SHALLWAY STUDIO

Xffect Editor

Reference Manual

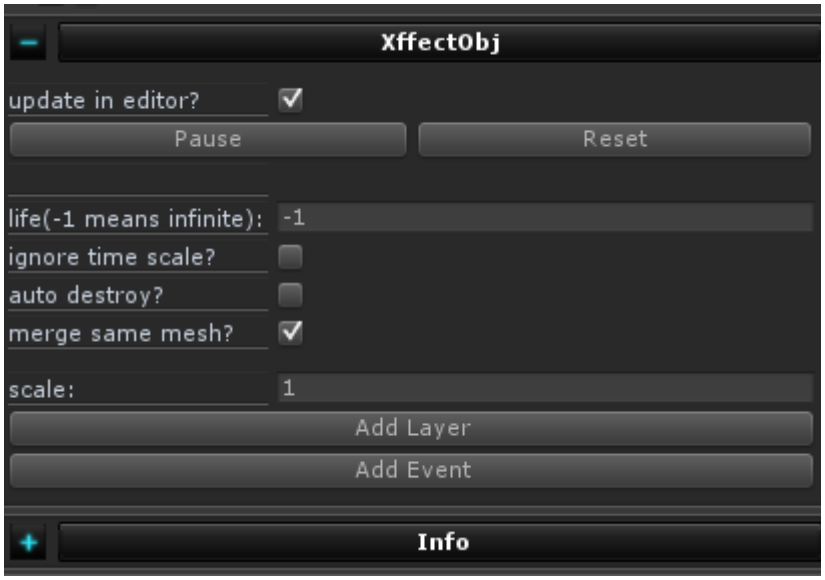
Version 4.0.0

2013/10/10

Visit http://shallway.net/xffect/doku.php?id=en:main to learn more tutorials

Xffect Component

XffectComponent is responsible for the management of updating and rendering of its ***EffectLayer***.



update in editor

If checked then the Xffect will be updated in editor mode.

NOTE：When there is no need to update this Xffect, please uncheck this option. And after you changed one of the parameters in **EffectLayer**, you may need to click **Reset** button to make it go into effect.

life

This parameter indicates the life of the Xffect.

NOTE： Usually just leave it as -1 is ok, you should control the Xffect's life time by **EffectLayer**, **XffectComponent** will check all its child **EffectLayers** and if none of them are active then this Xffect's life is end.

ignore time scale

If checked then the XffectComponent's updating will not be influenced by unity's API **Time.timeScale.**

auto destroy

If checked then the Xffect Object will be destroyed when its life is over.

NOTE: This option only take effect in play mode.

merge same mesh

If checked then its child **EffectLayers** that with same material will be merged and it will decrease the

drawcalls.

see this article to learn how it works to optimize the performance on mobile devices:
http://shallway.net/xffect/doku.php?id=en:tutorial:optimize_for_mobile

NOTE: This feature is not available in the free edition.

scale

This parameter changes the Xffect and all its EffectLayers' scale, and because this parameter simply changing the mesh size so it's not recommended to use it for complicated effects.

NOTE: I suggest you changing the EffectLayer's parameter instead of changing this parameter to scale the Xffect, because some times this parameter will cause strange problems, e.g. the **Collision** and **GravityModifier** might not work if this parameter is not 1.

Add Layer

If clicked then a new **EffectLayer** will be added into its hierarchy.

NOTE: After the new **EffectLayer** created, please change its name manually.

Add Event

If clicked then a new **Event** will be added into its hierarchy.

EffectLayer

Main Config

material

This parameter indicates the material of this EffectLayer.

depth

This parameter changes the "RenderQueue" of the material, the actual RenderQueue = material:RenderQueue + depth.

NOTE: If you checked the **merge same mesh** option in **XffectComponent** then this option only influence the EffectLayers with different material.

render type

This parameter specifies the render type of the EffectLayer.

delay

This parameter specifies the delay to start updating this EffectLayer.

deug color

This parameter specifies the Gizmos color of this EffectLayer in the editor scene.

client

This parameter specifies the EffectLayer's client transform, normally there is no need to change it.

sync pos to client

If checked then this EffectLayer's position is synchronous to the **client** position.

inherit client rotation

If checked then the ***Direction*** will inherit from the client transform's rotation.

Advance Shader Control

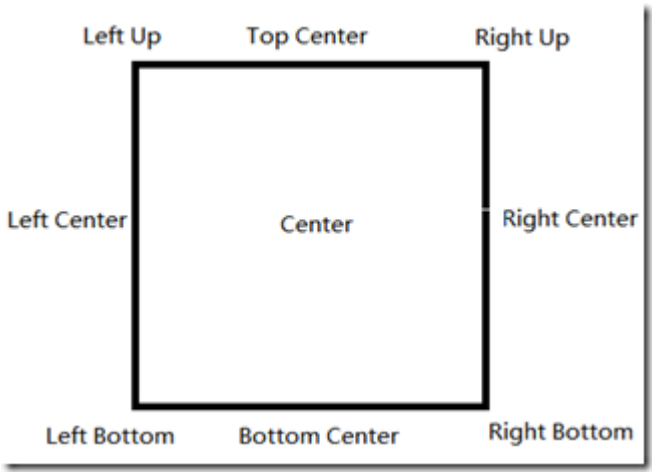
This edit config only display when you use a material that contains advance shader, e.g. Xffect/displacement/additive. In this case, you can control each particle's displacement strength by curve.

you can refer to "Tutorial/Advance Shader" folder to learn details about this config.

