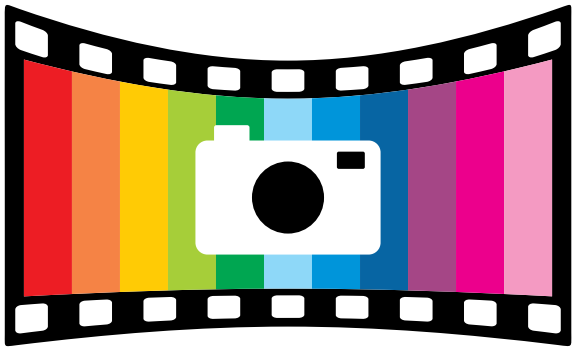


ANIMATOR

TIMELINE EDITOR FOR UNITY

Thanks for purchasing! This document contains a how-to guide and general information to help you get the most out of this product. Look here first for answers and to get started.

What's New?

v1.53
- **Unity 4.0 Support**
- New Skin: **Dark**
- New Feature: **"Show Frames for Collapsed Tracks"**
- Misc. improvements and fixes

Important: The *Animator* class has been renamed to *AnimatorTimeline*

For a complete list of changes, please see ***changelog.txt***

If you have any questions, feedback or suggestions regarding this product be sure to read the **"Help, Support & Feedback"** section. Thank you for purchasing *Animator* and I hope you find it useful for your projects.

~ Abdulla Ameen

Contents

1. Installation

To install ***Animator***, create a folder named ***"Plugins"*** in your project's assets directory and copy the contents of the ***"Animator/Plugins"*** folder to it.

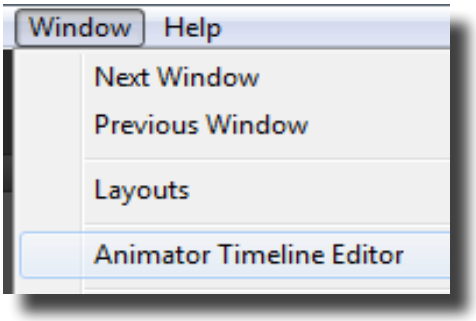
```
Assets/Animator/Plugins
->
Assets/Plugins
```

Tip: This is required for ***Javascript*** but ***C#*** users can skip this step.

2. Getting Started

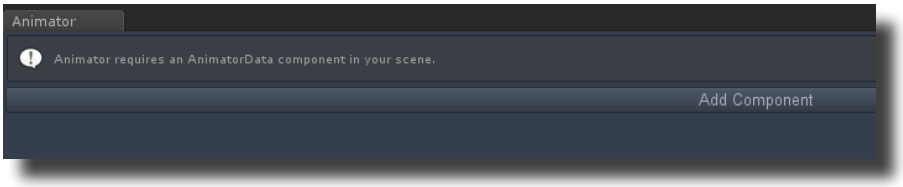
This guide is designed to get you up and running in no time! Let's start by launching *Animator*.

Go to **Window > Animator Timeline Editor**

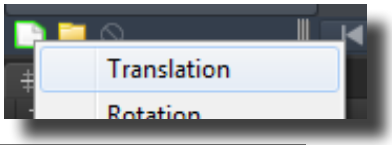


You'll be prompted to add an *AnimatorData* component to your scene. The *AnimatorData* component holds all of the information related to your ***takes***.

Click **Add Component**

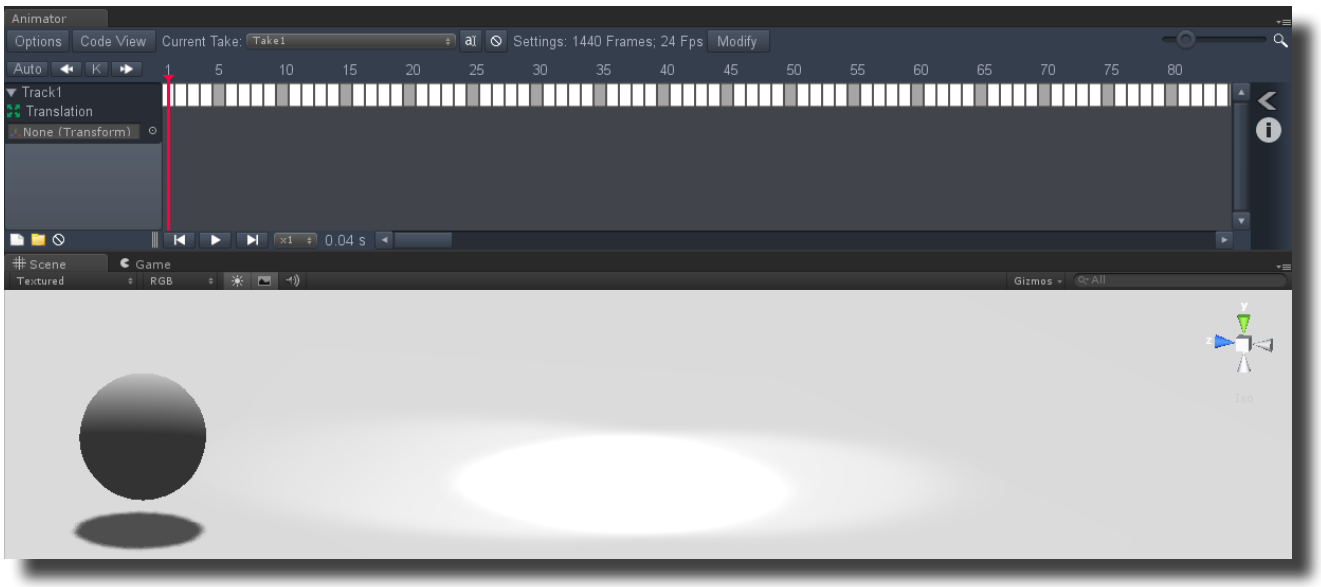


Let's create your first ***track***. Click the track icon '  ' and select **Translation**.



