

TROMBONE

TROMBONIST's guide

music of expression
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TROMBONE: TROMBONIST's guide

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TROMBONE Orientation

Welcome to **TROMBONE!**

TROMBONE is a performance instrument for the iPhone. It is a musical instrument in the same vein as a MIDI keyboard, in that it enables you, the musician, to play musical sounds and control other MIDI instruments.

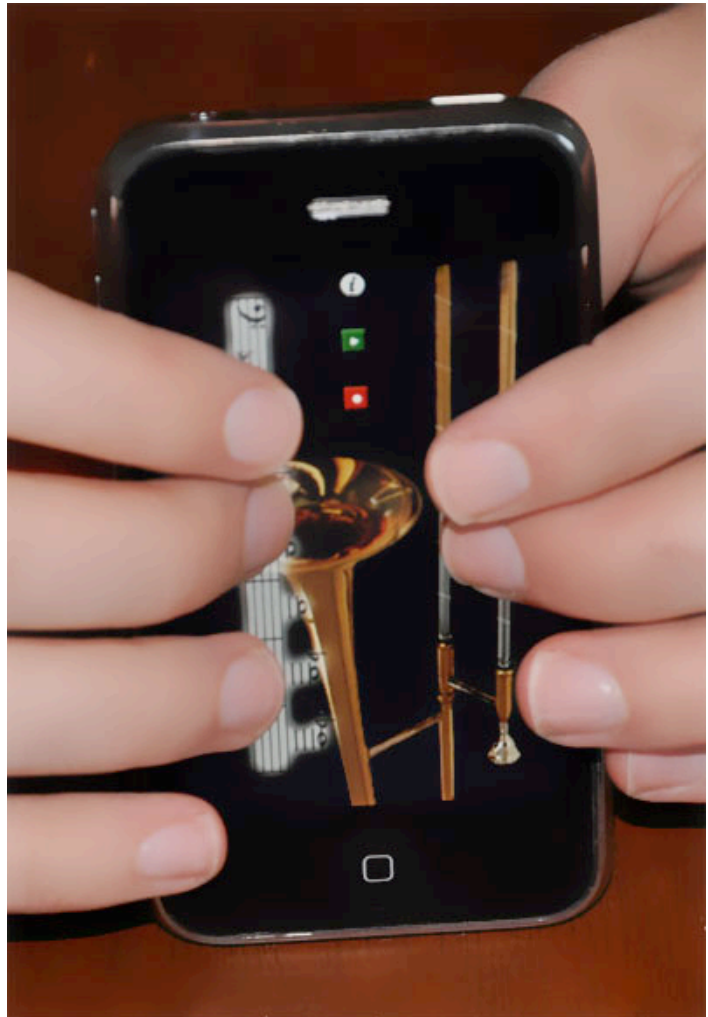
TROMBONE's controls are based upon the principles of a real TROMBONE. You can adjust this control to include breath, touch, and/or tilt control.

TROMBONE includes a sound engine that plays sound samples of a real Bb trombone, a chorus of three trombones playing in unison, and a trombone with a cup mute inserted. You can play the whole range of the TROMBONE smoothly with the result sounding satisfying and realistic.

Like all **music of expression instruments**, TROMBONE includes the Visual Synth. You can create your own sounds with this "additive" synthesizer, adding reverb, tweaking the low-pass filter, and sculpting the characteristic of the sound wave.

You can control MIDI wirelessly with TROMBONE. That means you can control Reason, Logic, Garageband, SONAR, and any number of other MIDI applications that include more advanced synthesizers and samplers that take advantage of the power of your home computer.

Finally, you can record your TROMBONE playing and upload it online. You can download other TROMBONE performances and play them, and watch how the performer has played as the interface animates just as he or she did during the recording. You can also head to **musicofx.com** to check out performances in your browser, send them in emails, or embed them in your blog!



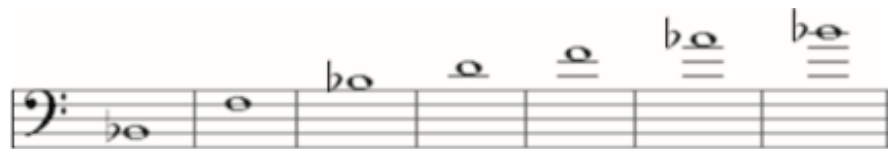
Playing TROMBONE

[!] Note: If TROMBONE is placed on a surface, you might need to have at least a thumb touching the outside of the device somewhere, otherwise the iPhone's multi-touch sensors might not catch all your touches. (Weird, huh?)

TROMBONE's controls are based upon the principles of a real TROMBONE. Simply put, two things control pitch: lip pressure and the slide.

Lip pressure is simulated by the **musical staff** on the left: it selects the "overtone" of the fundamental. This overtone is called a **partial**.

While that is enough to play some music, it would be nice to reach the pitches between the overtones! That's where the **slide** come in.



The slide change the effective length of the TROMBONE, changing its "fundamental" pitch.

The further out the slide is, the lower the resulting note.

There are **seven slide positions**.

First position is the the slide pulled all the way in.

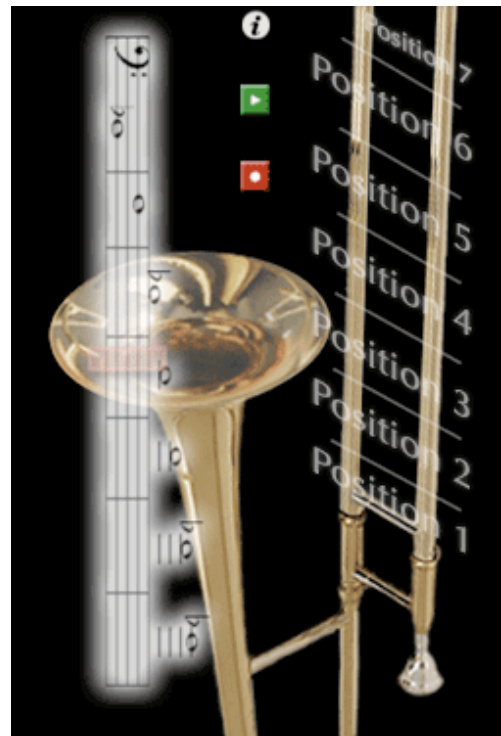
Seventh position is the slide pushed all the way out.

The other five positions are distributed in between. First position plays the note indicated by the partial. Second position plays one half-step down from that partial; third position plays two half-steps down, and so on, to seventh position, which plays six half-steps down from the partial.

A comprehensive table of slide positions for each note is in the **Slide Positions** section.

The details of controlling the lip pressure/selecting the partial is explained in the next session, the **Control Interface**.

The play and record buttons control recording and playback, see TROMBONE Online for more information on what to do with recordings.



Configuring TROMBONE control

Press the (i) info button to access the TROMBONE control configuration screen.

Volume control refers to how you will control the loudness of TROMBONE. [Breath] enables you to blow into the iPhone's speakerphone mic or a connected headset's mic. [Touch] enables a volume scale. [Tilt] controls TROMBONE's volume when you tilt it.

Partial control refers to the control of the partial, or overtone, of the TROMBONE. [Touch] lets you touch the partial scale to select one. [Tilt] controls is through tilting the device.

Slide control refers to control of the slide. [Touch] lets you drag the slide around with your finger, while [Tilt] changes the slide position as you tilt the device forward and back.

Show Slide Positions enables lines that delineate the seven slide positions on TROMBONE's slide.

Snap to Slide Position makes the slide snap to each position exactly. (Note that the pitch "snappiness" is controlled by **Portamento** in the Sound tab.)

Breath Sensitivity and **Tilt Sensitivity** allow you to tweak how quickly and severely the iPhone will react to breath and tilt control.

Zero-Tilt Partial refers to the partial that will be selected when the device is flat and [Tilt] control is selected under **Partial Control**.

Note that selecting [Touch] for both **Breath Control** and **Partial Control** will enable an all-touch mode. Touch the partial scale to "blow" TROMBONE and release the touch to silence it.