Sprite

Video Tutorial

pivot



NOTE: pivot can influence Rotating and Scaling.

width, height

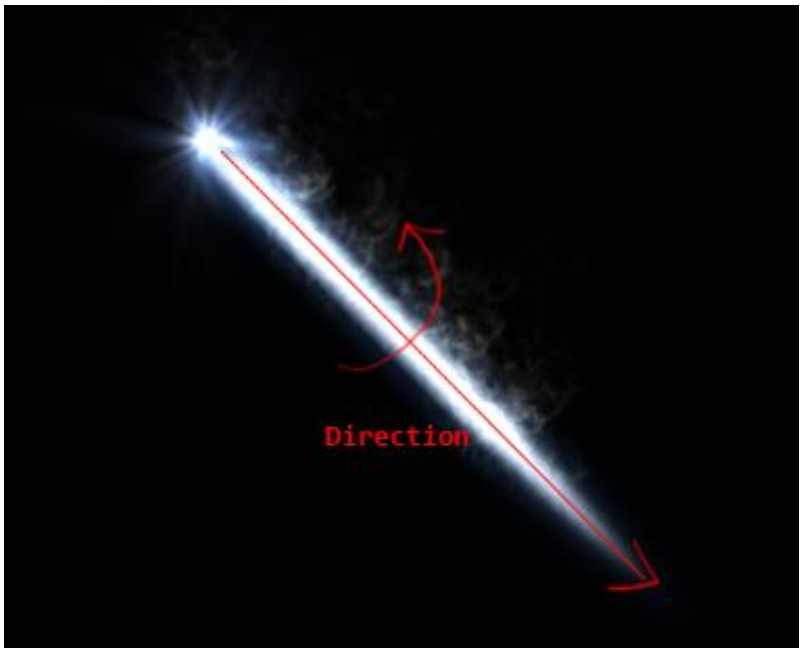
These parameters specify the original size of the sprite.

BILLBOARD

BILLBOARD_SELF

BILLBOARD_SELF's direction is set from **Direction** config.

BILLBOARD_SELF is a special billboard which only rotate around the ***Direction*** axis to face the camera.



XY

A quad that lay on the XY Plane, its direction can also be changed by ***Direction*** config.

BILLBOARD_Y

A special billboard which only rotate around Y axis to face the camera.

Ribbon Trail

Click to see video tutorial

random start size

If checked then each trail will have a random start size.

width

The width of the trail.

trail length

The length of the trail.

max elements

The larger the value, the smoother the trail will be.

uv direction

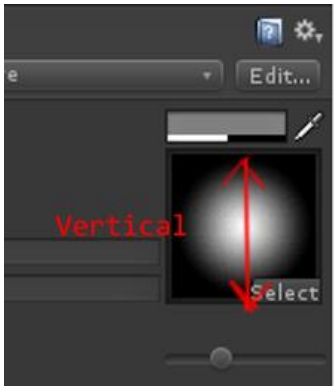
This parameter indicates the uv stretch direction of the trail:

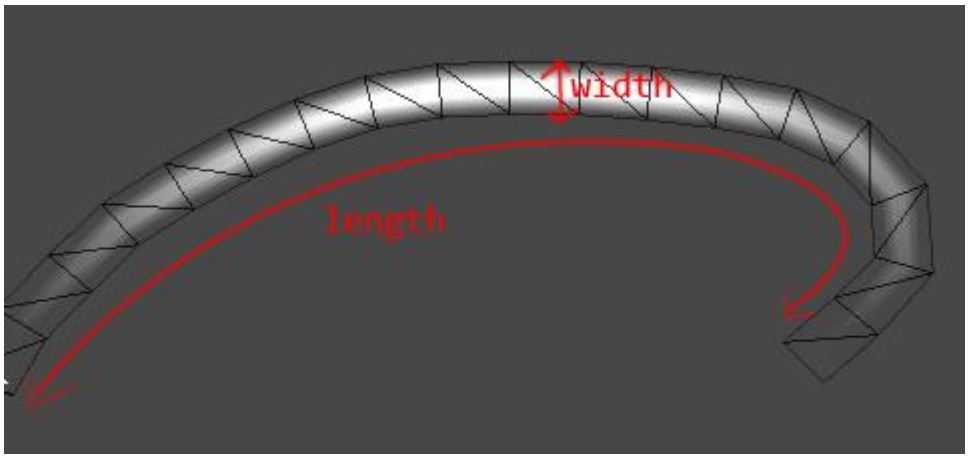
- **Vertical**, from top to bottom.
- **Horizontal**, from left to right.

slash trail

The default Ribbon Trail is always face the camera, but if you want to make some kind of sword slash trail, you need to specify another object that is perpendicular to the sword face.

Example





NOTE: If you want to drag the RibbonTrail in editor scene, you need to check the **sync pos to client** option.

Cone

Video Tutorial

size

This parameter defines the cone's size:

- **X,** indicates the bottom circle's radius.
- **Y,** indicates the height.

segment

The larger the value, the smoother the cone.

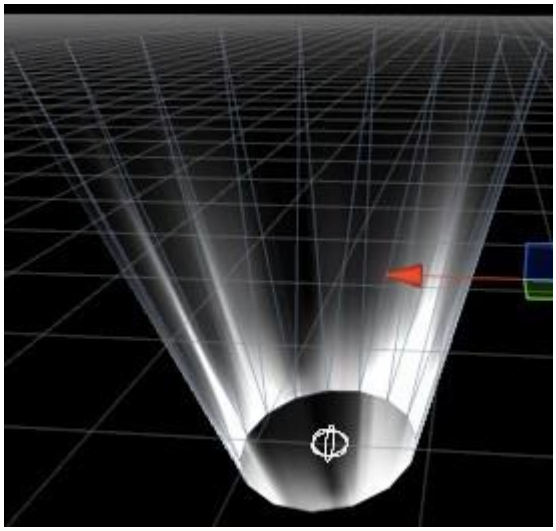
angle change

If checked then you can change the cone's spread angle by curve.

angle

This parameter specifies the spread angle of the Cone.

Example



As shown above, the **size** of this cone is (5,25), the **segment** is 15, and the **angle** is 15.

Custom Mesh

custom mesh

You can specify your custom mesh here.

mesh axis

This parameter specifies the axis of the mesh, it is used for scaling and rotating.