Tip: The *Translation Track* allows you to manipulate a *Transform*'s position.

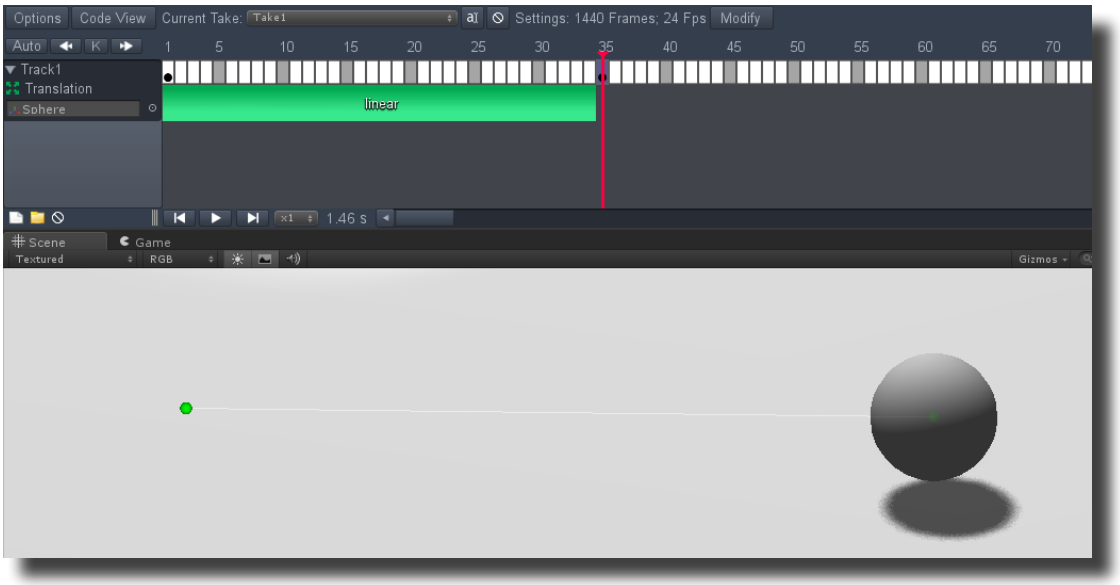
Drag a *Transform* from the *Scene Hierarchy* into the track's *Transform* slot. In this example, I'm using a sphere created from **GameObject > Create Other > Sphere**



Click the button labeled '**K**' to add a *keyframe*.

Select **Frame 35** by clicking on it in the *timeline*.

Move the sphere to a new position and click '**K**' again to add another *keyframe*.



Select the first frame and preview the *take* by clicking the *play button* in the *Playback Controls*.

Preview your work in the scene view while editing!

Let's add the *take* to your game. Create a script and add it to your scene. Insert the following code into the *Start* method:

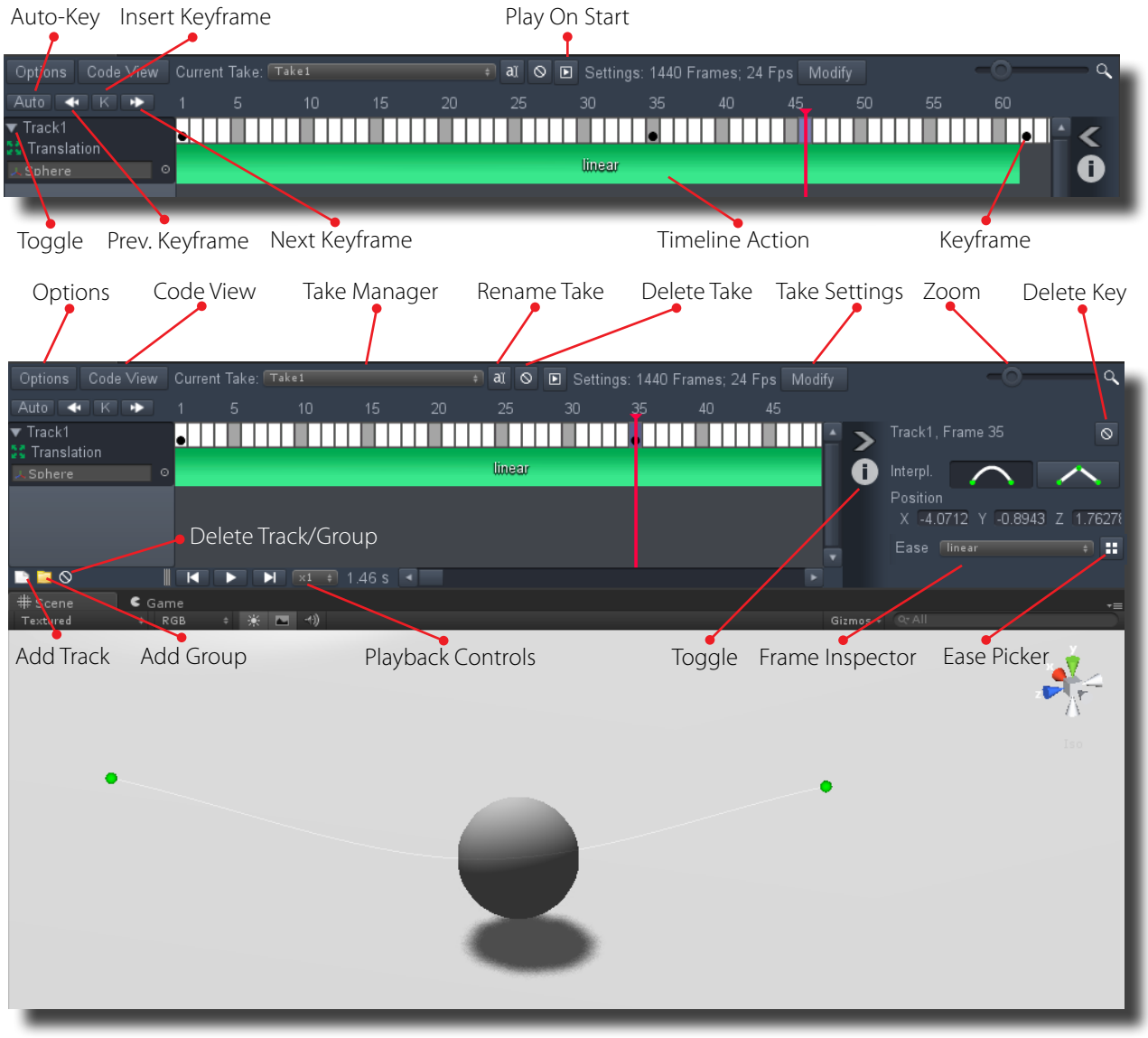
```
Animator.Play("Take1");
```

That's all it takes to get started with ***Animator***! I recommend you check out the rest of the documentation which covers the *interface*, different *track types* and advanced features such as the *Code View*.

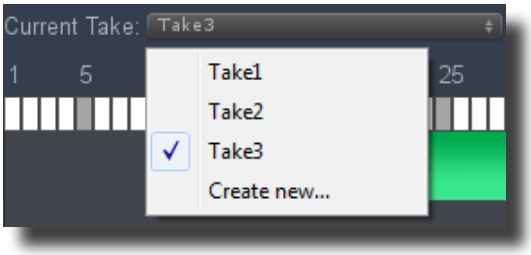
3. Interface Overview

The following diagrams provide a general description of *Animator's* interface. Read on for in-depth information on these interface elements.

3.1 Overview



3.2 Managing Takes



Click the *Take Manager* to:

- Switch between ***takes***
- Create a new ***take***

3.3 Managing Tracks & Groups

Make use of ***groups*** and follow these tips to keep your workspace organized:

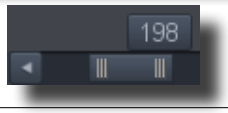
- Click the track icon '  ' to create a new ***track*** or use the ***Quick Add*** feature by dragging one or more ***GameObjects*** onto the timeline.
- Click the group icon '' to create a new ***group.***
- Drag ***tracks*** and ***groups*** to arrange and place them into other groups.
- Double-click a ***track*** or ***group's*** name to rename it.
- Collapse ***tracks*** and ***groups*** with the toggle button to keep your workspace organized.

Tip: Create a subgroup by dragging a group into another group.

Tip: The *Quick Add* feature allows you to add multiple tracks of different types at the same time. Create your own combinations from the **"Options"**.

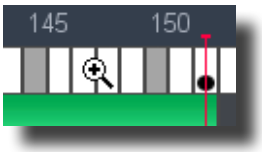
3.4 Navigating the Timeline

There are several ways to navigate the timeline:

- Using the ***scrollbar*** and clicking on frames. 
- Resizing the view by dragging across the edges of the ***scrollbar's*** thumb. 

Tip: The current view's first and last frames are shown when hovering over the thumb's left and right edges respectively.

- Zooming in and out with the ***Zoom Tool***:
  - Hold ***alt*** and click on a frame to zoom to its location.
  - Hold ***alt*** and ***control*** and click on a frame to zoom out from its location.
  - Hold ***alt*** and drag to zoom in and out.



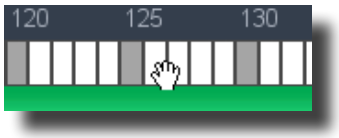
Tip: ***Scrubby Zoom Cursor*** allows you to zoom in relative to the frame you are dragging across. ***Scrubby Zoom Cursor*** is enabled by default and can be disabled from the **"Options"**.

Tip: Mac users can use ***command*** instead of ***control***.

- Zooming in and out with the ***Zoom Slider***.

Tip: ***Scrubby Zoom Slider*** allows you to zoom in relative to the timeline indicator. ***Scrubby Zoom Slider*** is disabled by default and can be enabled from the **"Options"**.

- Using the ***Hand Tool***:
  - Hold ***space*** and drag to grab and move the timeline.



- Using the ***Key controls***. The ***Key controls*** will select the ***previous*** and ***next keyframes*** on the selected track.

- Scrubbing the timeline by dragging across frame numbers.

- Using the **"Playback Controls"** which are discussed in the following section.

3.5 Playback Controls

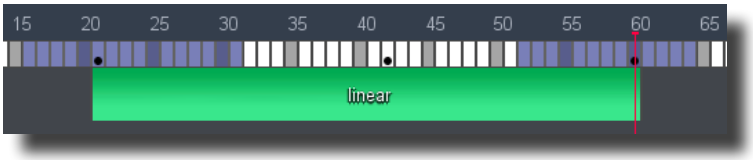
The ***Playback Controls*** allow you to navigate and preview your take.

- Click the previous and next buttons to select the ***first*** and ***last frames*** of your take.
- Preview the take with the ***play button*** and ***stop*** at any moment to traverse through the timeline.
- Drag across the ***Frame Control*** to scrub through the timeline. You can also click on the frame number to type in a new value.
- Drag across the ***Time Control*** to scrub through the timeline. You can also click on the time to type in a new value.

Tip: Playback can be sped up to quickly navigate through the timeline, or slowed down to pin-point the perfect frame for a new ***keyframe***.

3.6 Context Selection

The *Context Selection* feature allows you to select and manipulate keyframes.



