

Choosing Your Bat Detector: Echo Meter Touch 2 vs. Echo Meter Touch 2 PRO

A practical guide for anyone getting started in bat acoustic monitoring — what actually differs between Wildlife Acoustics' two handheld detectors, what those differences mean in the field, what your phone or tablet needs to run them, and which model fits your goals and budget.

1. The Short Answer

The Echo Meter Touch 2 and the Echo Meter Touch 2 PRO are the same product with a different recording front end: same module, same free app, same listening modes, same Auto-ID, same GPS logging. The PRO adds a lower-noise microphone, a selectable 384 kHz sample rate, three-position gain, and the full Advanced Settings menu. The practical rule is simple. If your recordings mainly need to be **heard and enjoyed** — bat walks, classrooms, learning calls, quick presence checks — the standard Touch 2 does that job at half the price. If your recordings need to be **analyzed, archived, or defended** — reports, datasets, research, protocol-driven surveys — buy the PRO. The PRO gives the same Auto-ID cleaner input; it does not make automated identifications conclusive.

2. What Is Identical

- The **free Echo Meter Touch app** (iOS and Android), the real-time color spectrogram, scroll-back through recent history, and voice/text notes saved as file metadata.
- All **listening modes**: patented Real-Time Expansion (RTE), heterodyne, and time expansion on playback.
- The **Auto-ID classifiers** (Kaleidoscope-derived) and their regional coverage. The PRO does not have a better classifier — it gives the same classifier a better signal.
- **16-bit full-spectrum WAV** output that opens in Kaleidoscope and third-party analysis software; GPS tagging, session path coloring, and Google Maps / Google Earth KML export.
- **Transfer options**: Wi-Fi (browser download of a zipped session), USB cable, email, or text message.
- **Physical form**: same enclosure, acoustic horn and directionality; $\approx 35 \times 48 \times 7$ –16 mm, ≈ 20 g, 18-month warranty. Both are weather-resistant but should not be used in rain.
- **Host dependence**: battery, storage, display, GPS, and processing speed all come from your phone or tablet, not the module.

3. Side-by-Side Specifications

Specification	Echo Meter Touch 2 (standard)	Echo Meter Touch 2 PRO
Model code / price (Aug 2026)	EMT2USBC-STD — US \$179	EMT2USBC-PRO — US \$349
Intended user	Enthusiast, educator, citizen scientist	Consultant, researcher, advanced field user
Microphone	Standard ultrasonic element	Low-noise “ultra-quiet” element; higher signal-to-noise across the whole band
Sample rate	256 kHz, fixed	256 or 384 kHz, user-selectable
Max. recorded frequency	128 kHz	128 kHz at 256 kHz; 192 kHz at 384 kHz
Gain	Fixed — one setting	Three settings: LOW / MEDIUM / HIGH (HIGH $\approx +12$ dB; LOW ≈ -12 dB)
High-pass filter	None	2-pole filter at 8 kHz
Auto-heterodyne floor	Tunes down to 16 kHz	Tunes down to 10 kHz
Advanced Settings menu	Not available — app runs on defaults	Fully available
User-adjustable settings	Trigger minimum frequency only	Sample rate, gain, trigger sensitivity, trigger window, max. trigger length, trigger min. frequency, audio division ratio, Nightly Sessions mode, save-noise-files, real-time Auto-ID on/off
Format, Auto-ID, GPS/KML, app	16-bit full-spectrum WAV; identical on both models	Same

4. What the Differences Actually Mean in the Field

Microphone and signal-to-noise — the difference that matters most. Both modules share the same acoustic horn, so directionality is identical; the PRO's advantage is a quieter microphone element (resellers describe it as derived from the SMM-U2 studio ultrasonic mic) and cleaner front-end electronics. Three things follow in the field: faint, distant passes that the standard model buries in noise-floor mush become recoverable; quiet-calling genera such as *Myotis* and *Plecotus* are detected at greater range; and classifiers get cleaner call parameters to work with. It does not guarantee longer detection distance, though — species, call intensity, habitat, weather, and your own technique still dominate.

Sample rate: 256 vs. 384 kHz. Wildlife Acoustics states that 256 kHz “is sufficient for all North American and European bats,” and the PRO itself defaults to 256 kHz for that reason. For Ohio and temperate North America, bandwidth is rarely the deciding factor. The 384 kHz option matters for tropical and Neotropical assemblages, constant-frequency horseshoe bats calling to 160 kHz, diagnostic harmonics above 128 kHz, and non-bat ultrasonic work (rodents, insects). The cost is proportionately larger files and faster storage burn.

Adjustable gain. The standard model has one fixed level. The PRO's three positions solve opposite problems: HIGH reaches distant or quiet bats across open landscapes; LOW prevents clipping on very close or very loud bats — hand-released bats, roost emergence counts, mist-net and harp-trap work, swarming sites. Clipped calls distort call shape and are frequently unusable for identification, so this is data-quality control, not convenience.

