TazMan-Audio

Fabric Reference

FABRIC

Table of contents

Introduction 3
Managers 4
Fabric Manager 5
Event Manager 6
Events 7
Event Listener 7
Event Trigger 8
Components 10
Component common properties 11
Runttime Parameter (RTP) 13
Audio Component 14
Group Component 15
Random Component 16
Sequencer Component 17
Switch Component 18
Volume meter component 18
Side chain Component 20
DSP Components 21
Timeline Component 22
Parameter properties 22
Layer properties 23
Region properties 24
Dynamic Mixer component 25
Preset properties 26
Utils 27
DebugLog 28
Asset Loader 28

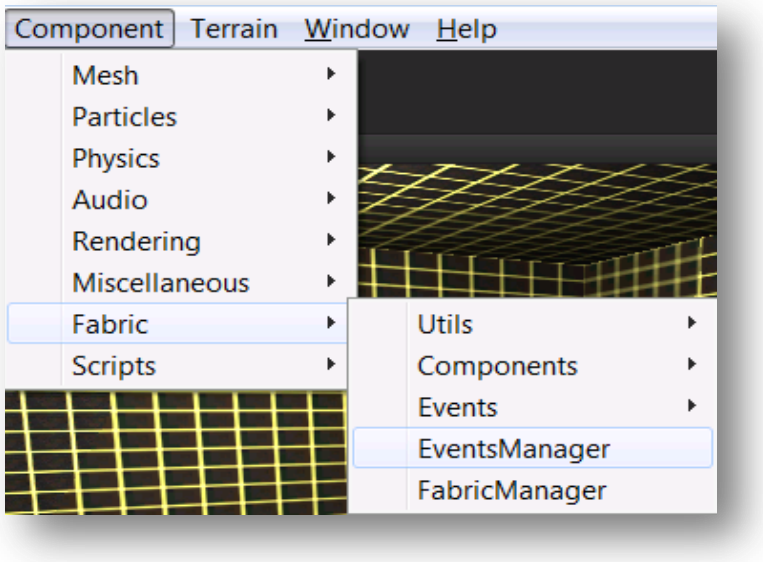
Fabric v2.1.6

Introduction

The Reference provides detailed information for all of the Fabric component properties.

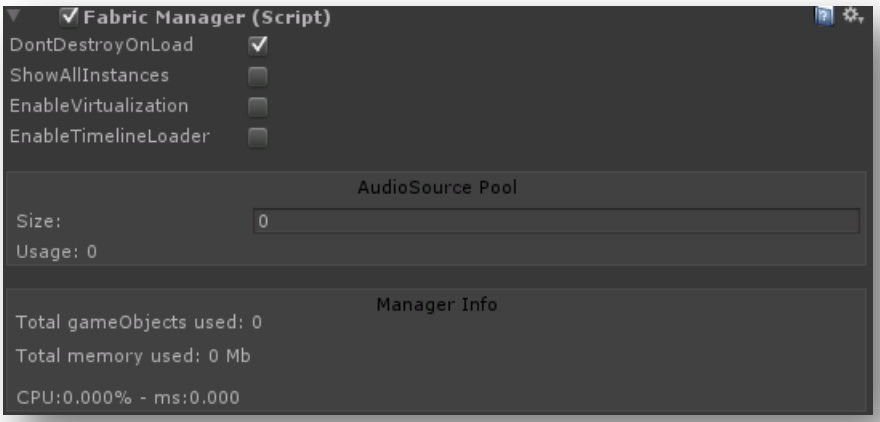
Managers

The Fabric manager components can be accessed through the Component->Fabric menu selection.



Fabric Manager

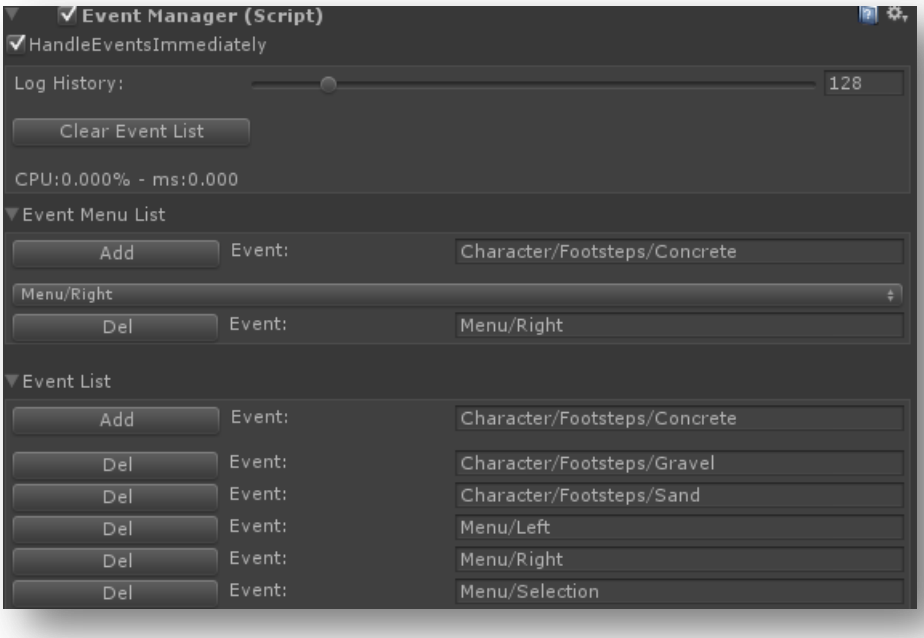
Fabric manager manages the hierarchy of all audio components as well as loading and unloading audio assets.