Press **Reset** to restore TROMBONE to the settings it had when you first installed it.

How to play TROMBONE will open this manual.



Fingerings

Down the left hand column is the partial scale for TROMBONE. These are the notes that would result on a real TROMBONE as you loosened and tightened your lips without moving the slide out. Each partial has the 7 possible pitches from the slide positions given above them.

Note that first position is the slide all the way in, while seventh position is the slide all the way out.

Some notes have multiple combinations of slide position and partial.

Note that as you use higher partials, you only need to use the first few slide positions.

The image displays seven slide positions for trombone, labeled Position 1 through Position 7, and partial scales for each. The positions are indicated by red vertical lines and yellow labels at the top. The partial scales are shown in bass clef staves, with notes grouped by partials. Red vertical lines connect the notes in the partial scales to their corresponding slide positions. The first partial (1st) is shown in a red box on the left. The notes in the partial scales are: Position 1: 1st partial (Bb), 2nd partial (Bb), 3rd partial (B), 4th partial (Bb), 5th partial (B), 6th partial (B#), 7th partial (Bb), 8th partial (Bb); Position 2: 1st partial (B), 2nd partial (B), 3rd partial (Bb), 4th partial (B), 5th partial (Bb), 6th partial (B), 7th partial (Bb), 8th partial (Bb); Position 3: 1st partial (Bb), 2nd partial (Bb), 3rd partial (B), 4th partial (Bb), 5th partial (B), 6th partial (B#), 7th partial (Bb), 8th partial (Bb); Position 4: 1st partial (B), 2nd partial (B), 3rd partial (Bb), 4th partial (B), 5th partial (Bb), 6th partial (B), 7th partial (Bb), 8th partial (Bb); Position 5: 1st partial (Bb), 2nd partial (Bb), 3rd partial (B), 4th partial (Bb), 5th partial (B), 6th partial (B#), 7th partial (Bb), 8th partial (Bb); Position 6: 1st partial (B), 2nd partial (B), 3rd partial (Bb), 4th partial (B), 5th partial (Bb), 6th partial (B), 7th partial (Bb), 8th partial (Bb); Position 7: 1st partial (Bb), 2nd partial (Bb), 3rd partial (B), 4th partial (Bb), 5th partial (B), 6th partial (B#), 7th partial (Bb), 8th partial (Bb).

TROMBONE's Sound

TROMBONE includes three samples sets, a standard Bb trombone, a three-trombone ensemble, and a trombone with a cup mute inserted. These sounds were recorded from a real musician playing real instruments, and TROMBONE's sound engines knits together the recordings to create a smooth and realistic result when you play TROMBONE.

Access the sound control view by pressing the (i) button and selection the Sound tab.

Select [TROMBONE] to play with the sampled TROMBONE, muted TROMBONE, or flugelhorn. The **Octave** and **Key** settings will automatically set. (You can still change them.)

Changing the **Octave** setting will raise or lower the pitch of TROMBONE by the number of octaves you select.

Similarly, **Key** will alter the tuning of TROMBONE. Setting **Key** to Bb means playing a C on TROMBONE results in a concert Bb, or down a whole step. A Eb setting would transpose TROMBONE up three half steps.

Tuning adjusts the micro-tuning of TROMBONE.

Portamento refers to how fast the pitches change from one to another. A high **Portamento** creates a sliding, glissando sound, while a low **Portamento** can sound unnatural and machine-like.

Reverb is the level of echo in TROMBONE's sound. High **Reverb** values simulate a large hall or church, while a low **Reverb** simulates a sound booth or small room.



The Visual Synth

Select [Synth] in the sound control view to reveal the synth interface.

TROMBONE includes music of expression's Visual Synth. This is an additive synthesizer that can combine up to two customized waveforms that you have designed yourself. Both Synth 1 and Synth 2 can be configured with their own tunings and wave characteristics.

Each Synth is set to a waveform type. [Sine] refers to a gentle S curve and creates softer, more organic sounds. Triangle creates a zig-zag wave like a mountain range, and Square creates a wave with corners, like a cityscape.