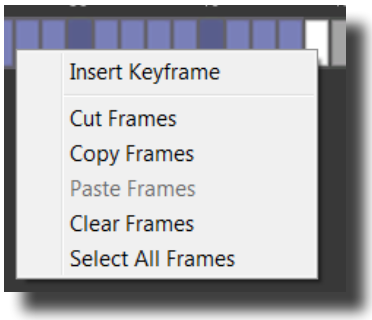
Selecting Frames

- Drag across an empty frame to start a selection.
- Hold *control* and drag to add to the selection.
- Hold *control* and click to toggle a single frame's selection.
- Hold *shift* and click or drag to add a range of frames to the selection, starting from the timeline indicator.

Tip: Mac users can use *command* instead of *control*.

Manipulating Keyframes

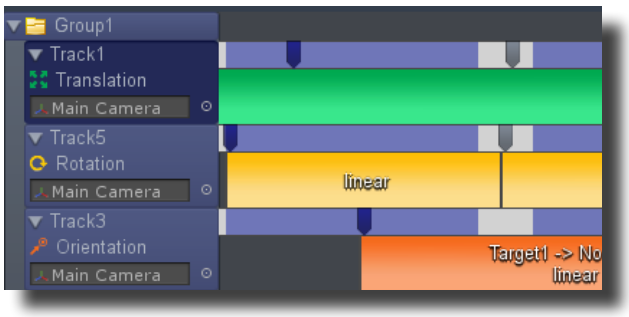
- Drag a selection to move the selected keyframes.
- Right click to *Insert*, *Cut*, *Copy*, *Paste*, *Clear*, and *Select All Frames*.



Tip: Moving keyframes onto other keyframes will overwrite them.

Manipulating Multiple Tracks

Manipulate multiple tracks with a single action for a fast and efficient workflow.



- Hold *control* and click on a group or track to toggle its selection.
- Hold *shift* and click on a group or track to add a range of tracks to the selection, starting from the currently active track or group.

Tip: Mac users can use *command* instead of *control*.

The selected frames will be reflected across all selected tracks. You can then move, copy, cut and paste with multiple tracks in one go.

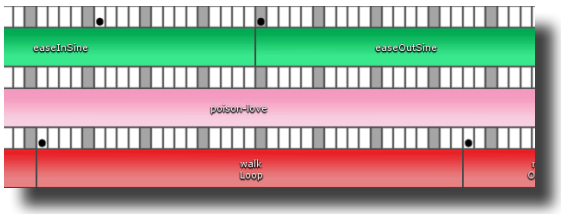
Tip: Groups will be highlighted when all of their contents are selected.

Tip: When copying frames from ***multiple tracks***, it is only possible to paste into the source tracks. However, when copying from a ***single track***, pasting is possible into any track of the same type.

3.7 Frame Inspector

The *Frame Inspector* allows you to ***delete*** and ***manipulate*** a keyframe's properties. Each track's unique inspector properties will be discussed in the **"Track Types"** section.

3.8 Timeline Actions



Timeline Actions display useful information related to the ***keyframes*** on a track.

Such information may include a *Translation Track*'s easing or the animations of an *Animation Track*.

A *Timeline Action* can be resized by dragging across its edges. This is especially useful when stretching or compressing a *Translation Track*'s interpolation curve.

Tip: Click on a *Timeline Action* to quickly navigate to the ***keyframe*** affecting it.

3.9 Auto-Key

When *Auto-Key* is enabled, ***keyframes*** will automatically be added to *Translation* and *Rotation Tracks* when you modify a *Transform's* position and rotation respectively.

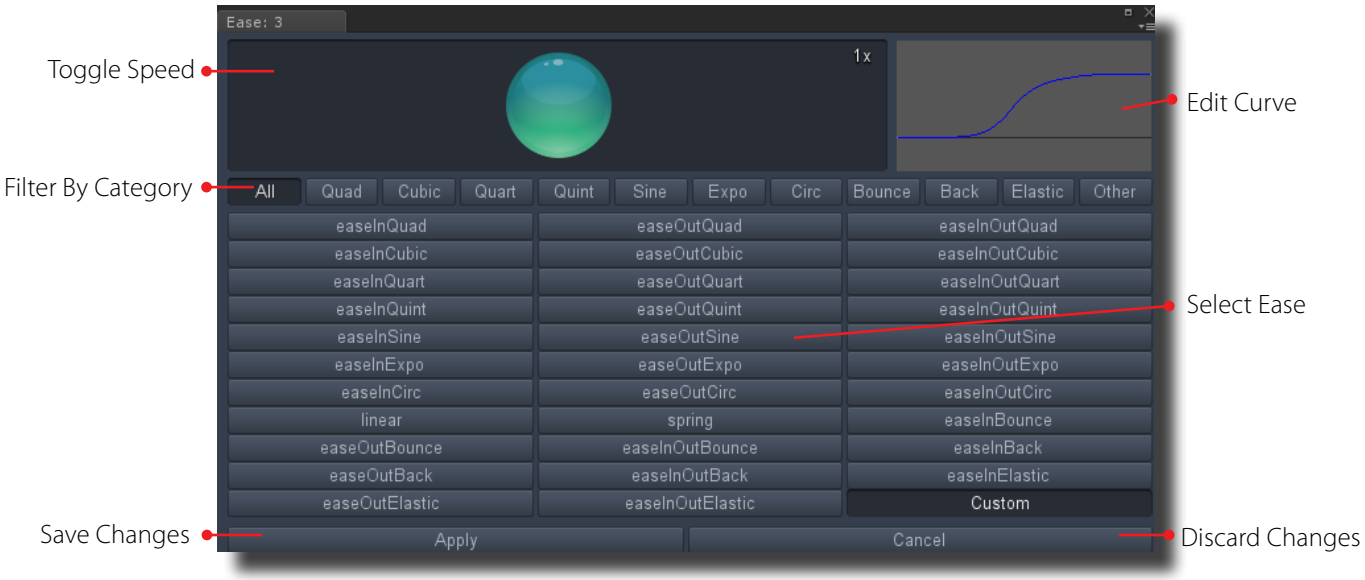
"*Auto*" will be displayed in red when *Auto-Key* is enabled.

