

Bar Tape Guide

(Order Code TAPE-GUIDE)



The Bar Tape Guide contains an adapter that allows Bar Tape (order code TAPE) to be used with a Vernier Photogate. Bar Tape is 3 m long, and it has alternating opaque and transparent bars that have a spacing of 1.524 cm. The tape can be attached to objects and pulled through the photogate. This allows you to perform experiments much like what you would do with a “ticker tape timer”. Experiments include

- Studying the motion of a toy car
- Studying the motion of other toys, e.g., air powered rockets
- Studying the motion of a person as they hold the tape and walk away from the photogate

What Is Included with the Bar Tape Guide Kit?

- (1) Bar Tape Guide
- (2) 1 3/8 in outside diameter O-rings
- (2) 1 3/16 in outside diameter O-rings

What Software Is Compatible with the Bar Tape and the Guide?

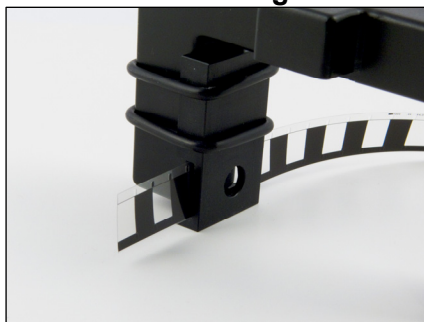
This Guide along with Bar Tape is designed for experiments using any of the following programs:

- Logger Pro[®] (for computers)
- LabQuest[®] App (for LabQuest 2 or original LabQuest)
- EasyData[™] (for TI graphing calculators)
- DataQuest[™] for TI-Nspire[™] Technology

With each program, you need to select Bar Tape as the object that is moving through the photogate. The exact details of the process depend upon the version of the program. Refer to the program’s help file or the user’s guide for the program. You can also contact Vernier if you have questions.

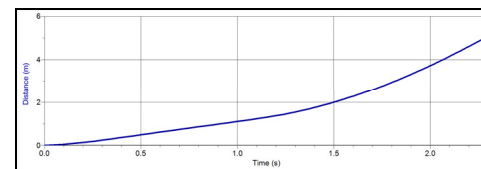
Using the Guide and Bar Tape with a Vernier Photogate

The Bar Tape Guide is attached to the detector side of the photogate. As you look at the label on the Vernier Photogate, the detector side is on the right. You can also identify the detector side by the size of the opening. The detector has a smaller opening than the source side. Place the guide on the inside of the photogate and secure it with two O-rings. (Photogates manufactured prior to

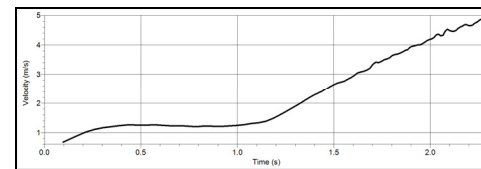


2004 are smaller in circumference than those manufactured after 2004. Use the 1 3/16 inch O-ring on the older photogates.) Thread the Bar Tape through the adapter and attach it to the object whose motion you are studying, e.g. toy car. The tape can be secured to the object with a piece of cellophane tape or with a piece of double-sided tape. You will probably want to trim the tape to a shorter length appropriate as appropriate for your experiment.

The graphs below show data collected with a toy car. The car had two speeds. From the velocity graph you can see the car’s initial acceleration, a fairly constant speed, and then a second acceleration for the second gear.

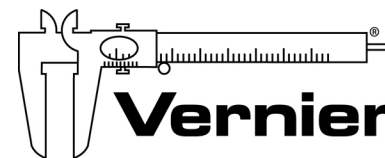


Position data for a toy car



Velocity data for a toy car

Bar Tape is ordered separately (order code TAPE).



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Vernier Software & Technology

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