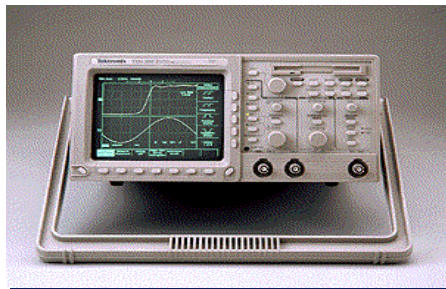


Instrument Control Overview

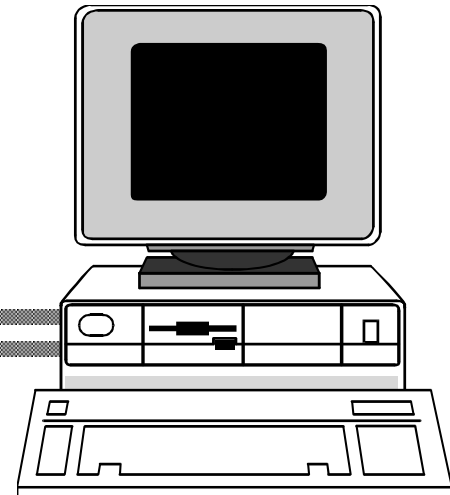
Control any instrument if you know the following:

- **Type of connector on the instrument**