3.10 Ease Picker

The *Ease Picker* allows you to preview and modify easing algorithms.

Click the grid icon next to an ease popup to bring up the *Ease Picker*.

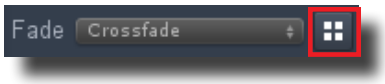
The following diagram provides an overview of the *Ease Picker*.

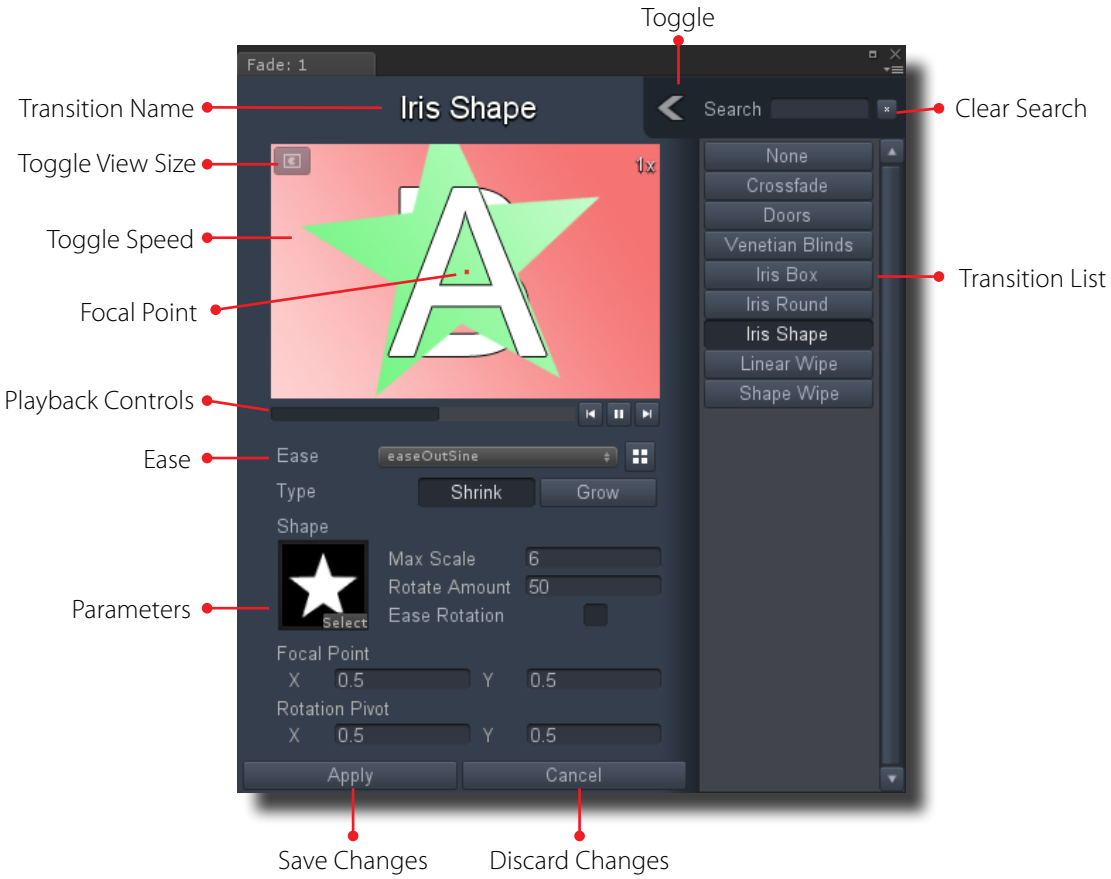


3.11 Transition Picker

The Transition Picker allows you to preview and modify *Camera Switcher Track* transitions.

Click the grid icon next to a fade popup to bring up the *Transition Picker*.





View Size: Click to toggle between the *Standard View* and the currently open *Game View* size.

Different transitions will have different parameters. Common parameter types include:

Focal Point (X / Y): Determines the focal point of the transition. Can be set by dragging the point or typing in values.

Shape: The texture to use as a mask. Custom textures must have *Alpha from Grayscale* checked and the *Wrap Mode* set to *Clamp* in the texture import settings. Textures must be placed in a *Resources* folder.

Tip: Example shapes can be found at *Animator/Examples/PSD_shapes.psd*

3.12 Take Settings

The *Take Settings* allow you to adjust the *number of frames* and *frame rate (fps)* of your take.

3.13 Options

General

- Select a take to **"Play On Start"**.
- Adjust the *Gizmo size*.

Tip: Use the *Gizmo size slider* to fine-tune a size between 0 and 0.1 or type in a larger number.

- Show time instead of frame numbers in the timeline.
- Enable or disable **"Scrubby Zoom Cursor"**.
- Enable or disable **"Scrubby Zoom Slider"**.
- Enable or disable the warning displayed when the window is too small.
- Show or hide frames for collapsed tracks.
- Show or hide **"Timeline Actions"** (May increase editor performance when hidden).
- Enable or disable *Timeline Action* tooltips that are shown when text is cut off.
- Choose between different editor skins.

Quick Add

- Add custom *Quick Add Combinations*. Click '+' and '-' to add and remove combinations.

Import / Export

- *Import Takes*. The imported takes and GameObjects will be added to the current scene.

Tip: You will be prompted to resolve duplicate GameObjects after an import.

- *Export Takes*. The exported takes along with their required GameObjects will be saved as a new scene.

