

reTune

Quickstart Guide v1.2



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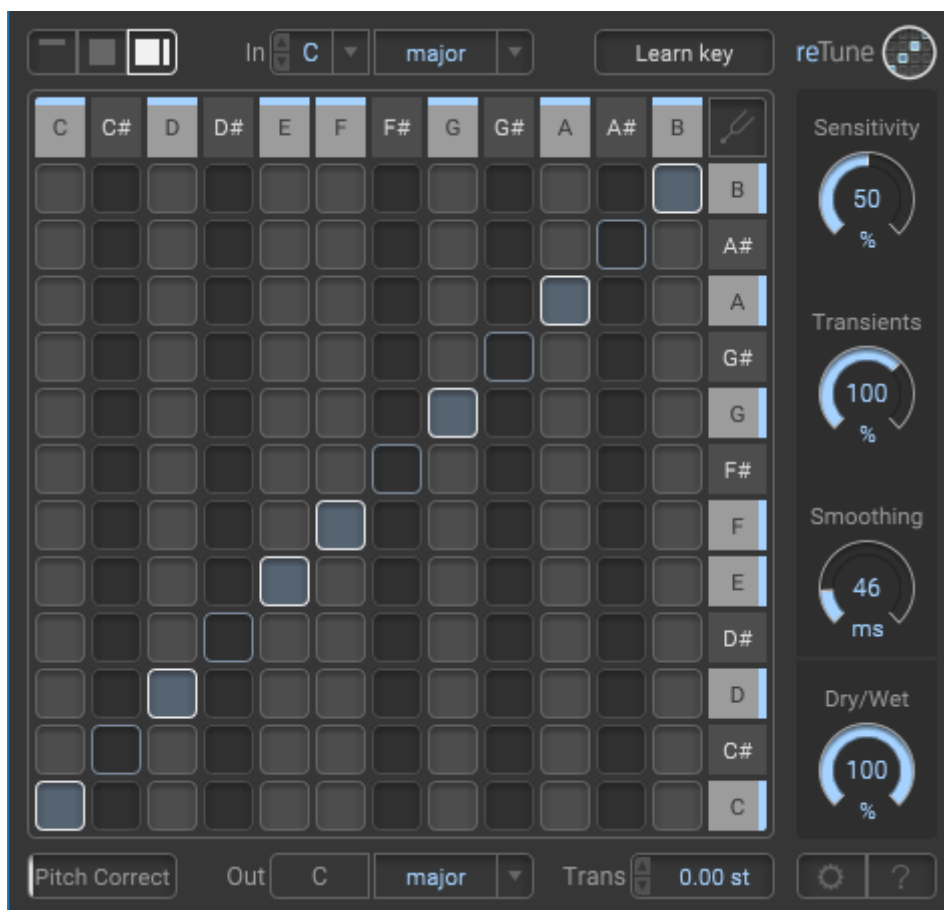
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1 Introduction

reTune gives you full access to the pitch content of your audio samples and enables you to map each input pitch to any other pitch of the chromatic scale - all in real-time.

This allows you to re-tune your audio to any target key (e.g. from D major to C# minor), or to use it as a creative tool to modify the pitch content in any way you like. If you are unsure about the key of your input audio, you can let **reTune** estimate the key for you.

In addition, **reTune** can act as a pitch correction tool that quantizes pitches to the nearest semitone. Additional controls include the sensitivity of the pitch detection, the treatment of transients as well as a smoothing of the pitch contours.



