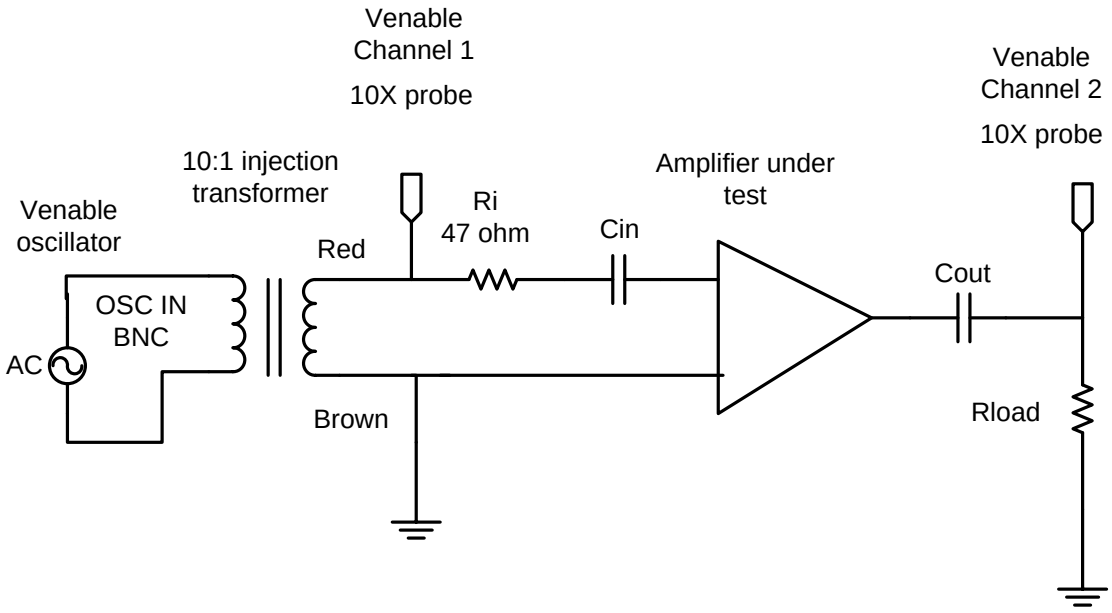
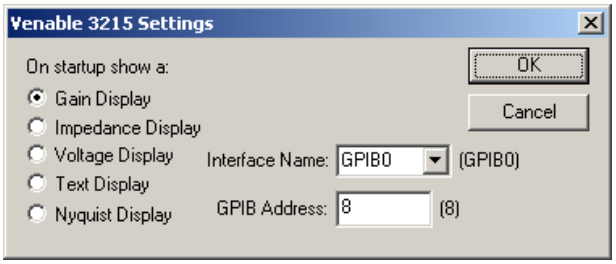
Venable analyzer Tips.

The Venable analyzer can be used to perform the AC sweep requirements for the experiment.

1. **Connecting the analyzer to the amplifier**.
Use the Bode Box (injection transformer) model 200-002 . Connect the Oscillator BNC to the center OSC IN BNC of the Bode Box, other two will not be connected. Connect a 10X probe to Channel 1 + and a 10X probe to the Channel 2.
Connect the analyzer (red banana) to Vin of the amplifier circuit at the input capacitor (between the Pie filter and the Ri (47 ohm resistor) of the amplifier. Connect the brown banana to ground of the amplifier under test. The black banana is open.
Disconnect the Agilent function generator from the circuit.



2. **Start Venable software**
At start up you may see this screen.
The interface name is **GPIB1 for the Venable.**
If when you try to collect data you receive a not found error, then check this screen.
This screen can be accessed from the View tab then the Settings tab.