Rope

Video Tutorial

width

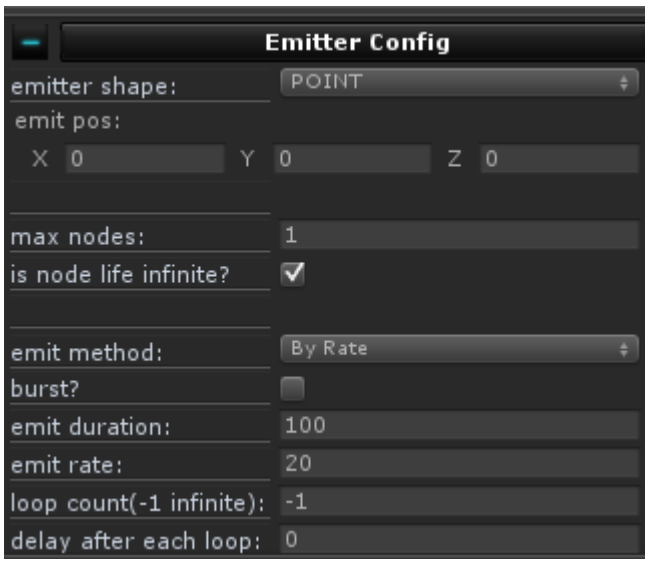
This parameter specifies the width of the rope.

fixed uv length

If checked then the rope's uv length will be stretched to consistent with the texture.

NOTE: The length of the rope is determined by all the particles.

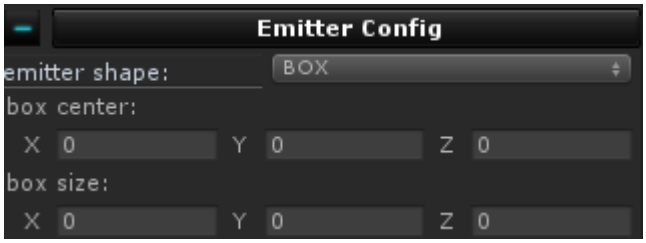
Emitter Config



POINT

All the particles will be emitted from **emit pos**.

BOX

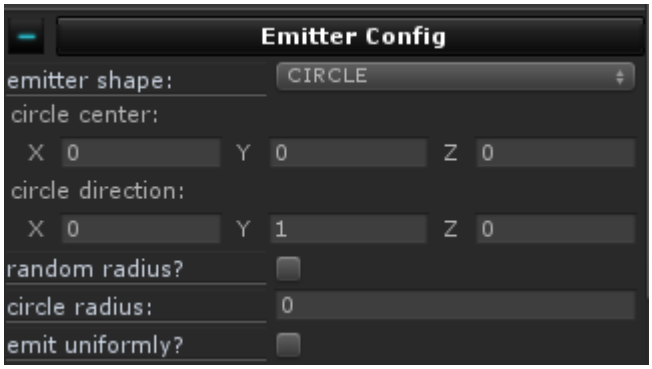


All the particles will be emitted **inside** the box.

SPHERE

All the particles will be emitter **on the sphere surface**.

CIRCLE



All the particles will be emitted around the circle.

- **random radius**

If checked then the radius is random.

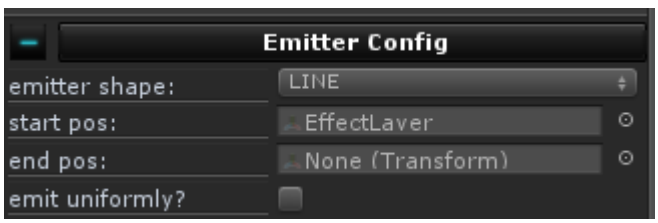
- **circle radius**

This parameter specifies the radius of the circle.

- **emit uniformly**

If checked then the particles will be emitted uniformly.

LINE



All the particles will be emitted on a line which is specified by **start pos** and **end pos**.

Mesh

All the particles will be emitted on a custom mesh.

max nodes

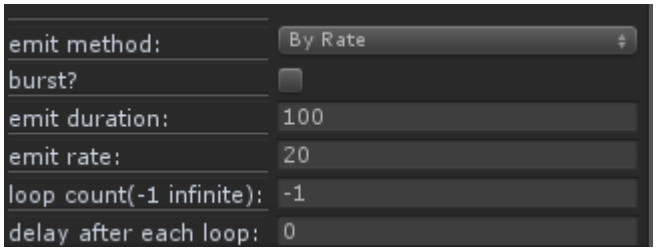
This parameter specifies the max particle count of the EffectLayer.

NOTE: please make this number as smaller as possible, and do not change this parameter while updating.

is node life infinite

If unchecked then you can set each particle's life.

Emit By Rate



- burst

If checked then all the particle will be emitted instantly.

- emit duration

This parameter indicates the duration of the emit.

- emit rate

This parameter indicates the emit rate.

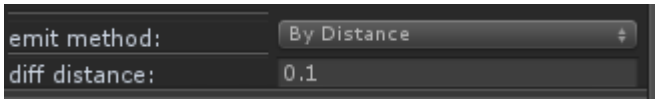
- loop count

When the **emit duration** is expired, then the l**oop count** will be decreased by 1, and when the **loop count** reaches 0, the emitter will stop.

- delay after each loop

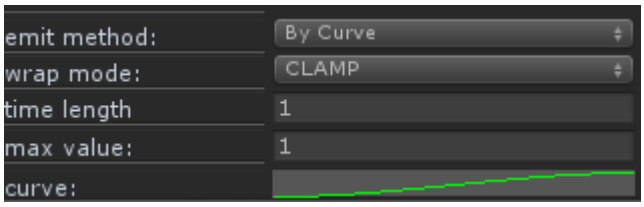
This parameter indicates the delay after each loop.

Emit By Distance



A particle will be emitted when the **client** exceeds the **diff distance**.

