

[AVFoundation](#) / [AVCaptureVideoPreviewLayer](#)

Class

AVCaptureVideoPreviewLayer

A Core Animation layer that displays video from a camera device.

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

```
class AVCaptureVideoPreviewLayer
```

Mentioned in

 Setting up a capture session

Overview

Use this layer to provide a preview of the content the camera captures. A convenient way to use this class in iOS is to set it as the backing layer for a view as shown below.

```
class PreviewView: UIView {
    // Use a capture video preview layer as the view's backing layer.
    override class var layerClass: AnyClass {
        AVCaptureVideoPreviewLayer.self
    }

    var previewLayer: AVCaptureVideoPreviewLayer {
        layer as! AVCaptureVideoPreviewLayer
    }

    // Connect the layer to a capture session.
    var session: AVCaptureSession? {
        get { previewLayer.session }
    }
}
```

```
    set { previewLayer.session = newValue }
```

```
}
```

Topics

Creating a preview layer

```
init(session: AVCaptureSession)
```

Creates a layer to preview the visual output of a capture session.

```
init(sessionWithNoConnection: AVCaptureSession)
```

Creates a layer to preview the visual output of a capture session, without making connections to eligible video inputs.

Layer configuration

```
var isPreviewing: Bool
```

A Boolean value that indicates whether the layer is rendering video frames from its source.

```
var videoGravity: AVLAYERVIDEOGRAVITY
```

A value that indicates how the layer displays video content within its bounds.

Configuring deferred start

```
var isDeferredStartSupported: Bool
```

A BOOL value that indicates whether the preview layer supports deferred start.

```
var isDeferredStartEnabled: Bool
```

A BOOL value that indicates whether to defer starting this preview layer.

Session configuration

```
var session: AVCaptureSession?
```

A capture session with visual output to preview.

```
var connection: AVCaptureConnection?
```

An object that describes the connection from the layer to a particular input port.

```
func setSessionWithNoConnection(AVCaptureSession)
```

Associates a session with the layer without automatically forming a connection to an eligible input port.

Converting between coordinate spaces

```
func layerPointConverted(fromCaptureDevicePoint: CGPoint) -> CGPoint
```

Converts a point from the coordinate space of the capture device to the coordinate space of the layer.

```
func captureDevicePointConverted(fromLayerPoint: CGPoint) -> CGPoint
```

Converts a point from layer coordinates to the coordinate space of the capture device.

```
func layerRectConverted(fromMetadataOutputRect: CGRect) -> CGRect
```

Converts a rectangle from metadata output coordinates to the coordinate space of the layer.

```
func metadataOutputRectConverted(fromLayerRect: CGRect) -> CGRect
```

Converts a rectangle from layer coordinates to the coordinate space of the metadata output.

```
func transformedMetadataObject(for: AVMetadataObject) -> AVMetadataObject?
```

Converts a metadata object's visual properties to layer coordinates.

Deprecated

☰ Deprecated symbols

Review unsupported symbols and their replacements.

Relationships

Inherits From

CALayer

Conforms To

CAMediaTiming

CVarArg

CustomDebugStringConvertible
CustomStringConvertible
Equatable
Hashable
NSCoding
NSObjectProtocol
NSSecureCoding
Sendable
SendableMetatype

See Also

Capture preview

`class AVCaptureAudioPreviewOutput`

A capture output that provides a preview of the captured audio.