Properties	Description
Don't Destroy On Load	Allows the manager to stay alive when loading scenes
Show All Instances	Shows all component instances in the hierarchy
Enable Virtualization	Enable audio component to turn virtual (i.e. not playing) when listener is outside its max distance.
AudioSource Pool	
Size	Determines the size of the pool. When 0 the pool is disabled
Usage	Displays the number of sources currently in use

Event Manager

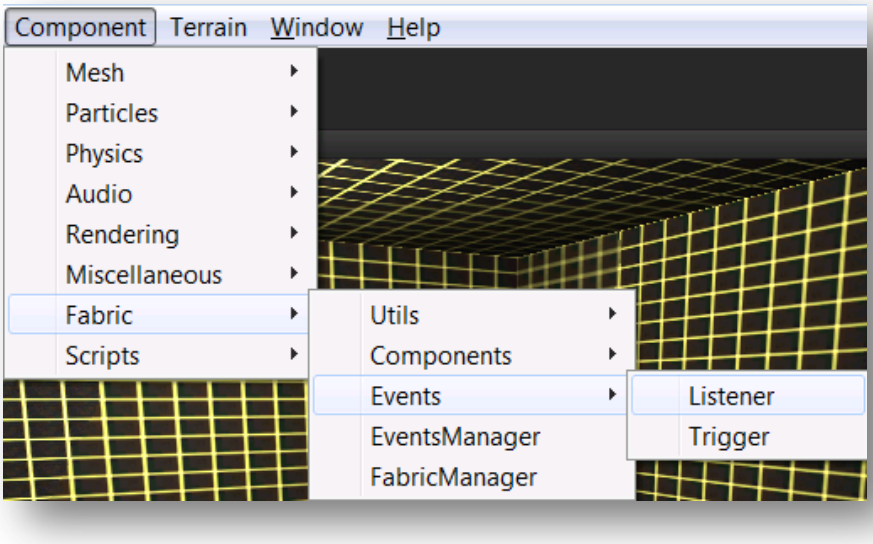
The event manager is responsible for the communication of events between the game and the audio components.



Properties	Description
Log History Size	The size of the event log history (default: 128)
Add Event	The event with the name entered is added into the list.
Del Event	The event is deleted from the list.

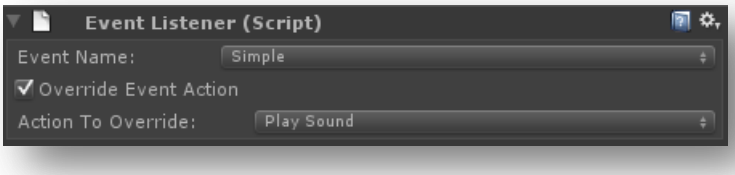
Events

The Event components can be accessed through the Component->Fabric->Events menu selection.



Event Listener

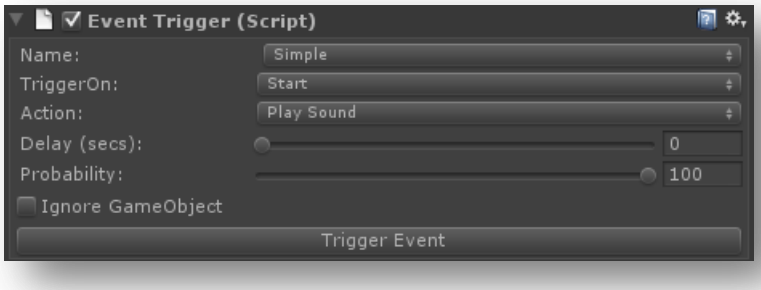
Listener inserted in an audio component that listens for a specific event in order to play.



Properties	Description
Event Name	Name of the event to listen for.
Override Event Action	Enables/Disables event action override
Action To Override	Selection to override incoming event action

Event Trigger

Event trigger sends a specific event type to the event manager.



Properties	Description
TriggerOn	When will the trigger occur: - Start - Destroy - Update - Enable - Disable - TriggerEnter - TriggerExit - CollisionEnter - CollisionExit - MouseUp - MouseDown - MouseOver - MouseExit
Action	The action to be taken when the event is received: - PlaySound - StopSound - PauseSound - UnpauseSound - SetVolume - SetPitch - SetSwitch - SetParameter - SetFadeIn - SetFadeOut - AddPreset - RemovePreset - Set DSP Parameter - Register Game Object - Reset Dynamic Mixer

Delay (secs)	Delays the event trigger by the time set in seconds
Probability (%)	Defines the percentage of the event trigger happening.
Ignore GameObject	Game Object is not used with the event (no 3D position update)
Trigger Event	Force a trigger of the event.

