

[AVFoundation](#) / AVAssetImageGenerator

Class

AVAssetImageGenerator

An object that generates images from a video asset.

iOS 4.0+ | iPadOS 4.0+ | Mac Catalyst 13.1+ | macOS 10.7+ | tvOS 9.0+ | visionOS 1.0+

```
class AVAssetImageGenerator
```

Mentioned in

 Creating images from a video asset

Overview

Use an image generator to extract images from a video asset at particular times within its timeline.

Topics

Creating an image generator

```
init(asset: AVAsset)
```

Creates an object that generates images for times within a video asset.

Configuring image generation

```
var maximumSize: CGSize
```

The maximum size of images to generate.

```
var requestedTimeToleranceBefore: CMTime
```

A maximum length of time before the requested time to allow image generation to occur.

```
var requestedTimeToleranceAfter: CMTime
```

A maximum length of time after the requested time to allow image generation to occur.

```
var dynamicRangePolicy: AVAssetImageGenerator.DynamicRangePolicy
```

The dynamic range policy to use when generating images.

```
struct DynamicRangePolicy
```

A type that specifies the dynamic range policy to apply when generating images.

```
var appliesPreferredTrackTransform: Bool
```

A Boolean value that specifies whether to apply the track matrix or matrices when generating an image from the asset.

```
var apertureMode: AVAssetImageGenerator.ApertureMode?
```

Specifies the aperture mode for the generated image.

```
struct ApertureMode
```

Constants that define aperture modes to use when generating images.

Configuring compositing

```
var videoComposition: AVVideoComposition?
```

A video composition to use when extracting images from assets with multiple video tracks.

```
var customVideoCompositor: (any AVVideoCompositing)?
```

A custom video compositor to use when extracting images from assets with multiple video tracks.

Generating images

```
func image(at: CMTime) async throws -> (image: CGImage, actualTime: CMTime)
```

Generates an image for a requested time.

```
func images(for: [CMTime]) -> sending AVAssetImageGenerator.Images
```

Generates images for times within the video timeline.

`struct Images`

An asynchronous sequence of images created by an image generator.

```
func generateCGImageAsynchronously(for: CMTime, completionHandler: (CGImage?, CMTime, (any Error)?) -> Void)
```

Generates an image asynchronously for a requested time, and returns the result in a callback.

```
func generateCGImagesAsynchronously(forTimes: [NSValue], completionHandler: AVAssetImageGeneratorCompletionHandler)
```

Generates images asynchronously for an array of requested times, and returns the results in a callback.

```
typealias AVAssetImageGeneratorCompletionHandler
```

A type alias for a closure that provides the result of an image generation request.

```
func cancelAllCGImageGeneration()
```

Cancels all pending image generation requests.

```
func copyCGImage(at: CMTime, actualTime: UnsafeMutablePointer<CMTime>?) throws -> CGImage
```

Returns an image for the asset at or near a specified time.

Deprecated

Accessing the asset

```
var asset: AVAsset
```

The asset that initialized the image generator.

Relationships

Inherits From

NSObject

Conforms To

CVarArg

CustomDebugStringConvertible

CustomStringConvertible
Equatable
Hashable
NSObjectProtocol

See Also

Image generation

 Creating images from a video asset

Display images for specific times within the media timeline by generating images from a video's frames.