



# G12/G12x USER MANUAL

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The information contained herein is subject to change.  
For the most current information available, visit [vpc.com](http://vpc.com).*

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## SLIDE KIT INSTALLATION

PART # 310 113 409, 310 113 410, 310 113 451, 310 113 411, 310 113 500

### TOOLS REQUIRED

Phillips Head Screwdriver  
Flat Head Screwdriver  
 $\frac{3}{32}$  Allen Wrench

### DETERMINE SLIDE LENGTH NEEDED

1. Measure dimension A as shown in **Figure A** to determine the proper slide kit.

*NOTE: Make sure the slide length does not exceed dimensions A plus B.*

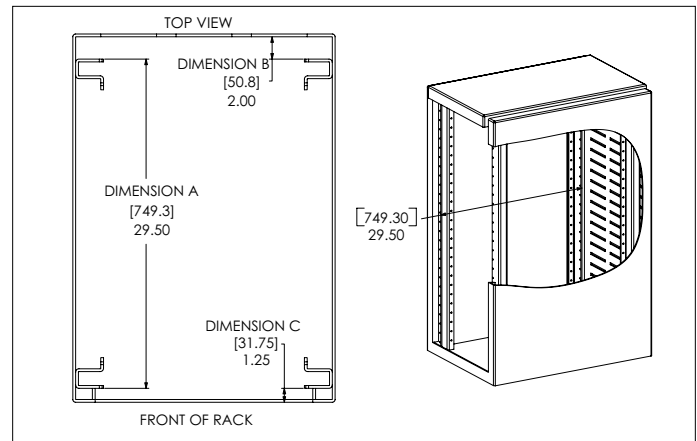


Figure A. If dimension C exceeds 1" use the Rack Extender Kit, Part # 310 113 406 for G12 or Part # 310 113 519 for G12x.

### INSTALLATION

1. Install slides using manufacturer's instructions. A hard copy is included with the slide kit.  
([Click here to access PDF version](#))
2. Attach platform mounting brackets to slides (**Figure B**).  
*NOTE: The screws will overhang the bracket holes by  $\frac{3}{8}$ ". These screws may also be used to mount the keyboard tray kit, Part # 310 113 439.*
3. Remove the rubber feet.
4. Attach the G12/G12x platform to the platform mounting brackets after removing the rubber feet (**Figure C**).

*NOTE: If you are installing a cable tray or instrument brackets, do not attach the platform until those accessories are installed.*

5. Pull the receiver out as far as possible. The slides will lock in position. Push the blue tabs located on the middle section of the slides (**Figure D**). Apply pressure to push the receiver back in toward the rack. The smaller inner slides move into the middle section, which should not move. Push receiver until it backs into the rack. The mounting screws can now be used.
6. Secure receiver to rack.

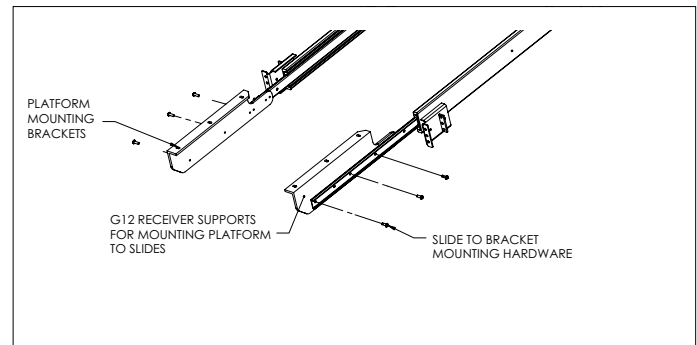


Figure B. The platform mounting brackets are threaded so washers and nuts will not need to be locked.

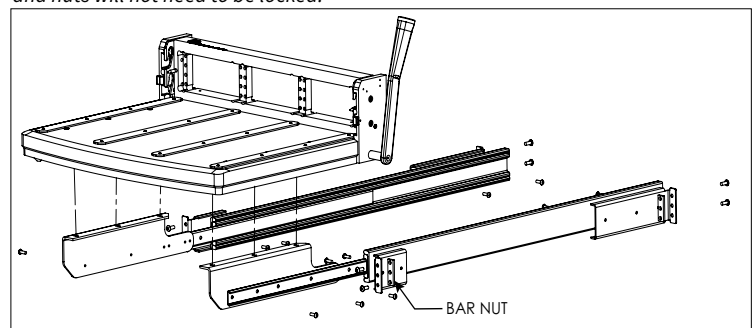


Figure C. Use the existing #8-32 flat head screws, washers, and hex nuts to secure the platform to the brackets.



### ALWAYS SUPPORT THE RECEIVER AND PLATFORM WITH THE MOST ROBUST (MIDDLE) SECTION OF THE SLIDES.

To ensure proper support when extending the receiver and platform away from the rack, stop the receiver and platform at approximately 6" from the rack. Reach around to the rear of the receiver to the slides underneath on both sides. Manually extend the middle section of the slides forward until fully underneath the platform. The receiver and platform may then be extended while holding this middle slide in place. If completed properly, the middle section of the slides will remain underneath the platform and offer the strongest support.

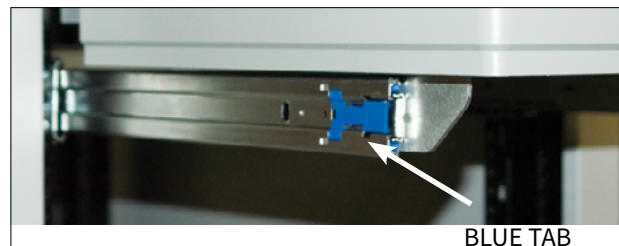


Figure D. Slides will support up to 180 pounds.

Dimensions shown: [millimeters]  
inches

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## SLIDE MOUNT RACK EXTENDER KIT INSTALLATION

PART # 310 113 406, 310 113 519

NOTE: This kit is for test rack rails that are recessed more than 1" and it accommodates a maximum depth of 2.5".

### TOOLS REQUIRED

$\frac{5}{32}$  Allen Wrench

Phillips Head Screwdriver

### INSTALLATION

1. To determine if a Rack Extender Kit is needed, verify that the distance between the front of the rack enclosure and the rail is between 1" and 2.5" (**Figure A**).
2. Attach the mounting rack mating surface on the extender brackets to the recessed rail with the cap screws. Do not fully tighten until the cover plate is attached.
3. Attach the cover to the brackets with the flat head screws.
4. With the extender kit in place, secure the G12 receiver to the mating surface on the extender brackets with #10-32 cap screws (provided with the G12).

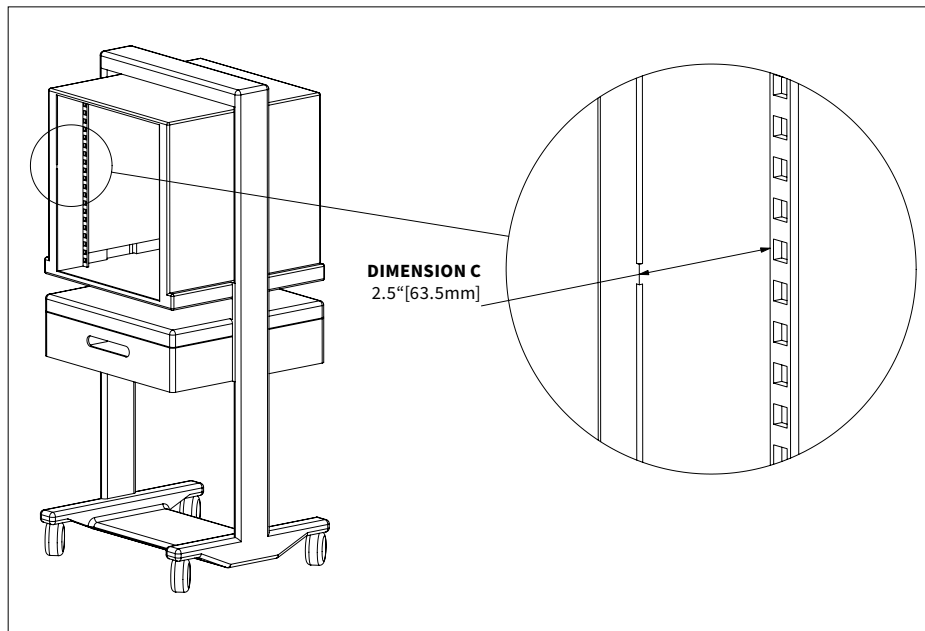


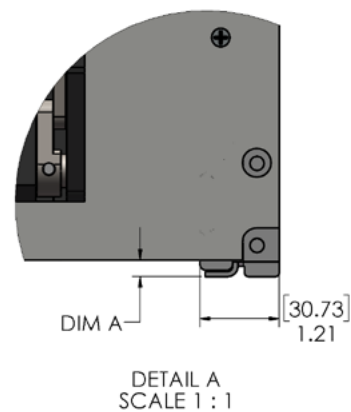
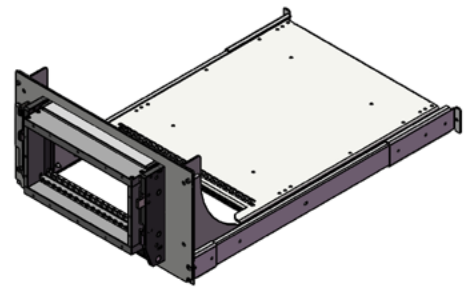
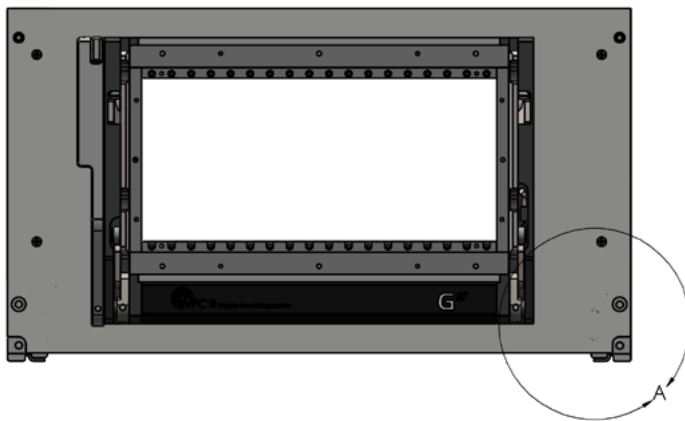
Figure A.