Trigger and session control. Only the PRO exposes trigger sensitivity, trigger window, and maximum trigger length — the parameters that define what counts as a “bat pass.” Several survey standards define a bat pass by a specific trigger window, and some analysis packages cap file length; the standard model is locked to defaults (3-second window, 15-second maximum, medium sensitivity). The PRO also offers Nightly Sessions mode and optional noise-file retention, which effort accounting and QA often require; the standard model deletes noise files automatically.

5. Your Phone or Tablet Matters as Much as the Module

The app is free and functionally identical on both platforms; what differs is your hardware. Check the manufacturer's current compatible-device list **before** you buy — not every handset works.

- **Connector.** Current production is USB-C (EMT2USBC-STD / -PRO). **Lightning iPhones and iPads are not supported, even through an adapter.**
- **Apple (iOS / iPadOS).** Works with USB-C iPhones (iPhone 15 and later) and USB-C iPads. A firmware update through the app may be prompted on first connection. Recordings are managed in-app and exported via the Files app, AirDrop, Wi-Fi, email, or message.
- **Android.** Works with USB-C devices; older micro-USB devices require an OTG-compliant adapter. Android gives more direct access to the recording folder, which many users find faster for bulk transfer.

- **Device performance.** An older or slower phone degrades responsiveness; one published field report notes a handset that could not sustain the PRO's 384 kHz mode. Buying the PRO? Budget for a capable phone.
- **Power and storage.** Roughly 2.5 MB per five-second recording at 256 kHz, and the app holds a maximum of 10,000 recordings before files must be transferred or deleted. Expect real battery drain — carry a power bank.

6. Trade-Offs at a Glance

	Strengths	Limitations
Touch 2 (standard)	Cheapest route into full-spectrum recording with live Auto-ID and mapping; nothing to misconfigure, which is exactly why it works for groups, students and events; ≈20 g, adds nothing to carry; identical Auto-ID coverage and app experience to the PRO.	Higher noise floor — fewer faint and distant passes, noisier files for the classifier; no clipping protection on close bats and no extra reach on distant ones; cannot be configured to match a protocol's bat-pass definition; noise files auto-deleted; reviewers note audio output is quiet on some handsets.
Touch 2 PRO	Markedly better signal-to-noise — more calls captured, better range on quiet species; selectable 384 kHz extends coverage to 192 kHz; three-position gain; full trigger control for protocol compliance; Nightly Sessions and noise-file retention support structured survey effort and QA.	Roughly twice the price; the settings that make it powerful also make it possible to misconfigure, and to drift out of sync across a team; 384 kHz fills phone storage fast; still a host-dependent handheld — not a substitute for a deployable passive recorder; Auto-ID is no more conclusive than on the standard model.

7. Which One Fits You

If this is true of your work...	Choose
Recordings will appear in a report, a dataset, or a publication	PRO
You are chasing quiet species (<i>Myotis</i> , <i>Plecotus</i>) at the edge of detection range	PRO
You will record bats in the hand, at roost exits, or otherwise very close	PRO
A protocol dictates your trigger window, file length, or noise-file retention	PRO
You need to record species calling above 128 kHz (tropical work, CF horseshoe bats) or non-bat ultrasound	PRO
You are teaching, running bat walks or BioBlitz events, or equipping volunteers	Standard
You are learning bat calls for your own interest, or scouting a site before committing effort	Standard
Budget is the binding constraint and your target species are common and loud	Standard
You need unattended, multi-night deployment	Neither — use a passive recorder (e.g., Song Meter Mini Bat)

Many programs run a mixed fleet: PRO modules for lead surveyors handling protocol-driven work, standard units for outreach, training, and opportunistic sampling.

8. Cautions That Apply to Both Models

- **Auto-ID is a suggestion, not a determination.** Wildlife Acoustics states plainly that automated identifications “should not be relied on as a basis for scientific research,” and that Auto-ID assumes a single bat in free flight in low clutter — not roost emergence, multiple or captive bats, high-clutter sites, or social calls. Review the WAV files.
- **Both are active, handheld detectors.** Neither replaces a deployable passive recorder for survey effort measured in nights rather than hours.
- **Rain triggers recordings** at default settings; raising the trigger minimum frequency mitigates this on either model.
- **For regulated or contractual surveys,** the governing method, client, permitting authority, and QA plan determine whether a phone-based active detector is acceptable at all. Confirm before you buy.
- **Ohio note.** Our resident species — big brown, little brown, northern long-eared, Indiana, tricolored, evening, hoary, eastern red, and silver-haired bats — all fall comfortably within 256 kHz coverage, so bandwidth is almost never the deciding factor here. Microphone sensitivity and gain control usually are. Several of these species are federally listed or proposed for listing, and acoustic data supporting any regulatory determination must follow current U.S. Fish and Wildlife Service survey guidance.

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