



Alltest Instruments, Inc.

500 Central Ave.
Farmingdale, NJ 07727

P: (732) 919-3339
F: (732) 919-3332

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P50xxA/B, P93xxA/B LAN (TCPIP) Remote Communication

Keysight Technologies
24 March 2022

Background

- Keysight Streamline Series product P50xxA/B, P93xxA/B use USB or Thunderbolt interface.
- Hence, a controller PC is required to act as the host, if user would like to access to the P50xxA/B, P93xxA/B off-site remotely from their 2nd PC (other than host PC). Refer to the subsequent pages for solution.

Prerequisites

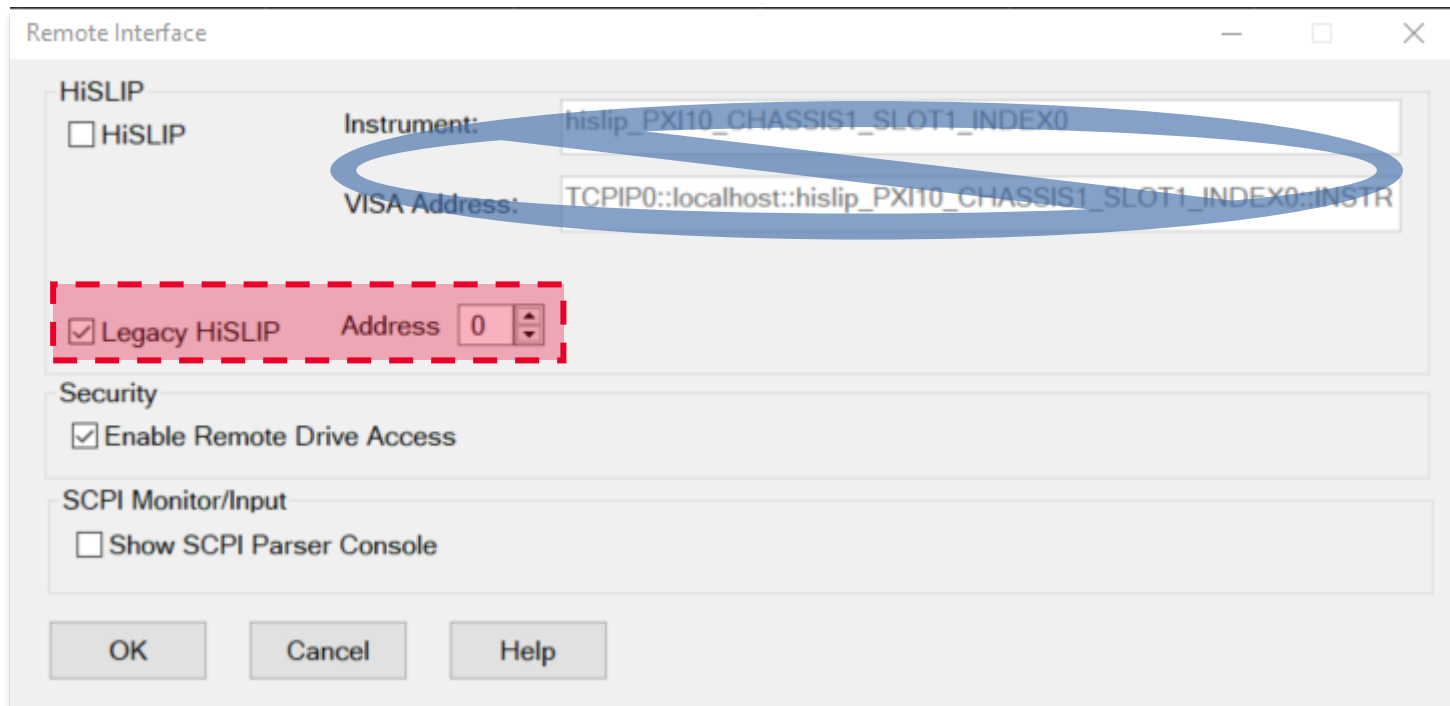
- An “always-on” controller PC connected to LAN, with VNA firmware and Keysight Connection Expert installed.
- VNA firmware needs to be launched on host PC in enabling communications via SCPI command.

