



Plexon CinePlex Camera Mounting Guide

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support@plexon.com

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CAUTION

Never plug or unplug a camera FireWire cable with the PC Power ON. Permanent damage to the camera may result. Please note that any damage due to this cause is not covered by the Plexon warranty.

1. Introduction

For repeatable, reliable video recording, the video camera(s) must be mounted stably and securely with respect to the experimental area. Cameras that vibrate or move can result in not just partial recordings or blurred images, but also in inaccurate position metrics, event triggers at undesired times, and, worst of all, non-repeatable experimental trials.

This document provides guidance to help you ensure that your cameras are mounted properly and in accordance with the needs of your experiments.

Note: For comprehensive details on operating the CinePlex System, including camera positioning and adjustments, see the CinePlex Studio User Guide, which is available on the Plexon website, www.plexon.com. For technical support, contact Plexon at +1 214-369-4957 or support@plexon.com.

2. Plexon Camera Mounting Kit

The Plexon[®] Camera Mounting Kit is provided with each camera shipped with a CinePlex[®] Studio order. The parts have been selected to apply in many of the situations encountered while doing CinePlex installations. Note that because of the general nature of the kit, not all parts will be used in all cases. In addition, there will be some cases where a particular installation will require that the customer purchase some additional parts locally. The kit includes the mounting assembly and mounting bracket shown on the next page.

Quick Change Mounting Assembly
(Bogen-Manfrotto):



Note: The Quick Change Mounting Assembly (Bogen-Manfrotto) consists of the Rectangular Quick Release Adaptor (Part No. 323) and Rectangular Plate (Part No. 200PL).

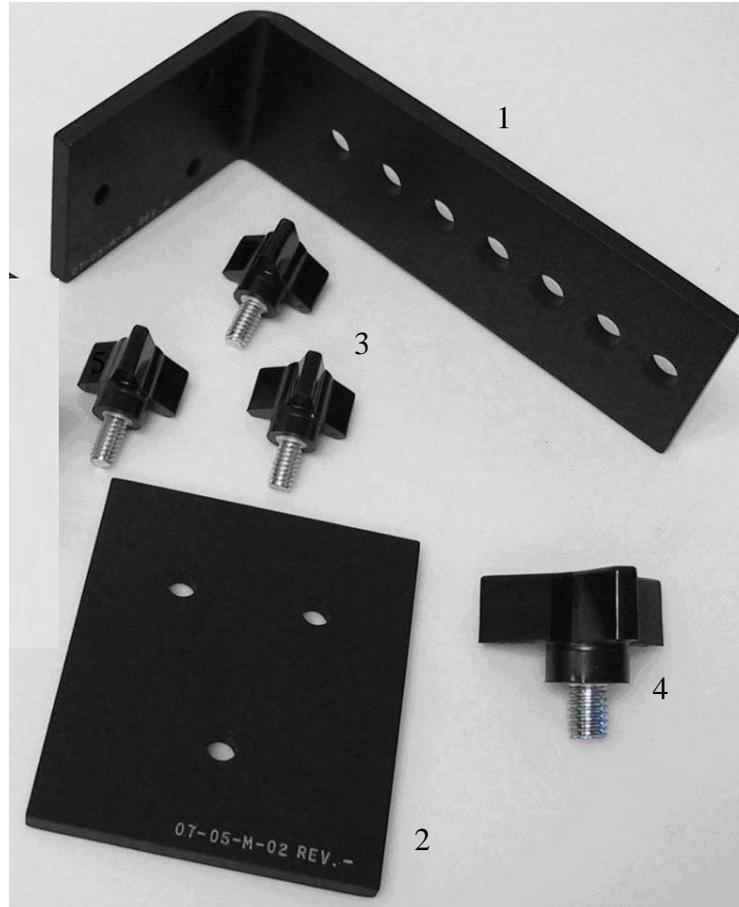
Universal Adjustable Camera Mounting Bracket
(VideoSecu Model MCB1B)