Emit By Curve



All particles will be emitted by curve. **Appendix1: Curve Editor**

Direction

random speed

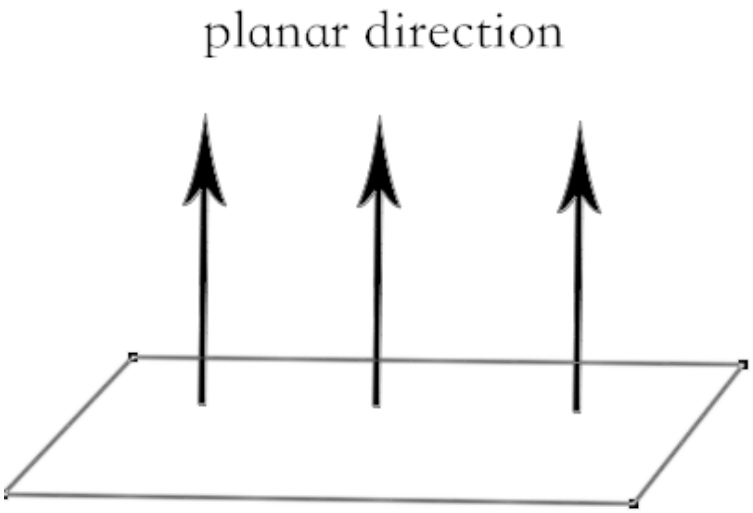
If checked then each particle will be given a random initial speed.

original speed

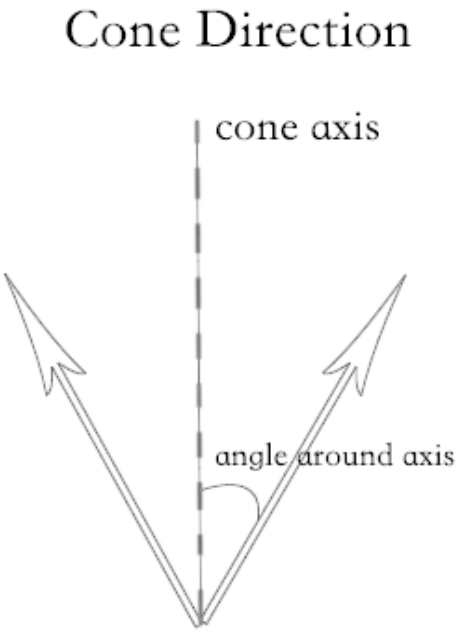
This parameter indicates the original speed of each particle.

NOTE: each particle's initial velocity direction is set by **original direction.**

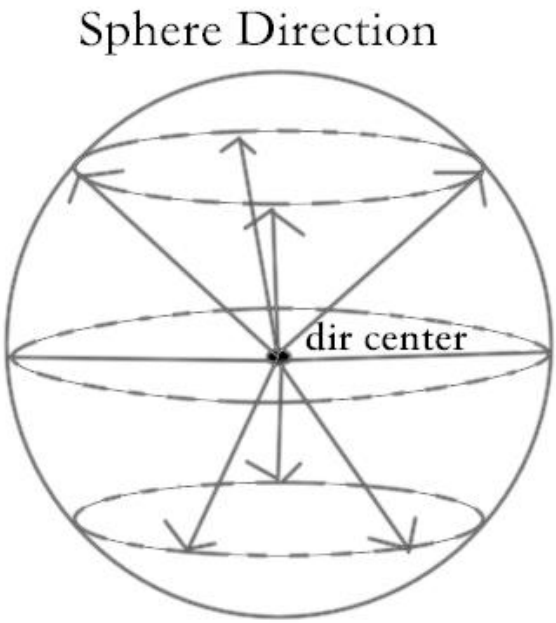
Planar direction



Cone direction

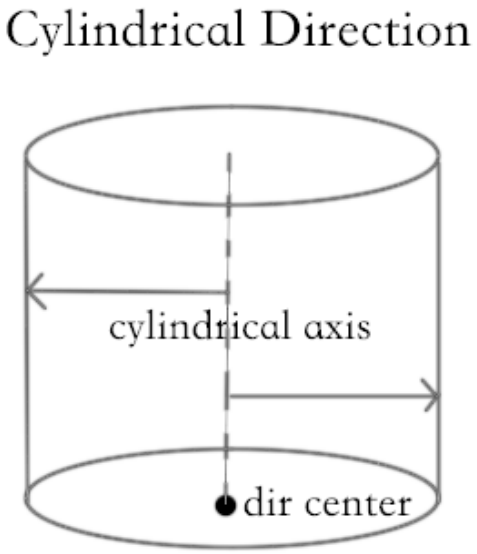


Sphere direction



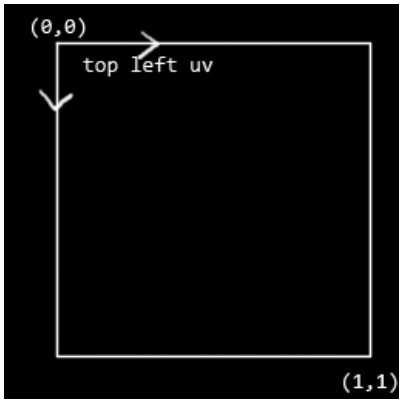
NOTE: the sphere direction is from **dir center** to the particle's initial position.

Cylindrical direction

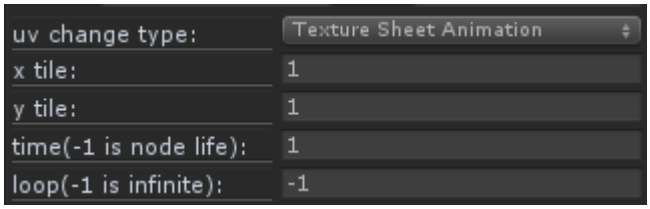


UV Config

Example



Texture Sheet Animation



- x tile

The columns of the slice.

- y tile

The rows of the slice.

- time

This parameter specifies the animation's circle time, if value < 0 then the time is equal to the particle's life time.

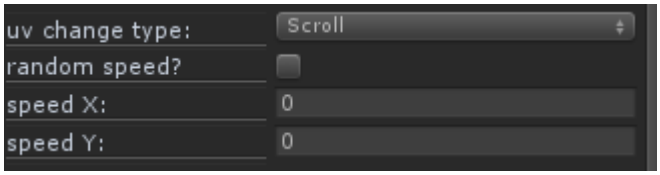
- loop

The loop count of the animation.

- random start frame

If checked this option then the start frame will be randomized.

Scroll



- Speed X

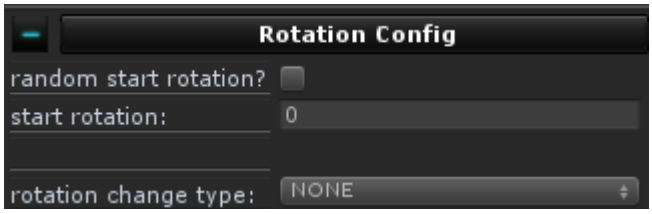
This parameter specifies the horizontal uv scroll speed.