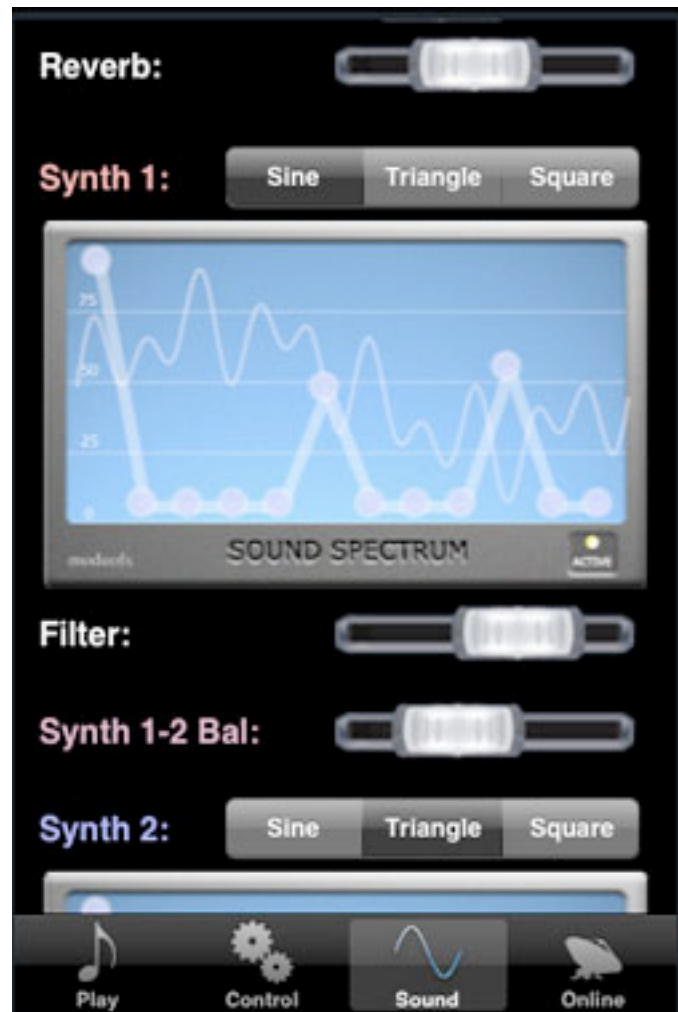
In the **Sound Spectrum** window you can configure the strength of each overtone node. A node at the bottom of the window means that overtone is not being played, while a node dragged to the top will accentuate that overtone as much as possible. Not sure what that all means? Feel free to explore and experiment!

Filter applies a low-pass filter to the entire sound. The higher you set the filter, the less "edgy" the resulting sound.

Synth 1-2 Bal refers the balance between Synth 1 and Synth 2. Dragging this all the way to one side or the other will mean you hear only one synth, while middle settings mix the two. Notice that the color of the **Synth 1-2 Bal** label changes depending on the mix. The bluer it is, the more Synth 2 is in the mix.

Again, **Portamento** refers to how fast the pitches change from one to another.

Reverb is the level of reverberation (echo) in TROMBONE's sound.



MIDI

TROMBONE can control MIDI instruments and MIDI-powered software, including Logic, SONAR, Reason, Garageband, and more. With the help of the musicofx MIDI tool, available at musicofx.com, you can use TROMBONE to take advantage of all the myriad synthesis options your music studio offers.

To use TROMBONE as a MIDI instrument, select the MIDI option in the Sound tab.

The basic tuning options **Octave** and **Key** remain, and will affect the pitch being sent to your MIDI setup.

moxChannel refers to the moxChannel in the musicofx MIDI tool. The musicofx MIDI tool accepts up to 8 individual connections, identified by their moxChannel.

