December 2025 at the [Golden Corral](#), 665 E 7200 S in Midvale.

License courses

Salt Lake:

General : Tuesdays 7:00 pm to 9:00 pm
147.160+ MHz (127.3 Hz tone)

Provo:

Technician : Saturday, 8:00 am to 1:00 pm
20 Sep, 18 Oct, 15 Nov, 20 Dec, 17 Jan
Visit [HamStudy.org/sessions](#) to register (free)
Provo Fire Station #2, 2737 N Canyon Rd
Email nv7vham@gmail.com for info

Orem:

Technician : 4 Tuesdays, 6:30 to 8:30 pm
Sep 16, Sep 23, Sep 30, Oct 07
Visit [psclass.orem.org](#) to register (\$10)
Orem Traffic Training Room, 95 E Center St
[HamStudy.org](#) account required
Email nojiratz@hotmail.com for info

Eagle Mountain:

Technician : 5 Thursdays, 7 to 9 pm
Aug 14, Aug 21, Aug 28, Sep 11, Sep 18
Email ki6oss6365@gmail.com to register (free)
Eagle Mountain City Hall, 1650 Stagecoach Run



Exam sessions

Salt Lake County:

- Email Garth Wiscombe W7PS w7ps@arrl.net
Aug 25, Sep 29, Oct 27, Nov 24
- Email Rick Morrison W7RIK w7rik@arrl.net

Utah County:

- Wed 17 Sep 7:00 pm : **Provo** : [signup](#)
- Sat 20 Sep 2:30 pm : **Provo** : [signup](#)
- Sat 20 Sep 10:00 am : **Eagle Mtn** : [signup](#)
- Sat 27 Sep 10:00 am : **Spanish Fork** : [signup](#)

Club repeaters

Farnsworth Peak : 146.620– MHz (no tone)

Scott Hill : 146.620– MHz (no tone)

Lake Mountain : 146.760– MHz (no tone)

SDRs and beacons

Northern Utah WebSDR : sdrutah.org

KK7AVS SDR : k7xrd.club

N7RIX SDR : sdr.n7rix.com

K7JL beacon 28.2493 MHz

HF remote and club transceiver stations

If you'd like to learn how to get started using the remote stations, visit the [HF Remotes link](#) on the [club website](#):

<https://user.xmission.com/~uarc/HFRemote.html>

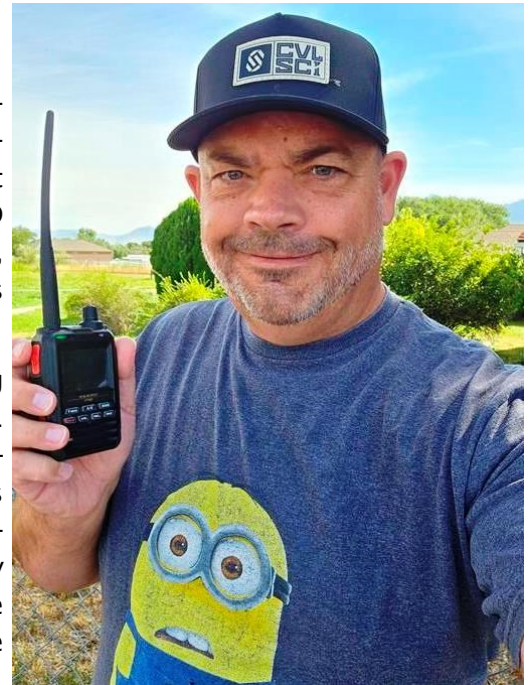
How you can help!

Reach out to the club leadership by sending an email to uarc@xmission.com. Also, add to this page by emailing editor@utaharc.org

Spotlight – Tom Partridge KC7DKR

Tom Partridge grew up in Richfield, Utah, and has always been intrigued by ham radio. He actually started out in CB radio, but was rather disappointed by the lack of distance coverage and the constant stream of foul language. When his neighbor Glen Taylor AA7ZD learned that Tom was active on CB, he told Tom about amateur radio, and why he needed to upgrade, especially if he wanted to take his conversations farther away.

Glen started helping Tom study for the Technician license by inviting him to discussions at work while Tom was a Junior in High School. Meanwhile, Tom's dad bought him a 2-meter handheld radio by RadioShack, which he has to this day. In 1994 Tom passed the exam as KC7DKR and received his no-code Technician license. He enjoyed talking on the [Skyline repeater system](#), on which he could contact many operators around Utah. Eventually, Tom became Net Control for the Richfield nets, and even helped out in public events, such as the Youth Horse Endurance Race in Richfield.



