Lab #7B – ST-Waves

Important Announcement

If you missed a lab and wish to take a makeup lab, you must arrange that as soon as possible. Even if you previously requested a makeup lab, you should confirm this request now. Students may only do one makeup lab. These are offered from 9:00 AM - 12:00 PM on the first Reading Day before Final Exams. The finished worksheets/reports are due by 6:00 PM of that same day on Canvas. These labs will be supervised by someone who may not be your regular TA.

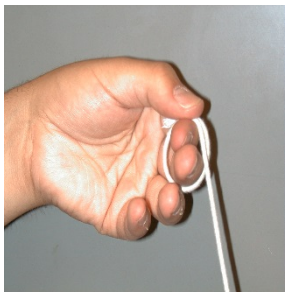
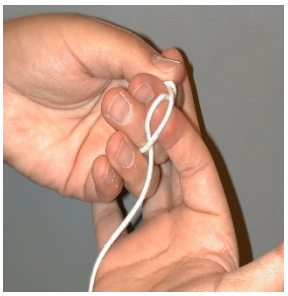
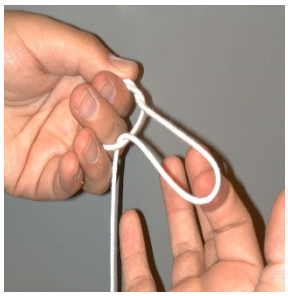
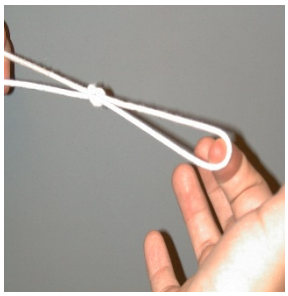
There are four setups for Lab#7A and four for Lab #7B in each room. You will switch experiments 90 minutes into the period.

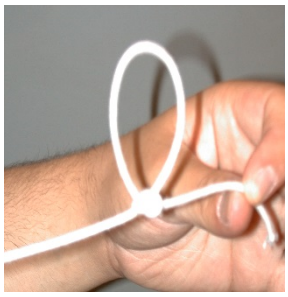
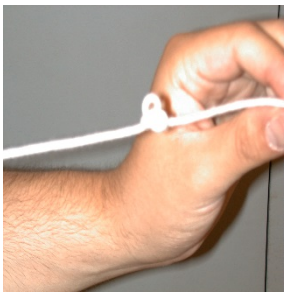
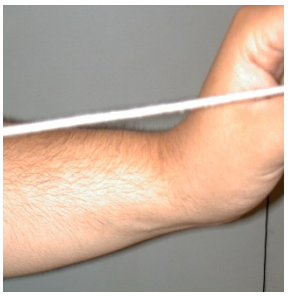
For Lab #7, there is no report and the worksheet should be completed during the lab period and uploaded to Canvas by the end of lab. Hand the notebook carbons to your TA **before you leave the lab** and you are finished with physics lab for the semester. The worksheet for Labs 7A & 7B will be graded as a single entity, worth 30 points total.

Your TA will give you a few minutes at the beginning of lab to complete online lab evaluations.

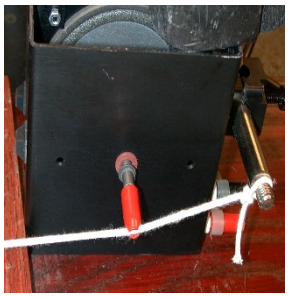
ANNOUNCEMENTS FOR STANDING WAVES ON A STRING LAB

The pictures below illustrate the steps in tying a slipknot. If there is an object inside a slipknot when you pull on the ends of the string, the knot will tighten around the object. It the knot is empty, you can remove it completely by pulling on the ends of the string.

