Flags

/A	Sizes the window automatically to make extra room for the tool palette. This preserves the proportion and size of the actual graph area.
/W=*winName*	Hides the tool palette in the named window. This must be the first flag specified when used in a Proc or Macro or on the command line. *winName* must be either the name of a top-level window or a path leading to an exterior panel window (see **Exterior Control Panels** on page III-443).

See Also

The **ShowTools** operation.

HilbertTransform

`HilbertTransform [/Z][/O][/DEST=destWave] srcWave`

The HilbertTransform operation computes the Hilbert transformation of *srcWave*, which is a real or complex (single or double precision) wave of 1-3 dimensions. The result of the HilbertTransform is stored in *destWave*, or in the wave W_Hilbert (1D) or M_Hilbert in the current data folder.

Flags

/DEST=*destWave*	Creates a real wave reference for the destination wave in a user function. See **Automatic Creation of WAVE References** on page IV-72 for details.
/O	Overwrites *srcWave* with the transform.
/PAD={*dim1* [, *dim2*, *dim3*, *dim4*]}	
	Converts *srcWave* into a padded wave of dimensions *dim1*, *dim2*…. The padded wave contains the original data at the start of the dimension and adds zero entries to each dimension up to the specified dimension size. The *dim1*… values must be greater than or equal to the corresponding dimension size of *srcWave*. If you need to pad just the lowest dimension(s) you can omit the remaining dimensions; for example, /PAD=*dim1* will set *dim2* and above to match the dimensions in *srcWave*. This flag was added in Igor Pro 7.00.
/Z	No error reporting.

Details

The Hilbert transform of a function *f*(*x*) is defined by:

$$F(t) = \frac{1}{\pi t} \int_{-\infty}^{\infty} \frac{f(x)dx}{x-t}.$$

Theoretically, the integral is evaluated as a Cauchy principal value. Computationally one can write the Hilbert transform as the convolution:

$$F(t) = \frac{-1}{\pi t} * f(t),$$

which by the convolution theorem of Fourier transforms, may be evaluated as the product of the transform of *f*(*x*) with -*i**sgn(*x*) where:

$$\operatorname{sgn}(x) = \begin{cases} -1 & x < 0 \\ 0 & x = 0 \\ 1 & x > 0 \end{cases}.$$