# tonespace 1.0 overview

## *What is tonespace?*

You can best think of tonespace as a different, more intuitive musical keyboard.  The keyboard is displayed as a grid or *space* on the screen.  You play it simply using a mouse.

Tonespace tracks your mouse movements and tries to fit chords wherever you wander in the space. Many different spaces exist, each with a different tonal character, leading to different chord progressions.
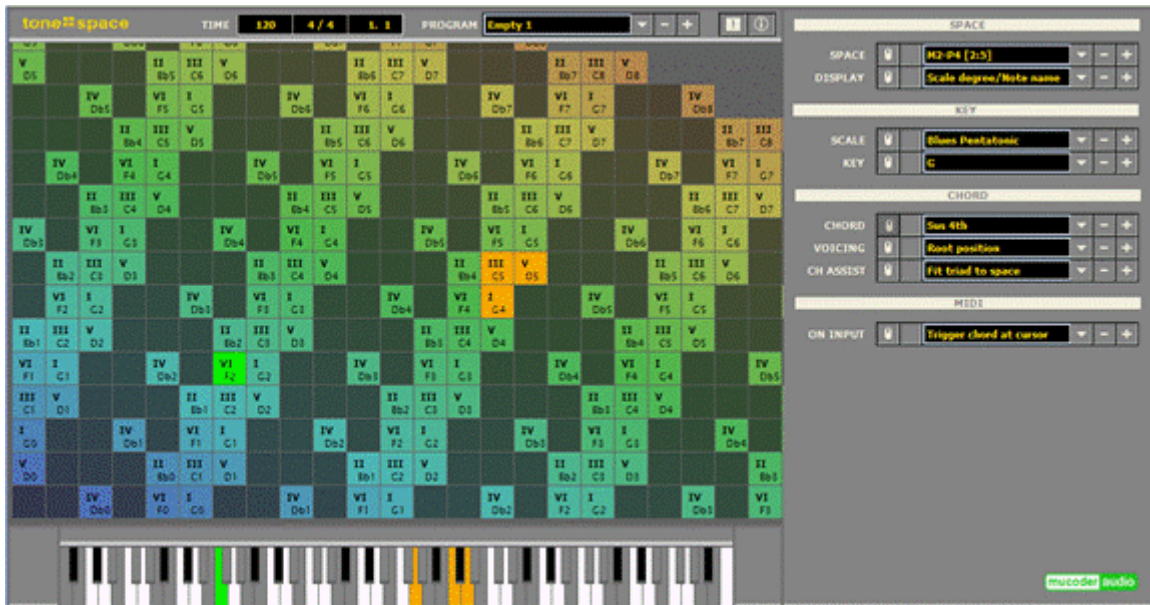


A regular piano keyboard mimics the chords played in the space. Which comes handy if you'd like to play them outside tonespace later.

## Show me a demo!

Here is a demo of tonespace playing the blues. A bass line midi track is fed into tonespace (green highlights) and the musician plays along in the tonespace grid (orange highlights). Tonespace is adding the chords depending on where the musician points in the space. Note that, even with the help of tonespace, this is a very bad musician (☺). You can certainly do better.

Demo video: wmv,  audio: mp3

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**Want to reproduce this demo yourself?**

1. set **SPACE to M2-P4 (2:5)**

2. set **DISPLAY** to **scale degree/midi note**

3. set **SCALE** to **Blues Pentatonic**

4. set **KEY** to **G** (or choose another one you like)

5. set **CH ASSIST** to **Fit triad to space** (or dyad, tetrachord)

6. set **ON INPUT** to **Trigger chord at cursor**

7. You also need a midi track with a bassline (or wathever) that you feed into tonespace (like you would feed a normal synth)

8. Instead of the input track you can also play an external keyboard live

9. don't forget to connect tonespace midi-out to your synth (see section on setting up DAW/hosts on how-to)

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## Is this stuff difficult to learn?

No! Deep knowledge of music theory is not needed to start playing and have fun with tonespace.  But we cannot exclude that you'll learn something about scales and chords while doing it  (like the author did ☺).

People interested in theory will certainly also find something of interest here. If you are curious, tonespace was inspired by some ideas in music research

about distributing pitch class intervals across 2-D spaces (Holland, Balzano, Longuet-Higgins). See the link below for acknowledgments.