After returning home from an LDS mission to South Carolina, Tom started attending [ITT Technical Institute](#) in Murray, Utah. Today he's been working for UDOT in utilities for the past five years and lives in West Valley City. In 2024, Tom decided it was time, and upgraded to General Class. With that, friend Ray Smith KK7LAT



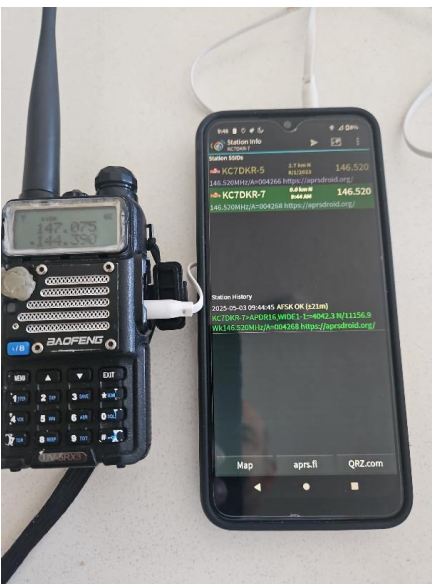
loaned him a Yaesu HF rig to start him on to the world-wide airwaves. Tom recently purchased an old [Kenwood TS-440S](#), which he's been trying to revive.

Asked what he enjoys most about ham radio, Tom said the ability to talk to people far away by repeaters. He's a member of UARC and [MARC](#) (Murray Amateur Radio Club), and enjoys checking in to the [Salt Lake Crossroads Roundtable](#). Tom has attended Field Day in Sandy for the past two years, and hopes to attend with UARC in 2026.

Besides ham radio, Tom's hobbies include hiking, swimming, and traveling. He has a Hot Wheels collection, which he's proud of. Tom has a younger sister Malissa KD7LIA, who lives in North Ogden.

Tom, we wish you the best in your adventures, and hope you get your "new" rig up and running!

– 73, Linda Reeder N7HVF



Tech corner – Using the WebSDR

As a new General Class ham, you might have discovered that it can be a little challenging to make SSB ([single sideband](#)) contacts on HF. One of the difficulties might be that it's often hard to hear the other stations, due to all the noise, even if *your* signal is being picked up well by *them*. Perhaps a stronger pair of ears could help.

That stronger pair of ears is now available in the form of what we call a **WebSDR**, meaning an SDR (software-defined radio) that's available to internet users. Somewhere in a distant land, one or more benevolent individuals has taken the time and expense to erect a **receive antenna** and provide access to that antenna through some software that you and I can use by simply getting online to its website.

A little background

Around 1973 the original Utah crew installed a couple of HF beam antennas at a former research site near Corinne, Utah, near the road on the way to the [Golden Spike National Historical Park](#). After a mishap and a misunderstanding, the antenna site was taken down until others came along to resurrect the idea of providing an HF service to prospective listeners.

Once (or thrice) upon a time later a group of noble and able-bodied hams, including Clint Turner KA7OEI, et al, got together and erected a tower and a log-periodic antenna at the same Corinne site. They gathered donated computer and internet equipment and set up the precursor to today's receive-only ham radio station known as the [Northern Utah WebSDR](#).

The Northern Utah WebSDR in particular

It turns out that our own WebSDR in Corinne, Utah, is one of the most widely known and used in the nation, possibly because it provides some of the best amateur coverage, including all LF, MF, and HF bands, as well as 6 meters and 2 meters. It's constantly being upgraded, updated, and maintained by its owners. Today it's connected by several redundant servers that are powered by UPSs to minimize outages.

The main antenna of the Northern Utah WebSDR is a [Model 530](#) log periodic omnidirectional antenna by TCI International, perched about 92 feet off the dirt, and installed on 28 February 2018. It presents a circularly oriented receive pattern, to reduce the effects of fading due to polarized signal rotation. Another is a [hy-gain LP-1002](#) log-periodic beam antenna, weigh-



ing about 1500 pounds and aimed at 87°N. You can see a [video of the 530 antenna](#) by Gary Crum KK7DV.

How a WebSDR can benefit me



- You don't have to spend a lot of money on a monster antenna (or any antenna at all, for that matter) that can bring in the entire world to your shack
- In fact, anybody who has internet access can use the WebSDR free-of-charge
- Even though the WebSDR is *receive-only*, that's an understatement. Its omnidirectional receive pattern allows you to pick up distant signals almost without regard to direction of origin.
- Each user has the ability to tune to a frequency apart from every other user, which allows multiple operators (75 to 90 at a time) to get on the website and listen to different frequencies at the same time for each server.
- One useful aspect of the WebSDR is the unique ability to listen to what you sound like as you're transmitting from your own station, in case people complain of distortion or other issues from your signal, for example. This also allows you to test

Tech corner – Using the WebSDR, cont'd



your antenna or compare different antennas you might have built or are experimenting with.

