This guide provides answers to your most frequently asked questions about IntuiLink. Additionally there's a troubleshooting section that will help you resolve some of your most common problems.

IntuiLink Most Frequently Asked Questions

Question: What's the difference between BenchLink, BenchLink XL Scope and this new IntuiLink software?
Answer: BenchLink is a standalone PC application whereas BenchLink XL and IntuiLink can be used in standard PC applications such as Microsoft® Excel® and Word®. All three products retrieve images & bitmaps, obtain waveform data, save and load setups, and communicate over RS-232 or GPIB. BenchLink will continue to sell as a standalone product and BenchLink XL will be rolled into Agilent's new intrinsic connectivity software, IntuiLink. IntuiLink software will ship with the T&M instruments where it makes sense. As of January 1, IntuiLink will ship with the following products:

- ✓ 54600-series Oscilloscopes
- ✓ 548x-series Infiniium Oscilloscopes
- ✓ 34401/420A Multimeters
- ✓ 531x-series Counters
- ✓ ESA E/L/EMC Spectrum Analyzers
- ✓ PSA Spectrum Analyzers
- ✓ VNA (875x,872x,871x)
- ✓ PNA (835x) Network Analyzers
- ✓ ESG A/AP/D/DP Signal Generators

Question: Do I need to have Microsoft® Excel® or Word® in order to use AGILENT IntuiLink?
Answer: Yes. You must have either Excel or Word to use the scope Toolbar for non-programming connections to the instrument. Note that without Excel/Word 97 or later, the Toolbar will not be available for use. However, you can use the Active X control included with Agilent IntuiLink in any environment that supports ActiveX, but this requires that you do some programming. NOTE: The RF/Microwave instrument toolbars require a minimum of MS Office 97 with SR-2 (service release 2) to function properly. This service patch can be downloaded from the Microsoft website.

Question: Are there any sample programs available?
Answer: Yes. The sample programs are located on the IntuiLink CD. To see the samples, navigate to:

Start|Programs|AGILENT IntuiLink|<*instrument model*>|Samples

Question: What interface cable should I use for RS-232 communications?
Answer: For instruments that support RS-232, there are several different RS-232 cables and using the wrong cable can give you in accurate results. For RS-232 (COM) communications, be sure to use the cable provided with the instrument.

Question: Can I capture a color bitmap image from the instruments that support color (AGILENT 54616C, 54620C)?

Answer: Most toolbars for instruments with color displays do support color bitmaps, such as ESA, PSA, VNA, and Infiniium. However, the 54600-series oscilloscope does not support color bitmaps.

Question: What programming environments are supported by the ActiveX Control included with the IntuiLink software?
Answer: The Active X control is supported in Visual Basic 5.0/6.0, AGILENT VEE, NI LabVIEW, and Visual C/C++ 5.0/6.0. The control should work in other applications that support Active X, but is not supported.

Question: Can I record a macro in Microsoft Word or Excel?
Answer: IntuiLink supports macro recording in MS Excel with the exception of the ESA/PSA toolbar. This capability, however, is not available in Word. If you wish to do any automation in Word, you must use the ActiveX Control in VBA (visual basic for applications) for Word.

Question: Does the Active X Control replace the current instrument drivers (e.g., VXIPlug&Play driver)?
Answer: No. Agilent Technologies will continue to provide alternate drivers for the instruments.

Question: Can I change the instrument settings from the Toolbar?
Answer: It depends. The primary function of the Toolbar is to allow you to easily connect and get data into standard applications. However there are some T&M instruments that allow for instrument setup via the toolbar. The DMM toolbar for example allows for setup of the most common instrument settings. For the instruments that do not allow for this, there is an icon that gives you to store the current instrument settings to a file on your PC. The instrument settings can then be recalled and download to the instrument as needed. Some toolbars, such as those for the RF/Microwave instruments actually automatically embeds the instrument settings directly into the .xls or .doc file. If an external settings file is required, it can be created with the Import/Export facility in the settings dialog box.

For specific instrument control, you can use the ActiveX Control (included with AGILENT IntuiLink) in a program. The Active X Control gives you all of the functionality of the toolbar plus the added capability to programmatically control the operation of the instrument.

