

# Ham Listening

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## What Ham Listening Is

Ham Listening turns your phone into a window on the world's radio. It browses hundreds of public KiwiSDR receivers hosted by volunteer operators worldwide; you open one and tune the shortwave and amateur bands live — chasing distant broadcasters, listening to CW and SSB, and hearing how the bands sound from another continent. There is no radio, no antenna and nothing to plug in: the receiver is on the far side of the internet, and Ham Listening draws its waterfall and plays its audio for you natively, right on your phone.

## Receive only — no license needed

Ham Listening only listens. It never transmits, has no push-to-talk, and puts no signal on the air anywhere. Because you are only receiving, you do not need an amateur radio license to use it — that is the whole point. Shortwave listening (SWL) is a hobby in its own right, open to everyone, and this app is built for it.

## Whose receivers these are

The receivers you tune belong to independent volunteers who share them with the world for free. Ham Listening is a guest on their equipment: it connects politely, honours their limits, and adds value with its own waterfall, band-plan overlay and bookmarks rather than re-skinning their sites. Treat every receiver as someone's kindly loaned radio — because it is.

## Getting Started

There is no sign-up and no account. Ham Listening opens straight into the operating screen and starts listening on a receiver for you. The first time you launch it, it finds the strongest open receiver available anywhere and connects; after that, it reopens on the last receiver you used, so the app comes up already tuned to where you left off.

## Set your details (all optional)

Everything in Settings is optional. If you hold a callsign you may enter it, along with your Maidenhead grid and an email — the callsign is used only as a polite ident string sent to the host receiver and to pre-fill the Support form, and the grid is used only to sort receivers by distance from you. All of it stays on your device.

## A steady connection helps

Ham Listening is internet radio, so a steady Wi-Fi or mobile-data connection matters more than raw speed. The audio is compressed and runs on modest data (roughly web-radio class). If a stream drops, the app quietly reconnects once on its own — you should not need to tap anything to recover.

## The Operating Screen

One unified screen does everything — the app has no separate landing page you must pass through. From top to bottom it shows the receiver bar, the VFO readout with an S-meter, the mode selector, the waterfall, and a row of controls.

### Receiver bar

The strip along the top names the receiver you are on, with a coloured status dot (green when listening, amber while connecting), how many listeners it has out of its maximum, an ext\_api badge, its SNR, and a small state badge — LIVE, MUTED, SQL (squelched) or OFFLINE. Tap the bar anywhere to choose a different receiver.

### VFO readout and S-meter

The big digits show your tuned frequency in kHz with a mode chip beside them; tap the digits (or the keypad icon) to type a frequency directly. Below them, a segmented S-meter shows signal strength in S-units — with the reading in dBm on the right — smoothed so it moves like a real meter rather than flickering.

### Controls bar

The bottom row holds Listen/Pause (mutes or resumes the audio on your phone without leaving the receiver), a volume slider, the ★ Marks button for your saved frequencies, a Share button that captures the waterfall as an image to share or save (with a Generated by Ham Listening watermark), and the Radio-controls button for compression and the waterfall palette.

## Tuning

Ham Listening tunes differently from a knob radio, and it is worth a moment to get the feel of it. The VFO cursor — the needle you tune to — is fixed in the centre of the waterfall and never moves. Instead of dragging a cursor across the band, you move the whole band underneath the needle. Whatever sits under the centre line is what you hear.

### Move the waterfall

Drag the waterfall left or right to pan across the band. Pinch with two fingers to zoom in for fine tuning or out for a wide view. Tap any point on the waterfall to jump it straight to the centre needle. A faint hint on the display reminds you: drag = tune, pinch = zoom, tap = jump.

### Step buttons

The ◀ and ▶ buttons flanking the frequency readout (one on each side of the VFO digits) nudge it by one step at a time — 1 kHz on AM and NFM, 0.1 kHz on LSB, USB and CW — for precise, repeatable moves without touching the waterfall.

## Type a frequency

When you already know where you want to be, tap the big frequency digits or the keypad icon, type the frequency in kHz, pick a mode, and tap Tune. The waterfall recentres on your new frequency.