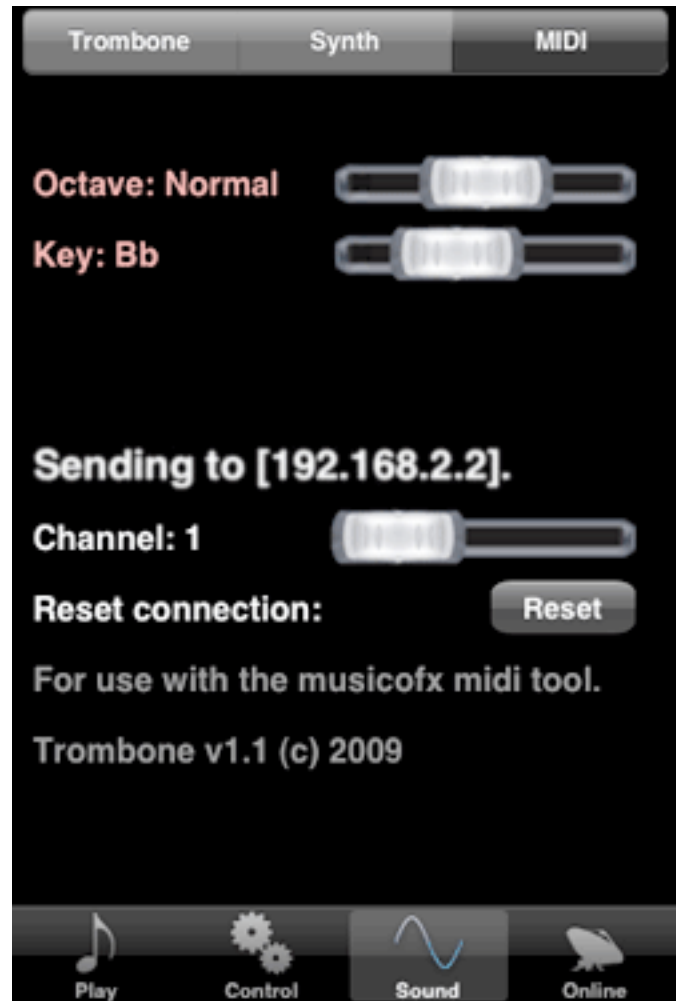
Reset connection will terminate any existing MIDI connection and try to establish a new one.

When TROMBONE is searching for a new connection, the text “**Searching for connection...**” will be displayed. When it is connected, the text “**Sending to [192.168.2.2]**” will be displayed (with your IP address substituted in.)

Additionally, in the instrument view, an icon will be displayed in the upper-right hand corner of the interface indicating the status of the MIDI connection.

You can get musicofx MIDI tool on the musicofx website --

(<http://www.musicofx.com/midi-tool.php>) where you can also find more information on configuring your computer setup for music of expression instruments, including video demos and tutorials.



TROMBONE Online

TROMBONE has the same online sharing options included in other music of expression instruments. Not only can you record and play your own recordings, but you can download others' performances, listen to them, and rate them as you like.

To record yourself playing, press the red Record button in the Instrument View. Press either the red Record button or the green Play button to finish the recording.

The recording will be saved if it is longer than 5 seconds. You can only save up to 8 recordings on your device, so be sure to upload your best takes online!

In the Online tab, you can see your saved recordings. Access the Online tab by pressing the (i) button in the Instrument View.

The **red "X"** deletes the recording.

The **blue arrow** uploads the recording.

