IO Libraries J.02.00.01 Read Me

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New Features

- Support for Windows® Me has been added.
  - Note that due to Windows configuration manager changes made by Microsoft®, the 82341C ISA GPIB card and the E2075 ISA GPIO card are not supported on Windows Me.
- Two new request codes are available for the iserialctrl() function in SICL.
  - I_SERIAL_IN_DISCARD - The following actions will occur:
    - The data in the serial input buffer will be discarded
    - Any error conditions will be reset.
  - I_SERIAL_OUT_DISCARD - The following actions will occur:
    - Any pending writes will be aborted.
    - The data in the serial output buffer will be discarded
    - Any error conditions will be reset.
- Three new request codes are available for the iserialstat() and iserialctrl() function in SICL.
  - I_SERIAL_XON_CHAR
    - Get / Change the character used for stopping transmission when using software handshaking. The default is 0x11.
  - I_SERIAL_XOFF_CHAR
    - Get / Change the character used for re-starting transmission when using software handshaking. The default is 0x13.
  - I_SERIAL_REPLACE_CHAR
    - Get / Change the character used to represent a 'bad' received character (e.g. parity error). The default is 0xff.
- Since version J.01.00, the IO Libraries installation program will detect the presence of National Instruments VISA and will default to installing only SICL in this case so we will not overwrite NI-VISA. You can force Agilent VISA to overwrite NI-VISA by selecting the *Full SICL and Agilent VISA Installation* menu choice when installing the IO Libraries.

Fixes

- In the viFlush() VISA function, it is now possible to discard the ASRL in and out buffers separately.
  - VI_ASRL_IN_BUF_DISCARD and VI_ASRL_OUT_BUF_DISCARD no longer need to always be set together.
  - If only one is set, VI_ERROR_INV_MASK no longer returned.
- The following attributes are now supported with the VISA functions viGetAttribute() and viSetAttribute() for ASRL sessions:
  - VI_ATTR_ASRL_XON_CHAR

- o VI_ATTR_ASRL_XOFF_CHAR
- o VI_ATTR_ASRL_REPLACE_CHAR
- If there are no IRQ's available for an auto-configured 82341C ISA GPIB card, a dialog box is presented when the IO Configuration program is run. Previously no indication was given but the card would not work.
- SICL LAN Client with the host specified by IP address, no longer requires an entry in the HOSTS table.
- The IO Configuration program no longer displays configuration warnings when uninstalling the IO Libraries.
- The IO Libraries setup program no longer fails if msvcrt.dll is not installed on the system.
- Some bad shortcuts in the Agilent IO Libraries and VXIPNP program folders have been fixed.
- Some defects in the E8491 VXI Resource Manager program have been fixed.
- The 'actualcnt' parameter returned by iwrite() in a commander session to a GPIB device now returns the correct value. It used to return a large apparently random number if a timeout occurred before any bytes were sent. This problem also affected viWrite().

Issues

- **82341C GPIB cards and E2075A GPIO cards are not supported on Windows Me.**
    - o Due to Windows configuration manager changes made by Microsoft, these ISA cards are very difficult to configure and can cause the computer to hang during the configuration process.
- **The 82341D GPIB card is not supported on Windows 2000.**
    - o Note, however, that the 82341C card is supported.
- **The Adaptec PCI to 1394 card which originally shipped with the E8491 VXI to 1394 interface is not supported on Windows 2000.**
    - o This original card was not OHCI compliant and only OHCI 1394 cards are supported on Windows 2000.
    - o The E8491 is now shipping with an OHCI compliant card which is supported on Windows 2000.
- **Beginning with the J.01.00 release, the default paths for IO Libraries and VISA have changed to:**
    - o '\Program Files\Agilent\IO Libraries' for SICL
    - o '\Program Files\VISA' for VISA
    - o *If you are installing over a previous version of the IO Libraries, the directories will not be changed.*
- **We recommend downloading a Windows 2000 hotfix from Microsoft to resolve two known problems which affect the E8491.**
    - o Block write and I-SCPI performance on the E8491 on Windows 2000 are significantly reduced due to the workaround for a memory leak in the 1394 driver.
    - o Performance problems and missed interrupts on Windows 2000 are possible due to a busy-acknowledge defect in the 1394 driver. This is known to affect some E8491 firmware downloads and some I-SCPI and VXIplug&play drivers.
    - o Microsoft has implemented a hotfix which solves both of these problems. Go to http://www.microsoft.com and search for *Q262814* to find the Knowledge Base article with information on obtaining the hotfix . If you have difficulty, contact Agilent Support for more information.
    - o The hotfix must be obtained from Microsoft. Microsoft does not allow Agilent to distribute Windows 2000 hotfixes.
    - o Microsoft has stated that this fix will be included in the Windows 2000 Service Pack 2 when it becomes available.
    - o The E8491 driver will sense the presence of the hotfix or Service Pack 2 and automatically switch to a higher performance mode if either is installed.

