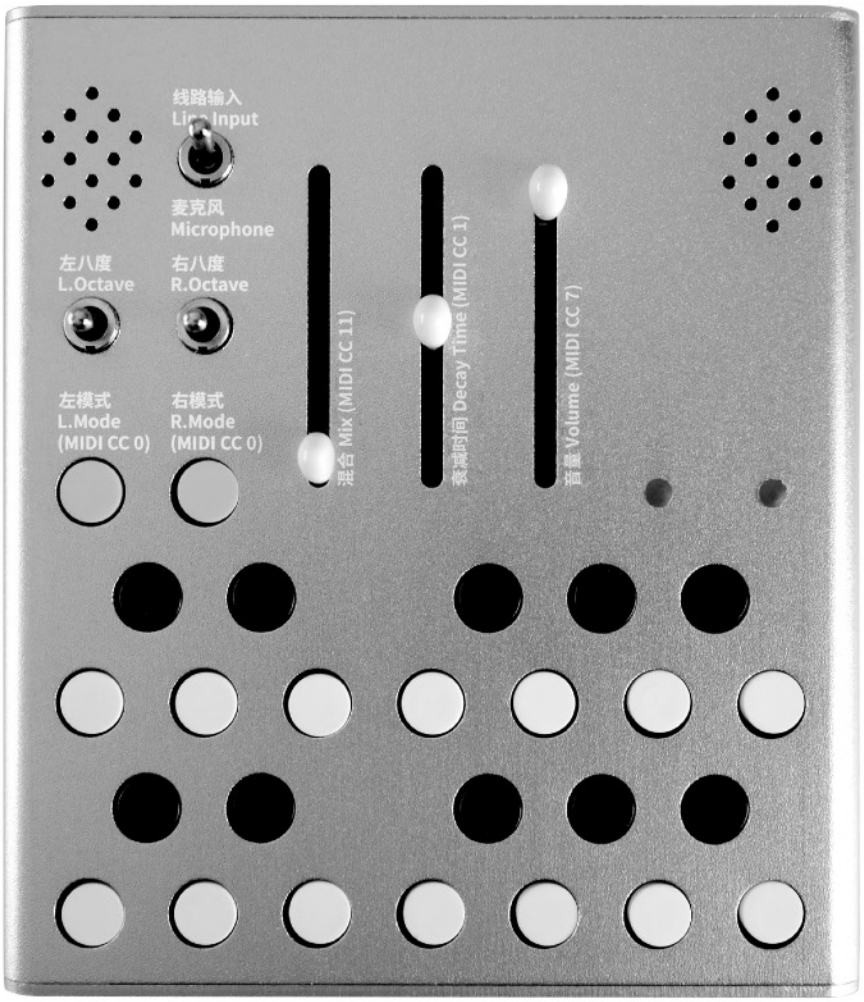

线路输入
Line Input
麦克风
Microphone
左八度
L.Octave
右八度
R.Octave
左模式
L.Mode
(MIDI CC 0)
右模式
R.Mode
(MIDI CC 0)
混合 Mix (MIDI CC 11)
衰减时间 Decay Time (MIDI CC 1)
音量 Volume (MIDI CC 7)

Notice:

- **Start from low volume;**
- **Beware of feedback with speakers and headphones;**
- **Keep away from moisture;**
- **DO NOT connect modular synth level signals directly to Wingie.**

Thank you for purchasing Wingie2!

Wingie2 is a handheld stereo resonator with on-board microphones that also doubles as a development platform. It allows you to interact with and enrich sounds from instruments and vocals as well as the sonic environment around you.

Power

Wingie2 is powered by a USB Type-C cable. You can use a phone charger or a power bank. The first batch of Wingie2 (produced before May, 2022 without screws on the back) doesn't accept USB C-C cable. Please use a USB A-C cable.

If digital noise appears, try a different power source or a ground loop isolator. After powering up, there is about a 3-second fade-in from silence to full volume.

Audio Inputs

The mics pick up sounds from the air. It's very easy to get feedback with speakers. You can play with it or use headphones to avoid the feedback (be careful of too much volume). You may listen to the environment around you through Wingie2, play Wingie2 as a percussion instrument, or turn anything into one. Feel free to experiment.

Wingie2 line input is 3.5mm Stereo TRS. **Avoid very hot input signals**. Lower your input signal level (not the volume slider on Wingie2) when the distorted dry line-in signal leaks into output when the sound source is Mic, or when the Mix is 100% wet.

