



## Whaley Rail II Assembly Instructions

### Inovativ Echo Cart - Studio



Congratulations on receiving your Whaley Rail II system! In order to properly install the Whaley Rail II frame, you will need to follow the provided assembly instructions.

Inovativ Echo installations make use of existing mounting through holes in the cart deck. Mounting directly to the cart deck helps to ensure the load placed on the Whaley Rail II system is suitably balanced.

The Studio system is designed to make full use of cart width with full length cross rails and 24" vertical posts for more build flexibility in the monitor frame. Build out two to four monitor workstations with ability to also mount wireless flat panels.

#### **Tools Needed:**

- Adjustable Wrench/Spanner
- 5-32 or 4mm Hex Key
- 3-16 Hex Key
- 7-32 Hex Key
- Utility Knife

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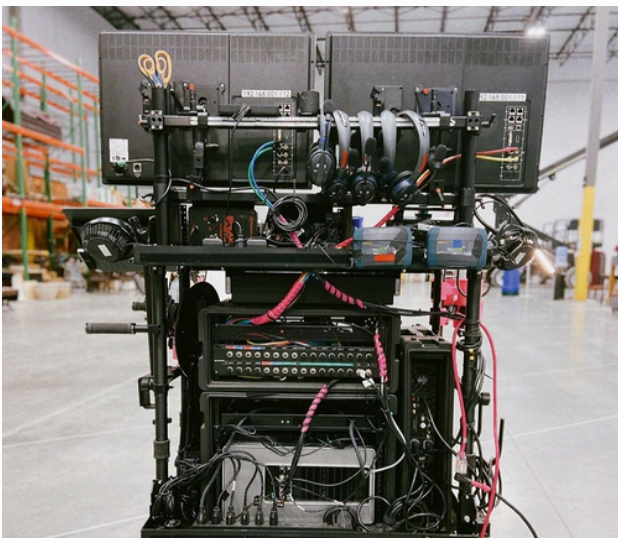
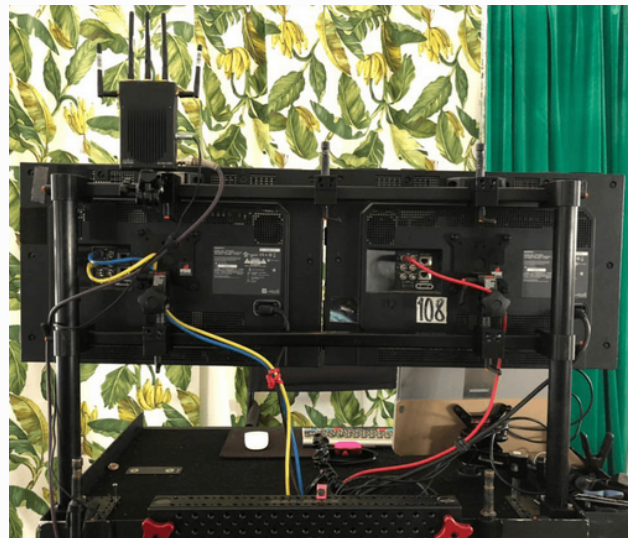
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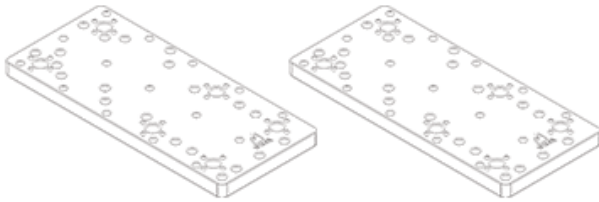
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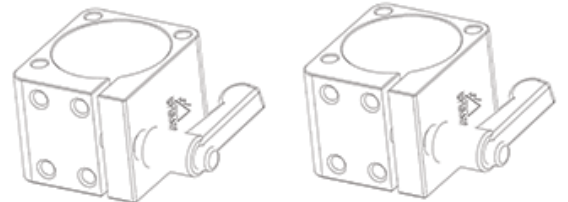
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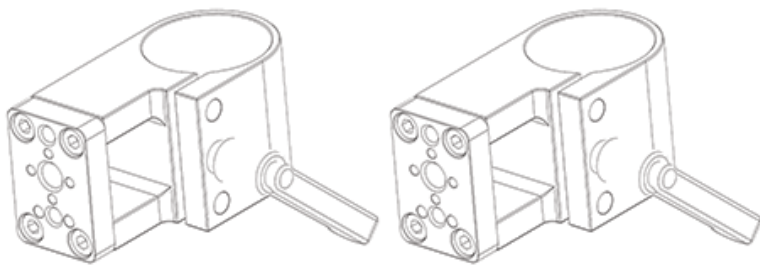
# Echo Studio Single Rail Base Assembly