When the Set DSPParameter action is selected the following extra properties are added to the event trigger

Properties	Description
Value	The value of the DSP effect set according to its range
Time	Time it will take for the DSP parameter to reach this value
Curve	The interpolation curve (0.5=Linear, Log < 0.5 > Exp)

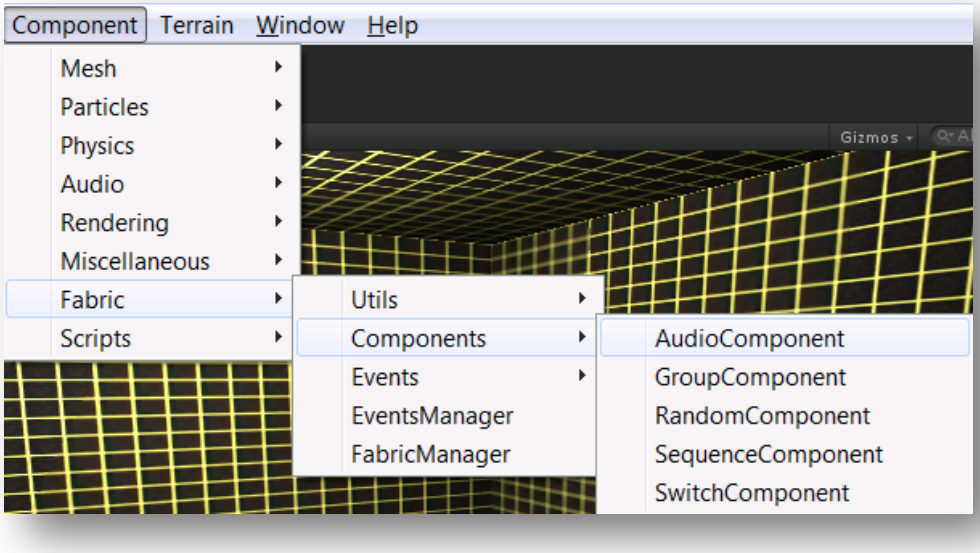
The “Set DSPParameter” supports the following DSP effect parameters

DSP	Parameter	Description
Low Pass		
	Cutoff Frequency	Lowpass cutoff frequency in hz. 10.0 to 22000.0. Default
	Lowpass Resonance Q	Lowpass resonance Q value. 1.0 to 10.0. Default = 1.0.
High Pass		
	Cutoff Frequency	Highpass cutoff frequency in hz. 10.0 to 22000.0. Default
	Highpass Resonance Q	Highpass resonance Q value. 1.0 to 10.0. Default = 1.0.
Echo		
	Delay	Echo delay in ms. 10 to 5000. Default = 500.
	Decay Ratio	Echo decay per delay. 0 to 1. 1.0 = No decay, 0.0 = total decay (ie simple 1 line delay). Default = 0.5.L
	Wet Mix	Volume of echo signal to pass to output. 0.0 to 1.0. Default = 1.0.
	Dry Mix	Volume of original signal to pass to output. 0.0 to 1.0. Default = 1.0.
Distortion		
	Distortion	Distortion value. 0.0 to 1.0. Default = 0.5.
Chorus		
	Dry Mix	Volume of original signal to pass to output. 0.0 to 1.0. Default = 0.5.
	Wet Mix 1	Volume of 1st chorus tap. 0.0 to 1.0. Default = 0.5.
	Wet Mix 2	Volume of 2nd chorus tap. This tap is 90 degrees out of phase of the first tap. 0.0 to 1.0. Default = 0.5.
	Wet Mix 3	Volume of 3rd chorus tap. This tap is 90 degrees out of phase of the second tap. 0.0 to 1.0. Default = 0.5.
	Delay	The LFOs' delay in ms. 0.1 to 100.0. Default = 40.0 ms
	Rate	The LFOs' modulation rate in Hz. 0.0 to 20.0. Default = 0.8 Hz.
	Depth	Chorus modulation depth. 0.0 to 1.0. Default = 0.03.

	Feed Back	Chorus feedback. Controls how much of the wet signal gets fed back into the filter's buffer. 0.0 to 1.0. Default = 0.0.