Audio Output

Wingie2 audio output is 3.5mm Stereo TRS. It is capable of directly driving headphones.

All controls are marked on the Wingie2.

Both **MIX** and **VOLUME** faders control **pre-resonator** signal levels, which allows the decay portion of the resonator to complete.

The right channel is an octave higher than the left channel in identical octave switch position.

Slider Functions	
Mix	Ratio of dry / wet signals
Decay	Decay of resonators, from 0.15s to around 10s.
Volume	Input volume control

Modes

savable param

Wingie2 has 4 modes. Cycle through them with the mode buttons. The current mode is indicated by the LED color.

Mode	Polyphony	Note Keyboard	Octave Switch Behavior
Poly (White)	Polyphonic (up to 3 notes)	Cycle through 3 voices.	Affects next played note. Use octave switches to mix notes from different octaves.
String (Yellow)	Monophonic	Press multiple notes together to set a sequence. Step advances when input level passes the threshold.	Instant
Bar (Red)			
Cave (Purple)		(See next page)	Change caves (3 in total)

Global Tuning affects Poly, String and Bar modes.
(factory setting A3 (69) = 440Hz)

To adjust Global Tuning, see page 10.

Customizable Caves

savable param

Toggle Mute / Unmute

Tune up corresponding resonators

Tune down corresponding resonators

Unmute all resonators

Mute all resonators

Same operation for both channels

Customize Your Caves

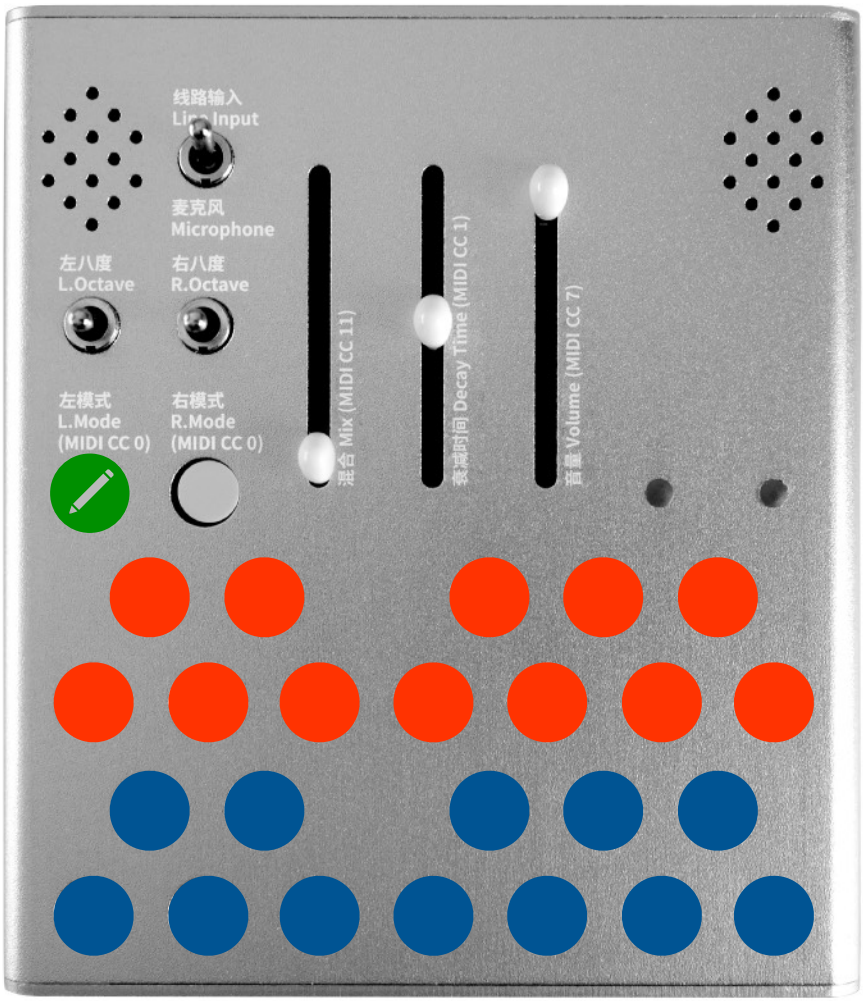
Tap Sequencer Threshold

savable param

+ Right Channel Threshold

+ Left Channel Threshold

C, C#, D ... → B = low → high



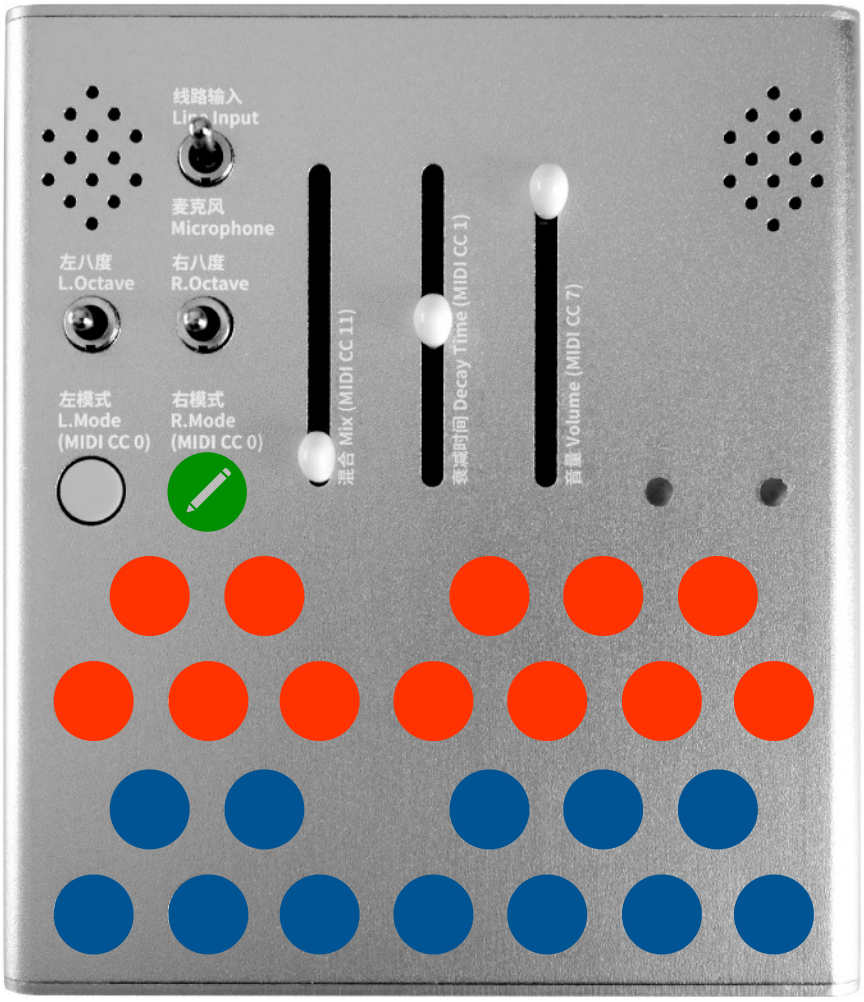
Setting Pre / Post Clipper Gain

savable param

+ Post : Resonator Volume

+ Pre : Amount of SATURATION

C, C#, D ... → B = low → high
Adjust Pre for a satisfying tone, and adjust Post to obtain a comfortable behavior on the Dry / Wet fader.



MIDI Channel:

MIDI Channel	Note	CC
User Adjustable (Factory Setting 1,2,3)	Left channel	Left channel
	Right channel	Right channel
	Alternate between L/R channels	Left & Right channels

MIDI Note:

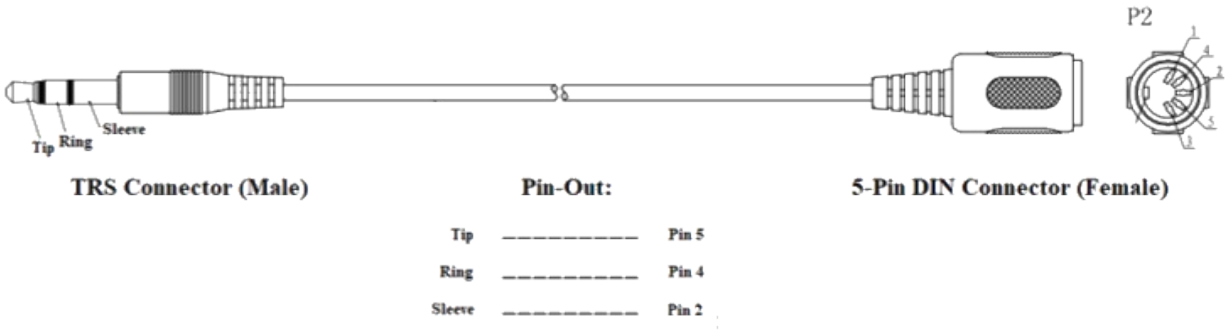
- Wingie2 accepts Note On data (Note Off is ignored);
- Internal tap sequencer works only with the on-board keyboard;
- Fast change of notes with large intervals may result in loud output.