## SLIDE MOUNT NOTATION REGARDING U HEIGHT

PART # 310 104 416 , 310 120 141

NOTE: When using a slide kit for the part numbers listed above, the slide mechanism protrudes slightly downward into the rack's next U height on both sides of the receiver.

For the above receivers, Dimensions A in the drawings below is .46" or 11.7 mm.



# INSTRUMENT BRACKET INSTALLATION

PART # 310 113 453

NOTE: Only compatible with slide kits 28" or larger.

## TOOLS REQUIRED

$\frac{5}{32}$  Allen Wrench

Phillips Head Screwdriver

## INSTALLATION

1. Depress the blue tabs on the inner slides and remove.
2. Attach one of the brackets to the slide using 3 #8-32 button head screws. The brackets are identical parts and only the front two holes on each bracket are designed to line up with the slides. The left bracket assembly is shown in **Figure A**.
3. Attach the remaining bracket to the other inner slide.
4. Reinstall the inner slides.
  - Slide the left mid-section of the slide all the way out, you will feel it lock into position.
  - Feed the matching inner slide into position and ensure the inner section rides into place with the roller bearings seated into the groove.
  - Push the inner slide in about 6-8 inches and then pull out the right side. Slide the track of the mid-section over the right side of the inner slide.
  - Pull the slide out until the position matches the left side.
  - Reach to the back of the middle slides and release the spring locking mechanism (**Figure C**).

NOTE: At this time, both sides should be partially installed. This can be observed when it will not proceed into the rack because the support tab on the instrument brackets will hit the slide mounting bracket.

5. Rotate both instrument brackets inward so the support tabs can pass the mounting brackets. Continue to push (install slides simultaneously) into position. Remember to push the blue tabs to allow the inner slide to continue to travel into the middle slide section.

NOTE: The middle section will not go into the outer section until the inner section has been fully installed into the middle section.

6. Retighten the slide mounting screws.

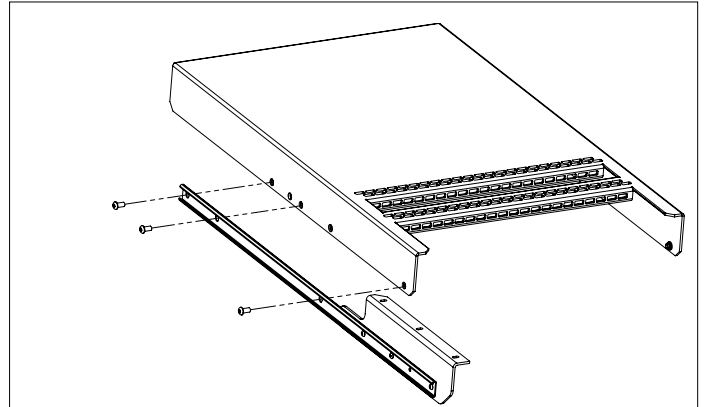


Figure A.

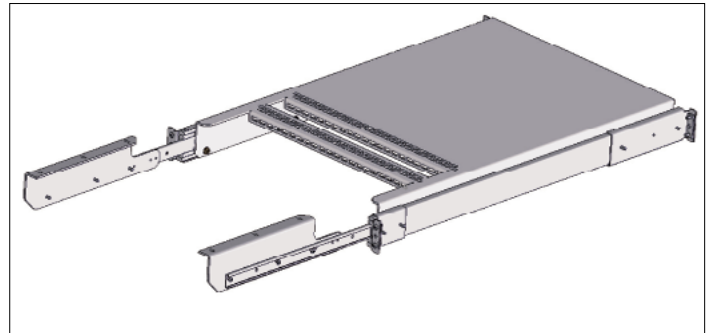


Figure B. The slots on the instrument brackets are designed to accept a strap should you want to secure your chassis.

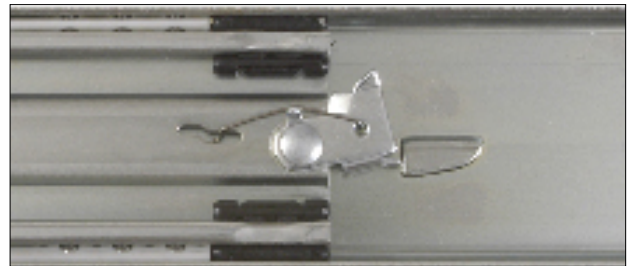


Figure C. Spring-locking mechanism.



**MAKE SURE ALL SCREW HEADS HAVE BEEN SECURELY TIGHTENED. ONLY USE #8-32 BUTTON HEAD SCREWS.**

## CABLE TRAY INSTALLATION

PART # 310 113 424

NOTE: The cable tray is used for strain relief and cable management with the horizontal and vertical flanges providing tie down options.

NOTE: Not compatible with 20" or 24" slide kits or the instrument bracket kit with strain relief.

### TOOLS REQUIRED

$\frac{3}{32}$  Allen wrench

### INSTALLATION

1. Loosen the slide mounting screws with one turn.
2. Depress the blue tab and remove the inner slides.
3. Attach the cable tray to the slides with #8-32 screws (**Figure A**). The angled side of the cable tray should face the G12/G12x receiver, and with shorter slide kits the cable tray will sit below the lip of the instrument brackets.
4. Tighten the slide mounting screws.

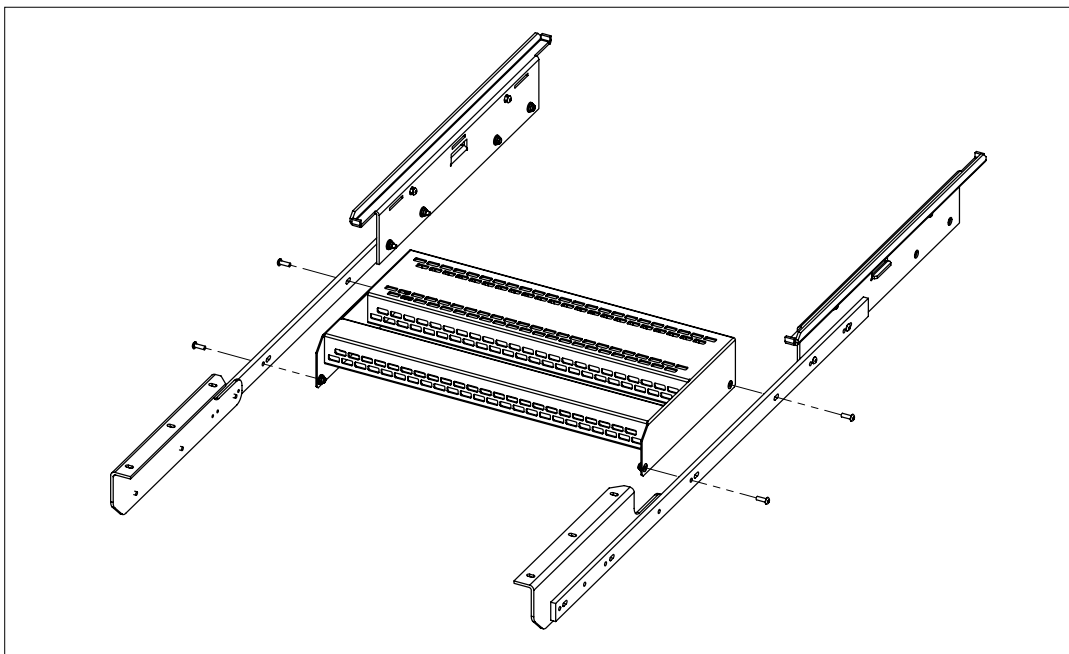


Figure A.

## KEYBOARD TRAY KIT INSTALLATION

PART # 310 113 439

NOTE: This optional keyboard mounts below the platform on the G12 or G12x receiver. The kit includes a keyboard with touchpad, 58" USB cable with connector, keyboard tray, and 12" slides.



