

IEEE 488

APPLICATION BULLETIN

FREQUENTLY ASKED QUESTIONS (FAQ) FOR ICS's 488.2V5 CONTROLLER LIBRARY

INTRODUCTION

This application note lists the Frequently Asked Questions (FAQ) for ICS's Model 488-LPCI, Model 488-PXI and 488-USB2 GPIB Controller Products when used with ICS's 488.2V5 Driver Library. This FAQ list changes often so look here first for the latest answers to your problems.

If you are using the 488.2V4 Driver, see AB48-43.

FAQ #1 What is 488.2V5?

The 488.2V5 Driver Library is the 488.2V4 Driver Library converted for Windows 8. It has all of the same features as does the 488.2V4 Driver.

FAQ #2 Should I upgrade to Windows 8 for the 488.2V5 Driver?

No. Windows 8 appears to be a poor platform for Test and Measurement applications and the 488.2V5 Driver Library does not offer any additional feature over those in the 488.2V4 Driver Library.

FAQ #3 What version operating system do I need to run ICS's 488.2V5 Library

You require the following Windows software or later versions:

Windows 8 with the latest updates.

The 488.2V5 Driver works with the x86 (32-bit) and x64 (64-bit) installations of the above operating system.

FAQ #4 Do I need .NET Framework installed for the 488.2V5 Driver Library?

Yes but you cannot install it ahead of time. Run the 488.2V5 Installer, install your PCI card or connect your 488.2 USB2 GPIB Controller module to the computer and then run ICS Explorer. You will be told you need Microsoft's NET Framework 2.0 and .NET Framework 3.5. Follow the prompts to download and install them from Microsoft's website.

Rerun ICS Explorer. It will find your GPIB Controller card or USB module, generate the GPIB.ini file and display any GPIB devices connected to the GPIB bus. You are now ready to run your application.

FAQ #5 What happened to GPIBkybd in the V5 Driver?

The Communicate Window in ICS's Explorer handles all of the same functions that the standalone GPIBkybd did. The GPIBkybd was redundant and therefore not included in the 488.2V4 or 488.2V5 Installer.

GPIBkybd is still included on the Support CD and available for downloading from ICS's website. GPIBkybd is a VB6 program and was necessary for supporting operating systems that did not have NET Framework 2.0 installed.

FAQ #6 What happened to Configure in the V5 Driver?

ICS's Explorer automatically finds and configures all ICS GPIB Controllers when it starts up. The Configure windows allows you to modify the GPIB Controller settings and GPIB assignments.

FAQ #7 How do you install ICS's 488.2V5 GPIB Drivers over other GPIB Drivers?

If you had previously installed a GPIB card from some other manufacturer, uninstall the old software before installing ICS's software. Use the manufacturer's recommended uninstall method. Search for and remove all old copies of GPIB.DLL and GPIB-32.DLL. Then install ICS's driver. ICS's new GPIB-32.DLL and GPIB.DLL will be placed in the Windows System or System32 directory.

FAQ #8 I get a 'Check Controller connection and re-run program.' error message when I try to run Explorer. What do I do?

If this is an existing installation that was running correctly, verify that your GPIB Controller card is firmly seated in its PCI connector or that your USB Controller is plugged into a working USB port. The RDY LED on your USB Controller should be blinking.

If this is a new installation and you dismissed the Windows Update function, the USB Driver installation needs to be completed. Go to Device Manager and you will see a list of devices. The ICS GPIB Controller entry should have a yellow '!'. Right click on the yellow '!' and click 'Update Driver'. At this point the New Hardware Wizard will open and ask if Windows can connect to Windows Updates. Select 'Yes, this time only' and click 'Next'. It does not matter if the computer is connected to the Internet or not. On the next windows click 'Next' and 'Finish'. This procedure will have to be repeated for each USB Controller module connected to the computer.

FAQ #9 I get a GPIB0 Missing Error Message when I run Explorer. What do I do?

The message also said to configure another controller as GPIB0 before running any programs. This is normally necessary because most GPIB programs are developed with the Controller designated as GPIB0. Multiple Controller programs refer to the other Controllers as GPIB1, GPIB2 etc.

Normally this message means that you have accidentally unplugged your 488-USB2 Controller. Find the open connection and plug it back into the computer. Wait a moment and refresh Explorer's Configuration Tree.