Tip: You can also select additional GameObjects to export along with the takes.

- *Export Options.* Double-click the exported package to re-apply its options or click *Import Options.*

About

- Misc. information that includes the version of *Animator* installed.

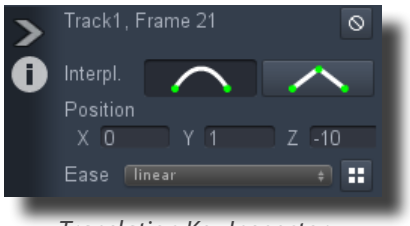
4. Track Types

4.1 Translation

The *Translation Track* allows you to manipulate a *Transform's* position from the timeline. Drag and drop a *Transform* into the track slot.

Interpolation:

- *Smooth*: The position will be smoothed between the two *keyframes* surrounding it.
- *Break*: There will be a break in the *interpolation curve* which will create sharp corners.



Translation Key Inspector

Position: You can manipulate the *Transform's* position from here.

> **Tip:** You can also update the position by adding a *keyframe* after using *Unity's* move tool.

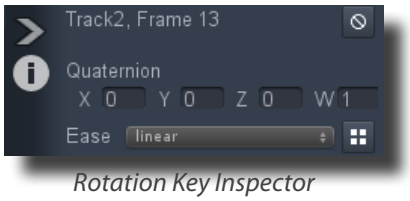
Ease: Allows you to ease the *Transform's* position over time.

> **Tip:** Adding *breaks* will let you apply different easing to each *interpolation curve*.

4.2 Rotation

The *Rotation Track* allows you to manipulate a *Transform's* rotation from the timeline. Drag and drop a *Transfrom* into the track slot.

Quaternion: You can manipulate the *Transform's* rotation as a *Quaternion* from here.



Rotation Key Inspector

> **Tip:** You can also update the rotation by adding a *keyframe* after using *Unity's* rotate tool.

Ease: Allows you to ease the *Transform's* rotation over time.

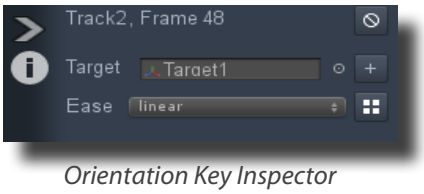
4.3 Orientation

The *Orientation Track* allows you to manipulate a *Transform's* orientation, where it is pointing, from the timeline. Drag and drop a *Transfrom* into the track slot.

> **Tip:** The *Orientation Track* is especially usefuly in directing *Cameras*.

Target: Holds the target *Transform* to orient towards.

Click the '+' button to create a new target or drag a *Transform* into the target slot.



Orientation Key Inspector

> **Tip:** Select *"With Translation"* when creating a target to automatically add it to a *Translation Track*.

Ease: Allows you to ease transitions between targets.

4.4 Animation

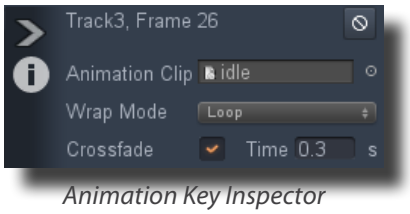
The *Animation Track* allows you to play *Animation Clips* from the timeline. Drag and drop a *GameObject* that has an *Animation* component to the track slot.

Animation Clip: Holds the *Animation Clip* to be played.

Wrap Mode: The *Animation Clip's* Wrap Mode.

Crossfade: *Crossfade* to the the *Animation Clip* when ticked.

Time: The *Crossfade's* fade length in seconds.



Animation Key Inspector

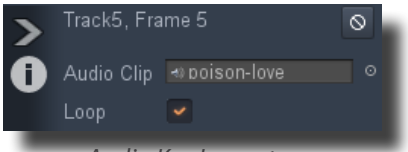
> **Tip:** Although *Animator* cannot preview *crossfades* in the scene-view, rest-assured that crossfading will indeed be applied when you play the take in your game.

4.5 Audio

The *Audio Track* allows you to play and loop *Audio Clips* from the timeline. Drag and drop an *AudioSource* to the track slot.

Audio Clip: Holds the *Audio Clip* to be played.

Loop: *Loops* the *Audio Clip* when ticked.



Audio Key Inspector

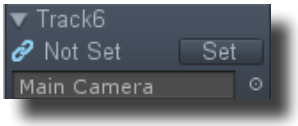
Tip: You can manipulate an *AudioSource's* volume with the *Property Track*.

4.6 🔗 Property

The *Property Track* allows you to manipulate virtually any property from the timeline. Drag and drop a *GameObject* to the track slot. Properties from custom scripts are supported but the scripts should not be directly derived from the *Behaviour* class (*MonoBehaviour* is fine).

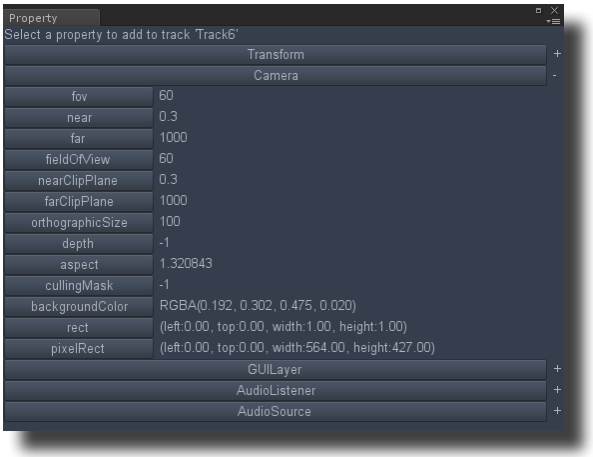
Setting the Property

Click the track's **Set** button and select a property from the list.



