

# Keysight Technologies

## IO Libraries Suite 17

### Data Sheet

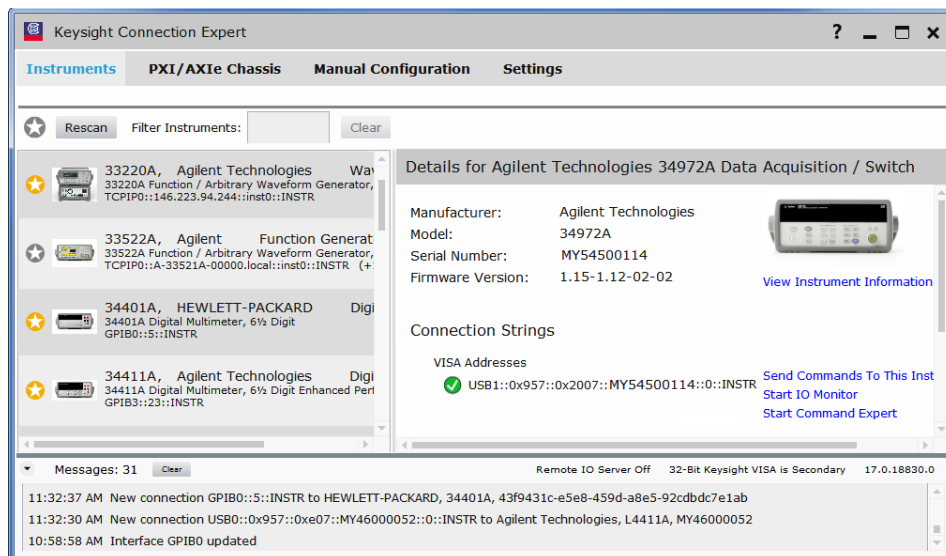
#### The Next Generation of Instrument Control

With more features and capabilities, it's easier than ever to get connected



- Faster startup
- Auto-discovery of instruments
- Instrument-centric view

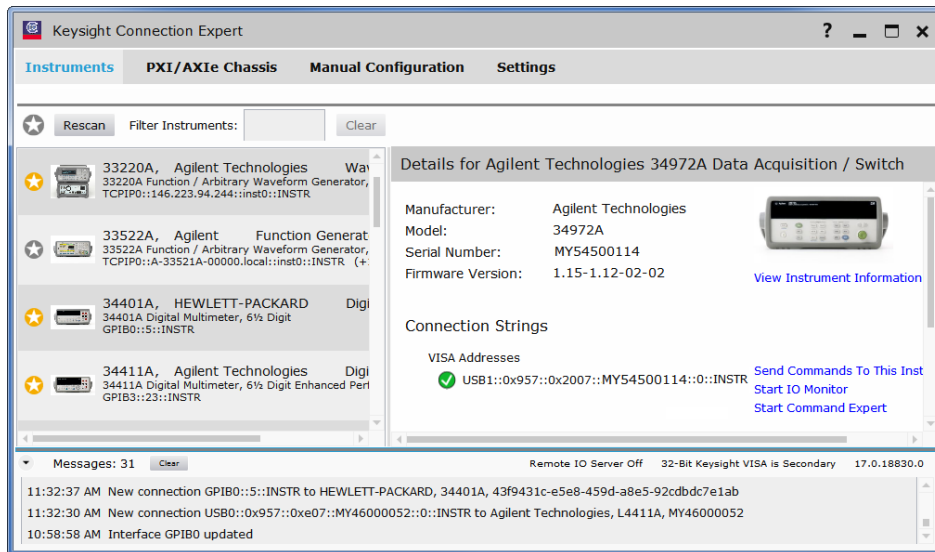
[www.keysight.com/find/iosuite](http://www.keysight.com/find/iosuite)



## Instrument Discovery

The Keysight Technologies, Inc. IO Libraries Suite 17 auto-discovers more instruments including those that physically connect to your PC (including GPIB, USB, and PXI) and many of those on your local LAN subnet. The non-intrusive discovery service minimizes disturbances to instruments. For Keysight GPIB instruments, bus addressing and handshaking are minimized. For all instruments, identification queries (\*IDN?) are sent less often.

Keysight Connection Expert has enhanced instrument discovery and a streamlined, modern interface that lets you get to your most-used information and options quickly.