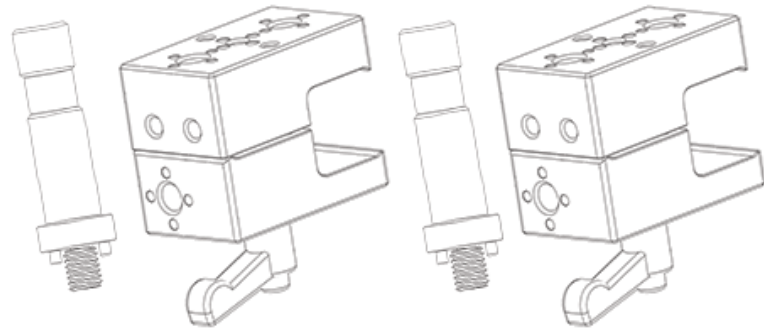
12720 - Deck Cheese Plate



12725 - Deck Post Clamp



12599 - Corner Rail Clamp



13640- Rail Clamp to Whaley Pin-Loc 2.5" Baby Pin

## Studio Setup

24" Vertical Posts

Echo 30 - 29" Rail

Echo 36 - 35.7" Rail

Echo 48 - 47.7" Rail



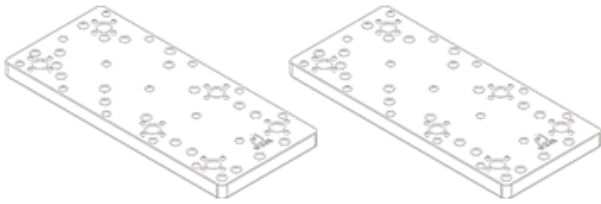
## Weight

Echo 30 Single Rail - 3.43kg/7.56lbs

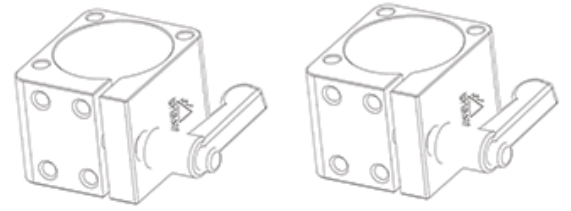
Echo 36 Single Rail - 3.55kg/7.83lbs

Echo 48 Single Rail - 3.76kg/8.29lbs

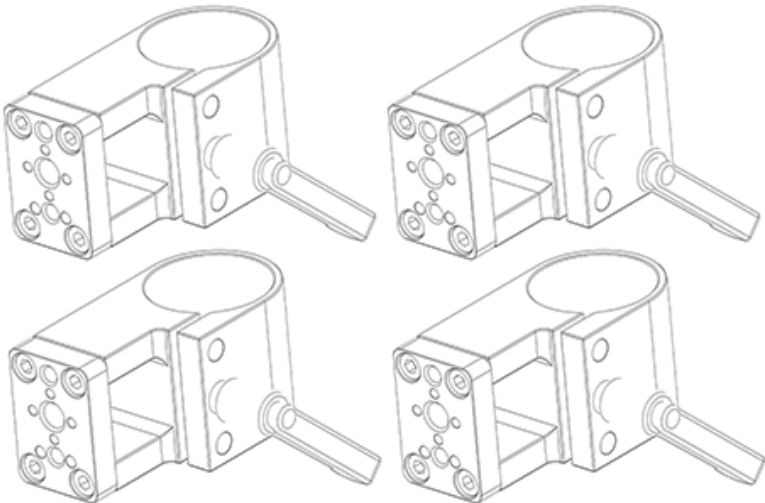
# Echo Studio Double Rail Base Assembly



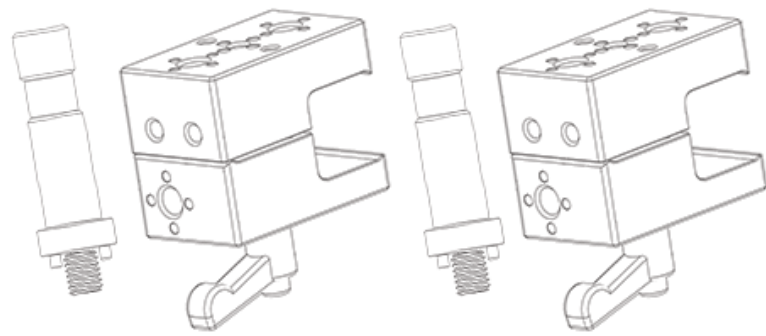
12720 - Deck Cheese Plate



12725 - Deck Post Clamp



12599 - Corner Rail Clamp



13640- Rail Clamp to  
Whaley Pin-Loc 2.5" Baby Pin

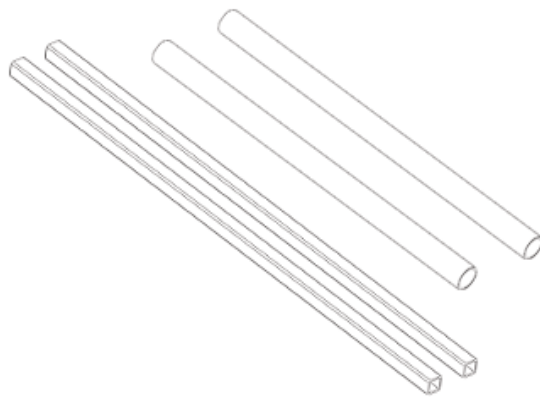
## Studio Setup

24" Vertical Posts

Echo 30 - 29" Rail

Echo 36 - 35.7" Rail

Echo 48 - 47.7" Rail



## Weight

Echo 30 Double Rail - 4.30kg/9.48lbs

Echo 36 Double Rail - 4.53kg/9.99lbs

Echo 48 Double Rail - 4.94kg/10.89lbs

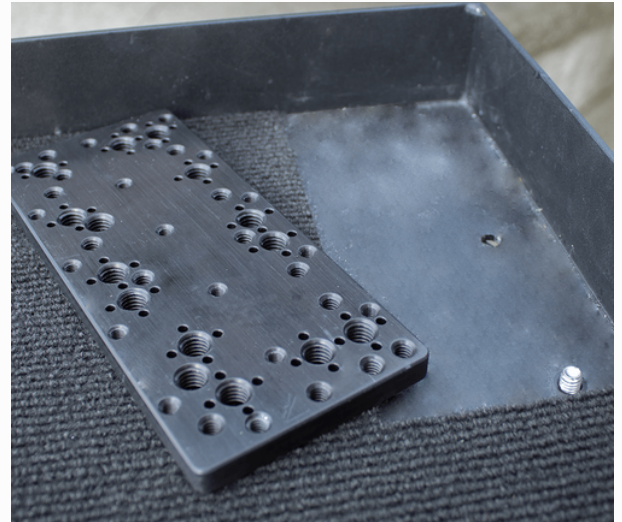