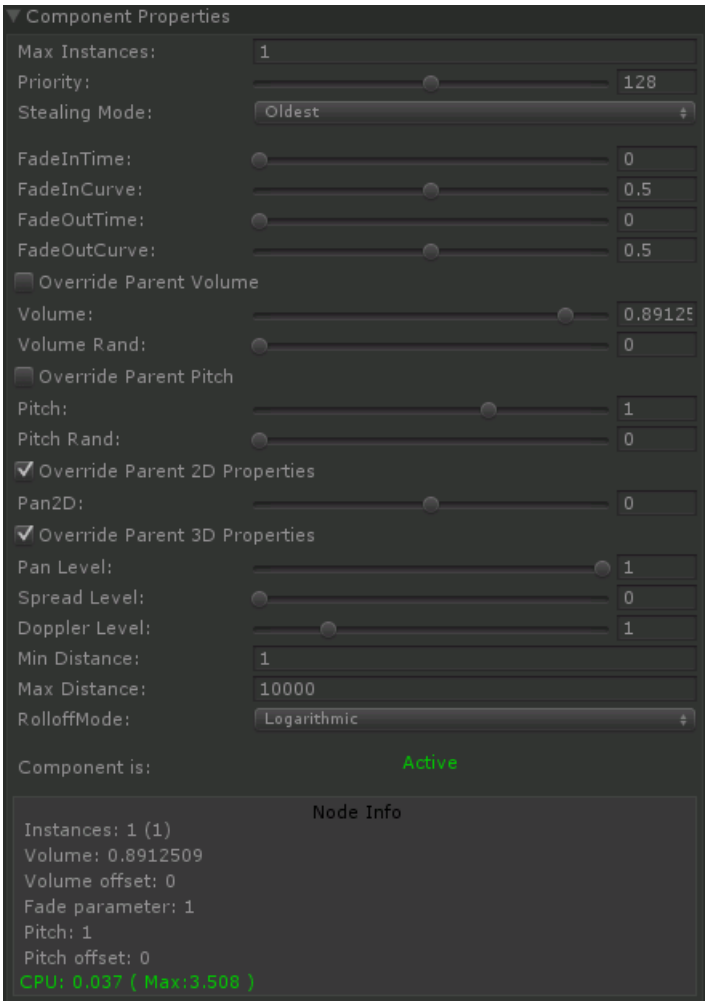
Components

Several components each with its own functionality can be added into a game object by selecting them from the Fabric->Components menu selection.



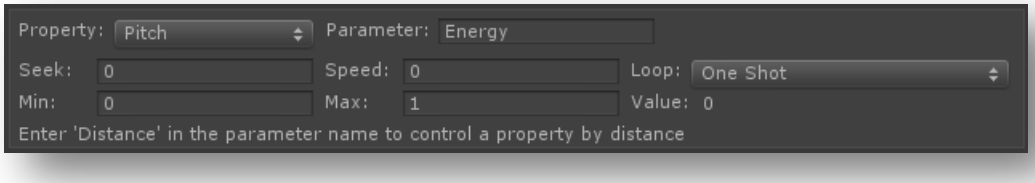
Component common properties

Every component has a number of common properties.



Properties	Description
Max Instances	Number of maximum instances that can be played. Note: Only used when the component has an Event Listener attached to it and therefore can be triggered.
Priority	Determines how important this component is.
Stealing	Stealing behaviour when max instances is reached: - Oldest - Newest - Farthest - None
FadeInTime	Sets the fade in time of this node
FadeInCurve	Sets the fade in curve type (0.5 = linear, log < 0.5 > Exp
FadeOutTime	Sets the fade out time of this node
FadeOutCurve	Sets the fade out curve type (0.5 = linear, log < 0.5 > Exp
Override Parent Volume	Overrides the parent volume.
Volume	Volume of the component multiplied with its parent volume.
Volume Randomization	Amount of volume randomization to be added.
Override Parent Pitch	Overrides the parent pitch. (If not top node)
Pitch	Pitch value of the component multiplied with its parent pitch.
Pitch Randomization	Amount of pitch randomization to be added.
Override 2D Properties	Override parent 2D properties. (If not top node)
Pan2D	Sets a channel pan position linearly. Only works on 2D clips.
Override 3D Properties	Override parent 3D properties. (If not top node)
Pan Level	Sets how much the 3D engine has an effect on the component.
Spread Level	Sets the spread angle a 3D stereo or multichannel sound.
Doppler Level	Sets the Doppler level of the component.
Min Distance	Min audible distance.
Max Distance	Max audible distance.
Rolloff Mode	Determines how fast the sounds fades over distance: - Logarithmic - Linear - Custom
Component is	Shows the status of the component - Active - Inactive

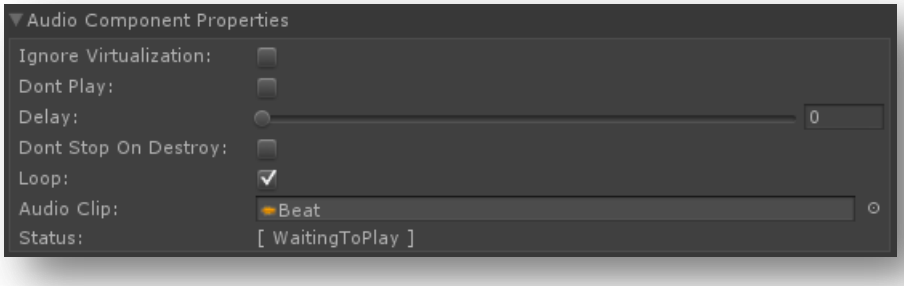
Runtime Parameter (RTP)



Properties	Description
Property	Component property that parameter will control - Volume - Pitch - Pan 2D - Pan Level - Spread Level - Doppler Level - Priority
Parameter	The parameter name that will listen for a value from the game through the API or as an event listener component.
Loop	If the Speed properties is set then the parameter will loop according to the behaviour selected. - One Shoot - Loop - Ping Pong
Min	The min value of the parameter
Max	The maximum value of the parameter
Seek	The parameter will seek to the target at the specified rate
Speed	The parameter will advance at a specified rate

