To setup Prologix ETHERNET-GPIB Controller with Agilent VEE

- 1. Connect the Prologix Ethernet-GPIB device to its DC supply and use an ethernet cable to connect it to your computer through a switch or hub (otherwise, for a direct connection, you need an Ethernet crossover cable). You don't have to have it connected to any GPIB bus at this point.
- 2. Run the Prologix netfinder.exe program, and use Assign IP to set the Ethernet-GPIB controller to a static IP address. For example, use 192.168.1.120.

Prologix GPIB-E	THERNET Configurator
Search	Prologix GPIB-ETHERNET Controller IP Address: 192.168.1.120 MAC Address: 00-21-69-01-05-e4 Static IP
Assign IP	Uptime 1 hours, 54 minutes, 34 seconds
Close	

3. Connect the Prologix GPIB-Ethernet controller to a GPIB instrument. Use the instrument's front panel control (or, very old instruments, rear panel switch) to determine its GPIB address.

Example: HP 33120A, GPIB Address 9

4. Run the Prologix GPIB Configurator program (see below). It should be able to locate the Prologix GPIB-LAN controller. Click "Restore factory default settings." Then assign the GPIB address to the instrument you wish to control (in this example, GPIB address 9 for the HP 33120A), type the command *IDN? and click Send.

This will ask the instrument at GPIB address 9 to identify itself (if it supports the command *IDN?). In this example, the response which came back was HEWLETT-PACKARD,33120A,0,8.0-5.0-1.0. This step has established that the Prologix controller can talk to the instrument over GPIB.

🏘 Prologix GPIB Configurator			
Select Device COM1 (Communications Port) Prologix GPIB-LAN (192-168.1.120) Prologix GPIB-LAN (192-168.1.120) Prologix GPIB-ETHERNET Controller version 01.06.01.00 Refresh Terminal HEWLETT-PACKARD.33120A,0.8.0-5.0-1.0		Advanced Settings Image: Auto read after write Image: Au	IFC CLR TRG LOC Query SRQ Serial poll Serial poll Serial poll Manual read F500 Reset controller
MDN?	[Send]	www.ke5fx.com This program may be copied and distributed I For help with any control, simply move the mo	reely. ouse cursor over it!
Restor	e factory default settings	Update CONNECT.INI Exit	

- Download and install the Agilent IO Libraries. If you are running Windows 2000, you
 must install version 15.5 or earlier; otherwise, install the latest version (this example is
 16.1). Run the "Agilent Connection Expert" program.
- 6. The Prologix documentation describes how the Ethernet-GPIB controller operates as a "virtual serial instrument." However, what you must do is set it up as a LAN instrument at IP address 192.168.1.120 (set above using netfinder.exe) and using port 1234. Doing this with the Agilent Connection Expert will let you identify the VISA address or the SICL address you will later use in VEE to identify this instrument.

Here are the steps.

7. Using the Agilent Connection Expert (see below), you can use any existing LAN interface or else set up a new one. Click the computer icon to see the menu selections shown below under the Task Guide.



8. Click Add an interface under Task Guide. In the window that opens (see below), highlight LAN interface, and then click Add. In the next window, click OK.

😽 Manually Add an Interface 🛛 🔀	🕂 LAN Interface - LAN (TCPIP1)
Select one of the listed interfaces to add to the system configuration.	Set configurable properties for the LAN interface
Available interface types: LAN interface Remote GPIB (via E5810 or Remote IO Server) Remote RS-232 (via E5810 or Remote IO Server) Remote USB (via Remote IO Server) GPIB-VXI interface	VISA interface ID: Default Protocol O Auto (automatically detect protocol) O VXI-11 (TCP/IP instrument protocol) O SICL-LAN Connect timeout: LAN maximum timeout: Client delta timeout: 5 Seconds
The listed interfaces are the phy Interface Description: A logical collection of all of the connected LAN-based Test and Measurement devices that share these configuration settings	Log LAN connection errors SICL interface ID: Logical unit: 31
Add Cancel Help	OK Cancel Help

9. You now should see a new LAN interface defined under Instrument IO on this PC, shown below as TCPIP1.



10. Highlight this interface, and then click Add an instrument under Task Guide. In the box that opens, click the Add Address box, enter the IP address (see below), select Socket connection and the Port number 1234.