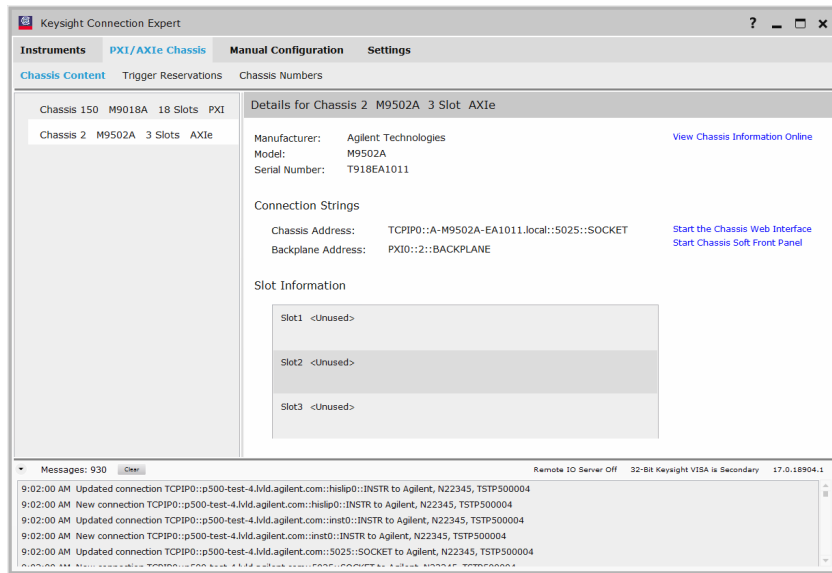
Most instruments are automatically displayed in Connection Expert's Instruments view. You need to add instruments manually only in certain situations.

The Favorite Instrument feature allows you to control the list of instruments you see in the Connection Expert view. Just toggle the star icon to the left of each: a gold star indicates that the instrument is a favorite, and a gray star indicates that it is not. You can filter on the favorites and view only the information you need. If an instrument has previously been connected, any explicit Favorite setting (off or on) will be restored when the same instrument is reconnected. The Favorites feature can be used to define what instruments are returned in your programs when using VISA functions.

Enhanced instrument discovery means there is no need to wait for a refresh to complete. Simply power on the instrument or rescan from the updated Connection Expert interface and continue working while the discovery service finds and updates instruments in the background. The Instruments view always shows the latest, up-to-date information.

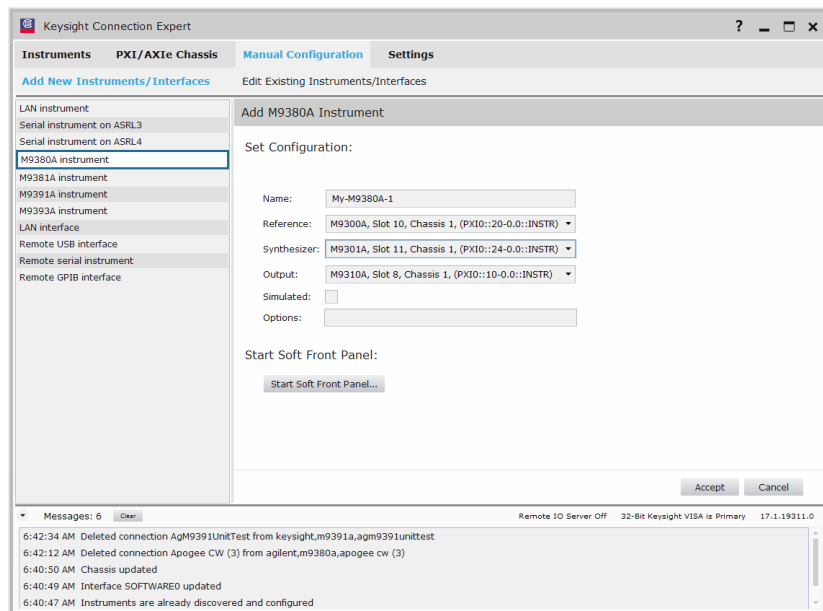
## Modular Solution Support

Keysight IO Libraries Suite 17 provides many improvements related to connecting to and controlling PXI and AXIe chassis. The PXI/AXIe Chassis view in Connection Expert shows the chassis with details of the card in each slot. From the PXI/AXIe Chassis view, you can see chassis and instrument addresses, start soft front panels, make trigger reservations, customize the chassis numbering in multi-chassis systems, and delete manually-added chassis.



There is also support for the PXI BACKPLANE resource in Keysight VISA and conformance to the latest PXI 2012 specifications. Included in PXI 2012 is better interoperability between vendor's PXI Resource Managers.