- Viewing the WebSDR online can give you an idea of band conditions. If its waterfall shows few to no conversations taking place, chances are the conditions are not favorable for SSB on that band.
- Instead of calling out and asking whether a frequency is in use, you can *see* that it might be in use, although it's still a good habit to verbally ask anyway
- If your local station is plagued by noise, whether that's from your home or from a neighbor's solar inverter, the WebSDR will not likely be affected by the same noise problems. For example, most Utah hams never get on 160 meters because the required antenna is typically too large to install on their properties, and their house and neighborhood will likely wipe out the band with local noise anyway. The WebSDR can overcome both of those limitations.
- The WebSDR allows you to record the audio, so you can play it back at your leisure at another time. Simply click "start" after the **Audio recording:** button, then "stop" and you can then download the recording in .wav format.
- And speaking of recording the WebSDR has a graphing feature that can capture the analysis of a signal at your frequency of interest. In the lower-right of the screen after Sig. strength plot: click slow w/pk or fast w/pk to display the graph.

You have limited control over the WebSDR, which is dictated by the software that hosts it. On the other hand, the WebSDR contains features that are unavailable to many modern transceivers.

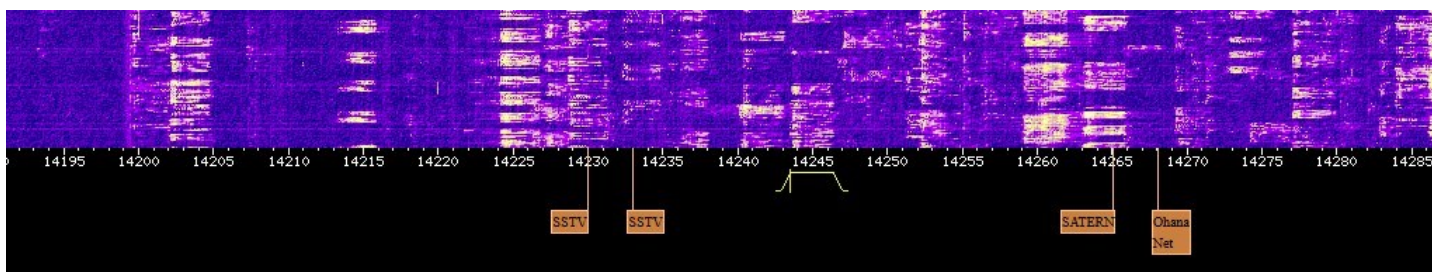
The antenna of the WebSDR is located quite far from your transmitting location, so that location difference can deceive you into believing that what the WebSDR picks up should also be heard by your own station.

How to use the Northern Utah WebSDR

First, open your browser and go to sdrutah.org

Next, select the server (distinguished by color names) that provides your band of interest. For example, if you want to try 20 meters, click [WebSDR2](#) ("Green").

Then, select the very frequency you're interested in, if you have one in mind. You can do that by manually entering the value of kHz in the **Frequency:** box. Another way is to click the bandwidth graphic on the



Drawbacks of a WebSDR

Because the WebSDR is receive-only, you won't be able to use it for transmitting. In most cases, your 100-watt (*barefoot*, as we call it) station is adequate for reaching those long-distant stations, so your biggest limitation will likely be your antenna.

The WebSDR is dependent on the internet being available to it and to your QTH, which in most cases will not pose a problem.

waterfall and drag the graphic to a frequency pointed at by the vertical line of the slanted-line graphic:



Once again, all frequencies on the WebSDR are listed in kHz. With that in mind, you can jump straight to a

Tech corner – Using the WebSDR, cont'd

particular frequency by appending the frequency and mode on the URL, like this:

<http://websdr2.sdrutah.org:8902/index1a.html?tune=14290usb>

Which means go to WebSDR2 and tune to 14290 kHz on USB.

Brown flags often appear below the waterfall, noting specially established nets, events, or assignments.

Tips for usage

- If you find a station that reports they have a good copy on you, but you could hardly hear them, turn down the volume ("AF") on your own rig all the way, then locate the same frequency on the WebSDR.
- Once again, all frequencies noted or entered on the WebSDR are in kHz.
- You can drag the waterfall right or left to see what kinds of signals are being picked up the WebSDR antenna. While hovering over the waterfall, you can also expand and contract your viewing region by scrolling your mouse wheel.
- When somebody approaches your phone or computer, you can click Mute to silence the audio or drag the volume slider to the left to better hear your guest.