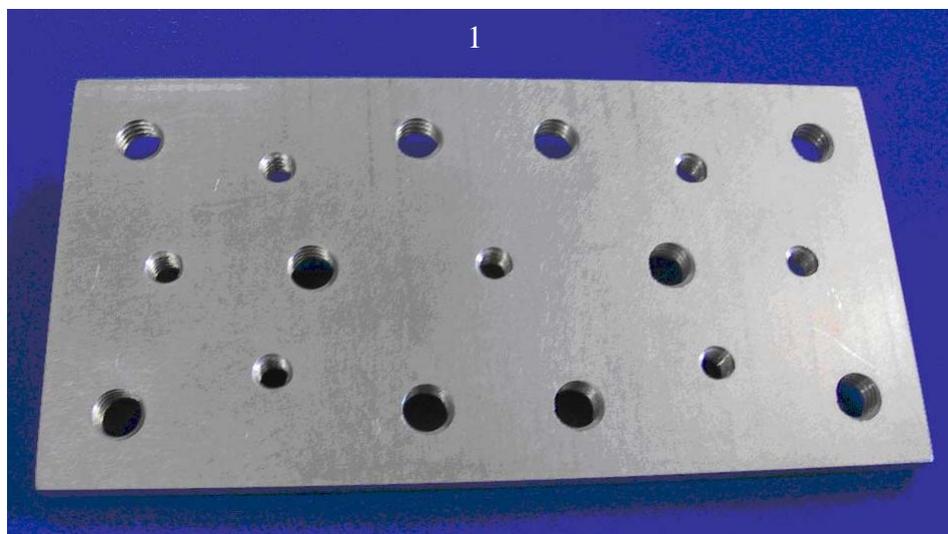
3. Additional Mounting Accessories to Consider

Some experimental setups may require additional mounting hardware over and above those supplied in the Plexon Mounting Kit. This section shows some examples of parts you might find useful. See [Section 5.3, "Examples of Camera Installations"](#) for some examples mounting these accessories.

All of the parts shown in this section can be purchased or machined by the customer as needed.



- 1 Mounting Bracket
- 2 Sandwich Plate
- 3 Three Arm Phenolic Knob (small) - 1/4"-20 (3 ea.)(McMaster Carr 57715K16)
- 4 Three Arm Phenolic Knob (large) - 3/8"-16 (McMaster Carr 57715K83)



1 Camera Mounting Plate 3"x6" with threaded holes.



- 2 Stud 036-014 (1/4"-20 m x 1/4" 20 f)(Bogen Manfrotto 036-014)*
- 3 Stud 036-038 (3/8" m x 3/8" f)(Bogen Manfrotto 036-038)*
- 4 Stud 037 (1/4"-20 m x 3/8" m)(Bogen Manfrotto 037)*
- 5 Stud 066 (1/4"-20 f x 2/8" f)(Bogen Manfrotto 066)*



- 6 Ball Head - Micro (Bogen Manfrotto 482)*
- 7 Ball Head - Mini w/ RC2 (Bogen Manfrotto 484RC2)*
- 8 Ball Head - Compact w/ RC2 (Bogen Manfrotto 486RC2)*

To obtain these accessories, you might consider the following sources:

- Online - search for “Manfrotto” and the item number from many sources such as:
 - <http://www.amazon.com/>
 - <http://www.ritzcamera.com/>
 - <http://www.bhphotovideo.com/>
- A local professional camera or video store



CAUTION ABOUT TRIPODS

Note specifically that tripod mounting of the camera is **NOT RECOMMENDED**. This is because tripod adjustments, particularly leg locking mechanisms, can loosen and become unstable. Tripods can also be jostled or moved easily since they are generally not secured to a surface.

4. Bracket Mounting Methods

This section provides some examples of bracket mounting methods.

Camera Mounting Location

First, choose where the camera should be mounted. Common choices are shown below:

Above the Experiment

- Ceiling mount
- Top of enclosure
 - a Inside of enclosure with room for cables
 - b Above the enclosure through an opening
 - c Inside of cage with room for cables

From the side of the Experiment

- Wall mount
- Side of enclosure
 - a Inside of enclosure with room for cables
 - b Outside of enclosure through an opening
 - c Inside of cage with room for cables

Below the Experiment

- Up through a glass or cage floor to view the undersides of animals or for birds in perches
- Floor mount aimed up at animals in the air or above the floor
- Below enclosure
 - a Inside of enclosure with room for cables
 - b Below the enclosure through an opening
 - c Inside of cage with room for cables