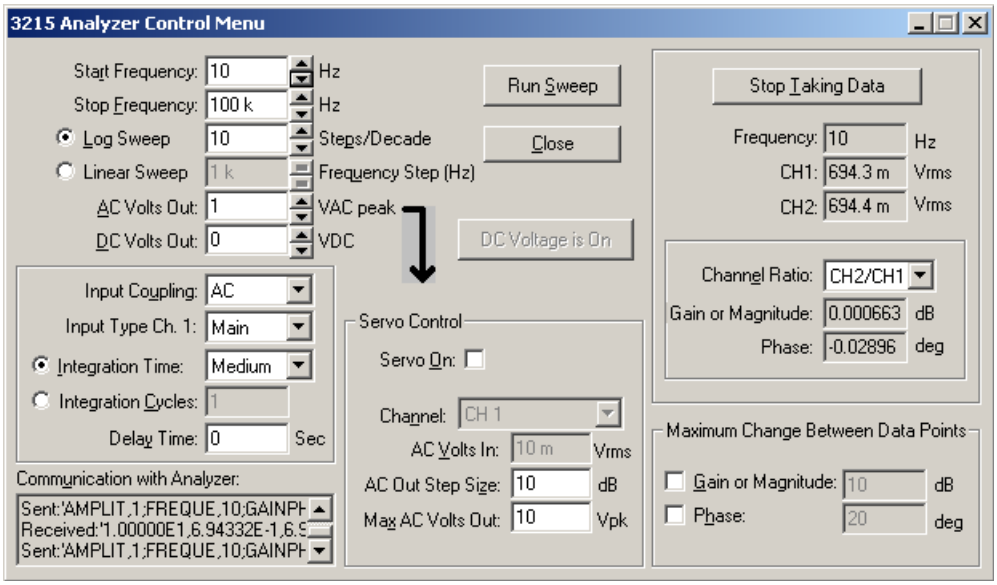
Click OK.

3. **Click on Analyzer Control tab**
In the Analyzer Control Menu.
Set the start frequency for 10Hz or above
Set the Stop frequency to 1 mega Hz or below
Log sweep of 10 steps/decade or larger.
Set the AC Vout voltage to 10 times larger than the peak value needed the maximum is 10Vpeak

Note: The transformer must be used to protect the Venable analyzer. The Voltage signal that will be sent to the amplifier circuits will be V/10 because the transformer is a 10:1 set down transformer. Therefore the maximum output of the analyzer to the amplifier input will be 1Vpeak. So this means that for some of the experiments setups we will not be able to test the amplifier designs at the specified required output voltage requirement. The frequency response test at the lower voltage will still be valid.

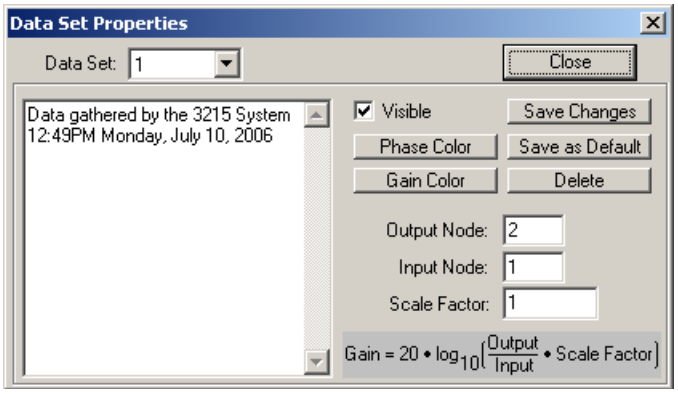
Set the AC Volts Out = 10 X desired input voltage. (Because of 10:1 transformer).
Set the DC Volts Out =0
Input coupling AC
Input type = main
Integration time = medium
Channel ratio CH2/CH1

Under Servo control area,
Servo On check box is unchecked



Click Run Sweep.

The Data set Properties screen may look a little different.



Now data set properties screen will come up.
Output node = CH2
Input node = CH1
Scale Factor = 1
Click Close and the AC sweep will start.

4. **Mark the graph** Low frequency cutoff and High frequency cutoff.
With the graph open select the data set that you want to mark(by clicking on the line graph).
Select Add Slide bar window to mark the graph.

5. **Save the graph** as a JPEG to print and turn in.
From the file menu save graph in JPEG format.