Agilent GPIB Cards for the PC

Technical Overview

Agilent Technologies

This document provides an overview of the PC-based GPIB cards that are sold by Agilent Technologies. The Agilent GPIB cards fall into three basic categories.

The first category is an old series of ISA cards that were based on memory-mapped I/O:

- 27209: This card was the original HP PC GPIB card, and was sold in the mid-1980s under products numbered 61062, 88500, and 82990. A follow-on product replaced it.
- 82335: This was a minor update to and largely compatible with the 27209 card, and is still being sold for DOS and Win3.

Following the 82335 card is a new series of ISA cards under the general designation 8234X. These cards use the SICL (and later, the VISA) I/O control libraries. The 82350 card followed the 8234X series. The 82350 card is also SICL and VISA compatible, but it is only compatible with the PCI bus and not the ISA bus.

All the 8234XC cards are 16-bit I/O mapped ISA (not EISA) cards with many similarities:

- 82340A/B: This was in principle a low-cost and relatively low-performance card. These are now obsolete (as of spring 1997). There is no difference in hardware between the A and B models; they just have different software. The 82340 is capable of streamed or polled operation. In streamed operation, the CPU will "hang" when it tries to read or write data through the card until the operation is complete; this allows fast transfers of block data, at the expense of "hogging" the CPU. For more intermittent data, the 82340 can poll the card and accept data when it is available. It was supported on all MS-Windows platforms -- Win3, Win95, and WinNT.
- 82341A: This was in principle a higher-cost and higher-performance card. It supported streamed and polled operation, but it also could use its on-board 4 KB RAM to provide buffered I/O. Like the 82340, it is supported on all MS-Windows platforms -- Win3, Win95, and WinNT. This board had a programmable logic controller that could be reconfigured in software, which made field fixes relatively easy to implement. It was obsoleted in favor of the 82341B/C.
- 82341B/C: This is minor relayout of the 82341A card -- it works the same; they just changed the PC board around. The 82341C is still available for ISA backplanes with Windows 95/98/NT/2000.
- 82341D: This card supports Microsoft Plug&Play configuration on Windows 95 to allow automatic installation and configuration. It works much like the 82341 card -- though unlike all the other 8234X cards it doesn't have the 4-position DIP switch used for configuring the I/O address, since that is done automatically. It is not supported under Win3; it only works under Win95.

All these products are shipped with a SICL/VISA I/O Libraries CD-ROM. The bits are also publicly available on the Agilent Technologies website for updates. The cards are supported under Microsoft C/C++ and Visual BASIC (as well as VEE and BASIC for Windows). Visual BASIC for Applications is *not* supported.

The 82350 is new technology based on the PCI bus. Since PCI allows for automatic configuration, there are no DIP switches or jumpers on the card. The 82350 is supported under Win95/98/Me/NT/2000 (but not Win3).

As with the 8234X cards, the product ships with a SICL/VISA I/O Libraries CD-ROM. There is no floppy option. The 82350A card will support multi-processors on Windows NT/2000 with the I/O Library K.01.00 revision. See the following configuration matrix to see what card is supported with which OS:

http://www.agilent.com/find/iolib

Identifying the type of card can be confusing. The following tree should allow you to determine the type of card: