

# 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.

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### 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*

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## 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
```

```
->
```

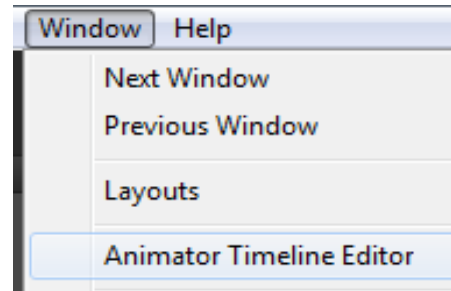
```
Assets/Plugins
```

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

## 2. Getting Started

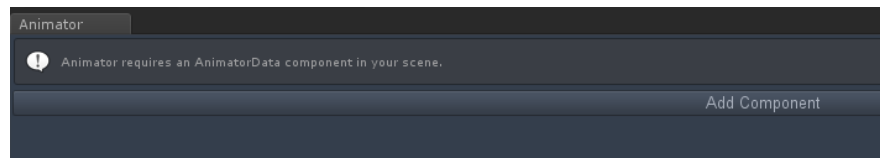
This guide is designed to get you up and running in no time! Let's start by launching *Animator*.

Go to **Window > Animator Timeline Editor**

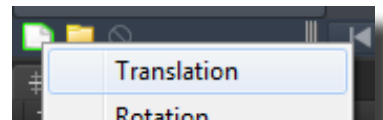


You'll be prompted to add an *AnimatorData* component to your scene. The *AnimatorData* component holds all of the information related to your *takes*.

Click **Add Component**

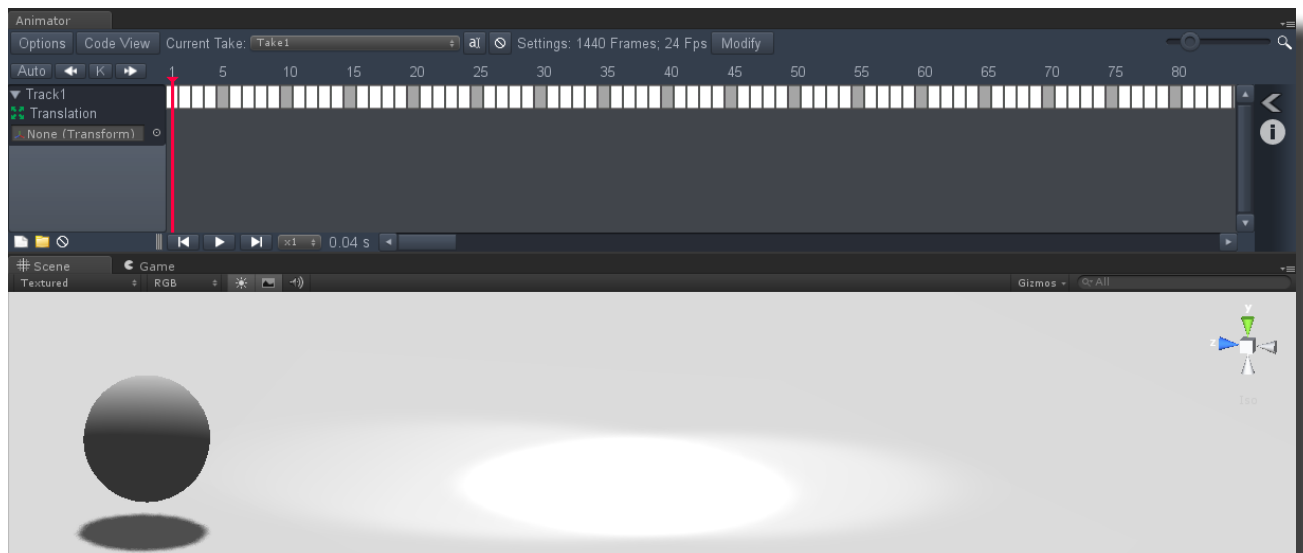


Let's create your first *track*. Click the track icon '📄' and select **Translation**.