1.1 What's new in 1.2?

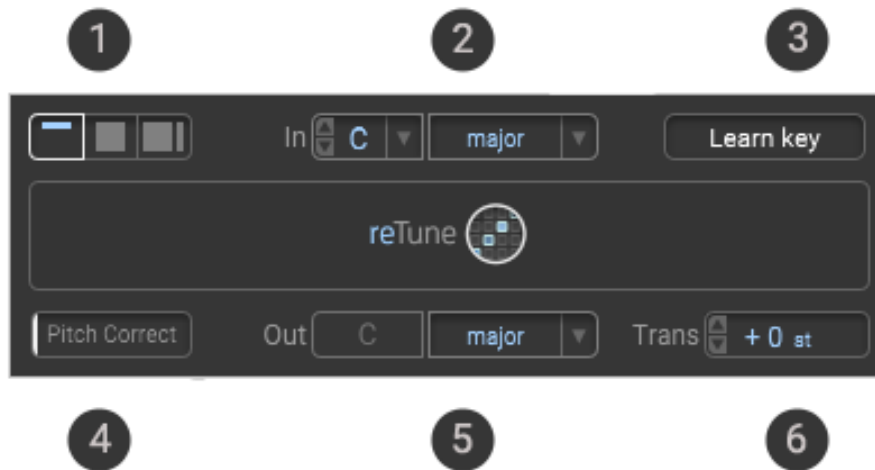
In 1.2 we've added 2 new features:

- micro-tuning
- MIDI control.

See sections [Micro-tuning](#) and [Midi control](#) in chapter 2 for details.

2 How to use

In the following we will introduce the general views and controls of *reTune* at a glance.



- (1) **View selector** - Switch the appearance of the plugin window between simple, normal and advanced view. In simple view you have access to the basic controls only. Normal view additionally displays the pitch mapping matrix, whereas in advanced view you have access to all controls.
- (2) **Input key** - Select the key of the input audio by specifying its root note and scale. If you don't know the key of your input audio, reTune can estimate it for you when you hit the "Learn key" button (see (3)).
- (3) **Learn key button** - Estimate the key of your input audio. In order to accurately estimate the key, you should play a characteristic section of your audio while having the button enabled. You can manually end the learning phase by hitting the button a second time. *reTune* will end the learning phase automatically once a stable key estimate was found and display the estimated key. You can accept or discard the key estimate by hitting the green checkmark or the red cross. Accepting the key estimate will set the input combo box to the respective key.
- (4) **Pitch correction slider** - Correct the intonation of your input audio. With pitch correction fully enabled, each pitch will be set to the center of the nearest semitone and any pitch variation will be removed. Disabling pitch correction leaves the relative pitch contours unaltered. Any slider position in between these two applies

pitch correction proportionally. Pitch correction is only applied to those columns of the pitch mapping matrix that contain a mapping point.

- (5) **Output key** - Specify the key of your output audio. You can set the root note of the output key by transposing the input audio by a number of semitones (see transpose box (6)).
- (6) **Transpose box** - Transpose the input by a fixed number of semitones.



In normal or advanced view you have access to the pitch mapping matrix. Map input pitches (horizontal axis) to output pitches (vertical axis). By selecting an input key and an output key, a mapping between input and output pitches is automatically set up. You can manually modify the mapping of an input pitch by clicking any cell in the column of that pitch. The display of both the input and output pitches are organized in ascending chromatic order starting with the root of the selected key. Columns that do not contain a pitch mapping, are likewise transposed by the amount specified by the transpose box (6).



Sensitivity - Set sensitivity for pitch detection. A high sensitivity will shift a large number of pitches whereas a low sensitivity will only shift the most predominant pitches.

Transients - Set transient strength. A value of 100% will leave the transients unchanged. Larger values will boost the transients, lower values will attenuate the transients.

Smoothing - Set smoothing of melodic lines. Shifting individual pitches can result in gaps in the pitch transitions of connected melodic lines (e.g. of vocals). A smoothing is applied to even out these gaps and to avoid jumps in the pitch contours. Shorter smoothing times will result in less smoothing and will enable quicker changes in the pitch contours, whereas larger times will result in a stronger smoothing of the pitch contours.

Dry/Wet - Control the ratio of dry and wet signal output.



Product activation button - opens a context menu for product activation.

