WALK THAT LINE!

Graphs are used to describe everyday problems or events. The ability to "see" and understand this information is your key to the world of technology. Moving back and forth in front of the motion detector will generate a graph describing your movement. Our objective is to be able to describe someone's motion by interpreting their graph.

Materials: 1 EA-100 Data Analyzer; 1 sonic motion detector; 1 Casio CFX 9850G calculator with link cable

Procedure:

1. Complete the pre-lab worksheet.

2. Set up the motion detector on a flat surface. The detector should be aimed at the waist or chest of the student who will walk out the action.

3. Connect the motion detector to the **sonic port**.

4. Connect the EA-100 and the calculator using the link cables. Be sure the cables are pushed in securely.

5. Turn on the EA-100 and the calculator. Push the "**prgm**" button on the calculator. Choose "**REALTIME**" .

6. Move in front of the motion detector. Measurement will be finished when "**DONE**" is displayed.

7. Try to generate the first graph on your pre-lab worksheet. Push "**EXE**" on the calculator to view your graph. Compare the graph you generated to the one on the worksheet. If they do not match, study the results and write a new script for this question until you are successful.

8. Repeat steps 6 and 7 for each question on the pre-lab worksheet.

9. Based on what you just learned, sketch a graph you feel you can write a script for. When you have finished your sketch and your script, repeat steps 5-7. Were you successful? If not, try to understand why your motion did not produce the desired graph and try again. When you have completed this exercise you will be given some "scripts" to match to a set of graphs.