

# Content

[Open SFX Editor](#)

[SFX Config](#)

[Add, Rename, Delete SFX](#)

[Editor Overview](#)

[Duration](#)

[Octave Range](#)

[Grid](#)

[Scale](#)

[Section](#)

[Selection Tool and Waveforms](#)

[Effects](#)

[Loop](#)

[Paint Area Pitch, Waveform, Effects](#)

[Paint Area Volume](#)

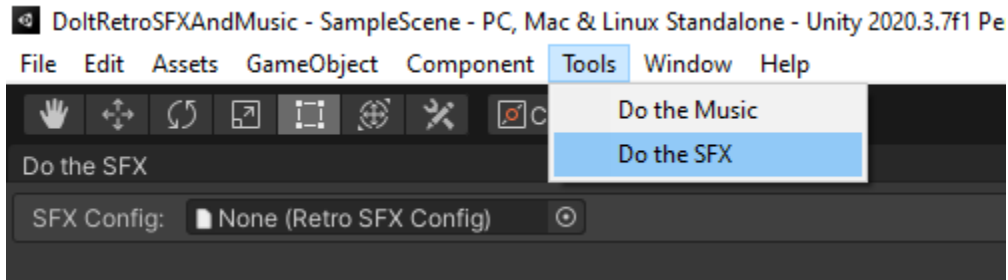
[Play, Pause, Stop and Export](#)

[Edit Selection/ Keyboard-Keys](#)

[Keyboard-Shortcuts](#)

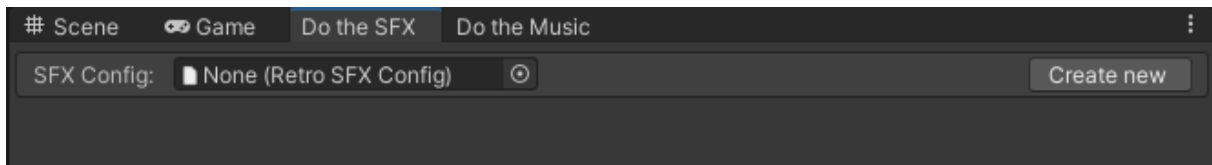
[Playing the sound via code](#)

## Open SFX Editor



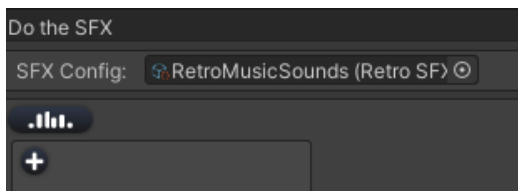
## SFX Config

Load an existing config-file by selecting it on the left,  
or create a new one by clicking on the button on the right and saving it into the project.

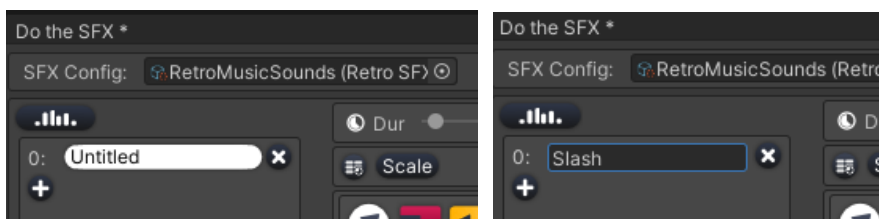


## Add, Rename, Delete SFX

To add sfx, beats or melodies click on the + Button.



To rename the new SFX double-click the button, type the name and press Enter.