Bracket Attachment to Surface or Other Structure

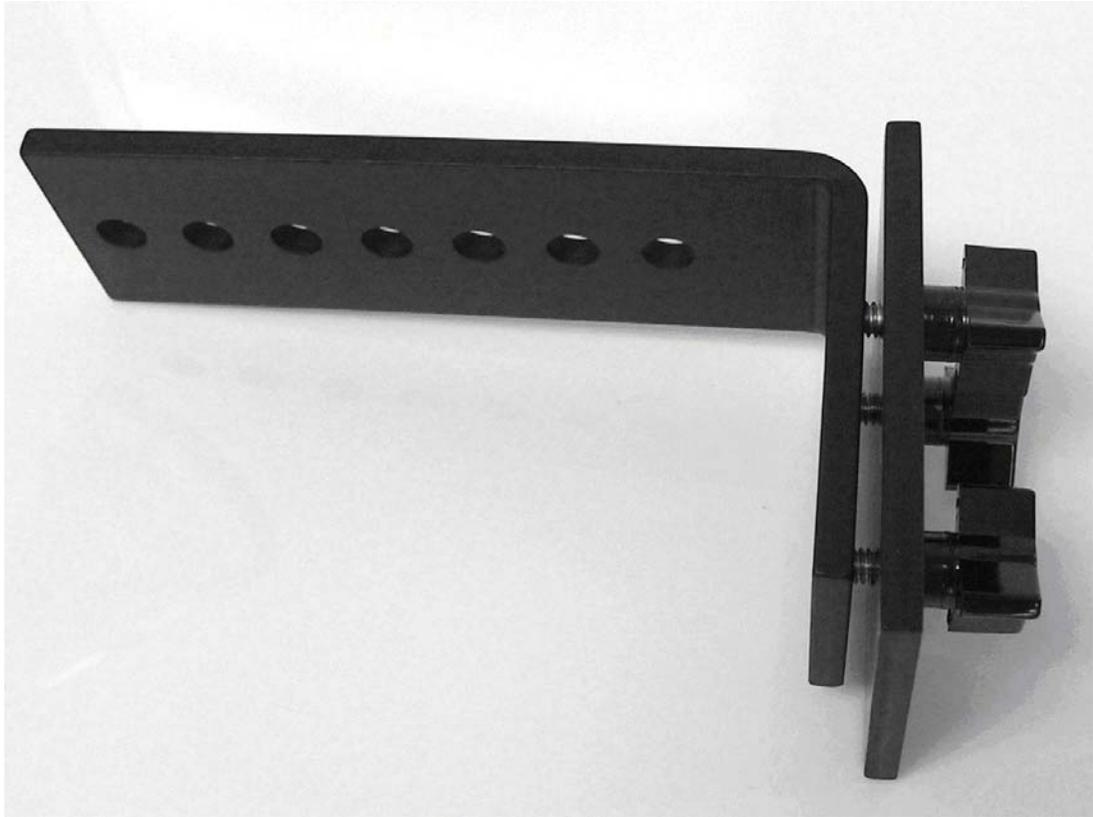
Choose the most appropriate method of attaching the camera mounting bracket to the desired location.

- 1 On a surface of a wall or ceiling over 0.4 in (1 cm) thick, use one of the following methods or devise a custom method.



- a Customer provided screws through the three threaded holes in the bracket into the wall. Wall anchors should be used as necessary.
- b Customer provided bolts through the three threaded holes in the bracket into a wooden surface. Pilot holes can be drilled, if needed, using the sandwich plate as a template.
- c Customer provided adhesive or epoxy to glue the surface of the mounting bracket containing the three threaded holes to the surface.

- 2 On a cage:
 - a Place the sandwich plate on the outside of the cage, then
 - b Insert the three small knobs through the sandwich plate holes and through openings in the cage, then
 - c Thread the three small knobs into the threaded holes in the mounting plate.



