

file= <i>oRefNum</i>	File reference number for the FIFO's output file. You obtain this reference number from the <b>Open</b> operation used to create the file.
note= <i>noteStr</i>	Stores the note string in the file header. It is limited to 255 bytes.
rdfile= <i>rRefNum</i>	Like rfile but for review of raw data (use Open/R command). Channel data must match raw data in file. Offset from start of file to start of data can be provided using doffset given in same command. If data does not extend all the way to the end of the file, then the number of bytes of data can be provided using dsize in the same command.
rfile= <i>rRefNum</i>	File reference number for the FIFO's review file. Use a review file when you are using a FIFO to review existing data. Obtain the reference number from the Open/R operation used to open the file. File may be either unified header/data or a split format where the header contains the name of a file containing the raw data.
size= <i>s</i>	Sets number of chunks in the FIFO. The default is 10000. A chunk of data consists of a single data point from each of the FIFO's channels.
start	Starts the FIFO running by setting the time/date in the FIFO header, writing the header to the output file and marking the FIFO active.
stop	Stops the FIFO by flushing data to disk and marking the FIFO as inactive.
swap	Used only with rdfile. Indicates that the raw data file requires byte-swapping when it is read. This would be the case if you are running on a Macintosh, reading a binary file from a PC, or vice versa.

### Details

Once start has been issued, the FIFO can accept no further commands except stop.

The FIFO must be in the valid state for you to access its data (using a chart control or using the **FIFO2Wave** operation). When you create a FIFO, using **NewFIFO**, it is initially invalid. It becomes valid when you issue the start command via the CtrlFIFO operation. It remains valid until you change a FIFO parameter using CtrlFIFO. FIFOs are used for data acquisition.

### See Also

The **NewFIFO** and **FIFO2Wave** operations, and **FIFOs and Charts** on page IV-313.

## Cursor

```
Cursor [flags] cursorName traceName x_value
Cursor /F[flags] cursorName traceName x_value, y_value
Cursor /K[/W=graphName] cursorName
Cursor /I[/F][flags] cursorName imageName x_value, y_value
Cursor /M[flags] cursorName
```

The Cursor operation moves the cursor specified by *cursorName* onto the named trace at the point whose X value is *x\_value*. or the coordinates of an image pixel or free cursor position at *x\_value* and *y\_value*.

### Parameters

*cursorName* is one of ten cursors A through J.

### Flags

/A= <i>a</i>	Activates ( <i>a</i> =1) or deactivates ( <i>a</i> =0) the cursor. Active cursors move with arrow keys or the cursor panel.
/C=( <i>r,g,b[,a]</i> )	Sets the cursor color. <i>r</i> , <i>g</i> , <i>b</i> , and <i>a</i> specify the color and optional opacity as <b>RGBA Values</b> . The default is opaque black.

## Cursor

/DF= <i>format</i>	Sets the format to use when displaying date/time data in the Graph Info Panel (see <b>Info Panel and Cursors</b> on page II-319).  The /DF flag was added in Igor Pro 9.00.  The values for format are: <ul style="list-style-type: none"><li>0: Compact format: YYMMDD HHMM.</li><li>1: Compact format with seconds added: YYMMDD HHMMSS. The seconds portion may optionally show fractions of seconds - see the /SDGT flag below.</li><li>2: Date and Time using a more readable format, the same format you get on a graph axis if you select the "short date" format. Time is formatted as HH:MM.</li><li>3: Date and Time with seconds added. Time is formatted as HH:MM:SS. The seconds portion may optionally show fractions of seconds - see the /SDGT flag below.</li><li>4: Time without the date. Time is formatted as HH:MM:SS. May optionally show fractions of seconds - see the /SDGT flag below.</li></ul>
/DGTS= <i>nd</i>	Sets the number of digits precision to use when a cursor value is displayed in the Graph Info Panel (see <b>Info Panel and Cursors</b> on page II-319). The number of digits is set by <i>nd</i> and must be a value from 1 to 15.  The /DGTS flag was added in Igor Pro 9.00.
/F	Cursor roams free. The trace or image provides the axis pair that defines x and y coordinates for the setting and readout. Use /P to set in relative coordinates, where 0,0 is the top left corner of the rectangle defined by the axes and 1,1 is the right bottom corner.
/H= <i>h</i>	Specifies crosshairs on cursors.  <i>h</i> =0: Full crosshairs off. <i>h</i> =1: Full crosshairs on. <i>h</i> =2: Vertical hairline. <i>h</i> =3: Horizontal hairline.
/I	Places cursor on specified image.
/K	Removes the named cursor from the top graph.
/L= <i>lStyle</i>	Line style for crosshairs (full or small).  <i>lStyle</i> =0: Solid lines. <i>lStyle</i> =1: Alternating color dash.
/M	Modifies properties without having to specify trace or image coordinates. Does not work with the /F or /I flags.
/N= <i>noKill</i>	Determines if the cursor is removed ("killed") if the user drags it outside of the plot area:  <i>noKill</i> =0: Remove the cursor (default). <i>noKill</i> =1: Do not remove the cursor.
/NUML= <i>n</i>	Used in conjunction with /H when <i>h</i> is non-zero. Sets the number of crosshair lines to draw. <i>n</i> must be between 1 and 3. When <i>n</i> is greater than 1, the line separation is set by the /T= <i>t</i> flag. If <i>n</i> = 2 or 3 and <i>t</i> is less than 3, the line appears as if <i>n</i> is 1. If <i>n</i> = 3 and <i>t</i> is less than 5, the appearance reverts to <i>n</i> = 2. Lines are symmetrically disposed around the cursor position. When <i>n</i> = 3, <i>t</i> sets the separation of the outer pair of lines.  /NUML was added in Igor Pro 7.00.