Dimensions shown: [millimeters]  
inches

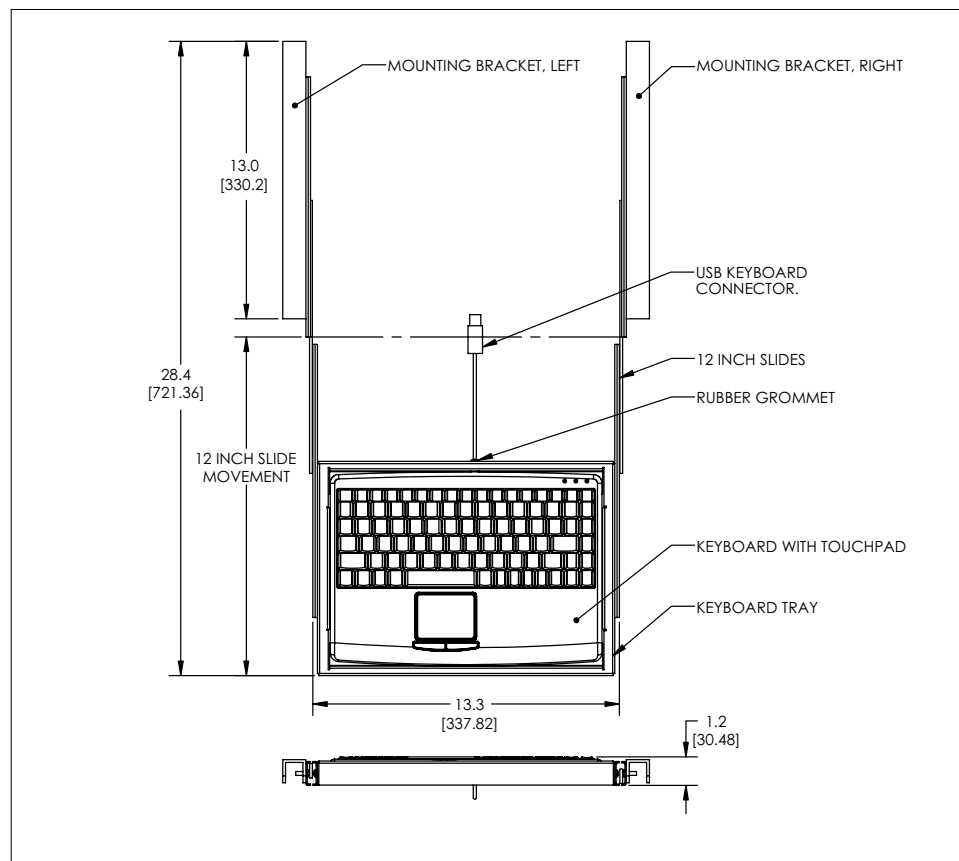


Figure A.

Continued on next page...

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## KEYBOARD TRAY KIT INSTALLATION (CONT'D)

PART # 310 113 439

### TOOLS REQUIRED

 $\frac{3}{32}$  Allen wrench

### INSTRUCTIONS

1. Attach the keyboard mounting brackets to the existing platform mounting brackets. Use the #8-32 nuts and lock washers to secure the keyboard mounting brackets to the three screws extending from the platform mounting brackets (**Figure B**).
2. Use the #8-32 button head screws to attach the 12" slides to the inner side of the keyboard brackets. The manufacturer stamped identification on the slides should be placed toward the rack. You need to adjust the position of the slides to access the hole locations.
3. There are floating, self-locking fasteners in the keyboard mounting brackets which prevent the screws from backing out. There will be a snug fit when tightening the screws (**Figure C**).
4. Insert the keyboard into the keyboard tray. Wrap the plastic strain relief around the cable near the back of the keyboard and press into the hole provided on the keyboard tray.
5. Fully extend the 12" slides and mount the keyboard tray, (**Figure** ). The remaining 4 #8-32 button head screws are used to attach the keyboard tray to the slides. The different hole patterns allow for variations in the overall extension of the keyboard tray.

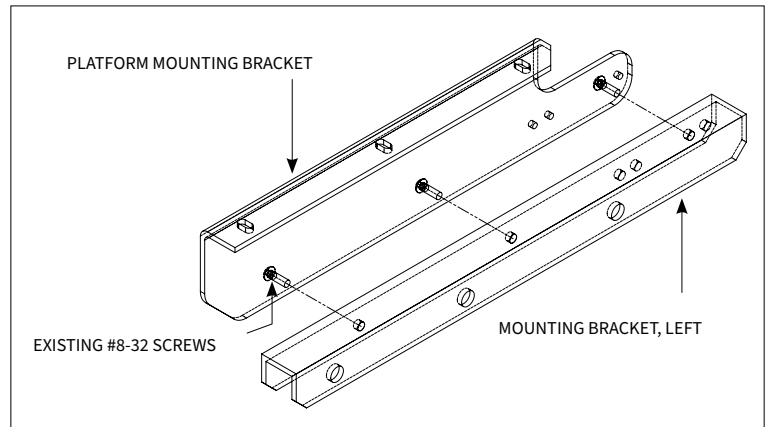


Figure B.

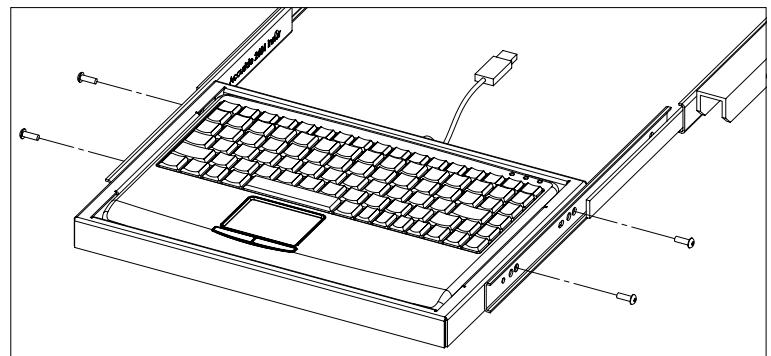


Figure C.

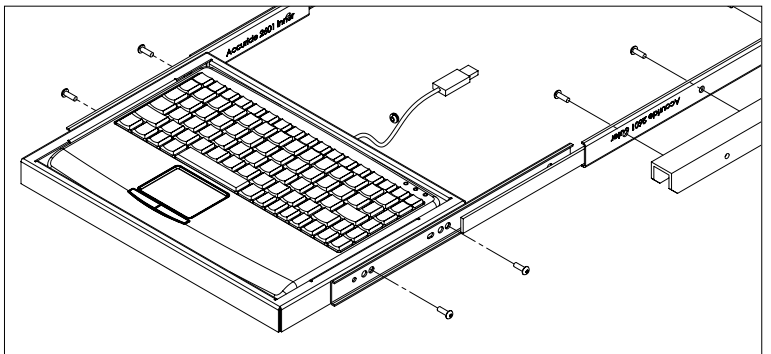


Figure D.



## TABLETOP RECEIVER MOUNTING

PART # 310 104 408, 310 104 409, 310 104 410, 310 104 411, 310 104 422

### PERMANENT MOUNTING

1. Remove rubber feet from ¼-20 tapped holes beneath the platform.
2. Prepare the mounting surface using the dimensions provided in **Figure A or B**, and drill 0.257" [6.53 mm] minimum thru holes.
3. Secure the receiver to the mounting surface with ¼-20 screws and washers.

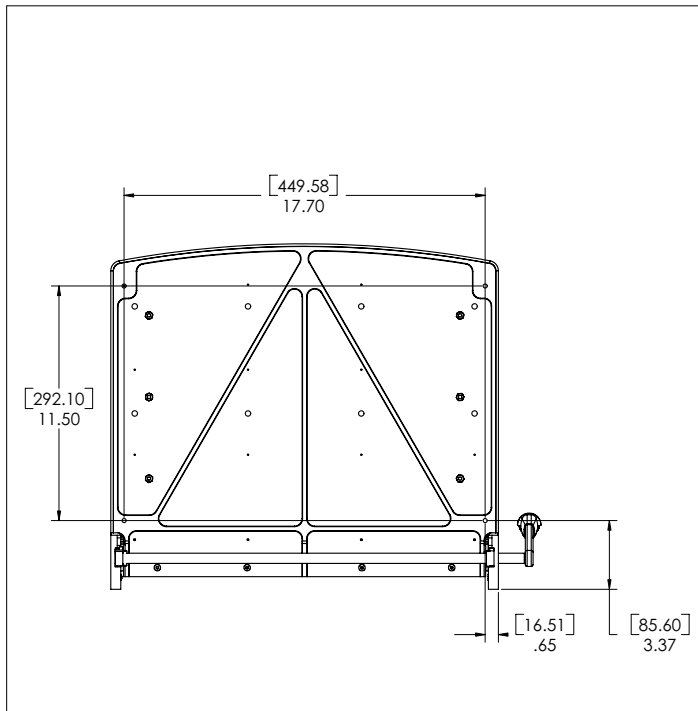
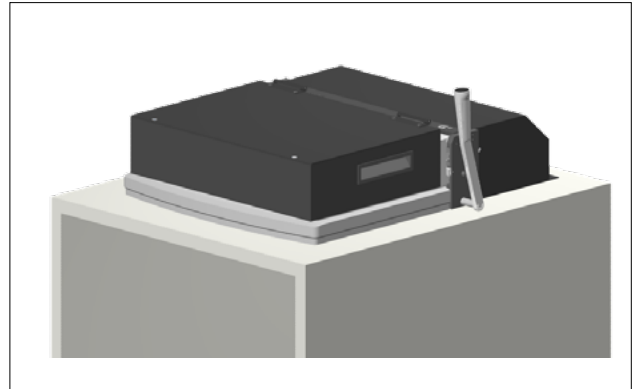