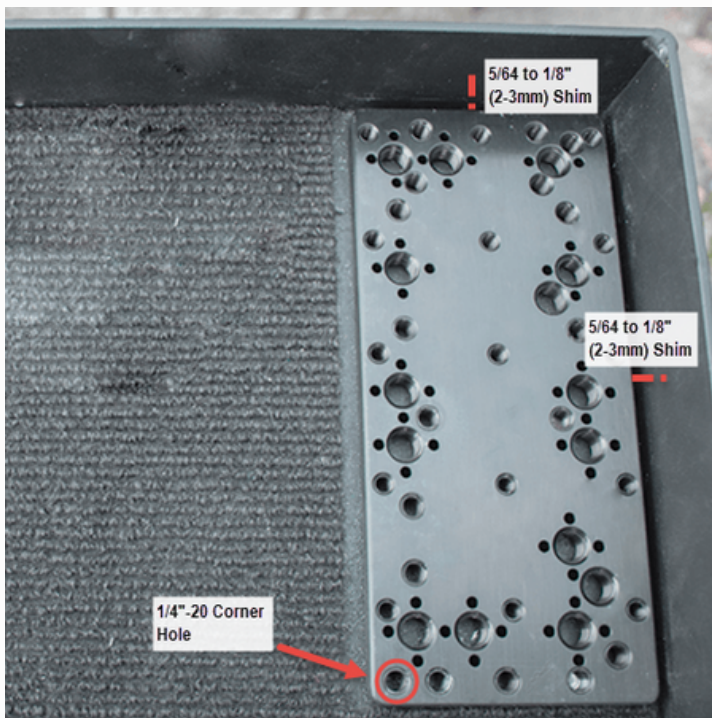
# Echo - Studio Whaley Rail II Assembly Instructions

## Cheese Plate Mounting Instructions:

Our design makes use of existing holes and incorporates the machined leg post receivers below the deck. With cart assembled, follow instructions below.

We recommend mounting the cheese plates directly to the deck by cutting the carpet. Determining the proper position of the cheese plate must be completed first.

To determine the mounting position on your cart deck, use the provided template sheet to assist you and see the photo below.



- Use a 5/64" to 1/8" shim (2-3mm) from the back wall to clear the cart deck back lip or overhang

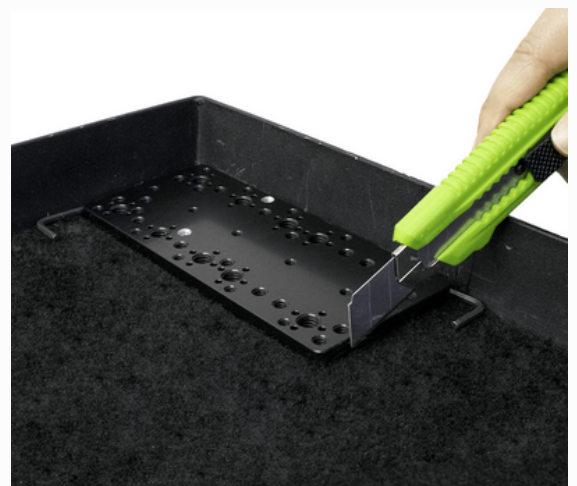
**\*Tip: Use 1/8" or 3mm allen key as shim**

- Use a 5/64" to 1/8" shim (2-3mm) from the side wall to clear the cart deck back lip or overhang

**\*Tip: Use 1/8" or 3mm allen key as shim**

Once the cheese plate is aligned, proceed to cut into the carpet with a utility knife, tracing the outline of the cheese plate. Repeat this same process on the other side of the cart.

