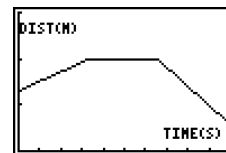


## Using the DatMatch Program

The DatMatch data-collection program for the TI Graphing Calculators is a special purpose program for the first activity in *Physics with Calculators*. DatMatch works only with a Motion Detector in DIG/SONIC 1 of the LabPro or DIG/SONIC of the CBL 2. DatMatch is a single program, not a group. There are two modes of operation of DatMatch. The first is Graph Match, where the calculator presents a random distance or velocity graph for the user to match, and the second is a simple Motion Detector mode for data collection. The advantage of using DatMatch over DataMate for simple Motion Detector work is that the distance, velocity and acceleration graphs are not automatically scaled to fill the screen. Fixed-scale screens may be easier for beginning students to interpret.

```
TRY TO MOVE IN
FRONT OF THE
MOTION DETECTOR
SO AS TO EXACTLY
MATCH THE PLOT
ON THE SCREEN.
[ENTER]
```



Connect your calculator to the interface and start the program the same way you did for the DataGate program above, substituting DatMatch for DataGate in all occurrences.

## Main Screen

The main screen of DatMatch is shown at the right. The top half of the screen shows the Motion Detector reading and data collection mode. The portion below the double bar displays the menu options. The current reading of the Motion Detector is updated about once a second. This reading is useful to verify that the Motion Detector is detecting the target properly.

```
► DIG:SONIC(M)  1.444
MODE:GRAPHMATCH
DISPLAY:DISTANCE

-----
1:START      2:QUIT
```

To change the three major settings of the program, position the diamond cursor ► at each line using the  $\blacktriangledown$  and  $\blacktriangle$  keys, then press  $\text{[ENTER]}$ .

### DIG:MOTION

Press  $\text{[ENTER]}$  to toggle the units of the Motion Detector between meters and feet.

### MODE

Press  $\text{[ENTER]}$  to toggle between the Graph Match and Time Graph modes.

### DISPLAY

Press  $\text{[ENTER]}$  to toggle the display mode. In Graph Match mode the choices are distance and velocity target graphs. In Time Graph mode the choices are distance and non-live displays. The distance setting provides a live distance graph, while non-live provides no graph during data collection. In either case you are offered a menu of distance, velocity and acceleration graphs after data collection is complete.

Below the double bar are two or four menu items, depending on the mode.

### START

Select START to begin data collection.

## SETTINGS

SETTINGS appears only in time graph mode. Select SETTINGS to adjust the data collection rate and number of points.

## GRAPH

GRAPH only appears in time graph mode. Select GRAPH to see a menu of distance, velocity and acceleration graphs.

## QUIT

Select QUIT to leave the DatMatch program.

DIG:SONIC(M)	1.441
▶ MODE:TIME GRAPH - 10	
DISPLAY:DISTANCE	
<hr/>	
1:START	3:GRAPH
2:SETTINGS	4:QUIT