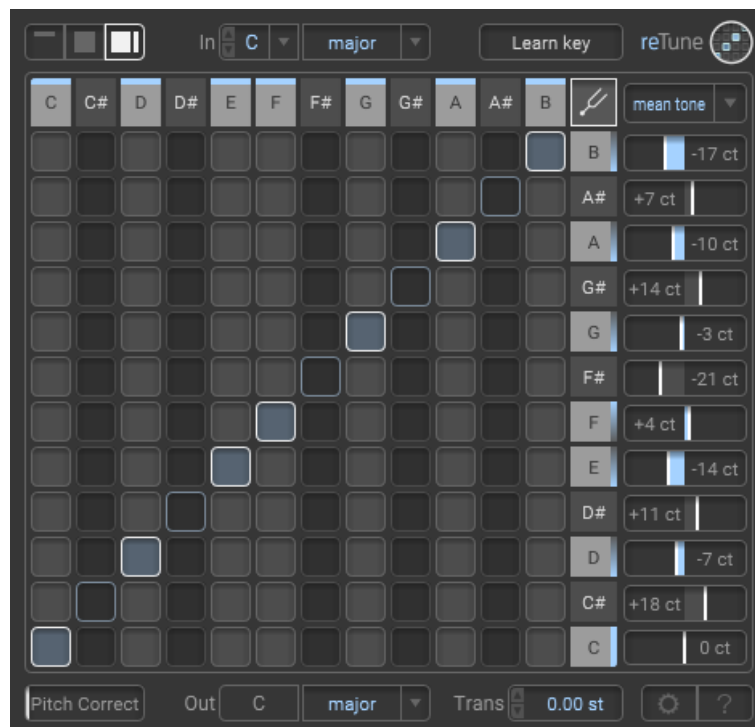
Help button - opens the help menu.

2.1 Micro-tuning

The micro-tuning feature allows you to fine-tune each output pitch by +/- 50 cents. You can access its controls by hitting the tuning fork at the top right corner of the pitch mapping matrix or any output pitch on the vertical keyboard.

This feature can be used to apply an 'off-standard' temperament to your recordings. You can either use it to tune your input to a different tuning system or to create effects when using it in conjunction with the dry/wet control. You could for example create a pitch sensitive chorus effect by detuning the output pitches individually and mixing the output with the original signal.

The top of the control section allows you to select common tuning systems from a range of presets. You can also save and load your own settings.



Note: The ,werckmeister' preset implements Werckmeister No. 3 and the ,kirnberger' implements the Kirnberger No. 3 temperament.

For further information on micro-tuning and musical temperament, please consult:

https://en.wikipedia.org/wiki/Category:Musical_temperaments

2.2 MIDI control

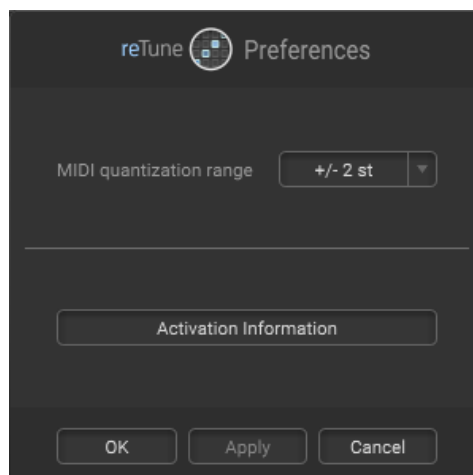
You can use MIDI input to control the mapping of input pitches to output pitches in the pitch mapping matrix. To use this feature, connect your MIDI controller to **reTune** (please refer to your DAW manual on how to connect MIDI devices to plugins).

When sending MIDI pitch information, input pitches within a certain range are mapped to the closest MIDI pitch. With the default settings, sending a single pitch to the plugin will result in all pitches being mapped to this pitch:



The MIDI Control overwrites the current pitch mapping matrix which will return to its previous state once all MIDI notes are released.