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

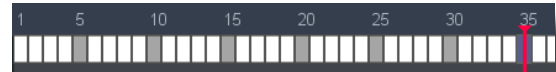
Drag a *Transform* from the *Scene Hierarchy* into the track's *Transform* slot. In this example, I'm using a sphere created from **GameObject > Create Other > Sphere**



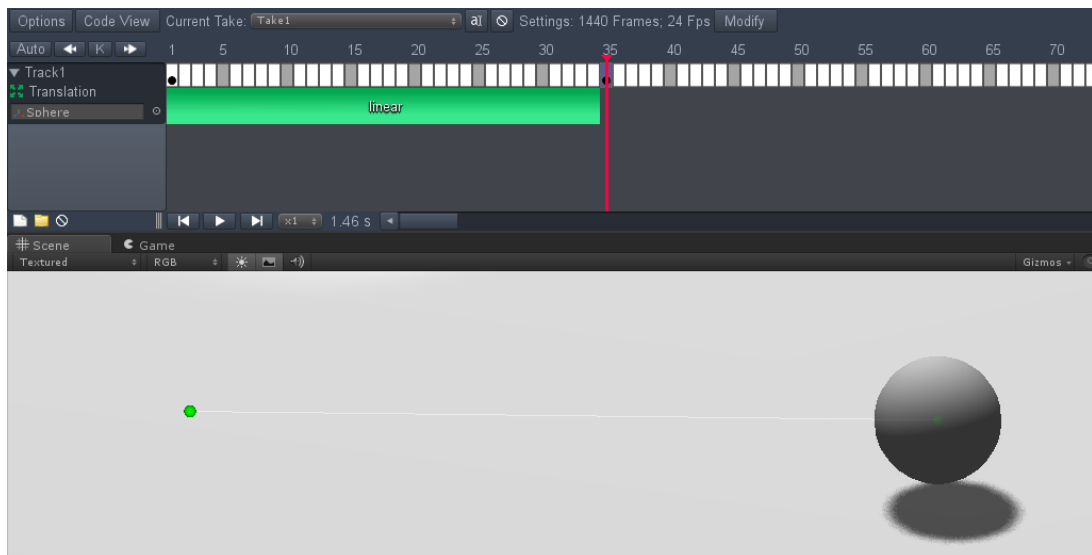
Click the button labeled '**K**' to add a *keyframe*.



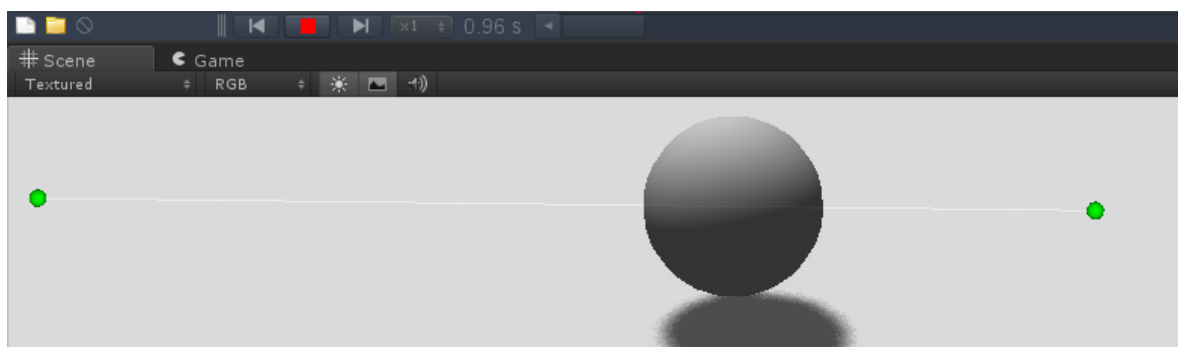
Select **Frame 35** by clicking on it in the *timeline*.



