PAX Karaoke User Manual

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PAX Karaoke is two apps. **PAX Karaoke TV (PKT)** runs on an Android tablet or TV box and plays the songs full screen. **PAX Karaoke Remote (PKR)** runs on each singer's Android phone: it finds and queues songs, controls the TV, measures your vocal range, tells you which key suits your voice, and lets you practice. This manual covers PKT v2.5 and PKR v2.7.1. An iPhone version of PKR is in testing.

Getting started

Prefer to watch? The how-to video on paxkaraoke.com (under 3 minutes) shows every step of the remote app.

You need:

- **For the TV:** an Android tablet or TV box with Android 5.0 or newer, on Wi-Fi. A tablet with Android 10 is recommended.
- **For each singer:** an Android phone with Android 7.0 or newer.
- **Internet:** for YouTube songs. Songs from the phone or a USB drive on the phone play without it.

Install PAX Karaoke TV (PKT)

1. Download the TV app from paxkaraoke.com/tv on the tablet or box (or copy the APK over with a USB stick or cable).
2. Open it with a file manager and allow "install unknown apps" when asked.
3. Open PAX Karaoke. It starts full screen and is ready to play; there is nothing else to set up on the TV itself.
4. On Android 10 or newer, accept the "start recording/casting" prompt. It is only used to show chords on songs played from a phone.

The TV app never plays songs from its own storage or USB ports. Every song is queued from a phone.

Put it on the big screen

Connect the tablet to the TV with a **USB-C to HDMI cable** (or adapter). The tablet must support video out over USB-C (often called DisplayPort Alt Mode). Android then shows PAX Karaoke on the tablet and the TV at the same time, with no delay. Wireless casting was removed because it lagged and dropped out.

Which TVs work

PKT is an Android app, so it runs directly on any TV with **Google TV or Android TV**. For other TVs, plug a low-cost Google TV stick into an HDMI port.

TV	Runs PKT directly?	What to do
Sony Bravia; TCL, Hisense, Philips, Sharp with Google TV / Android TV	Yes	Install PKT on the TV (below)
Samsung (Tizen), LG (webOS), Vizio (SmartCast), Roku TVs	No	Add a Google TV Streamer, Chromecast with Google TV or Walmart onn 4K (about $20–100). A Fire TV Stick should also work but is less tested
Any TV with HDMI	—	An Android tablet with USB-C video out and a USB-C to HDMI cable

Chords need Android 10 or newer (most Google TVs from 2021 on).

Installing PKT on a Google TV / Android TV (Sony, Google TV sticks)

1. Turn on developer mode: **Settings** → **System** → **About**, then click **Android TV OS build** 7 times.
2. Install the free **Downloader** app (by AFTVnews) from Google Play on the TV.
3. Let Downloader install apps: **Settings** → **Apps** → **Security & restrictions** → **Unknown sources** → turn on Downloader.
4. Open Downloader, type **paxkaraoke.com/tv**, press Go, then **Install** and **Open**.
5. First start: accept the recording/casting prompt (used only for chords).

Menu names vary a little by brand. On a **Fire TV Stick**: Settings → My Fire TV → About, click the device name 7 times to unlock Developer options; install Downloader from the Amazon Appstore and allow it under Developer options → Install unknown apps; then use **paxkaraoke.com/tv** the same way.

On an **Android phone or tablet**, open **paxkaraoke.com/remote** (phone) or **paxkaraoke.com/tv** (tablet for the TV) in the browser, open the downloaded file and allow "install unknown apps" when asked. These short addresses always point to the latest version.

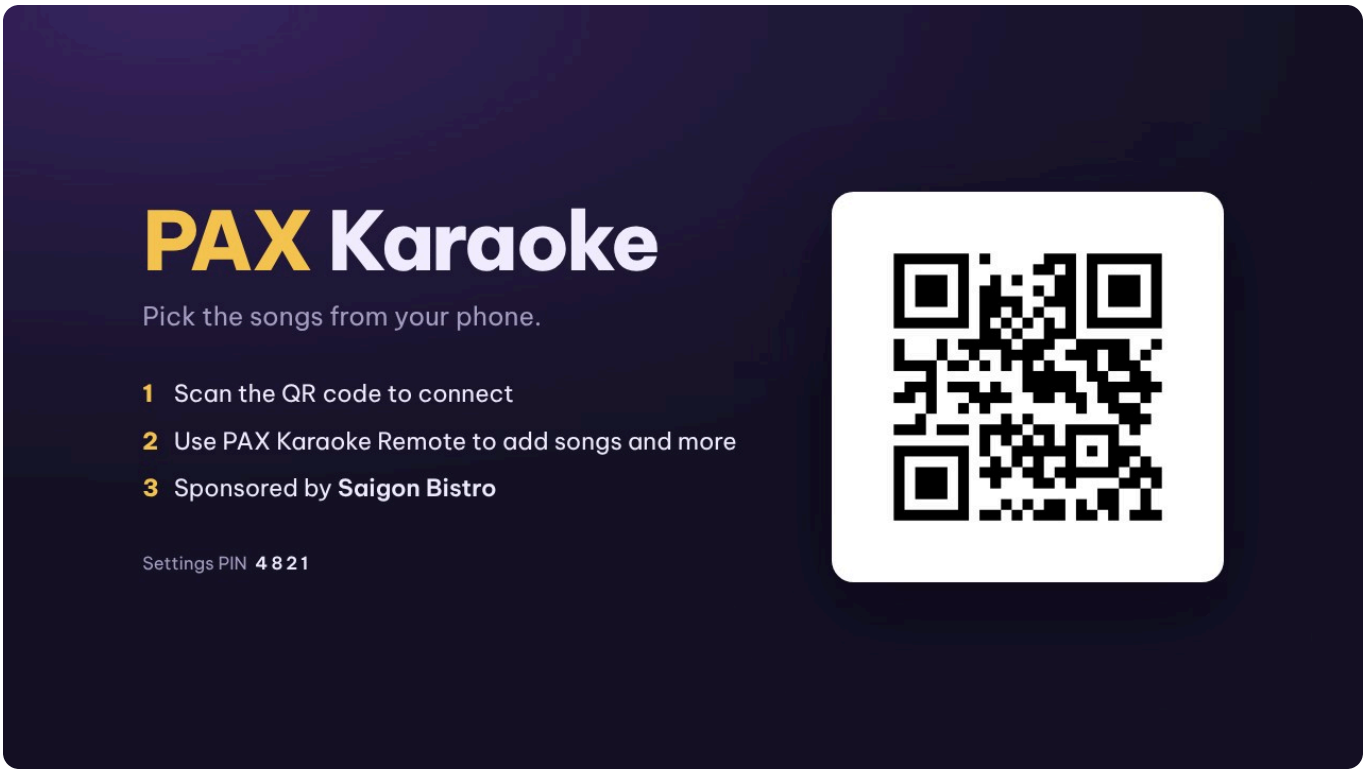
Install PAX Karaoke Remote (PKR)