[Related to VNA Web Help: How to Configure for GPIB, SCPI, and SICL](#)

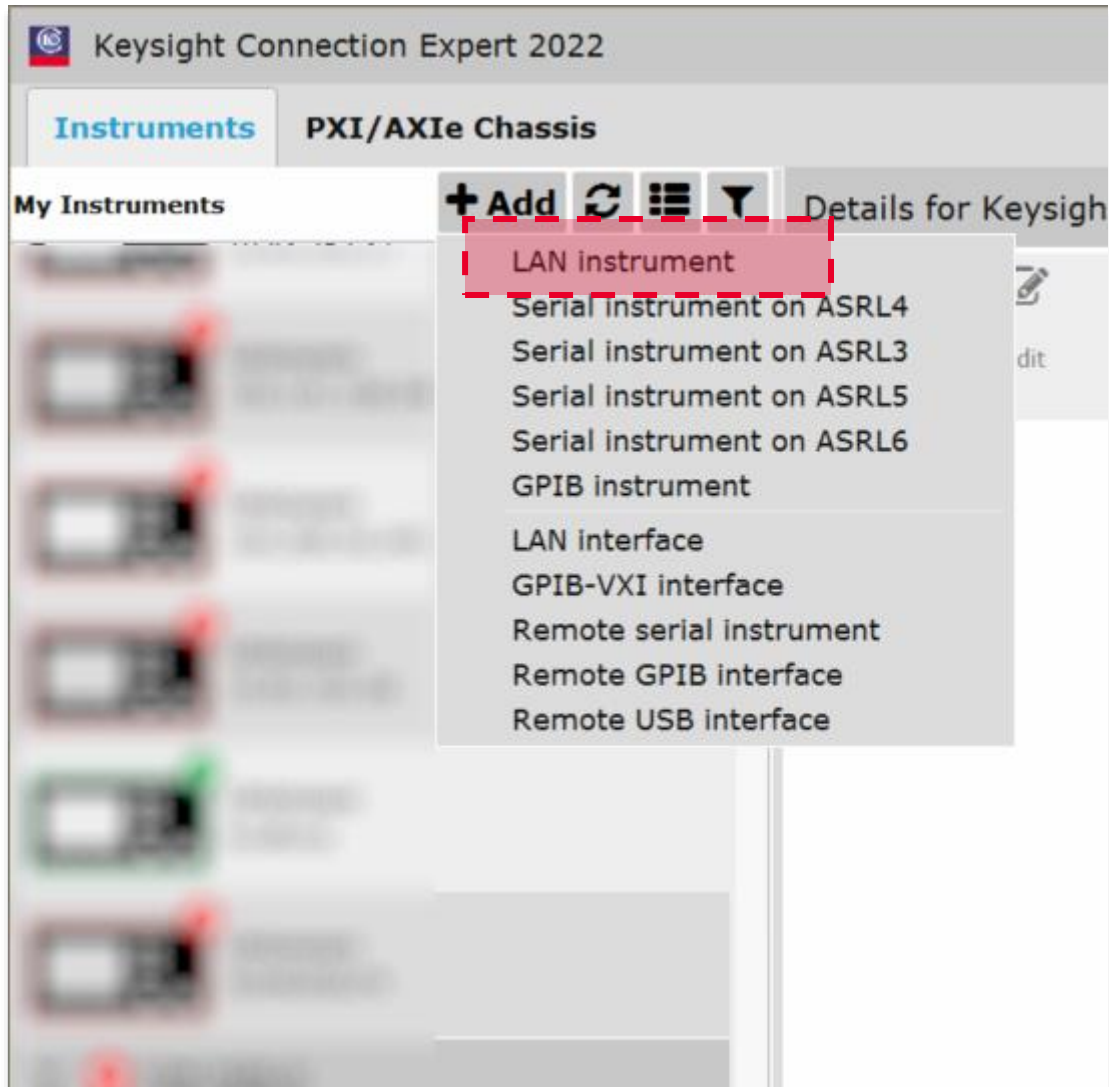
Step 1: P50xxA/B, P93xxA/B Address Identification

- Launch VNA firmware.
- Navigate to System > System Setup > Remote Interface.
- Identify the **Legacy HiSLIP** address. Shown is the example with address of 0.

Note: HiSLIP (modern) is not officially supported.



Step 2-1: Create LAN instrument in Keysight Connection Expert



- Launch Keysight Connection Expert. Select Add> “LAN instrument”.

