

# GMSFXR

A GML port of SFXR

## Table of Contents

Usage.....	2
Basic Flow.....	2
Basic Example.....	3
Reference.....	4
Common.....	4
Presets.....	4
Main Settings.....	4
Signal Envelope Settings.....	5
Frequency Settings.....	5
Vibrato Settings.....	5
Note Change Settings.....	6
Square Wave Settings.....	6
Repeat Settings.....	6
Phaser Settings.....	6
Low Pass Filter Settings.....	6
High Pass Filter Settings.....	7

# Usage

## Basic Flow

```
sfxr_init();  
sfxr_preset_lasershoot();  
bufferID = sfxr_create_buffer();  
soundID = sfxr_create_audio(bufferID);  
audio_play_sound(soundID);  
sfxr_free_audio(soundID);  
sfxr_free_buffer(bufferID);
```

- 1) Initialize SFXR
- 2) Set parameters to desired values.
- 3) Create a buffer with the current parameters.
- 4) Create an audio buffer. This is the actual sound.
- 5) Play the sound.
- 6) Free the audio from memory when you don't need it.
- 7) Free the original buffer from memory.

## Basic Example

### Create Event:

```
sfxr_init();           //initialize SFXR
sfxr_preset_lasershoot(); //set parameters to make a laser/shoot noise
sfxr_set_env_decay_time(1); //set the decay time to 1 so the sound fades out over a long time
laser_bufferID = sfxr_create_buffer();
laser_soundID = sfxr_create_audio(laser_bufferID);

sfxr_preset_coinpickup(); //set parameters to make a coin/pickup noise
pickup_bufferID = sfxr_create_buffer();
pickup_soundID = sfxr_create_audio(pickup_bufferID);

canShoot = true;
```

### Step Event:

```
if (place_meeting(x, y, obj_pickup)) {
    audio_play_sound(pickup_soundID, 1, false);
    var inst = instance_place(x, y, obj_pickup);
    instance_destroy(inst);
}

if (mouse_check_button(mb_left) && canShoot) {
    audio_play_sound(laser_soundID, 1, false);
    canShoot = false;
}
```

### Cleanup Event:

```
//It's important to free audio before buffers otherwise you'll get an error
sfxr_free_audio(laser_soundID);
sfxr_free_audio(pickup_soundID);
sfxr_free_buffer(laser_bufferID);
sfxr_free_buffer(pickup_bufferID);
```

# Reference

## Common

<code>sfxr_init</code>	This starts up SFXR.
<code>sfxr_reset</code>	This resets all the parameters to their default values.
<code>sfxr_create_buffer</code>	This creates a buffer with sound data calculated using the current params.
<code>sfxr_free_buffer</code>	This frees a buffer from memory. <i>buffer_delete</i> is fine to use as well.
<code>sfxr_create_audio</code>	This creates the actual sound from the buffer created with <i>sfxr_create_buffer</i> .
<code>sfxr_free_audio</code>	This frees the sound from memory. <i>audio_free_buffer_sound</i> works too.

## Presets

<code>sfxr_preset_coinpickup</code>
<code>sfxr_preset_lasershoot</code>
<code>sfxr_preset_explosion</code>
<code>sfxr_preset_powerup</code>
<code>sfxr_preset_hithurt</code>
<code>sfxr_preset_jump</code>
<code>sfxr_preset_blipselect</code>
<code>sfxr_preset_mutate</code>
<code>sfxr_preset_randomize</code>

## Main Settings

<code>sfxr_set_wave_type</code>
<code>sfxr_get_wave_type</code>
<code>sfxr_set_master_volume</code>
<code>sfxr_get_master_volume</code>

## Signal Envelope Settings

sfxr_set_env_attack_time
sfxr_get_env_attack_time
sfxr_set_env_sustain_time
sfxr_get_env_sustain_time
sfxr_set_env_sustain_punch
sfxr_get_env_sustain_punch
sfxr_set_env_decay_time
sfxr_get_env_decay_time

## Frequency Settings

sfxr_set_freq_start
sfxr_get_freq_start
sfxr_set_freq_min
sfxr_get_freq_min
sfxr_set_freq_slide
sfxr_get_freq_slide
sfxr_set_freq_delta_slide
sfxr_get_freq_delta_slide

## Vibrato Settings

sfxr_set_vibrato_depth
sfxr_get_vibrato_depth
sfxr_set_vibrato_speed
sfxr_get_vibrato_speed

## Note Change Settings

sfxr_set_change_amount
sfxr_get_change_amount
sfxr_set_change_speed
sfxr_get_change_speed

## Square Wave Settings

sfxr_set_square_duty
sfxr_get_square_duty
sfxr_set_square_sweep
sfxr_get_square_sweep

## Repeat Settings

sfxr_set_repeat_speed
sfxr_get_repeat_speed

## Phaser Settings

sfxr_set Phaser_offset
sfxr_get Phaser_offset
sfxr_set Phaser_sweep
sfxr_get Phaser_sweep

## Low Pass Filter Settings

sfxr_set_filter_lowpass_cutoff
sfxr_get_filter_lowpass_cutoff
sfxr_set_filter_lowpass_sweep
sfxr_get_filter_lowpass_sweep
sfxr_set_filter_lowpass_resonance
sfxr_get_filter_lowpass_resonance

# High Pass Filter Settings

sfxr_set_filter_hipass_cutoff
sfxr_get_filter_hipass_cutoff
sfxr_set_filter_hipass_sweep
sfxr_get_filter_hipass_sweep