1. On each phone, open paxkaraoke.com/remote in the browser and install the app.
2. Open it and scan the TV's QR code (next section), or tap **Skip** to use it without a TV.
3. Tap **Your name** at the top and type your name, so the TV shows who is singing.

To update either app, install the new file over the old one. Nothing needs to be uninstalled; Favorites, your range and settings stay.

Connecting the phone to the TV

When nothing is playing, the TV shows its start screen: a big QR code, three steps (scan the QR code, use PAX Karaoke Remote to add songs, and the sponsor when one is set) and the 4-digit **Settings PIN**.



The TV's start screen: scan the QR code with PKR. The Settings PIN is at the bottom left.

1. In PKR, tap **Scan the QR code on the TV** (first launch), or tap the **TV / No TV** pill at the top, or go to **Settings** → **Connect to a different TV**.
2. Point the camera at the QR code on the TV.
3. If the phone is already on the TV's Wi-Fi, PKR connects at once. If not, and the Wi-Fi has been entered in TV settings, PKR joins it first:
    - Android 11 and newer: tap **Save** on the "Save this network?" prompt.
    - Android 10: the password is copied; pick the network in the Wi-Fi panel, paste the password, then come back.
    - Android 7 to 9: it joins by itself.
4. PKR waits up to 40 seconds for the TV to answer, then opens the remote. The pill at the top turns to **TV**.

Other ways to connect, on the connect screen: tap a TV listed under **Found on this Wi-Fi**, or type the TV's IP address (from your router) and tap **Connect**.

The QR code carries the Wi-Fi password, so anyone who scans it can join that Wi-Fi. Use a guest network for the TV. Scanning the QR code with the phone's camera app instead of PKR opens a page explaining how to get PKR; songs can only be added with the app.

Using PKR without a TV

PKR works on its own when no TV is connected (the pill shows **No TV**). You can still search YouTube, scan songs for your key, practice, keep Favorites and test your range. Only adding songs to the queue and the playback buttons need the TV.

The remote at a glance

At the top: the **TV / No TV** pill (tap it to connect) and **Your name**. Under it, one row of icons:

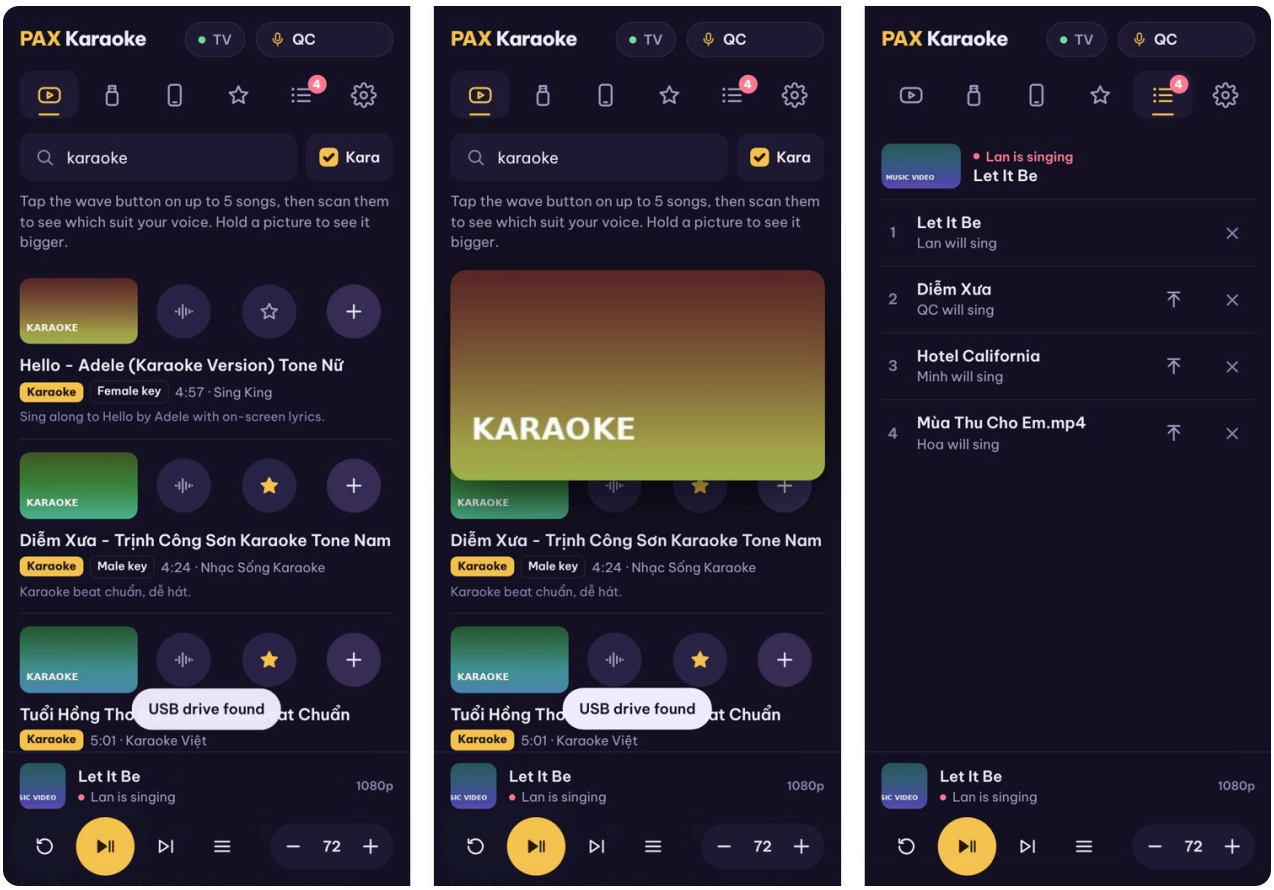
Icon	Opens
YouTube (play button)	YouTube search
USB stick	Songs on a USB drive plugged into this phone. Shown only while a drive is attached
Phone	Songs in the phone's PKR_Media folder
★ Star	Your Favorites
List	The TV's queue, with the number of songs waiting
⚙ Gear	Settings, including your vocal range

At the bottom, the **player bar** shows the song playing on the TV and controls it (see Playing on the TV).

Turn the phone sideways to see long song titles in full; in landscape the player bar fits on one line.

Finding and queueing songs

Everyone on the TV's Wi-Fi adds to the same queue, each under their own name.



Left: YouTube results with Kara ticked. Middle: hold a picture to see it big. Right: the queue, with ↑ (sing next) and ✕ (remove).

YouTube

1. Tap the YouTube icon and type a song or singer. Any language works; songs in your language and region come first.
2. **Kara** (the box next to the search field) is ticked by default: you get karaoke tracks only (the title or channel says karaoke, beat, instrumental, off vocal, MR, nhạc nền and so on), at most 25. Untick it to find any version: originals, live, covers. The phone remembers your choice.
3. Each result is a card:
    - **Row 1:** the picture (hold a finger on it to see it big), the **wave** button (pick it for a voice scan; it turns gold), ☆ (save to Favorites) and **+** (add to the TV queue).
    - **Row 2:** the full title, a label (**Karaoke**, **Karaoke?**, **Lyrics + vocals**, **Live** or **Regular song**), voice tags from the title (**Male key**, **Female key**, **Duet**, **Key X**), the length, the channel and the start of the description.

Videos YouTube won't let other apps play (age-restricted, blocked in your country, private) are left out of the results.

USB drive on the phone

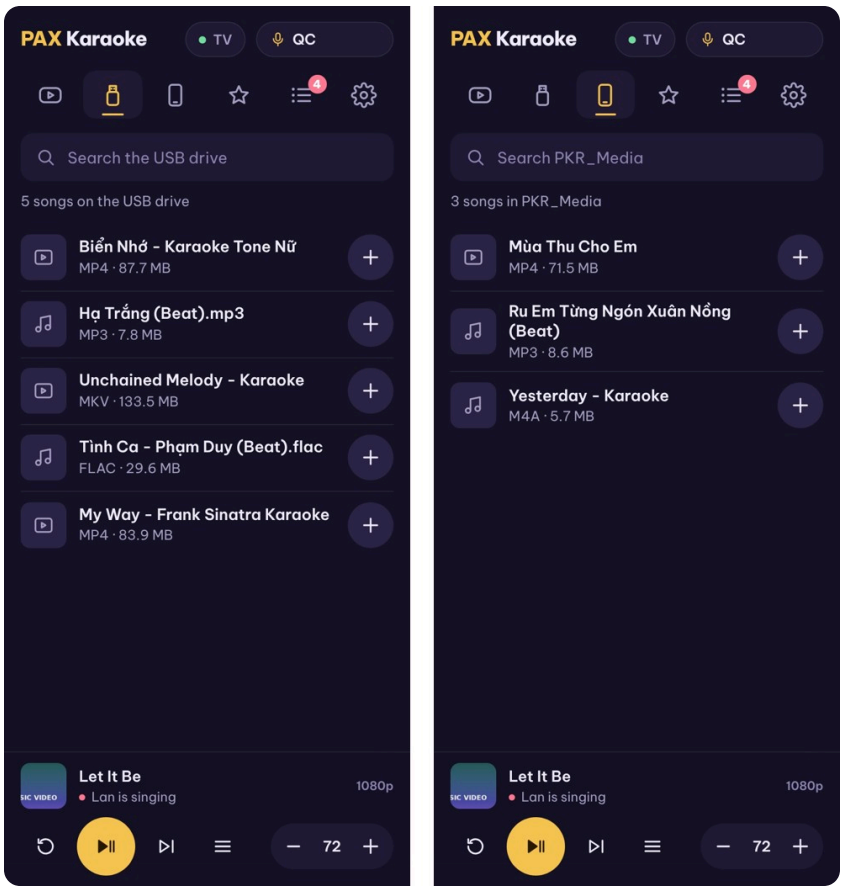
1. Plug a USB drive into the phone (USB OTG adapter if needed). The USB icon appears in the top row, with "USB drive found".
2. The first time, tap **Allow access to the USB drive** and pick the drive in Android's window.
3. Every video and audio file on the drive is listed (up to 3,000). Search by name; accents are optional ("tinh yeu" finds "Tình Yêu").
4. Tap + to queue a song. The TV plays it straight from the phone over Wi-Fi.