- Speed Y

This parameter specifies the vertical uv scroll speed.

NOTE: you may need to set the Texture's **wrap mode** to **Repeat** to make the scrolling correct.

Rotation Config



random start rotation

If checked then each particle will be given a random start rotation.

start rotation

This parameter specifies the start rotation of each particle.

rotation change type

If the type is not **NONE**, then you can change the rotation dynamically. **Appendix1: Curve Editor**

Scale Config

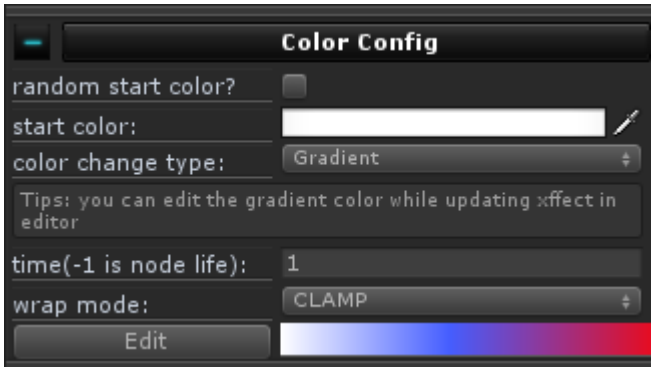
random start scale

If checked then each particle will be given a random start scale.

scale change type

If the type is not **NONE**, then you can change the scale dynamically. **Appendix1: Curve Editor**

Color Config



random start color

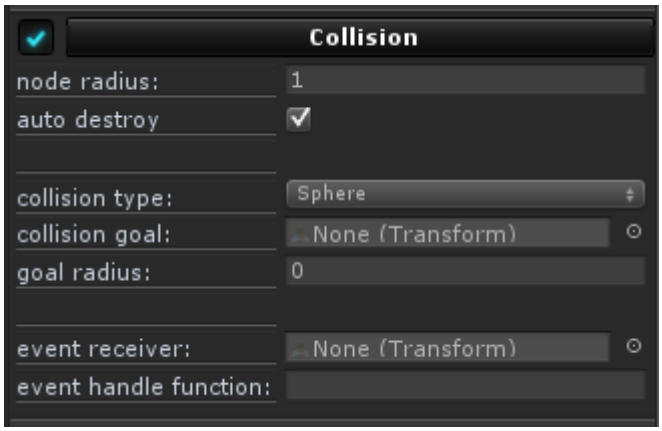
If checked then each particle will be given a random start color.

color change type

If the type is not **NONE**, then you can change the color dynamically. **Appendix2: Color Editor**

NOTE: particle color = (start color) * (gradient color).

Collision



node radius

This parameter specifies the particle's radius.

auto destroy

If checked then each particle will be destroyed after collision.

collision type

- Sphere

Each particle will be collided with **collision goal**.

you can refer to "Tutorial/API Usage/GravityDemo" to learn details about Sphere collision.

- Collision Layer

Each particle will be collided with unity colliders that with the same **Layer**.

- Plane

Each particle will be collided with a plane which is defined by **plane dir** and **plane offset**.

event receiver

The collision event receiver, please refer to **API Manual** to learn details.

event handle function

The collision handle function, please refer to **API Manual** to learn details.

Sub Emitters

Video Tutorial

xffect cache

The Xffect pool, all the effects should in the hierarchy of this object.

Birth

When a new particle is emitted, it will be replaced with a xffect in the **xffect cache**.

Death

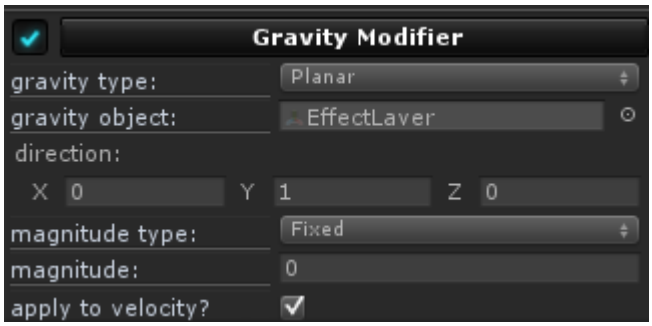
When a particle is dead, a xffect will be activated at its position.

Collision

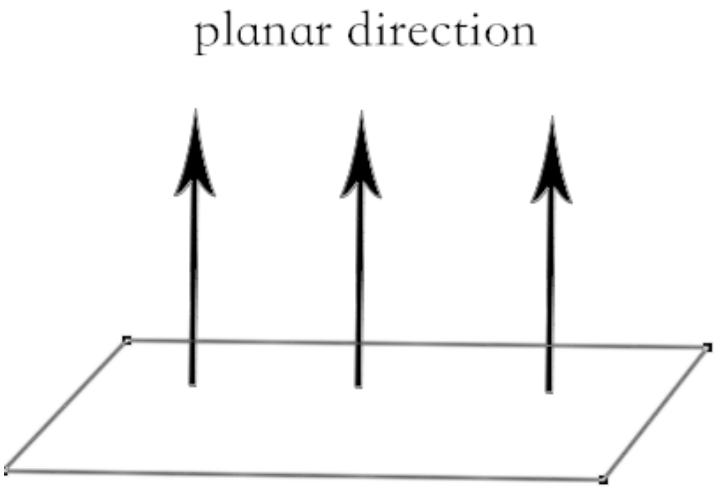
When a particle is collided, a xffect will be activated at the collide position.

you can refer to "Tutorial/Sub Emitter" to learn details about Sub Emitters.