Figure A. Receiver with 15" Platform

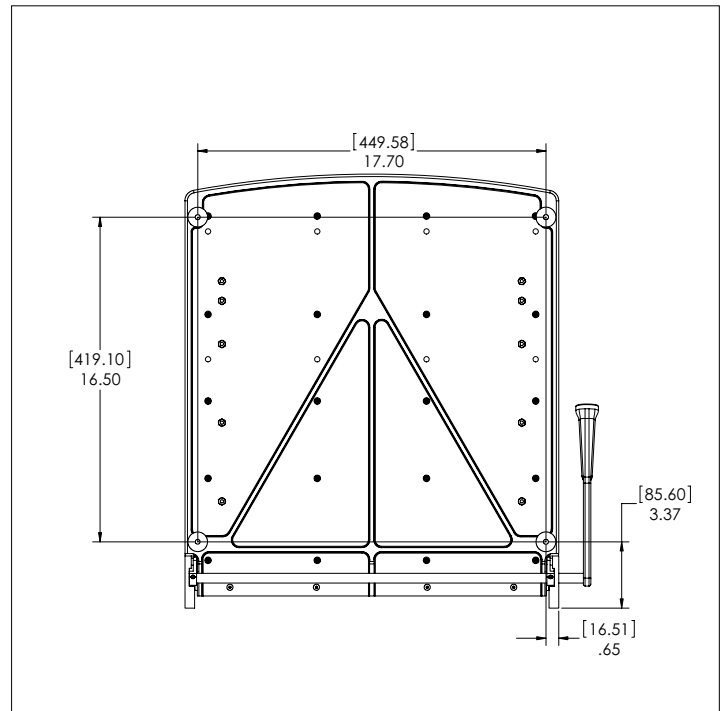


Figure B. Receiver with 20" Platform

Dimensions shown: [millimeters]  
inches

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## REAR COVER INSTALLATION

PART # 310 113 421, 310 113 520

### TOOLS REQUIRED

$\frac{3}{32}$  Allen Wrench

### INSTALLATION

1. The rear cover is to be used on tabletop configurations and is designed to protect wiring from the receiver to the instruments.
2. Use the  $\frac{3}{32}$  Allen wrench with the provided #8-32 screws and washers to attach the rear cover to the G12/G12x receiver. An exploded view of the assembly is provided in **(Figure A)**.

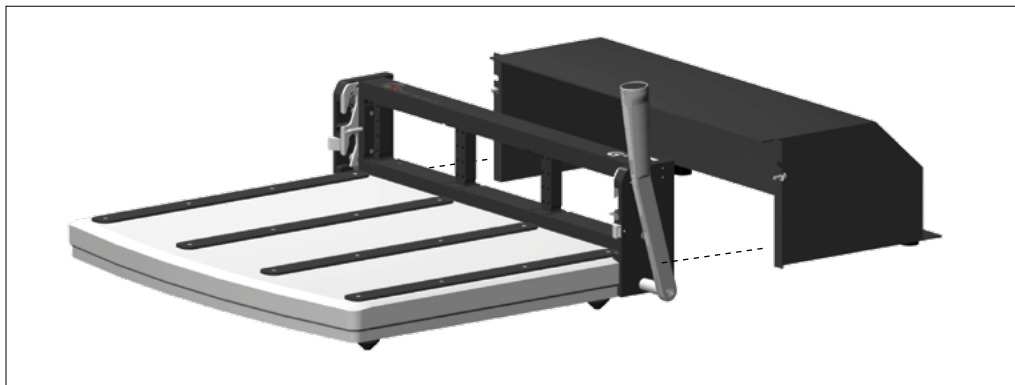


Figure A.

### ALTERNATE INSTALLATION METHOD

1. Rear covers can be permanently mounted to the tabletop using the dimensions provided in **Figure B**. Hardware for this is not included.
2. Rubber feet included with rear cover are not necessary when permanently mounting the G12/G12x receiver.

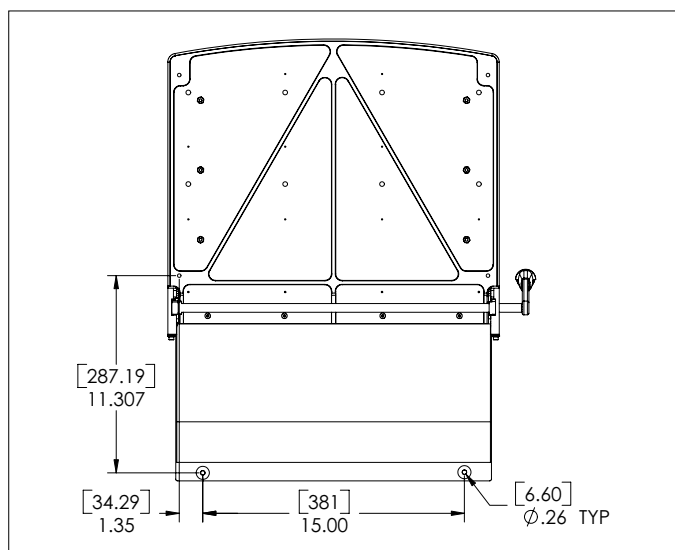


Figure B.

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## RACK MOUNT RECEIVER INSTALLATION

PART # 310 104 338

*The 15" G12 Receiver provides a platform for use with large fixtures.  
When this Receiver is fixed mounted, it can support up to 275 lbs.*

### TOOLS REQUIRED

$\frac{5}{32}$  Allen Wrench

### INSTALLATION

1. This rack mount version of the 15" G12 includes a base shelf which can support up to 275 lbs. total in combination with the mounted G12 receiver.
2. Place receiver over clip/cage nuts on rack, making sure they are aligned (**Figure A**).
3. Tighten screws in a criss-cross pattern to ensure even torque is applied.

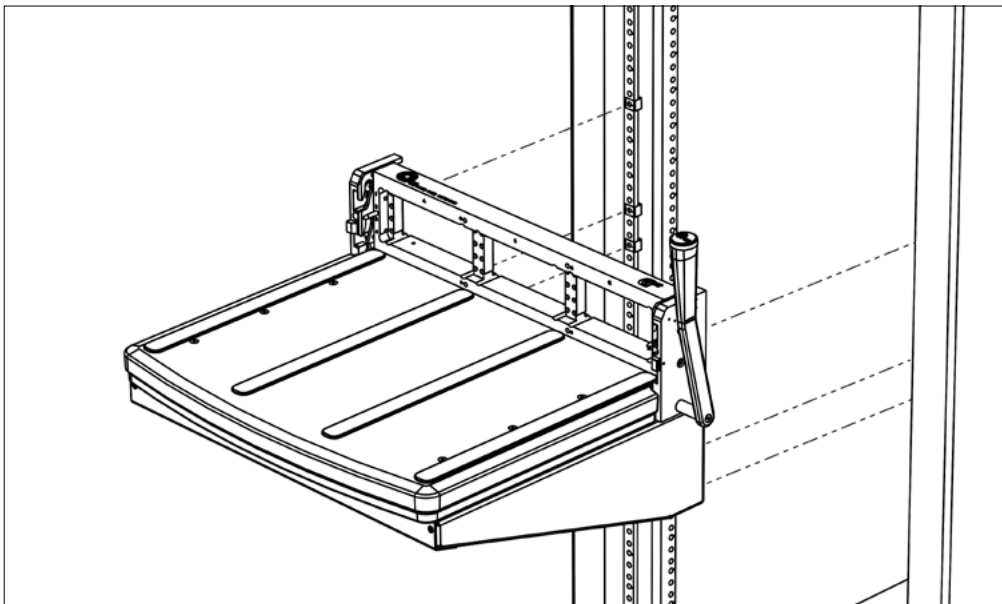


Figure A.

## RACK MOUNT EXTENDER BLOCK KIT INSTALLATION

PART # 310 113 413

NOTE: The Rack Mount Extender Block Kit is used for mounting receivers to racks with recessed mounting rails. It allows for a maximum rack depth of 3.5".

### TOOLS REQUIRED

$\frac{5}{32}$  Allen Wrench  
Phillips Head Screwdriver  
Flat Head Screwdriver

### INSTALLATION

1. Verify that the distance from the front of the rack enclosure to the rail is between 1" and 3.5" (**Figure A**).
2. Attach the mounting rack mating surface on the extender brackets (**Figure B**), to the recessed rail with the cap screws. Do not fully tighten until the cover plate is attached.
3. Attach the cover to the brackets with flat head screws.
4. With the extender kit in place, secure the G12 receiver to the mating surface on the extender brackets with #10-32 cap screws (provided with the G12).

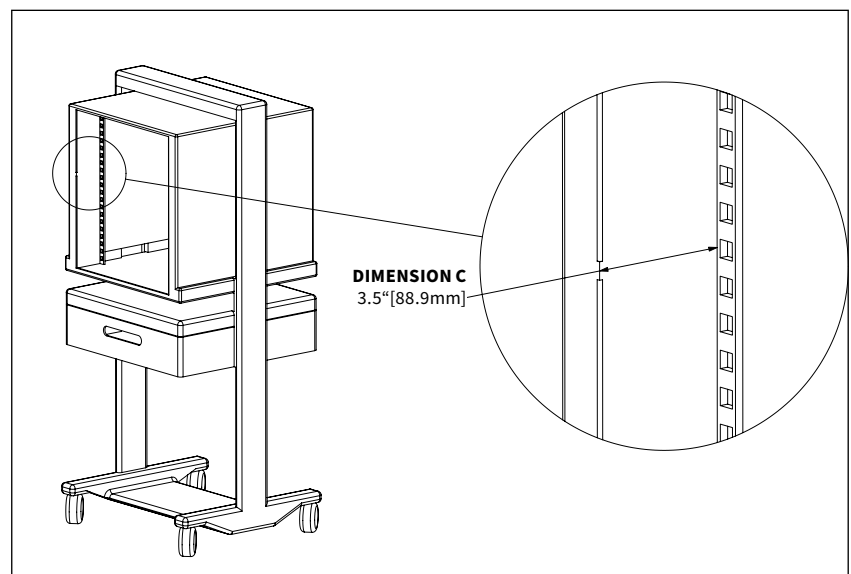


Figure A. Rack Extender Kits are used when the rails are recessed more than 1".