When the drive is unplugged, the USB icon disappears.

Phone (PKR_Media)

1. Make a folder named **PKR_Media** on the phone or its SD card. PKR creates it where Android allows; on newer phones create it once in the Files app.
2. Copy video or music files into it.
3. Tap the phone icon. The first time, allow access to videos and music.
4. Tap + to queue a song; the TV plays it from the phone over Wi-Fi.

For USB and PKR_Media songs, keep the phone on the TV's Wi-Fi until its songs have played. PKR keeps sharing with the screen off (a notification shows) and stops by itself when none of its songs are left.



Left: songs on a USB drive plugged into the phone. Right: songs in the phone's PKR_Media folder. Tap + to play one on the TV.

The queue

The list icon shows the song playing now and what's next. Tap ↑ to make a song sing next, or ✕ to remove it. Adding songs never interrupts the TV: nothing pops up on screen.

Playing on the TV

The TV plays every song full screen, starting by itself when it's that song's turn. Any connected phone can control it from the player bar.

Button on the phone	What it does
⟲ Restart song	Plays the current song from the start
▶‖ Pause or play	Pauses or resumes; during the Get ready card it starts the song at once
⏭ Next song	Skips to the next song in the queue

Button on the phone	What it does
≡ Show the QR code and queue	On songs from a phone, shows the singer banner and QR code for a few seconds
− / + Volume	Turns the TV's volume down or up

Button on the TV remote	What it does
OK	Pause or resume (starts the song at once during the Get ready card)
▶ (right)	Next song
◀ (left)	Restart the song
▲ ▼	Volume up or down
Back twice	Exit PAX Karaoke

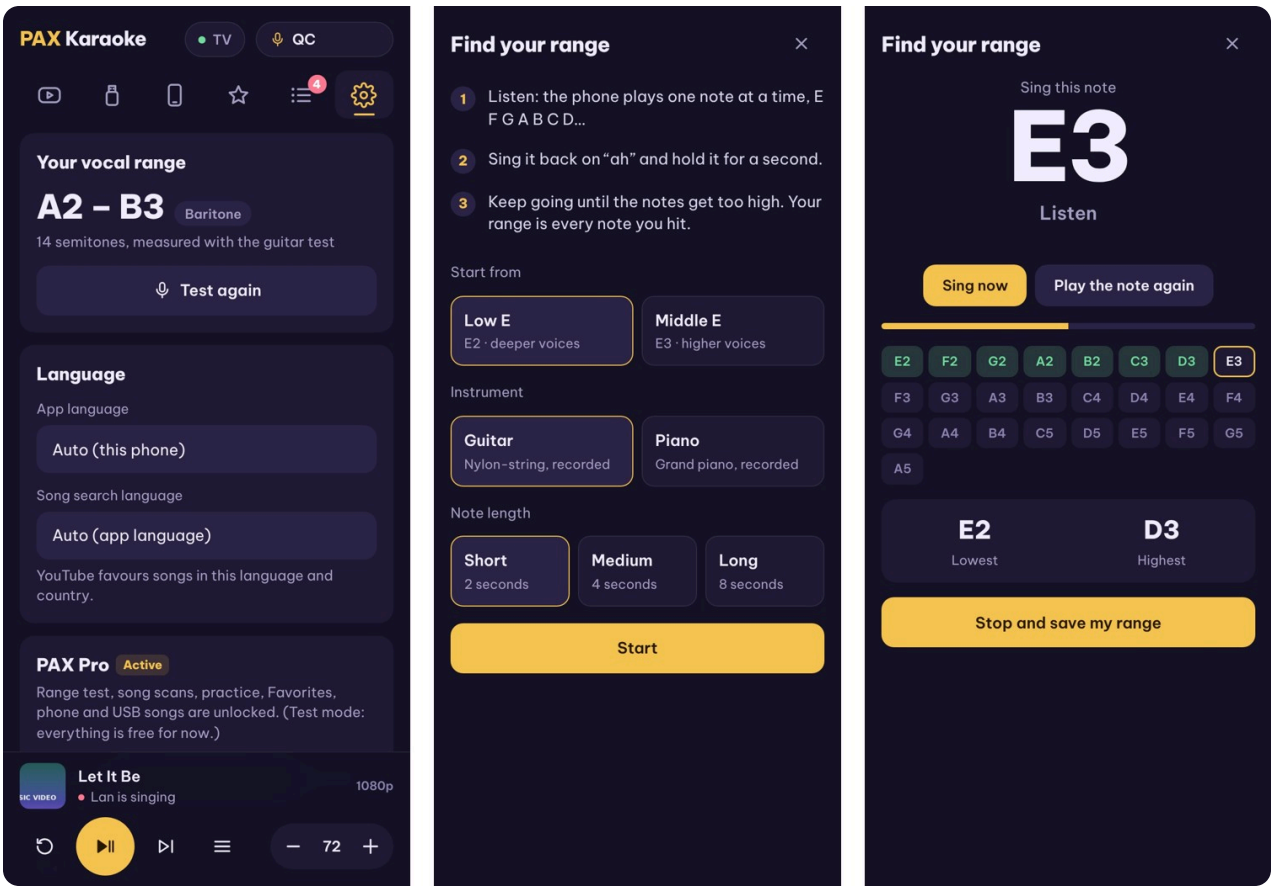
Get ready card: before each song, the TV shows "\, you're up", the song, a countdown and the sponsor line. The wait is 0, 10, 20 or 30 seconds (10 by default), set in TV settings. 0 skips the card.