Audio Component

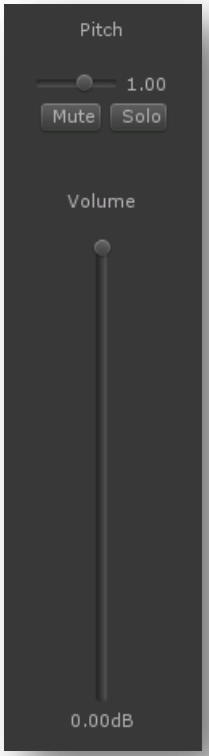
Audio component extends unity's audio source functionality



Properties	Description
Ignore Virtualization	Audio component won't be virtualized (stopped) according to distance from listener.
Don't Play	Audio component won't play.
Delay	How much to delay (is seconds) the component from playing
Don't Stop On Destroy	Keeps playing when it's parent game object is destroyed. The last know position of the game object is used.
Loop	Pitch value of the component multiplied with/by its parent pitch.
Audio Clip	Audio clip to play.
Status	Displays the current status of the audio component - WaitingToPlay - Playing - WaitingToStop - Stopped - Paused - Virtual - LostFocus

Group Component

Group component controls the volume and pitch properties for all its children.

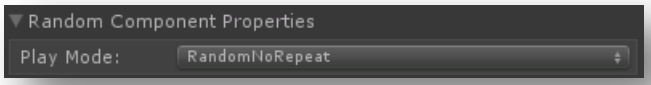


Properties	Description
Volume	Set volume for all children components.
Pitch	Set pitch for all children components.
Mute	Mutes all children components.

Solo	Mutes all other group components except this one.

Random Component

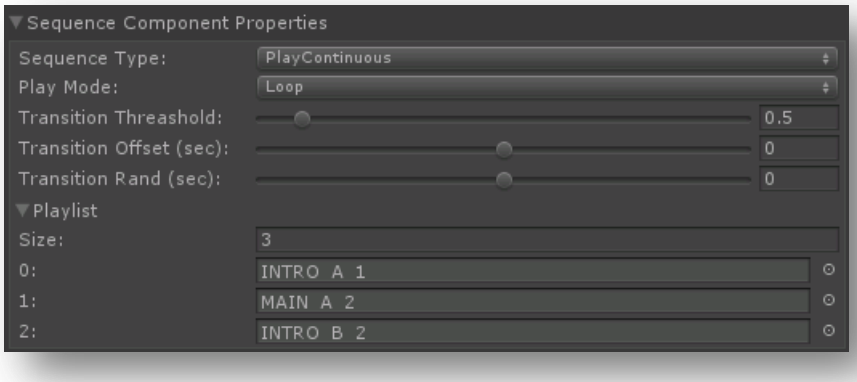
Random component selects a child component at random.



Properties	Description
Play Mode	The type of playing mode: - Random: Elements are picked in random. - RandomNoRepeat: Elements picked at random but are not repeated.

Sequencer Component

Sequencer component plays components in sequence.

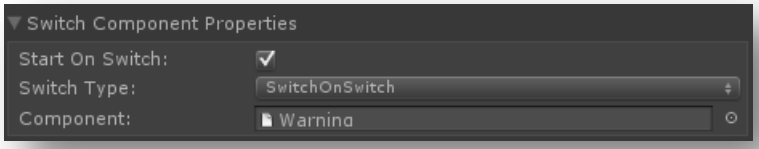


Properties	Description
Playlist	The order in which components are played (If not set it is ignored in which case the order in the hierarchy is used).
Sequence Type	The type of the sequence. - ContinuousPlay: Plays all elements in sequence. - AdvanceOnPlay: Advances on the next element when is triggered again.
Sequence Play Mode	The playing mode determines if a sequence is repeated or not. - Single: Plays sequence one and then stops. - Loop: Plays sequence continuously.
Transition Offset	Offset that allows overlapping by trigger the next entry in the sequence earlier (-) or later (+).
Transition Offset Rand	Applies a random value within this range on top of the transition offset

An arrow (←) indicates which component is currently playing.

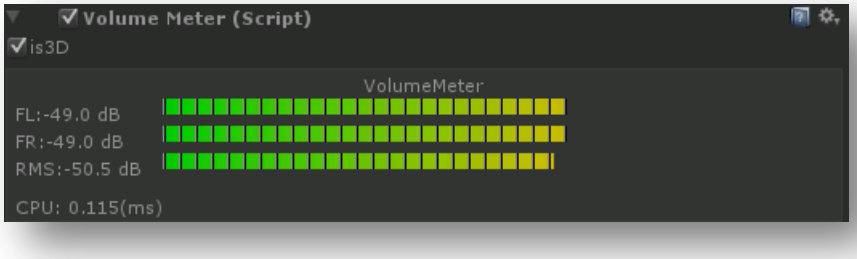
Switch Component

Switch component allows access to choose which component to play.



Properties	Description
Start On Switch	Starts the component playing when a switch occurs.
Switch Type	The switch types available: - SwitchOnPlay - SwitchOnEnd - SwitchOnSwitch
Component	Currently selected component. Use this to select the default component.

