

# User Instructions

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1. Ideal Piano is a smart piano software, the most important feature of this software is that it uses music theory logic to determine what chords are formed by the currently played notes and display them on the screen.

This smart piano software has three modes: free play on the computer keyboard, free play on the midi keyboard and play midi file demo.

In the play midi file demo mode, you can choose to algorithmically remove the main melody and listen only to the notes of the chords in the bass part.

The various setting parameters of this software can be modified using

`tools/change_settings.exe` or directly to the `config.py` to modify, save and then open the software to see the changes.

2. Please note: Clicking the play button enters the computer keyboard playing mode, clicking the midi keyboard button enters the midi keyboard playing mode, and clicking play midi enters the play midi file playing mode.

Be sure to open Ideal Piano only after the midi keyboard is connected to the computer, or open Ideal Piano first, don't click the midi keyboard button, then connect the midi keyboard to the computer, then click the button, so as to make sure your midi keyboard can be detected properly in the software.

If the midi keyboard still does not respond, then please open `change_settings.exe` to change the value of `midi_device_id`, if 1 does not work, change it to 2 to try, not then change it to 3, every time you change it, you have to save the settings and then reopen Ideal Piano.

One more thing to note, if you open the sequencer software, the midi keyboard can already be used in the sequencer software, then at this time Ideal Piano can not detect your midi keyboard, because a midi keyboard can only control one software at most, so at this time the sequencer software has already occupied the midi keyboard, Ideal Piano can not detect the midi keyboard. If you want to use the midi keyboard in the sequencer, you can use the midi keyboard in the software.

If you want to use a midi keyboard in a sequencer and use Ideal Piano at the same time, there is a very simple solution.

You can use `loopmidi`, a free software, to play midi keyboards with both arranger and Ideal Piano.

3. `loopmidi` is a free software that allows you to play on a midi keyboard in the arranger host while Ideal Piano can display the current notes and corresponding chords, so that you can listen to the instrument you want more easily and see what you are playing in Ideal Piano.

Take FL Studio for example, first open `loopmidi`, create a new midi port, (click on the + sign below) and then open FL Studio, in the midi settings in the options, select the midi keyboard you are connected to on the input side, and select the new midi port you just created on the output side.

The input midi keyboard should be enabled, the port should not be set (left blank), and the output midi port should be set with a port number, for example 0.

Then load an instrument sound source and set the midi output port number for this instrument to the same number as the output midi port.

Then open Ideal Piano and change the `midi_device_id` in the `config.py` file to the number corresponding to the new midi port you created in `loopmidi`, usually 1, and then remember to set the parameter `load_sound` to False, so that Ideal Piano will not load the sound source you have set up, and when you play it, you will also be able to play it. so that Ideal Piano will

not load the sound sources it has set up, and will only play the sources from the host when playing.

For some sources, even if the midi output port is set to the same loopmidi as the host, the solution is to use the midi out plugin, set the port to the same midi output port as the host, and then set the input port of the source to the midi out port, and then select the midi out channel when playing to receive the data. (Another important point is that

(There is also a very important point is that you must first import the source, then import the midi out plug-in, and then set the port, every time you change the new source to this order, otherwise the data still can not pass loopmidi)

4. through loopmidi can also be achieved in the arrangement of the host to play the work and at the same time Ideal Piano can also demonstrate the current notes and chords judgment, just need to arrange the host's midi output port and the source of the midi output port are set to the same number, this number is corresponding to loopmidi your new midi port can be.

For example, if loopmidi creates a new midi port called midi port A, then in the midi settings of the arranger host, set the port corresponding to midi port A to 0, then set the midi output port of the audio source to 0 as well, and then set the midi\_device\_id in the configuration file of Ideal Piano to the number corresponding to midi port A. The midi\_device\_id of port A is generally 1, but it may be different for different computers and different midi keyboards. If 1 does not respond, try changing it to 2, 2 does not work and then 3, and so on.

After each change, save the settings file (or directly open change\_settings.exe to search for parameters to modify more convenient), and then reopen Ideal Piano.exe. Then click the midi keyboard button to enter the midi keyboard mode, at this time in the compilation host to play the midi output port of the set When you play the track with the midi output port, you can see that Ideal Piano also follows the same notes in real time.

For some sources that are set to midi out but still can't pass data to loopmidi, the solution is the same as in #2, use midi out as a relay station, but this is slightly different from playing with a midi keyboard.

When playing with a midi keyboard, you can select the midi out track to play, and the sound will come from the source paired with the midi port, and Ideal Piano can also receive the midi signal. I found a solution to this problem by overwriting the track.