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:

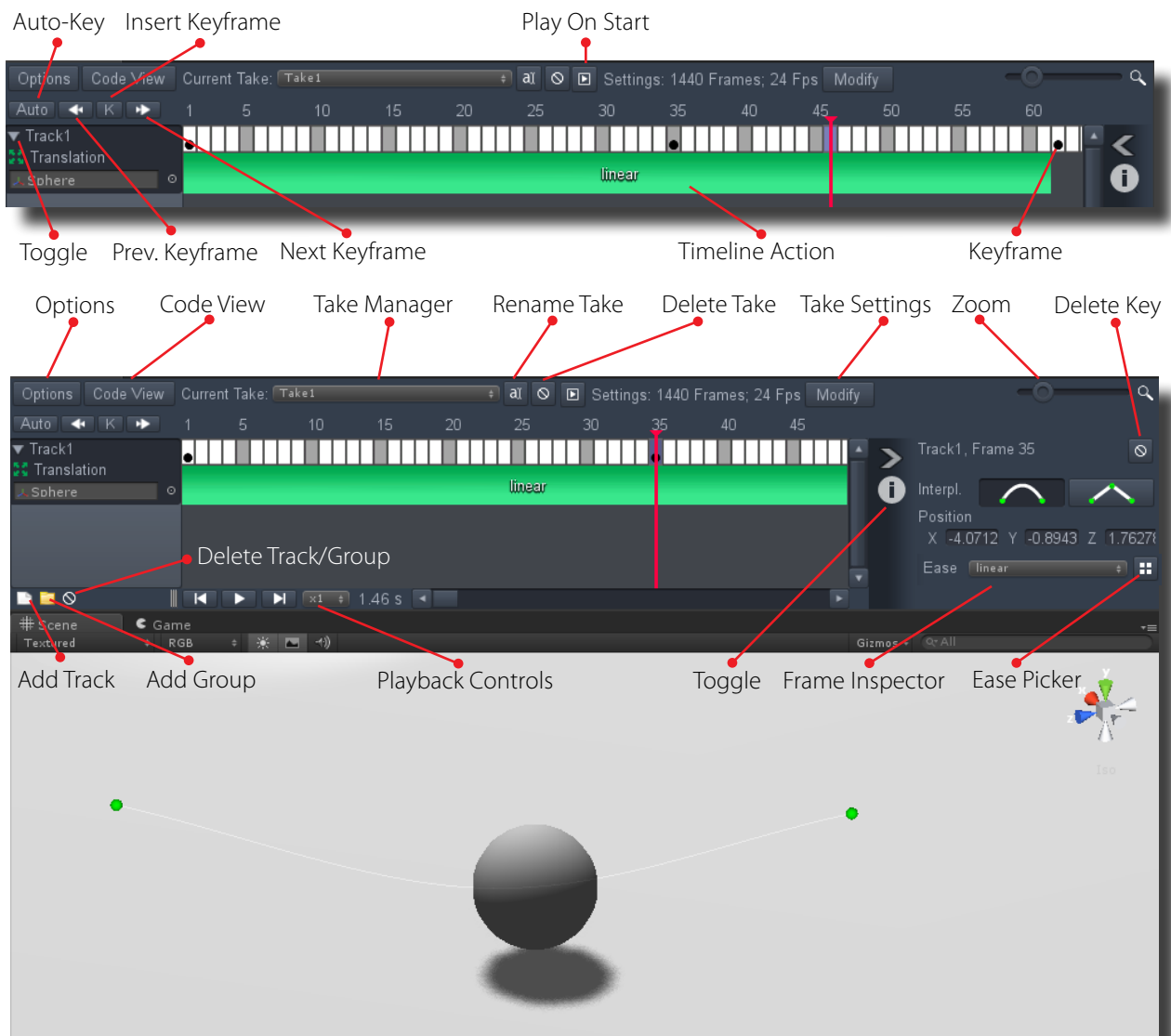
```
Animator.Play("Take1");
```

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.

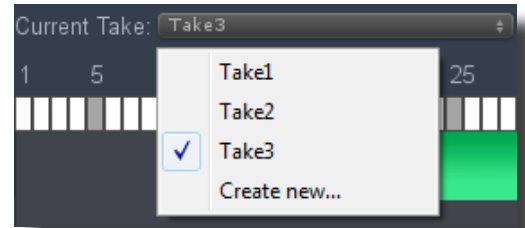
### 3.1 Overview



## 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.

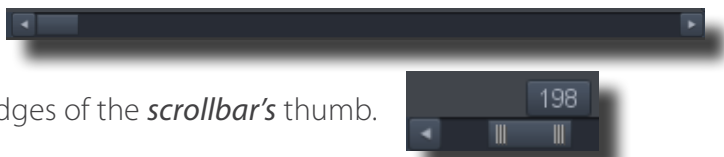
**Tip:** Create a subgroup by dragging a group into another group.

**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"**.



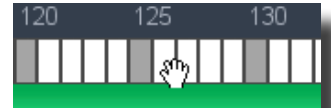
**Tip:** Mac users can use *command* instead of *control*.

- 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.