Finally

Clint gave an entertaining and very thorough presentation about the Northern Utah WebSDR to the [UVARC group](#) on [January 2019](#), and then to our own group on [May 2020](#). He presented not only an histor-

ical perspective, but tips on how best to use the WebSDR to your advantage. The Northern Utah WebSDR is a 501(c)(3) organization that accepts [tax-exempt donations](#), but as mentioned, its resources can be used free-of-charge.

Here are links to other popular WebSDR sites, not necessarily in any order:

[KFS, Half Moon Bay, CA](#)

[W7NRA KiwiSDR, Phoenix, AZ](#)

[NA5B KiwiSDR, Washington, DC](#)

[K3FEF, Milford, PA](#)

[Lumpkin Schools, Dalhousie, GA](#)

[N4BUT KiwiSDR, Orlando, FL](#)

More than 170 WebSDRs have been installed worldwide, most of them accessible to anybody with an internet connection. A world-wide listing of the WebSDRs can be found at [WebSDR.org](#)



The screenshot displays the WebSDR interface with the following elements:

- Frequency:** 7272.000 kHz, Mode: LSB, VFO: A (B: 7272.00 kHz USB)
- Frequency scale:** -2.5k, -500, -50, -10, -1, =kHz, +1, +10, +50, +500, +2.5k
- VFO:** A/B, A=B, B=A
- Band selection:** 2200M, 630M, 160M, AM-160M-120M, 80-75M, 60M, 40M (40M is selected)
- Other receivers on Omni antennas:** 30M, 20CW, 20PH, 17M, 15M, 12M, 10M Lo, 10M Hi, 6M
- Receivers on the East-pointing beam:** 40CW-E, 40PH-E, 30M-E, 20CW-E, 20PH-E, 17M-E, 15M-E, 12M-E, 10M-E Lo, 10M-E Hi
- Receivers on the Northwest-pointing beam:** 30M-NW, 20CW-NW, 20PH-NW, 17M-NW, 15M-NW, 12M-NW, 10M-NW Lo, 10M-NW Hi
- Waterfall view:** zoom out, zoom in, max out, max in, Speed: medium, Size: medium, View: waterfall, Hide labels
- Volume:** slider
- Mute:** checkbox
- Squelch:** checkbox
- Notch1:** checkbox
- Notch2:** checkbox
- High Boost:** checkbox
- DSP Noise Reduction:** Off
- Audio buffering:** +125ms
- Vari-Notch (Hz):** Off
- CW Peak (Hz):** Off, Ref. Tone checkbox
- Gain control:** Info, RF AGC, Alt AGC, Manual

Strays – I hear you

When it comes to hearing the audio from your transceiver, there are several problems you're often faced with. One is for you to hear more, and another is for others to hear less.

External speaker

Your radio likely came outfitted with a good built-in speaker, to let you hear the operators on the opposite end and possibly other sounds, such as a tail squelch or connection link. If you and others nearby want to hear what your radio's receiving, then your little speaker is probably plenty adequate for your needs. Still, there seem to be times when it's better to listen to what's coming across your radio loudly or in a more naturally sounding voice. For that, you might want an **external speaker** to do the job.

An external speaker is one that you can attach or plug into your transceiver, to modify the sound or place or direct the sound somewhere other than straight out from your radio. On many mobile or HF base radios, the internal speaker is mounted such that it points straight up in the air, or worse, straight down onto the table. This positioning often makes the audio sound muffled or quiet. Also, the typically small size of their internal speakers can make the audio sound tinny or enclosed in a can.

You don't need to purchase anything expensive for your external speaker. Of course, you can get a [nice speaker](#) that appears to complement your radio look or style if you want to, but a cheaper, aftermarket one will perform the same if you don't care as much about how it looks. You can often find good-quality external speakers at a local thrift store for less than ten dollars. Be sure each is labeled by "8 ohms" or an "8 Ω " impedance rating.



You'll likely need to attach your choice of **mono**, not stereo, connector on the wires extending from the speaker, since most modern transceivers are outfitted with mono audio jacks. For your handheld radio,



it might require a little research on your part to find out what kind of external speaker is appropriate for it, due to its unique connector type. One way to solve that problem is to purchase an inexpensive speaker-microphone, cut off the microphone, and attach the correct wires to your external speaker.