Volume memory: the TV remembers the volume you set during each song and uses it the next time that song plays. Other songs keep the last volume used.

On screen: nothing is drawn over a YouTube video (YouTube's rules) and captions stay off; who is singing and what's next are on the phones. Songs played from a phone show a title card, a banner with the singer and the next songs, a small QR code, and the chord being played (Android 10 or newer). Each YouTube song waits on its first frame until a few seconds have loaded, so it starts smoothly.

Your vocal range

The test finds your lowest and highest notes: the phone plays a note, you sing it back, and it moves up the scale. It takes 2 to 5 minutes and works without a TV. Use a quiet room.



Left: your range at the top of Settings. Middle: the test's options. Right: the test under way; green notes are hits.

1. Open ⚙ **Settings**. **Your vocal range** is the first card. Tap **Find my range** (or **Test again**).
2. Choose where to start: **Low E (E2)** for most men's voices, **Middle E (E3)** for women and children.
3. Choose the **instrument** (Guitar or Piano, both real recordings) and the **note length** (2, 4 or 8 seconds; 8 by default).
4. Listen to the note, then sing it on "ah" and hold it. Tap **Sing now** to stop the note and sing right away.
5. The test moves on as soon as you hold the note within about half a semitone.
6. It ends after 3 misses in a row above your top note, or when you tap **Stop & save**.

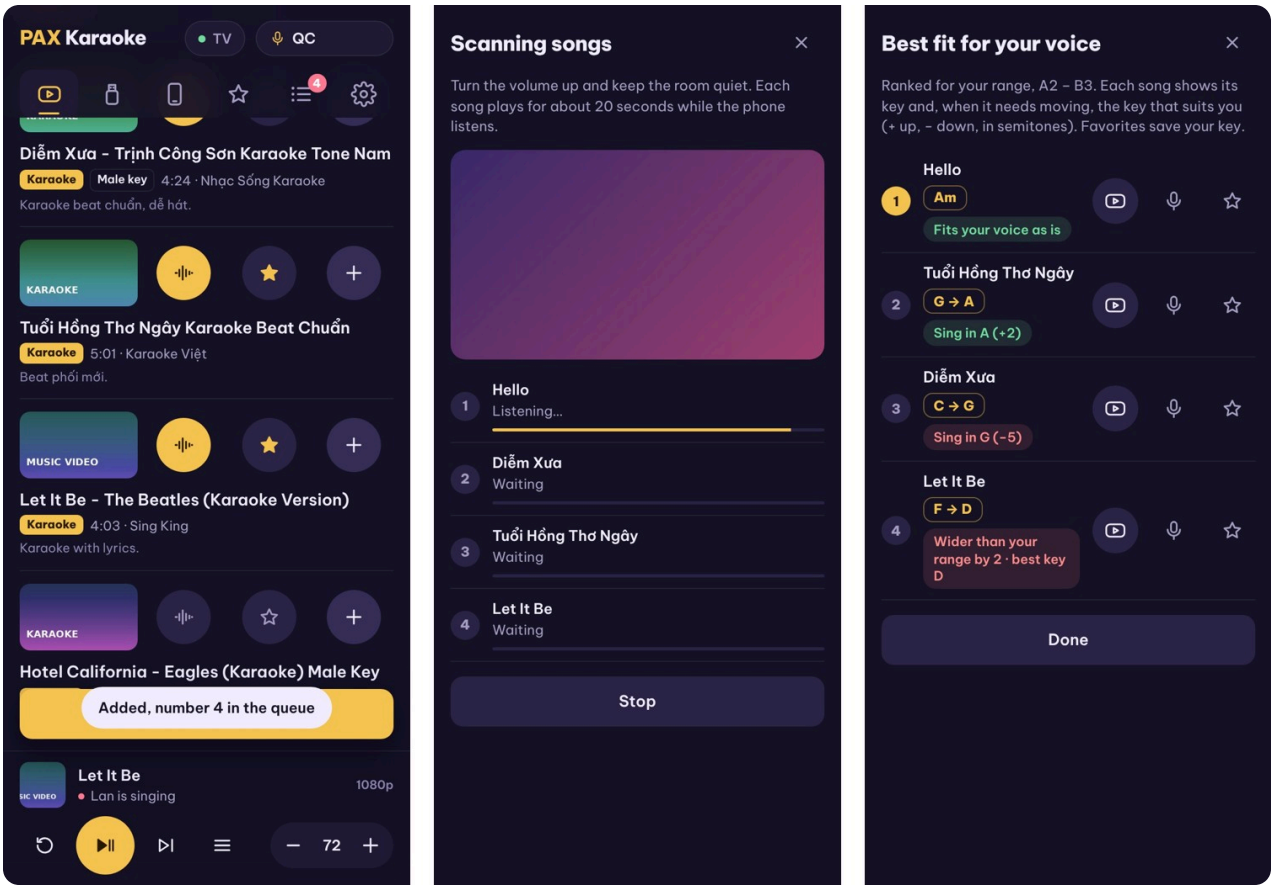
If the phone heard nothing, it plays the same note again (up to twice) without counting a miss. If you were close, you get one more try. **Play the note again** works at any time.

