

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



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)

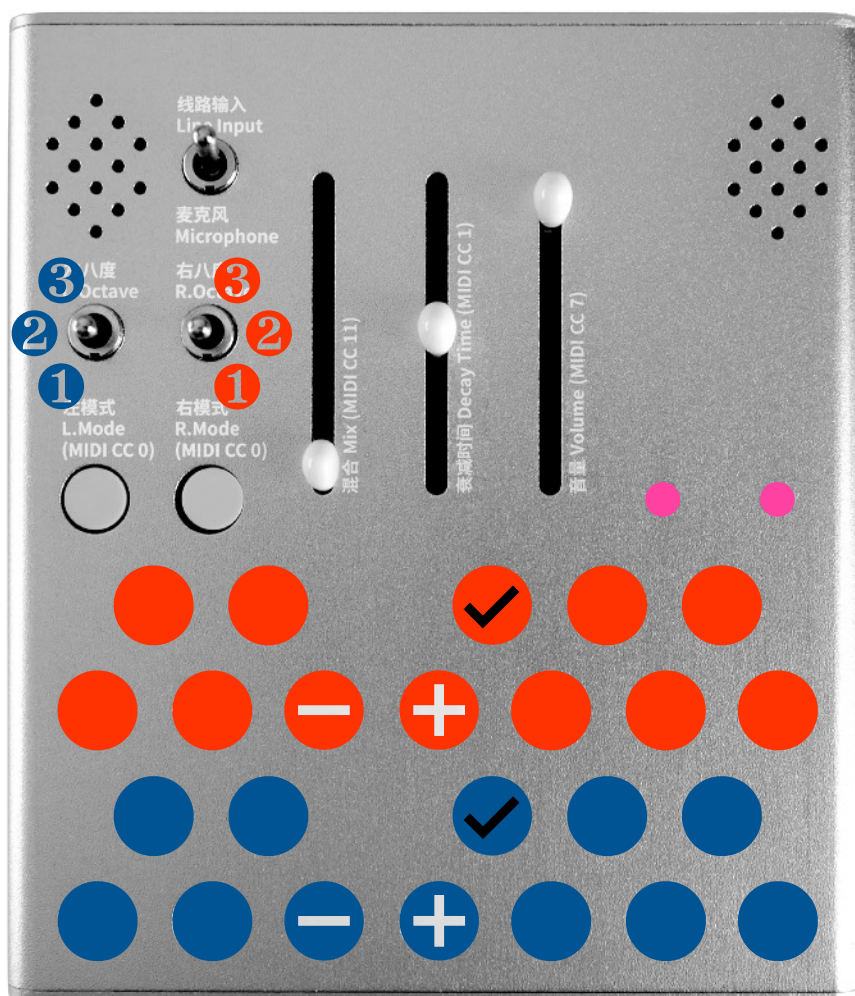
Global Tuning affects Poly, String and Bar modes.
(factory setting A3 (69) = 440Hz)

To adjust Global Tuning, see [page 10](#).

Customizable Caves



-  Toggle Mute / Unmute
-  +  Tune up corresponding resonators
-  - +  Tune down corresponding resonators
-  Unmute all resonators
-   L/R channel can be tuned separately
Tuning and mute states can be saved