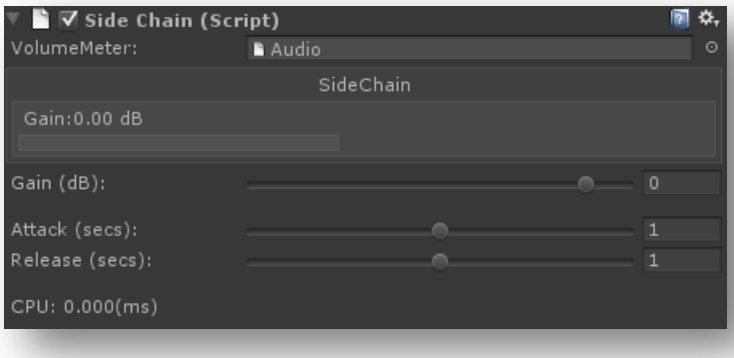
Volume meter component



Properties	Description
Is3D	Sets if the audio sources in the hierarchy are 3D. NOTE: This will be removed in future versions

Loudness Meter Component

Side chain Component

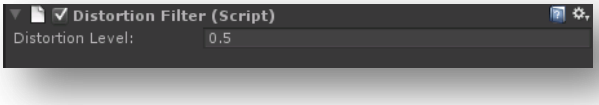


Properties	Description
Gain (dB)	Controls the input gain coming from the volume meter
Attack (secs)	Defines how fast the side chain will respond to a positive input value
Release (secs)	Defines how fast the side chain will respond to a negative input value

DSP Components

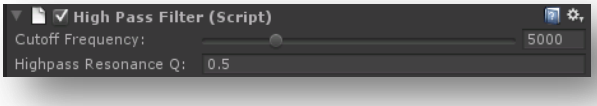
Chorus Filter

Distortion Filter

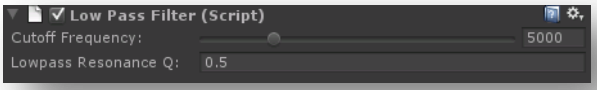


Echo Filter

High Pass Filter



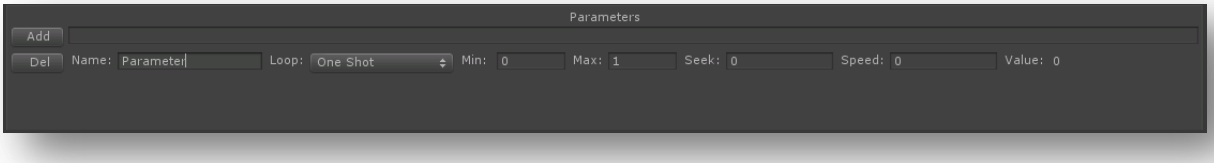
Low Pass Filter



Note: Refer to the event trigger section for DSP properties and value ranges.

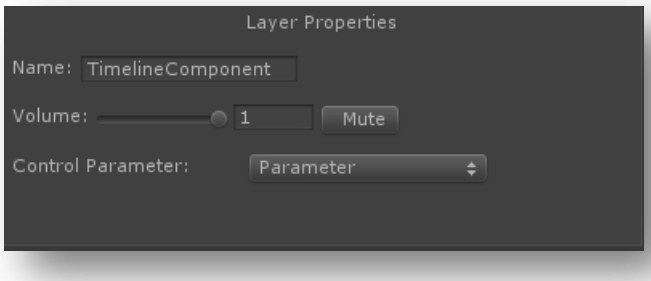
Timeline Component

Parameter properties



Properties	Description
Name	The name of the parameter
Loop	If the Speed properties is set then the parameter will loop according to the behaviour selected. - One Shoot - Loop - Ping Pong
Min	The min value of the parameter
Max	The maximum value of the parameter
Seek	The parameter will seek to the target at the specified rate
Speed	The parameter will advance at a specified rate

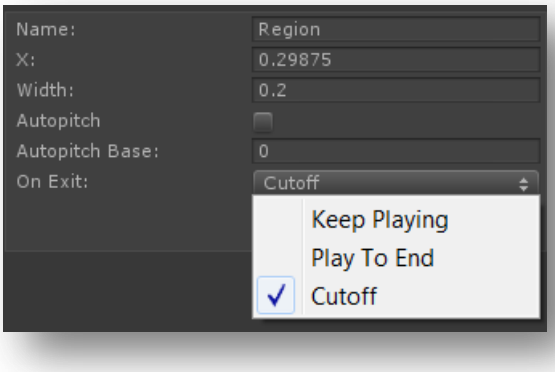
Layer properties



Properties	Description
Name	The name of the layer
Volume	Sets the layer volume

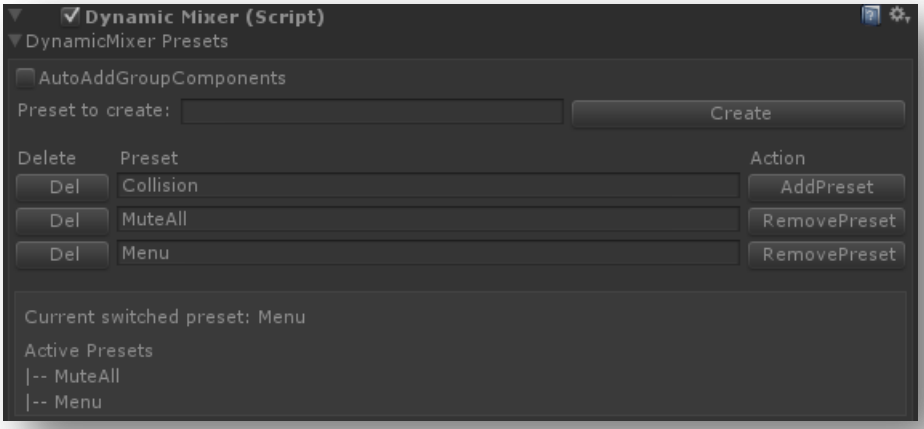
Mute	Mutes the layer
Control Parameter	The parameter that controls the layer