The card then shows your range (for example F2 – D3), how many semitones it spans and your voice type (Bass, Baritone, Tenor, Alto, Mezzo-soprano or Soprano). You can also set the lowest and highest notes by hand. The range stays on the phone and is used by the song scan.

Tip: a wider range means more songs fit. Warm up first, and keep going up until you really can't hold the note.

Song scan: the key that suits your voice

The scan listens to up to 5 YouTube songs, ranks them for your range, and tells you which key to sing each one in. It works without a TV.



Left: songs picked with the wave button. Middle: scanning. Right: the ranking with each song's key and the key for you.

1. Do the vocal range test first.
2. In YouTube results, tap the **wave** button on up to 5 songs (it turns gold), then tap **Scan**.
3. Each song plays on the phone for about 20 seconds (from 0:45) while the microphone listens for its key and the shape of its melody. The phone raises its volume during the scan and puts it back afterwards.
4. The songs come back ranked, best first. Each shows the song's key and, when it needs moving, the key for you, for example **Am → F#m**:
    - **Fits your voice as is**: sing it in the original key.
    - **Sing in F#m (–3)**: move the key down 3 semitones (or up, with +) and it fits.
    - **Wider than your range by N**: the melody spans N more semitones than your range, so some notes will be out of reach in any key. The best key is still shown.
    - Songs with an unclear key are marked as not scanned.

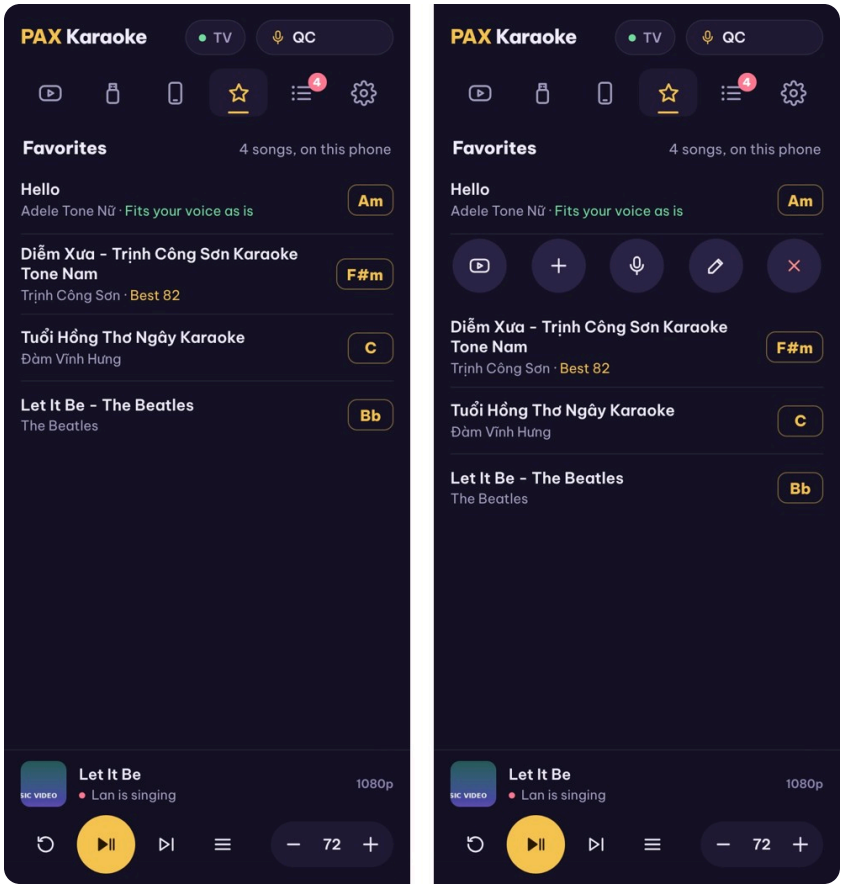
5. Tap the YouTube button to try a song, the microphone to practice it, or ☆ to save it to Favorites. Favorites keep **your** key.

How it compares: your range is measured in exact notes (like F2 – D3), but a song's key is just a letter (like G or Am) and anyone may sing it an octave higher or lower. So the scan compares the width of the melody with the width of your range, places it at the octave nearest your voice, and finds the smallest key change that fits.

The scan works best in a quiet room with the phone's speaker uncovered. It hears the whole mix, so treat the result as a starting point and trust your ears.

Favorites

The ★ tab is just your list of favorite songs: **title**, **singer** and **key** (your key when the song came from a scan). It is stored on the phone and works offline. Add songs with ☆ on a search result or a scan result. The title and singer are split from the YouTube title automatically.



Left: your Favorites. Right: tap a song for its buttons.