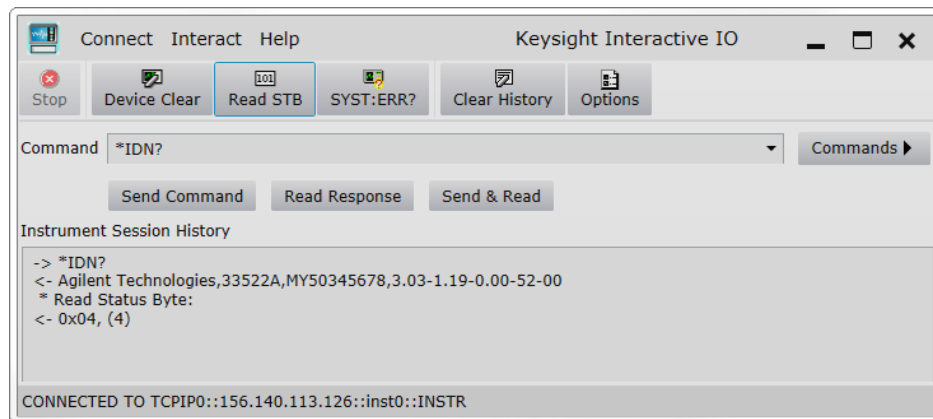
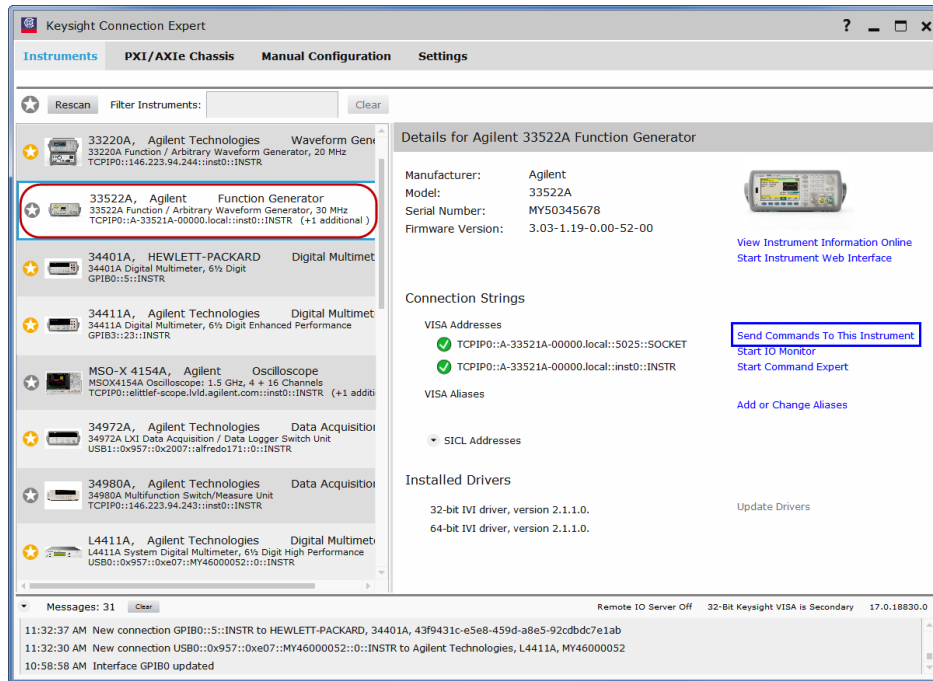
Multi-module instruments allow you to easily make measurements that require several modular instruments (for example, PXI cards) to work in concert. It is simple to create the multi-module instrument that can be edited and used as you would any other instrument.