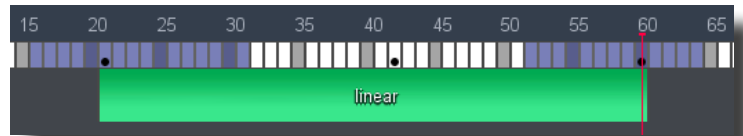


- Click the previous and next buttons to select the *first* and *last frames* of your take.
- Preview the take with the *play button* and *stop* at any moment to traverse through the timeline.
- Drag across the *Frame Control* to scrub through the timeline. You can also click on the frame number to type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

## 3.6 Context Selection

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



### Selecting Frames

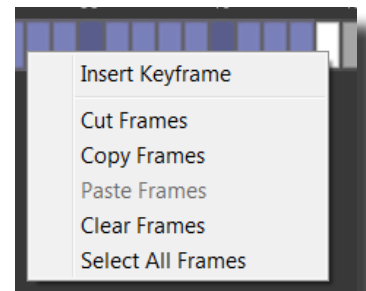
- Drag across an empty frame to start a selection.
- Hold **control** and drag to add to the selection.
- Hold **control** and click to toggle a single frame's selection.
- Hold **shift** and click or drag to add a range of frames to the selection, starting from the timeline indicator.

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

### Manipulating Keyframes

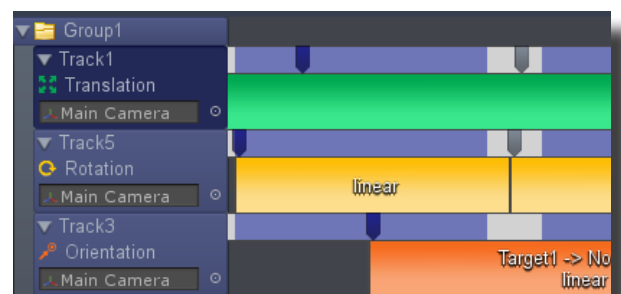
- Drag a selection to move the selected keyframes.
- Right click to *Insert*, *Cut*, *Copy*, *Paste*, *Clear*, and *Select All Frames*.

**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.

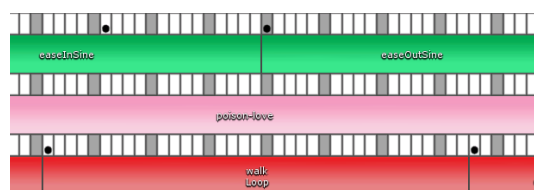
**Tip:** When copying frames from *multiple tracks*, it is only possible to paste into the source tracks. However, when copying from a *single track*, pasting is possible into any track of the same type.