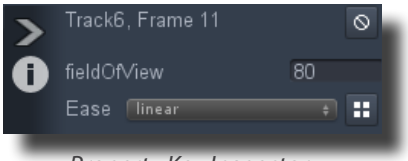
Supported Property Types

Numbers	int, long, float, double
Vectors	Vector2, Vector3
Colors	Color
Rects	Rect



Value: Modify the property's value here.

Ease: Allows you to ease the property's value over time.



Property Key Inspector

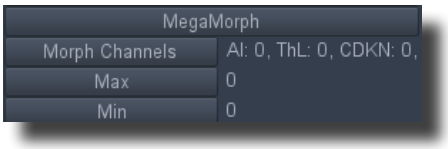
Tip: *Timeline Actions* will show the property's value throughout the whole take.

Tip: Ease a Camera's *Field of View* for a great effect!

MEGA-FIERS Support

The *Property Track* includes special support for *Mega-Fiers*. Simply drag a *Mega-Fiers GameObject* into the track slot and set the property to animate.

MegaMorph: Select *Morph Channels* to animate morphs.

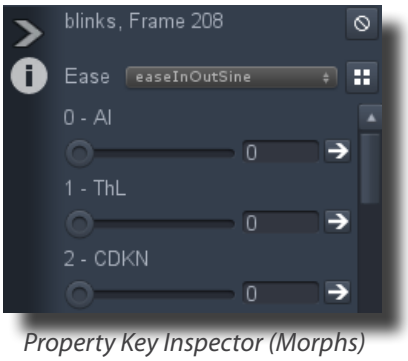


The *Morph Channels* will appear in the *Property Key Inspector*.

Drag the sliders to set a channel's value or enter a number into the input field.

Click the arrows to set a channel's value to the max value of 100.

> **Tip:** Click an arrow when the channel's value is at 100 to set all other channels to zero.



Property Key Inspector (Morphs)

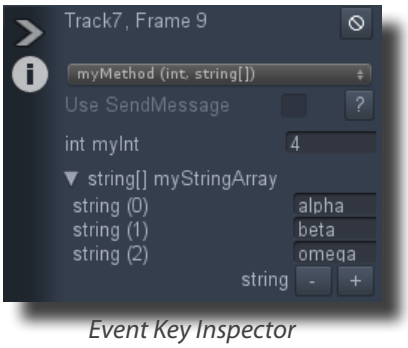
4.7 Event

The *Event Track* allows you to call virtually any method from the timeline. Drag and drop a *GameObject* to the track slot. Attach a custom script with your methods to the *GameObject*.

Custom scripts should not be directly derived from the *Behaviour* or *Component* class (*MonoBehaviour* is fine). Make sure the methods are declared as *public*.

Method: Shows the signature of the currently selected method.

Use SendMessage: Use *SendMessage* to call the method.



Event Key Inspector

> **Tip:** *SendMessage* only supports one parameter which can be an array. Click **?** in the *frame insepector* to learn more.

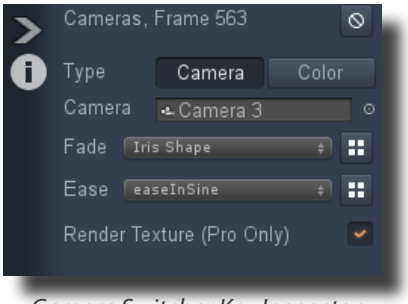
Parameters: You can modify the parameters to use with the selected method from here.

Supported Parameter Types

Numbers	int, long, float, double
Boolean	bool
Text	string, char
Vectors	Vector2, Vector3, Vector4
Colors	Color
Rects	Rect
Objects	GameObject, AudioSource... (Any class that derives from UnityEngine.Object)
Arrays	One-dimensional arrays of any of the preceeding types.

4.8 Camera Switcher

The *Camera Switcher Track* allows you to switch and transition between cameras and colors. There can only be one *Camera Switcher Track* in a single take.



Camera Switcher Key Inspector

Type: Select either Camera or Color.

Camera / Color: Holds the *Camera* or *Color* to show on-screen.

Fade: The *fade*, or transition, to use. Click the grid icon to open the **"Transition Picker"** and customize the transition.

Ease: Allows you to ease the transition over time.

> **Tip:** A transition's ease can also be set from the **"Transition Picker"**.

Render Texture: Uses *RenderTextures* when checked. Still images will be used when unchecked. *RenderTexture* is a Unity Pro feature.

5. Playing Your Take

5.1 Play On Start

A quick way to play a take is *Play On Start*. When *Play On Start* is enabled, the take will automatically be played when play mode is entered.

Click the *Play On Start* button to toggle this feature.

Tip: *Play On Start* can also be set from the **"Options"**.

5.2 AnimatorTimeline Class

5.2.1 Play

Play a *take* with:

```
AnimatorTimeline.Play("TakeName");
```

Replace "TakeName" with the name of the *take* to play.

5.2.2 Loop

Pass a boolean value of `true` to loop the take:

```
AnimatorTimeline.Play("TakeName", true);
```

5.2.3 Stop

Stop the *take* that is currently playing with:

```
AnimatorTimeline.Stop();
```

5.2.4 Pause

Pause the *take* that is currently playing with:

```
AnimatorTimeline.Pause();
```

5.2.5 Resume

Resume the *take* that is currently paused with:

```
AnimatorTimeline.Resume();
```

5.2.6 PlayFromFrame

Play a take from a certain frame with:

```
AnimatorTimeline.PlayFromFrame("TakeName", 15, (Optional) true);
```

Replace "TakeName" with the name of the *take* to play and 15 with the starting frame. You can also pass a boolean of `true` to loop the take.