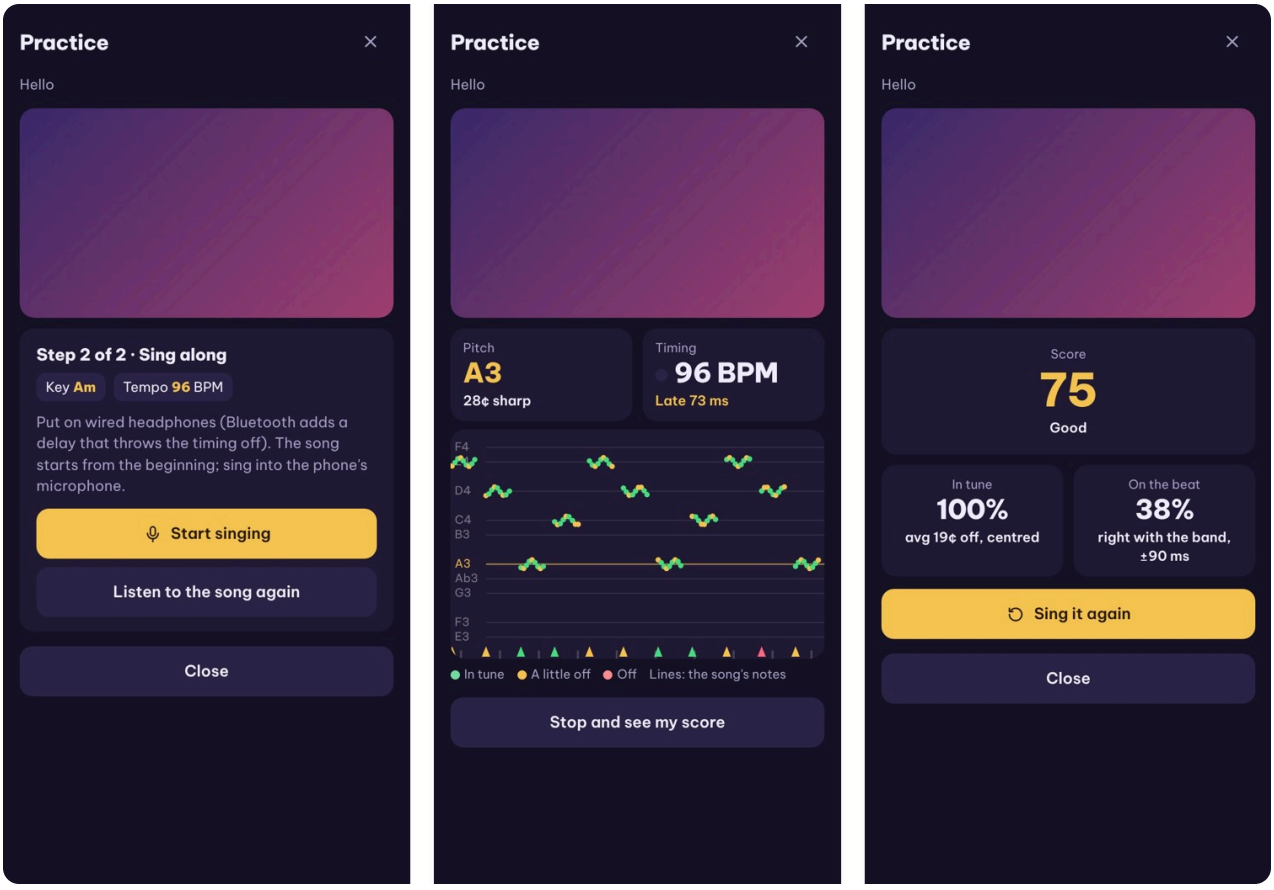
Tap a song to show its icon buttons:

Icon	What it does
YouTube	Open the song in the YouTube app
+	Add it to the TV queue (needs a TV)
Microphone	Practice it (see Practice mode)
✎ Pencil	Edit the title, singer and key
×	Remove it from Favorites

After a practice, the song also shows your best score.

Practice mode

Practice checks whether you sing in tune and on the beat, against the song itself. It runs on the phone, with or without a TV. You need **wired headphones**.



Left: ready to sing (key and tempo learned). Middle: live pitch and timing. Right: your score.

1. Open it from a Favorite (microphone button) or from the scan results.

2. **Learn the song:** with the headphones unplugged, PKR plays the song on the speaker for about 20 seconds and learns its key and beat. Favorites remember this, so next time it skips straight to step 3.
3. **Sing along:** plug in the headphones. The song plays from the start and the screen shows, live:
    - your note against the song's scale, and how many cents sharp or flat (green within 25 cents, yellow within 50, red beyond);
    - each note you start against the beat, early or late in milliseconds (on the beat = within 70 ms).
4. Tap **Stop** when you're done. Your **score** is 60% in tune and 40% on the beat, with your average cents off, whether you lean sharp or flat, and whether you rush or drag. The best score is saved with the Favorite.

Limits: it checks that you sing the song's notes (its key), not the exact melody. Bluetooth headphones add a delay that makes you look late, so use wired ones.

Settings

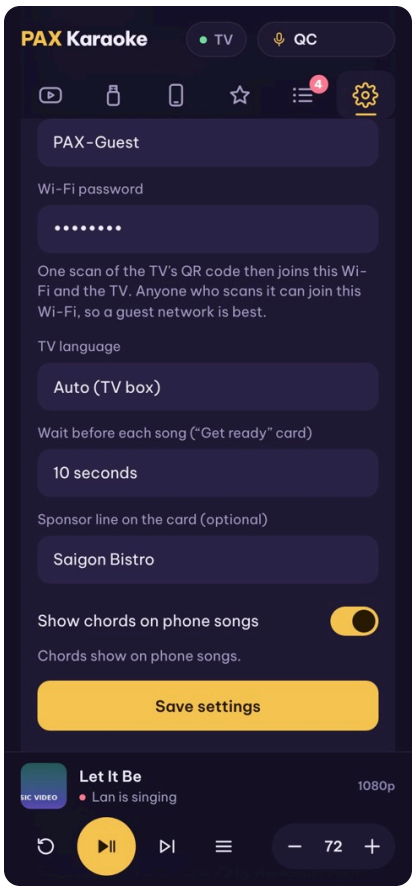
Open ⚙ **Settings** on the phone. Phone settings change only your phone. TV settings change the TV for everyone, so they need the 4-digit **Settings PIN** from the TV's start screen.