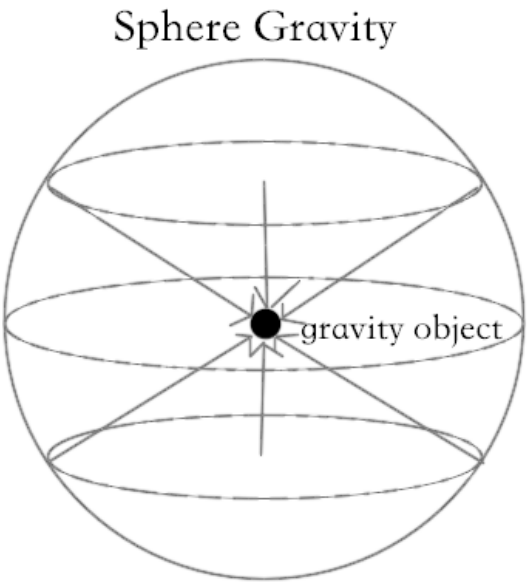
Gravity Modifier



Planar Gravity



Spherical Gravity



you can refer to "Tutorial/API Usage/GravityDemo" to learn details about Sphere Gravity.

magnitude

This parameter specifies the strength of the force. **Appendix1: Curve Editor**

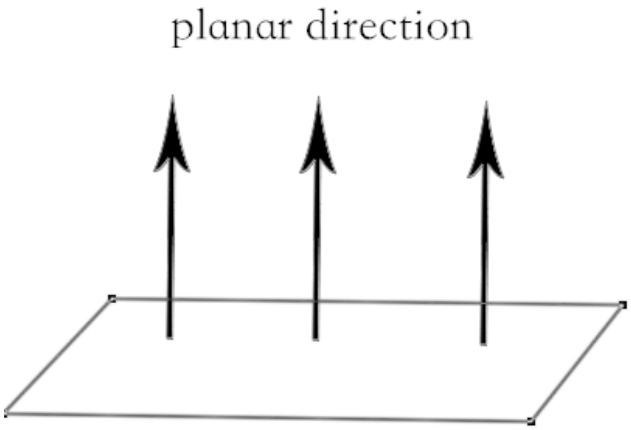
apply to velocity

If checked then the gravity force will be added to the particle's velocity, or the force will directly change the particle's postion, e.g. if you want particles be attracted to gravity object directly but there has other forces on them, you need to uncheck this option.

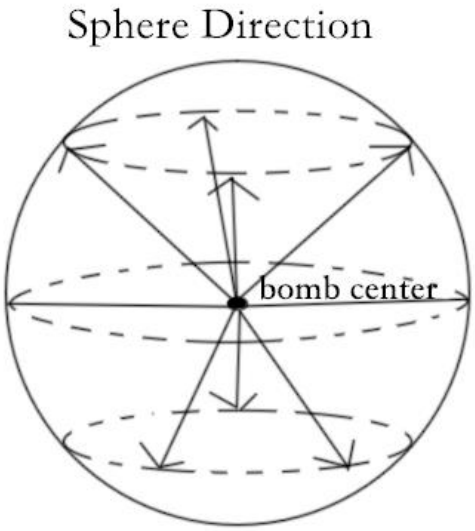
Bomb Modifier

NOTE: The initial position of each particle should not be too close to the **bomb pos**, or the force will be extremly strong.

Planar Bomb

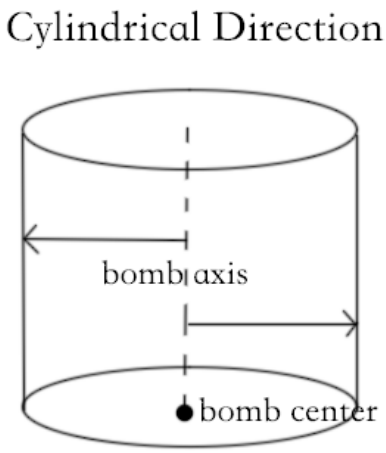


Spherical Bomb



NOTE: The force direction is from bomb center to particle postion, and the closer they are, the stronger the force will be.

Cylindrical Bomb



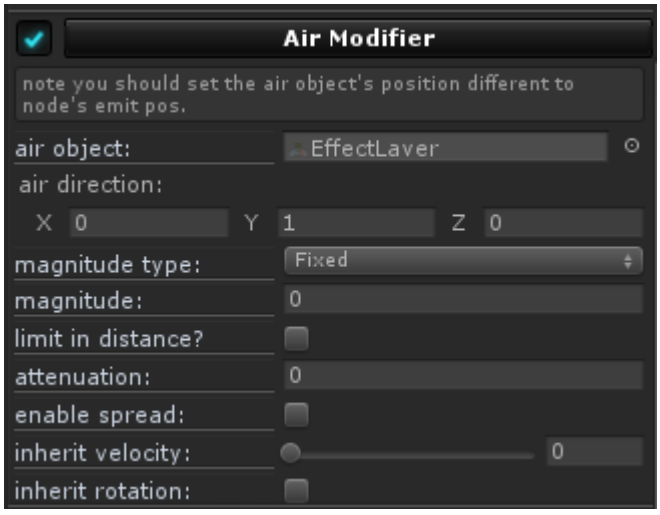
magnitude

This parameter specifies the strength of the force.

decay type

Make the force decay by distance.

Air Modifier



AirModifier can simulate the affects of air movements like wind, fans, or wake.

air object

This parameter defines the location of the air.

NOTE: It's recommended to change the **air object** to another GameObject ant put it to the same hierarchy in **XffectComponent**.

air direction

This parameter defines the orientation of the air.

magnitude

This parameter specifies the strength of the air.

limit in distance

If checked then the air force will be limited in a certain distance.

attenuation

Make the force decay by distance.

enable spread

If checked then the air force will be spread.

inherit velocity

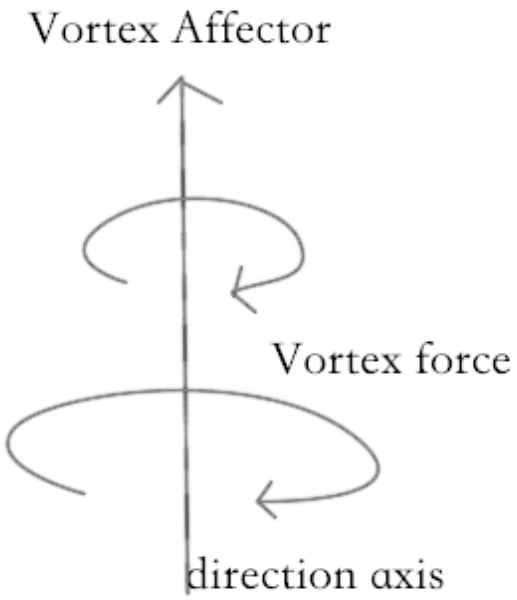
Describes how much of the air object's velocity is added to the magnitude and direction of the air field.

inherit rotation

If checked then the **air direction** will inherit from **air object**.