## 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.



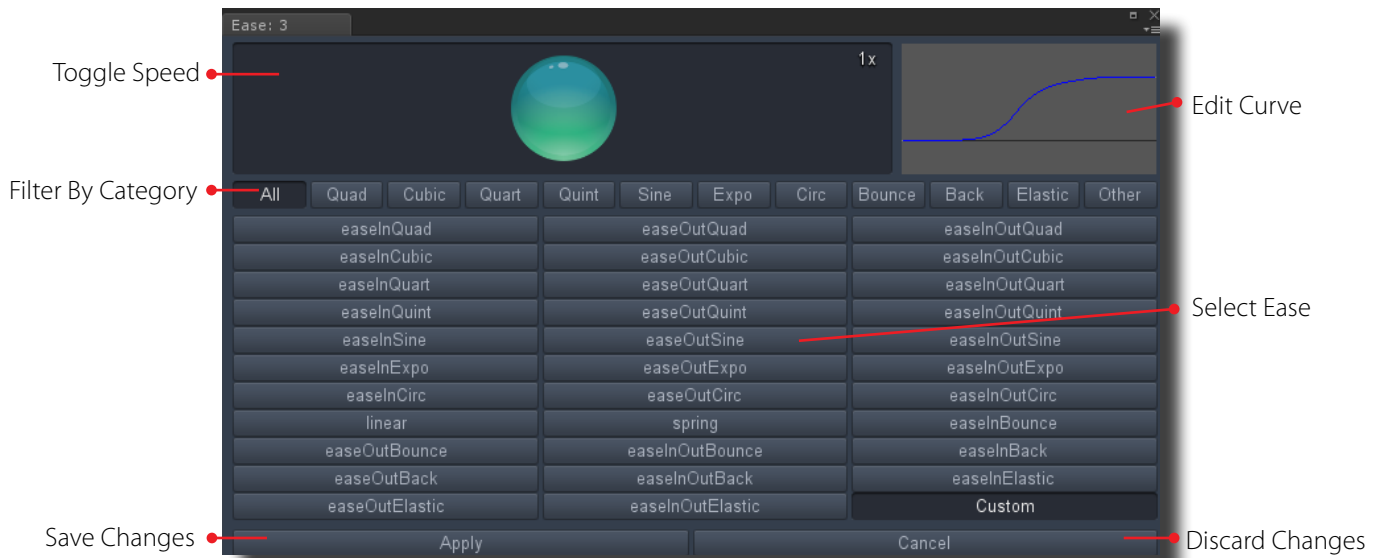
## 3.10 Ease Picker

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*.



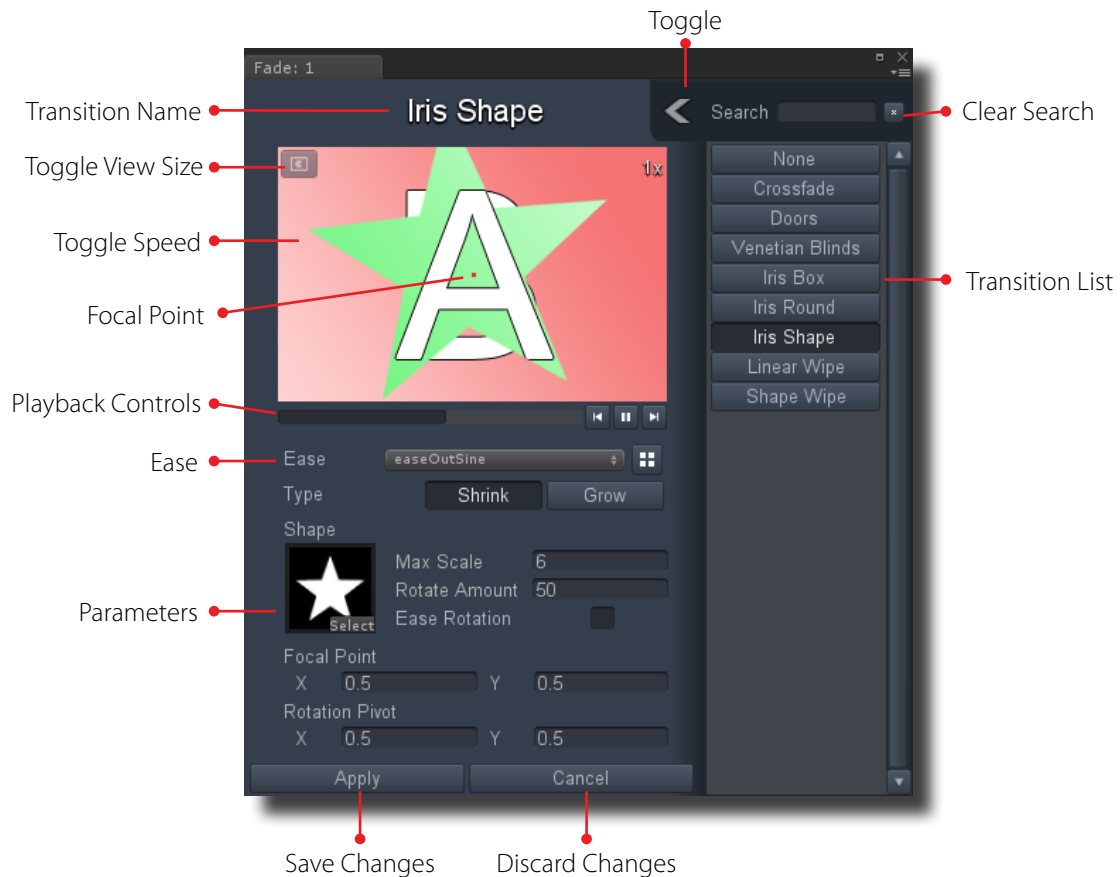
The following diagram provides an overview of the *Ease Picker*.