- **We recommend downloading a Windows 98/Me hotfix from Microsoft to resolve a known IEEE 1394 problem which affects the E8491.**
  - o Performance problems and missed interrupts on Windows 98 and Windows Me are possible due to a busy-acknowledge defect in the 1394 driver. This is known to affect some E8491 firmware downloads and some I-SCPI and VXIplug&play drivers.
  - o Microsoft has implemented a hotfix which solves this problem. You can find out more about this hotfix by going to http://www.microsoft.com and searching for *Q252185* to find the Knowledge Base information on obtaining the hotfix . If you have difficulty, contact Agilent Support for more information.
  - o The hotfix must be obtained from Microsoft. Microsoft does not allow Agilent to distribute Windows hotfixes.
- **There is a memory leak in Windows 98 which may affect the IO Libraries operation.**
  - o We have observed a 4 Kb memory leak each time any program that dynamically links the Microsoft msvcrt.dll (even a program that does not do IO) is run and then exits on Windows 98. This DLL is the C runtime library supplied with Microsoft Visual Studio and it is used by many products.
  - o The IO Libraries dynamically link to msvcrt.dll so any program using SICL and / or Agilent VISA will exhibit this problem.
  - o If your application involves starting and stopping programs many times, you will eventually run out of memory. Windows 98 will gradually become sluggish and eventually quit. The only solution to this problem is to reboot.
  - o We are reporting this defect to Microsoft but there is no resolution yet available.
  - o *Note: If in Microsoft Visual Studio, you choose 'Multithreaded DLL' in the 'Use run-time library:' box on the C/C++ Code Generation tab, your application will dynamically load msvcrt.dll.*
- **When three or more E8491's are connected to a single IEEE 1394 interface card, certain topologies may not work.**
  - o In certain topologies the E8491 hardware is not properly identified on the 1394 bus. This will result in inconsistent behavior when the VXI resource manager tries to configure instruments in the VXI card cages.
  - o Behavior may include timeout errors while attempting to communicate with a particular instrument, and / or instruments appearing in cages where they are not actually located .
  - o Try reversing the cable connections to the ports on the host interface card. In general, cable connections with longer chains of E8491's should be on lower host ports.
- **Don't re-run setup too quickly.**
  - o After the IO Libraries Setup program exits, it takes several seconds to clean up and unload itself from memory. If Setup is re-run before this process is complete, you may see an error message or find that the re-installation does not behave as expected.
  - o Be sure to wait until the 'InstallShield Wizard' box on the Windows task bar has disappeared before attempting to re-run the IO Libraries Setup.
- **Installing on dual boot systems can cause problems.**
  - o Installing the IO Libraries on dual boot systems that share a common 'Program Files' directory between two operating systems is not recommended and may cause problems.
  - o If the IO Libraries are installed in the same directory for both operating systems (e.g. 'Program Files\Agilent\IO Libraries'), files for one OS may overwrite files for the other OS.
  - o InstallShield uses a directory under 'Program Files' to log the name and location of files for later un-installation as well as the components that are currently installed. Uninstalling or modifying an installation on one OS may affect the files for the other OS rather that the currently booted OS, even if these files are installed in different directories.

- **The syntax for specifying a parameter with the self-installing .exe file 'iolibs.exe' is different from specifying a parameter with Setup.exe on the CD.**
    - To specify options to Setup, invoke Setup from a command prompt and separate the options with spaces:
        - *e.g. 'setup auto novisa'*
    - When installing from the self-installing .exe file, you must include a '-a' option as the first option:
        - *e.g. 'iolibs -a auto novisa'*
- **Setup from the self-installing .exe file may prompt for bogus disk.**
    - If you install the IO Libraries from the self-installing .exe file using a parameter (e.g. 'iolibs -a auto'), you may be prompted to insert a non-existent disk.
    - You may continue the installation by specifying the last available disk in the set.
- **After installation on Windows 95 and Windows 98, Windows may fail to boot.**
    - When adding paths to the PATH statement in Autoexec.bat, InstallShield does not recognize '@PATH' as a path statement. It will create a second 'SET PATH' statement. If there is a second PATH statement, it will replace the existing Windows PATH and end up removing the Windows directories from the PATH.
    - If Windows fails to boot with a message '*Cannot find WIN.COM, unable to continue loading Windows*', you will need to edit the additional PATH statement in Autoexec.bat so the Windows directories are again included in the PATH.
        - From the DOS prompt type 'c:\windows\command\edit c:\autoexec.bat'. *(Substitute the actual paths if you have a non-standard installation.)*
        - Find the last 'SET PATH=...' statement and insert '%path%;' immediately after the equals sign. (e.g. 'SET PATH=%path%;...' and don't forget the semi-colon separator.)
        - Save the modified file and reboot. Windows should now boot normally.
- **If the E8491 is very busy and an IEEE 1394 bus reset occurs, it may become unresponsive and require a reset of the E8491 and/or a reboot of the computer.**
    - This problem can occur when another 1394 device is added or removed while the E8491 is busy.
- See the Troubleshooting Guide for more troubleshooting help.

Contact Support

- The Agilent IO Libraries support web page is http://www.agilent.com/find/iolib_support
- For Telephone support:
    - In the US, the phone number for support is 800-452-4844.
    - In Canada, the phone number for support is 877-894-4414
    - Outside the US and Canada, contact your country's Agilent support organization. A list of contact information for other countries is available on the Agilent website: http://www.agilent.com/find/assist.

Downloading the Latest Version of the Agilent IO Libraries

You can download the latest released version of the Agilent IO Libraries from http://www.agilent.com/find/iolib

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