

## 20.3.3 Editors - NLA Editor - Sidebar - Modifiers Tab

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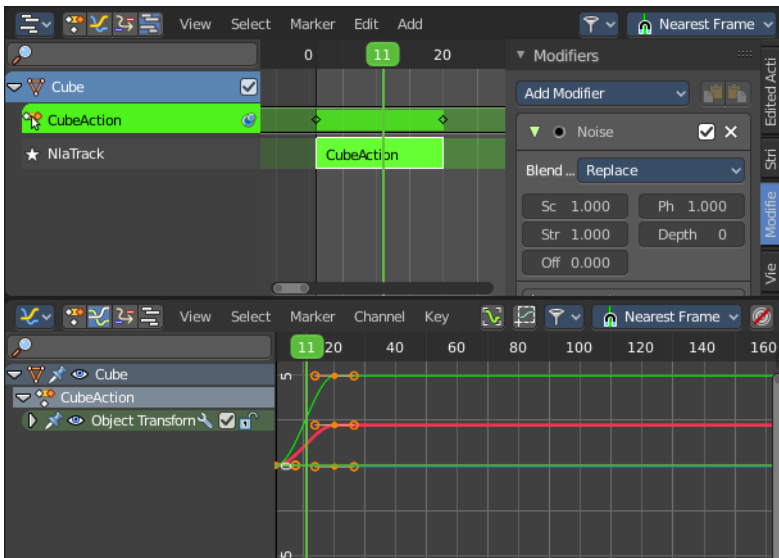
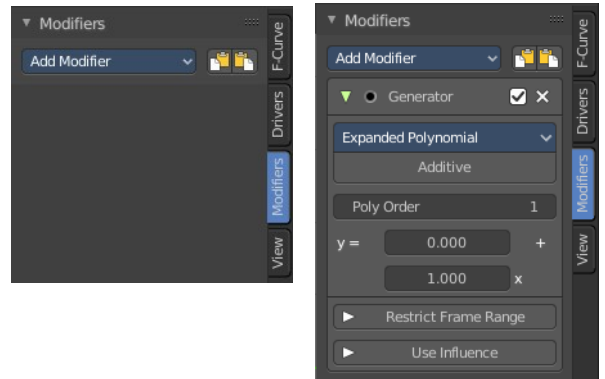
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## Modifiers Tab - Modifiers Panel

F-Curve modifiers are similar to Object modifiers. They allow to add adjustable non destructive effects. And they can be layered on top of each other.

Different to the Object modifiers you can't reorder this modifiers. You have to create it in the order that you need it.

Note that the F-Curve for the modifiers is just visible in the Graph editor when you are in Tweaking mode.



### Add Modifier

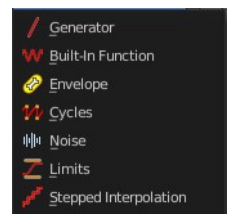
The list of modifiers. Choose by clicking.

### Copy F-Curve Modifiers

Copy the F-Curve Modifiers of the active F-Curve.

### Paste F-Curve Modifiers

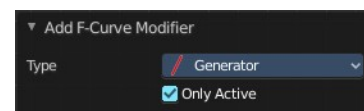
Paste copied F-Curve modifiers to the active F-Curve.



## Last Operator Add F-Curve Modifier

### Type

A drop down list with the Type of modifier to add.



### Only Active

Only add a modifier to the currently active curve.

## Modifier header

Every modifier is a panel. And every panel has a header area with some general UI elements.



### Triangle button

Every modifier panel can be expanded or collapsed by clicking at this triangle button.

### Active

This is the panel that you currently edit. When you edit a panel while it is not set to the active one, then the changes will not be applied.

### Modifier name

The name of the modifier. Read only.

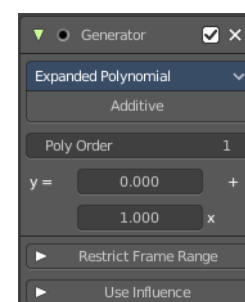
### Muted

Enable or disable this modifier.

## Delete F-Curve Modifier

Delete this modifier.

## Generator modifier



## Polynomial Mode

Use Expanded Polynomial or Factorized Polynomial algorithm. With these mathematical formulas you can create lines, parabolas, and other more complex curves by changing the values in the poly order field.