The preference panel allows you to control the range within which input pitches are mapped to MIDI pitches:



Per default, the MIDI quantization range is set to ± 6 semitones which means that if only one MIDI pitch is played, all notes up to a range of ± 6 semitones (covering all possible input notes) are mapped to this pitch. Setting the MIDI quantization range to ± 2 semitones will only map the input pitches within this smaller range to the MIDI pitch:



If more than one MIDI pitch is sent, input pitches are mapped to the closest MIDI pitch. This allows you to map your input to arbitrary chords and scales.

3 Examples

In order to get you started we will outline a few example use cases for **reTune**. These include changing the key of an input file, tuning an instrument and making creative use of the **reTune**'s pitch mapping functionality.

3.1 Changing the key of your input

In your audio workstation, drag an audio file into a track and make sure that **reTune** is added to the effect chain of that track. In order to achieve a meaningful key mapping, you need to set the input key combo box (2) to the key of your audio input. If you don't know the key of your input, you can hit the "Learn key" button (3) while playing the audio. **reTune** will come up with a suggestion that you can either accept or discard.

Once the input key is set, select the output key you would like to tune your audio to. You can modify the root pitch of the output key by transposing the input. Use the transpose box (6) to specify the number of semitones you would like your input to be shifted by. You can select the output scale by selecting one of the scales in the output key combo box (5).

The mapping of the individual pitches between input and output is displayed by the highlighted cells in the pitch mapping matrix. You can manually change the mapping of each input pitch by clicking on one of the cells in the corresponding matrix column for that pitch. Matrix columns that do not contain a highlighted cell are merely transposed by the number of semitones specified in the transpose box (6).

After specifying input and output pitch, adjust the parameters *sensitivity*, *transients* and *smoothing* to your needs. If your input is a single instrument that only plays one or a few notes at a time, set the *sensitivity* to a low value. If your input contains more complex audio, increase the *sensitivity* accordingly.

You can vary the amount of transient preservation with the transient slider. Good transient preservation will affect the pitch shifting quality and vice versa. Just experiment with the transient slider to find the right amount of transient preservation.

Likewise, experiment with the *smoothing* parameter to find the right amount of pitch contour smoothing to bridge potential gaps caused by the shift of individual pitches.

Different parts of your song might contain different keys, so you might want to apply different pitch mappings to different parts of your audio. You can use your workstation's automation feature to change the pitch mapping at certain positions in your song. Just move the play cursor to the position you would like a new pitch mapping to begin, adjust the mapping parameters as described above and take an automation snapshot.

3.2 Tuning an instrument

You might have recordings of instruments that are out of tune and that you would like to be in tune with the rest of your arrangement. A guitarist might have been a bit negligent while tuning his guitar or a singer might have been a bit flat at times. You can use **reTune** to correct the pitch of your input audio.

If your audio input is already in the right key, select "C chromatic" both as input and output key. This will highlight all input pitches in the pitch mapping matrix and will map each input pitch to the same output pitch.

Use the pitch correction slider (4) to adjust the amount of pitch correction. Full pitch correction can be achieved when you drag the slider completely to the right. Any slider position in between will apply pitch correction proportionally.

3.3 Using reTune creatively

Instead of using the predefined input and output scales, you can configure **reTune** in any way you like.

You could for example create a "One Note Samba" by mapping all pitches to a single pitch. Just manually map all input pitches to a single output pitch. You can modify the output pitch by changing the transposition. Similarly you could map all pitches to a single chord which results in a vocoder-esk effect.

Or you could add an upper part to an instrument melody that either stays in the same key. Say you have a melody in "C major", just shift it to "E phrygian" and put the dry/wet slider to 50%. This will add an upper third to each note with all notes being part of the "C major" scale. Or experiment with using a different scale than "phrygian" to obtain some notes that are out of key and to make it sound more interesting.

Feel free to experiment with **reTune**'s countless possibilities. Some pitch mappings will sound more musical than others.