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## Structure

# DSPSplitComplex

A structure that represents a single-precision complex vector with the real and imaginary parts stored in separate arrays.

iOS | iPadOS | Mac Catalyst | macOS | tvOS | visionOS | watchOS

```
struct DSPSplitComplex
```

## Mentioned in

- 📄 Finding the component frequencies in a composite sine wave
- 📄 Controlling vDSP operations with stride
- 📄 Performing Fourier transforms on interleaved-complex data
- 📄 Performing Fourier Transforms on Multiple Signals

## Topics

### Creating a Split Complex Structure

```
init(realp: UnsafeMutablePointer<Float>, imagp: UnsafeMutablePointer<Float>)
```

Creates a new split complex structure.

### Inspecting a Split Complex Structure's Data

```
var imagp: UnsafeMutablePointer<Float>  
An array of imaginary parts of the complex numbers.
```

```
var realp: UnsafeMutablePointer<Float>  
An array of real parts of the complex numbers.
```

## Initializers

```
init(fromInputArray: [Float], realParts: inout [Float], imaginaryParts: inout [Float])
```

Deprecated

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## Relationships

### Conforms To

BitwiseCopyable, Copyable, vDSP\_FourierTransformable

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## See Also

### Data types

`typealias vDSP_Length`

An unsigned-integer value that represents the size of vectors and the indices of elements in vectors.

`typealias vDSP_Stride`

An integer value that represents the differences between indices of elements, including the lengths of strides.

`struct DSPComplex`

A structure that represents a single-precision complex value.

`typealias COMPLEX_SPLIT`

`struct DSPDoubleComplex`

A structure that represents a double-precision complex value.

```
typealias DOUBLE_COMPLEX_SPLIT
```

```
struct DSPDoubleSplitComplex
```

A structure that represents a double-precision complex vector with the real and imaginary parts stored in separate arrays.

```
struct VectorizableDouble
```

A structure that represents a double-precision real value for biquadratic filtering and discrete Fourier transforms.

```
struct VectorizableFloat
```

A structure that represents a single-precision real value for biquadratic filtering and discrete Fourier transforms.