The wooden box that your external speaker is mounted in can help your received audio sound deeper and richer. And you can point your external speaker in any direction you wish, like toward some students for whom you're trying to demonstrate your station setup. During times like at Field Day, an external speaker allows you to share your experience with nearby listeners in a slightly noisy environment.

Ear speaker

Admit it...your spouse doesn't like it when she has to listen to your friends call out to you on your little HT with that irritating, government-sounding audio. So you take it into the next room, where the signal might be sketchy, or outside where it's freezing cold. But to communicate, you need to hear the other person talk to you. And if that other operator has a soft

Strays – I hear you, continued

voice, is talking too far from his microphone, or has a noisy signal, you might find yourself turning up the volume and running your family out of your house.

What you need is something that will let you hear the other person, but that silences your radio so that your family can't hear the people on the other end. There are several things you can purchase, that will fit the bill, like headphones, earphones, a head-piece, and earbuds. Problem is, unlike regular stereo equipment, you can't always go to Walmart and purchase what you need. More often than not, you'll need to get an ear piece that has a plug, maybe even a double-plug, that fits only your radio model.

If others don't want to hear your conversation, you can often take it outside. Braving the shivering cold can help the other operator hear you, but you might have a more difficult time hearing him, because of all the outdoor noise from cars on the street, from people, and from the leafy breeze. An ear piece can focus all the audio you want to hear from your radio into your head, often in spite of surrounding noise, while still taking advantage of a good location.

But just as importantly, you might want to consider an ear piece for your radio, to help free up your hands if you're serving during an incident. With an ear piece, you can usually hear the other person on the radio pretty well, without forcing you to get the unit close enough to your ear to hear it, possibly dropping it on the sidewalk. Just attach your radio by a belt clip to your pants, your vest, or backpack, and then you can move the weight of your unit from your hand to your body.

Some ear piece options to consider include those with a speaker and microphone combination, those with a handy PTT switch, maybe near your head, or those that support VOX, or voice-activated transmit. One feature favored by some hams is a foot switch, which operates as your PTT, but by your foot.

Purchase an ear piece that has a plug or connector made for your particular radio. Clip your radio to your clothing or vest. Route the ear piece wiring under your vest and over to your radio, such that your head is able to move freely, and your hands can move around without getting tangled in the wiring. Test it, then test it again. With this kind of setup, you'll feel a little more free to shuffle papers or help injured victims, while being able to communicate.



A favorite option for many modern hams is a **head-set**, which combines headphones with a microphone.



The \$40 Heil HTHDK headset with PTT

Your headset or headphones can completely cover your ears, cutting out noise and voices altogether, or sit outside your ears, allowing you to hear surrounding voices, should you need to hear them call to you for something. Furthermore, some headsets are also outfitted with a PTT button, such as the [\\$40 Heil HTHDK](#) or [\\$200 INRAD W1 Headset](#) or [\\$400 Heil HLS-PRO7BU](#).

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We encourage you to submit original pictures (highest resolution), articles, software and hardware descriptions, appropriate humor, and responses to editorials. Email the content, pictures attached, to the editor at editor@utaharc.org by the 20th just prior to the target month.

The **Utah Amateur Radio Club** was organized under its present name in 1927, although its beginnings may date back as early as 1909. In 1928, it became affiliated with the **American Radio Relay League** (club #1602) and is a 501(c)(3) non-profit organization. It holds a club station license with the call sign W7SP, a memorial to Leonard "Zim" Zimmerman, amateur radio pioneer in the Salt Lake City area.

The club meets each month except July and August. The meetings are usually held on the second Thursday of the month at 7:30 PM in the University of Utah's **Warnock Engineering Building**, room 2230.

Club membership is open to anybody interested in amateur radio; a current license is not required. Dues are \$20 per year. Send dues to club secretary James Bennett, 4960 W 5400 S, Kearns, Utah 84118. Email address changes to kk7avs@gmail.com

Tax-deductible monetary contributions are gladly accepted. Send directly to club treasurer Shawn Evans, 1338 S Foothill Dr, #265, Salt Lake City, Utah 84108-2321. For in-kind contributions, please contact uarc@xmission.com to make arrangements.

UARC maintains the 146.620– and 146.760– repeaters, which are administered by the **UARC Repeater Committee**. Direct comments and questions to any committee member. The 146.760– repeater is on IRLP node 3352.

Call the **UARC Ham Hotline** at 801-583-3002 for amateur radio information, including club, testing, meeting, and membership information. Leave a message, and we'll make an effort to return your call.

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For-late breaking news listen to the UARC Information Net, Sundays at 8:30 pm on 146.620– or visit the [announcement page](#).

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