Region properties



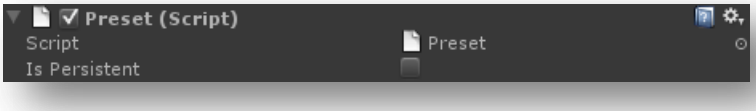
Properties	Description
Name	The name of the region
X	The start position of the region in the timeline
Width	The length of the region in the timeline
Autopitch	The region pitch is linearly scaled up or down relative to the centre of the region
Autopitch Base	Used for fine tuning the auto pitch value
On Exit	This option determines how the region will behave when a parameter exists - Keep Playing - Play To End - Cutoff

Dynamic Mixer component



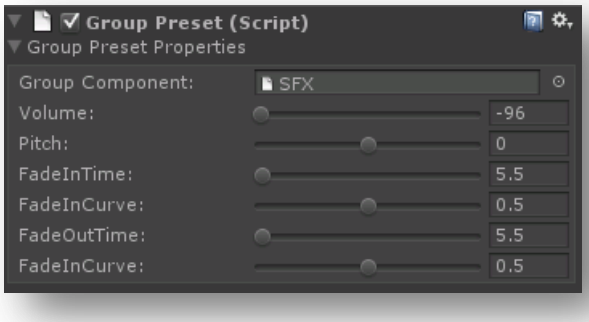
Properties	Description
AutoAddGroupComponents	Flag that automatically adds/removes group components (NOTE: Disabled for the first v2.0 release)
Create	Creates a preset with a given name
Del	Deletes the preset
AddPreset	Adds preset to the active list
RemovePreset	Removes preset from the active list

Preset properties



Properties	Description
Is Persistent	If its ticked the preset won't be removed when the dynamic mixer reset function is called through the event system or API

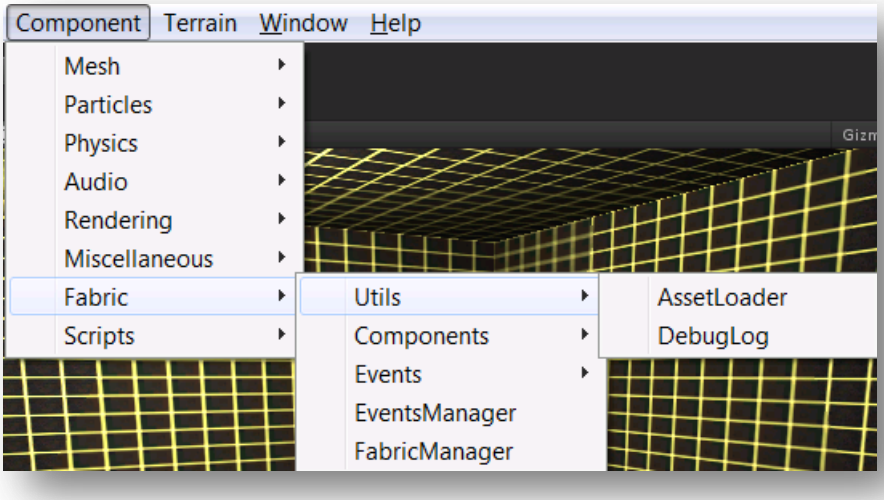
GroupPreset



Properties	Description
Group Component	The group component to be modified
Volume	Volume to set in dB
Pitch	Pitch to set
FadeInTime	The time it will take to reach the volume/pitch values, in seconds
FadeInCurve	The type of transition curve (0.5 = linear, log < 0.5 > exp
FadeInTime	The time it will take to remove the volume/pitch values, in seconds
FadeInCurve	The type of transition curve (0.5 = linear, log < 0.5 > exp

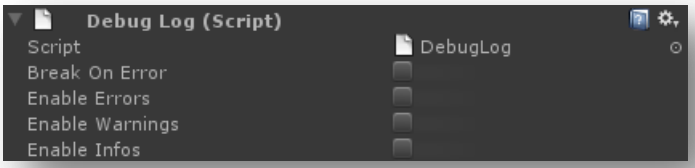
Utils

Fabric comes with helper components which can be found in the Fabric->Utils menu selection.



DebugLog

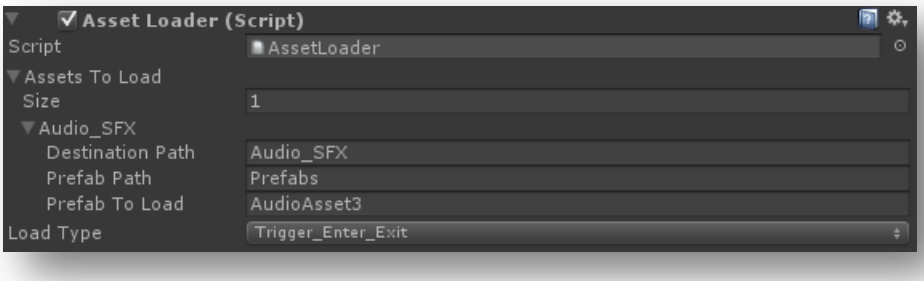
DebugLog provides the option to choose which type of messages will be displayed in the console output therefore reduces the amount of information displayed.