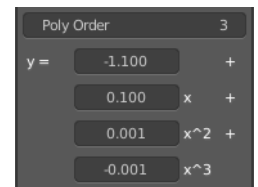
## Additive

Add on top of the existing curve instead of replacing the existing curve.

## Poly Order Expanded mode

The polynomial formula for the Expanded mode. By increasing the Poly Order value you can add more polynomial fields to the formula.

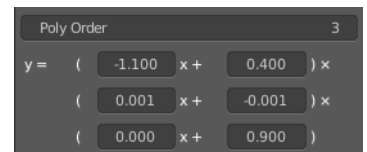
Change the values to the desired results.



## Poly Order Factorized mode

The polynomial formula for the Factorized mode. By increasing the Poly Order value you can add more polynomial fields to the formula.

Change the values to the desired results.



## Restrict Frame Range

Expanding the Restrict Frame range sets it to active. It reveals some value slider then.



## Start / End

The start and end frame of the generated curve.

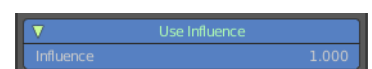
## In / Out

Fade the curve in or out for chosen frame numbers.

## Use Influence

Temper the F-Curve Modifier effect by a default influence factor.

Expanding the Use Influence sets it to active. It reveals a value slider then.

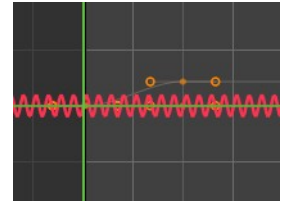
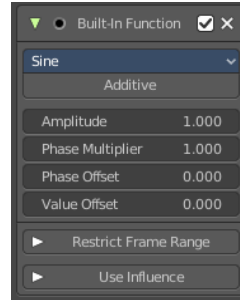


## Influence

The influence factor.

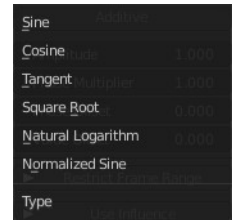
# Built- in Function modifier

Generate a curve by built in functions.



## Curve Type

The available wave forms for the curve.



## Amplitude

The amplitude of the curve wave. Adjusts the Y scaling.

## Phase Multiplier

A phase multiplier for the curve wave. Adjusts the X scaling.

## Phase Offset

A phase offset for the curve wave. Adjusts the Y scaling.

## Value Offset

A constant value offset for the whole curve. Adjusts the X scaling.

## Restrict Frame Range

Expanding the Restrict Frame range sets it to active. It reveals some value slider then.



## Start / End

The start and end frame of the generated curve.

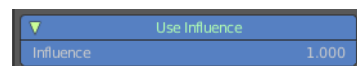
## In / Out

Fade the curve in or out for chosen frame numbers.

## Use Influence

Temper the F-Curve Modifier effect by a default influence factor.

Expanding the Use Influence sets it to active. It reveals a value slider then.

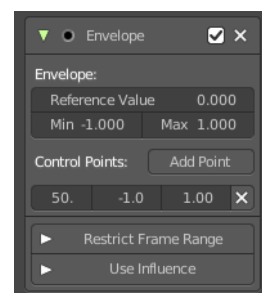
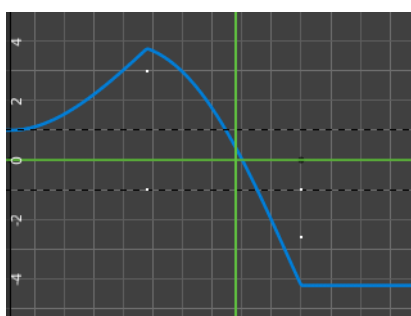
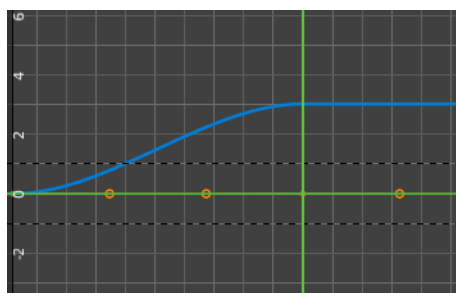


## Influence

The influence factor.

# Envelope modifier

The Envelope modifier allows you to modify the overall shape of the curve by control points.



