

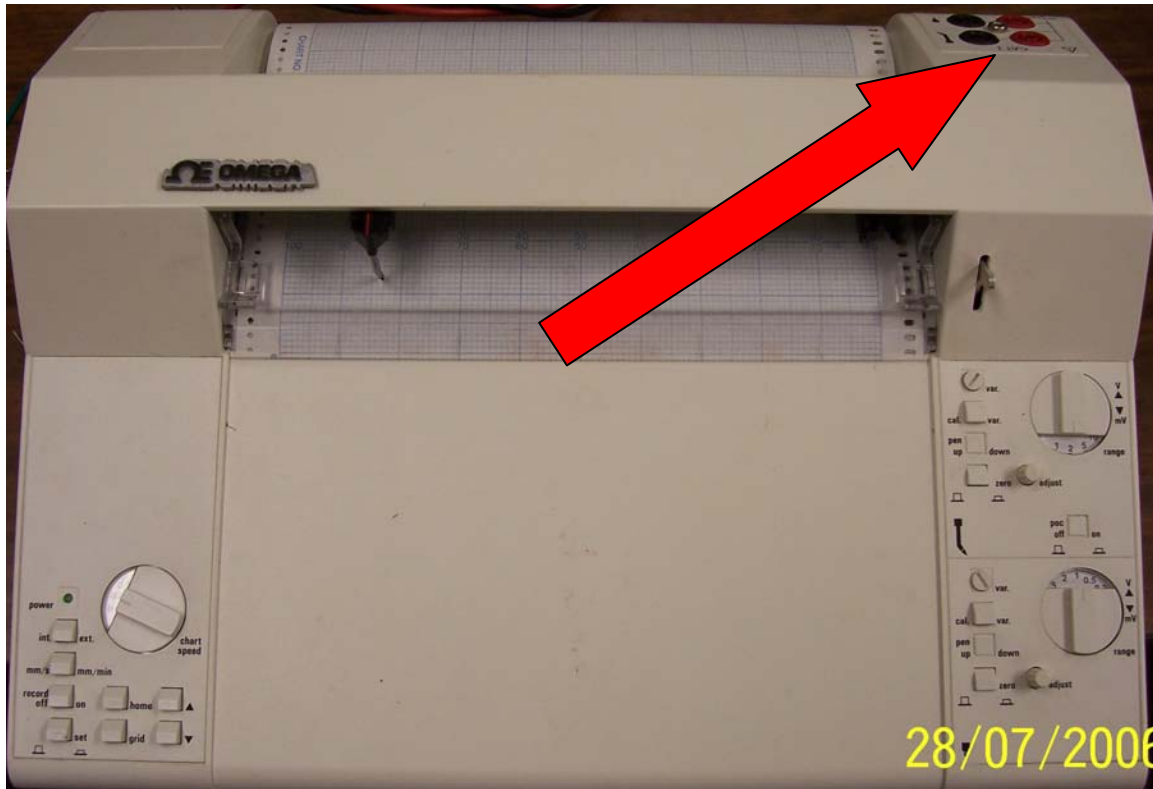
# Chart Recorder Controls Quick Reference

This is designed to provide a quick overview of the controls on the Omega RD46A chart recorder.

This recorder is a two pen, two input chart recorder. Each pen can be calibrated individually. The unit feeds paper from a roll in the rear of the unit, through the front in response to a set of paper speed controls. The pens make marks on the paper as it feeds, generating a wave plot of amplitude vs time.

## Signal Inputs:

The inputs are located on the rear of the unit, and are labeled in the standard Red for positive, and accept banana plug inputs.



## Paper speed:

The paper, or chart, speed is set by a set of controls on the lower left of the unit labeled “chart speed”. Units of speed on this unit are in mm/min or mm/sec/. Other common units on chart recorders are in cm/min and cm/sec. In addition to the chart speed knob (0.1 to 20) there are a number of buttons. Note that the “up” position labels are to the left and the “down” labels are to the right..



For all normal operations in this lab you will be using the internal timebase, indicated by the int/ext button being up. Speed range is selected with the mm/s / mm/min button. Record off/on will allow the paper to either run or not run. Normally this is off until you are ready to actually begin taking readings. The home and grid buttons are advanced features that you can ignore at this time. The up and down arrows allow the paper to be manually advanced in either direction. This is often handy so you can start the paper on a major grid mark.

**Input Scaling:**

The side-to-side motion (amplitude) of the pens is controlled by the two identical sets of controls on the right side of the unit. These control the long pen and short pen as indicated by the icon. Note that the long pen and short pen, by necessity, have a small amount of offset on the paper. Remember this if you are making two pen measurements.



As with the paper controls, the label to the left indicates the “up” position of the switch. The upper control knob is used to set a variable span (maximum deflection). This is handy in some conditions, but for most of the labs you will be using the calibrated input selections. These are selected by setting the cal/var button up. In the cal position, the selection dial, labeled V/mV determines what the maximum deflection is. The range is from 1mV to 20V. This value is the voltage required to deflect the pen from the far left hand edge of the chart to the far right hand edge of the chart.

The zero button allows the user to adjust where the pen sits at 0V input. Pressing this button down activates the small adjust knob to its right, and displays the actual position that the pen will be in with 0 volts input. Remember to put this button back up when you have finished setting zero.

The combination of the zero and span controls allow the user to select a variety of configurations. Below are a few examples.

Left edge	Center	Right edge	Zero Position	Range
0 V	2.5V	5V	Left Edge	5V
-10V	0V	+10V	Center	20V
-1V	0	+1V	Center	2V

### Pen Lift:

It is a good practice to not have the pens in contact with the paper when the recorder is not running. The ink will wick from the pen to the chart paper. To provide an easy way to lift the pens, this chart recorder has a metal lever on the front to lift and lower the pens from the recording paper.

