

## Helpful Tuning Hints

If you experience difficulty tuning your instrument using the Intellitouch™ tuner, we suggest trying one or more of the following.

- ♦ **"It gets the wrong note."**  
Use a very soft touch or attack to produce the note. Sounding the note loudly produces noise that obscures the fundamental pitch. Intellitouch™ is very sensitive. Be as easy as you can.
- ♦ **"The displayed note disappears too quickly."**  
Attach the tuner at a different place on the instrument. Just as a fingerboard has 'dead spots,' headstocks, scrolls and pegheads have them, too. If you attach it at a different spot, you may be able to avoid a natural dead spot on your instrument.
- ♦ **"It hears harmonics instead of the open string's note."**  
Strike the string in a different place along the string length. If you are striking the string directly on the location of a harmonic, that harmonic will be predominant in the frequency you are giving to the tuner.

### General other hints

- ♦ Try not using a pick. Use the fleshy part of your thumb or finger to pluck the string.
- ♦ Strike the string once and let it ring.
- ♦ Mute all the other strings and sound only one note at a time.
- ♦ Change the strings. Older strings go false and produce two pitches simultaneously. Violinists should always pluck the string (pizzicato) for best results.
- ♦ Be certain the tuner is in the correct mode of operation.
- ♦ Verify that the tuner is mounted securely onto the instrument.
- ♦ Verify that the soft rubber pads are installed on the two clamp surfaces.
- ♦ Keep fresh batteries installed.

## Specifications

Tuning Range	Seven octaves, 27Hz - 6,000 Hz
Tuning Precision	Better than one cent
Battery Life	30 hours of continuous use
Dimensions	1 1/4" wide, 6" long, 3/4" thick
Weight	2 ounces
Power supply	6 volts
Battery Type	CR2032 3-volt coin cell; two required

## Unconditional Warranty

Simply stated, should any product manufactured by OnBoard Research Corporation in 2006 or later no longer perform as originally intended due to wear, workmanship, or even accidental damage, we will either replace or repair it at our option -- no questions asked!

If you require warranty service, please contact us at 1-214-239-4006 or visit our website at [www.onboardresearch.com](http://www.onboardresearch.com).

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# the intellitouch™ TUNER™

# PT-1 Operator's Manual

Welcome to the Intellitouch™ tuner

We at OnBoard™ are dedicated to providing you with the best products and service in the industry. We take a great deal of pride in the confidence you have placed in OnBoard™ Research with your purchase of the Intellitouch™ Tuner.

Your Intellitouch™ tuner uses the latest in digital technology. The brain of the Intellitouch™ is a state of the art, low power digital signal processor which "feels" the note of the instrument and displays it on a backlit digital liquid crystal display for your easy reading.

## Key Features

- ♦ Digital display that is easy to read in all lighting conditions, from brightest sun or stage light to absolute darkness
- ♦ Tunes in noisy environments because it "feels" the pitch, no microphones, no wires
- ♦ Easily and quickly attaches to your instrument with one hand
- ♦ Fully automatic and chromatic
- ♦ It learns! - you can teach the tuner any note from another instrument, and thereby matching the Intellitouch™ tuning to the reference note
- ♦ Self-Test
- ♦ Battery operated and weighs less than two ounces

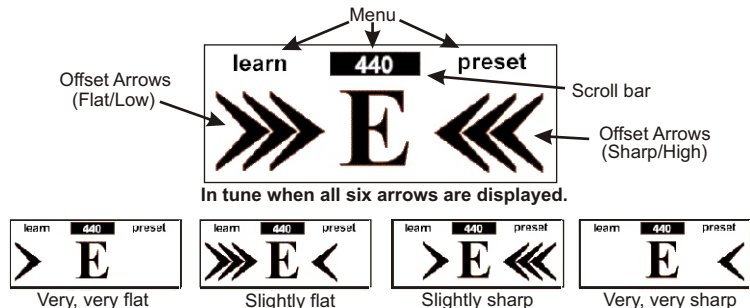
## Button Descriptions

- ♦ **power** button turns the tuner on and off.
- ♦ **mode** button exits current mode and advances the scroll bar across the menu (**learn**, **440** and **presat**) each time it is pressed. The mode button is also used during **learn** mode to select the desired note for "learning."
- ♦ **select** button is used to select an option. When in the **menu** mode (scroll bar flashing), the select button is used to activate the currently highlighted mode. When in **learn** mode, the select button is used to "learn" the sampled frequency as the tuning reference by assigning the displayed note to the sampled frequency.

## How To Read The Display

The display consists of three areas: the menu selections, the note letters and the Offset Arrows.

- ♦ Note names are indicated in the center of the display. The following note names can be displayed: A, A#, B, C, C#, D, D#, E, F, F#, G, and G# (the chromatic scale).
- ♦ Offset Arrows on either side of the note letter indicate the degree to which the displayed note letter is in tune with the currently selected standard (either 440 or the user-defined preset).



- Offset Arrows are also displayed during learn mode. The two outer arrows indicate the tuner is ready to "listen" for the new reference note. The two middle arrows indicate the tuner has identified the note and is ready to store it in its memory.
- Menu selections are highlighted with the scroll bar behind the menu item. Normal operation is with the scroll bar highlighting 440 mode and the scroll bar not flashing. Pressing the mode button advances the scroll bar to the right and starts it flashing to indicate the tuner is in the *menu* mode of operation. The currently highlighted mode is selected by pressing the select button at which time the scroll bar stops flashing.

