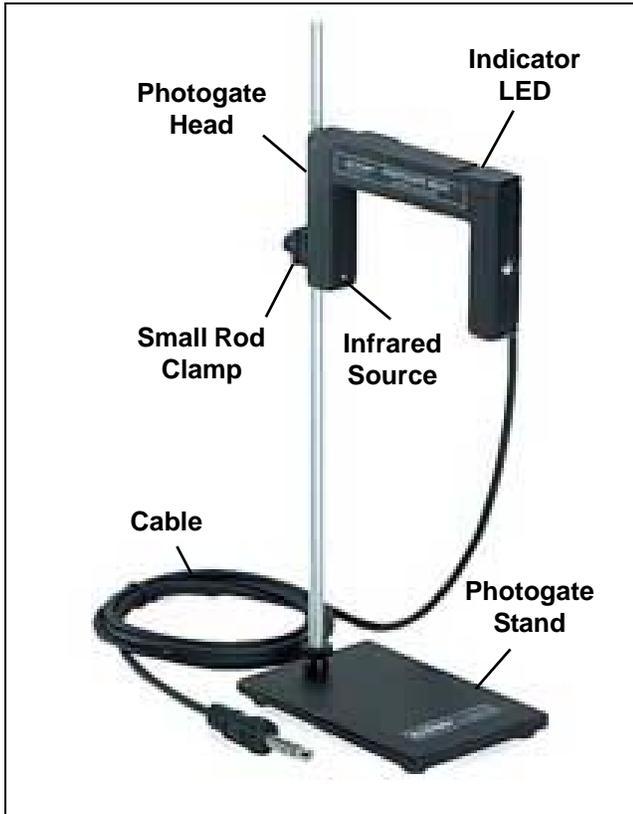


Accessory Photogate

ME-9204B



Software for Computer Interface*	Part Number
PASCO Capstone OR	UI-5400
SPARKvue	PS-2400

(*See the PASCO Web site at WWW.PASCO.COM for information about required equipment, software, or computer interfaces.)

Introduction

The PASCO Model ME-9204B Accessory Photogate features a Photogate Head with a narrow infrared beam and a fast fall time that provide very accurate signals for timing. When the infrared beam going from the source to the detector is blocked, the output of the photogate is low, and the red LED (light emitting diode) on the photogate goes on. When the beam is not blocked, the output is high, and the LED is off.

The cable assembly included with the Accessory Photogate is detachable from the Photogate Head. One end of the cable is a modular plug that connects to the modular jack in the Photogate Head housing. At the other end, a stereo phone (tip-ring-sleeve) plug connects directly into a PASCO Timer (such as the ME-8930) or into a PASCO Universal Interface, or into a PASPORT Interface (using a PS-2159 Digital Adapter). Please note that the ME-8930 allows two photogates to be connected, and the PASCO 850 Universal Interface allows up to four to be connected.

The Photogate Head includes a small rod clamp and thumbscrew for attaching the unit to the included base and support rod, or to any quarter inch diameter support rod.

Operation

1. Clamp the Photogate Head to the support rod.
 2. Loosen the rod clamp thumbscrew to change the angle or height of the Photogate Head. Position the Photogate Head so the object to be timed will pass through the photogate beam. (See Figure "Photogate with Pendulum").
- To minimize parallax error, set up the Photogate so the object will pass as close to the detector side as possible, with the line of travel perpendicular to the beam.

Included Equipment	Part Number
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Photogate Head (with Cable)	ME-9498A
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Photogate Stand (base and rod)	ME-9805
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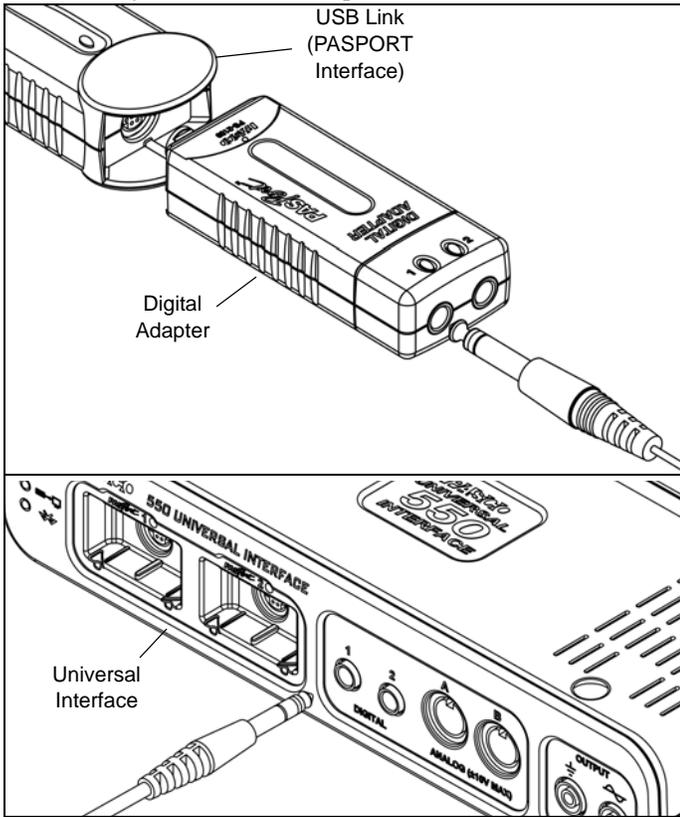
Required Equipment: Timer or Interface*