Customize
Your
Caves



Tap Sequencer Threshold

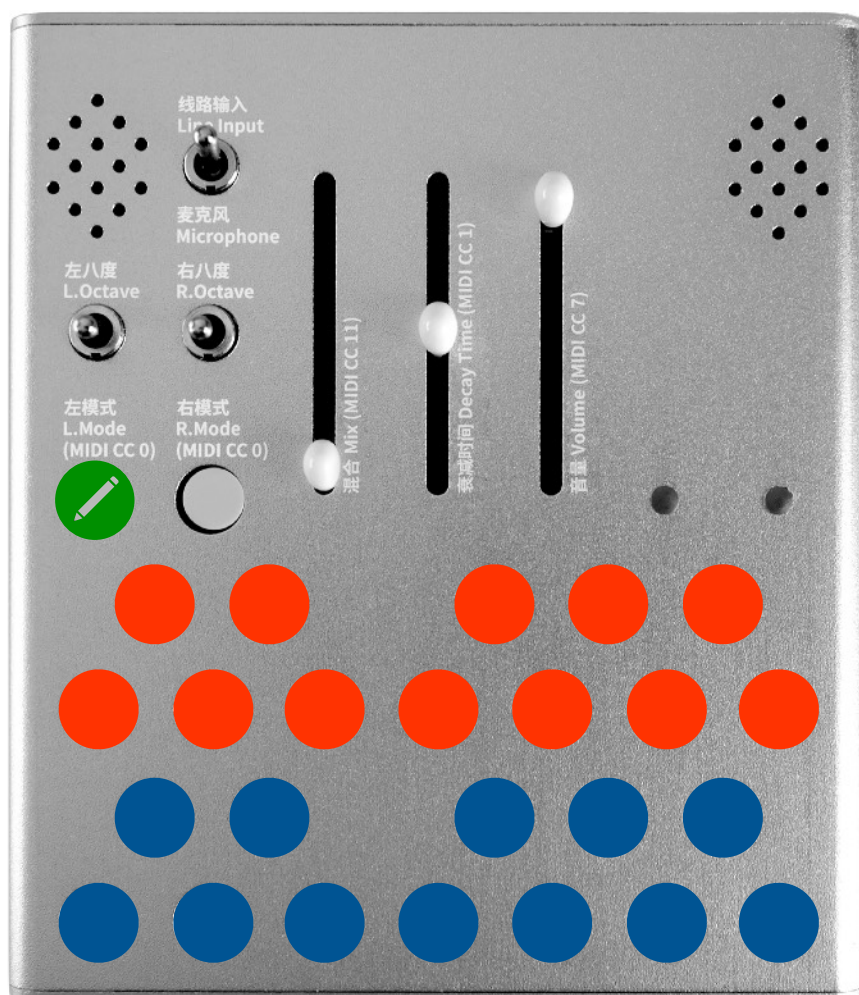


Right Channel Threshold



Left Channel Threshold

C, C#, D ... → B = low → high



Setting Pre / Post Clipper Gain



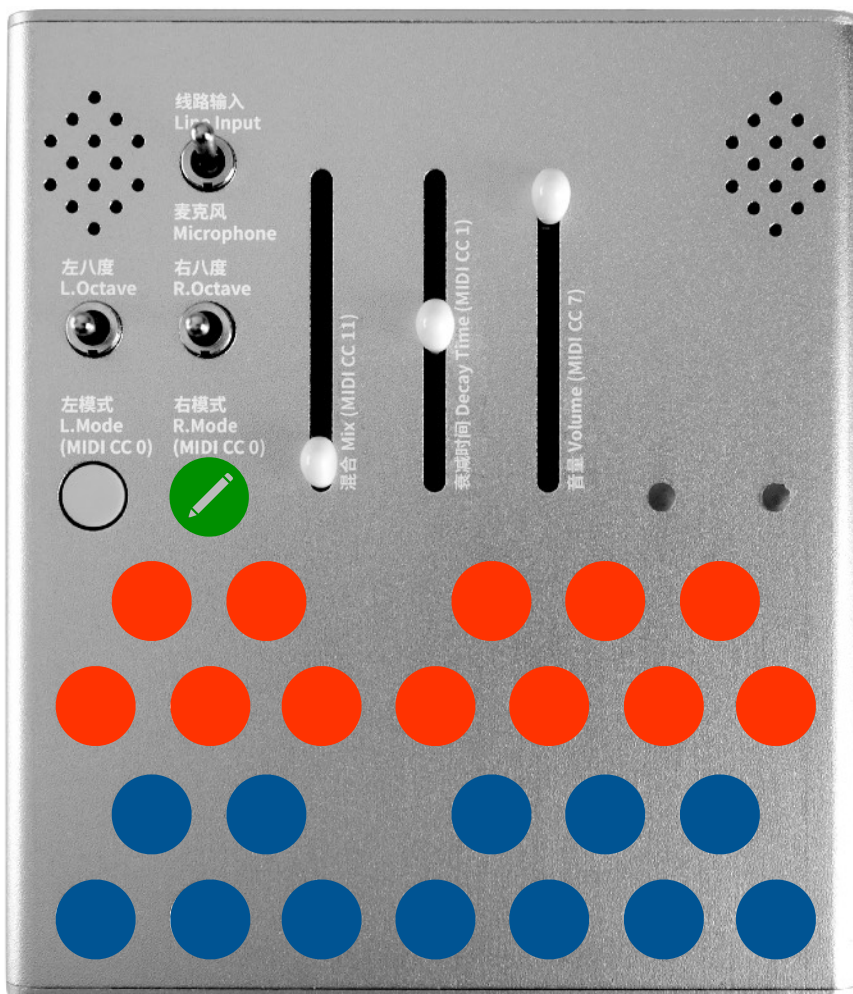
Post : Resonator Volume



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:

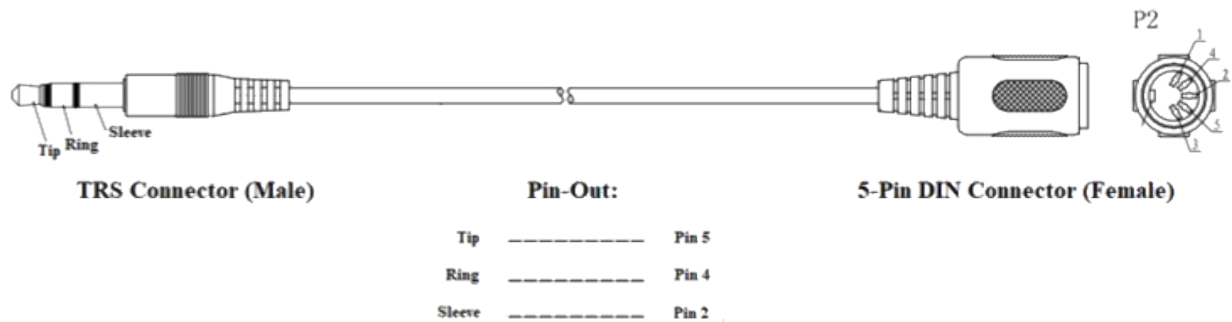
- Wingie2 accepts Note On data (Note Off is ignored);
- Internal tap sequencer works only with the on-board keyboard;
- Fast change of notes with large intervals may result in loud output.

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 and Cave Mode Frequencies can be set via the Wingie Tools. You can download Wingie Tools from the [Meng Qi Website](http://mengqimusic.com). Large frequency jump will result in loud output. Make sure to turn down Volume & Decay before adjustment.

The screenshot shows the Wingie Tools interface with the following settings:

- Computer MIDI Output:** USB MIDI设备 ... (Refresh)
- Left MIDI Channel:** 1
- Right MIDI Channel:** 2
- Both MIDI Channel:** 3
- A3 Frequency:** 440.

Warning: 大范围频率跳动可引发大音量声音，调节之前请降低音量和衰减时间。 (Frequency jump with large interval will cause loud sounds, turn down Volume & Decay before adjustment.)

Current Selected Right Cave Frequencies:

$$W_i = W_o * (1 + A * i) * B^i + C$$

W_o: 53, A: 0.63, B: 1.5, C: 0

Frequency list: 59, 130, 270, 517, 944, 1670, 2886, 4899, 8204

Current Selected Left Cave Frequencies:

$$W_i = W_o * (1 + A * i) * B^i + C$$

W_o: 77, A: 1.072, B: 1.343, C: -34

Frequency list: 43, 180, 403, 752, 1291, 2106, 3324, 5126, 7769

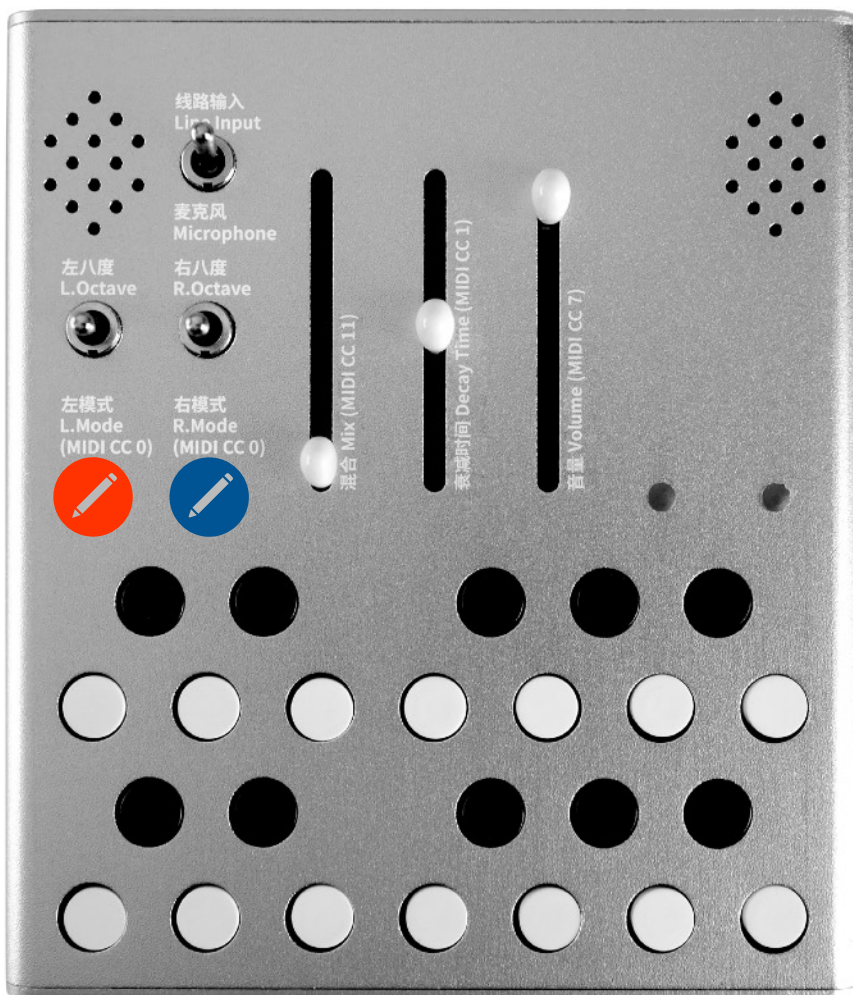
MIDI Data for Global Settings			
MIDI Channel	MIDI CC	Function	Factory Setting
16	20	MIDI Channel for Left	1
	21	MIDI Channel for Right	2
	22	MIDI Channel for Both	3
	23 (MSB) 55 (LSB)	Global Tuning Offset (from 440Hz) Range is ± 81.92Hz Resolution is 0.01Hz	0.00
15	23-31 (MSB) 55-63 (LSB)	Right Channel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



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 tap sequencer for note sequences;
7. Use 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 proofread.

Thanks to Annqi for the saying on the back of Wingie2.

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

Find Me:

Website : mengqimusic.com

Bandcamp : mengqi.bandcamp.com

YouTube : youtube.com/c/MengQiMusic

Instagram: instagram.com/mengqimusic

Synthesis Minority : instagram.com/synthesisminority

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。

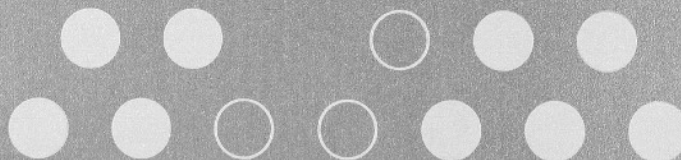
Both audio jacks are stereo. The output can be connected to headphones.

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.