Once you have removed the carpet from the deck, the cheese plates need to be properly oriented in order to line up the mounting holes. The cheese plates have a 1/4" tapped hole in one corner (see picture). This hole will be used to help you orient the cheese plates.



For both right and left side, have the 1/4" corner hole oriented towards the front and inside of the cart (see picture). Multiple sets of mounting holes are provided to accommodate the offset of the cart legs.

Remove screws and hex nut connecting cart deck to machined leg post receivers below the deck. Using the existing leg post receivers on the underside yields a stronger mount and sandwich.

To mount the cheese plate, use the supplied Socket Head Cap Screws 1/4-20" x 5/8" screws with a single washer. Feed provided cap screws through the holes in the machined leg post receiver.

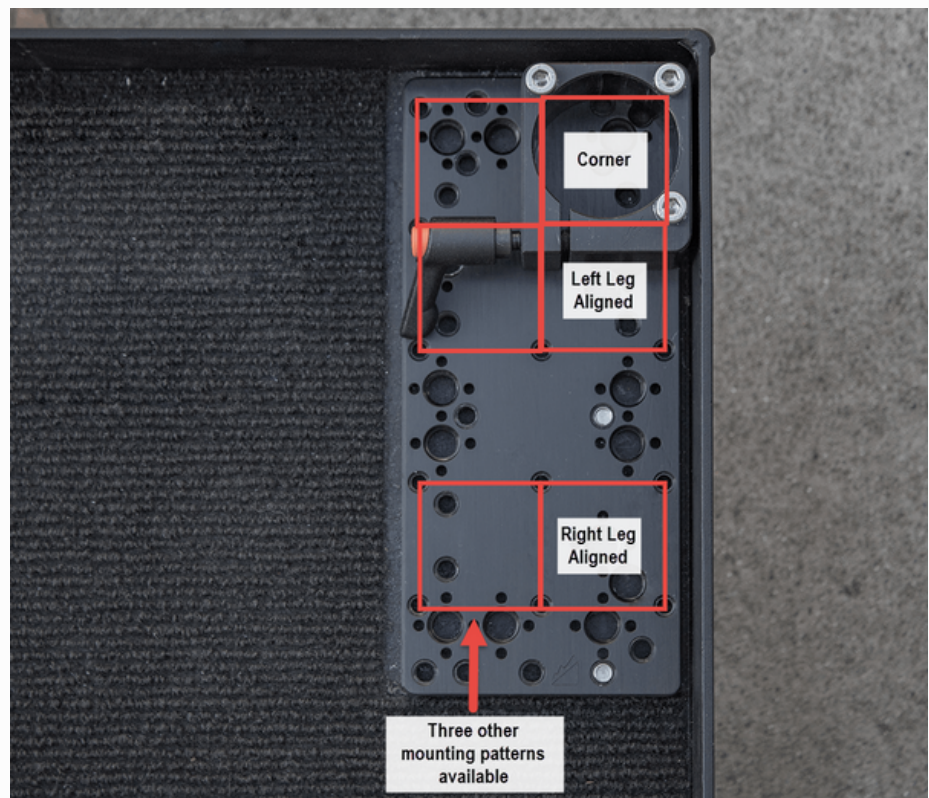
Before tightening, double check the cheese plate alignment. Repeat all steps on the other side of your cart.



### Frame Assembly

The symmetrical mounting patterns of the deck mounted cheese plates allow the user to customize their frames location on the cart deck. Six positions are possible for the deck posts, allowing you to also choose the position of the levers.

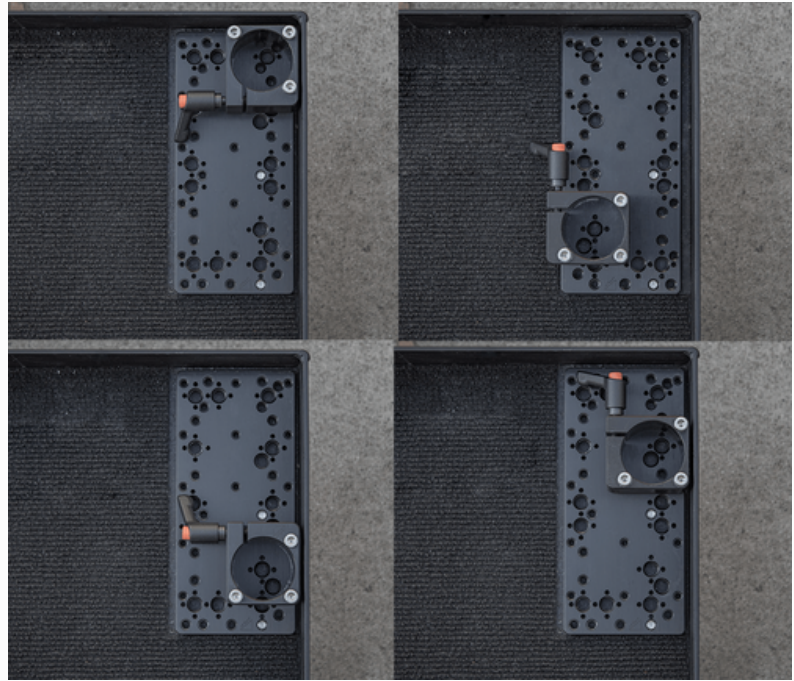
Having the frame mounted towards the back of the cart increases the forward deck space. When the frame is mounted forward on the cheese plates, it increases backend spacing.