If your instrument supports IDN Query, then select *IDN query and click "Identify Instrument." If all goes well, you will see the Instrument's response to the query, as shown below.

to Find	Add Address Manually add a known IP address or hostname network	Search Explore a network address range	Add Other Other instruments reachable through Go the LAN	and a second sec
Enter Instrument Ad Use Hostname or Use IP Address	dress	, 120		Connect to an instrument b using an address or hostname you already know This has the advantage of being able to connect devices that are not auto discovered.
 Default instrum HiSLIP Socket 	ent Device name: Port number:	inst0 1234		
Instrument identifica	tion 1 (recommended)		Test Connection	
*'IDN query None Identify Instru	ment HEWLETT-PAC	:KARD, 33120A, 0, 8.0-	5.0-1.0	Instrument Web Page

Click OK.

11. At this point the Agilent IO Communications Expert should show the new instrument being connected to this PC.

Take note of the instrument's VISA address: TCPIP1::192.168.1.120::1234::SOCKET

12. Run VEE (this example uses Vee 9.0). Click I/O, Instrument Manager... The Instrument Manager will appear on the right side of the display. Hover the mouse over the vertical tab, and click My Configuration. Then click the Add Instruments icon.

🕺 * Untitled - Agilent VEE Pro	
<u>File Edit View Debug Flow Device System I/O Data Display. Tools Database</u>	E <u>x</u> cel <u>W</u> indow <u>H</u> elp
🗋 🙆 🛢 🙏 📜 🕨 💷 舌 舌 🖞 🛞 熱 🐜 🖾 💐 🖉 🖉 🖉 🔅 🗎	비 규 사 🍟 😌 🗔 🖸 📮 🖕
Program 👻 🕂 🔧 Main	Instrument Manager 🛛 👻 🛃
Untitled	🖫 Find 📷 Smpl 💼 🕋 🗶 🖕 🚽
Man	
	🛃 My Configuration (C: \Documents and
	an ag
	<u>e</u>
Properties 🚽 🕂 🗙	
Main (Main) - M 💌	
Appearance 🔺	
Behavior	
Conv False	
Title string of the	
object	
🗐 Output 🦮 Find Results 📴 Call Stack	< >>
Ready	ExecMode: VEE9 PROF MOD WEB

In the window that opens, select TCPIP and click OK.

Ac	dd Interface/Device	X
	Interface Type: TCPIP	•
	OK Cano	cel

13. In the Instrument Properties box that opens, enter an identifying name, and then copy and paste the VISA address you got from the Agilent IO Expert in a previous step. Then click OK.

Instrument Properties 🛛 🛛 🗙		
Name: Interface:	PrologixLanGPIB TCPIP	
Board Number: VISA Alias: VISA Address:	1	
Advanced OK Cancel Help		

- 14. Re-open the VEE Instrument Manager, and you will see the new instrument. Drag its icon onto the open VEE panel. Create and run the following test program.
 - <Double-Click to Add Transaction> and enter the following:

I/O Transaction	
WRITE V TEXT V "++addr "+Gpib	
DEFAULT FORMAT	
	(Put one or more spaces in "++addr ")
I/O Transaction	(i de one of more <u>spaces</u> m stada <u>,</u> .)
WRITE V TEXT V /++addr "	
DEFAULT FORMAT	
OK NOP Cancel	
VO Transaction	
READ TEXT V	
STRING FORMAT DEFAULT NUM CHARS	
SCALAR -	
OK NOP Cancel	
I/O Transaction	
WRITE V TEXT V "*IDN?"	
DEFAULT FORMAT V EOL ON	
OK NOP Cancel	
I/O Transaction	
STRING FORMAT DEFAULT NUM CHARS	
SCALAR	
OK NOP Cancel	

15. Click Data and choose Constant, Int32, and put the box onto the panel to use for the GPIB address. Click Display, AlphaNumeric, put two boxes to display the read back GPIB address and instrument ID string. Use the mouse to connect everything up (as shown).

16. Click the Green Run arrow.

17. Your *IDN? query should get the same response you received from the GPIB Configurator step. You now can control a GPIB instrument in VEE via the Prologix LAN-GPIB.