## 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 *Transform* 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.

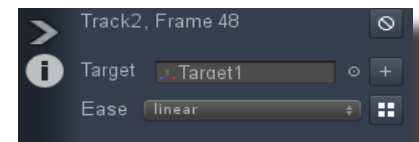
## 4.3 🗺️ Orientation

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

**Tip:** The *Orientation Track* is especially useful 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

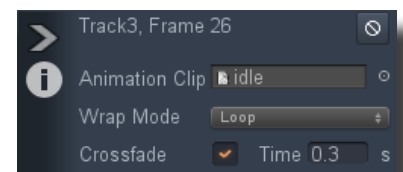
The *Animation Track* allows you to play *Animation Clips* from the timeline. Drag and drop a *GameObject* that has an *Animation* component to the track slot.

**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

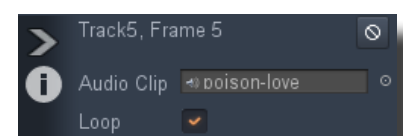
**Tip:** Although *Animator* cannot preview *crossfades* in the scene-view, rest-assured that crossfading will indeed be applied when you play the take in your game.

## 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



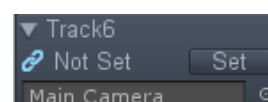
**Tip:** You can manipulate an *AudioSource's* volume with the *Property Track*.

## 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).

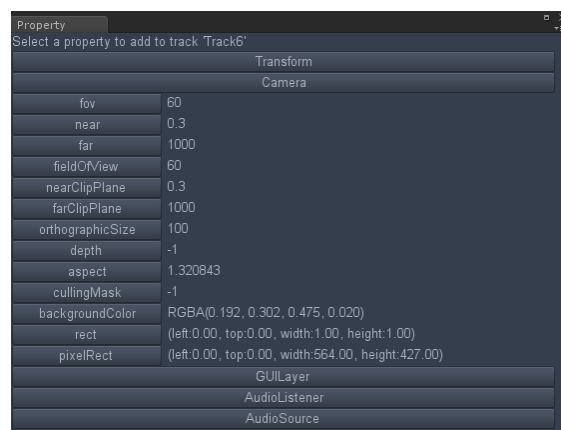
### Setting the Property

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



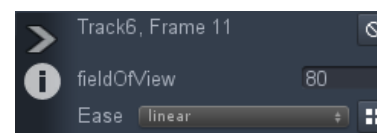
### Supported Property Types

<b>Numbers</b>	int, long, float, double
<b>Vectors</b>	Vector2, Vector3
<b>Colors</b>	Color
<b>Rects</b>	Rect



**Value:** Modify the property's value here.

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



*Property Key Inspector*

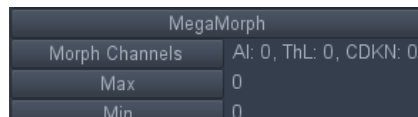
**Tip:** *Timeline Actions* will show the property's value throughout the whole take.

**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.

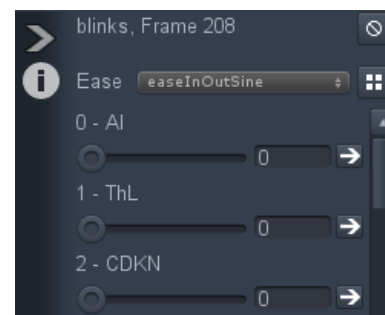
**MegaMorph:** Select *Morph Channels* to animate morphs.



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.