## Instrument Control

### Send commands and troubleshoot I/O easily

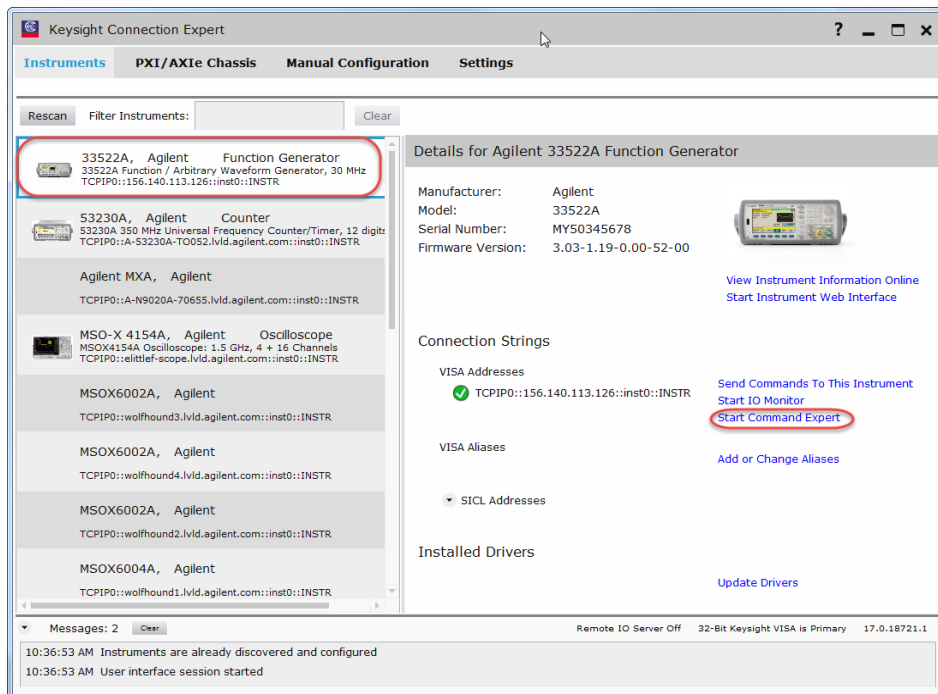
From the Instruments view, click an instrument to see its details (as shown by the red oval in the diagram below), then click **Send Commands to This Instrument** in the action area at the right side of the screen, shown in the blue rectangle below.



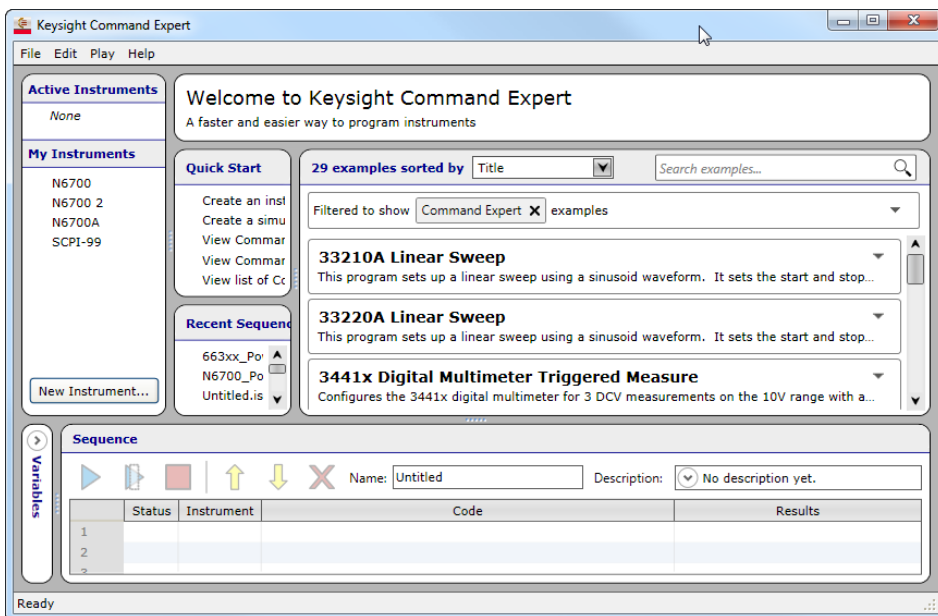
### Take the next step with Command Expert



Command Expert provides fast and easy instrument control in many PC environments. Click on **Start Command Expert** to launch the software.



After instruments are discovered, Command Expert makes it easy to find, use, and view full documentation for SCPI, IVI-C, and IVI-COM commands. It simplifies the process of retrieving measurement data from instruments and provides seamless integration with Excel, VEE, SystemVue, MATLAB, Visual Studio, Python, and LabVIEW.



For additional information, tutorials, videos and to download the software - [www.keysight.com/find/commandexpert](http://www.keysight.com/find/commandexpert)

Across instrument platforms, see how easy it is to connect and control with IO Libraries Suite 17

Find more utilities for instrument use and management -

[www.keysight.com/find/instrumentcontrol](http://www.keysight.com/find/instrumentcontrol)

Interface cards and converters - [www.keysight.com/find/connectivity](http://www.keysight.com/find/connectivity)

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## Specifications

### Supported interfaces\*

|               |   |
|---------------|---|
| GPIB:         | Standard IEEE 488.1   |
| USB:          | USB 3.0 or lower (with USBTMC-USB488, USBTMC, and Composite protocol) |
| LAN/Ethernet: | Standard LAN (with HiSLIP, LXI, VXI-11, SICT-LAN and sockets)         |
| RS-232/Serial |   |
| PXI:          | AXIe, PXI, PXIe, PCI and PCIe® devices                                |
| VXI:          | FireWire (32/64-bit, not supported on Windows 8)                      |

\* See the latest information on supported interfaces and operating systems for IO Libraries Suite 17 at [www.keysight.com/find/iolib\\_revmatrix](http://www.keysight.com/find/iolib_revmatrix)

### Supported development environments and supported I/O software

|                              |   |
|------------------------------|---|
| VB6:                         | VISA COM, VISA, SICT, Keysight 488, Excel VBA |
| C/C++:                       | VISA COM, VISA, Keysight 488                  |
| .NET languages (VB.NET, C#): | VISA COM, VISA, Keysight 488                  |
| LabVIEW:                     | VISA, Keysight 488                            |
| MATLAB:                      | VISA  |
| VEE Pro:                     | Direct I/O and/or instrument drivers          |

### I/O utilities

|                      |   |
|----------------------|---|
| Connection Expert    | Automatically scans your instrument IO, helps you get connected quickly and easily and displays the status of your instruments and I/O interfaces.  |
| Interactive IO       | Lets you quickly send commands to instruments and read responses.   |
| IO Monitor           | Lets you monitor and debug I/O calls made on any of Keysight's supported buses using SICT, VISA, VISA COM, or Keysight IVI instrument drivers (drivers released after September 18, 2010)   |
| IO control           | Provides easy access to the IO Libraries Suite from the Windows system tray.  |
| VXI resource manager | Provides configuration of the IEEE 1394 connection from PC to VXI.  |
| viFind32/viFind64    | Debug utility uses VISA functions to find resources and lists them in a console window.   |
| PXI Chassis          | Provides a new PXI/AXIe Chassis view showing PXI and AXIe chassis with details of the card in each slot. You can see chassis and instrument addresses, start soft front panels, make trigger reservations, customize the chassis numbering in multi-chassis systems, and delete manually-added chassis. |

## System Requirements: Keysight IO Libraries Suite 17

### PC software: Operating system

- Windows 10 32-bit and 64-bit (Windows 10, Windows 10 Pro, Windows 10 Enterprise, and Windows 10 Education) Windows 8 and 8.1 32-bit and 64-bit (Windows 8/8.1, Windows 8/8.1 Pro, and Windows 8/8.1 Enterprise)
- Windows 7 SP1 32-bit and 64-bit (Starter, Home Basic, Home, Premium, Professional, Ultimate, Enterprise)
- Windows Server 2012 64-bit (Standard)
- Windows Server 2008 R2 SP1, 64-bit (Standard and Enterprise)

### PC hardware

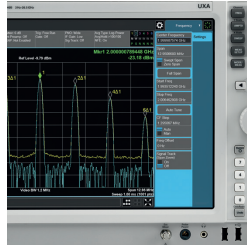
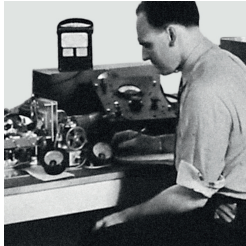
- Processor: 1 Ghz 32-bit (x86), 1Ghz 64-bit (x64), no support for Itanium64 or Windows 8 RT
- Hard disk space required: 2 GB
- RAM: Windows 7, Windows 8/8.1, and Windows 10: 1 GB minimum
- Display: 1024 x 768 96 or 120 DPI
- Input device: Microsoft mouse or compatible pointing device
- Device for installation: DVD-ROM
- Web connection for installation, upgrades and drivers

### Instrument Control DVD contents

- IO Libraries Suite
  - I/O libraries: VISA, VISA COM, SICL, Keysight 488
  - Connection Expert
  - I/O utilities
  - Full online help for all I/O libraries and utilities
- Keysight Command Expert
- Keysight BenchVue
- Version 2.3.0 of the IVI Shared Components (see [www.ivifoundation.org/](http://www.ivifoundation.org/))
  - Microsoft .NET Framework 2.0 SP2
  - Microsoft .NET Framework 4.0

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### Asia Pacific

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