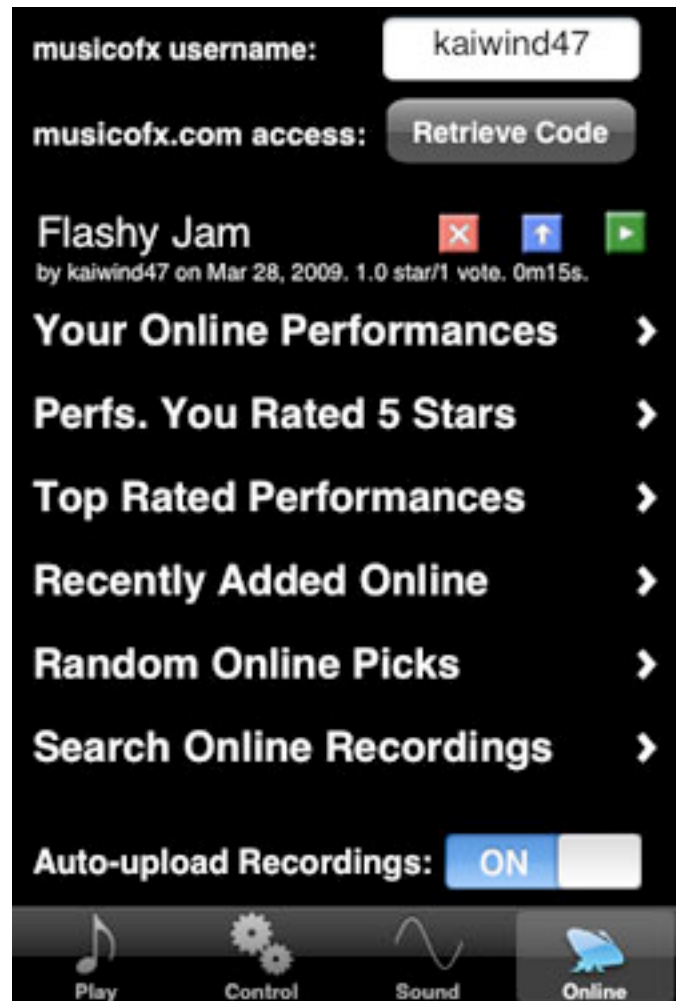
The **green triangle** play button will play the recording back. After listening to a recording, you will be prompted to vote on it automatically.

Selecting anywhere else on the recording will bring up the **Recording Info** view. (See below).

If **Auto-upload Recordings** is on, the recording will be uploaded and saved on the musicofx servers.

The folders "**Your Online Performances**", "**Top Rated Performances**" and so on let you explore the online performances.

Press **Activate** to activate your instrument's name online and get your online login code. You can use this code to log in to the forums at musicofx.com in addition to tracking all your saved online recordings.

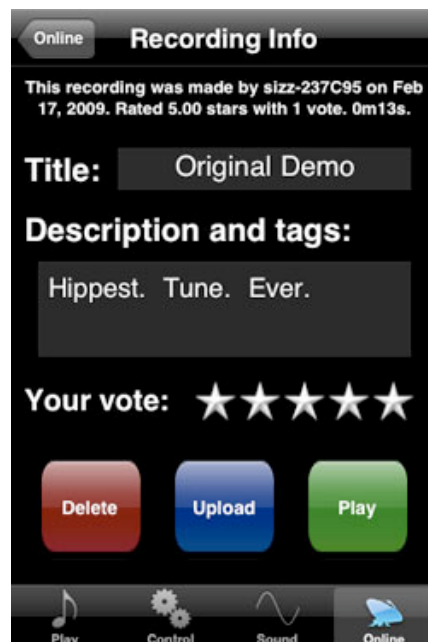


The **Recording Info** view shows the recording's attributes up close. Here, you can edit the title and description of your own recordings, and vote on others'.

Note that in order to vote on a recording, you need to listen to it! After listening to a performance, you'll automatically be prompted to vote on it.

Large versions of the **Delete**, **Upload**, and **Play** buttons have the same effect as the small versions in the **Online** view.

At musicofx.com, you can continue to edit your recordings' information, listen to other performances and vote on them, and get information on how to email links to the recordings and embed them in your website or blog.



Beyond TROMBONE...

TROMBONE is only one of a series of instruments in the music of expression series. These instruments are great for learning the principles of their real-life counterparts, and they're powerful enough to be expressive tools for musicians who already have some understanding.

music of expression's series of instruments currently includes:

TRUMPET - the first in our series of instruments, simulating a brass TRUMPET.

clarinet - toot away on this instrument -- enjoy the woody warmth of the clarinet sound.

TROMBONE - a slide trombone for your iPhone or iTouch!

flute - an expressive flute, featuring a variety of flute sample sets.

Saxophone - jam out on musicofx's flexible and expressive Saxophone!

Keep an eye on musicofx.com as we continue to create the best musical instruments for the iPhone! Thanks for playing TROMBONE, and good luck in your musical adventures!