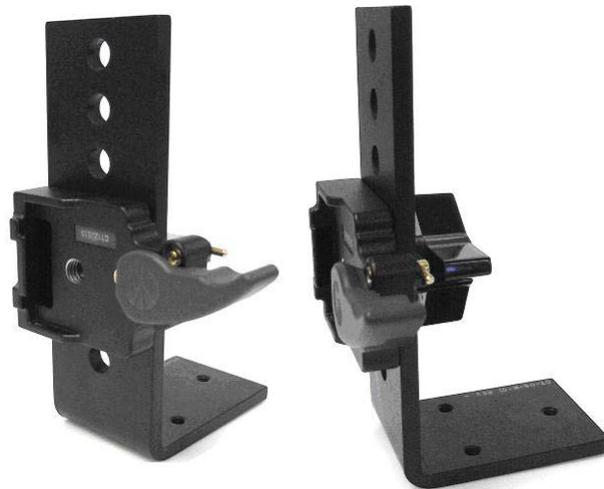
- 3 On a wall or surface under 0.4 inches (1 cm) thick:
 - a Drill three $9/32$ " (7 mm) holes using the sandwich plate as a template, then
 - b Insert the three small knobs through the wall into the threaded holes in the mounting plate.

5. Installing the Camera

5.1 Procedure for Camera Installation

Note: This procedure assumes that you are using a mounting bracket and other hardware shown in the diagrams below. Your actual mounting method might be different than the examples shown here.

- 1 Power down all system components - computer, OmniPlex System, etc.
- 2 Select the bracket attachment method suitable for the experiment and install the mounting bracket. Make sure that the mounting bracket is firmly attached and stable.
- 3 Install the rectangular plate adaptor on the mounting bracket using the large phenolic knob. For most applications, the point of large lever should be pointing away from the experiment when secured. Tighten finger-tight.



- 4 Make sure that the large lever on the plate adaptor is in the open position and ready to accept the plate. If the large lever cannot be moved easily, move the small brass level to the unlock position, and try again.



- 5 Remove any cables from the camera, if present.
- 6 Attach lens to camera by screwing it on finger-tight.

- 7 The adaptor plate should already be attached to the camera - if not, do so at this time.



- 8 Attach the rectangular plate to the camera adaptor plate. For most applications, the lens should be oriented in the position labeled "2 LENS". use the attached wire loop to finger-tighten the camera and then fold the loop down.

- a Position "1 LENS" shown below



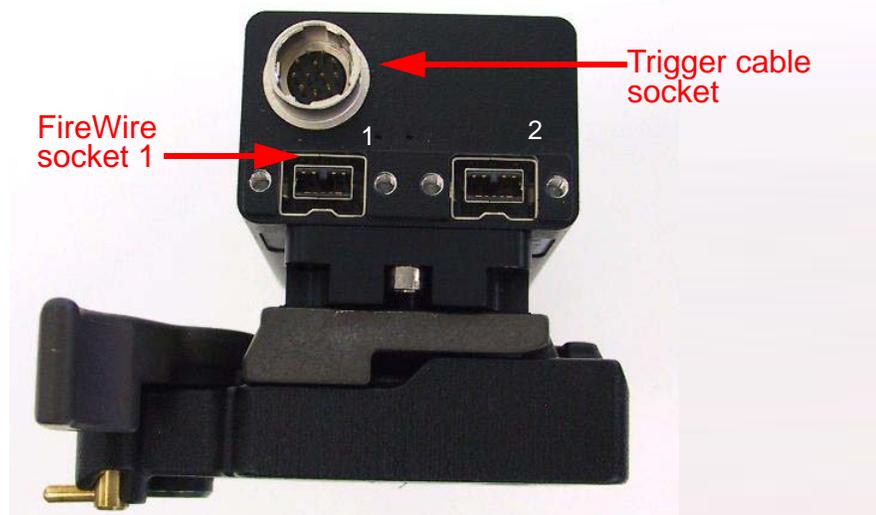
- b Position "2 LENS" shown below



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- 9 Snap the camera/plate combination into the plate adaptor that is already attached to the mounting bracket. Note that there is only one possible orientation. The large lever will snap closed. Move the small brass lever to the lock position. Make sure that the large lever cannot be unlocked.



- 10 Connect the FireWire cable(s) to the camera(s). Use the FireWire socket labeled "1" in the photo.