#### Self-Test

OnBoard™ designed the Intellitouch™ tuner with a fundamental self-test diagnostic in order to help assure trouble free service for years to come. Self-Test determines whether all the notes, arrows and scroll bars will be properly displayed during use.

The tuner must be off in order to enter the Self-Test program. With the tuner off, press the power button immediately followed by the select button. You will always see all of the elements of the display are turned on (B#, six arrows and three scroll bars) when the tuner is first turned on. The select button must be pressed before the display returns to a normal operation, which is about 2 seconds after the tuner first turns on.

The tuner enters Self-Test with the display showing the note letter A and the Offset Arrows sequencing from left to right, which means from flat to sharp. The tuner will increment upward through the chromatic scale and repeat the test every 62 seconds. Note: the tuner does not automatically turn off during Self-Test operation. You must press the power button to terminate Self-Test and power the tuner off.

If your tuner fails to run the Self-Test diagnostic property, refer to the warranty information contained at the end of this manual for return instructions. Self-Test may not diagnose every problem which may occur in the tuner.

#### Automatic Power Off

In order to conserve battery life, the tuner will power off in two minutes if it detects no incoming notes or button presses. If the tuner is left attached to an instrument that is being constantly played, it will detect notes and will not automatically power off. We recommend you use the power button to turn the tuner off.

### THE MODES

#### How to change modes

Press the mode button to change between modes of operation (*learn*, 440 and *preset*). The scroll bar will begin flashing behind one of the mode names. Advance the scroll bar by pressing the mode button until the scroll bar is flashing behind the mode you desire and press the select button. The scroll bar will stop flashing to indicate the mode is selected.

#### 440 Mode

In 440 mode, the Intellitouch™ will tune the instrument to the internationally recognized A-440 tuning standard.

When the user produces a note on an instrument to which the tuner is attached, the note is "felt" by the tuner and the note is displayed with Offset Arrows which indicate whether the instrument's note is sharp or flat as compared to the same note in an A-440 scale.

#### Learn mode (recalibrating the Intellitouch™ to a custom reference)

Intellitouch™ can use any note produced within a seven octave range (27 cycles through 6,000 cycles) for learning. Simply clip, attach or lay the tuner onto the instrument to which you want to tune, sound a note and let the Intellitouch™ "learn" the note you want to use as your tuning reference.

Follow these four easy steps:

1. Enter learn mode. The display will show the letter A and the two outermost arrows.
2. Select the note you wish to use to teach the tuner (default is A). From this point, each time you press the mode button, the displayed note will increment upwards through the chromatic scale. If you pass the note you want, go around again. Whatever note is showing in the center of the display when you press the select button will be assigned to the pitch being played.
3. Sound the note you want to assign to the displayed letter. The Intellitouch™ will display four arrows when it is ready to "learn" pitch it is detecting.
4. Press the select button to teach the tuner pitch being played. At the moment you press the select button, the tuner will "learn" the pitch being played, assign it to the displayed note and store it in the preset mode. It will automatically change to *preset* mode to indicate it has learned and stored the new reference in memory.

The new reference will remain stored in *preset* mode until you teach the tuner a different reference or replace the batteries.

To exit *learn* mode without learning, turn the tuner off. When you turn it back on again, it will be in 440 mode.

**Helpful Hint:** After the tuner indicates it "feels" the note and is ready for you to press the select button, count 3 seconds before you press the select button. By doing this, you will allow the string to settle down to its fundamental frequency. This is necessary because when you strike a string, it stretches. As it settles down, the string will actually become more flat due to the relaxing of the string. Remember- count to 5 before you tell Intellitouch™ to learn the note by pressing the select button.

#### Preset mode

Preset mode is where the "learned" reference is stored. To use the "learned" reference, use the mode and select buttons to select preset mode. Preset mode is indicated as active when the scroll bar is highlighting preset on the mode menu.

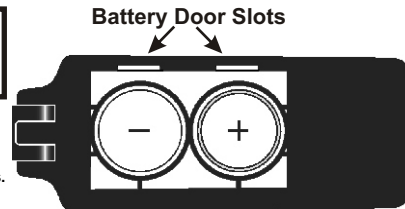
#### Replacing Batteries

The Intellitouch™ uses two CR2032 coin size lithium batteries. Be certain the batteries you buy are lithium. These batteries are commonly found where button or coin cell batteries are sold.

1. Carefully insert a small, flat tool into one of the two slots at the top of the battery door and gently bend the tool until that side of the battery door comes partially dislodged.. Do the same with the slot on the other side of the battery door and the top part of the battery door will pop loose from the tuner body. Lift the battery door away from the tuner.
2. Rotate the tuner until the batteries fall out.
3. Place new batteries into the tuner as is indicated on the outside of the battery door.

**IMPORTANT**  
One battery goes in MINUS side up,  
the other battery goes in PLUS side up.

**HERE IS A HANDY TIP:**  
Look on the outside of the battery door  
for a diagram of how to orient the batteries.



#### Care of Your Instrument

Follow the "Finish Care and Maintenance" guidelines provided by your instrument's manufacturer. Some instrument lacquers are delicate and soft. We recommend not leaving the tuner continuously attached to an instrument for more than 4 hours.