# What's New in Record-O-Matic 6

A 4-track recorder built on a sample-accurate master clock. New in 6: a metronome that locks to that clock, Bounce & Continue for stacking unlimited overdubs, Bluetooth recording, and a deep round of reliability fixes that make multi-track recording on iPhone feel as tight as it does on tape.

## Metronome (Pro Sync Pack)

A click track with sample-accurate timing locked to the master clock. BPM 40–300, time signatures from 2/4 through 7/8, accented downbeat. Open it from the ♩ icon in the header — the icon glows green when the click is on.

The defaults are opinionated and worth knowing:

- **First take only — on by default.** The click plays while you record your first track. Once Track 1 has audio, that becomes the tempo reference and the click auto-mutes for overdubs. Turn this off if you want a click on every take.
- **Click during playback — off by default.** The click is a recording aid, not part of the playback mix. Same convention as Logic, GarageBand, and Pro Tools.
- **Silence while recording — off by default.** Mute the click during record only — useful when recording on the iPhone speaker and worried about the click bleeding into the mic. Wired headphones avoid this entirely.

If you delete all your tracks or use Bounce & Continue (which clears Tracks 3–4 and reloads the bounce onto 1–2), the next record returns to "first take" behavior automatically.

## Tight overdub sync

Every transport action — play, record, rewind — anchors to the audio engine's hardware render clock instead of wall time. Tracks lock the same way every time you press play, and overdubs land within a few milliseconds of the rhythm track.

Two consequences worth pointing at:

- **Live latency compensation.** Round-trip is read fresh from the audio session at the start of every record, instead of being a fixed value. Swap from speaker to wired headphones to AirPods between takes — the head-trim adapts. The stereo mic in particular has noticeably more input latency than the omni mode, and the comp tracks it.
- **Return-to-zero re-anchors instead of restarting.** Hitting rewind no longer tears the engine down and rebuilds it; it just stops the players and re-anchors against a fresh

render-clock sample. Locking from the second time you press play feels exactly like the first.

## Bounce & Continue

You've got 4 tracks. Sometimes you've used all four and you're not done.

Bounce & Continue mixes the current 4-track session down to a stereo pair, loads the left channel onto Track 1 and the right channel onto Track 2 (panned hard L/R), clears Tracks 3–4, and rewinds to zero. You're free to keep building on the same song without losing what you already had. The mix is real — track volumes, pans, delay offsets, and master volume are all baked in — and gets the same gentle mastering pass (low/high shelf, soft limiter at -0.5 dBFS) that export uses.

Bounce, continue, repeat. Stack as many overdubs as you've got.

## Bluetooth recording is permitted

Earlier builds blocked recording on a Bluetooth output because the 150–300 ms of latency BT adds is too much for tight overdubs. That restriction is gone. AirPods and other BT headphones now work for rehearsing with the click, recording a first take, or any session where you're willing to perform around the BT delay. The latency comp adapts to whatever route is active — but if you want overdubs locked to within a few ms of the rhythm track, plug in wired earphones or use the built-in speaker.

## Reliability fixes

A handful of things that were breaking under specific conditions, now fixed:

- **Multi-track playback** survives audio-route changes. Plugging headphones in or out mid-session no longer wedges the chain into a state where every player reports playing but no audio reaches the speaker. Per-track mixers now connect to the main mixer with an explicit stereo format, sidestepping the format-negotiation race that was the root cause.
- **Auto-rewind on PLAY.** Hitting STOP after a record left the play head at the end of the take; pressing PLAY then produced silence. PLAY now wraps the play head to zero if it's already at the end of the longest track.
- **Schedule-time interpretation.** Buffers are queued without an `at:` time and timed by `player.play(at:)` alone. The previous dual-`at:` pattern silently failed for sample-time-only AVAudioTime values — players would report as playing but never actually emit audio.
- **Unmute mid-playback.** Tracks muted when you hit PLAY no longer stay silent forever after you unmute them. All tracks with audio are scheduled regardless of mute state;

mute is enforced at the mixer's output volume, so toggling it back on is an instant un-silence on a player that's already running in time.

- **Engine restart on route change.** When the audio session reconfigures (plugging headphones in or out), the engine sometimes failed to re-start because the input device hadn't fully settled — leaving the app in a silent dead state where REC did nothing. The engine now waits briefly for the session to settle and retries on failure, with the status line surfacing the recovery so you can see what's happening.
- **Configurable input.** Stereo polar pattern is enabled when the device's built-in mic supports it, falling back to a Cardioid front pattern otherwise. Voice-processing is explicitly disabled so the input chain is clean.

## Diagnostics

The console logs detailed information at every record-and-play cycle: live latency, head-trim math, where each track's first attack lands in song-time, output route, main mixer state, and config-change events. If something feels off, the logs will tell you which stage of the chain is misbehaving.

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*Built on AVAudioEngine. Records to .caf, exports to .wav. Stereo mixdown with mild mastering. Project files include per-track WAVs and JSON metadata so sessions are portable.*