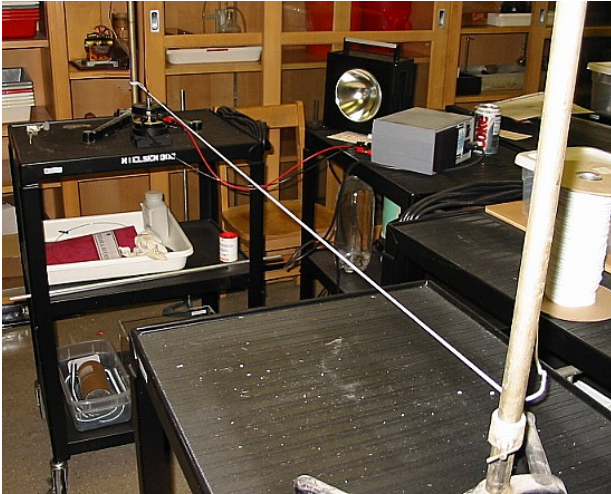


## Transverse Standing Waves



**The Setup**



**Correct Way to Connect Transducer**

**Purpose:** Demonstrates transverse standing waves on a line.

Stretch the white elastic cord (not tight) between two ring stand supports. Couple the cord to the motion transducer with the special banana-plug adapter (see photo). By adjusting the sinewave driver, you can tune in the lower harmonics of the cord.

With the driver tuned to a particular standing wave, tune the stroboscope to the same frequency. The results are fairly dramatic, and the students can see how the cord vibrates in slow motion. With the white cord, you do not need the room very dark – in fact it is nice to keep the blurred motion visible so that in viewing the slow motion you can keep the nodal points in mind.

With the room darkened, use our strobe light to demonstrate what is happening. By tuning the light to almost the string frequency, you can show in slow motion, what the string is doing.

**Note:** Although we have extra cord, please do not tie a bad knot in the cord that has to be cut later. A simple clove hitch works well on both ends.

**Extra Equipment:** Two ring stands, stroboscope, and Sine wave generator and motion transducer (Shelf D2). Strobe Light!

**Location:** Shelf D2