If you have a PCI GPIB Controller card, make sure that it is firmly seated in the PCI connector.

Alternately, you may want to replace GPIB0 with another Controller. In that case, physically plug the Controller into the computer and let Explorer find and configure it. Select the new Controller in the Tree window and click the Configure GPIB Controller button to open the Configure window. Change the Interface Name to GPIB0 and click Apply. Answer Yes when asked if you want to overwrite the existing Controller. Use Cancel to exit and refresh the Tree to see the new system configuration.

FAQ #10 Can I read the GPIB.INI file values?

You can read some of the GPIB.INI file settings in Explorer by clicking on 'My Computer' in the Configuration Tree window. The Controllers' virtual name, serial number and status will be listed in the Device Properties window. Select a Controller in the Tree window and click the Configure GPIB Controller button to view each Controller's settings. Use Cancel to exit the Configuration window without changing any settings.

FAQ #11 What does a blank status mean?

It means that there is no controller with that serial number found for that virtual controller name. The Controller may be unplugged or it may have been reconfigured as another GPIBn Controller. Typically this happens when several Controllers are plugged into the computer and GPIB0 is removed. Explorer will warn you that GPIB0 is missing and recommend that you assign a Controller as GPIB0. Moving a Controller from GPIBn to GPIB0 leaves a partial entry in the GPIB.INI file.

FAQ #12 How do I cleanup the GPIB.INI file?

The GPIB.INI file is located in Program Files\ICS Electronics\Utilities folder. Click the Compatibility Files icon in the Menu bar to see the GPIB.INI file. Delete the file and re-run ICS Explorer.

FAQ #13 Can I copy my configuration file to another computer?

Yes you can copy the GPIB.INI file to another computer. This may be helpful when changing or upgrading computers. Please note that the configurations are associated with the USB GPIB Module's serial number or PCI Card slot identification. Unless you are creating the identical configuration, it is easier to run Explorer and let it recreate the GPIB.INI file for you.

FAQ #14 Are ICS's different GPIB Controllers interchangeable?

All efforts have been made to make the GPIB Controllers supported by our 488.2V5 Driver Library interchangeable. Therefore a program developed on a PC with one type of Controller should work on another PC with a different type of Controller.

The user should verify that his program runs with both Controllers before making a final release.

FAQ #15 What does the manual mean when it says some ibconfig functions are supported but are not used?

While it is possible to set up some ibconfig functions and to read them back with ibask, the unused functions do not change the behavior of the ICS's Controllers. They are supplied for compatibility with existing programs that may have called them. An example is ibcDMA which does nothing since ICS's GPIB Controllers do not use DMA.

FAQ #16 Why can't I find my instrument in Explorer or GPIBkybd?

If the instrument is properly connected and turned on, Explorer should see it. However there are two potential problems:

1. Oscilloscopes may be left in talk-only state and do not respond to the FindLstn protocol. Set them to the auto-address mode and rerun FindLstn.
2. The instrument address may be the same as the GPIB Controller's. Change the GPIB Controller's address to an unused GPIB address such as 21 and rerun FindLstn.

FAQ #17 ICS's GPIB-32.DLL is being copied over by another GPIB-32.DLL when not running an installation program.

A background service running in your PC is the likely culprit. Agilent's PNA software is one source of such a service. Look in the Task Manager > Process Tab to see if a AgGPIB325vc.sys, AgGpib32Controller.exe or a similar service is running. Go to the Service manager under Administrative Tools and find the service in the list. Stop the service and then disable it. To be sure it stays disabled, use its properties to change ownership so only an administrator can re-enable it.

We recommend that you create an ICS_DLL subdirectory in the SYSTEM32 directory and put a copy of ICS's DLL in it. That way, if you ever need to use the Agilent service, you can easily restore the ICS DLL when you are done.

FAQ #18 Which VISA Library is compatible with ICS's 488.2V5 Driver?

Agilent, Kikasui and National Instrument VISA's are all compatible with ICS's 488.2V5 Driver. We prefer Agilent's VISA as it is VXI-11.2 and .3 compliant while National Instruments' VISA is just VXI-11.2 compliant. National Instruments' version 5.2 also has other problems and should be avoided if possible.