Step 2-2: Create LAN instrument in Keysight Connection Expert

Add a LAN device

Select from List Enter Address

Set LAN Address:

Hostname or IP Address: localhost

TCPIP Interface ID: TCPIP0

Set Protocol:

☐ Instrument (VXI-11) Remote Name: inst0

☒ HiSlip Remote Name: hislip0

☐ Socket Port Number: 5025

Verify Connection:

☒ Allow *IDN Query

Test This VISA Address

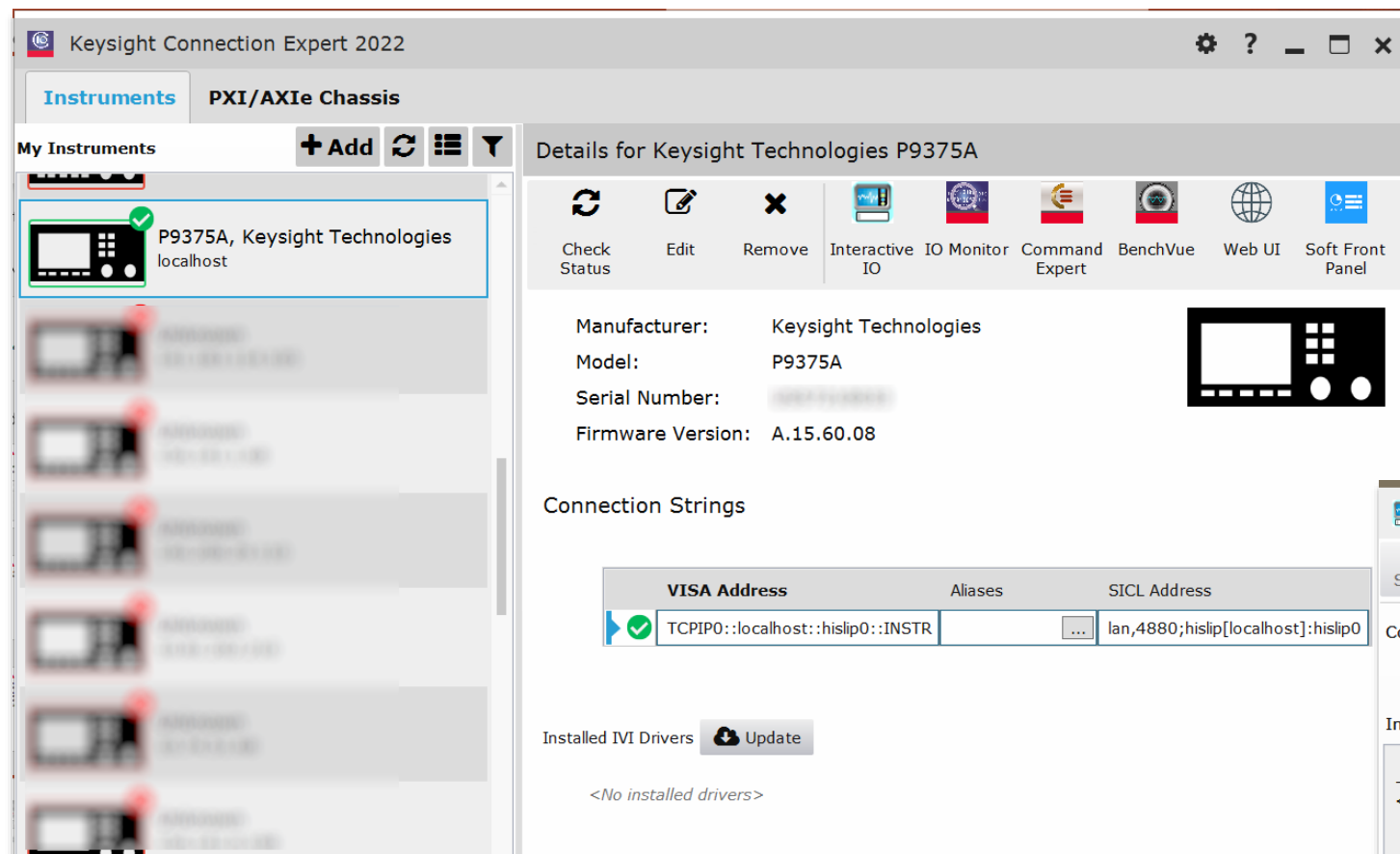
View Web Page:

Instrument Web Interface...