The solution I found was to override the notes from the track of the source paired with the midi port into the piano window of midi out, then mute the track of that source and let midi out play only, then I could hear the sound of the track of the source when it was not muted before, and I could also transfer data to loopmidi, so Ideal Piano could also So Ideal Piano can receive the midi signal in real time.

Here I really want to say that loopmidi is really good qwq (although in some cases need to detour a little, but still achieve a lot of things)

5. If you want to use Ideal Piano on macOS or Linux, first install python ( $\geq 3.7$ ), preferably 32-bit, then run `pip install pygame pygamelet==1.5.11 keyboard mido midiutil` in cmd, then put the packages folder and copy and paste `Ideal Piano start program.pyw` into the main folder.

Linux: open terminal in the main folder, for example if you have python 3.8 installed, run

```
sudo python3.8 "Ideal Piano start program.pyw"
```

and you will be able to open the software and use it.

macOS: open terminal, cd to the path of the main folder, for example if you have python 3.8 installed, run

```
sudo python3.8 "Ideal Piano start program.pyw"
```

and you will be able to open the software and use it.

(Note: At the moment, after testing the virtual machine, it seems that macOS has a lot of compatibility problems with pygame, tkinter and pyglet, which makes Ideal Piano likely to not work properly, I will try to find time for macOS compatibility, and there should be a macOS compatible version in the subsequent version.)

If you encounter any problems please contact me immediately, contact information is at the end.

6. You can set the path of the sound source when playing the piano, the format of the sound source file should be unified, you can set the format of the sound source file `sound_format` (such as wav, mp3, ogg, etc.) and the path of the sound source file `sound_path` in config.py.

## Changelog

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2021/11/8

- Improved handling of piano pedals in MIDI keyboard playing mode, now supports three different types of piano pedals in MIDI CC64, CC66, CC67.
- Changing the way the notes are playing to the end to fade out, which improves the listening experience when playing the notes.

2021/11/7

- Added the display of border of note bar and piano keyboard, which makes the demonstration effect more elegant, the border width and border color could be adjusted in the config file.

2021/11/1

- If you are using SoundFont to play, you can change the instruments by changing preset number and bank number when playing using the combination of keys (when config key is `Alt` by default):

`Alt + 1` (previous preset)

`Alt + 2` (next preset)

`Alt + 3` (previous bank)

`Alt + 4` (next bank)

2021/10/31

- Now you can load SoundFont files to play MIDI files, in the config file, please set `use_soundfont` to True, `play_as_midi` to True, and then set the file path of SoundFont files using `sf2_path`.

If you are not using SoundFont files to play MIDI files, the pause functionality will not work, because pygame currently does not support pausing MIDI files.

If you are using SoundFont files, Ideal Piano will render the MIDI files to audio data internally using [sf2 loader](#), then use pygame to play, therefore you can pause it.

Now you can also use SoundFont files to play using computer keyboard or MIDI keyboard, in the config file, please set `play_use_soundfont_file` to True, you can customize choosing the instruments in the SoundFont files and the playing note's duration, volume using a series of parameters such as `bank_num`, `preset_num`.

- Use `Alt + S` to open the change settings window, use `Alt + R` to reload the changed settings (when config key is `Alt` by default). If you press the `save` button on the change settings window or press `Ctrl + S` to save the settings, the settings will automatically reload after you close the change settings window.

2021/10/28

- Improved compatibility with Linux, now works fine on Ubuntu 18.04.5 in a virtual machine. I will try to find time to adapt it to macOS in the next few months.

2020/12/27

- Added a way to view the current midi device connection of your computer in midi keyboard mode, and to see which id corresponds to the name of your instrument if your midi keyboard's `midi_device_id` is not connected. And it will show you the error message (the specific reason why you can't connect). After clicking the button to enter the midi keyboard mode, press the shift key on the computer keyboard to display the id of the current computer default midi device, and the names of the midi devices with ids 0 to 9 respectively, one of which should be your instrument. Then if your midi keyboard is not connected, a specific error message will also be listed at the end of the display. You can turn off the display by pressing the ctrl key.
- Now I have also improved the code logic of the software for midi piano reading a lot, now there is no need to open the midi keyboard first and then open the software, you can open the software first and then connect the midi keyboard and open the midi keyboard and then click the midi keyboard mode button to identify the midi keyboard (in the case that the `midi_device_id` is on your (in the case of the instrument), turn off the midi keyboard in the middle, then open it again and click the back button and then re-enter the midi keyboard mode, the software will re-identify the midi keyboard, then you can continue to play (before, you need to re-open the software once qwq, now you do not need)

If you have encountered any problems needing help or have any feedback on the use of please add my qq number 2180502841 with me, thank you for your support ~