

[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.DeviceType?, sourceDevicePosition: AVCaptureDevice.Position) -> [AVCaptureInput.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`

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