

# Voice Tuner

User Manual

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## Quick Start

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Your voice tuner displays a circular interface showing pitch accuracy in real-time.

### Circle Colors

- **Green:** Perfect pitch (within threshold)
- **Yellow/Orange:** Close but slightly off
- **Red:** Significantly sharp or flat

### What You See

The device shows the note name (like "C4", "A3") and cents deviation from perfect pitch.

The dynamic circle grows or shrinks to show how far you are from the target note.

**Cents:** A cent is 1/100th of a semitone. 0 cents = perfect pitch.

## Button Controls

### DOWN Button

Navigate down through menu items. The selection loops around to the top when you reach the bottom.

### SELECT Button

Multi-function button:

- Open the menu from tuner screen
- Enter submenu
- Cycle through parameter values

**Quick Access:** Press SELECT once from the tuner screen to open the menu.

### Navigation Flow

1. Press SELECT to open menu
2. Press DOWN to navigate
3. Press SELECT to enter/change
4. Select "Exit" to apply changes

## Power Saving Mode

The tuner automatically enters sleep mode when no sound is detected for several seconds.

### Sleep Display

You'll see animated "zzz" characters floating upward with the message "Asleep but listening..."

### Auto Wake-Up

The tuner wakes automatically when you start singing or playing. No button press needed!

**Battery Saver:** This feature significantly extends battery life during practice sessions with pauses.

### Adjusting Sleep Time

You can change how long the tuner waits before sleeping in System Settings → Silence Timeout (2-10 seconds).

Menu Navigation

Action	How To
Open menu	SELECT once
Navigate	DOWN (loops)
Change value	SELECT (cycles)
Go back	Select "Back"
Apply & exit	Select "Exit"

Menu Structure

Main Menu:

- Tuning Parameters
- Audio Prefiltering
- Display
- System
- Exit

**Auto-Exit:** The menu closes automatically after 10 seconds of inactivity (adjustable).

## Tuning Parameters

### Flat/Sharp Threshold

Range: 10-25 cents

Sets how strict the tuner is about pitch accuracy.

**10-15 cents:** Strict mode. Shows green only when very accurate.

**20-25 cents:** Forgiving mode. Shows green with slight variations.

**Start with 15c:** Increase if too demanding, decrease for stricter feedback.

Smoothing Level

Range: 1-5

Controls how quickly the display responds to pitch changes.

**Level 1-2:** Very responsive, jumps quickly. Can be jittery on unstable notes.

**Level 3:** Balanced (recommended).

**Level 4-5:** Very smooth, slower to respond. Good for holding steady notes.

**Modify if:** Display too jumpy->Increase smoothing.  
Feels sluggish->Decrease it.



## Root Note

Sets the starting note of your chosen scale (only matters when not using Chromatic).

Tuner will display how far of the closest note in the current scale and root note the detected pitch is.

**Example:** Want to know how far of the closest G Major note the detected pitch is? Set Scale Type to "Major" and Root Note to "G".

## Scale Types

Restricts the tuner to only show notes in a specific musical scale.

Tuner will display how far of the closest note in the current scale and root note the detected pitch is.

### Available Scales

- Chromatic
- Major
- Natural Minor
- Harmonic Minor
- Melodic Minor
- Major Pentatonic
- Minor Pentatonic
- Blues
- Dorian
- Mixolydian

In equal temperament, the chromatic scale is divided into twelve equally-spaced semitones

## Audio Prefiltering

**Advanced:** Most users won't need to change these settings.

### Highpass Cutoff

*Range: 60-120 Hz*

Removes very low frequencies like room rumble and handling noise.

**Default:** 60 Hz works for most voices.

**Modify if:** You want to filter out higher(up to 120) Hz sounds.

Lowpass Cutoff

Range: 4000-8000 Hz

Removes very high frequencies like room hiss and breath noise.

Default: 6000 Hz works for most voices and situations.

If you set it too low you can filter out some important harmonics.

Audio Gain

Range: 1.0x - 10.0x

Amplifies microphone input.

Low gain (1-2x): Quiet signal, but less environmental noise pickup.

Moderate gain (3x, default): Good balance. Strong vocals detected, background noise mostly ignored.

High gain (8-10x): Detects very quiet singing BUT also picks up room noise, breathing, handling noise.

High gain can cause false triggers and unstable pitch detection.

Modify if: Tuner shows "Asleep" when singing, increase gain. Too sensitive to noise, decrease it.

Display Settings

Brightness

Range: 10-100%

Controls screen brightness.

Show Cents

ON or OFF

Displays numerical cents offset above note name.

**ON:** Shows precise numerical feedback (e.g., "+3" cents)

**OFF:** Cleaner display with only colored circle feedback.

Note Names

Changes how note names are displayed.

**English:** C, D, E, F, G, A, B

**Solfège:** Do, Re, Mi, Fa, Sol, La, Si

System Settings

Silence Timeout

Range: 2-10 seconds

How long to wait before entering sleep mode.

Default: 5 seconds

YIN Search Window

Range: 20-40%

Defines the search range for the refined pitch detection pass around the initial estimate.

**Default:** 40% provides robust detection for most voices.

**Modify if:** Lower to 20-25% for faster processing with very clear, stable voices. Keep higher (35-40%) for more robust detection with varied singing or less ideal conditions.

Lower this value only if you absolutely need faster processing.

Menu Timeout

Range: 2-10 seconds

How long menu stays open before auto-closing.

**Default:** 10 seconds

## Troubleshooting

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### Shows "Asleep" when singing

**Solution:** Increase Audio Gain or sing louder.

### Display too jumpy

**Solution:** Increase Smoothing Level to 4-5.

### Display too slow

**Solution:** Decrease Smoothing Level to 1-2.

### Wrong note detected

**Solution:** Lower YIN Search Window to 25-30%.



### Too strict/forgiving

**Solution:** Adjust Flat/Sharp Threshold. Lower = stricter, Higher = more forgiving.

### Too sensitive to noise

**Solution:** Lower Audio Gain to 2.0-2.5x.

### Does not pick up the sound.

**Solution:** Increase Audio Gain.

### Factory Reset

Menu → System → Factory Reset

Restores all settings to defaults.

## Tips for Best Results

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1. Hold device close(20cm) and at a steady distance from your mouth for optimal pickup.
2. Use in a reasonably noise free. Background noise affects detection.
3. Poliphonic sounds will confuse the device.
4. The tuner works best with sustained notes. Quick passages may not register accurately.
5. Battery Life
  - Lower screen brightness
  - Use shorter silence timeout
  - Use shorter Sleep mode timeout

Voice Tuner

For support and updates,  
refer to product documentation

User manual