- **Type of cables needed**
- **Electrical properties involved**
- **Communication protocols used**
- **Software drivers available**

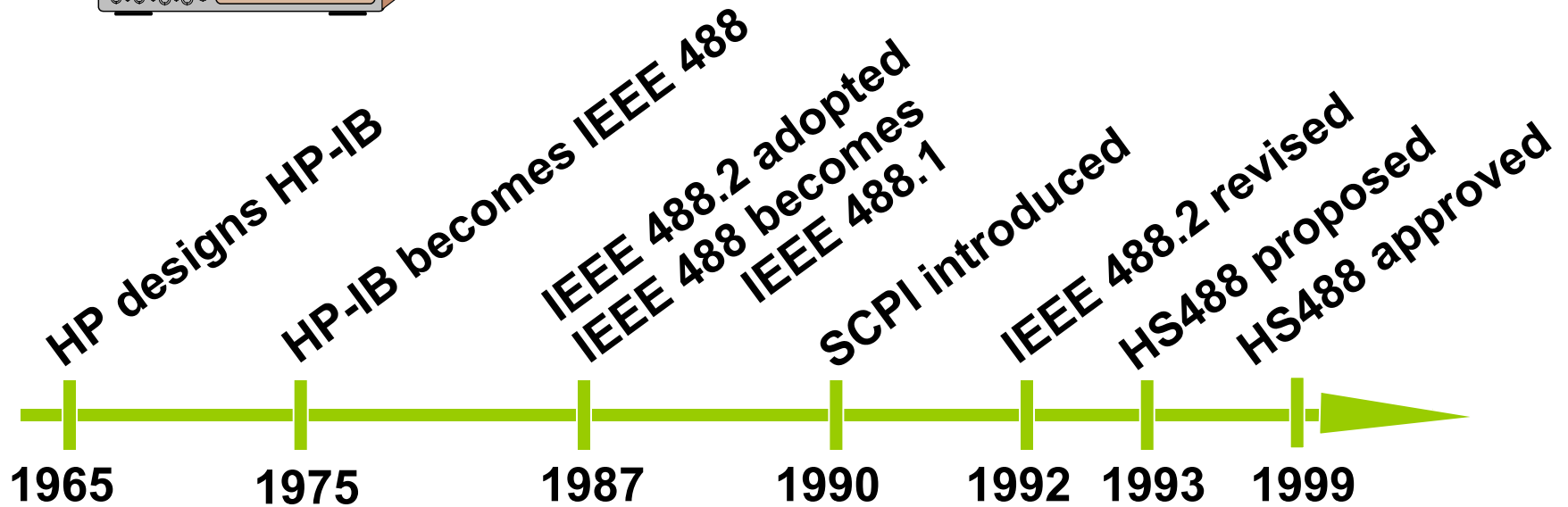
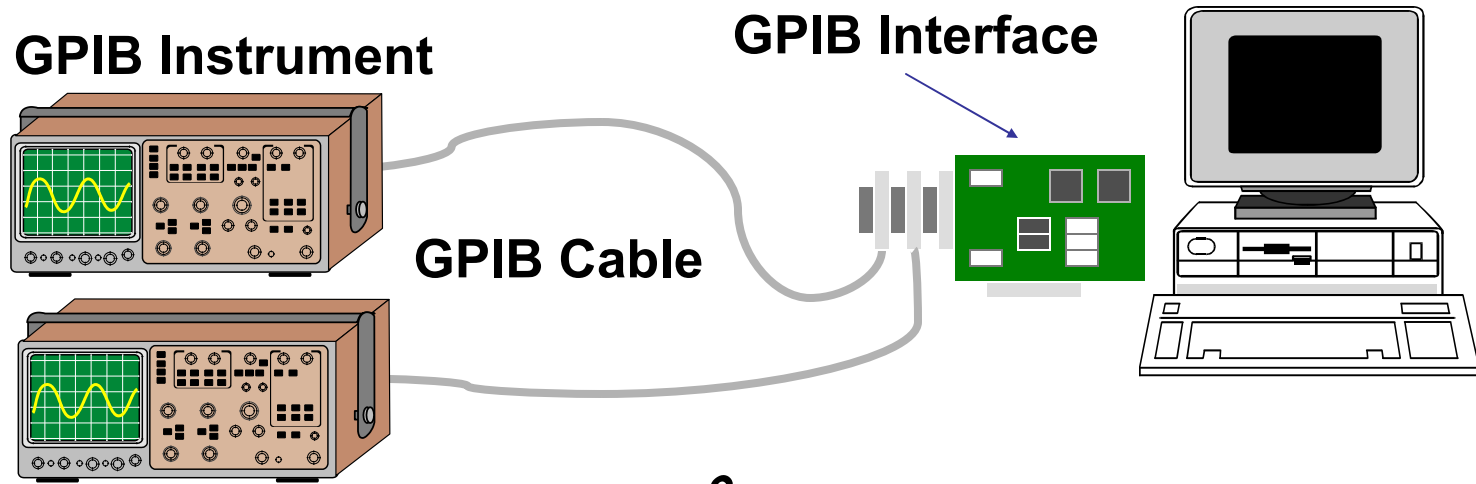
Instruments