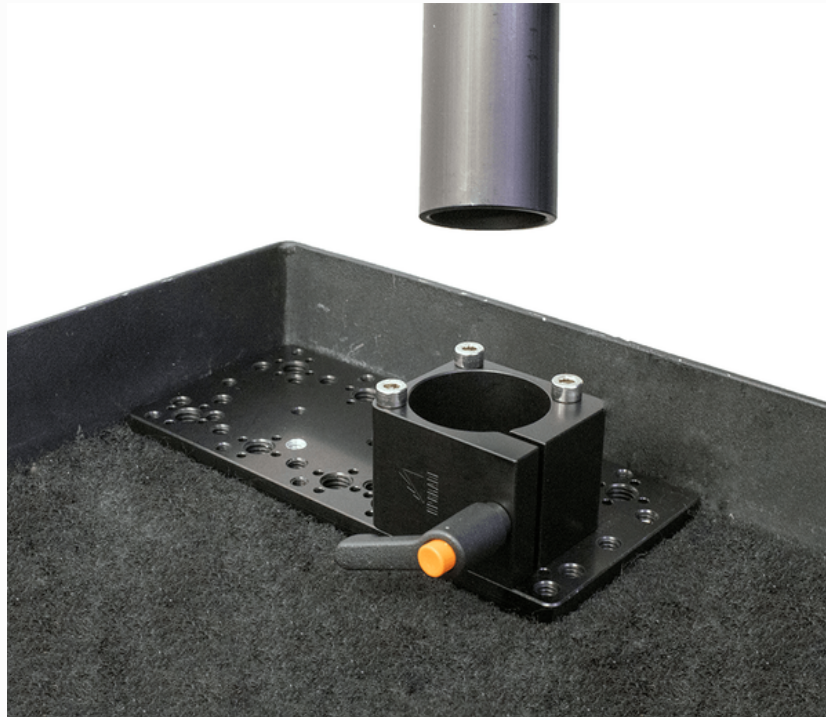
This helps to ensure that components mounted on the rail system can properly fit within the cart's framework, which is especially important to consider when pushing your cart through tight spaces. Having this setup avoids the need for possible onset adjustments, saving you valuable time.

Use the supplied M5 x 45mm socket head cap screw (SHCS) to tighten the post clamp to the cheese plate with a 5-32 or 4mm Hex Key.

**\*Tip: If the lever is not needed, it can be replaced with the provided M6 x 30mm SHCS.**



Mount both of the 1.5" Vertical Posts into the Deck Post Clamps and tighten the adjustable lever or the SHCS.

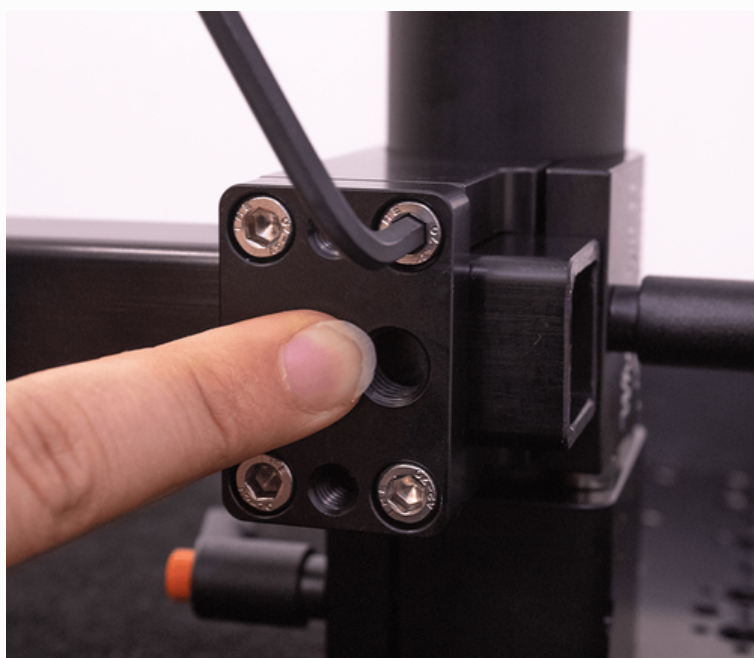


## Cross Rail Assembly

Corner Rail Clamps are either mounted with the cross rails facing either forwards or backwards to the vertical post. Our recommendation for the monitor cross rails is to have them facing forwards (the rounded side is facing towards the back of the cart).

Slide both of the Corner Rail Clamps all the way down each vertical post, resting on the deck post clamp, to install cross rail. **Installing the rail at this lower position ensures the vertical posts are parallel once frame is assembled.** The recommended position is with the adjustable lever facing outwards, to allow for easy adjusting.