MIDI CC (Control Change):

- The incoming MIDI CC overwrites the corresponding fader setting. By moving the fader, the fader setting becomes valid again.
- Wingie2 accepts 14-bit MIDI.

CC 0	0-30 Polyphony	31-63 String	64-95 Bar	96-127 Cave
CC 11 (MSB) CC 43 (LSB)	Mix (Dry / Wet)			
CC 1 (MSB) CC 33 (LSB)	Decay Time			
CC 7 (MSB) CC 39 (LSB)	Volume			

The MIDI port is designed to the TRS standard by MMA Specification. Please use a MIDI cable of the following type :



Development with Wingie2

Wingie2 can be used as a development platform. The firmware is open source.

For instructions on how to build the compiling environment & firmware download, use the link below:

https://github.com/mengqimusic/Wingie2

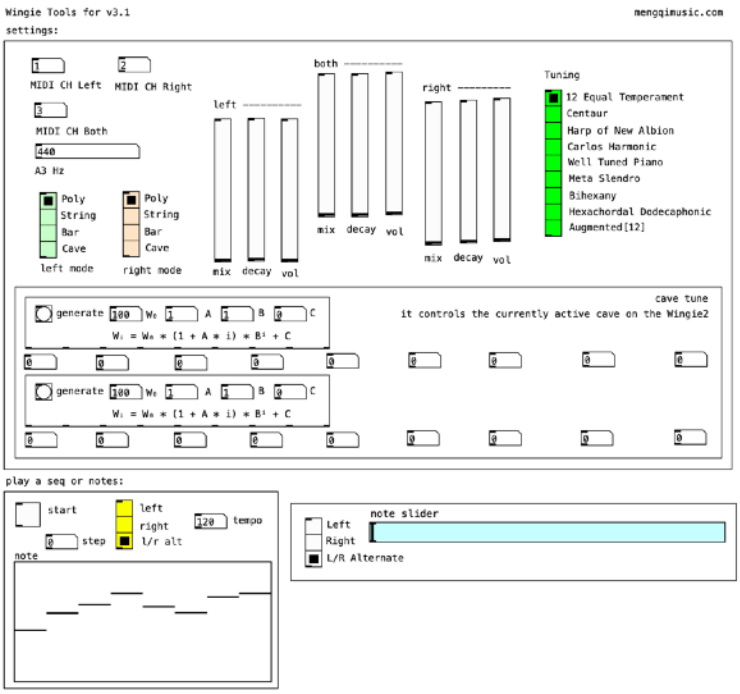
The firmware is built in 2 steps:

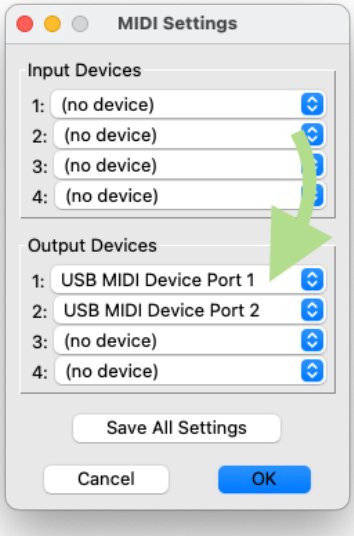
- DSP section written and compiled in Faust
- Arduino sketch that connects and defines interface functions

You can modify the scale, customize your control interface or redefine the whole unit.

Global Settings

MIDI Channels, Global Tuning, Alternative Tuning & Cave Mode Frequencies can be set via the Wingie Tools. You can download Wingie Tools from Meng Qi's Github. Use pd to open the file.