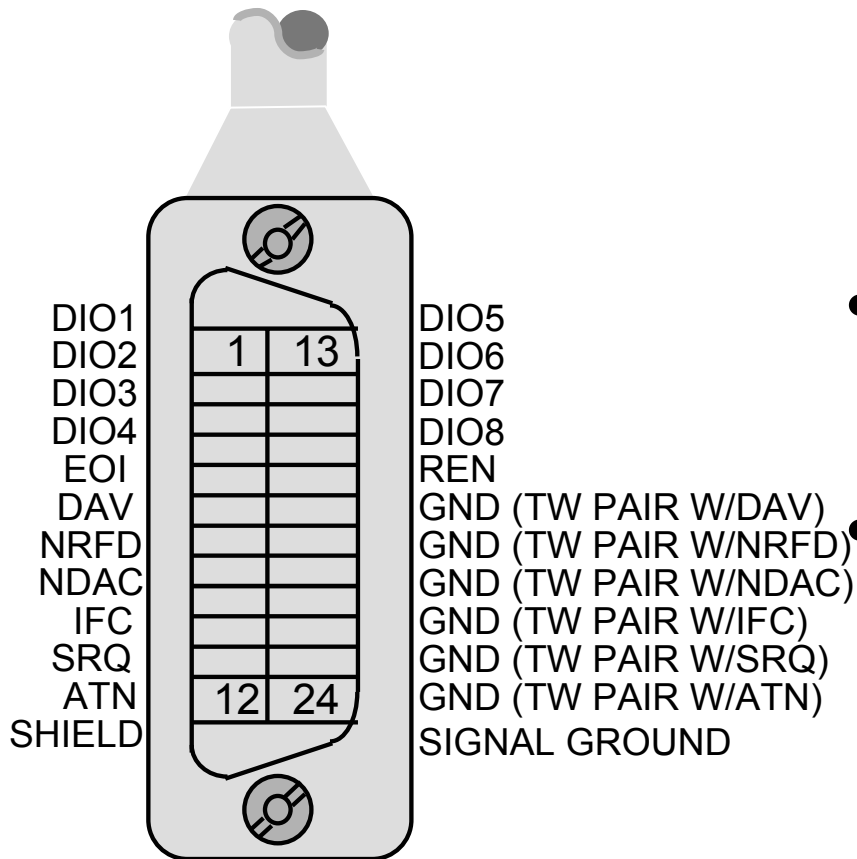
Computer



GPIB Communication

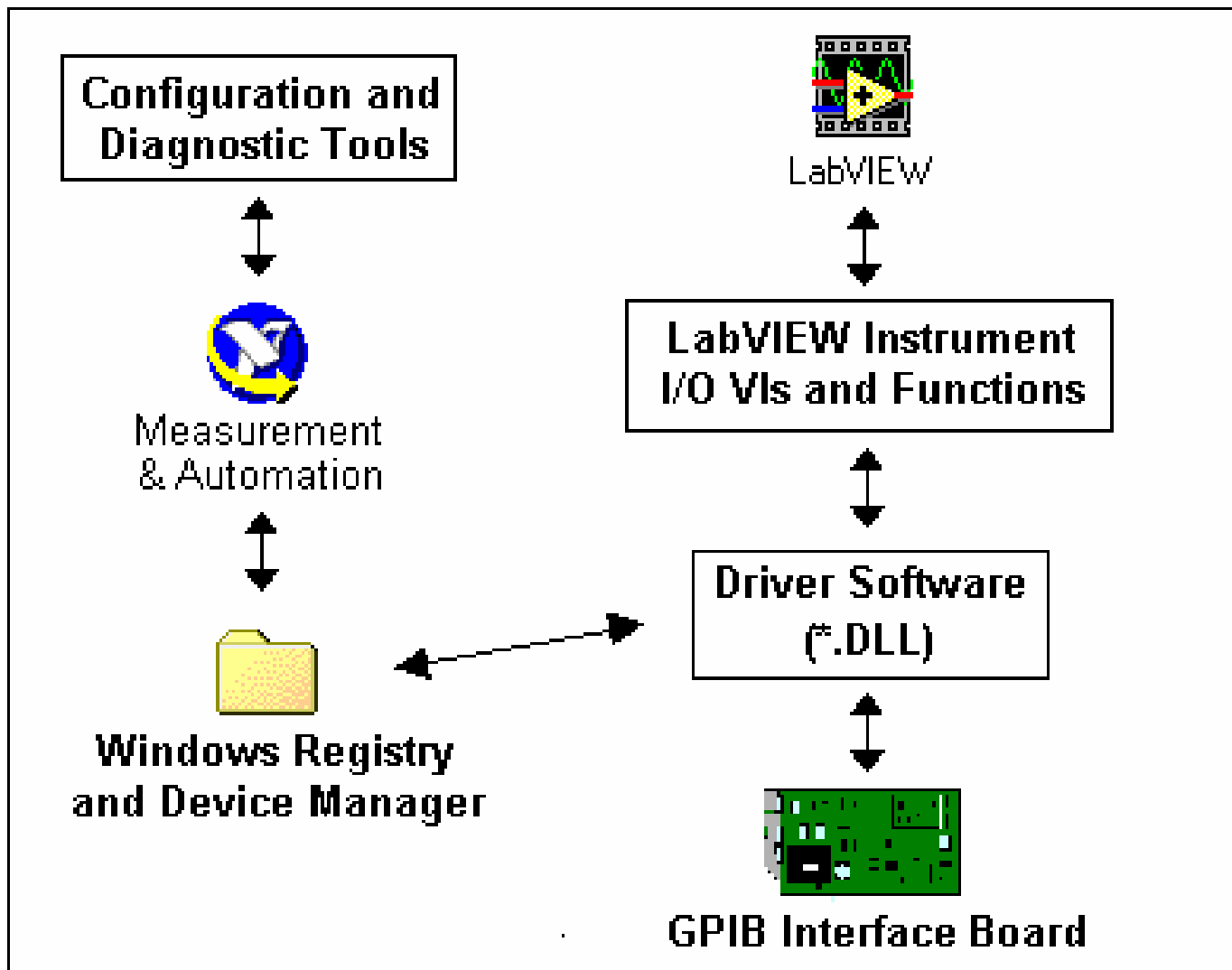


GPIB Hardware Specifications



- **Max cable length between devices = 4 m (2 m average)**
- **Max cable length = 20 m**
- **Max number of devices = 15 (2/3 powered on)**

