You can adjust the time by setting the WMTooltipHookStruct duration_ms field. When your function is called, that field is set to -1, which selects the default duration. To get an effectively permanent tooltip, set duration_ms to a large number in units of milliseconds. For example, setting duration_ms to 600000 causes the tooltip to be displayed for ten minutes.

Regardless of the duration, Igor hides the tooltip if you click the mouse or move it out of the tracking rectangle.

Data Acquisition

Igor Pro provides a number of facilities to allow working with live data:

- Live mode traces in graphs
- FIFOs and Charts
- Background task
- External operations and external functions
- Controls and control panels
- User-defined functions

Live mode traces in graphs are useful when you acquiring complete waveforms in a single short operation and you want to update a graph many times per second to create an oscilloscope type display. See **Live Graphs and Oscilloscope Displays** on page II-347 for details.

FIFOs and Charts are used when you have a continuous stream of data that you want to capture and, perhaps, monitor. See **FIFOs and Charts** on page IV-313 details.

You can set up a background task that periodically performs data acquisition while allowing you to continue to work with Igor in the foreground. The background operations are *not* done using interrupts and therefore are easily disrupted by foreground operations. Background tasks are useful only for relatively infrequent tasks that can be quickly accomplished and do not cause a cascade of graph updates or other things that take a long time. See **Background Tasks** on page IV-319 for details.

You can create an instrument-like front panel for your data acquisition setup using user-defined controls in a panel window. Refer to Chapter III-14, **Controls and Control Panels**, for details. There are many example experiments that can be found in the Examples folder.

Igor Pro comes with an XOP named VDT2 for communicating with instruments via serial port (RS232), another XOP named NIGPIB2 for communicating via General Purpose Interface Bus (GPIB), and another XOP named VISA for communicating with VISA-compatible instruments. See the Igor Pro Folder:More Extensions:Data Acquisition folder.

Sound I/O can be done using the built-in **SoundInRecord** and **PlaySound** operations.

The **NewCamera**, **GetCamera** and **ModifyCamera** operations support frame grabbing.

WaveMetrics produces the NIDAQ Tools software package for doing data acquisition using National Instruments cards. NIDAQ Tools is built on top of Igor using all of the techniques mentioned in this section. Information about NIDAQ Tools is available via the WaveMetrics Web site <http://www.wavemetrics.com/Products/NIDAQTools/nidaqtools.htm>.

Third parties have created data acquisition packages that use other hardware. Information about these is also available at <http://www.wavemetrics.com/Products/thirdparty/thirdparty.htm>.

If an XOP package is not available for your hardware you can write your own. For this, you will need to purchase the XOP Toolkit product from WaveMetrics. See **Creating Igor Extensions** on page IV-208 for details.