/P	Interpret <i>x_value</i> as a point number rather than an X value. If the cursor is on a trace representing a subrange of a wave, the point numbers are “trace” point numbers. See <b>Details</b> below.
	When used with the /I flag, <i>x_value</i> and <i>y_value</i> are row and column numbers.
	When used with the /F flag, <i>x_value</i> and <i>y_value</i> are relative graph coordinates (0-1).
/S=s	Sets cursor style. <i>s=0:</i> Original square or circle. <i>s=1:</i> Small crosshair with letter. <i>s=2:</i> Small crosshair without letter.
/SDGT=nd	Set the number of places to the right of the decimal point to be displayed in the Graph Info Panel (see <b>Info Panel and Cursors</b> on page II-319) when the display is in one of the date/time modes that includes seconds, or if the corresponding axis is showing elapsed time. <i>nd</i> is a value from 0 to 6. The /SDGT flag was added in Igor Pro 9.00.
/T=t	Sets the thickness of crosshair lines for /H when <i>h</i> is non-zero. If /NUML sets the number of lines greater than 1 then /T sets the separation of the outer pair of lines. <i>t</i> is the line thickness or separation distance in units of pixels. The default is /T=1. The form /T={ <i>mode</i> , <i>t1</i> , <i>t2</i> } provides finer control. /T was added in Igor Pro 7.00.
/T={ <i>mode</i> , <i>t1</i> , <i>t2</i> }	Sets the thickness of crosshair lines for /H when <i>h</i> is non-zero. If /NUML sets the number of lines greater than 1 then /T sets the separation of the outer pair of lines. If <i>mode</i> =1 then <i>t1</i> and <i>t2</i> are in units of screen pixels. <i>t1</i> is the vertical line thickness or separation distance and <i>t2</i> is the horizontal line thickness or separation distance. The default crosshair appearance is equivalent to /T={1,1,1}. If <i>mode</i> =0 then <i>t1</i> and <i>t2</i> are in units of axis coordinates and consequently track changes in axis range and graph size. Normally <i>t1</i> is the vertical line thickness or separation distance and <i>t2</i> is the horizontal line thickness or separation distance but they are swapped if the trace or graph is in swap XY mode. /T was added in Igor Pro 7.00.
/W= <i>graphName</i>	Specifies a particular named graph window or subwindow. When omitted, action will affect the active window or subwindow. When identifying a subwindow with <i>graphName</i> , see <b>Subwindow Syntax</b> on page III-92 for details on forming the window hierarchy.

## Details

Usually *traceName* is the same as the name of the wave displayed by that trace, but it could be a name in instance notation. See **ModifyGraph (traces)** and **Instance Notation** on page IV-20 for discussions of trace names and instance notation.

A string containing *traceName* can be used with the \$ operator to specify the trace name.

*x\_value* is an X value in terms of the X scaling of the wave displayed by *traceName*. If *traceName* is graphed as an XY pair, then *x\_value* is *not* the same as the X axis coordinate. Since the X scaling is ignored when displaying an XY pair in a graph, we recommend you use the /P flag and use a point number for *x\_value*.

*cursorName* is a name, *not* a string.

To get a cursor readout, choose ShowInfo from the Graph menu.

If a cursor is attached to a trace that represents a subrange of a wave, the /P flag causes *x\_value* to be interpreted as a trace point number, not as a wave point number. For instance, if the trace was created by the command

```
Display yWave[4, 25;3]
```