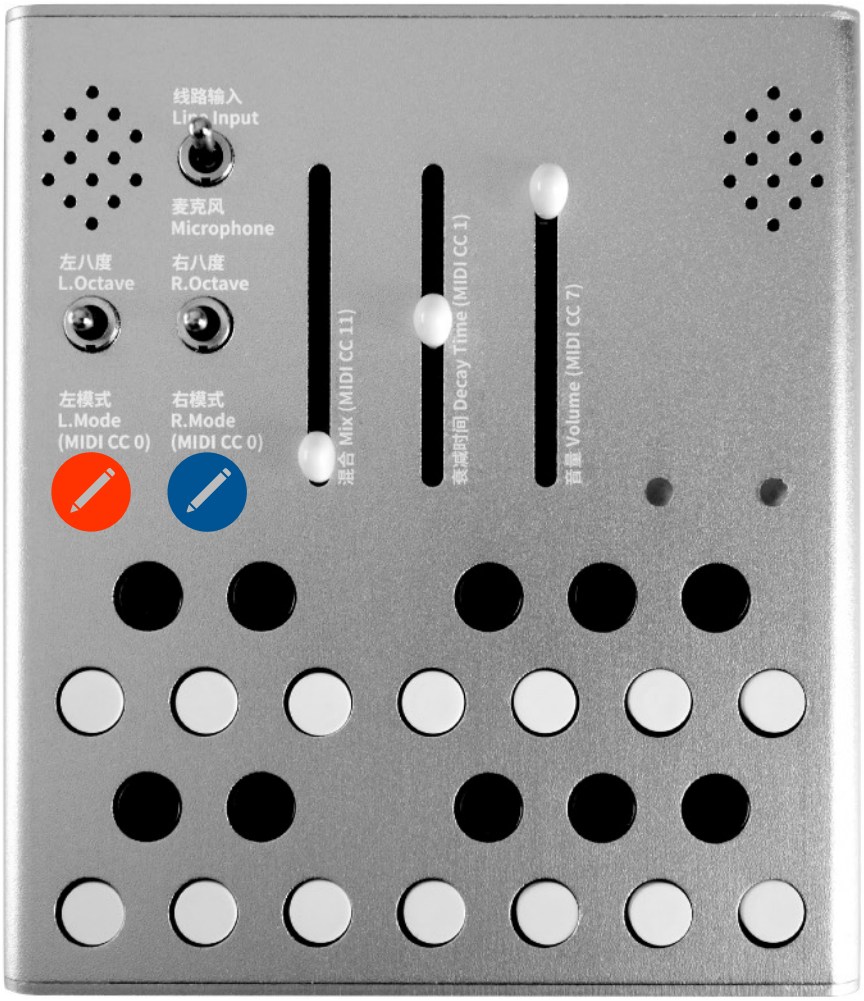
In the "Media / MIDI Settings" menu, select the MIDI port connected to Wingie under "Output Devices"
A large frequency jump will result in loud output. Make sure to turn down Volume & Decay before adjustment

MIDI Data for Global Settings			
MIDI Ch	MIDI CC	Function	Factory Setting
16	20	MIDI Channel for Left	1
	21	MIDI Channel for Right	2
	22	MIDI Channel for Both	3
	23 (MSB) 55 (LSB)	Global Tuning Offset (from 440Hz) Range is ± 81.92Hz Resolution is 0.01Hz	0.00
15	23-31 (MSB) 55-63 (LSB)	Right Channel Tuning Selected Cave	
14	23-31 (MSB) 55-63 (LSB)	Left Channel Tuning Selected Cave	

Save Settings

Hold both MODE buttons for 3 seconds to save. LEDs change colors when holding, and flash quickly to indicate success.

This operation may occasionally introduce a short glitch to the sound. It's not recommended to save settings during recording or live performance.



Alternate Tunings

By default, Wingie2 uses standard Western tuning (12 Equal Temperament).

As of version 3.1, eight additional tunings are available. These are the currently available tunings (other tunings are possible via a source code change and a new firmware build):

- Centaur (Kraig Grady)
- Harp of New Albion (Terry Riley)
- Carlos Harmonic (Wendy Carlos)
- Well-Tuned Piano (La Monte Young)
- Meta Slendro (Grady/Wilson)
- Bihexany (Gene Ward Smith)
- Hexachordal Dodecaphonic (Paul Erlich)
- Augmented[12] (Mike Smith, Paul Erlich)

Alternate tuning is enabled in two ways:

- By holding down the **left Mode button** when starting the device;
- By using MIDI. The advantage of using MIDI is that it is unnecessary to restart the device, allowing the tuning to be changed on the fly.