Vortex Modifier

Vortex Modifier can simulate the affects of a vortex.



random direction

If checked then each particle will be affected by a vortex force with random direction.

inherit rotation

If checked then the vortex direction will inherit from **vortex object**.

magnitude

defines the force around the directional axis. **Appendix1: Curve Editor**

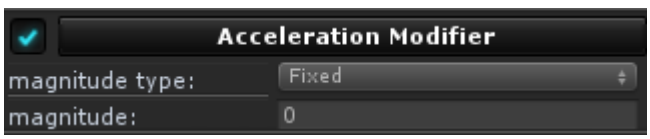
apply to velocity

If checked then the force will added to particle's velocity, or the force will directly change the particle's position.

fixed circle track

If checked then each particle's movement will be fixed in a circle, or they may be spread over time.

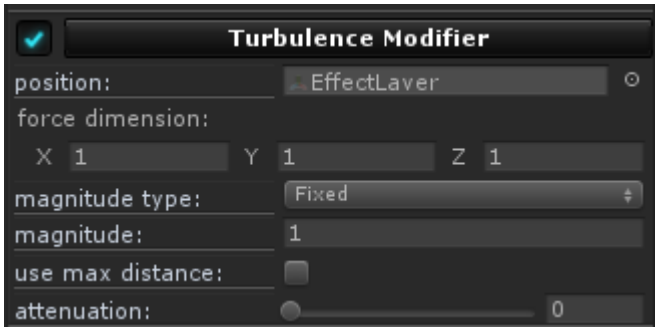
Acceleration Modifier



acceleration modifier can change each particle's acceleration dynamically.

NOTE: the **magnitude** can be negative.

Turbulence Modifier



TurblulenceModifier gives a turbluence field force for particles, The magnitude dictates how many turblence updates should occur per loop.

force dimension

This parameter specifies the dimension of the force.

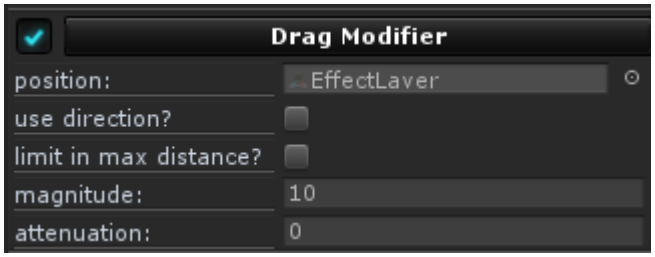
use max distance

If checked then the force will be limited in a certain distance.

attenuation

Make the force decay by distance.

Drag Modifier

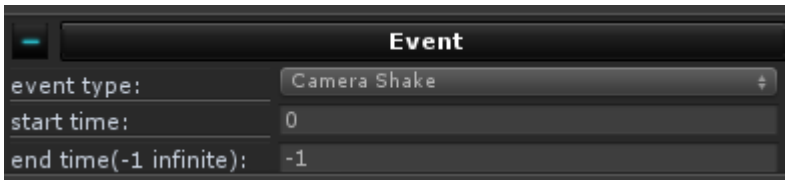


Drag modifier will dampen the movement of particle. The **magnitude** of the force controls the strength of the dampening effect. **attenuation** and **max distance** are used to determine the final strength of the field.

Sine Modifier

This modifier will give each particle a force whose magnitude is defined by a sine wave.

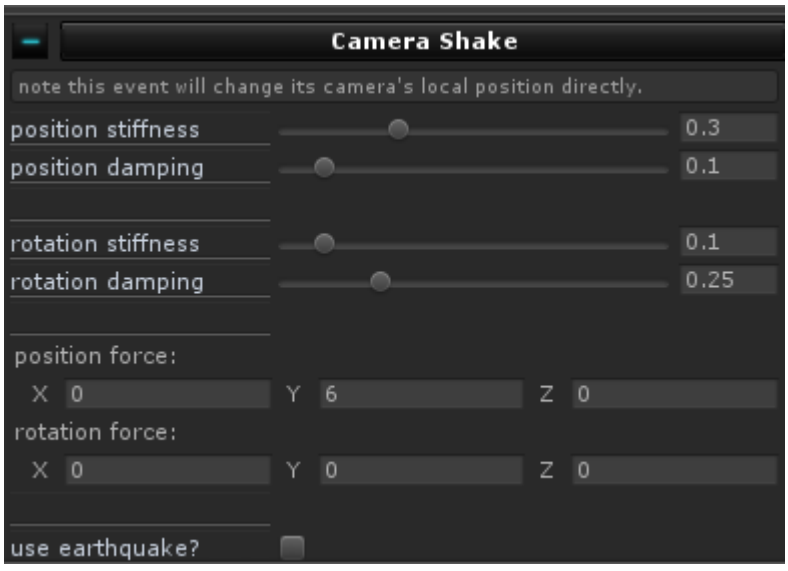
Event System



When you added a **Event**, it will be triggered at **start time** and closed at **end time**.

NOTE: usually we just leave the **end time** as -1, because when the Xffect ended, the Event will also be ended.

Camera Shake



Camera Shake event will add a "XftCameraShakeComp" Component to your main camera, and change its local rotation and local position directly.

position force

add a instant force to the position spring.

rotation force

add a instant force to the rotation spring.

use earthquake

If checked then the shake force will be constantly.

NNOTE: Since this event will add a "XffectShakeComponent" to the main camera to change its transform, you should avoid modifying the camera's transform in other component when this event is processing.

Sound

Sound Event will play a audio clip when this event is triggered.

audio clip

This parameter specifies the audio to play.

volume

This parameter specifies the volume of the audio.