With the clamping mount plate loose, insert the 1" Square Rail into the Corner Rail Clamp on one side before guiding the rail into the second clamp. Center the cross rail ends evenly between the corner rail clamps



With the rail centered, push the clamping mount plate against the rail and tighten the M5 x 16mm SHCS in a criss-cross sequence (alternating between top and bottom screws) to keep the plate flat. Repeat this procedure on both sides prior to fully tightening screws, to ensure balanced mounting.

Once both mounting plates are snug against the rail, tighten the adjustable levers and finish tightening the mounting plate screws.

**Important: With cart assembled, install the rails at the lowest possible position on the vertical posts. This ensures the vertical posts are parallel once frame is assembled. This will help to slide rails evenly along vertical posts.**



For Double Rail setups, assemble the second rail following the above instructions. However, this time you will want to slide the second set of corner rail clamps all the way down the vertical posts to rest on top of the first set of installed corner rail clamps.

Once the rails are mounted and aligned, it should not be necessary to loosen the mounting plate screws. Simply loosen the adjustable levers to adjust the rail height and evenly slide the rails up and down.

**Note: The rails can become stuck if slid unevenly. If you are unsure which side needs adjustment, measure or compare the heights before you apply any force.**

As previously mentioned, and shown in the above image, the cross rails can be mounted either forwards or backwards on the vertical posts. Having the monitor cross rail mounted forwards and the secondary rail mounted backwards, can help to create much needed space behind the monitors, for mounting accessories and components.

**\*Tip: If the levers are not desired, they can be replaced with provided M6 x 30mm SHCS. Note, for added clamping force, two M6 SHCS can be used to secure each clamp.**



## Rail Clamp to Whaley Pin-Loc Baby Pin

You are now ready to place your rail clamps.

Extremely solid clamp, rated for heavy production monitors.

Check out the Production Monitor Mounting Options section for monitor mounting options.

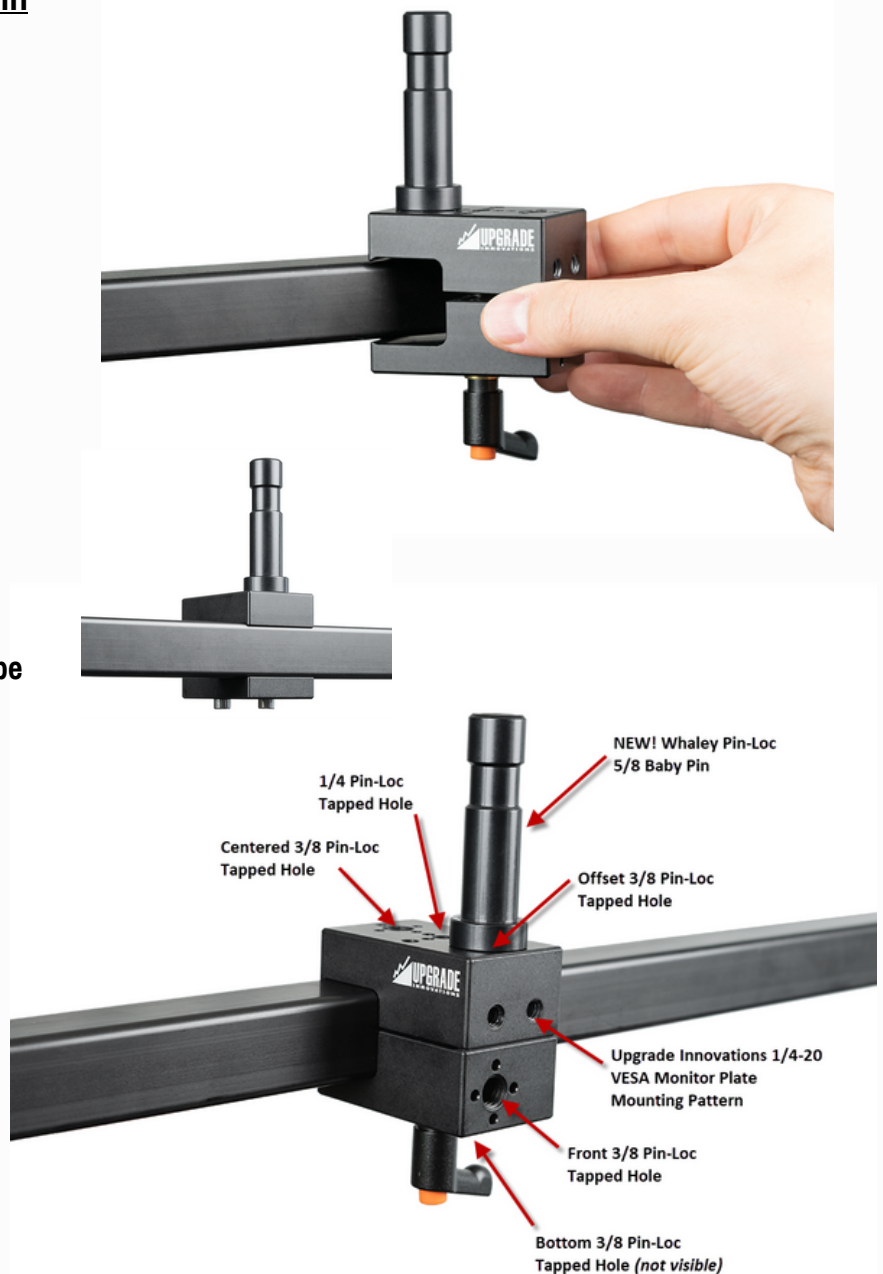
The Rail Clamps are easily placed on the horizontal rails or quick released off with two full turns of the adjustable lever.