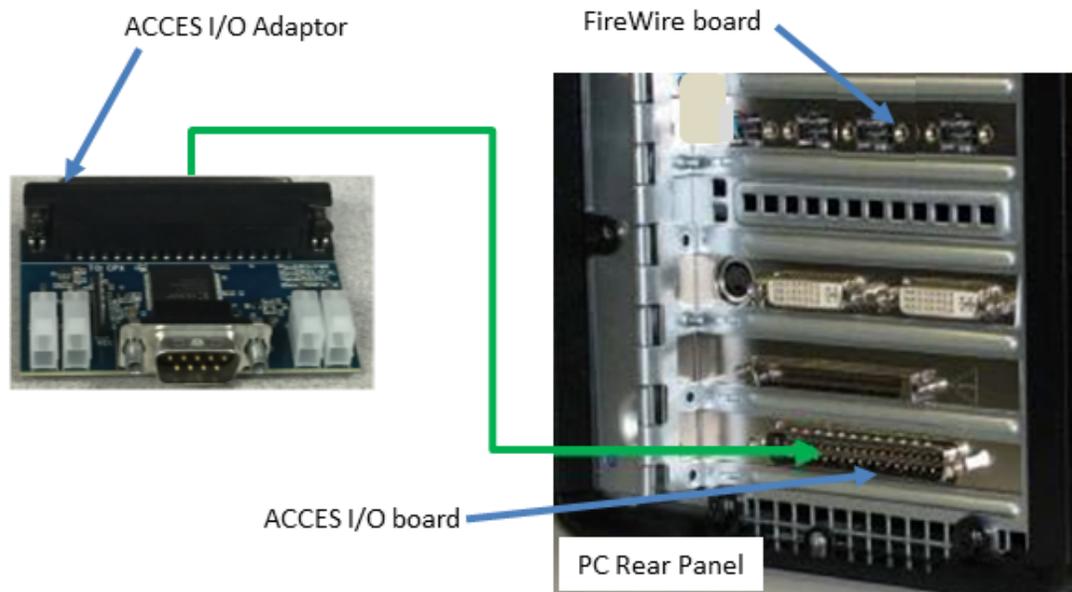


- 11 Connect the other end(s) of the camera FireWire cable(s) to any port(s) in the FireWire board in the computer. Tighten the screws so that each plug is secure in its socket.
- 12 Connect the camera trigger cable(s) to the trigger cable socket on the camera(s).
- 13 Connect the other end(s) of the camera trigger cable(s) to any of the ports on the ACCES I/O Adaptor on the computer (shown in the image below).



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Note: The following steps are a brief summary of the additional cabling requirements and system startup procedures. The complete procedures are provided in the CinePlex Studio Users Guide.

- 14 Make sure all other system cables are attached as required.
- 15 Turn on the OmniPlex chassis, then the PC. Open the OmniPlex Server and PlexControl applications and start data acquisition in PlexControl. Then bring up CinePlex Studio.
- 16 Loosen the large phenolic knob holding the camera/plate assembly to the mounting bracket and adjust the camera orientation until the experimental area is centered. Then tighten the large phenolic knob. It may also be necessary to repeat Step 8 with the camera in the “1 Lens” position if more adjustment latitude is needed.
- 17 Adjust the camera zoom until the experimental area fills the viewable image. If this is not possible the camera may need to be moved closer to or further away from the experiment. This can be done by selecting a different hole in the mounting bracket for the adaptor plate attachment. If there is space available, the mounting bracket may even be moved to the other side of its mounting surface. If a satisfactory view is still not possible, contact Plexon Support for additional lens options.
- 18 Adjust focus, and iris as needed for a good image.

5.2 Mounting Options for Multi-camera Systems

Place each camera as needed to record its area of interest. Make the choices required for each position. Install each camera using the procedure appropriate for your experiment.

5.3 Examples of Camera Installations

This section includes some examples of camera installations. Obtain the customer supplied accessories as needed for your experiment.

- 1 Using a Mini Ball Head between the camera and the mounting plate.



- 2 Using multiple ball heads to achieve difficult angles.



- 3 Using a camera mounting plate together with a ball head and stud 037 to achieve an offset camera mount at a difficult angle.



6. Camera Removal

Procedure for Camera Removal

- 1 Power down all systems.
- 2 Remove all cables from the camera.
- 3 Move the small brass level to the unlock position if not already there.
- 4 Place a hand on the camera to catch it as it releases.
- 5 Move the large lever to the unlock position.
- 6 Catch the camera and place it in a safe location.

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