Phone settings

Setting	What it does
Your vocal range	Your range and voice type; Find my range / Test again
App language	Language of PKR (Auto, English, Tiếng Việt)
Song search language	Which language and region YouTube favours (25 choices)
TV	Which TV you're connected to; Connect to a different TV
PAX Pro	Your subscription
About	Version, credits for the recordings and the font

TV settings (PIN required)

1. Under **TV settings**, type the PIN and tap **Unlock settings**.
2. Change what you need, then tap **Save settings**.



TV settings after unlocking with the PIN.

Setting	What it does
YouTube API key	Turns on YouTube search on the TV. Usually built in; enter a new key if search stops working
Wi-Fi name and password	Put into the TV's QR code, so one scan joins the Wi-Fi and the TV. Leave the name empty to turn this off
TV language	Language of the TV screens (Auto, English, Tiếng Việt)
Wait before each song	The Get ready card: 0, 10, 20 or 30 seconds
Sponsor line	Shown on the start screen and the Get ready card. Leave empty to hide
Show chords	The chord on songs played from a phone (Android 10 or newer TVs)

PAX Pro

YouTube karaoke is always free. PAX Pro is a subscription in the phone app that adds the voice tools and your own songs.

Free	PAX Pro
YouTube search and queueing	Vocal range test
Queue and playback controls	Song scan and your key
TV settings	Favorites
Using PKR without a TV	Practice mode
	USB drive songs
	Phone (PKR_Media) songs

Manage it under **Settings** → **PAX Pro**. In this test version, Pro is switched on for everyone.

Troubleshooting

Problem	What to do
PKR can't find the TV	Check the phone and the TV are on the same Wi-Fi, then scan the TV's QR code again
The QR scan doesn't join the Wi-Fi	Check the Wi-Fi name and password in TV settings (case-sensitive). On Android 10, paste the copied password in the Wi-Fi panel
Search says "YouTube error" or stops working	The day's YouTube search allowance (about 100 searches per key) may be used up; it resets daily. Repeat searches are cached. A new key can be entered in TV settings
A YouTube song is skipped	The uploader blocks playback in other apps. Pick another upload of the song
YouTube sound is warbly or stutters	Turn off sound effects (surround, Dolby, DTS) in the tablet's Sound settings. Android 6 boxes switch to a lighter mode automatically
The TV picture isn't on the big TV	The tablet must support video out over USB-C. Try another cable or adapter, and check the TV's input
No USB icon on the phone	The drive isn't seen: try another OTG adapter, or a drive formatted FAT32 or exFAT. SD cards don't count as USB

Problem	What to do
Phone tab shows no songs	Check the folder is named exactly PKR_Media and allow access to videos and music
A phone or USB song stops halfway	The phone left the Wi-Fi or PKR was closed. Keep it on the Wi-Fi until its songs finish
A file is skipped	The TV couldn't play that format. Convert it to MP4 (H.264/AAC) or MP3
Scan says "Too quiet" or not scanned	Turn the phone's volume up, uncover the speaker, use a quiet room
Most songs are "Wider than your range"	Your saved range is narrow. Warm up and run **Test again** in Settings
Range test doesn't hear me	Sing closer to the phone, louder, on "ah"; allow the microphone when asked
Practice shows me late on every note	Use wired headphones, not Bluetooth
No chord on the TV	Chords need a TV with Android 10 or newer and only show on songs from a phone, never on YouTube. Accept the recording prompt when PKT starts
Wrong PIN	The PIN is on the TV's start screen (shown when nothing is playing)

Older Android versions

Device	What's different
TV with Android 9 or earlier	No chord display. Everything else works
TV with Android 6 or earlier	No chords; YouTube runs in lite mode (lower resolution, no blur or animations) so the sound stays steady
TV with Android 4.4 or earlier	Not supported
Phone with Android 10	Can't add Wi-Fi for you: PKR copies the password and opens the Wi-Fi panel
Phone with Android 6 or earlier	Not supported. PKR needs Android 7.0 or newer
TV running an older PKT	Install the latest PKT (paxkaraoke.com/tv) on every TV; newer features need it

Requirements, file formats and credits

Item	Requirement
PAX Karaoke TV	Android tablet or TV box, Android 5.0 or newer (Android 10 recommended; chords need it). For a big TV: USB-C video out and a USB-C to HDMI cable
PAX Karaoke Remote	Android phone, Android 7.0 or newer. USB drives need USB OTG. iPhone version in testing
Network	Wi-Fi shared by the TV and the phones; internet for YouTube

File formats (USB drive and PKR_Media): MP4 (H.264/AAC) plays best everywhere. MP3, M4A, AAC, FLAC, WAV and OGG audio play with a title card. MKV and WebM play on most TVs. DAT, VOB, MPG, AVI and MIDI/KAR may not play; convert them to MP4.

Credits: range test piano: Salamander Grand Piano V3 by Alexander Holm (CC BY 3.0). Range test guitar: FreePats Spanish Classical Guitar (CC0). Font: Be Vietnam Pro (SIL Open Font License). YouTube songs play in YouTube's official player.