**\*Tip: If the levers are not desired, they can be replaced with provided M5 x 40mm SHCS.**

The Whaley Pin-Loc 5/8 Baby Pin can be mounted to the ARRI 3/8-16" pin-loc mounting patterns on the Rail Clamp.

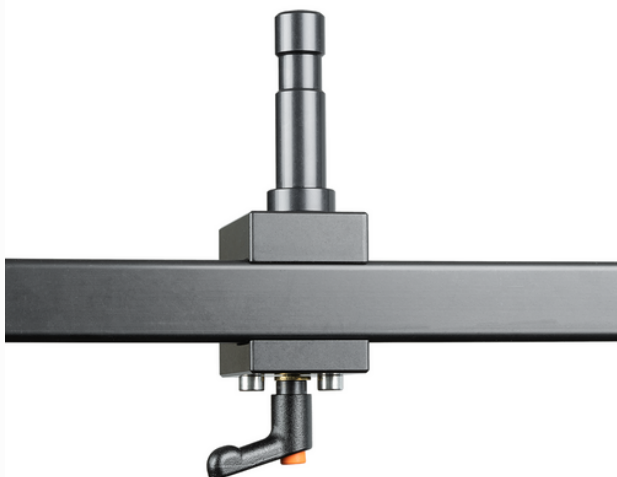
Use a 5/32 or 4mm hex key to tighten the Whaley Pin-Loc 5/8 Baby Pin.

The Rail Clamp has ARRI 3/8-16" pin-loc and SmallHD 1/4-20" pin-loc tapped holes on various sides for further mounting options.



**NEW** – Rail Clamp now features the Whaley Pin-Loc 5/8 Baby Pin. The pin-loc design will prevent baby pin from twisting loose from cart forces/vibration.

**Note:** Whaley Pin-Loc is matching the design of the ARRI pin-loc standard, however with a longer 3/8-16 thread for a more rigid anchor point.



**Setup Tip:** The design of the Rail Clamp is meant to be removable and attached directly to a cross rail as needed, however if a user is looking for a "captive" Rail Clamp setup, this is also possible!

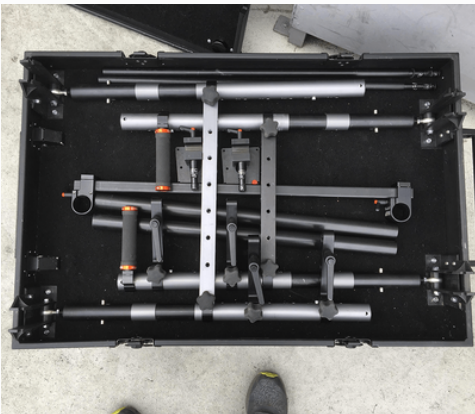
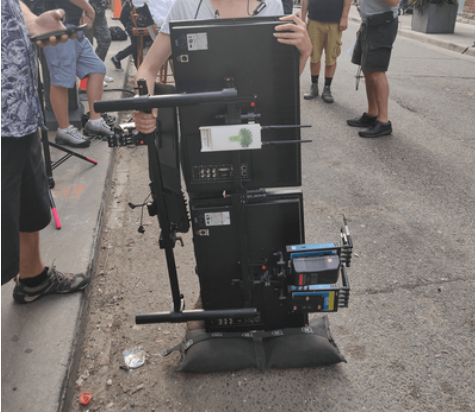
For this setup, the two provided M5 SHCS will need to be used. Apply a bit of removable Loctite to both M5 screws and thread both into the Rail Clamp (best to do this while it is already installed to the cross rail).

Once both screws are tightened, loosen each screw slightly so that when the adjustable lever is loosened, the Rail Clamp can still slide horizontally. The screws will prevent the Rail Clamp from opening fully to disengage from the cross rail, which can be beneficial for some setups!

## Echo Studio Whaley Rail Packing Instructions

For tight locations and moves, release the Whaley Rail frame from the cart deck via the deck post clamps.

The Studio Whaley Rail system can be disassembled and packed to fit inside the Echo cart. The Cross Rails can be kept assembled and simply lifted off the vertical posts for more efficient packing and assembly.



## Production Monitor Mounting Options

The Whaley Rail II basic system is outfitted with two Rail Clamps to 2.5" Baby Pins.

For users looking for a complete system, Upgrade Innovations offers professional monitor mounting solutions for mobile and studio applications. See below for various accessories.



### **Rail Clamp to Quick Release VESA Plate**

Mount QR plate directly to Rail Clamp via 1/4-20" mounting pattern.

Incredibly rigid mounting setup.

Quickly release monitors for packing.



### **Rail Clamp to Quick Release - Landscape/Portrait VESA Plate**

Mount QR plate directly to Rail Clamp via 1/4-20" mounting pattern.