GPIB Software Architecture – Windows



Configuring GPIB Board and Instruments

- Measurement & Automation Explorer (MAX)

The image displays three screenshots from the Measurement & Automation Explorer (MAX) software, illustrating the configuration process for a GPIB board and an instrument.

Top Screenshot: MAX - GPIB0 (PCI-GPIB)
This window shows the main configuration interface. The left pane displays a tree view of the system hierarchy, with "GPIB0 (PCI-GPIB)" selected. The right pane shows a table of properties for the selected device:

Name	Value
GPIB Interface Number	0
Instrument0	Primary Address = 2

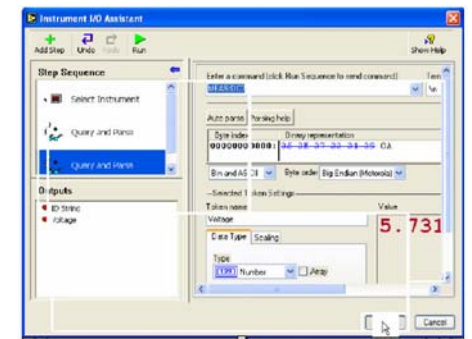
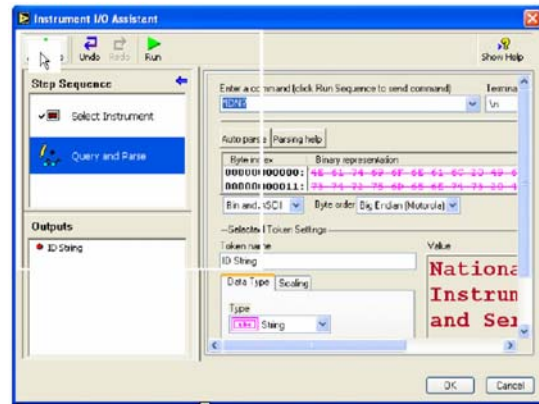
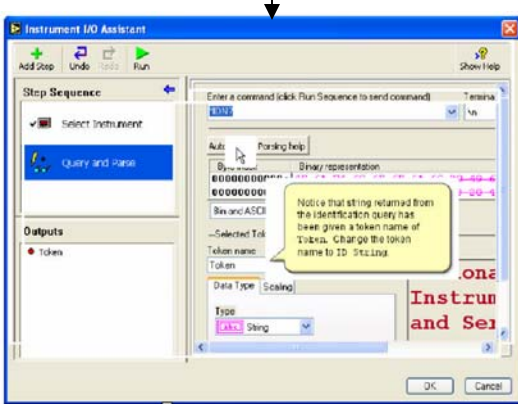
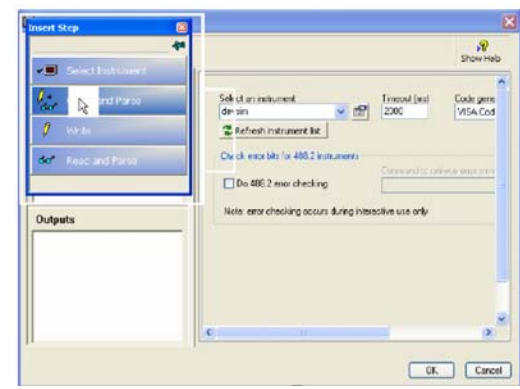
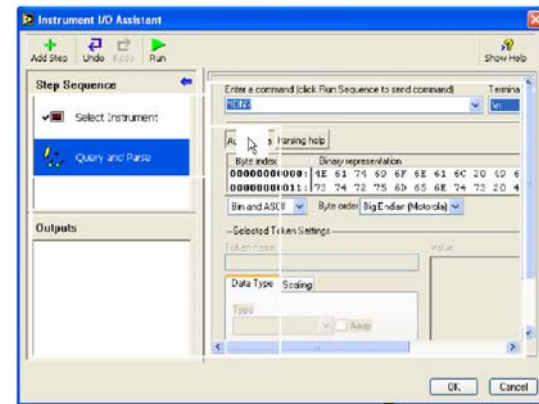
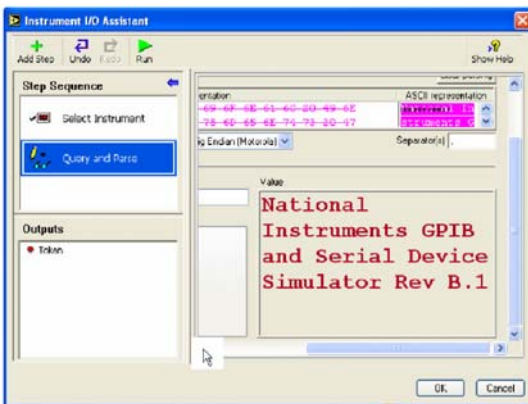
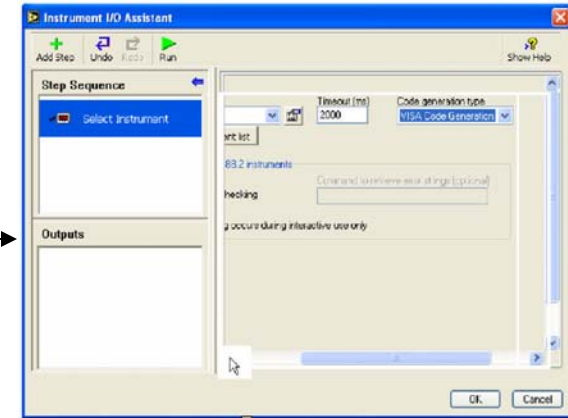
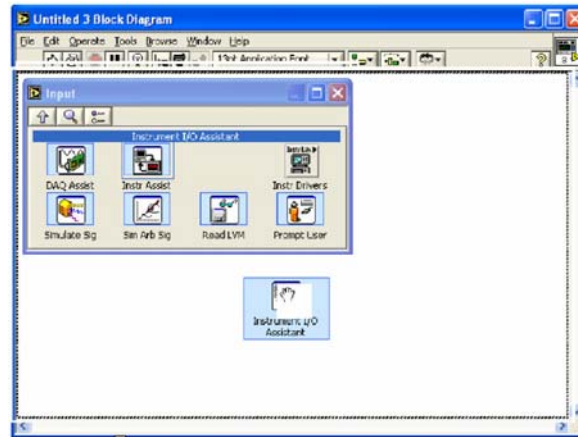
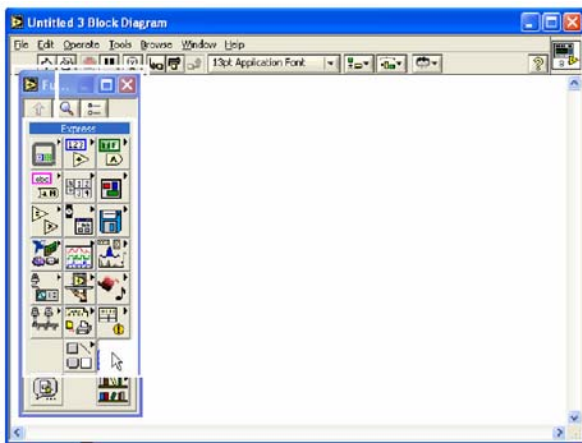
Middle Screenshot: GPIB0 (PCI-GPIB) - Measurement & Automation Explorer
This window provides a detailed view of the GPIB0 (PCI-GPIB) configuration. The left pane shows the tree view with "GPIB0 (PCI-GPIB)" selected. The right pane shows a table of properties for the selected device:

Name	Value
GPIB Interface Number	0
Instrument0	Primary Address = 2

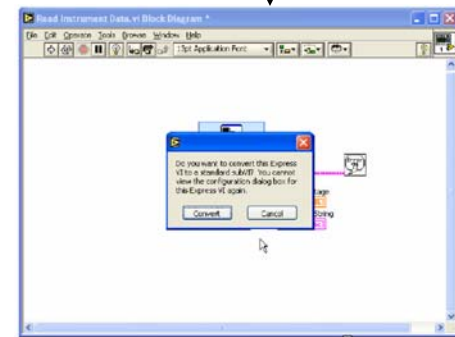
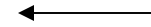
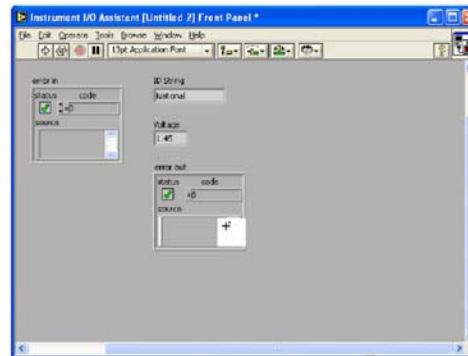
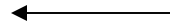
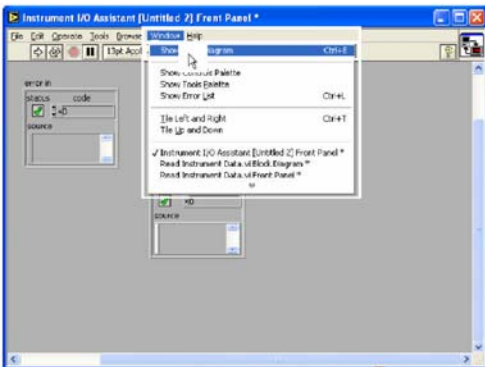
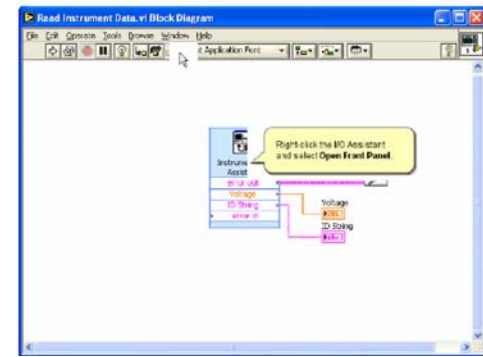
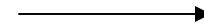
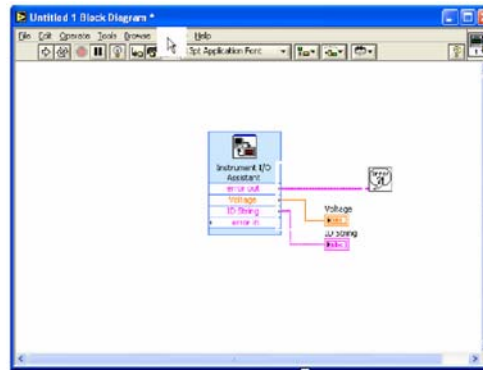
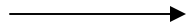
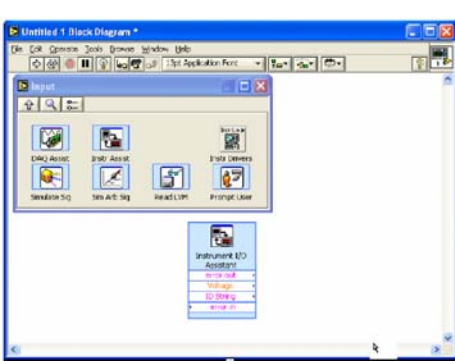
Bottom Screenshot: Instrument0 - Measurement & Automation Explorer
This window shows the configuration for the selected instrument, "Instrument0". The left pane shows the tree view with "Instrument0" selected. The right pane shows a table of properties for the selected instrument:

Name	Value
Primary Address	2
Secondary Address	None
Identification	National Instruments GPIB
GPIB Interface Number	0