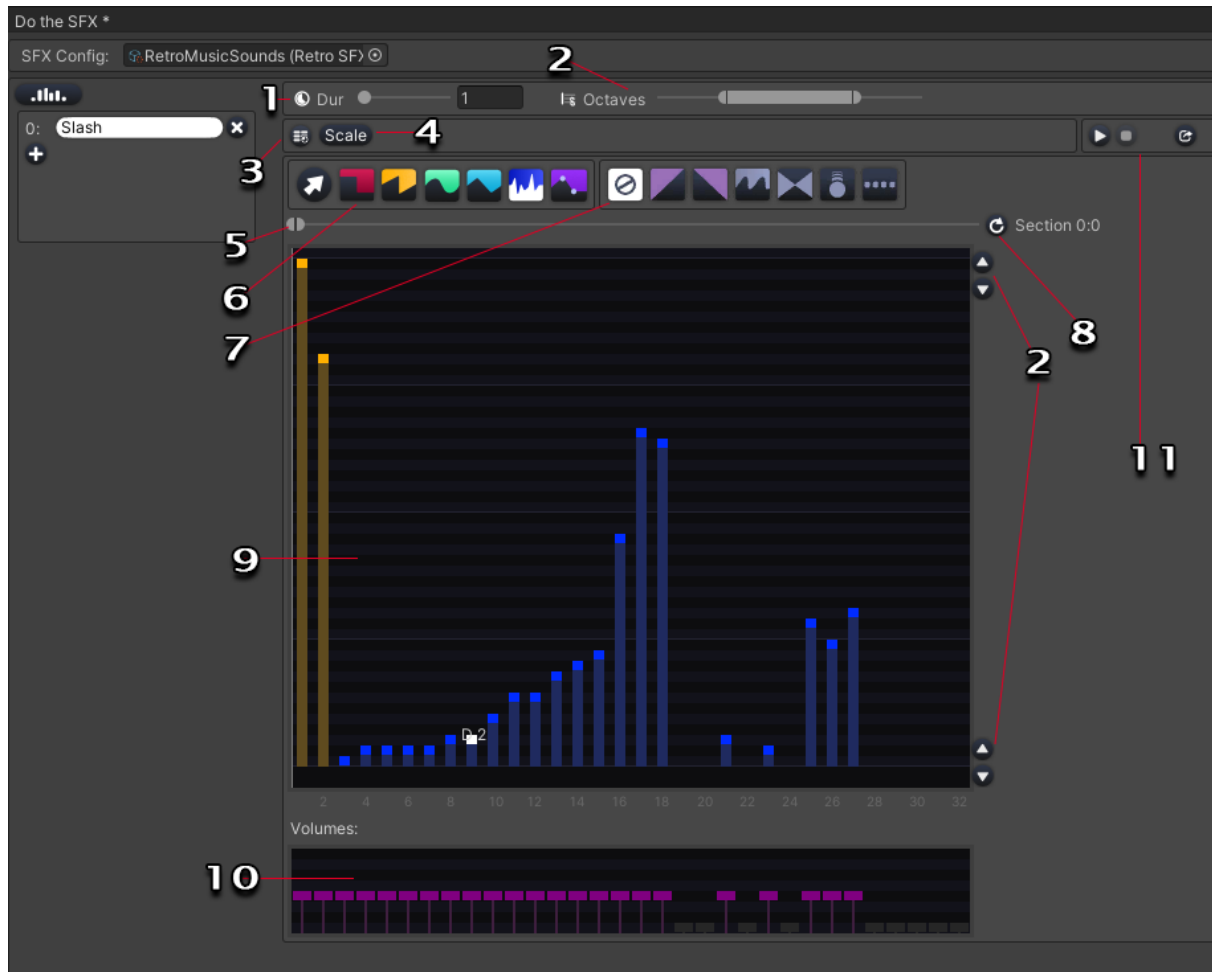


Click the "x" button to delete SFX.

## Editor Overview

For each sound you can set the duration and octave range.

Then you have some edit-buttons to draw the pitch with specific wave-shapes, effects and volumes.



### 1. Duration

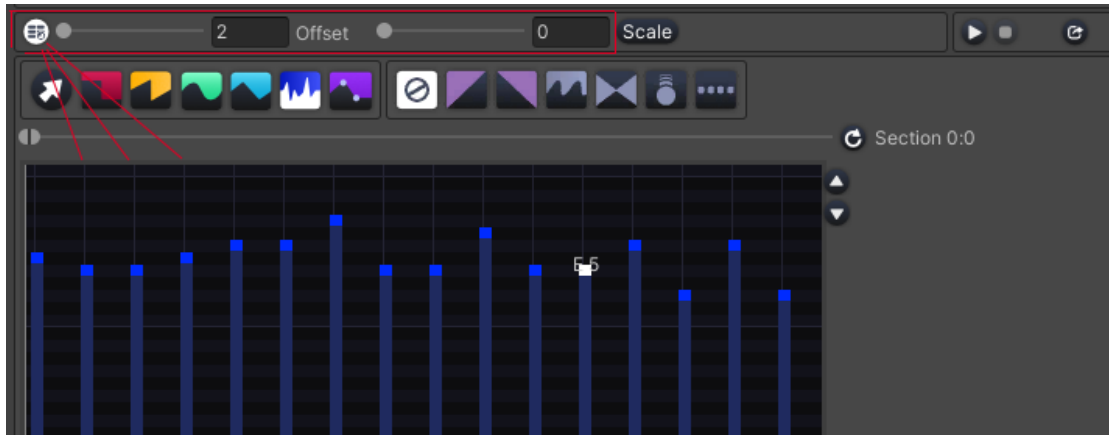
Duration changes the playback-speed of this sound. A duration of '1' is a quarter of a second. Use small durations for sound effects and higher durations for melodies and beats.

### 2. Octave Range

Limit the octave range to get better precision when painting.

### 3. Grid

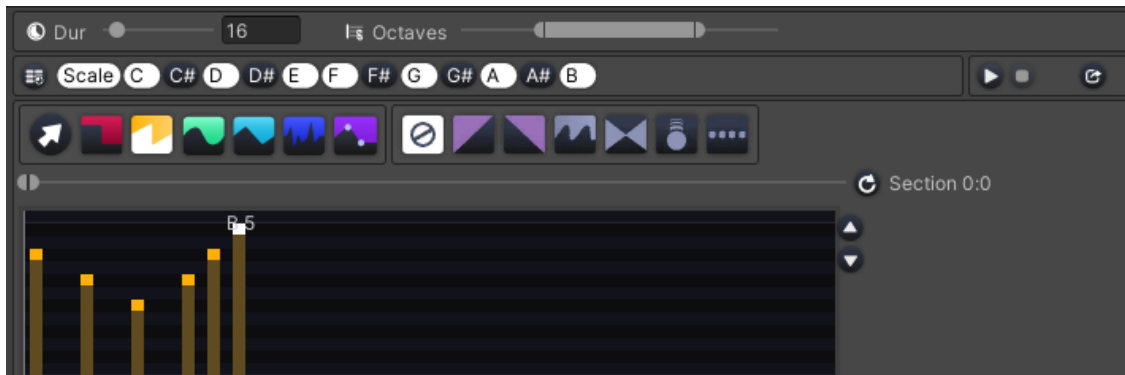
Use this tool to snap the painting and selection of notes to a specific timings. This is very useful for drums, beats, but can also help with melodies.



The first number sets the snapping-size and the second defines an offset, which is useful for off-beats.

### 4. Scale

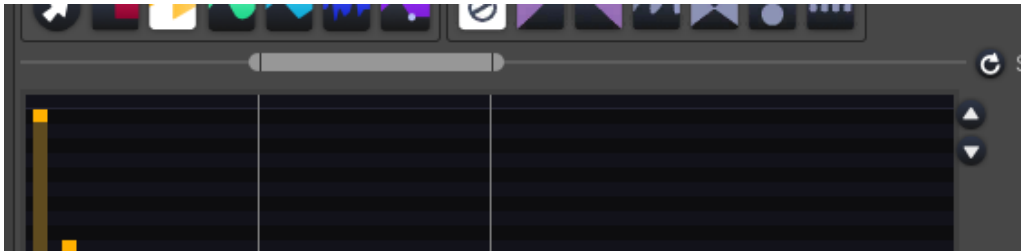
Similarly you can define a melodic scale or notes to snap to when painting. This is useful to help you create harmonic melodies.



### 5. Section

Drag the nodes to limit the section, which is used when pressing play or exporting.

You can also use this to loop a section that you are currently working on.



## 6. Selection Tool and Waveforms

You can use the select-tool to select shapes drawn to edit them or select one of the given Waveforms to draw in the area below. You can also define your own Waveform with Animation-Curves.

Buttons from left to right:

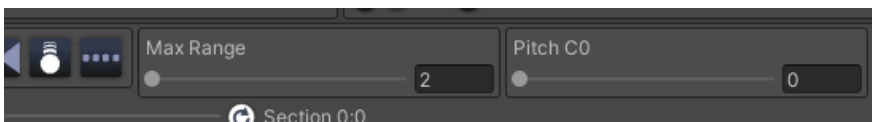
- A. Selection
- B. Pulse
- C. Sawtooth
- D. Pulse
- E. Triangle
- F. Noise
- G. Custom

## 7. Effects

You can choose an effect to paint with and improve the quality of your sounds.