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**Tip**

- Hover over any parameter and a tooltip will show you the meaning of the parameter and the selected value

- Click the little mouse wheel symbol to the left of each parameter. You can then use the mouse wheel to quickly change that parameter without leaving the grid

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## *How does it work? And what do I need to run it?*

Technically tonespace is a midi VSTi plug-in (Windows-only currently). When you play, it generates midi output. This output you can then feed into another instrument capable of turning midi into sound, like a synth plug-in. Or you could record the chord progressions you played to a midi track.
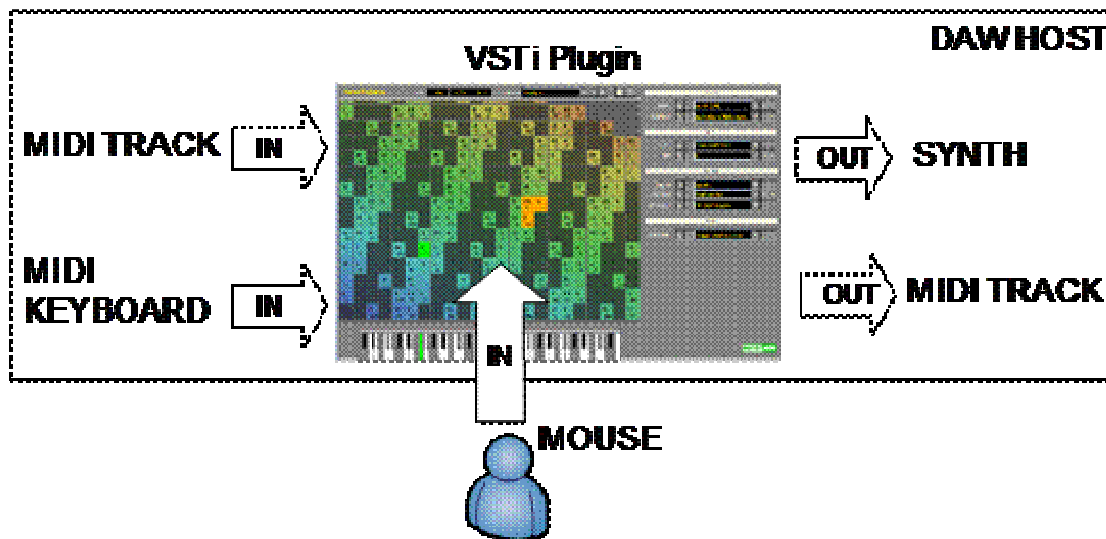


Note that you need a host application that is capable of routing VSTi midi output to synths. It has been tested with *Ableton Live 5* and *Cubase LE/3SX. Sonar 5.2* or higher should work theoretically as well. If you don't own one of those, a great little host is *SAVIHost*. Please see the web link below for more information on using tonespace with a host.

Tonespace can also handle incoming midi. This midi input is displayed on the tonespace grid, which is useful for analyzing harmonic content of a piece.

The midi input can also be used to trigger chords for you. Or it can guide you visually to interesting locations in the space while you play live.

Tonespace is written in a mixture of C++ and C#, so the .NET 2.0 runtime is needed as well.

## *Setting up tonespace with DAW hosts*

Currently tonespace has been tested with

- Ableton Live 5.2
- Steinberg Cubase LE
- Steinberg Cubase SX 3
- EnergyXT
- SAVIHost
- Fruity Loops Studio 6

Please see this page for details on how to set up each host

## *Features at a glance*

| Midi input choices | • trigger chord at note<br>• trigger chord at cursor (where user is)<br>• pass-through<br>• highlight notes (silent) |
|---|---|
| Midi output choices | • all played chords are routed to midi output<br>• midi input can be routed to output |
| Rich combinations | • over 50 different grids<br>• 14 scales<br>• 18 keys<br>• over 30 chord types<br>• 15 chord voicings |
| Display | • note name adapted to scale/key<br>• midi note numbers<br>• I-VII scale degrees<br>• pitch class |
| Special | • automatic fitting of chords to position of user in space<br>• auto mapping of space chords on piano keyboard and vice versa<br>• customizable mouse-wheel to parameter mapping |

## *Download latest version*

www.mucoder.net/tonespace/download

## *Where can I get more information, product updates, etc?*

For more information, please visit www.mucoder.net/tonespace

Contact leo.olivers@mucoder.net

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## *Acknowledgments*

tonespace idea based on Harmony Space (c) 1987 - 2006 Simon Holland
harmonyspace.co.uk
mcs.open.ac.uk/sh2
s.holland at nospamthanks open dot ac dot uk

Resources:
New cognitive theories of harmony applied to direct manipulation tools for novices,
Simon Holland, 1987
Artificial Intelligence in music education : a critical review, Simon Holland, 1999