Question: Can I use multiple IntuiLink Toolbars in one application?
Answer: Yes. However if you are using multiple instruments of the same type (e.g. multiple DMMs), then you need to connect each instrument sequentially.

Question: Can I use the IntuiLink software with older versions of the instruments?
Answer: In most cases the IntuiLink software is supported on current instruments. In some cases it's just a matter of testing and the IntuiLink software automatically works with the older versions of the instrument.

Question: Can I use the Excel toolbar in a worksheet embedded in MS Word?
Answer: No. Although an Excel worksheet can easily be brought into the Word environment as an 'embedded' object, the toolbar will not work with Excel when Excel is embedded into Word or any other application. Similarly the Word toolbar will not work when Word is embedded inside another application.

The Word toolbar will work for a Word document when Excel is embedded in Word but it will not insert data into the embedded worksheet.

Question: Are all the IntuiLink products localized?
Answer: No, the localization is determined on a product by product basis.

IntuiLink Programming Questions

Question: How does the Active X Control work in some of the other, non-supported programming environments?
Answer:

MS VBA (Visual Basic for Applications)
The control is supported for use with VBA in Excel and Word. VBA in MS Word and MS Excel is an expected use for the control. See the Excel examples supplied with the software. VBA in other environments has not been thoroughly tested, and therefore is not supported but we welcome any feedback by customers of their experience. We do expect the control to will work in any of the MS VBA environments.

There are some non- Microsoft VBA lookalikes. We can not guarantee the control to work in these environments.

Delphi:
The control has not been thoroughly tested in Delphi. It will work, but Delphi is not a supported environment.

Other
There are many other environments that support ActiveX controls. The Control will work in these environments if the environment accurately emulates that of the MS Visual Basic 5.0 or later environment. We have not tried all these environments. The customer will have to try the control and see if it works. The environments supported are listed above and in the data sheet.

Question: The Help file for the programmer changes when I change the language in the toolbar or the control. How can I keep one from changing the other?
Answer: All the help files are in the '\help directory of the application. The last two letters indicate the language. For example, us- english; fr- french; es-spanish; it- italian; jp-japanese; kr-korean; tw-traditional chinese.

When the language selection is changed in the control in programming environment, or in the toolbar in Excel and Word, the help file is changed. So for example, to make the help file French, the help file xxxaccfr.hlp is copied to the application directory and then renamed <*instrument*>.hlp.

To keep the language from changing when the language is changed in the toolbar or the control, move all the files with the names 546accxx.hlp, 546accxx.cnt (xx are the two letters indicating the language) to another directory. Select the language of your choice from these files, copy and rename the .hlp and .cnt file HP54600.hlp, HP54600.cnt. Place these two files in the same directory as the control file (HP54600.ocx).

Question: When using the automation server, I can't seem to get the language of my choice to come up in the development environment. How do I get the language of my choice?
Answer: When you use the control you can change the language of the Property Pages with the CountryCode property. When the country code property is changed, the help file is also changed at that time. With the Automation Server there is no provision for changing language. You can change the help file language for the automation server by copying the .hlp and .cnt file from the \help directory to the directory of the automation server and then changing the names to xxxxxxx.hlp and xxxxxxx.cnt. See also the previous question.

Question: When using control in the Browser, I get a message about some reference is missing? Also I don't have access to all the properties in the Browser.
Answer: When using the Browser in Visual Basic or other applications such as VBA and VEE, you should reference the instrument Automation Server to see all the properties, and to have all the enumerations available to the program. In Visual Basic go to Project references and select the instrument Automation Server, in VBA go to the VB editor and in the menu 'Tools, references' select the instrument Automation Server.

Question: Why can't I see the modules (code) in VBA of Excel (or Word)?
Answer: The code is password protected to prevent inadvertent changes. The code is not accessible by the user. Some of the functions are accessible if you reference the add-in in VBA.