## Envelope

### Reference Value

Set the Y value to center the envelope around.

### Min

The lower distance from reference value for 1:1 default influence.

### Max

The higher distance from reference value for 1:1 default influence.

## Control Points

### Add Point

Add a control point. A control point has two sub points, a lower control point and a higher control point.

### Point values

Adding a control point adds an entry in the Point Values list. Every added control point has its own values that can be modified here.

### Frame

The frame position of this control point.

### Min

The position of the lower control point.

### Max

The position of the higher control point.

### Delete

Delete this envelope control point.

### Restrict Frame Range

Expanding the Restrict Frame range sets it to active. It reveals some value slider then.



### Start / End

The start and end frame of the generated curve.

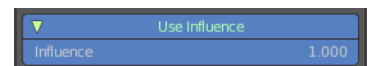
### In / Out

Fade the curve in or out for chosen frame numbers.

### Use Influence

Temper the F-Curve Modifier effect by a default influence factor.

Expanding the Use Influence sets it to active. It reveals a value slider then.



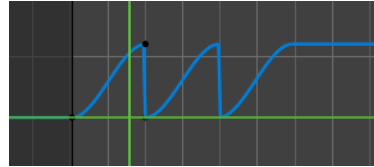
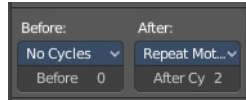
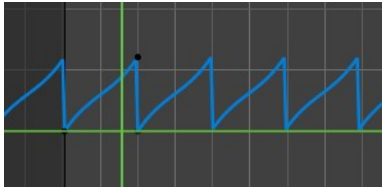
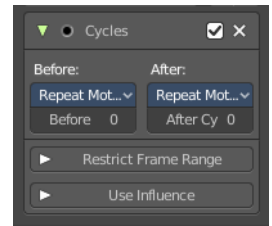
### Influence

The influence factor.



## Cycles modifier

Add a cyclic motion to a curve that has two or more control points. The option can be set before or after the curve.



### Trivially Cyclic Curves

When the Cycle Mode for both ends is set to either Repeat Motion or Repeat with Offset, and no other options of the modifier are changed from their defaults, it defines a simple infinite cycle.

This special case receives some additional support from other areas of Blender:

Automatic Bezier handle placement is aware of the cycle and adjusts to achieve a smooth transition.

The Cycle-Aware Keying option can be enabled to take the cycle into account when inserting new keyframes.

### Before

Set the cycle mode before the first keyframe.

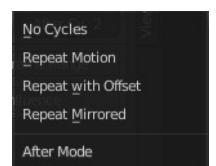


### Before Cycles

Maximum number of cycles to allow before first keyframes. A value of 0 means infinite.

### After

Set the cycle mode after the first keyframe.



### After Cycles

Maximum number of cycles to allow after last keyframes. A value of 0 means infinite.

### Restrict Frame Range

Expanding the Restrict Frame range sets it to active. It reveals some value slider then.



### Start / End

The start and end frame of the generated curve.

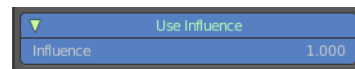
## In / Out

Fade the curve in or out for chosen frame numbers.

## Use Influence

Temper the F-Curve Modifier effect by a default influence factor.

Expanding the Use Influence sets it to active. It reveals a value slider then.

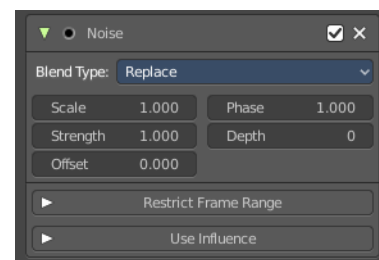
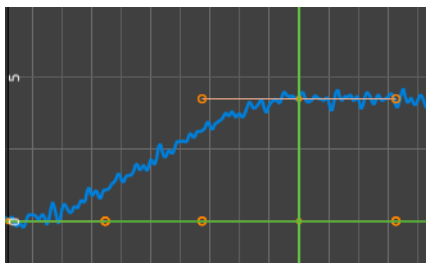


## Influence

The influence factor.

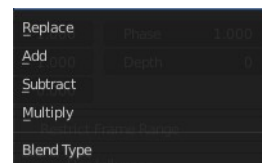
## Noise modifier

Adds noise to the curve.