Property Key Inspector (Morphs)

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

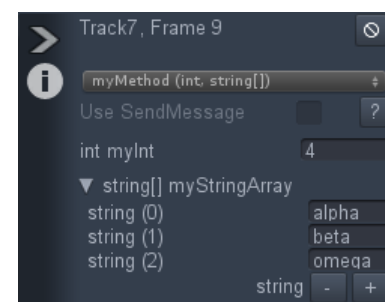
## 4.7 Event

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 inspector* to learn more.

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

## Supported Parameter Types

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

## 4.8 📷 Camera Switcher

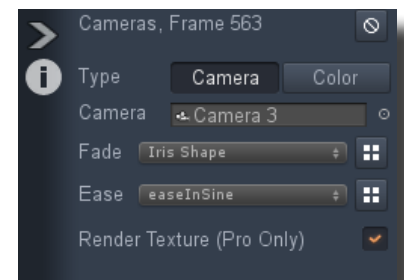
The *Camera Switcher Track* allows you to switch and transition between cameras and colors. There can only be one *Camera Switcher Track* in a single take.

**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.



Camera Switcher Key Inspector

**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
```

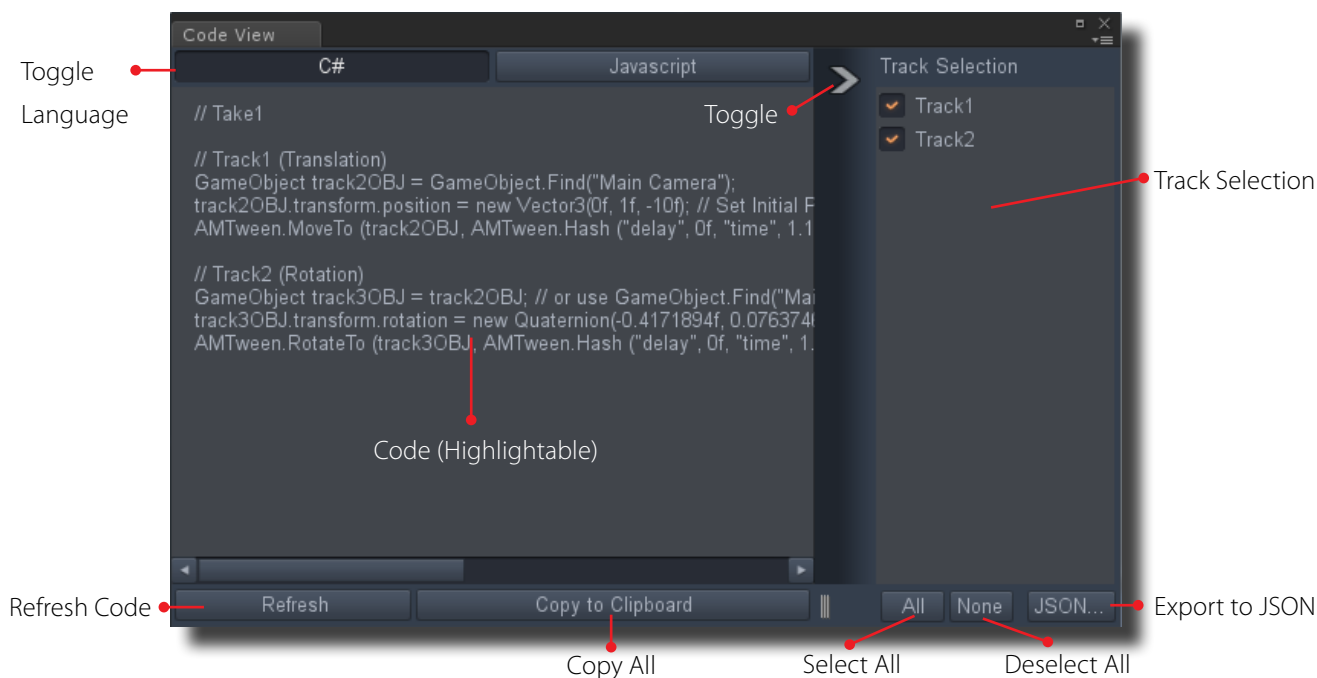
*nowPlayingTake (string)*: Returns the *name* of the take that is currently playing. Returns *null* if no take is playing.

```
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.

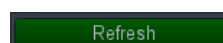
The following diagram provides an overview of the **Code View**.



**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](mailto: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](mailto: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**.