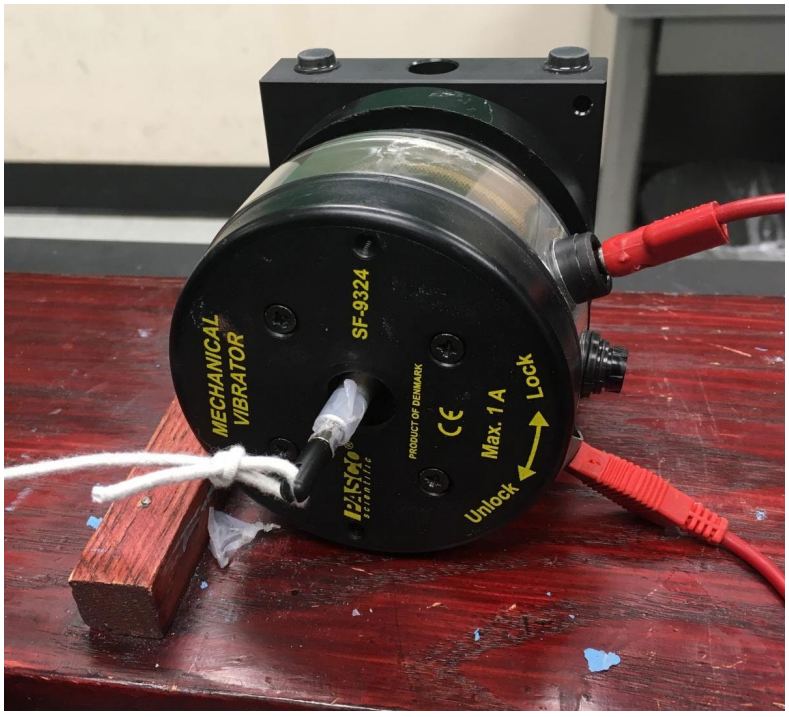





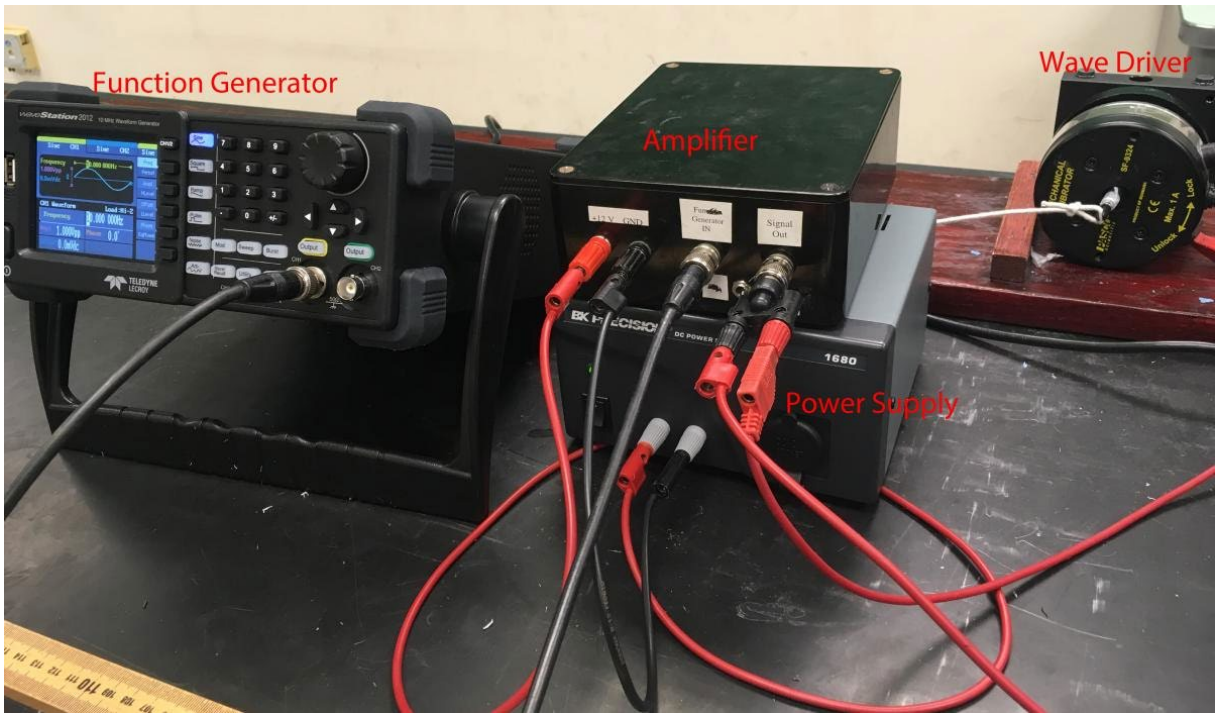
Tie one end of the string, with a slipknot to the bar to the right of the string driver and then slip the string into the notch on the red bar shown below. Then cover the notch with tape to help keep it in place.



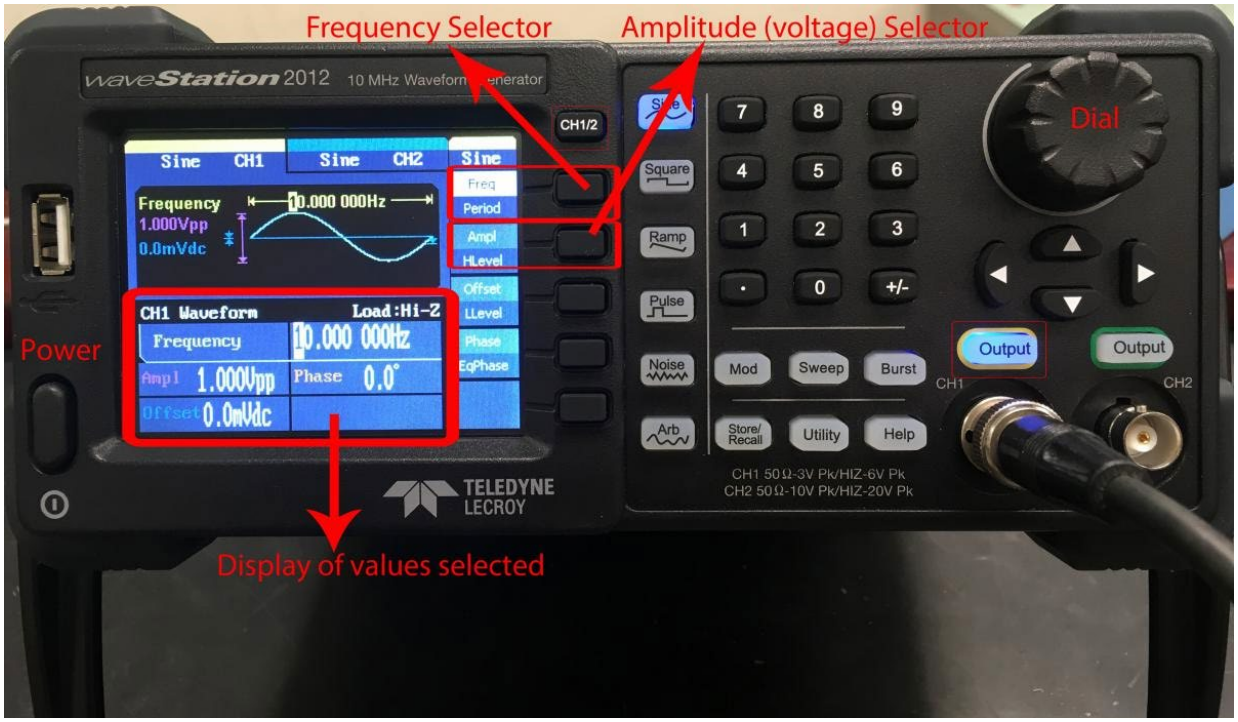

An alternate wave driver is displayed below.



The electronics for this experiment are pictured below.



The amplifier and power supply simply have to be turned on, but the function generator has to get set to several different settings, as explained in the lab manual. Here is an image of the function generator. Some of the buttons and displays that you will be using are labeled.



A good pattern with a node in the center and a wavelength almost as long as the string is shown below.

Note that the node near the driver should be a few cm away, the driver itself is always moving and so cannot be a true string node.