

[AVFoundation](#) / [AVCaptureDeviceInput](#)

Class


AVCaptureDeviceInput

An object that provides media input from a capture device to a capture session.

iOS 4.0+ | iPadOS 4.0+ | Mac Catalyst 14.0+ | macOS 10.7+ | tvOS 17.0+ | visionOS 1.0+

```
class AVCaptureDeviceInput
```

Mentioned in

 [Setting up a capture session](#)

Overview

This class is a concrete subclass of [AVCaptureInput](#) that you use to connect a capture device to a capture session.

Topics

Creating an input

`init(device: AVCaptureDevice) throws`

Creates an input for the specified capture device.

Configuring video properties

```
var unifiedAutoExposureDefaultsEnabled: Bool
```

A Boolean value that indicates whether the input enables unified auto-exposure defaults.

```
var videoMinFrameDurationOverride: CMTime
```

A time value that acts as a modifier to a capture device's active video minimum frame duration.

Configuring audio properties

```
func isMultichannelAudioModeSupported(AVCaptureMultichannelAudioMode) -  
> Bool
```

A Boolean value that indicates whether the input supports the specified multichannel audio mode.

```
var multichannelAudioMode: AVCaptureMultichannelAudioMode
```

The multichannel audio mode to apply when recording audio.

```
enum AVCaptureMultichannelAudioMode
```

Constants that indicate the modes of multichannel audio.

```
var isWindNoiseRemovalSupported: Bool
```

```
var isWindNoiseRemovalEnabled: Bool
```

Configuring Cinematic video capture

```
var isCinematicVideoCaptureSupported: Bool
```

A BOOL value specifying whether Cinematic Video capture is supported.

```
var isCinematicVideoCaptureEnabled: Bool
```

A BOOL value specifying whether the Cinematic Video effect is being applied to any movie file output, video data output, metadata output, or video preview layer added to the capture session.

```
var simulatedAperture: Float
```

Shallow depth of field simulated aperture.

Locking frame duration

```
var activeLockedVideoFrameDuration: CMTime
```

The receiver's locked frame duration (the reciprocal of its frame rate). Setting this property guarantees the intra-frame duration delivered by the device input is precisely the frame duration you request.

```
var isLockedVideoFrameDurationSupported: Bool
```

Indicates whether the device input supports locked frame durations.

Synchronizing with external devices

```
var isExternalSyncSupported: Bool
```

Indicates whether the device input supports being configured to follow an external sync device.

```
func follow(AVExternalSyncDevice, videoFrameDuration: CMTime, delegate:
(any AVExternalSyncDeviceDelegate?))
```

Configures the the device input to follow an external sync device at the given frame duration.

```
func unfollowExternalSyncDevice()
```

Discontinues external sync.

```
var activeExternalSyncVideoFrameDuration: CMTime
```

The receiver's external sync frame duration (the reciprocal of its frame rate) when being driven by an external sync device.

```
var externalSyncDevice: AVExternalSyncDevice?
```

The external sync device currently being followed by this input.

Accessing the device

```
var device: AVCaptureDevice
```

A capture device associated with this input.

```
func ports(for: AVMediaType?, sourceDeviceType: AVCaptureDevice.Device
Type?, sourceDevicePosition: AVCaptureDevice.Position) -> [AVCapture
Input.Port]
```

Retrieves a virtual device's constituent device ports for use in a multi-camera session.

Relationships

Inherits From

AVCaptureInput

Conforms To

CVarArg

CustomDebugStringConvertible

CustomStringConvertible

Equatable

Hashable

NSObjectProtocol

See Also

Capture devices



Choosing a capture device

Select the front or back camera, or use advanced features like the TrueDepth camera or dual camera.



Adopting smart framing in your camera app

Capture the optimal shot by providing automatic framing recommendations.

`class` AVCaptureDevice

An object that represents a hardware or virtual capture device like a camera or microphone.

`class` AVContinuityDevice

A class that represents a physical iOS device that's nearby and can provide access to its cameras and microphones.

`class` AVExternalStorageDevice

Represents a physical external storage device that stores media assets.

`class` AVExternalStorageDeviceDiscoverySession

Notifies your app when the external storage devices connect to and disconnect from the system.