5.2.7 PlayFromTime

Play a take from a certain time with:

```
AnimatorTimeline.PlayFromTime("TakeName", 5.0, (Optional) true);
```

Replace "TakeName" with the name of the *take* to play and 5.0 with the starting time in seconds. You can also pass a boolean of `true` to loop the take.

5.2.8 ParseJSON

Use the *ParseJSON* command after exporting a take to a *JSON* file from the **"Code View"**.

```
AnimatorTimeline.ParseJSON("TakeName");
```

Replace "TakeName" with the name of the *JSON* text file without the .txt extension. For example, use *"Take1"* for *Take1.txt*.

The text files must be placed in a *Resources* folder.

5.2.9 Properties

Certain properties can be accessed from the ***Animator*** class:

isPlaying (bool): Returns ***true*** if a take is currently playing. Returns ***false*** if a take is paused or no take is playing.

```
AnimatorTimeline.isPlaying
```

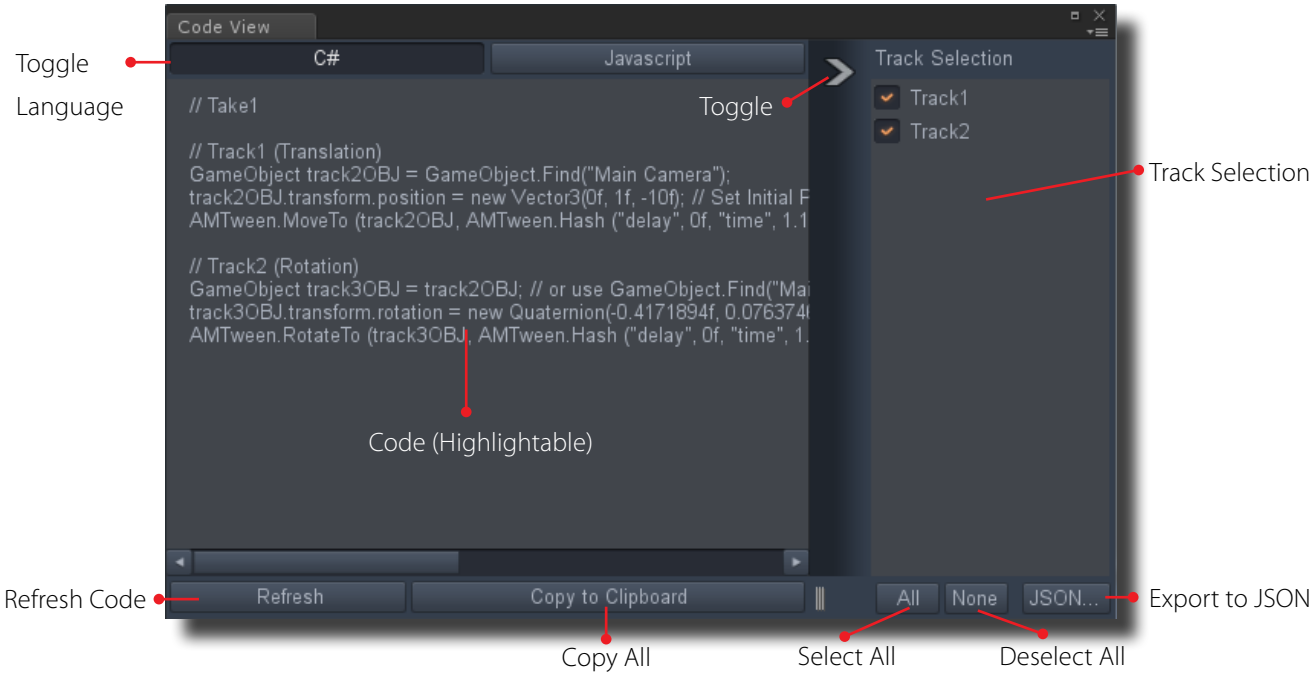
nowPlayingTake (string): Returns the ***name*** of the take that is currently playing. Returns ***null*** if no take is playing.

```
AnimatorTimeline.nowPlayingTake
```

5.3 Code View

The *Code View* generates all of the *C#* or *Javascript* code necessary to play a take. This is useful if you need more control over any aspect of the take or only need to use a portion of it.

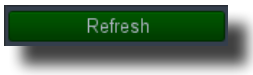
The following diagram provides an overview of the *Code View*.



Toggle Language: Select the programming language to display code in.

Track Selection: Select what tracks to show in the *Code View* or to export to *JSON*. Toggle the *Track Selection* tab by clicking the toggle button.

Refresh: The *Refresh* button will turn green if changes have been made. Click the *Refresh* button to process the new changes.



Copy To Clipboard: Copy all of the code shown. You can also highlight specific lines of code and then right-click to copy.

Export to JSON: The selected tracks will be exported to a *JSON* text file. The text file can then be parsed with the **"ParseJSON"** command.

> **Tip:** The number of selected tracks will be shown in the bottom right corner when the *Track Selection* tab is closed. The number will be in red if there are unselected tracks.

> **Tip:** You may need to include `'using System.Reflection;'` in your code if you are using a *Property Track* or an *Event Track* with methods that do not use *SendMessage*.

The *Code View* will optimize the generated code by re-using variables when possible. For your convenience, all of the reused variables will have the original values commented out on the same line.

6. Help, Support & Feedback

I have a question, what should I do?

1. First check this documentation for an answer.

If you still have an unanswered question:

2. Send an e-mail to ***animatorunity@gmail.com*** and I will be happy to help.

I have feedback / suggestions, what should I do?

If you have constructive feedback, a bug to report, code contributions, or suggestions, I would love to hear from you.

1. Send an e-mail to ***animatorunity@gmail.com.*** For bugs, please add ***'Bug Report'*** to the subject line.

2. If you have a suggestion, you are also welcome post on the **Animator Unity Forums**.