Calibrating iRCT's pitch (iRCT v7.1.1 and later)

iRCT is calibrated automatically by connecting periodically to our internet based CyberCloud. CyberCloud will normally calibrate iRCT perfectly to A440.0, within 0.05 cents.



However, if you have access to a hardware "CyberFork" (not included with iRCT), a tuned quartz metronome, iRCT's calibration can be verified and may be be improved slightly. This is not necessary under normal circumstances as iRCT is already orders of magnitude more accurate than the best tuning fork.



NOTE: DO NOT USE A TUNING FORK FOR CALIBRATION! We provide support for manually calibrating iRCT using a CyberFork only. Any other pitch source is suspect. Tuning forks are notoriously inaccurate due to manufacturing variations and temperature and are more likely to "de-calibrate" iRCT!

CyberForks may be purchased on the cybertuner.com web site by registered iRCT users only. Please note RPS, Inc. provides calibration tech support ONLY if you use a pre-calibrated CyberFork. No other pitch soure is supported.

Please read the entire instructions before beginning.

1. If your CyberFork has had the battery installed for several years, we recommend checking the battery with a tester, or just install a new 9 volt battery. Inconsistent results may be due to a weak or bad battery.



2. Turn on your iOS device. Tap the CyberEar icon.



3. In Chameleon tap the Advanced button and make sure Global A4 pitch is A440. You can set it back to any other setting after calibration.



Calibrate CyberCloud calibrated 4. Tap the Tuning Mode button (which may display Fine Tune, Smart Tune or Pitch Raise). In the Tuning Mode window, tap Calibrate.



5. Note: If there is no Calibrate mode selection, make sure you are running iRCT version 7.1.1 or later. (update iRCT if needed, older versions do not support Calibrate mode). Then in CyberEar tap the Tuning Mode button, then tap the spinner gear (CyberEar Prefs) button in upper right hand corner. To enable Calibrate mode, scroll down and turn Calibrate mode to ON.



6. On the back of your CyberFork is a sticker that reads "CyberFork" and a cents number. This number is your CyberFork's offset. (This sticker was placed there by us after we measured the pitch of your CyberFork against a perfectly calibrated pitch source.) Your CyberFork's offset indicates how flat or sharp it is from A440.00. <u>Tap the CyberFork box located on the left</u> (not the Calibrate box, located on the right) and enter the CyberFork number. Enter all digits carefully and be sure to use the correct sign (minus means flat).

Calibrating iRCT (continued)

7. On a flat padded surface (e.g., a magazine) place your iOS device on its back with its screen facing up. Push up one notch on the side switch of your CyberFork to the "A" tone (check the switch to make sure it's not on B flat). Holding the CyberFork in your hand face down ("CyberFork" label side up) and parallel to the tabletop, gently press it against the iOS device so that the CyberFork's top inch (speaker) overlaps the area of the iOS device which contains the microphone. In other words, the iOS and CyberFork are touching each other face-to-face, speaker to microphone.



8. During the rest of this procedure, <u>gently press the iOS device and</u> <u>CyberFork towards each other</u> and against the padded surface, keeping them as still as possible. This minimizes the effects of air distortion, enabling the iOS device to "hear" the CyberFork's pitch with virtually the same accuracy as a direct-line input. Accurate calibration is possible only in a noise-free environment, so find a peaceful quiet moment for calibrating.

9. In CyberEar, tap the Right Listener Ear button under the Calibrate box, located on the right (not the CyberFork box, located on the left). The Spinner will automatically fill in (indicating the CyberFork's pitch is being measured) seven times. After each fill-in, the Calibrate box will display the measured pitch offset of the CyberFork. (If readings vary, the differences will probably be no more than a few hundredths of a cent. Such small fluctuations are normal and acceptable.) After the seventh reading, a cents reading will be displayed in the Calibrate box. This final reading tells you how off pitch your iOS's sound hardware is and tells iRCT how much to calibrate itself so it'll be set to A440.00.



10. <u>Verify the calibration</u>. With the CyberFork's A440 tone still sounding, the Spinner should display a full (or almost full) Blush.

If necessary, adjust the Calibrate box reading to obtain maximum Blush, or repeat step 6.

11. <u>Tap the Tuning Mode button</u>. Select "Fine Tune" instead of "Calibrate". The calibration will automatically be saved.

12. <u>Verify the calibration again</u>. In Fine Tune mode and with CyberEar set to A4, tap the Tune box and **enter the CyberFork's offset** (on its back sticker) The number in the Tune box for this test will always be less than 1.0 cent. Slide the CyberFork switch to A4. The Spinner should be stopped or almost stopped and you should see some blush. If not, carefully reread and repeat this entire calibration procedure.

Suggestion: Store the CyberFork with the battery disconnected.

That's it! iRCT is now pitch-calibrated to A440. iRCT will still contact the CyberCloud occasionally to confirm and/or refine the calibration. Please be careful with your CyberFork and its calibration sticker, you may want to use it again in the future. A replacement CyberFork is available from www.cybertuner.com.