Properties	Description
Break On Error	Stops execute of code if an error occurs.
Enable Errors	Enables errors to be handled.
Enable Warnings	Enables warnings to be handled.
Enable Infos	Enables infos to be handled.

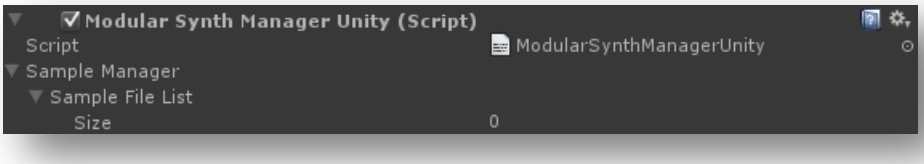
Asset Loader

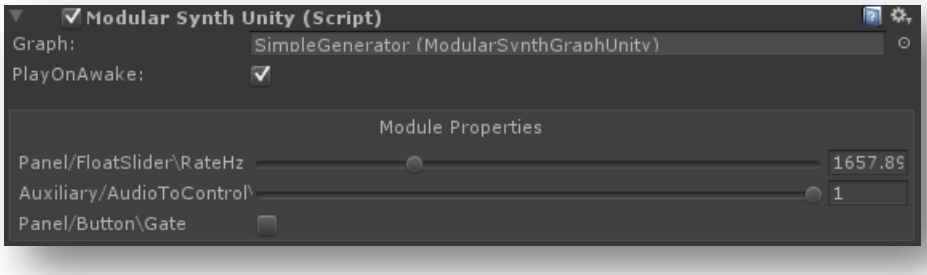
Asset loader is a component that loads and unloads prefabs assets that contain Fabric components. When the component is started it loads the prefab assets and when it is destroyed it unloads them.

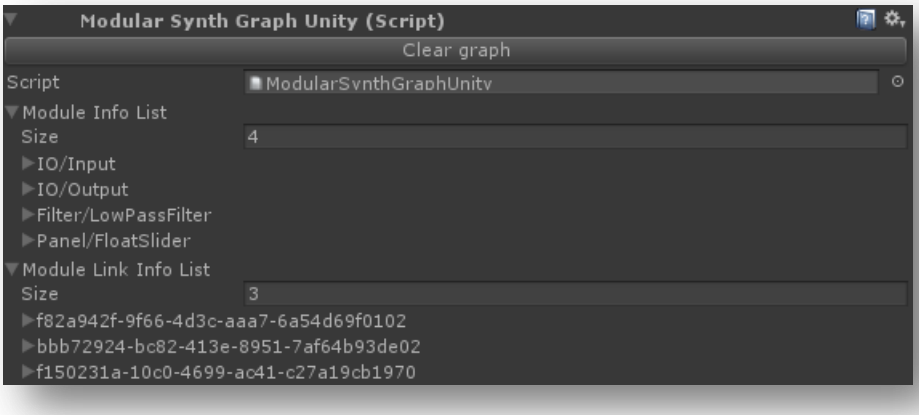


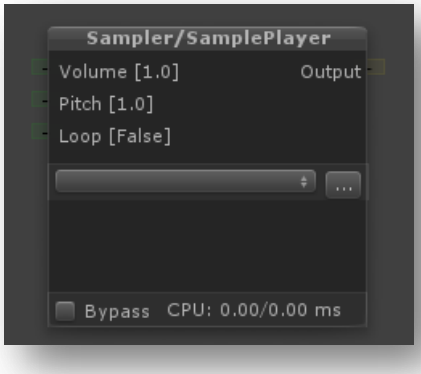
Properties	Description
Prefab Assets	List of prefab assets to be loaded/unloaded.

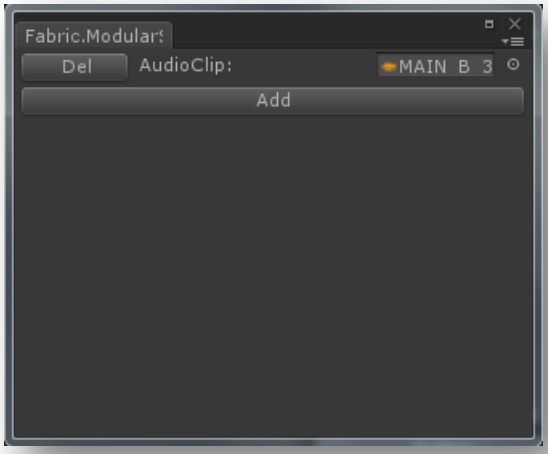
Modular Synth Extension








Sampler/SamplePlayer
Volume [1.0]
Output
Pitch [1.0]
Loop [False]
...
Bypass
CPU: 0.00/0.00 ms


Fabric.Modular
Del
AudioClip:
MAIN B 3
Add