

[AVFoundation](#) / Media reading and writing

API Collection

# Media reading and writing

Read images from video, export to alternative formats, and perform sample-level reading and writing of media data.

## Topics

### Media export

 Exporting video to alternative formats

Convert an existing movie file to a different format.

`class AVAssetExportSession`

An object that exports assets in a format that you specify using an export preset.

### 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.

`class AVAssetImageGenerator`

An object that generates images from a video asset.

### Media reading

 Reading multiview 3D video files

Render single images for the left eye and right eye from a multiview High Efficiency Video Coding format file by reading individual video frames.

`class AVAssetReader`

An object that reads media data from an asset.

`class AVAssetReaderOutput`

An abstract class that defines the interface to read media samples from an asset reader.

`class AVAssetReaderTrackOutput`

An object that reads media data from a single track of an asset.

`class AVAssetReaderAudioMixOutput`

An object that reads audio samples that result from mixing audio from one or more tracks.

`class AVAssetReaderVideoCompositionOutput`

An object that reads composited video frames from one or more tracks of an asset.

`class AVAssetReaderSampleReferenceOutput`

An object that reads sample references from an asset track.

`class AVAssetReaderOutputMetadataAdaptor`

An object that creates timed metadata group objects for an asset track.

## Media writing

{ } Converting projected video to Apple Projected Media Profile

Convert content with equirectangular or half-equirectangular projection to APMP.

{ } Converting side-by-side 3D video to multiview HEVC and spatial video

Create video content for visionOS by converting an existing 3D HEVC file to a multiview HEVC format, optionally adding spatial metadata to create a spatial video.

{ } Writing fragmented MPEG-4 files for HTTP Live Streaming

Create an HTTP Live Streaming presentation by turning a movie file into a sequence of fragmented MPEG-4 files.

 Creating spatial photos and videos with spatial metadata

Add spatial metadata to stereo photos and videos to create spatial media for viewing on Apple Vision Pro.

 Tagging media with video color information

Inspect and set video color space information when writing and transcoding media.

 Evaluating an app's video color

Check color reproduction for a video in your app by using test patterns, video test equipment, and light-measurement instruments.

## class `AVOutputSettingsAssistant`

An object that builds audio and video output settings dictionaries.

## class `AVAssetWriter`

An object that writes media data to a container file.

## class `AVAssetWriterInput`

An object that appends media samples to a track in an asset writer's output file.

## class `AVAssetWriterInputPixelBufferAdaptor`

An object that appends video samples to an asset writer input.

## class `AVAssetWriterInputTaggedPixelBufferGroupAdaptor`

An object that appends tagged buffer groups to an asset writer input.

## class `AVAssetWriterInputMetadataAdaptor`

An object that appends timed metadata groups to an asset writer input.

## class `AVAssetWriterInputGroup`

A group of inputs with tracks that are mutually exclusive to each other for playback or processing.

## Captions

### ☰ Caption authoring

Create captions and subtitles in industry-standard formats.

## See Also

## Common

### ☰ Media assets

Load media assets from files and streams to inspect their attributes, tracks, and embedded metadata.

### ☰ Media types and utilities

Identify the types of content and file formats that AVFoundation supports.

☰ Video settings

Configure video processing settings using standard key and value constants.

☰ Audio settings

Configure audio processing settings using standard key and value constants.