Question: I want to build an installation with the instrument control, what dependencies are there?
Answer: If the end user is using RS232, you must load the Agilent IO library with SICL. VISA is not required. If the end user uses the GPIB card then the IO libraries for the card must be loaded. This would include the NI-488 IO library for the NI card, or the SICL IO library for the Agilent card. The <*instrument*>.dep file in the application directory lists all other dependencies.

Troubleshooting FAQs

Question: I lost the toolbar in Excel (Word). How do I get it back?
Answer: There are two ways to get the toolbar back into MS Excel or Word. The first and easiest is to click on the 'instrument toolbar' icon on your desktop. The second method is to go to the 'Tools, Add-ins…' menu. From the dialog box select the instrument Toolbar and click on 'Ok'. If this selection is not there, you will have to use the 'Browse' button in Excel and the 'Add' button in Word to add the toolbar files to the dialog. The file name for Excel has an .xla extension, for Word it an .dot extension. The default directory for these files is 'Program files\Agilent Technologies\IntuiLink\<*instrument*>' If it the instrument toolbar is already checked, then the toolbar is probably hidden. You can show it from the 'View, toolbars' menu.

Question: When I do a Search Instrument, I don't find the instruments on my GPIB port or RS232 port. What's wrong?
Answer: The first time you do a Search for instruments, the application searches first all the ports on the PC. Subsequent searches use the list of ports found on the first search. If you add ports later, or an instrument disables a port on your first Search then you need to go to the Search Criteria page. Select 'Find Ports' to find all the ports on the PC and refresh the list of ports available on the PC.

Additionally, if you have an application already using the port, such as the Palm "Hotsync Manager", then the application controlling the port must be shut down before the IntuiLink toolbars will be able to find the port.

If you still have trouble you can manually set the I/O with a manual set I/O property page. From the About box hit the 'Alt S'. An additional 'Option' tab will appear. Select 'manual Set I/O'. Now when you select the 'Connect to Instrument' button on the toolbar you can select the I/O directly from the dialog box instead of doing a search.

Make sure the correct cables are used for RS232, and the correct baud rate and handshake is used. The instrument settings and the settings on the dialog box must match. Use the Test button to confirm a good connection. Now hit Apply and test it again. Now hit OK to save the settings in the registry. Make sure the VBA editor is closed before continuing to use the toolbar.

Question: When I record a macro I get two extra lines of code at the end of the macro that set the active Cell to Bold and then to not-Bold? What does this do, and do I need these two extra lines?
Answer: The two extra lines of code are there as a workaround to prevent some lines of code from erasing when the toolbar is recorded along with other worksheet user keystrokes. These lines of code do not add any functionality to the macro and can be erased.

Question: I set the timeout to 10 and the IO still times out?
Answer: The timeout value is in milliseconds. For 10 seconds be sure the timeout is set to 10000. The default timeout is 5000 (5 seconds)

Question: I am having problems with the Excel/Word toolbar and using the Active X control in VBA. This happened after I installed MS Visual Studio 6.0 (or VC++, VB).
Answer: Unless you have also installed the Service Pack 2 for MS Visual Studio you will have problems with VBA, Excel and Word. Install the Service Pack 2. This Service Pack is downloadable from the Microsoft website.

Question: How can I send a device clear to the oscilloscope?
Answer: You can send a device clear using the IO object. The IO object contains lower level commands including device clear.

First set an IO object to the variable dev.

```
Dim dev As IIOx
Set dev = HP54600Scope1.Utilities.IO
```

This code will return a string that will tell you the type of IO object returned ("IIOGPIB" or "IIORS232").

```
ObjectName = TypeName(dev)
```

This command is on the IIOGPIB interface and does an IFC
Bus clear on GPIB.

```
dev.GPIBControl 1, 0
```

This clear on GPIB sends an address DCL
On RS-232 it aborts I/O, clears the buffers, and resets Flow control.

```
dev.Clear
```

Question: The Error Message is no help. What can I do?
Answer: With IntuiLink for the Oscilloscope you can have the toolbar log internal error messages to a file located in the application directory. This is intended for factory support and will be of only limited use to support on-line customers. From the About box hit the 'Alt S'. An additional 'Option' tab will appear. Select 'log Error message'. Click on 'OK' or 'Apply'.