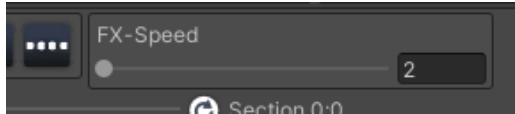
Available effects from left to right:

- A. No Effect
- B. Fade In (Volume-Mod)
- C. Fade Out (Volume-Mod)
- D. Vibrato (Pitch-Mod)
- E. Slide to next sound-pitch (Pitch-Mod)
- F. Slide to specific target pitch (Pitch-Mod)



*Additional parameters: The maximum shift in pitch and the target pitch.*

- G. Repeat each group of 4 notes with a faster tempo.



*Additional parameters: Speed or amount of repeats per group.*

8. Loop

Use this button to loop the sound when playing it.

9. Paint Area Pitch, Waveform, Effects

Draw with the mouse in this area to define the melody or sfx.

10. Paint Area Volume

Draw or edit volume with the mouse.

11. Play, Pause, Stop and Export

Use Play to preview the sound. When a sound is played you can pause or stop it too.

Use Export to export the sound. Note that you can also play the sound via code without exporting it. [See here](#)

## Edit Selection/ Keyboard-Keys

In this section you will find common keyboard-shortcuts for editing, especially for the selection tool. Currently these Shortcuts can not be changed.

- **Shift+click**  
If you want to select **multiple** bars apart from another you can drag your mouse to select the first group of bars then hold **shift** and click/drag for the next group. To change the instrument or effect of the selected notes, hold shift and click on the instrument- or the effect-button.
- **Ctrl+A:**  
Select/ Deselect all.
- **Up-arrow or W, Down-arrow or S**  
Move Pitch one note up and down. If you have set up a Scale-Filter notes will snap to specified notes. ( [see Scale](#) )  
Press shift to jump 4 steps instead.
- **Left-arrow or A, Right-arrow or D**  
Move Selection cursor left or right. When selecting multiple bars the whole selection area is shifted. Press ctrl to instead move the selected bars.  
Press shift to jump 4 steps instead.
- **Delete-Key**  
Deletes the selection.
- **Ctrl+C, Ctrl+X, Ctrl+V**  
Standard key-combinations for copy, cut and paste.
- **Escape**  
Choose Selection-Tool and deselect any GUI-control.

## Keyboard-Shortcuts

In this section you will find keyboard-shortcuts, which you can also change in unity via Edit->Shortcuts..

- **SwitchView**  
Default Key: Tab  
switch to pure data mode and back to paint mode.
- **IncreaseSpeed**  
Default Key: Period [ . ]  
Modifies duration to make the current SFX faster.  
Hold the shift key to jump by 4 steps.
- **DecreaseSpeed**  
Default Key: Comma [ , ]

Modifies duration to make the current SFX slower.

Hold the shift key to jump by 4 steps.

- **Play Or Stop SFX**

Default Key: Space

Plays or stops playing current SFX.

- **NextSFX**

Default Key: Equals [ = ]

Select the next SFX in the config.

Hold the shift key to jump by 4 steps.

- **PrevSFX**

Default Key: Minus [ - ]

Select the previous SFX in the config.

Hold the shift key to jump by 4 steps.

- **NextInstrument**

Default Key: LeftBracket [ [ ]

Select the next instrument for drawing.

- **PrevInstrument**

Default Key: RightBracket [ ] ]

Select the previous instrument for drawing.

- **SelectionToSection**

Default Key: C

Put the section-parameters so that it encompasses the selection.

- **FlattenSelection**

Default Key: Alt+F

Average the pitch and set it to the selected bars.



## Playing the sound via code

Instead of exporting the sound you can also play it via code. This can save you a lot of disk-space and repository-space, since wav-files can get quite big.

But the sounds have to be built before they can be played.

So there can be a latency/ lag when playing the sound for the first time.

To prevent that you can build the sounds when loading the game.

### Link the RetroSFXConfig:

```
[SerializeField] RetroSFXConfig m_sfxConfig;
```

### Build the sounds

```
m_sfxConfig.BuildSounds();
```

### Get an AudioClip by index

```
int myHitSFX = 32;  
AudioClip clip = m_sfxConfig.GetClip(myHitSFX);
```

### Get an AudioClip by name

```
AudioClip clip = m_sfxConfig.GetClip("Hit SFX");
```

After building and getting the AudioClip you can then set it to an AudioSource and play the sound. See the Unity-Documentation and Reference for handling AudioClips and AudioSource.