Incredibly rigid mounting setup.

Quickly release monitors for packing.



### **MMS09 VESA Monitor Mount to 5/8" Spigot - Ball-Loc**

Available with Standard VESA Monitor Plate, Quick Release, Landscape/Portrait or Quick Release-Landscape/Portrait

**Designed for Mobile/Cart Applications with our positive locking ball-lock hinge system**

## Production Monitor Mounting Options Cont.



### MMS11-MC VESA Monitor Mount to 5/8" Spigot – Twin Ball-Loc

Available with Standard VESA Monitor Plate, Quick Release, Landscape/Portrait or Quick Release-Landscape/Portrait

**Designed for Mobile/Cart Applications with our positive locking ball-lock hinge system**

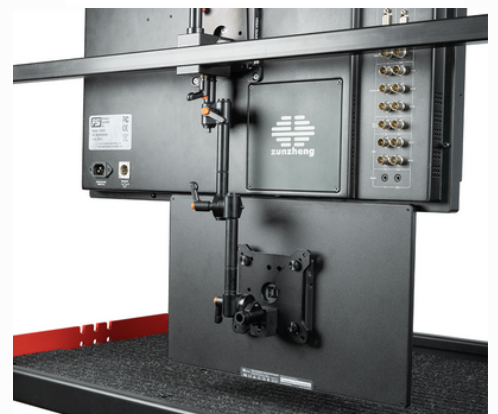
## Onboard Monitor and Accessory Mounting Options

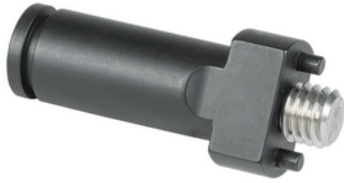


### Rudy Arm Articulating Arm System

Industry tough articulating arm that is built for universal use.

Anchor arm with our positive locking ball-lock pivot clamps, while making use of the friction-lock pivot clamp to set viewing angle on monitor.





**ARRI 3/8 Pin-Loc 15mm Mounting Spud**

Arri 3/8" Pin-Loc compatible, ideal choice for a solid mounting option for 15mm accessories



**SmallHD 1/4 Pin-Loc 15mm Mounting Spud**

The SmallHD 15mm Mounting Spud - 1/4" Pin-loc are specifically machined to securely hold your SmallHD monitors in place. Also compatible with a lot of Upgrade Innovations mounting brackets.



**Leader LV Non-Twist Mounting Plate**

Mount to Leader 5333, 5330, 5381, 5380, 5382 models adding ARRI 3/8" Pin-Lock and SmallHD 1/4 Pin-Lock.



**Leader LV5350 Non-Twist Mounting Plate**

Mount to Leader 5350 models adding ARRI 3/8" Pin-Lock and SmallHD 1/4 Pin-Lock.



**Rudy Arm Pin-Loc Adapter for VESA Plate**

Attaches to our VESA Mounting Plates via the 1/4-20 Flat Head Mounting Pattern to provide industry standard SmallHD 1/4" Pin-Loc and ARRI 3/8" Pin-Loc mounting patterns.



**Cine Mounty 3 Cargo Mounting Plate**

The Cine Mounty 3 is perfect for when you need to solid mount a small monitor. Removable rubber keepers, a built in rubber pad and a 1/4-20 knob screw keep your accessory from twisting loose.

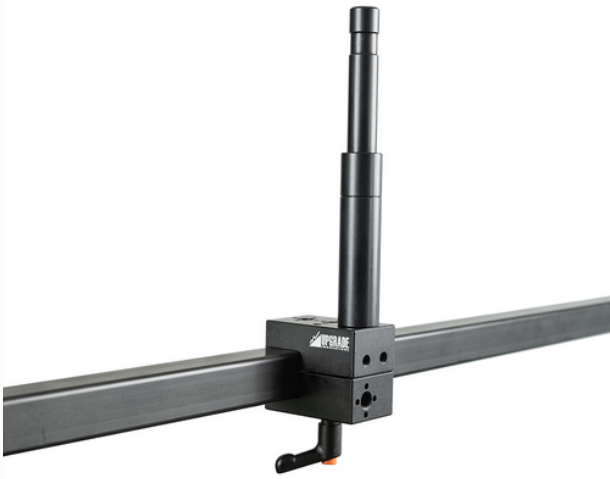
## Whaley Rail II Accessories



### Whaley Rail II – Rail Clamp to 2.5" Whaley Pin-Loc Baby Pin **NEW**

Add additional rail clamps to your system for further mounting options!

The 2.5" long non-twist Whaley Pin-Loc baby pins are also available separately.



### Whaley Rail II – Rail Clamp to 6.6" Whaley Pin-Loc Baby Pin **NEW**

Add additional rail clamps to your system for further mounting options!

The 6.6" long non-twist Whaley Pin-Loc baby pins are also available separately.



### Whaley Rail II – Vertical Post End Plug to 3/8"

End Plug jams into our 1.5" Vertical Post by using a 5/32 or 4mm Allen Key to provide a 3/8" pin-loc tapped hole for mounting further accessories.