## Blend Type

How to blend the noise with the curve.



## Scale

The overall size of the noise. The bigger the value the less frequent the noise.

## Strength

Adjust the Y value of the noise.

## Offset

Time offset of the noise.

## Phase

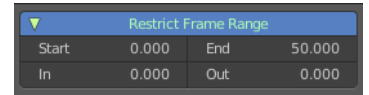
The random seed for the noise.

## Depth

How detailed the noise function is.

## Restrict Frame Range

Expanding the Restrict Frame range sets it to active. It reveals some value slider then.



## Start / End

The start and end frame of the generated curve.

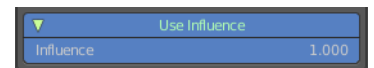
## In / Out

Fade the curve in or out for chosen frame numbers.

## Use Influence

Temper the F-Curve Modifier effect by a default influence factor.

Expanding the Use Influence sets it to active. It reveals a value slider then.

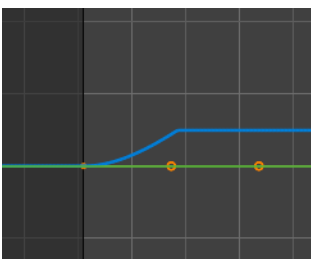


## Influence

The influence factor.

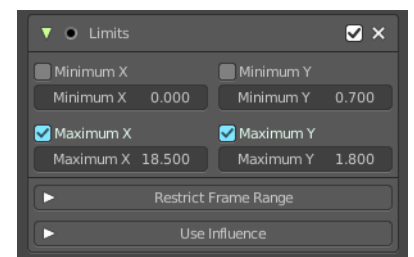
## Limits modifier

Sets limits to the curve in specified x and y range values.



### Minimum / Maximum X

Cuts the curve at these minimum and maximum frame values.

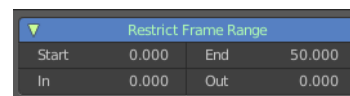


### Minimum / Maximum Y

Clamps the curve at these minimum and maximum values.

## Restrict Frame Range

Expanding the Restrict Frame range sets it to active. It reveals some value slider then.



### Start / End

The start and end frame of the generated curve.

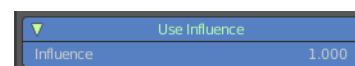
### In / Out

Fade the curve in or out for chosen frame numbers.

## Use Influence

Temper the F-Curve Modifier effect by a default influence factor.

Expanding the Use Influence sets it to active. It reveals a value slider then.

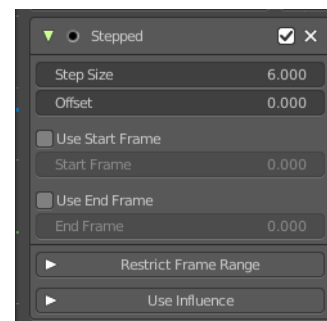
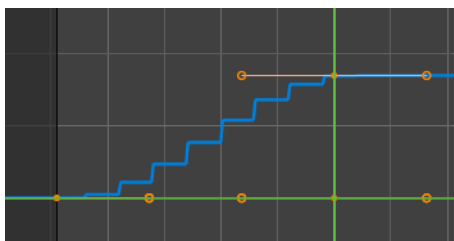


### Influence

The influence factor.

## Stepped Interpolation modifier

Adds steps to the curve by rounding the values.



### Step Size

The number of frames to hold each frame

### Offset

A number of offset frames before frames get held.

### Use Start Frame

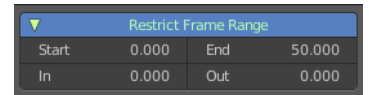
Restrict the modifier so that it just acts before its end frame.

### Use End Frame

Restrict the modifier so that it just acts after its start frame.

## Restrict Frame Range

Expanding the Restrict Frame range sets it to active. It reveals some value slider then.



### Start / End

The start and end frame of the generated curve.

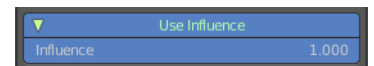
### In / Out

Fade the curve in or out for chosen frame numbers.

## Use Influence

Temper the F-Curve Modifier effect by a default influence factor.

Expanding the Use Influence sets it to active. It reveals a value slider then.



### Influence

The influence factor.