Timer (such as ME-8930 Smart Timer or ME-9215B Photogate Timer) **OR**

PASCO Universal Interface (such as UI-5000 850 Universal Interface or UI-5001 550 Universal Interface) **OR**

PASCO PASPORT Interface (such as PS-2100A USB Link) **and** a PS-2159 Digital Adapter

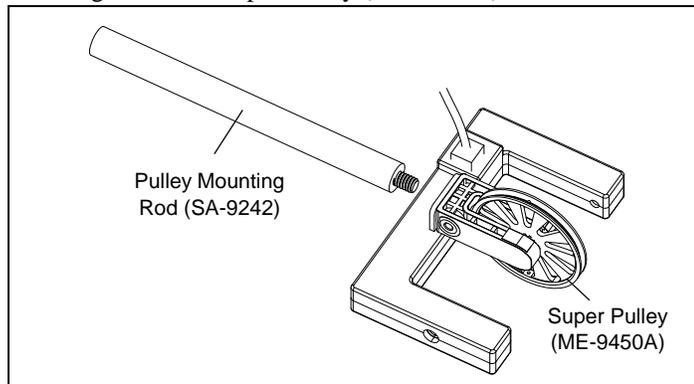
3. Plug the modular plug of the cable assembly into the modular phone jack on the photogate housing.
4. Plug the stereo phone plug at the other end of the cable assembly into the timer, adapter, or interface.



5. Test the operation of the photogate by blocking the beam and watching the Indicator LED on the photogate. The LED should be lit when the beam is blocked.

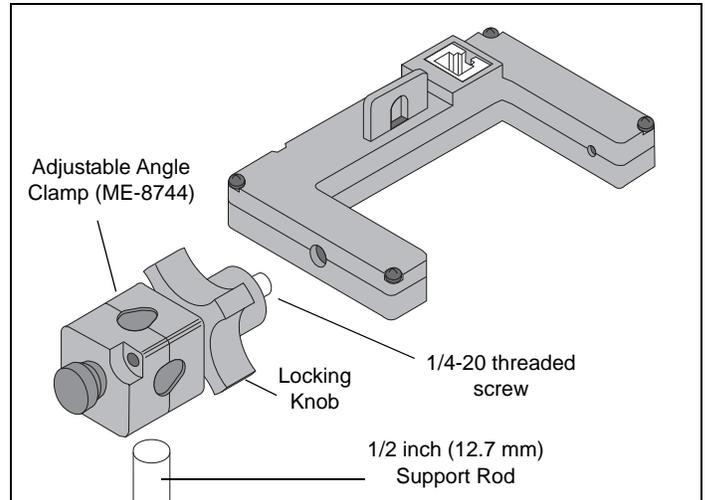
Additional Features

The raised slot on the Photogate Head housing provides a seat for attaching a PASCO Super Pulley (ME-9450A).

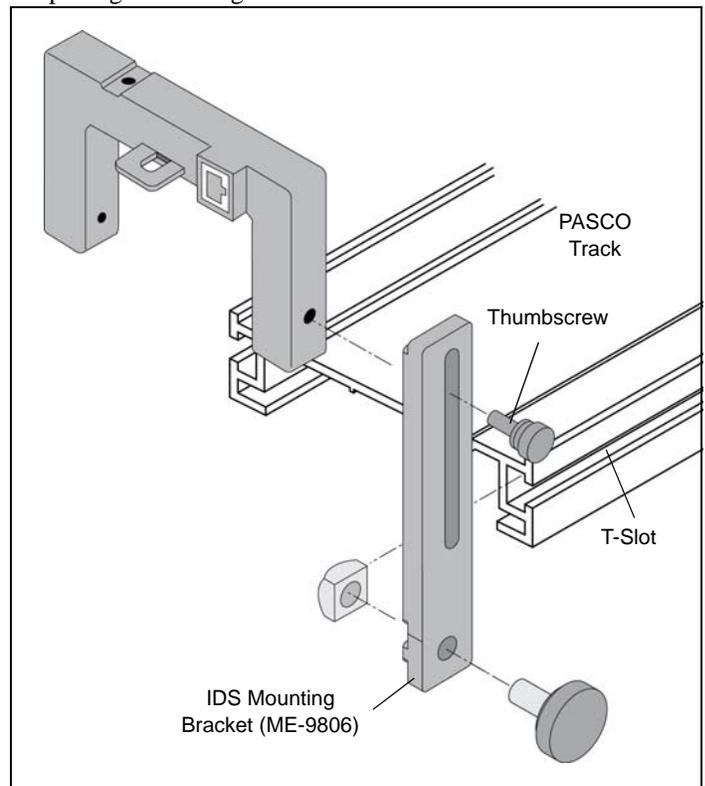


The Photogate Head can be mounted on a support rod of up to half inch in diameter by attaching a PASCO ME-8744 Adjustable Angle Clamp. It is necessary to remove the “mobile” rod clamp from the clamp assembly and secure the “fixed” part of the clamp assembly to the 1/4-20 thread provided in the photogate housing

opposite the side of the small rod clamp. Rotate the equipment to the correct orientation and then secure it with the locking knob.



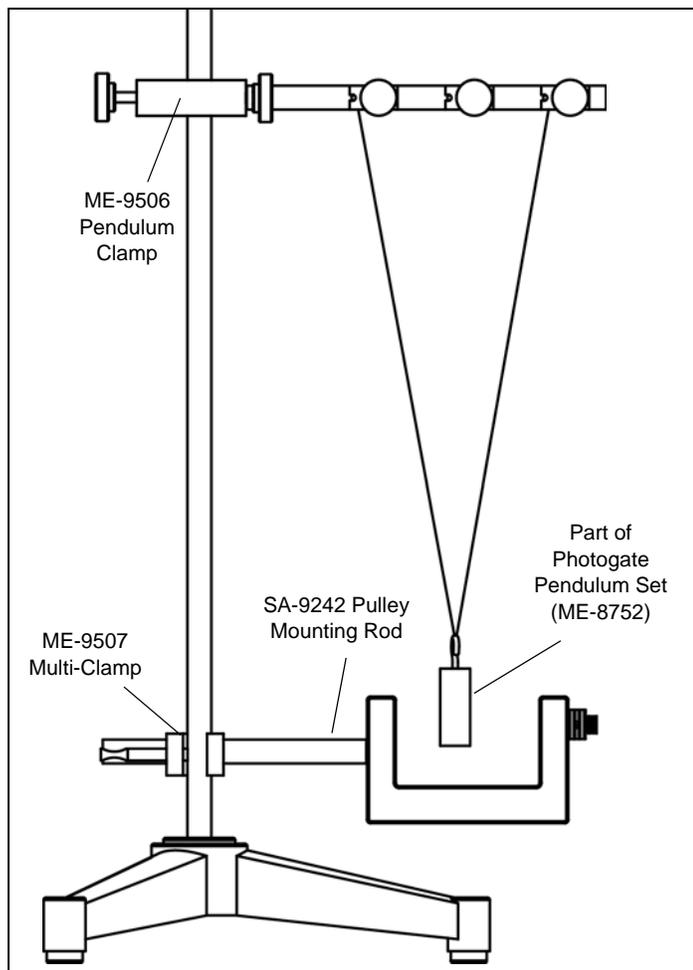
The Photogate Head can also be attached to the side of a PASCO Dynamics Track with an IDS Mounting Bracket (PASCO ME-9806). It is necessary to remove the small rod clamp from the photogate housing.



Note: Effective Length

The actual length of an object passing through the photogate may be slightly different than the effective length seen by the photogate. To determine the effective length, push the object through the photogate, and measure the distance moved by the object from where the LED first comes ON to where it goes off. Use this effective length, rather than the actual length, in calculations. For example, if you were measuring the speed of the

object, you would divide the effective length by the time during which the object blocked the photogate beam.



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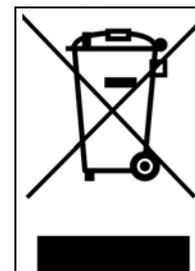
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The European Union WEEE (Waste Electronic and Electrical Equipment) symbol (to the right) and on the product or its packaging indicates that this product must not be disposed of in a standard waste container.



Technical Support

For assistance with any PASCO product, contact PASCO at:

- Address: PASCO scientific
10101 Foothills Blvd.
Roseville, CA 95747-7100
- Phone: +1 916 462 8384 (worldwide)
800-772-8700 (U.S.)
- Web: www.pasco.com
- Email: support@pasco.com

For more information about the product and the latest revision of this Instruction Sheet, visit the PASCO web site at www.pasco.com and enter "Accessory Photogate" or the product number (ME-9204B) in the Search window.

Limited Warranty

For a description of the product warranty, see the PASCO catalog.

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