Alternate tuning also affects Caves mode. See below for details.

Alternate tuning honors the Global Tuning (A3) setting.

Switch Tunings at Startup

Hold down the **left Mode button** and plug in the USB cable. The positions of the sliders will determine the tuning:

Left Mode	Right Mode	Left Slider	Middle Slider	Right Slider	Tuning
Release	Hold				12 Equal Temperament
Hold	Release	Down	Down	Down	Centaur
		Down	Down	Up	Harp of New Albion
		Down	Up	Down	Carlos Harmonic
		Down	Up	Up	Well Tuned Piano
		Up	Down	Down	Meta Slendro
		Up	Down	Up	Bihexany
		Up	Up	Down	Hexachordal Dodecaphonic
		Up	Up	Up	Augmented[12]

For more information regarding tunings, see wingie_tuning_notes.pdf

Switch Tunings via MIDI

Channel	CC	Value	Tuning
13	23	0	12 Equal Temperament
		1	Centaur
		2	Harp of New Albion
		3	Carlos Harmonic
		4	Well Tuned Piano
		5	Meta Slendro
		6	Bihexany
		7	Hexachordal Dodecaphonic
		8	Augmented[12]

A TouchOSC template by Dave Seidel: wingie_tuning.tosc

Caves in Alternate Tuning

When you enable alternate tuning, the caves are also tuned to match your selected tuning.

To accommodate all 12 pitches, the caves are arranged so that the left channel uses the even-numbered scale tones, covering one and one-third octaves:

```
C, D, E, F#, G#, A#, C', D', E'
```

The right channel uses the odd-numbered scale tones, also covering one and one-third octaves:

```
C#, D#, F, G, A, B, A#, C#', D#', F'
```

The three-position toggles switch between three octaves, similar to Poly, String, and Bar modes. However, the left and right caves are always in the same octave, so all scale pitches are covered across the two sides.

Saving the tuning setting

The current tuning configuration is saved along with other settings when you simultaneously hold down both Mode buttons, as described in the manual. On the restart, your tuning configuration will be restored.

Dave Seidel contributes to the Alternative Tuning feature.

Playing Tips:

1. Play Wingie2 as a percussion instrument;
2. Take Wingie2 out to play with ambient sounds;
3. Use with all sorts of acoustic instruments;
4. Play with feedback with speakers;
5. Create feedback with effectors;
6. Use with a drum machine to trigger the tap sequencer for note sequences;
7. Use an external cardioid mic and line-in to avoid feedback in a live performance.

..... (for you to explore)

Thanks to:
Roy & Janet for the Wingie description and manual proofreading;
Annqi for the saying on the back of Wingie2;
Dave Seidel for the Alternative Tuning function.

...and there is much on the **Horizon**.

Find Me:

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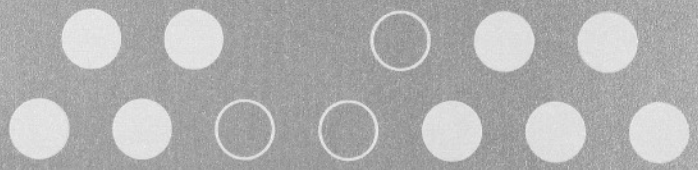
Instagram: instagram.com/mengqimusic
Synthesis Minority: space.bilibili.com/4485929

小心回授与高频声音，保持低音量开始。
Beware of feedback and high frequencies. Start with low volume.

输入输出均为立体声，输出可直连耳机。MIDI 通道：左声道为一，右声道为二，左右交替为三。
Both audio jacks are stereo. The output can be connected to headphones.
MIDI Channels : Left - 1, Right - 2, Alternating - 3.

模式 Mode	复音 Polyphony	音符键盘 Note Keyboard	八度开关 Octave Switch
复音 Polyphony (白 White)	三复音 3 Note Polyphony	循环控制每个复音 Cycle through voices	影响下一个音符 Affect next note
琴弦 String (黄 Yellow)	单复音 Monophonic	同时按下多个音符设定音序。 Press multiple notes together to set a sequence.	即时 Instant
音块 Bar (红 Red)			
山洞 Cave (紫 Purple)		静音状态切换 Toggle Mute	

特殊模式下的有效按键：
Functional keys in Special Mode:



在休歇沉寂中爆发，与爱共振之音会被听见。
For what break out in tongues of silence, the note resonating with love will not be unheard.