ICS ELECTRONICS
division of Systems West Inc.

IEEE 488 APPLICATION BULLETIN

CONTROLLING GPIB DEVICES WITH DELPHI CODE
Using ICS's GPIB Controllers and 488.2V3 Driver

INTRODUCTION

Several users have asked for information on using ICS's GPIB Controllers from Borland (now Ingear) Delphi. This brief Application Note describes an example Delphi program provided by Jan Kuypers from the University of California at Berkeley.

THE EXAMPLE PROGRAM

The example Delphi program, which is called measure_GPIB, mimics the opening window in ICS's Explorer program which displays all GPIB Controllers and devices in a treeview. Figure 1 shows the measure_GPIB program window with two GPIB Controllers. The first controller, GPIB0, is connected to an ICS 4803 board with two primary addresses, 1 and 2. The second GPIB controller, GPIB1, is connected to an ICS 4863 GPIB to Parallel Interface at primary address 3. When you highlight the Device Name, the program fills in the right hand window with the Device Name, the Device's GPIB address and its IDN string. The program automatically sends the '*IDN?' query to the Device when you highlight the Device Name in the treeview.

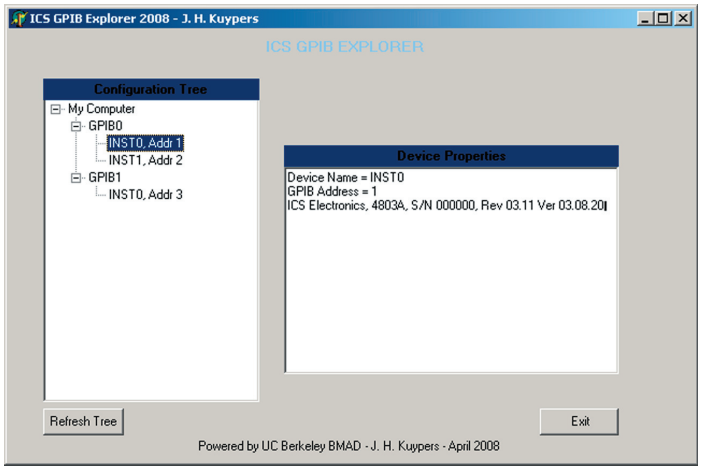

Figure 1 Example Program Window

The example program shows how to construct a Delphi program, to initialize the GPIB Controller and how to send commands to a device and to read data back from a device.

THE DEMO PACKAGE

The Delphi program package consists of thirteen files:

- GPIB.dcu (Compiled unit file of GPIB.pas)
- GPIB.pas (GPIB library unit source file)
- measure_GPIB.dcu (Compiled unit file of measure_GPIB.pas)
- measure_GPIB.ddp (Diagram portfolio file for measure_GPIB.pas)
- measure_GPIB.dfm (Win32 Form file of GUI and used objects)
- measure_GPIB.pas (Program unit source file)
- Project1.cfg (Project configuration file)
- Project1.dof (Projects option file)
- Project1.dpr (Project file; All Delphi versions)
- Project1.dproj.local (Project file; Delphi 2007 and newer)
- Project1.indentcache (Temporary cache file; improves performance)
- Project1.res (Resource file)
- ICS Explorer Delphi.exe (Compiled executable)

SUMMARY

This application note has provided an example Delphi program that uses the GPIB.pas file to link to ICS's GPIB driver and control GPIB instruments. In this example the physical controllers were USB-to-GPIB Controller modules but they could have been PCI to GPIB cards.

All of the files used in this example are included in the Delphi.zip file which can be downloaded from ICS's website at http://www.icselect.com/.

CREDITS
We wish to thank Jan Kuypers at the Berkeley Sensor and Actuator Center for developing the example program.