## Jump from the band plan

You can also tune by tapping a coloured segment in the band-plan strip under the frequency scale — a fast way to land on, say, the 40 m SSB or a broadcast band without knowing its exact edge.

## Demodulation Modes

The mode selector — a row of AM / LSB / USB / CW / NFM buttons — tells the receiver how to decode the signal under the needle. Picking the right mode is what turns a hiss into speech, music or Morse. Changing mode also sets the tuning step (finer for the voice and CW modes).

## Which mode for what

AM is for shortwave broadcast stations. LSB (lower sideband) is the usual voice mode on the bands below 10 MHz, and USB (upper sideband) above 10 MHz and for many utility stations. CW is for Morse code — you will hear it as tones. NFM (narrow FM) suits the few narrow-band FM signals you may find. When a signal sounds distorted or unintelligible, the mode is usually the first thing to change.

## Choosing a Receiver

Tap the receiver bar to open the picker. It offers two cascading choices — Country, then Source — drawn live from the worldwide KiwiSDR feed of hundreds of receivers. Pick the country you want to listen from, then a specific receiver within it.

## Country then source

Receivers in the chosen country are listed strongest first, each showing its name or callsign, SNR, how many listeners it has out of its maximum, and — if you have set your grid — how far it is from you. A short info line for the selected receiver adds its free slots and software version before you commit.

## Greyed-out receivers

A receiver shown greyed cannot be tuned. Either it blocks third-party apps (its `ext_api` is off) or it currently has no free listening slot. This is deliberate etiquette — please simply pick another receiver rather than trying to force it.

## Best available and Favorites

The Best available entry jumps straight to the strongest open receiver anywhere, ideal when you just want to listen. Star any receiver to add it to ★ Favorites for one-tap access later; your favorites are saved safely and survive a Settings reset.

## It remembers, and it refreshes

The app reopens on your last receiver and country. Tap the refresh icon at the top of the picker to fetch the live list again; if the network is briefly unreachable it quietly retries once and falls back to the last list it had, without nagging you.

## Waterfall availability

Each receiver in the list carries a small waterfall badge. WF means a full wideband waterfall is available. WF± means the waterfall depends on which channel you land on — some receivers offer it to only a couple of listeners at a time — so you may or may not get it. no WF means that receiver streams audio only. Receivers that offer a working waterfall are preferred when the app auto-picks one for you.

When you tune a receiver that has no wideband waterfall for you, Ham Listening automatically shows a live Audio-FFT of the signal you are tuned to instead — a close-up spectrum of the audio passband, clearly badged AUDIO FFT — so you still see the carrier, CW pips and SSB energy. In that view you tune with the step buttons, the dialpad or your Marks rather than by dragging, because the display is a fixed close-up of the tuned signal rather than the whole band.

## The Band-Plan Overlay

Under the frequency scale runs a coloured band-plan strip — Ham Listening's teaching layer. Each segment marks what a slice of spectrum is for: CW, SSB voice, digital modes, broadcast bands and time stations, each in its own colour, so you can see at a glance where you are and what you should expect to hear.

## Region-aware

Band plans differ around the world, so the strip follows the IARU region you set in Settings — Region 1, 2 or 3. Set it to match where you are listening from and the band edges line up with local convention.

## Learn a segment

Long-press any segment to see a plain-language explainer of what it is, along with its bandwidth, kind and region. A quick tap on a segment instead tunes you straight to it. It is a good way to explore the bands and learn the plan as you go.

## Marks (Bookmarks)

The ★ Marks button in the controls bar keeps your saved frequencies. When you find something worth returning to, open Marks and tap Add current to save the frequency and mode with a label of your choice.

## Tune and manage

Tap any saved mark to jump straight back to that frequency and mode. Delete the ones you no longer need with the trash icon. Your marks are stored safely on the device and are kept separate from the app settings, so a Settings reset leaves them alone.

## Radio Controls

The Radio-controls button (the tune icon) opens a small sheet with the audio and display options that shape how a receiver sounds and looks.

## Compression

Turn compression on to narrow the audio's dynamic range so weak and strong signals sound more even — handy on noisy shortwave where levels jump around. Turn it off for the most natural sound on a clean signal.

## Waterfall palette

Choose the Ocean, Classic, Green or Matrix colour scheme for the spectrogram, from either Settings or the operating screen's radio-controls panel. This changes only the colours of the waterfall, never the signals themselves. Ocean, Classic and Green follow the app theme for strong contrast: in light mode the background stays light and signals paint darker; in dark mode the background stays dark and signals paint brighter. Matrix keeps its green-on-dark look in both themes. (AGC and noise-blanker controls are planned for a later version.)

## Pause and volume

Listen/Pause and the volume slider live on the main controls bar. Pause mutes the audio on your phone while staying connected to the receiver, so a quick tap resumes exactly where you were.

## Background Listening

Ham Listening keeps playing when you leave it. Switch to another app, lock the phone or turn the screen off and the audio carries on — just like a radio you leave running on the shelf. Behind the scenes the connection and audio stay alive; only the waterfall display pauses to save battery, and it redraws the moment you come back.

## Optional battery saver

If you would rather not stream in the background all day, Settings has an optional switch to disconnect after a set number of minutes in the background. It is off by default; when on, the

app stops the stream after your chosen time away and automatically reconnects your last receiver when you return.

## Settings

### Your details

Enter your callsign, grid and email if you wish — all optional, since Ham Listening is receive-only and needs no license. When set, the callsign is used only as a polite KiwiSDR ident string and to pre-fill the Support form, and the grid to sort receivers near you. Everything is stored only on this device and auto-saves as you type.

### Appearance

Adjust the text size across the whole app, switch between the light and dark themes, and turn the short weekly tips on or off. Changes apply immediately.

### Reception

Pick your IARU region (which regional band plan the waterfall strip shows), choose the waterfall palette, and set the optional background auto-disconnect described above.

### Reset

One button resets all app settings — callsign, grid, email, theme, font size, tips and reception options — to their defaults. Your saved favorites and marks are kept in their own safe stores and are not touched by a settings reset.

## Etiquette and Good Practice

The receivers you enjoy are volunteers' own equipment, shared for free, with a limited number of listening slots. A little courtesy keeps them open for everyone.

### Share the receiver

Watch the listeners count on the receiver bar. When a receiver is full or busy, move on and pick another rather than waiting to pounce on a slot — there are hundreds to choose from. Ham Listening honours receivers that opt out of third-party apps and sends only a polite ident, but the good manners are ultimately yours: listen, don't monopolise, and leave the shared radio in good order for the next person.

## Troubleshooting

### No audio

Check that Listen (not Pause) is active and the volume slider is up; the OFFLINE or SQL badge on the receiver bar tells you whether you are connected and whether the channel is simply quiet. If

a receiver stays silent, tune around — you may be on an empty frequency — or try another receiver.

### **Receiver busy or full**

If a receiver's channels are all in use, Ham Listening tells you and opens the picker so you can choose another. It never hammers a busy receiver with retries; just pick a different one.

### **Nothing loads**

If the receiver list will not load or a stream will not start, your network may be blocking the connection — some Wi-Fi and office/hotel firewalls do. Try a different network (for example switch between Wi-Fi and mobile data) and tap the refresh icon in the picker.

### **Weak or noisy signals**

Receiver quality varies enormously — antennas, location and local interference all differ. If a signal is weak or noisy, try a receiver with a higher SNR or one closer to the station you are chasing. Half the fun of SWL is finding the receiver that hears best.

## **About, Support and Privacy**

### **About**

The About page shows the version and a feature summary, with links to this manual, the Support form and the version history.

### **Support**

Support opens a pre-filled message — with your callsign, email and app version if you have set them — addressed to the developer through your own email app.

### **Privacy**

There is no account and no Unixeer server: your callsign, grid and email are stored only on your device, and there is no analytics and no advertising. Ham Listening connects to independent, third-party public receivers of your choosing, and sends a polite ident string to the host receiver so its operator can see who is listening. It never transmits.