

## EE368 Capturing a Frequency Response Plot DePiero

This procedure describes how to setup the function generator and scope so as to capture a complete frequency response plot (in an image file on the PC). The plot has a linear vertical scale (for magnitude) and a logarithmic horizontal scale (for frequency). Also see Experiment #3 in the Lab Manual.

To generate the frequency response plot the function generator sweeps its output frequency. The sweep ranges from 100Hz to 10kHz over a 5 second time span, and has a logarithmic variation. The scope is triggered to begin its trace at the start of the frequency sweep and then takes a total of 5 seconds to traverse the screen.

### Setup Function Generator

The setup the function generator, the starting and stopping frequency must be set, as well as the total time used in the frequency variation ('sweep time'). The logarithmic increase in frequency is also specified ('sweep mode').

Configure	Commands on Function Generator
Freq. Start	Shift, Enter, R, D, D, Use Dial & Arrows to Set Value, Enter
Freq. Stop	Shift, Enter, R, D, R, D, Use Dial & Arrows to Set Value, Enter
Sweep Time	Shift, Enter, R, D, R, R, D, Use Dial & Arrows to Set Value, Enter
Sweep Mode	Shift, Enter, R, D, R, R, R, D, Use Dial & Arrows to Set Value, Enter

*In the above table, 'R' stands for the right arrow key, and 'D' is the down arrow key.*

After the sweep control parameters are set, pressing the 'Blue' button and then the 'Sweep' button starts the sweep mode.

**Use a BNC-to-BNC cable to connect the function generator's 'sync' output to the scope's 'Channel 2' input.**

### Setup Scope

- To trigger from Channel 2: Press 'Edge' trigger control and select '2'.
- For a 5 second duration of the trace: Choose 500mSec/div.
- For a TIF-formatted image file (of the screen dump): Press the 'Utility' button and use 'Print Config' to select 'TIF'.

### Capture Image of Scope on PC

- From desktop, double-click on shortcut to Word document 'Word\_54600\_Toolbar'.
- In Word, click on camera button on toolbar.

### To Put Function Generator in High Impedance Mode, for Output

Configure	Commands on Function Generator
Hi-Z	Shift, Enter, R, R, R, D, D, R, Enter