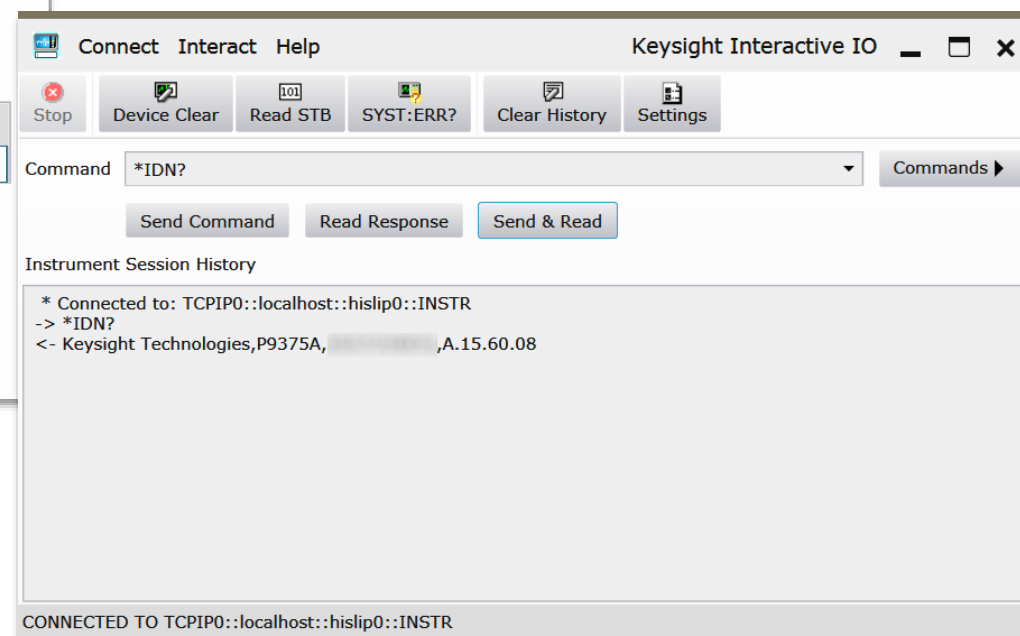
OK Cancel

- In the Hostname or IP address, enter “localhost”.
- In Set Protocol, select HiSlip. Ensure the address matches with the VNA HiSlip address in VNA Firmware.
- Verify the connection with “Test This VISA Address”.
- Click OK to save the changes.

Step 3-1: Communication using LAN (TCPIP) – Single VNA



- The newly added VNA will appear in the LAN (TCPIP0) group with “localhost”.
- Click Interactive IO and user may proceed to communicate similarly to a benchtop VNA.



Step 3-2: Communication using LAN (TCPIP) – Multiple VNAs

Details for Keysight Technologies P9375A

Check Status Edit Remove Interactive IO IO Monitor Command Expert BenchVue Web UI Soft Front Panel

Manufacturer: Keysight Technologies
Model: P9375A
Serial Number:
Firmware Version: A.15.60.08

Connection Strings

VISA Address	Aliases	SICL Address
TCPIP0::localhost::hislip0::INSTR	...	lan,4880;hislip[localhost]:hislip0
TCPIP0::localhost::hislip1::INSTR	...	lan,4880;hislip[localhost]:hislip1

Installed IVI Drivers [Update](#)

IVI driver for Keysight Network Analyzers, 3.4.0.0, 32/64-bit, IVI-C/IVI-COM

Remote IO Server Off 32-Bit Keysight VISA is Primary Version: 18.2.27313.1

- For multiples P50xxA/B, P93xxA/B connections, ensure the correct HiSlip addresses (w/o duplicates) are set for individual VNAs respectively. For the following example, address 0 is assigned to P5020A, address 1 is assigned to P9375A.

Keysight Interactive IO

Command: *IDN?

Send Command Read Response Send & Read

Instrument Session History

```
* Connected to: TCPIP0::localhost::hislip0::INSTR
-> *IDN?
<- Keysight Technologies,P5020A, ,A.15.60.08
```

Keysight Interactive IO

Command: *IDN?

Send Command Read Response Send & Read

Instrument Session History

```
* Connected to: TCPIP0::localhost::hislip1::INSTR
-> *IDN?
<- Keysight Technologies,P9375A, ,A.15.60.08
```

Step 3-3: Communication using LAN (TCPIP) – Keysight Command Expert

Untitled - Keysight Command Expert

File Edit Play Help

Active Instruments

P50xxA

My Instruments

New Instrument...

Command Search

Enter search terms here

P50xxA Search Recent

- SCPI
 - ABORT
 - AFR
 - CALCulate
 - CALPod
 - CONTRol
 - CSET
 - DISPlay
 - FORMat
 - HCOPY
 - INITiate

Command

(Connect "P50xxA", "TCPIP0::localhost::hislip0::INSTR", "Vector Network Analyzer / PNA A....

→ name * P50xxA

→ address TCPIP0::localhost::hislip0::INSTR

→ command set * Vector Network Analyzer / PNA A.14.80.xx, ENA PXI Streamline A.14.70.xx

→ description Optionally, enter a description

Update Step 1

The Connect command connects to an instrument and enables sending commands using that connection.

