

## WaveList

**WaveList**(*matchStr*, *separatorStr*, *optionsStr* [, *dfr* ])

The WaveList function returns a string containing a list of wave names selected from the current data folder or the data folder specified by *dfr* based on *matchStr* and *optionsStr* parameters. The *dfr* parameter requires Igor Pro 9.00 or later.

See **Details** for information on listing waves in graphs, and for references to newer, data folder-aware functions.

### Details

For a wave name to appear in the output string, it must match *matchStr* and also must fit the requirements of *optionsStr* and it must be in the current data folder. *separatorStr* is appended to each wave name as the output string is generated.

The name of each wave is compared to *matchStr*, which is some combination of normal characters and the asterisk wildcard character that matches anything.

For example:

"*"	Matches all wave names in current data folder.
"xyz"	Matches wave name xyz only, if xyz is in the current data folder.
"*xyz"	Matches wave names which end with xyz and are in the current data folder.
"xyz*"	Matches wave names which begin with xyz and are in the current data folder.
"*xyz*"	Matches wave names which contain xyz and are in the current data folder.
"abc*xyz"	Matches wave names which begin with abc and end with xyz and are in the current data folder.

*matchStr* may begin with the ! character to return items that do not match the rest of *matchStr*. For example:

"!*xyz"	Matches wave names which do not end with xyz.
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The ! character is considered to be a normal character if it appears anywhere else, but there is no practical use for it except as the first character of *matchStr*.

*optionsStr* is used to further qualify the wave.

Use "" to accept all waves in the current data folder that are permitted by *matchStr*.

Set *optionsStr* to one or more of the following comma-separated keyword-value pairs:

<i>optionsStr</i>	Selection Criteria
"BYTE:0" or "BYTE:1"	Waves that are not 8-bit integer (if 0) or only waves that are 8-bit integer (if 1).
"CMPLX:0" or "CMPLX:1"	Waves that are not complex (if 0) or only waves that are complex (if 1).
"DIMS:numberOfDims"	All waves in current data folder that have <i>numberOfDims</i> dimensions. This is the number of dimensions reported by <b>WaveDims</b> . Use "DIMS:0" for all waves having no points ( <code>numpts(w)==0</code> ). Use "DIMS:1" for graph traces (or one of the X, Y, and Z waves of a contour plot). Use "DIMS:2" for false color and indexed color images (see <b>Indexed Color Details</b> on page II-400). Use "DIMS:3" for direct color images (see <b>Direct Color Details</b> on page II-401).
"DF:0" or "DF:1"	Consider waves that are not data folder reference waves (if 0) or only waves that are data folder reference waves (if 1). You can create waves that contain data folder references using the <b>Make</b> /DF flag.

## WaveList

<i>optionsStr</i>	Selection Criteria
"DP:0" or "DP:1"	Waves that are not double precision floating point (if 0) or only waves that are double precision floating point (if 1).
"INT64:0" or "INT64:1"	Consider waves that are not 64-bit integer (if 0) or only waves that are 64-bit integer (if 1). 64-bit integer waves are supported in Igor7 and later.
"INTEGER:0" or "INTEGER:1"	Waves that are not 32-bit integer (if 0) or only waves that are 32-bit integer (if 1).
"MAXCHUNKS: <i>max</i> "	Waves having no more than <i>max</i> chunks.
"MAXCOLS: <i>max</i> "	Waves having no more than <i>max</i> columns.
"MAXLAYERS: <i>max</i> "	Waves having no more than <i>max</i> layers.
"MAXROWS: <i>max</i> "	Waves having no more than <i>max</i> rows.
"MINCHUNKS: <i>min</i> "	Waves having at least <i>min</i> chunks.
"MINCOLS: <i>min</i> "	Waves having at least <i>min</i> columns.
"MINLAYERS: <i>min</i> "	Waves having at least <i>min</i> layers.
"MINROWS: <i>min</i> "	Waves having at least <i>min</i> rows.
"SP:0" or "SP:1"	Waves that are not single precision floating point (if 0) or only waves that are single precision floating point (if 1).
"TEXT:0" or "TEXT:1"	Waves that are not text (if 0) or only waves that are text (if 1).
"UNSIGNED:0" or "UNSIGNED:1"	Waves that are not unsigned integer (if 0) or only waves that are unsigned integer (if 1).
"WAVE:0" or "WAVE:1"	Consider waves that do not contain wave references (if 0) or only waves that contain wave references (if 1). You can create waves that contain wave references using the <b>Make</b> /WAVE flag.
"WIN:"	All waves in the current or specified data folder that are displayed in the top graph or table. The WIN option is not threadsafe.
"WIN: <i>windowName</i> "	All waves in the current or specified data folder that are displayed in the named table or graph window or subwindow. The WIN option is not threadsafe.
"WORD:0" or "WORD:1"	Waves that are not 16-bit integer (if 0) or only waves that are 16-bit integer (if 1).

You can specify more than one option by separating the options with a comma. See the **Examples**.

**Note:** Even when *optionsStr* is used to list waves used in a graph or table, the waves must be in the current data folder.

**Note:** In addition to waves displayed as normal graph traces, WaveList will list matrix waves used with **AppendImage** or NewImage and the X, Y, and Z waves used with **AppendXYZContour**.

**Note:** Individual contour traces are not listed because they have no corresponding waves. See **Contour Traces** on page II-370.

There are several functions that are more useful for listing waves in graphs and tables.

WaveList with WIN: *windowName* gives only the names of the waves in the graph or table and does not include the data folder for each wave. If you need to know what data folder the waves are in, use **WaveRefIndexed** to get the wave itself and then if needed use **GetWavesDataFolder** to get the path.

When identifying a subwindow with WIN: *windowName*, see **Subwindow Syntax** on page III-92 for details on forming the window hierarchy.