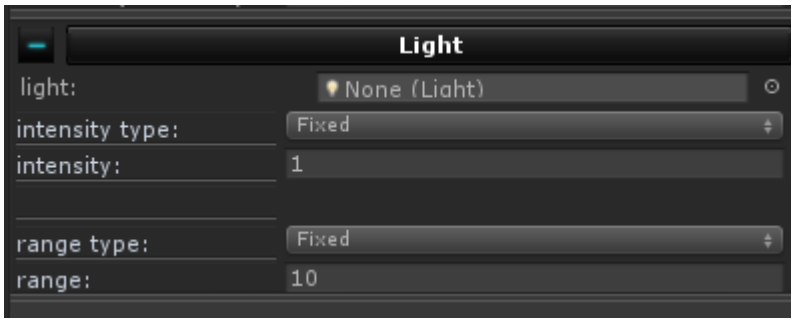
pitch

This parameter specifies the pitch of the audio.

looping

If checked then the audio will be played continuous.

Light



light

This parameter specifies the light that need to be activated.

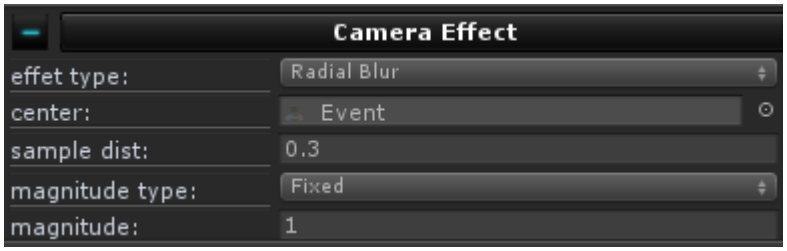
intensity type

This parameter specifies the intensity of the light, can be edited by curve. **Appendix1: Curve Editor**

range type

This parameter specifies the range of the light, can be edited by curve. **Appendix1: Curve Editor**

Camera Effect(Require Unity Pro)



Radial Blur

Radial Blur ImageEffect.

Radial Blur Mask

A cheap radial blur, can be used on mobile.

Glow

Same as the unity's build-in Glow ImageEffect.

Glow Per Obj

Only make the particular object glow, See Video Tutorial.

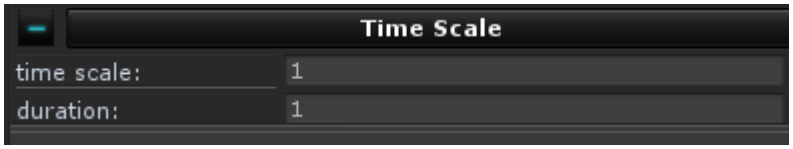
Color Inverse

Color Inverse ImageEffect.

Glitch

Screen glitch ImageEffect.

Time Scale

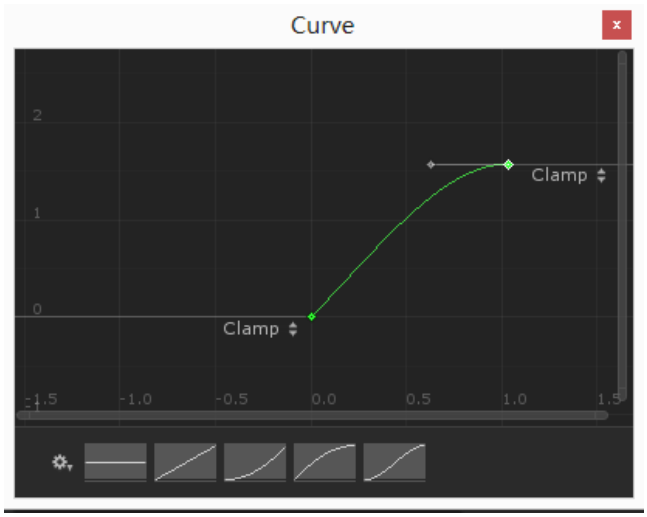


This event will change the value of **Time.timeScale**.

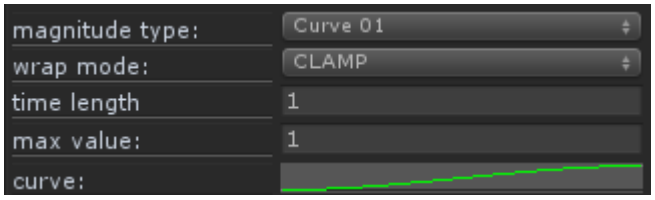
Appendix1: Curve Editor

Normal Curve Editor(Not Recommended)

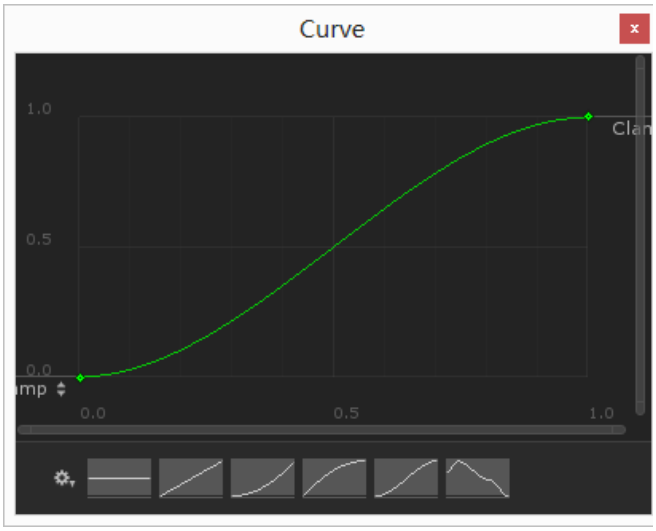
This curve's x and y can be set to any value, but it's difficult to edit, as shown below:



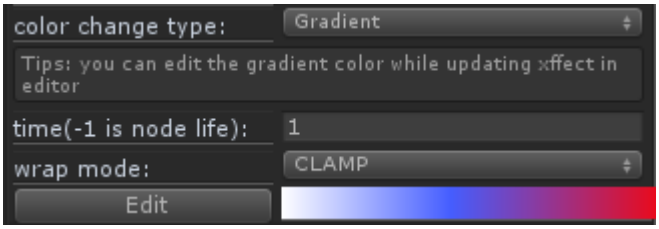
01Curve Editor(Recommended)



This curve's x and y are limited in [0,1], we only need to edit the trends of the curve and set the **max value** as max y and **time length** as max x to define a curve, as shown below:



Appendix2: Color Editor



time

This parameter specifies the circle time of the gradient, the value -1 indicates the time is equal to particle life.

wrap mode

This parameter indicates the wrap mode of the **time**.

Edit