Figure B.  
\*For a larger and easier-to-read drawing please consult the official drawing online at [vpc.com](http://vpc.com).  
Enter part # 310113413 and select the drawing link .

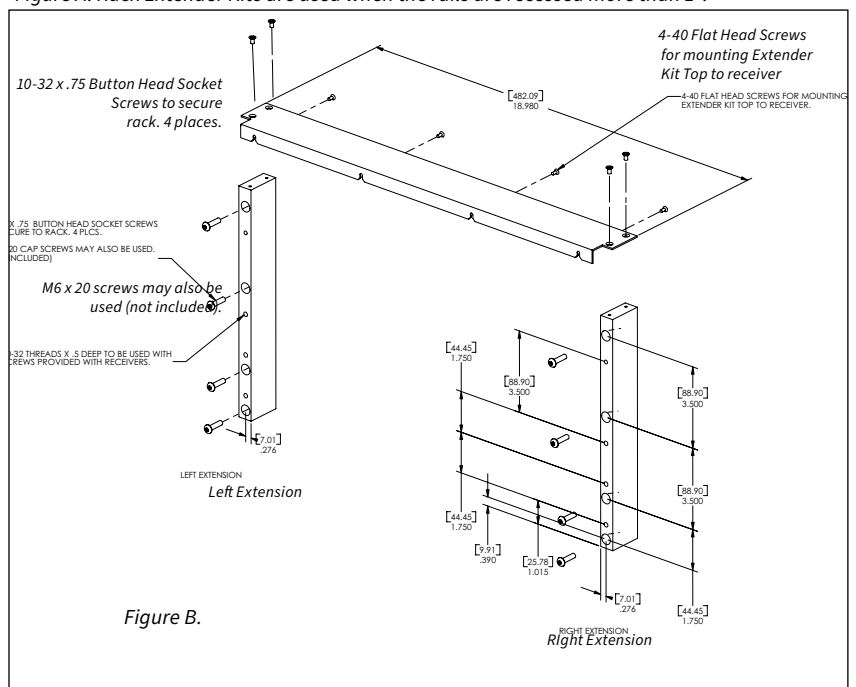


Figure B.

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## HANDLE REMOVAL AND REPOSITIONING

PART # 310 104 325, 310 104 334, 310 104 408, 310 104 409,  
310 104 356, 310 104 359, 310 104 385, 310 104 386, 310 104 410, 310 104 411

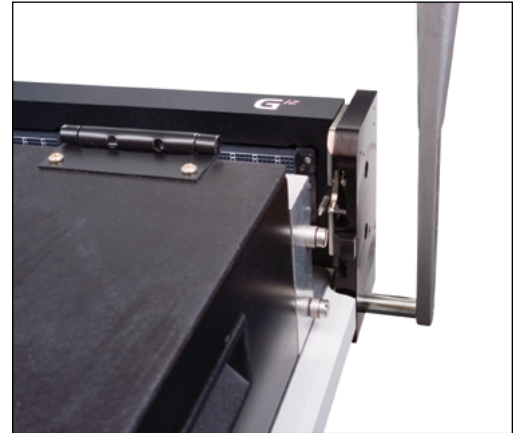
**NOTE:** The G12/G12x receiver handle requires approximately 90° of counter-clockwise travel for engagement and 90° of clockwise travel for disengagement of the ITA. This handle is removable and adjustable to accommodate different mounting configuration requirements and for transport purposes.

### TOOLS REQUIRED

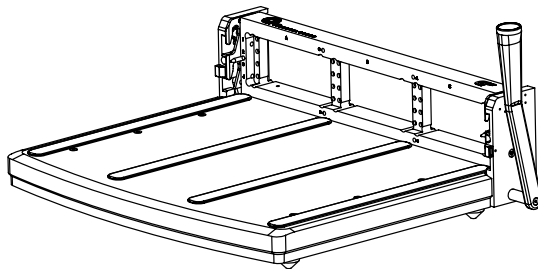
$\frac{3}{32}$  Allen Wrench

### REMOVAL

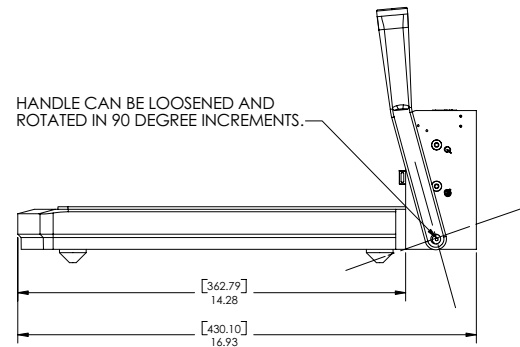
1. Remove the handle set screw with a  $\frac{3}{32}$  Allen wrench.
2. Remove the handle and reposition in 90° increments.
3. Replace the screw and tighten until the handle is secured tightly.



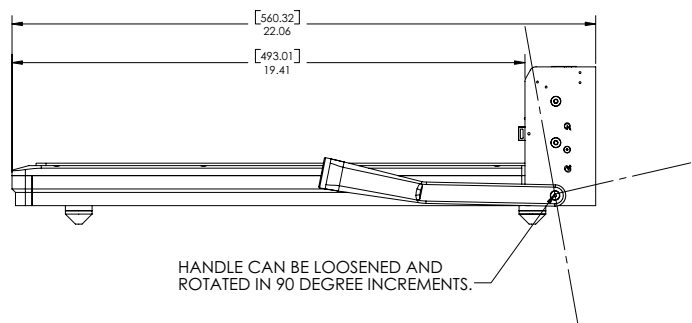
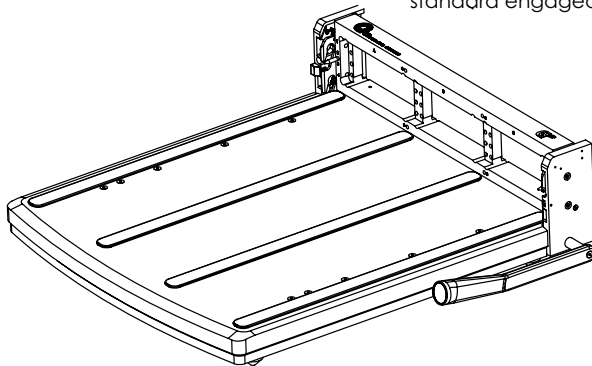
**310104325, 310104286, 310104408 & 310104409**, : G12/G12x receiver with a 15" platform show with handle in the standard disengaged position.



HANDLE CAN BE LOOSENED AND ROTATED IN 90 DEGREE INCREMENTS.



**310104334, 310104385, 310104410 & 310104411**, : G12/G12x receiver with a 20" platform show with handle in the standard engaged position.



HANDLE CAN BE LOOSENED AND ROTATED IN 90 DEGREE INCREMENTS.

Dimensions shown: [millimeters]  
inches

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## ADJUSTING G12 & G12X ITA PROTECTIVE COVER

PART # 410 104 322, 410 112 665, 410 114 010, 410 104 474, 410 112 849, 410 112 857

NOTE: The G12/G12x ITA protective covers are designed to fit securely onto the ITA frame. These adjustments are only necessary in the rare instance that there is the presence of a gap between the ITA bearings and the retaining tabs on the cover, which may cause the cover to not fit as securely. This is done by adjusting the cover's retaining tabs which are removable and adjustable to allow for a more secure cover.

### TOOLS REQUIRED

Phillips Head Screwdriver

### ADJUSTMENT

1. Attach the cover to the ITA.
2. Loosen the screws but not remove them.

**NOTE:** All component locations are called out in **Figures A and B.**

3. Push the retaining tabs against the ITA bearings.
4. While holding the retaining tabs and retighten. (Recommended torque is 1-2 lbs.)

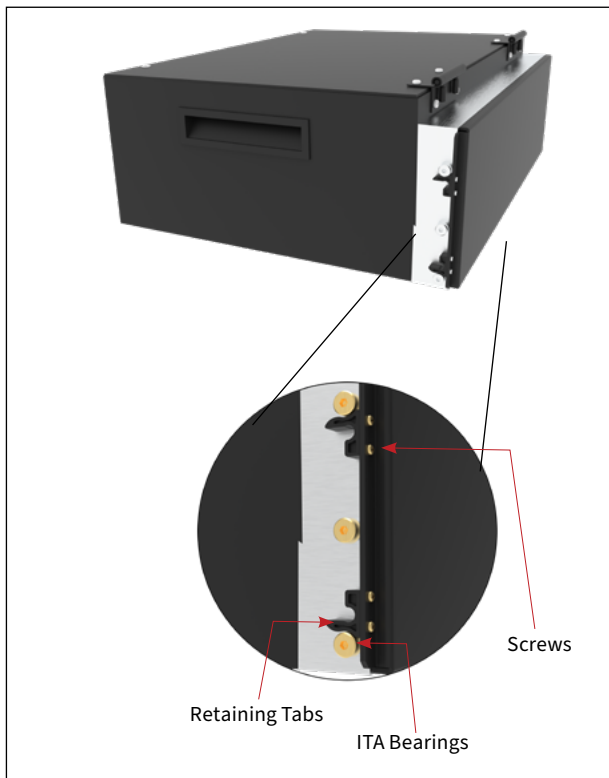


Figure B . G12X ITA. component colors are not accurate strictly made for illustrating purposes.

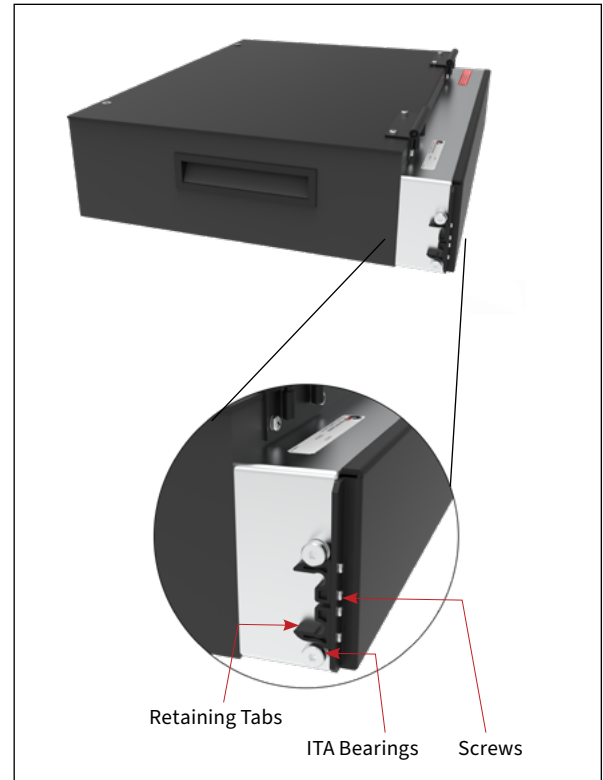


Figure A . G12 ITA.

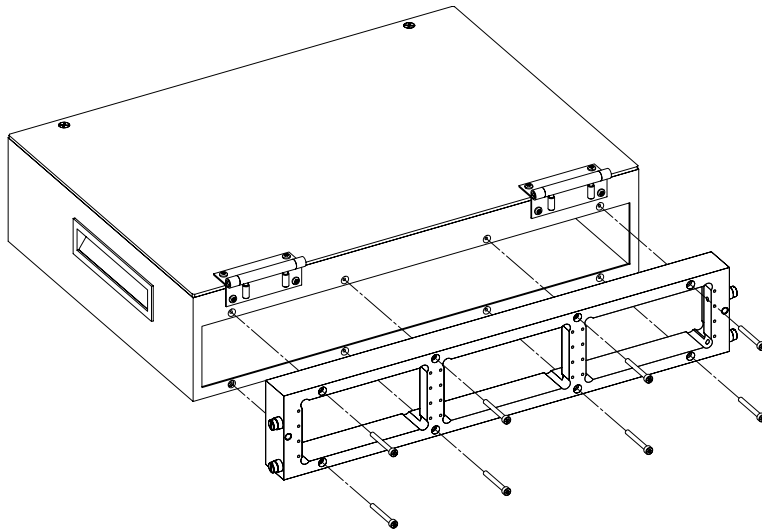
## G12 ITA ENCLOSURE ASSEMBLY

PART # 410 112 665, 410 112 739

### TOOLS REQUIRED

3 mm Allen Wrench

Phillips Head Screwdriver



ENCLOSURE MUST BE FLUSH TO BOTTOM OF ITA FRAME. THE WIDTH MAY GROW TO CUSTOMERS NEEDS WITH A SIMPLE ADJUSTMENT OF THE HANDLE ON THE RECEIVER. THERE IS NO LIMIT TO THE HEIGHT OF THE ENCLOSURE.

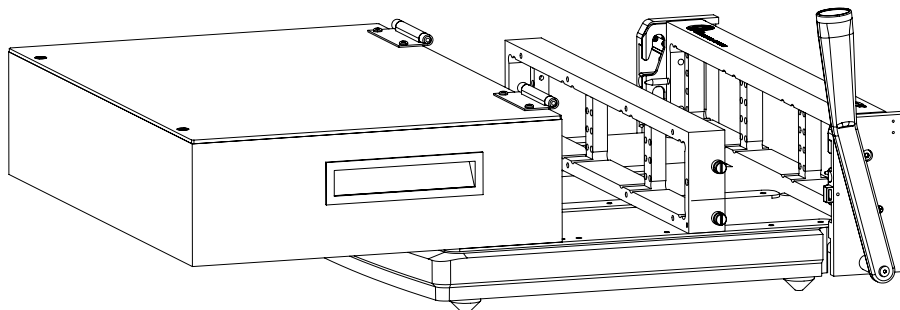
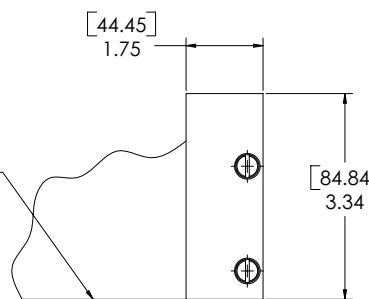


Figure A. Enclosures must be flush with the ITA bottom to ensure the proper function of the G12 system.

## G12X ITA ENCLOSURE ASSEMBLY

PART # 410 112 849, 410 112 856

### TOOLS REQUIRED

3 mm Allen Wrench

Phillips Head Screwdriver

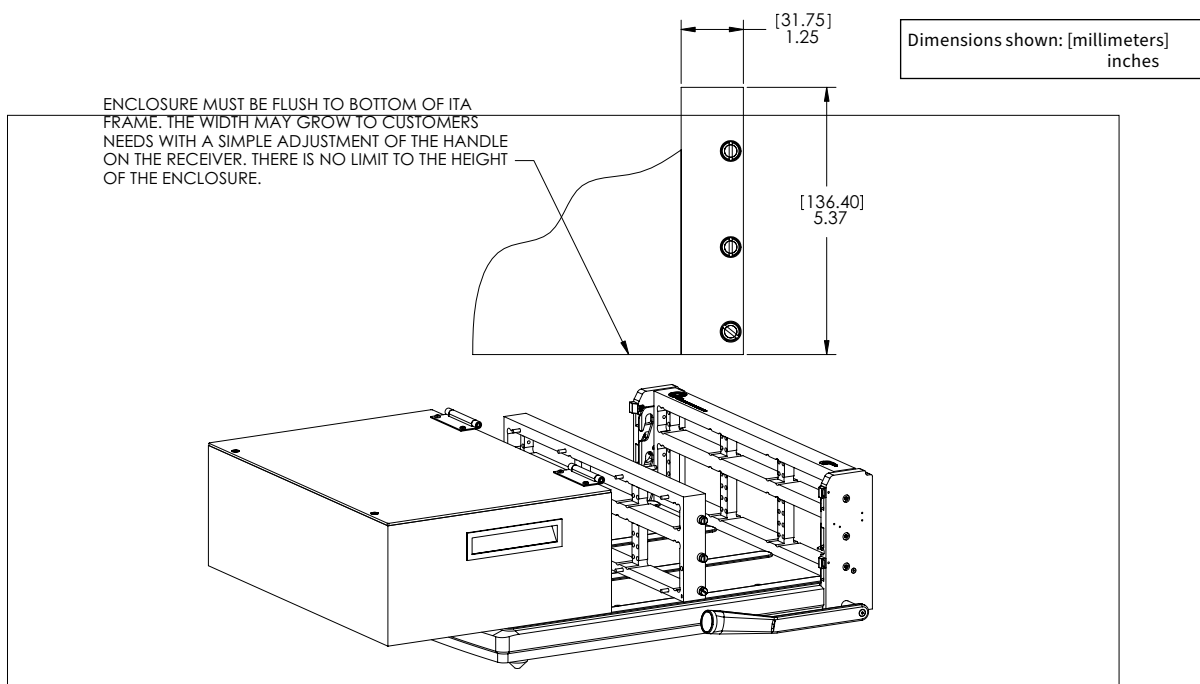
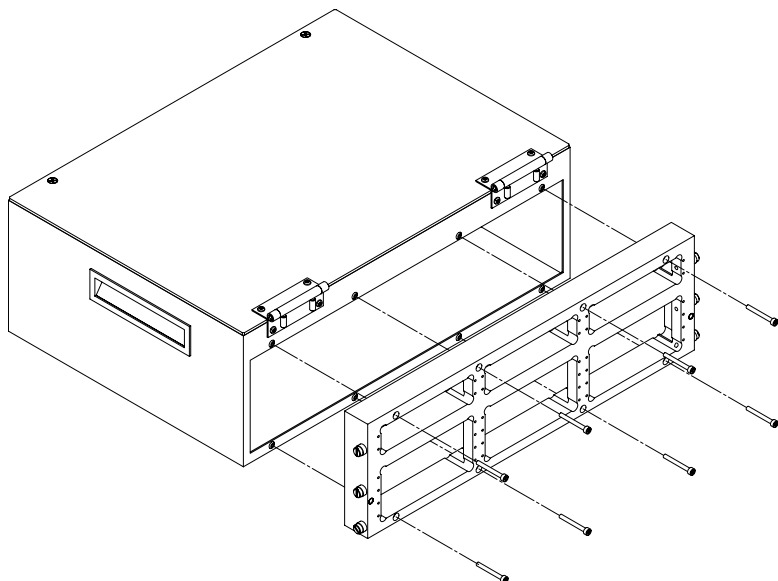


Figure A. Enclosures must be flush with the ITA bottom to ensure the proper function of the G12x system.



KEYING PIN KIT INSTALLATION

PART # 310 118 112

TOOLS REQUIRED

<sup>3</sup>/<sub>32</sub> Allen Wrench

INSTALLATION

1. Determine which locations in the receiver and ITA will have keying pins installed and which will be open (**Table 1**).
2. Install the required keying pin combination with the required Allen Wrench (**Figure A**).

NOTE: One keying pin kit will allow 6 variations. Using together with a second keying pin kit, allows up to 36 variations.



Table 1.

KEYING PIN LOCATIONS							
PATTERN 1				PATTERN 4			
RECEIVER		ITA		RECEIVER		ITA	
PIN A INSTALLED	PIN C INSTALLED	SCREW A OPEN	SCREW C OPEN	PIN A OPEN	PIN C OPEN	SCREW A INSTALLED	SCREW C INSTALLED
PIN B OPEN	PIN D OPEN	SCREW B INSTALLED	SCREW D INSTALLED	PIN B INSTALLED	PIN D INSTALLED	SCREW B OPEN	SCREW D OPEN
PATTERN 2				PATTERN 5			
RECEIVER		ITA		RECEIVER		ITA	
PIN A INSTALLED	PIN C OPEN	SCREW A OPEN	SCREW C INSTALLED	PIN A OPEN	PIN C INSTALLED	SCREW A INSTALLED	SCREW C OPEN
PIN B INSTALLED	PIN D OPEN	SCREW B OPEN	SCREW D INSTALLED	PIN B INSTALLED	PIN D OPEN	SCREW B OPEN	SCREW D INSTALLED
PATTERN 3				PATTERN 6			
RECEIVER		ITA		RECEIVER		ITA	
PIN A OPEN	PIN C INSTALLED	SCREW A INSTALLED	SCREW C OPEN	PIN A INSTALLED	PIN C OPEN	SCREW A OPEN	SCREW C INSTALLED
PIN B OPEN	PIN D INSTALLED	SCREW B INSTALLED	SCREW D OPEN	PIN B OPEN	PIN D INSTALLED	SCREW B INSTALLED	SCREW D OPEN

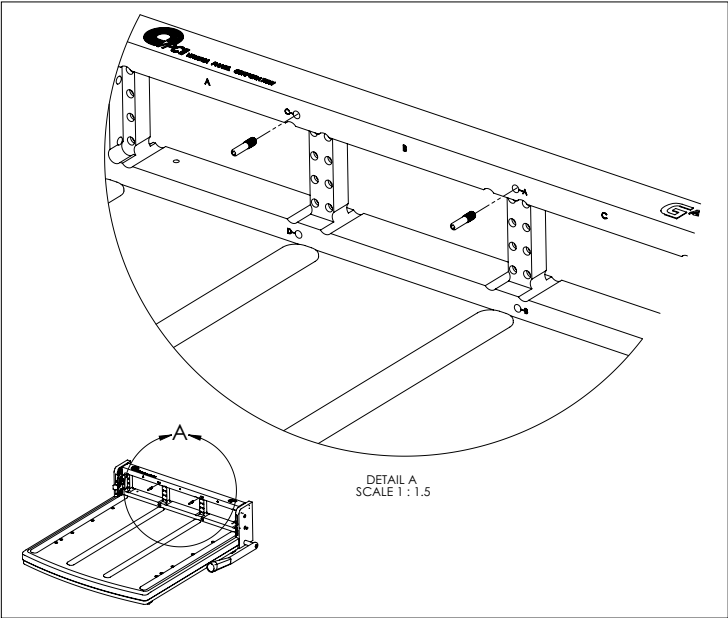


Figure A.

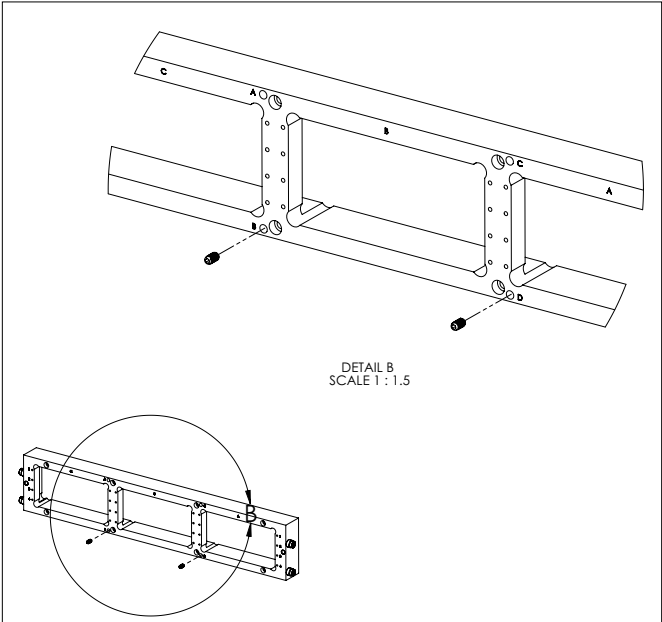


Figure B.

## ITA & RECEIVER ENGAGEMENT

- Prior to engaging an ITA with the receiver for the first time, ensure all modules (ITA and receiver) are properly installed.
    - Inspect modules to ensure proper mounting and verify module positioning. Module positions are shown in **Figures A and B**.
    - Modules must be installed so that Pin 1 of each receiver and ITA module pair are mateable.
    - All ITA modules must match their respective receiver modules. It is crucial for all modules to be installed properly.
- \*G12x Only:* The lower four module rows share the same description as on G12 (i.e. A1-A4). The extended tier of the G12x is considered to be rows 5 or 6.

Figure A. G12

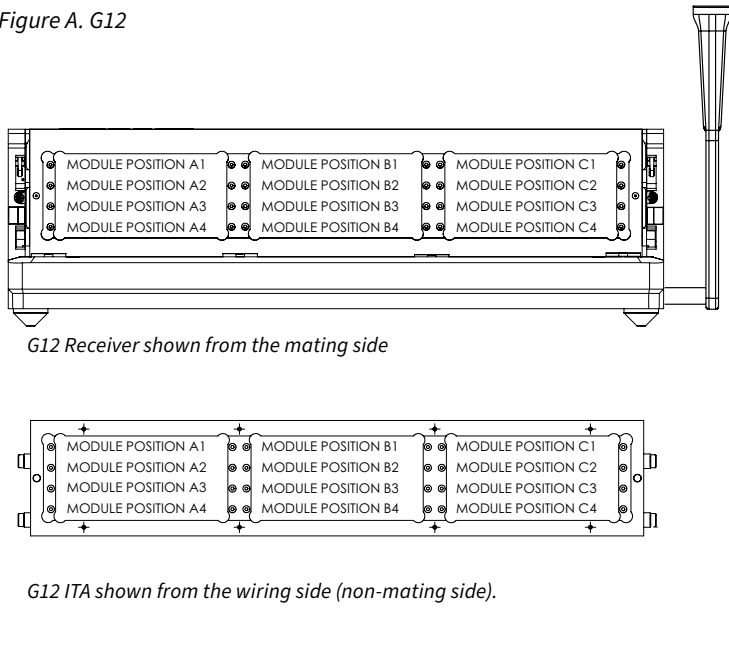
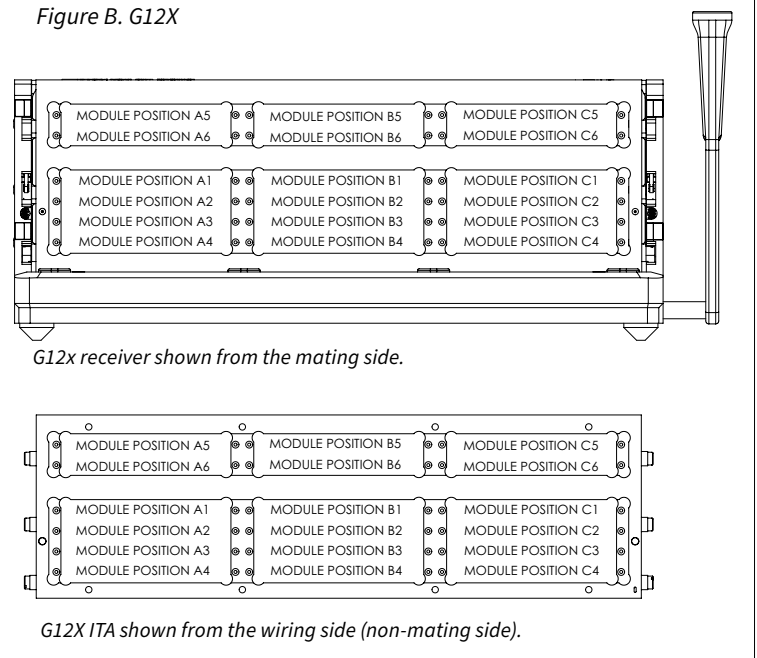


Figure B. G12X



- The receiver should be checked for any foreign objects that may interfere with engagement.
- After inspection, the ITA is ready for engagement with the receiver. The ITA may be placed onto the receiver platform and properly positioned relative to the receiver guide pins. Ensure that the ITA roller bearings are aligned with the receiver slide openings when the receiver handle is in the open position (upward/vertical).
- Carefully rotate the handle forward to actuate the receiver slide engagement mechanisms, which will draw the ITA into engagement position with the receiver. Once the handle reaches a positive stop at the end of its travel and latches into place, the modules are engaged.
- Upon completing use of the ITA, rotate the receiver handle to the open position (upward/vertical), remove the ITA, reinstall the receiver protective cover and rotate the handle to the closed position (downward/horizontal).
- Always protect the contacts when the system is not in use. The receiver contacts are protected when either the ITA or receiver protective cover is engaged. VPC recommends use of both receiver and ITA protective covers to avoid potential contact damage.



**IMPROPER ENGAGEMENT WILL DAMAGE THE MODULES, AND POSSIBLY THE ITA AND/OR RECEIVER.**



**IN THE EVENT OF COMPLICATIONS, A TRAINED TECHNICIAN SHOULD BE NOTIFIED IMMEDIATELY TO AVOID ANY DAMAGE TO THE SYSTEM. THIS APPLIES TO ANY DIFFICULTIES THAT MAY BE EXPERIENCED DURING ENGAGEMENT.**

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## RECEIVER INSTALL/UNINSTALL CAUTIONARY NOTE

PART # 310 104 325, 310 104 334, 310 104 408, 310 104 409,  
310 104 385, 310 104 386, 310 104 410, 310 104 411

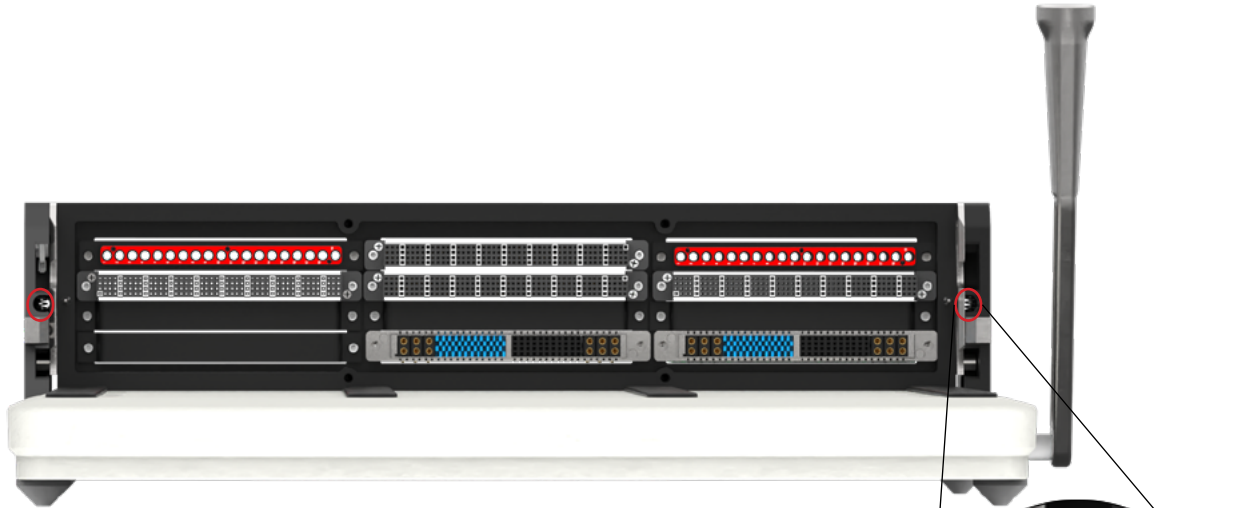


Figure A.

### BEFORE INSTALLING RECEIVER TO RACK

When installing or removing the G12/G12x Receiver to a rack, be sure the handle is not in the disengaged/vertical position (**Figure A**). Tension springs are located inside the mounting holes used to mount the receiver to the rack. While the handle is in the disengaged/ vertical position, these springs are present in the mounting holes and can be damaged by the introduction of mounting screws. Damage to these springs will cause reduced resistance and tension in the handle.

When the receiver is engaged/ horizontal position (**Figure B**), the springs are lowered and allow a clear path to install/remove the receiver using mounting screws.

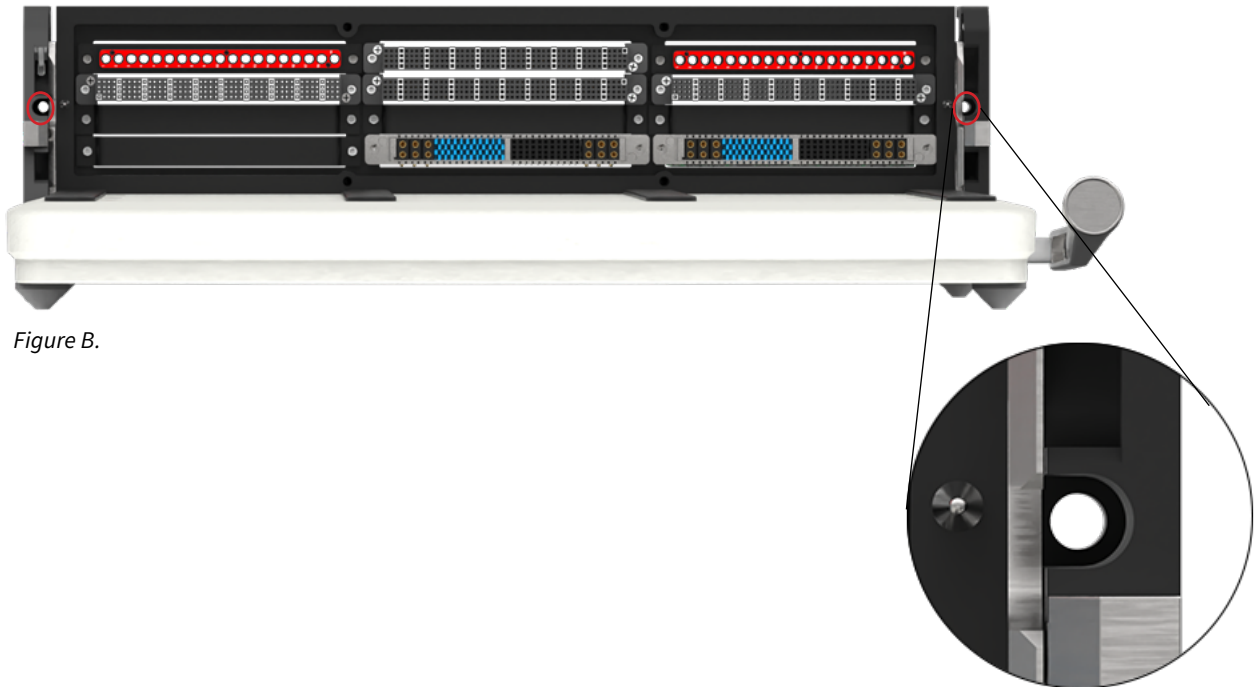


Figure B.

## TROUBLESHOOTING

### **ITA Frame is not lined up when in the process of engagement with receiver**

- This may indicate that the ITA is out of alignment or that a module is not mating with its intended module.
- Remove and inspect the ITA for alignment.
- Check for foreign objects/tools.
- Inspect the matching of modules -power ITA module to mate with power receiver module, etc.

### **Excessive force is needed to engage the handle**

- With a typical contact load, approximately 35lbs force is needed to engage the handle. Consult with VPC for detailed contact loading information.
- If excessive force is required, this may indicate that the ITA is out of alignment or that a module is not mating with its intended module.
- Remove and inspect the ITA for alignment. Contact VPC– unauthorized user adjustments to the system will void the warranty.
- Check for foreign objects/tools.
- Contact damage may cause noticeable resistance. Upon replacing a contact in the ITA, the mating contact on the receiver side should also be inspected and replaced, if necessary.
- Verify the orientation of the receiver and ITA modules.
- Inspect the matching modules - power ITA module to mate with power receiver module, etc.

### **ITA will not engage with the receiver after diagnosing the above problems**

- Contact VPC – unauthorized user adjustments to the system will void the warranty.

### **No continuity upon engagement**

- When replacing an ITA contact, the mating contact on the receiver side should also be inspected and replaced, if necessary.
- Check wiring and replace if necessary.
- Contact not secured in module.
- A contact may be damaged. Visually check all contacts for damage to potentially isolate damaged pin prior to checking for continuity with a multi-meter.

### **A “short ” in the wiring upon engagement**

- A damaged contact may cause high resistance. Upon replacing a contact in the ITA, the mating contact on the receiver side should also be inspected and replaced, if necessary.
- Check wiring and replace if necessary.

### **Receiver and ITA will not disengage**

- This may indicate that the engagement mechanism within the receiver is faulty -contact VPC immediately- user adjustments to system, unless authorized, will void the warranty.



**FORCEFUL ENGAGEMENT OF THE RECEIVER AND THE ITA WILL RESULT IN SERIOUS DAMAGE TO MULTIPLE PARTS OF THE SYSTEM (MODULES, RECEIVER, ITA AND CONTACTS).**

## PRECAUTIONARY NOTES

- Never probe a contact without using a mating patchcord as a test lead.
- Never forcefully engage a system if there is an excessive amount of resistance on the handle.
- Never allow an ITA to drop as this may cause misaligned engagement and/or irreparable damage.
- Always insert and extract a contact insertion/extraction tool in line with the contact. Never apply pressure to the side as this may break either the contact or tool.
- It is advisable that power to the interface system be disconnected prior to handling and maintenance.
- Caution should always be used when engaging, making sure that all foreign objects are removed from the system.