Configuring GPIB Board and Instruments

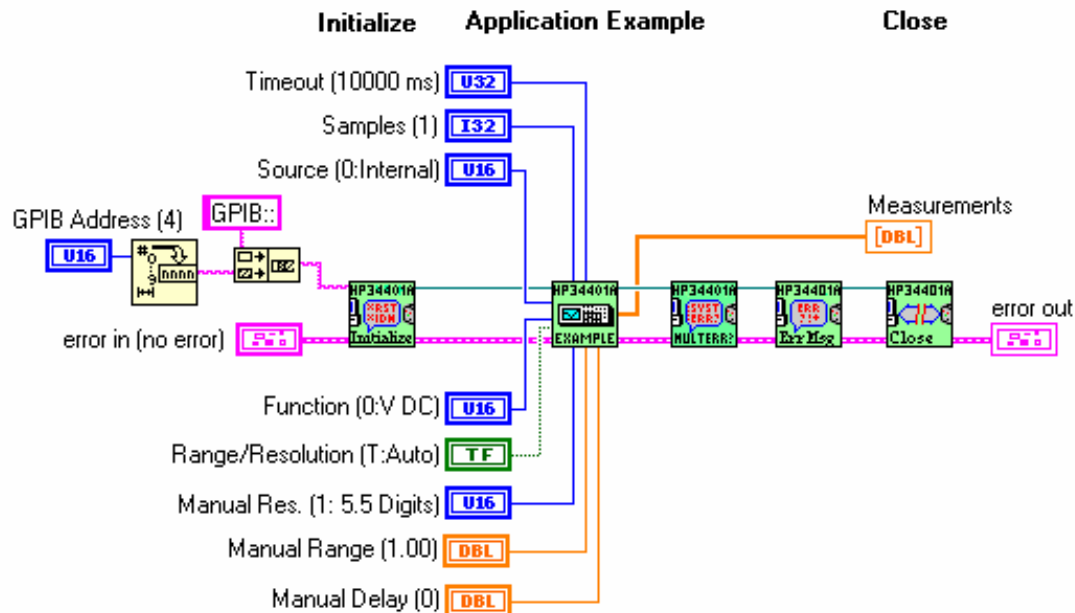
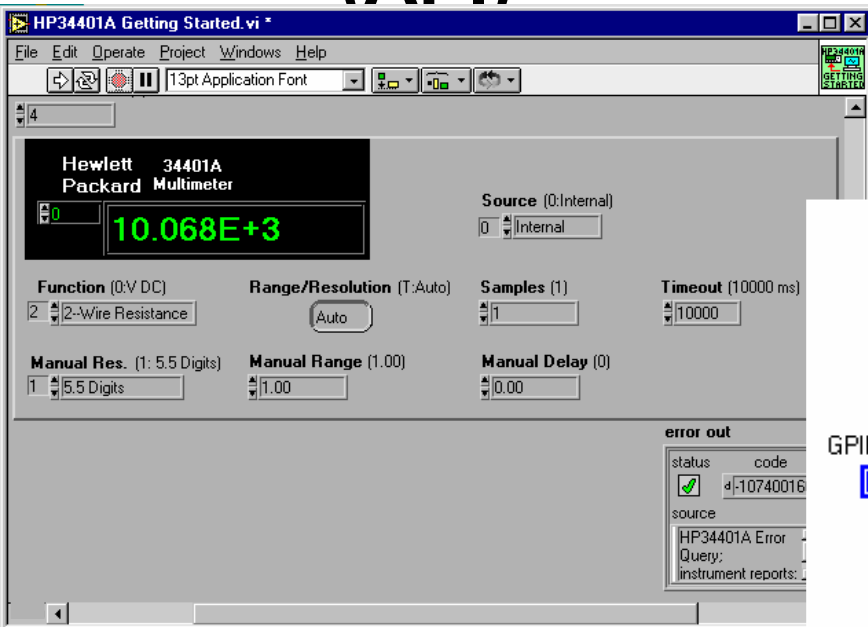


Configuring GPIB Board and Instruments



Instrument Drivers

- More than 2,200 LabVIEW instrument drivers from more than 150 vendors
- Programming simplified to high-level Application programming interface (API)



Installing and Finding Instrument Drivers

- NI Web site or Instrument Driver CD
- Install the instrument driver VI Library into LabVIEW\instr.lib directory
- Access drivers from Instrument I/O » Instrument Drivers subpalette