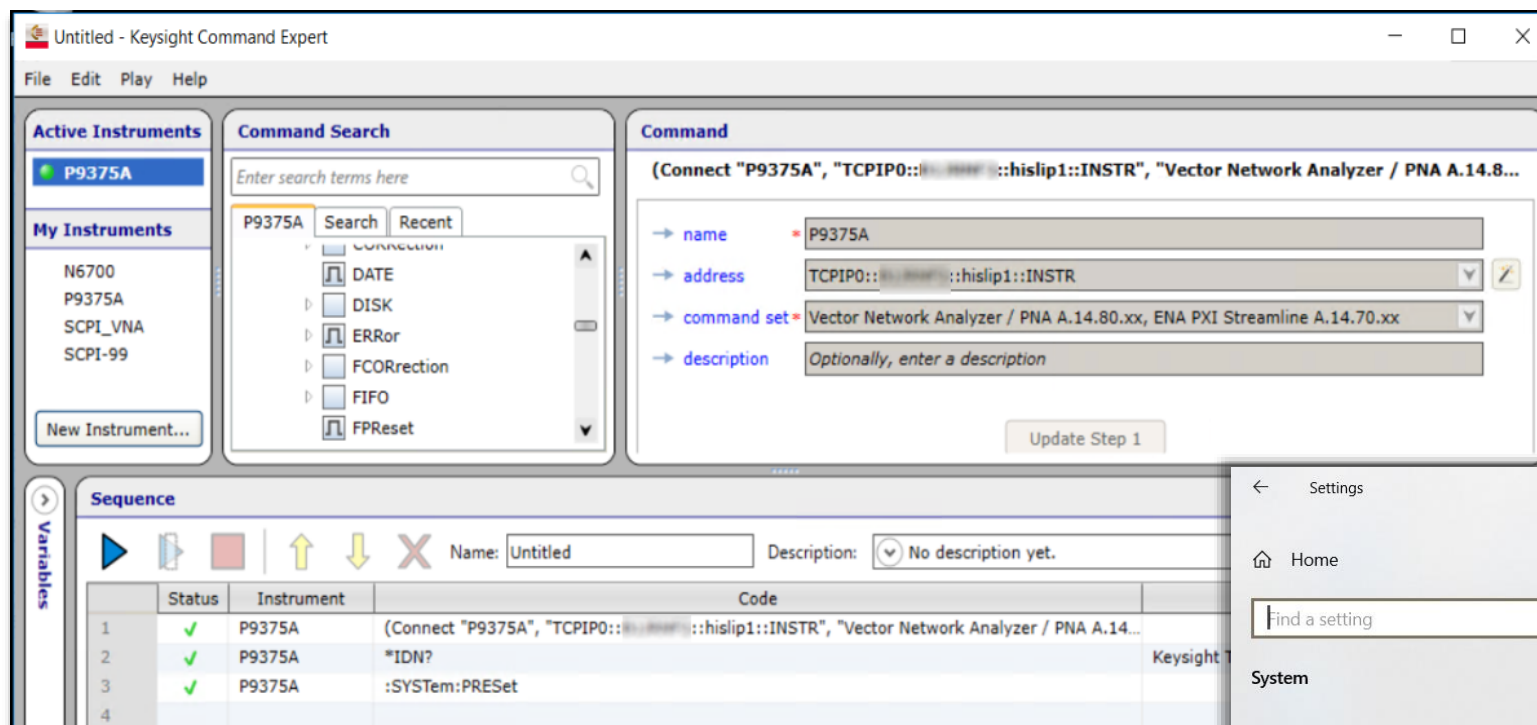
name

Sequence

▶ ◀ ◻ ⬆ ⬇ ✕ Name: Untitled Description: No description yet.

	Status	Instrument	Code	Results
1	✓	P50xxA	(Connect "P50xxA", "TCPIP0::localhost::hislip0::INSTR", "Vector Network Analyzer /...	
2	✓	P50xxA	*IDN?	Keysight Technologies,P5020A, ,A.15.60.08
3	✓	P50xxA	:SYSTem:PRESet	
4				

Step 4: Communication of VNA using non-host PC via LAN (TCPIP)



- Replace *localhost* with the actual host PC name enables P50xxA/B, P93xxA/B to be added as a device from another PC remotely.
- Tips: PC name is listed as “Device Name” in “This PC” → About your PC. In older OS revision, it is known as Computer Name.

