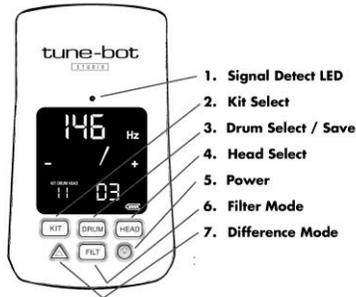
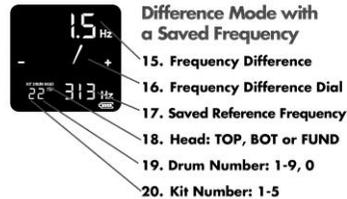
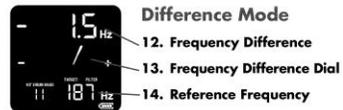
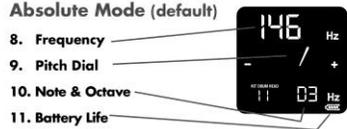


tune-bot

STUDIO



Absolute Mode (default)



GLOSSARY

Lug pitch: The pitch obtained by striking the drum head near one of the lugs. Lug pitch differs from lug to lug. Also, lug pitches of batter lugs are unrelated to lug pitches of resonant lugs.

Fundamental pitch: The overall pitch of the drum. The dominant and lowest pitch when you hit the center of the drum head. The fundamental pitch is the same for both the batter and resonant head.

Matching lugs: Trying to get the same or similar lug pitch at each lug.

MODES

Absolute Mode: Shows the pitch in Hz (8) as well as the nearest note and octave (10). The dial shows the pitch error (9) from the nearest note.

Difference mode: Useful for matching lugs, it lets you choose one lug pitch as a reference and compares other readings to that lug pitch. The difference between the new reading and the reference is displayed as +/- Hz, it also displays the reference pitch at the bottom of the display (14) and the frequency error on the dial (13,16). Note: Difference mode also filters around the reference pitch and rejects sounds more than 20% higher or lower in pitch.

Filter Mode: Lets you save the latest frequency measurement as a reference and rejects sounds more than 20% higher or lower than that reference. The Filter Reference Value is displayed in the bottom of the display (14). Filter mode helps to avoid picking up fluctuating high or low readings.

HOW TO USE

Open the battery cover by pushing down and sliding out. Pull off the paper tab from the batteries and make sure to match the positive and negative ends of the batteries to the correct contacts. Replace the cover.

Place your drum on a stool or carpet to mute the opposite head. Then, clip the tune-bot studio to the drum hoop between any two lugs. Push the red Power button (5) to turn the unit on.

Strike the head of your drum lightly about 1" inward of any lug and wait for a reading on the display (8), this reading is your lug pitch. Tightening a lug will raise the pitch while loosening the lug will lower the pitch. Try to get nearly the same pitch at each lug. Measure each of the lugs and make adjustments until all lugs are within 2Hz of each other. We have lug pitch suggestions, including Artist tunings, listed on our website, www.tune-bot.com, and on our free tuning calculator app which you can download at the Apple app store or Google Play store.

You can also tune your drums using the difference mode. First, get a lug pitch reading as described earlier. Next, press the triangle Δ button (7). Now strike 1" inward of the remaining lugs. You are aiming for a reading (12) close to 0. If your reading is positive, loosen the lug, if it is negative, tighten the lug. Repeat for all lugs until all readings are within +/- 2 Hz. Note that if TOP, BOT or FUND is displayed under HEAD (18) then a saved frequency will be used instead of the latest measurement.

In order to read the fundamental pitch of the drum, you must allow both heads to resonate. With both heads unmuted (on a stand), strike the center of the drum head, the fundamental pitch in Hz and nearest

note will be displayed. Make sure not to use difference mode when reading the fundamental pitch.

SAVING AND RECALLING

You can save your tunings so that you can easily re-tune to the same sound. The tuner has save slots for 5 different drum kits with up to 10 drums in each kit. Additionally, there are separate slots for top head, bottom head, or fundamental pitch for each drum. To save a pitch, first you will need to choose a save slot. Pressing the KIT button (2) will cycle through kit numbers 1-5 (20, 22), pressing DRUM (3) will cycle through drum numbers 1-10 (0 representing 10) (19, 23), and pressing HEAD (4) will cycle through TOP, BOT, and FUND (18, 24). Note that you must choose a head in order to save. Once you have a pitch reading and are in the save slot you want, hold the DRUM button for a few seconds until the LED flashes (1), now the pitch is saved and displayed in the bottom left corner of the display (25). To recall a saved tuning, select the corresponding save slot.

You can also use saved tunings in conjunction with difference mode. If you recall a saved pitch and then press the triangle Δ button, all readings will show how many +/- Hz you are from the saved pitch (15).

ADVANCED FEATURES

If you are having issues with variable readings, try using the Filter mode. The Filter mode will limit the range of your readings, keeping you from getting inconsistent numbers. To use Filter, you must first get a correct lug pitch reading. Next, press the FILT button (6), notice that the filter reference pitch is displayed in the bottom right corner of the display (14). Now, all readings will be in a close range to the reference pitch. Note you must re-set the filter when you switch drums or heads or if you are making large tuning changes to the drum (more than +/- 20% in Hz).

To tune a drum above 400Hz (most likely a snare resonant head), you will need to use the hi-range mode. This mode extends the tuner's range to 450 Hz. To enter hi-range mode, hold FILT for a few seconds until HI-RANGE is displayed in bottom center of the display. It is best not to use hi-range mode for typical tuning (below 400 Hz).

SPECIFICATIONS

Tuning Range:	30 - 400 Hz, 1C - 4G#
Hi-Range	30 - 450 Hz, 1C - 4A
Sine-Wave Resolution:	+/- 0.5 Hz.
Response Time:	750 mSec.
Power:	2 AAA Batteries
Weight:	72 g. (without batteries)

PRECAUTIONS

1. Avoid the following situations to prevent a potential malfunction of the tuner: Exposure to liquids, Direct sunlight, Extreme temperature or humidity, Excessive dust or dirt.

2. Remove the batteries to prevent leakage when the unit is not in use for long periods.

3. To avoid breakage, do not apply excessive force to the push-buttons, battery cover, clamp or display. Do not take apart the tuner, it is not user serviceable. Dismantling the tuner voids the manufacturer's warranty.

4. Do not use liquid cleaners on the product.

REGULATIONS: FCC (USA)

This Class B digital device has been tested and found to comply with Part 15 of the FCC Rules. These FCC limits provide reasonable protection against radiated interference in a residential installation.

REGULATIONS: CE Mark (European Harmonized Standards)

This battery operated apparatus has been tested and found to comply with EMC Directive (89/336/EEC) and CE mark Directive (93/68/EEC).