

# ECE 332 Lab View Tutorial

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## 1. Check instruments GPIB connections.

Open Agilent Connection expert at “All Programs – ECE - Agilent IO Libraries Suite - Agilent Connection Expert.

Power on all instruments.

Under GPIB1, you should find each instruments’ status and the GPIB number, make sure each instruments’ status is OK, and write down each instruments’ GPIB number, you will need it later.

For example, 33120A is the model number (located on the front panel of the instrument) of function generator, and the GPIB number is 10.

The screenshot displays the Agilent Connection Expert interface. On the left, a 'Task Guide' pane lists tasks for the instrument, including 'Refresh this instrument', 'Change properties', 'Send commands to this instrument', 'Change the label', 'Add a programming alias', 'Ignore', and 'Delete'. Below this, 'General Tasks' include 'Refresh all' and 'Add an instrument'. 'More Information' links are provided for 'How do I get drivers?' and 'Where can I find programming samples?'. The main pane, 'Instrument I/O on this PC', shows a tree view of connections: C10706, COM1 (ASRL1), GPIB0, GPIB1, LAN (TCPIP0), and USB0. Under GPIB1, several instruments are listed: 33120A (GPIB1::10::INSTR), 34401A (GPIB1::12::INSTR), 54600B (GPIB1::7::INSTR) (highlighted), and E3631A (GPIB1::5::INSTR). A 'Refresh All' button is at the top of this pane. On the right, the 'GPIB Instrument - 54600B' details pane shows a status message: 'Both the address check and the identification were done'. Below this, a table lists instrument details:

VISA address:	GPIB1::7::INSTR
IDN string:	HEWLETT-PACKARD,54600B,0,A.01.27
Manufacturer:	HEWLETT-PACKARD
Model code:	54600B
Serial number:	0
Firmware:	A.01.27

Below the table, another set of details is shown:

GPIB address:	7
SICL address:	gpib1,7
Address check:	Yes
Auto-identify:	Yes

At the bottom right, there is an image of the 54600B instrument, which is a GPIB interface unit.

## 2. Open LabView

Open LabView at “All Programs – ECE - National Instruments LabVIEW 8.6”.

## 3. Copy LabView Module for ECE332

Go to my share directory which is T:\students\GRAD\ECE\weiwei\shared\ECE332, copy the entire folder of “LabVIEW Data” into your directory.

## 4. Open Labview

Click file – open, pick the “ECE33x VI Tree.vi” file at LabVIEW

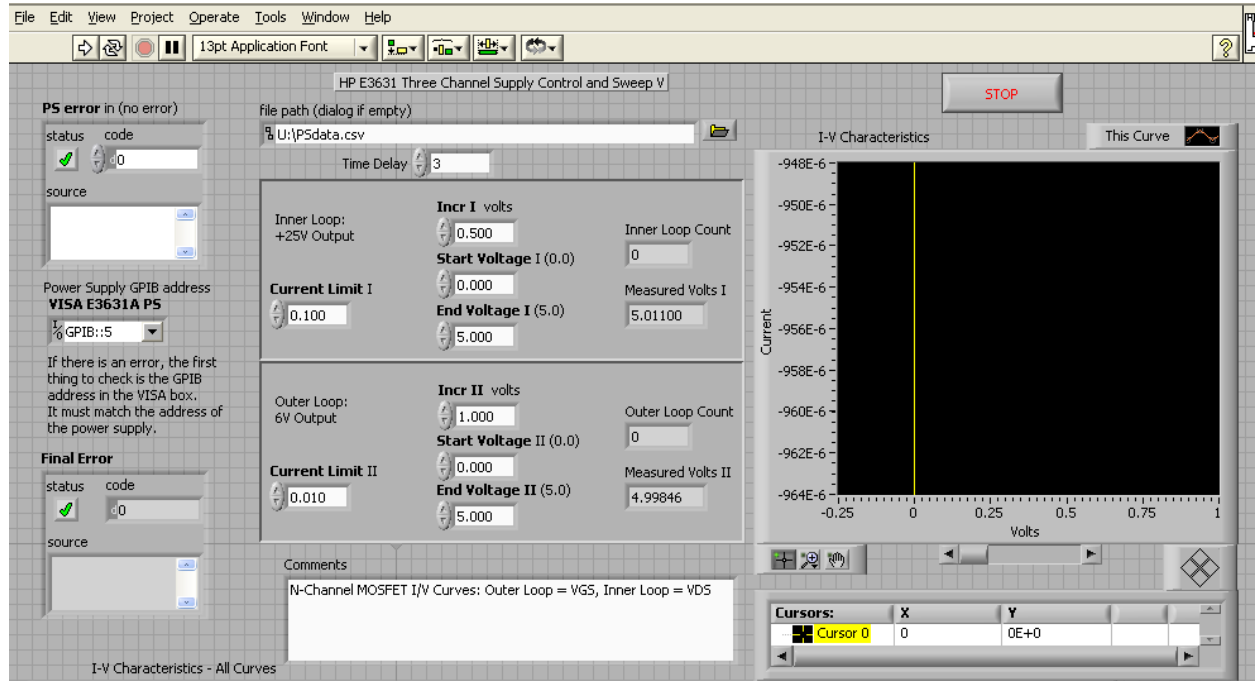
Data\ECE33X\Labview\ECE33x\_Library\ECE33x\

After having loaded the VI file, Click window – show block diagram, now several test modules should appear.

**5. Setup your physical circuits and finish your wiring.**

**6. Open module to do testing.**

Open module “power supply and sweep”,



Fill in the GPIB number you wrote down for the power supply, then fill in the sweeping parameters for  $V_{gs}$  and  $V_{ds}$ , Click run when you finish. You will get a  $I_{ds}$  vs  $V_{ds}$  curve from this testing.