

## ServView V KVM Tray

Control your 4-post rack- or cabinet-mounted  
USB or PS/2 servers with the compact  
ServView V KVM tray.

Widescreen model is now available.



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## Instrucciones de Seguridad (Normas Oficiales Mexicanas Electrical Safety Statement)

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico debe ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.
17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
  - A: El cable de poder o el contacto ha sido dañado; u
  - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
  - C: El aparato ha sido expuesto a la lluvia; o
  - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
  - E: El aparato ha sido tirado o su cubierta ha sido dañada.

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# Chapter 1: Specifications

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## 1. Specifications

Specification	KVT517A models	KVT517A-WIDE model
Active Display Area:	10.6"H x 13.3"W (27 x 33.8 cm)	9"H x 14.5"W (22.9 x 36.7 cm)
Approvals:	CE, FCC for the product; UL®, TUV, CE for power supply	CE, FCC for the product; UL®, TUV, CE for power supply
Backlight Unit:	4 CCFLs edge-light (top/bottom)	4 CCFLs edge-light (top/bottom)
Brightness (cd/m <sup>2</sup> ):	300 (center)	400 center
Contrast Ratio (Typical):	800:1	500:1
Display Color (RGB 6-bits + FRC data):	16.2 M	262 K
Display Mode:	Normally white	Normally white
Input Signal:	RGB analog, H/V separate	RGB analog, H/V separate
Pixel Pitch:	0.264 mm (H) x 0.264 mm (V)	0.191 mm (H) x 0.190 mm (V)
Plug-n-Play VESA:	VESA DDC 2B	VESA DDC 2B
Resolution:	1280 x 1024 @ 60/70/75 Hz	1920 x 1080P
VGA Resolution for Optimum Performance:	1280 x 1024 @60 Hz	1920 x 1080P
Viewing Angle (Typical):	-80 to +80 (H), -80 to +80	-70 to +70 (H), -60 to +60
Connectors:	(1) Centronics® female	(1) Centronics female
Temperature:	Operating: +32 to +122° F (0 to +50° C); Storage: -4 to +140° F (-20 to +60° C)	Operating: +32 to +122° F (0 to +50° C); Storage: -4 to +140° F (-20 to +60° C)
Humidity (Relative):	Operating: 8–95%; Storage: Less than or equal to 95%	Operating: 8–95%; Storage: Less than or equal to 95%
Power Consumption (Maximum, Typical):	37 watts	13.6 watts
Power:	12 VDC (from external 100–240-VAC power adapter), 47–63 Hz	12 VDC (from external 100–240-VAC power adapter), 47–63 Hz
Size:	1.75"H (1U) x 17"W x 19.5" to 39.5"D (4.4 x 43.2 x 49.5 to 100.3 cm)	1.75"H (1U) x 17"W x 19.5" to 39.5"D (4.4 x 43.2 x 49.5 to 100.3 cm)
Weight:	23 lb. (10.4 kg)	23 lb. (10.4 kg)

## 2. Overview

### 2.1 Introduction

Each ServView™ V KVM Tray Kit includes a KVM Tray (KVT517A or KVT517A-WIDE), a KVM module (KVT6S1UV, KVT4S8PV, KVT4S8UV, KVT4S16PV, KVT4S16UV, KVT8DVIU, KVT8CATUV, KVT16CATUV, KVT1IP8CATUV, KVT1IP16CATUV, KVT4IP16CATUV), and a universal rear bracket extension kit. This manual describes how to use the ServView V KVM Tray and the rear bracket extension kit, and a separate manual (included with your kit) explains how to use the KVM module.

Control your 4-post-rack- or cabinet-mounted USB or PS/2® server with the compact, easy-to-use ServView V KVM Tray. It consists of a keyboard, mouse, LCD panel, and KVM module housed in an industry-standard 19" 1U-height rack drawer (see Figure 2-1). The unique dual-rail design allows the keyboard and LCD display to slide in and out independently of each other, so you can stow the keyboard out of the way when you're not using it.

The ServView has a 17" standard or widescreen LCD panel. It features a full 105-key, low-profile, sturdy keyboard and touch pad with an ergonomically designed hand rest. The KVT517A has a maximum resolution of 1280 x 1024. The KVT517A-WIDE has a maximum resolution of 1920 x 1080P.

Install the ServView in 4-post racks or cabinets that have rail space of 23.7"D to 45.3"D (60.2 to 115.1 cm).

NOTE: This is the depth measured between the front pole and rear pole inside a 4-post rack or cabinet, not the outside depth of the enclosure.

When installing the ServView, you'll need to use the universal Rear Bracket Extension Kit that's included in your ServView Kit.

A KVM module is also included with the ServView. To control more than one USB or PS/2 server, connect the ServView to a ServSwitch™.

The KVM module comes with a universal Centronics® 36-pin connector; use it to connect the module to the console drawer. The module has a barrel connector for power (or a locking power connector for the CATx modules). The small screws (0.12" x 0.24" [0.5 x 1.1 cm]) listed in Section 2.2 secure the brackets to the KVM module. The large screws (0.19" x 0.43" [0.3 x 0.6 cm]) are used in place of 10-32 or 12-24 screws (described in Chapter 3, not included) if required by your rack.

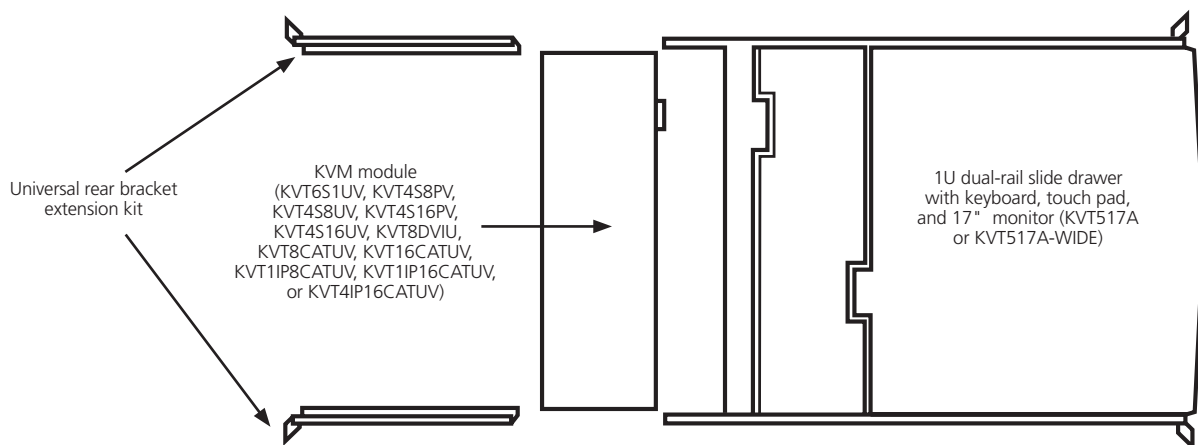


Figure 2-1. ServView Kit components (left to right): Rear Bracket Extension Kit, KVM Module with power supply, and 1U slide drawer.

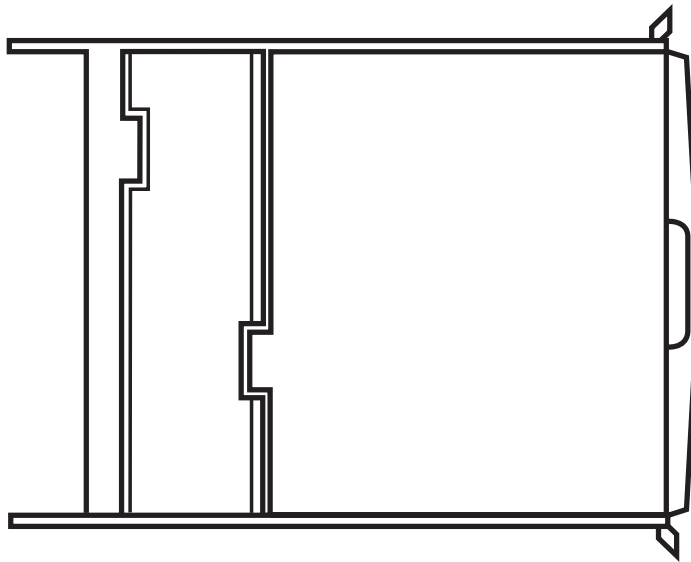


Figure 2-2. ServView V Tray, closed position.

### 2.2 What's Included

- (1) 1U dual-rail drawer with keyboard, touch pad, and LCD monitor
- (1) KVM module with power supply (based on product code)
- (1) universal rear rail kit (includes [2] brackets, [2] extensions, and [8] screws)
- (10) 0.19" x 0.43" (0.5 x 1.1 cm) screws
- (10) 0.12" x 0.24" (0.3 x 0.6 cm) screws
- This user's manual

You might also need 12-24 or 10-32 nuts/bolts.

### 2.3 ServView V KVM Tray Kit Part Numbers

The ServView V KVM Tray Kit includes a ServView V KVM Tray, a PS/2 or USB KVM module, and a universal rear bracket extension kit. Table 2-1 lists the available kits.

Table 2-1. ServView V KVM Tray Kit components.

Kit Part Number	KVM Module P/N	Link	Rail Depths
KVT517A-1UV-R2	KVT6S1UV	1-port DVI/VGA USB/PS2	23.7"–45.3"
KVT517A-8UV	KVT4S8UV	8-port VGA USB/PS2	23.7"–45.3"
KVT517A-16UV	KVT4S16UV	16-port VGA USB/PS2	23.7"–45.3"
KVT517A-8PV	KVT4S8PV	8-port VGA PS/2	23.7"–45.3"
KVT517A-16PV	KVT4S16PV	16-port VGA PS/2	23.7"–45.3"
KVT517A-8DV-WIDE	KVT8DVIU	8-port DVI USB	23.7"–45.3"
KVT517A-8CATX	KVT8CATUV	8-port CX CATx	23.7"–45.3"
KVT517A-16CATX	KVT16CATUV	16-port CX CATx	23.7"–45.3"
KVT517A-8CATX	KVT1IP8CATUV	8-port CX CATx	23.7"–45.3"
KVT517A-16CATX-1IP	KVT1IP16CATUV	16-port CX CATx	23.7"–45.3"
KVT517A-16CATX-4IP	KVT4IP16CATUV	16-port CX CATx	23.7"–45.3"



## 2.4 1U-Height KVM Switch Function Modules

When a 1U KVM switch function module is slid into the rear side of the console drawer, the entire setup takes 1U space of a rack or cabinet. Table 2-2 describes the available 1U-height modules.

Table 2-2. 1U-height KVM Switch Function Modules.

Part Number	Interface
KVT6S1UV	1-port PS/2 or USB + DVI/VGA
KVT4S8PV	8-port PS/2 + VGA
KVT4S8UV	8-port PS/2 or USB + VGA
KVT4S16PV	16-port PS/2 + VGA
KVT4S16UV	16-port PS/2 or USB + VGA
KVT517A-8DV-WIDE	8-port USB + DVI
KVT8CATUV	8-port CX CATx
KVT16CATUV	16-port CX CATx
KVT1IP8CATUV	8-port CX CATx with 1 IP User
KVT1IP16CATUV	16-port CX CATx with 1 IP User
KVT4IP16CATUV	16-port CX CATx with 4 IP Users

## 2.5 Rear Bracket Extensions

Figure 2-3 shows the rear bracket pair, and Figures 2-4 and 2-5 show the ServView V in its maximum and minimum extension positions.

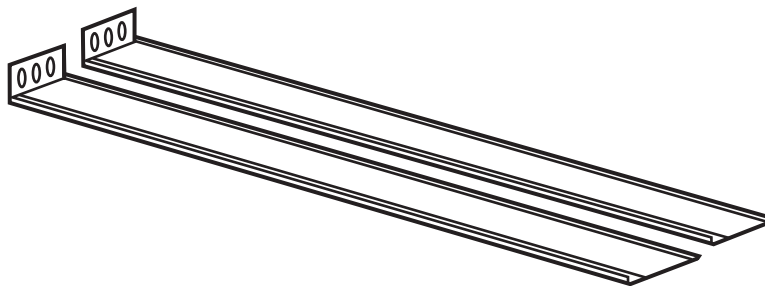


Figure 2-3. Rear bracket pair.

*NOTE: The lengths in Figures 2-4 and 2-5 are the depths measured between the front pole and rear pole inside a 4-post rack or cabinet, **not** the outside depth of the enclosure.*

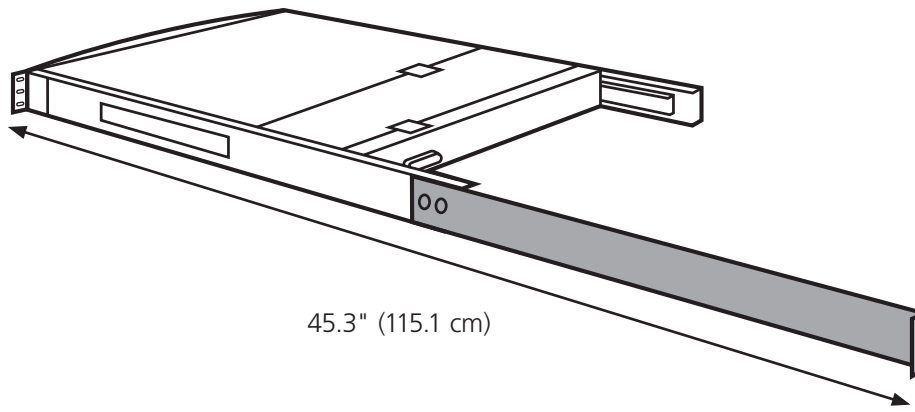


Figure 2-4. The maximum depth of the unit.

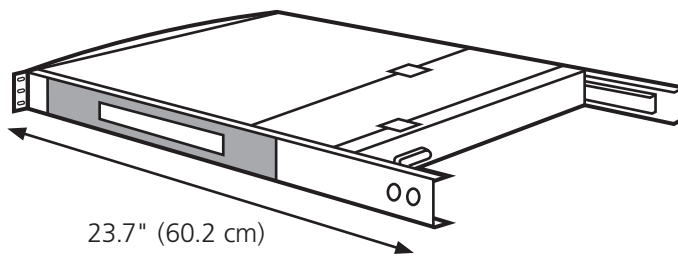


Figure 2-5. The minimum depth of the unit.

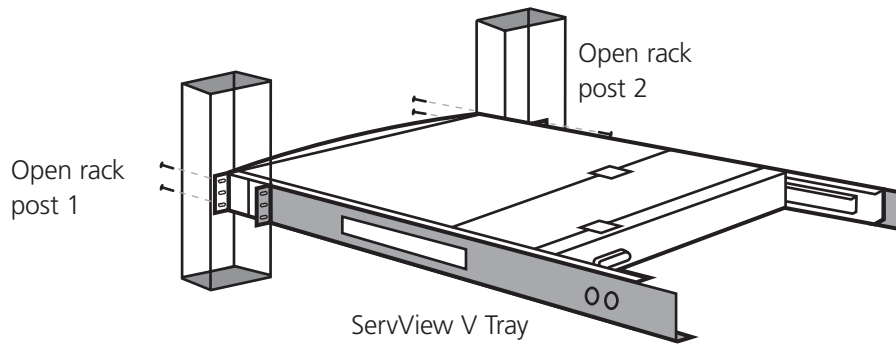


Figure 2-6. ServView V Tray installed on an open rack.

## 3. Assembly and Installation

### 3.1 Assembly

1. Choose a proper position in the cabinet for the rack drawer.
2. Using eight counter-sunk screws (included), attach the extensions (included with your ServView V Kit) to both sides of the KVM switch module. See Figures 3-1 through 3-5. The wide-edged plastic extension should be on the top side (see Figure 3-5).

*NOTE: The CATx KVM switch modules will only accept between (2) and (4) mounting screws on each extension, depending on the kit part numbers.*

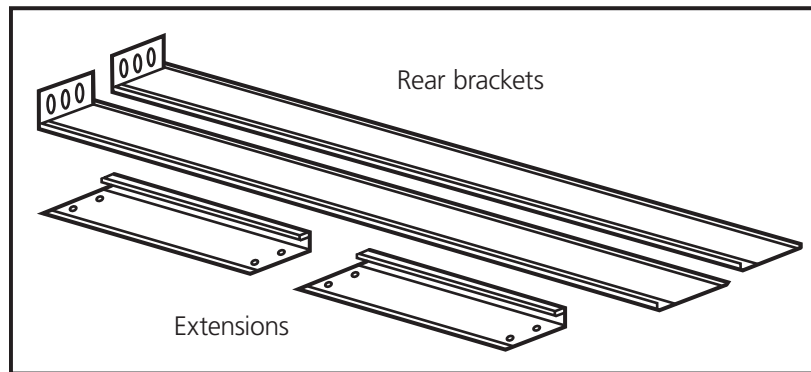


Figure 3-1. Rear brackets and extensions.

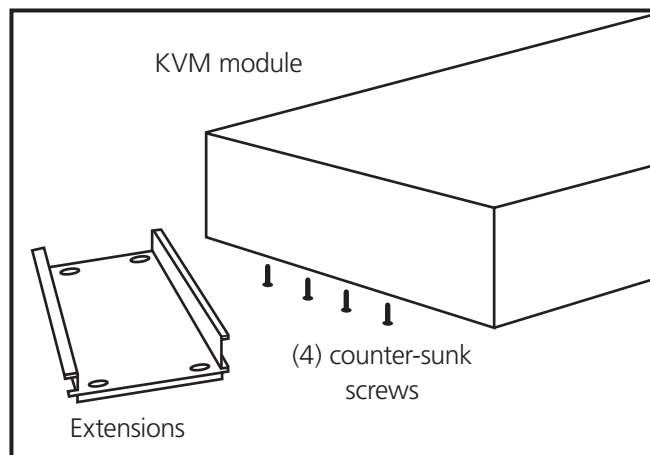


Figure 3-2. Attaching the extensions to the KVM module.

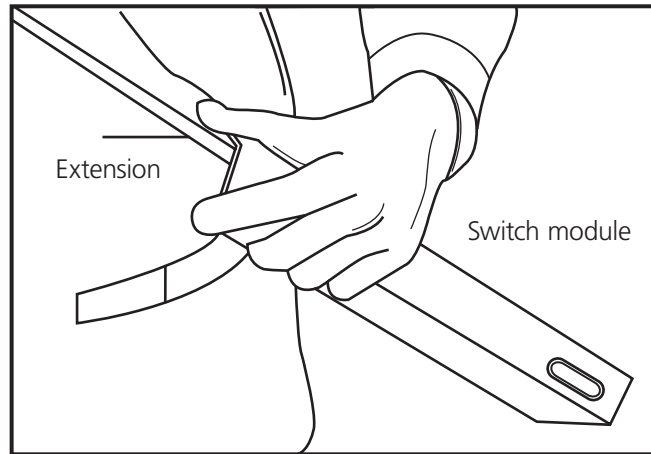


Figure 3-3. Attaching the extensions to one side of the KVM switch module.

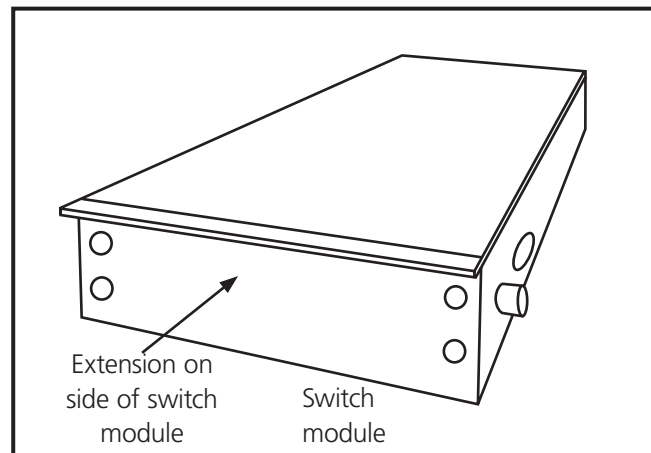


Figure 3-4. KVM switch module with extensions attached.

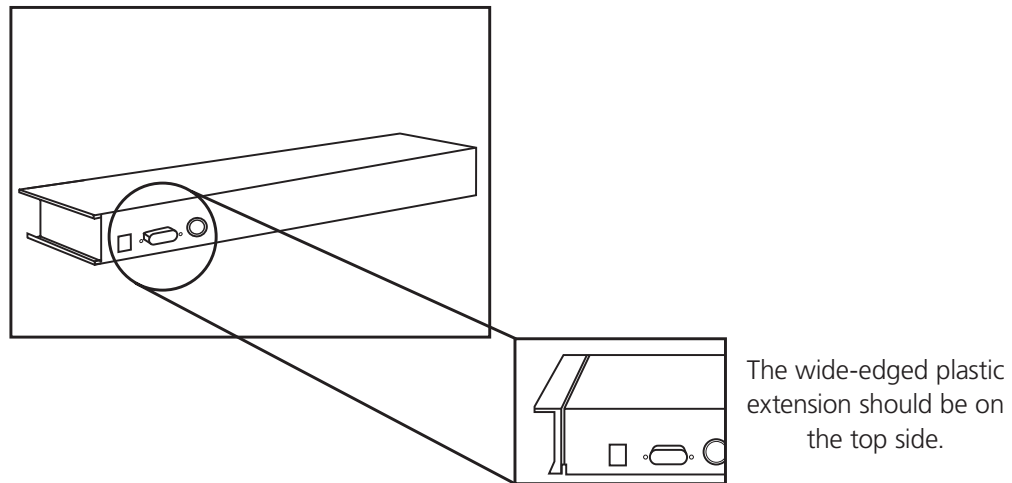


Figure 3-5. Back view of module with extensions attached.

3. Using four cabinet screws (included), screw the unit onto the rack. See Figures 3-6 and 3-7.

**WARNING:** Do not remove the safety stopper until you complete the assembly.

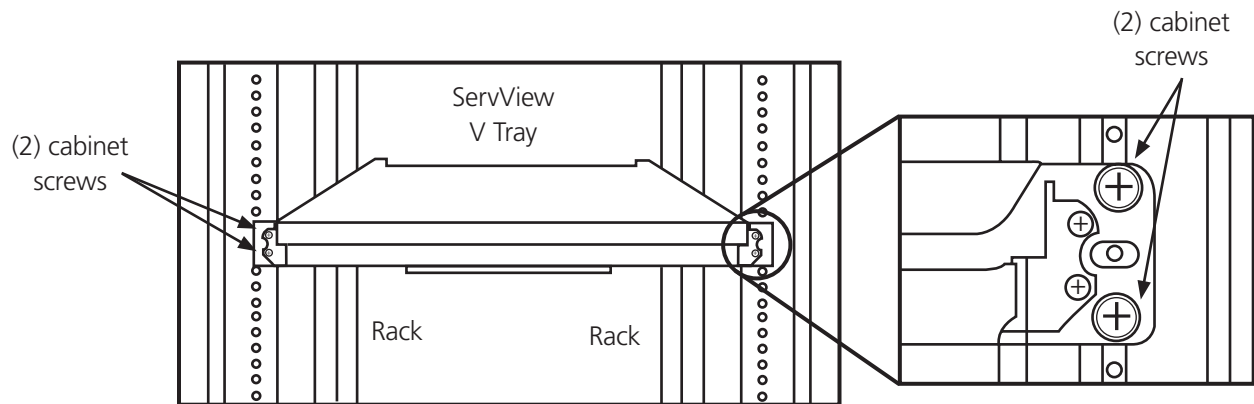


Figure 3-6. Securing the ServView V KVM Tray to the rack.

## Chapter 3: Assembly and Installation

- Slide the rear bracket into both sides of the unit. Make sure that the two wheels with screws are inside the bracket's track while sliding in the rear bracket. See Figure 3-7.

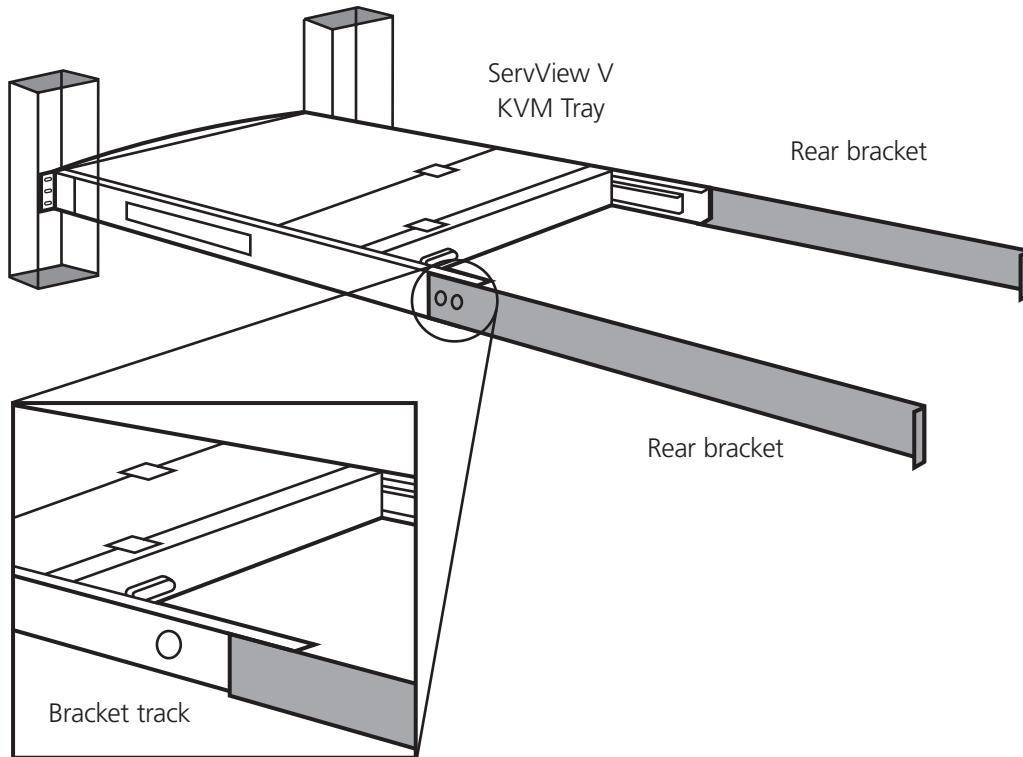


Figure 3-7. Install the rear bracket onto the ServView V KVM Tray's extensions.

- Push the KVM switch module evenly towards the drawer. See Figure 3-8.

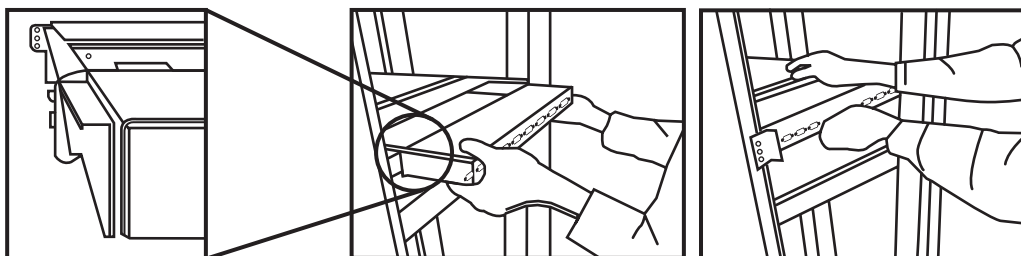


Figure 3-8. Pushing the module towards the drawer.

6. Slide the console drawer out and tightly fasten the screw to the module. See Figure 3-9.

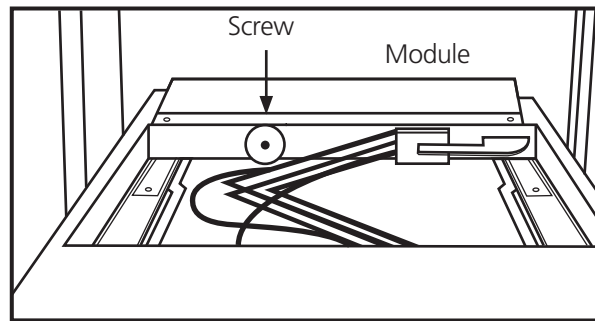


Figure 3-9. Fasten the screw to the module.

7. Remove the four screws held in place with safety stoppers from the front sides of the drawer (left and right) in sequence. See Figure 3-10.

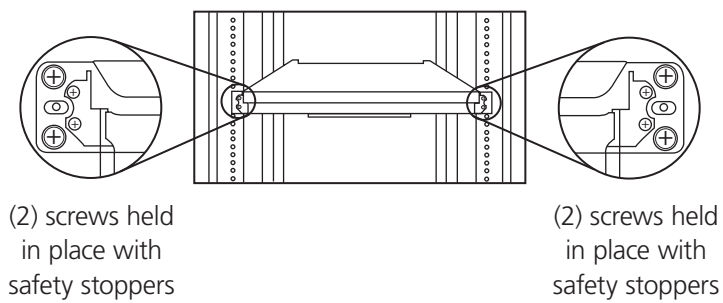


Figure 3-10. Removing the four screws.

## Chapter 3: Assembly and Installation

- Slide out the drawer and then remove the four screws and two safety stoppers from the left and right sides of the KVM Tray in sequence. See Figures 3-11 and 3-12.

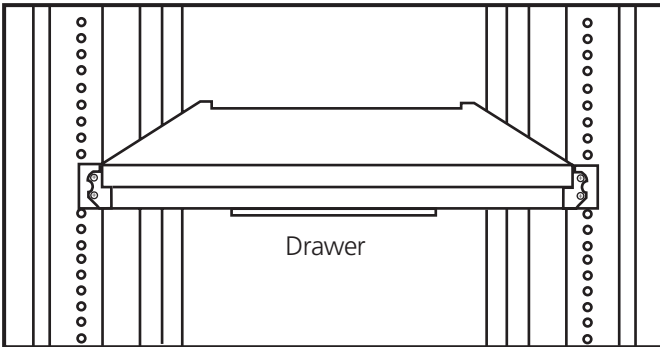


Figure 3-11. Sliding the drawer out.

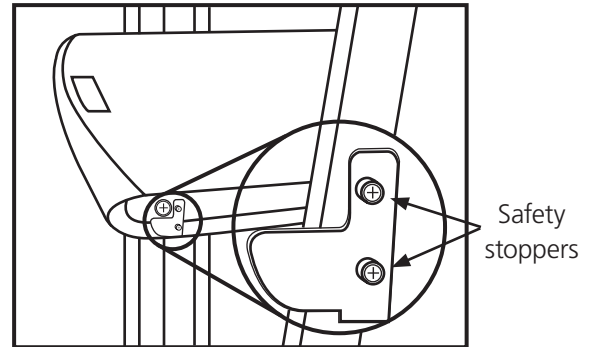


Figure 3-12. Removing the safety stoppers.

**WARNING:** The safety stoppers prevent the drawer from sliding out when in transit. Once you remove the safety stoppers, the drawer may slide out and cause serious injury.

- Connect the power supply to the power jack on the switch module. See Figure 3-13.

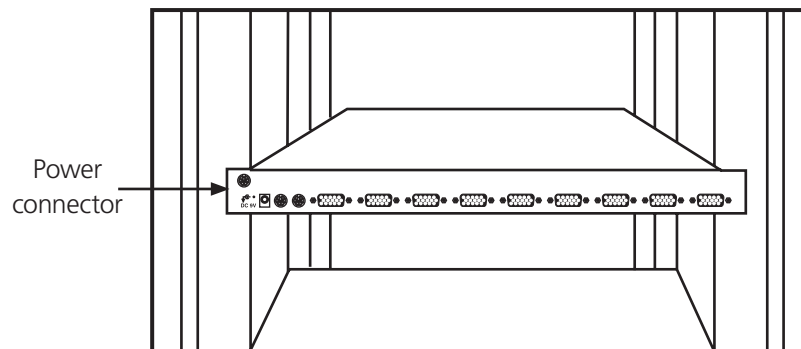


Figure 3-13. Attaching the power supply to the module.

To replace a module, follow Steps 5 and 6 on [pages 14–15](#).



### 3.2 Installation

To install a non Centronics compatible KVM switch module in the ServView V, refer to the user's manual for that module.

The 1-port PS/2 and USB switch module connects to a PS/2 console as shown in Figure 3-14.

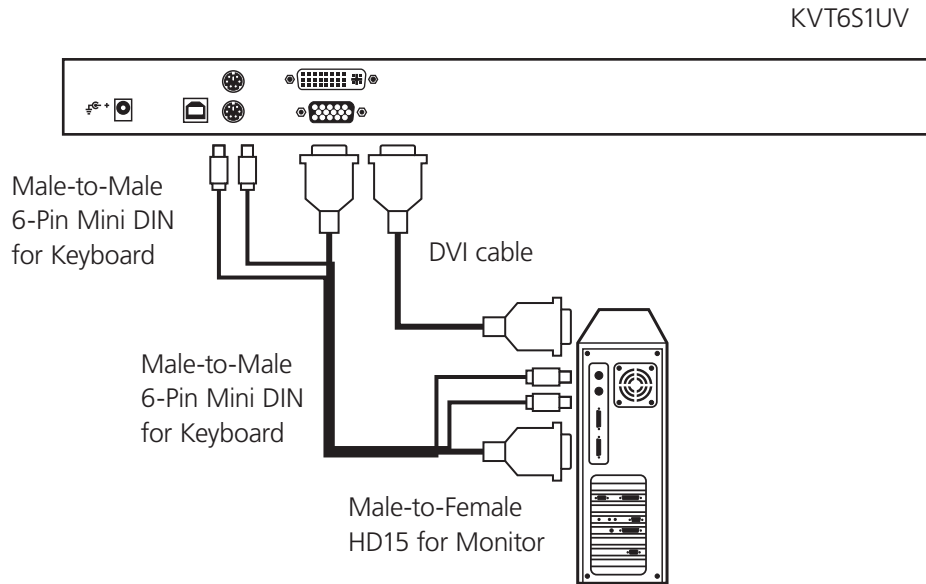


Figure 3-14. 1-port module and PS/2 connected components.

The non Centronics compatible switch module connects to a KVM switch as shown in Figure 3-15.

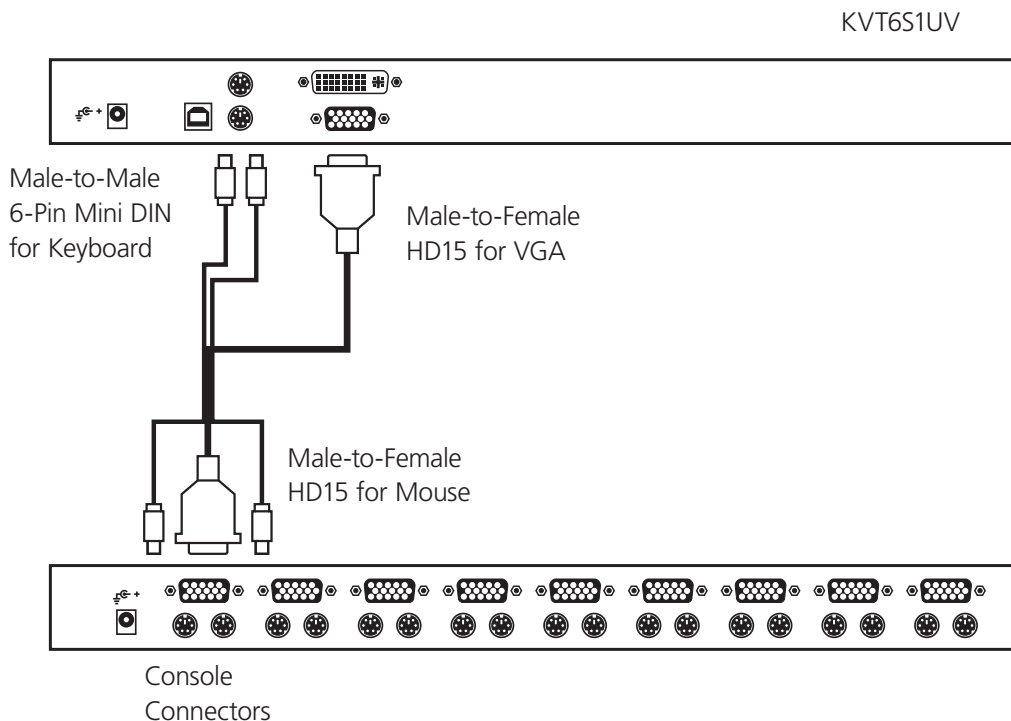


Figure 3-15. 1-port module and 8-port KVM switch with PS/2 console.

*NOTE: Only one video signal (DVI or VGA) can be active at one time.*

## Chapter 3: Assembly and Installation

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The 1-port PS/2 and USB switch module connects to a USB console as shown in Figure 3-16.

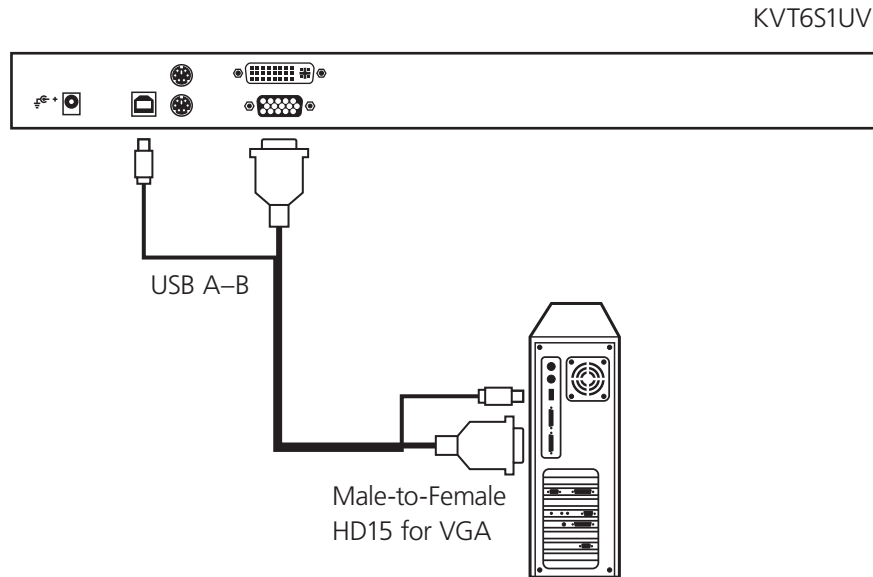


Figure 3-16. 1-port module and USB connected components.

4. Operation

4.1 KVM Control and Status LEDs

KVM control and status information applies only if an 8- or 16-port KVM switch module (KVT4S8UV, KVT4S16UV, KVT4S8PV, KVT4S16PV, KVT8CATUV, KVT16CATUV, KVT11P8CATUV, KVT11P16CATUV, KVT4IP16CATUV) is installed in the ServView V Tray. It does not apply to the 1-port KVM switch module (KVT6S1UV). Figures 4-1 and 4-2 show the ServView V Tray's LCD monitor function buttons and computer selection buttons. An LED lighting bar is at the edge of the handle. Table 4-1 describes the buttons' and LEDs' functions.

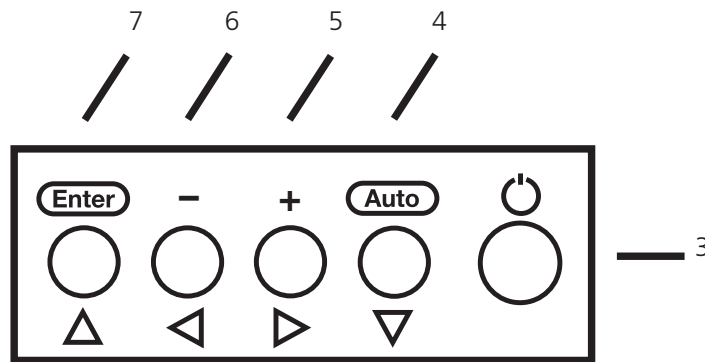


Figure 4-1. LCD monitor function buttons.

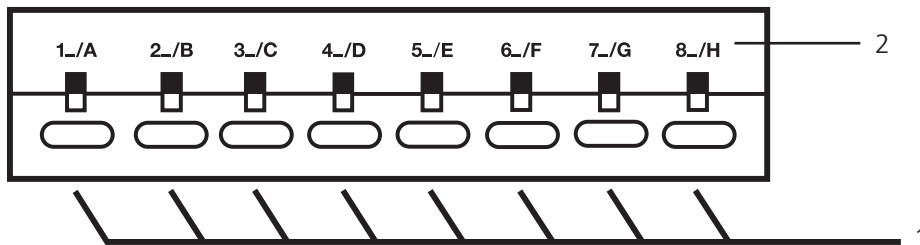


Figure 4-2. Computer selection buttons.

Table 4-1. Front-panel function buttons (operate only if a KVM switch card is installed).

Button or LED	Function	Description
1	Computer selection button (lower)	Press one of these push buttons to select a computer port. For 16-port models, 1–8 represent the lower 8 ports and A–H represent the higher 8 ports. Ports 1 and A share the same push button. If Port 1 is already selected, tap its push button to select Port A. If Port 1 is not selected, press and hold push button 1 for two seconds to select Port 1.
2	Computer selection LED (upper)	When computer Ports 1–8 are selected, this indicator lights red. When computer Ports A–H are selected, the indicator lights flash red.
3	LCD power button	Press this button to turn on power. When power is on, the LCD lights.
4	Auto key	Press this dual-function button to automatically adjust the best setting for the current display signal.  When using the OSD menu, press the Auto key to exit.  When the unit is operating, turn on the OSD menu to set the LCD panel as an ordinary LCD monitor.
5	+ key	When using the OSD submenu, press this dual-function key to increase the value.  When using the OSD menu, press this dual-function key to move to the next item.
6	- key	When using the OSD submenu, press this dual-function key to decrease the value.  When using the OSD menu, press this dual-function key to move to the previous item.
7	Enter key	Press this dual-function key to start the OSD function.  When using the OSD menu, press this dual-function key to enter the OSD submenu.

## 4.2 Extra Keyboard and Mouse Control

The ServView V KVM Tray supports all wireless keyboards and mice, so you can extend your keyboard and mouse control without cable. Typically, you can manage all your servers within 30 feet (10 m) of the ServTray.

NOTE: Check your wireless keyboard specs for distances supported.

You can even install a wireless transceiver in a hidden compartment for an extra keyboard/mouse. Push and lift the lid as shown in Figure 4-3. Via a slide switch, choose wireless keyboard and mouse combination or wireless mouse only for a keyboard/mouse transceiver.

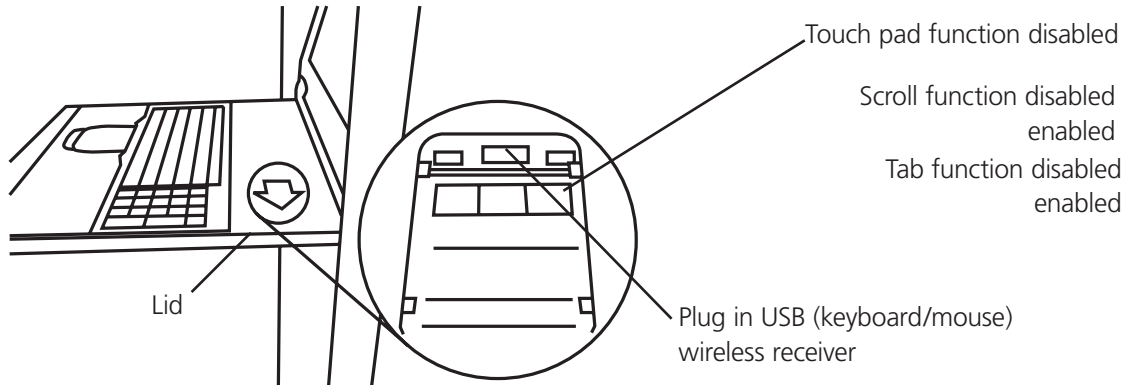


Figure 4-3. Hidden compartment for wireless transceiver.

An expanded USB Type A connector underneath the drawer is shown in Figure 4-3.

Slide the switch to the “keyboard and mouse combo” position or to the “mouse-only” position for an expanded keyboard/mouse transceiver. See Figure 4-4.

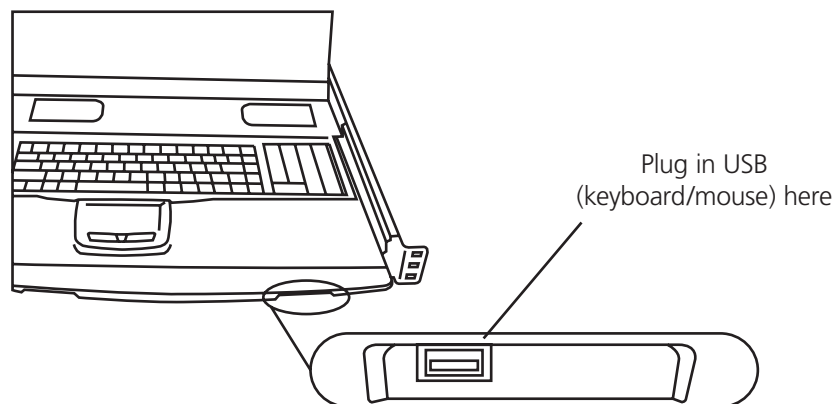


Figure 4-4. USB Type A connector for corded or cordless keyboard and mouse.

### 4.3 Opening and Closing the Console

The ServView V Tray contains two parts: LCD monitor and keyboard/touch pad. You can slide the two parts together or separately. This enables users to view the LCD monitor without pulling out the keyboard.

**WARNING:** Do not lean on the console or keyboard when it is pulled out.

Do not place any object or use significant force on the console drawer when it is pulled out. This may cause personal injury and/or property damage.

Do not put your fingers, hands, or anything else on the rear cabinet. Do not touch any part behind the rear cabinet.

Keep the area behind the drawer clear.

Do not apply force to the monitor screen and do not scratch it. This could damage the screen.

Never disassemble or modify the console drawer for any purpose. This may cause personal injury and/or property damage.

#### 4.3.1 Opening the Console

##### Opening Together

1. You can pull out the LCD monitor and keyboard/touch pad together. See Figure 4-5.

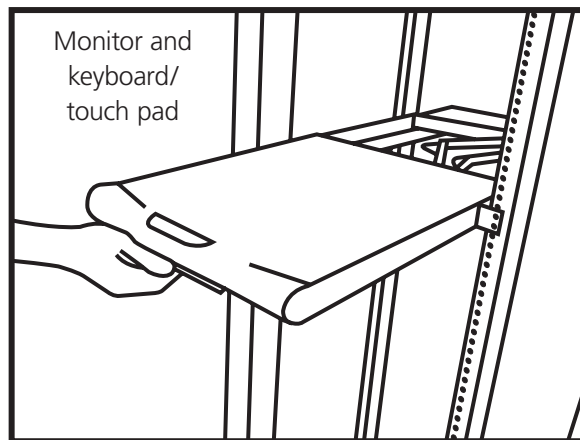


Figure 4-5. Pulling out the monitor and keyboard/touch pad together.

2. When it rests at the position you want, lift out the LCD panel at an angle appropriate for screen display. See Figure 4-6.

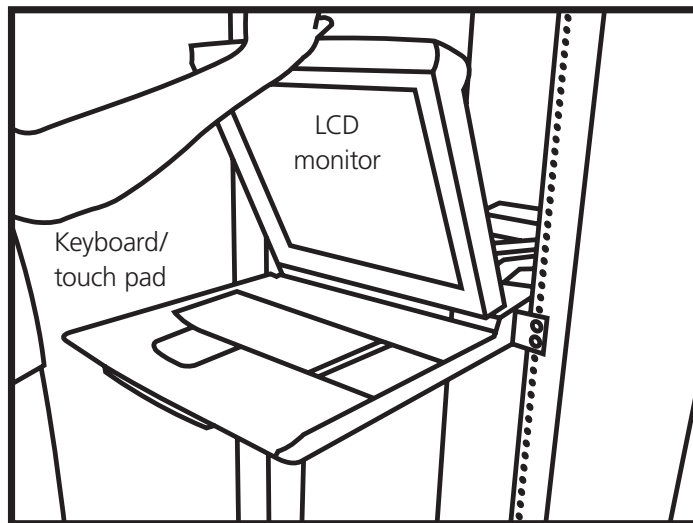


Figure 4-6. Lift out the LCD panel.

### Opening LCD Monitor Only

1. Holding the LCD monitor's handle, pull it upwards. See Figure 4-7.

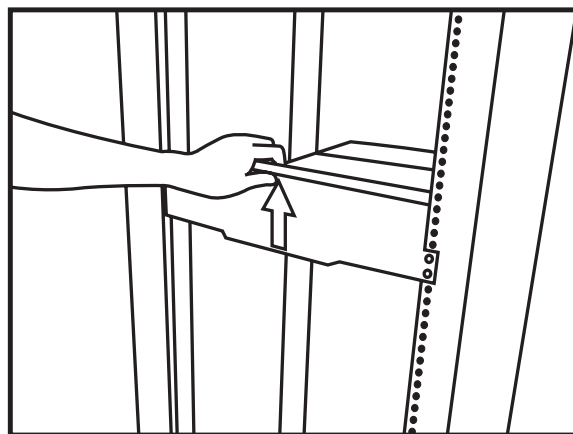


Figure 4-7. Opening the LCD monitor only.

2. When the LCD monitor is released, you will hear a click.
3. Tilt the monitor to an appropriate viewing position. See Figure 4-6.

### 4.3.2 Closing the Console

1. Fold the LCD monitor.
2. Holding the handle, push the folded monitor back evenly.
3. Press the two metal plates down together and push the console back slowly and evenly. See Figure 4-8.

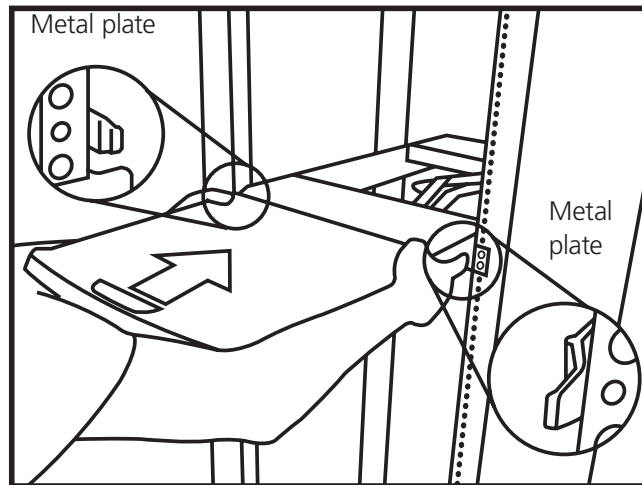


Figure 4-8. Closing the console.

**CAUTION:** When the LCD monitor is pulled out all the way, you will see both edges of two metal unlock plates extended outside. To push the monitor back to the cabinet, first press and hold these two unlock plates together to flatten the monitor. Then push the monitor back slowly and completely to move the metal plates inside the console.



### 4.3.3 Opening the Keyboard/Touch Pad and LCD Monitor Individually

1. To pull out the keyboard touch pad independently, you must first remove the two pairs of screws fastened on a bracket at the keyboard's upper cover on the ends of the left and right sides. See Figure 4-9.

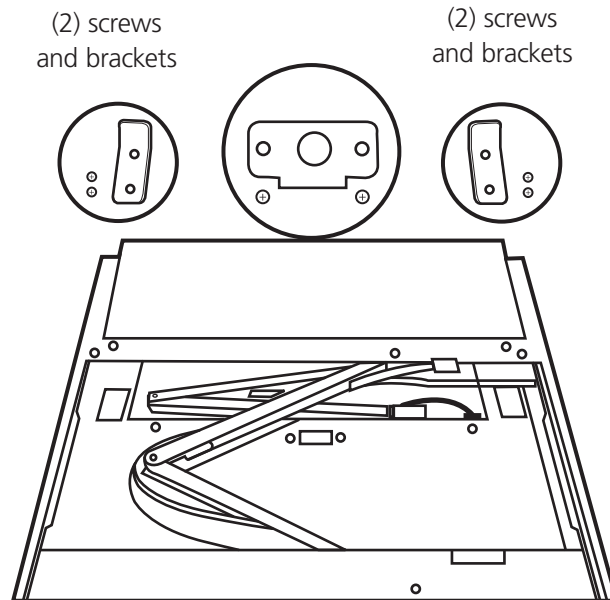


Figure 4-9. Screws on the keyboard/touch pad and LCD monitor assembly.

2. Unscrew and remove the screws one at a time.
3. Then put the screws aside and pull out the keyboard/touch pad and LCD monitor individually. See Figure 4-10.

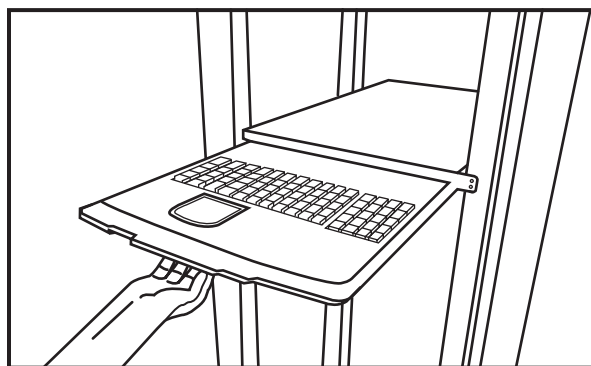


Figure 4-10. Pulling out the keyboard/touch pad and LCD monitor.

### 4.4 Replacing the Keyboard and Touch Pad

#### 4.4.1 Removing the Keyboard

You can remove the keyboard for maintenance or a language change.

1. Pull the keyboard out to the end and unfold the LCD monitor. See Figure 4-11.

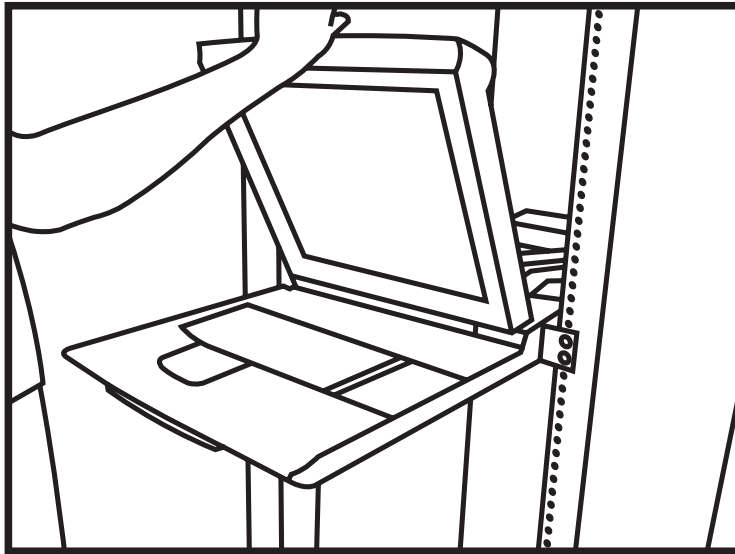


Figure 4-11. Unfold monitor.

2. There is a round hole under the drawer. Using a finger, push the keyboard up and through the hole. See Figure 4-12.
3. Lift it up and locate the mini USB cable under the keyboard.
4. Gently unplug the mini USB cable and take it out.

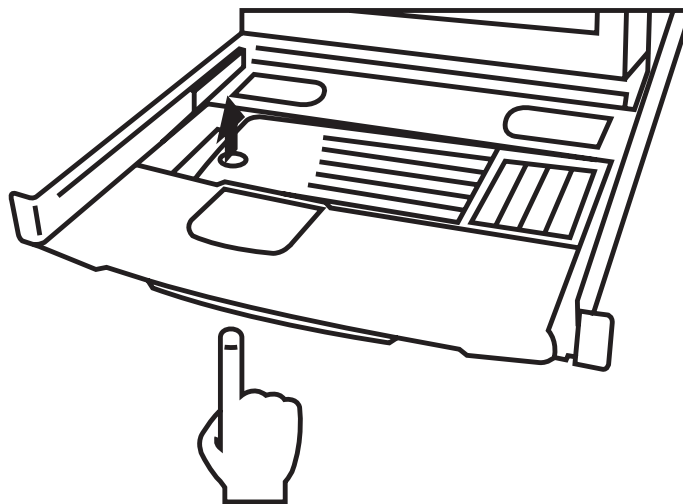


Figure 4-12. Push keyboard up through round hole under the drawer.

### 4.4.2 Replacing the Keyboard

1. When installing a keyboard, make sure you place the cable flat inside the tray.
2. Hold the keyboard evenly with your hands and place it over the foam. Do not use one hand to squeeze the keyboard inside the tray.
3. Double-check that the USB cable is placed inside the tray without any twist.
4. Plug in the keyboard connector firmly. See Figures 4-13 through 4-17.

**WARNING:** Make sure you place the USB cable inside the line holder in a fixed position.

After placing the keyboard inside the tray, make sure the keyboard is positioned flat to avoid any scratching or damage.

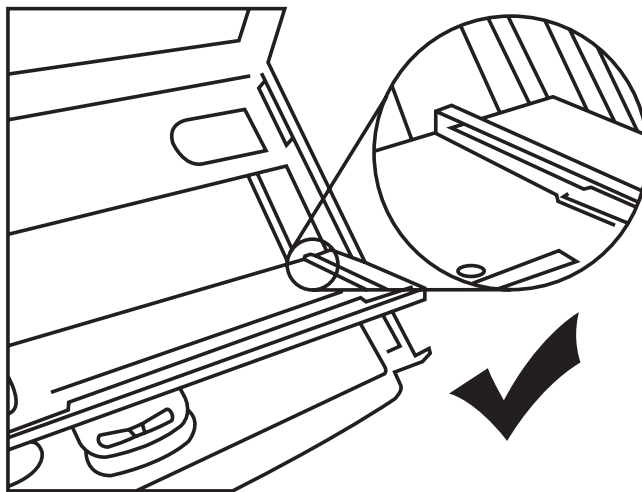


Figure 4-13. Correct way to replace the keyboard, diagram #1.

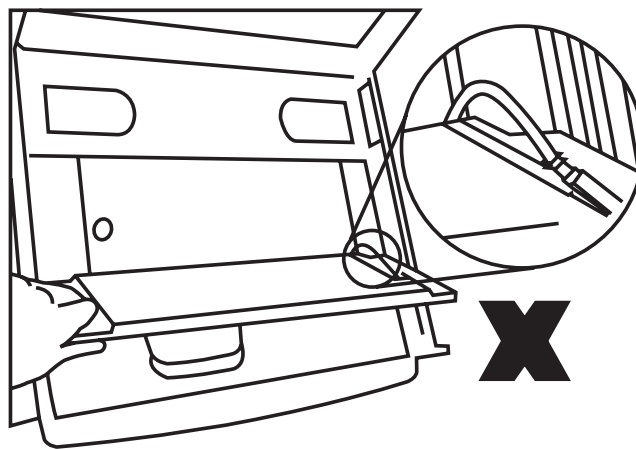


Figure 4-14. Wrong way to replace the keyboard, diagram #1.

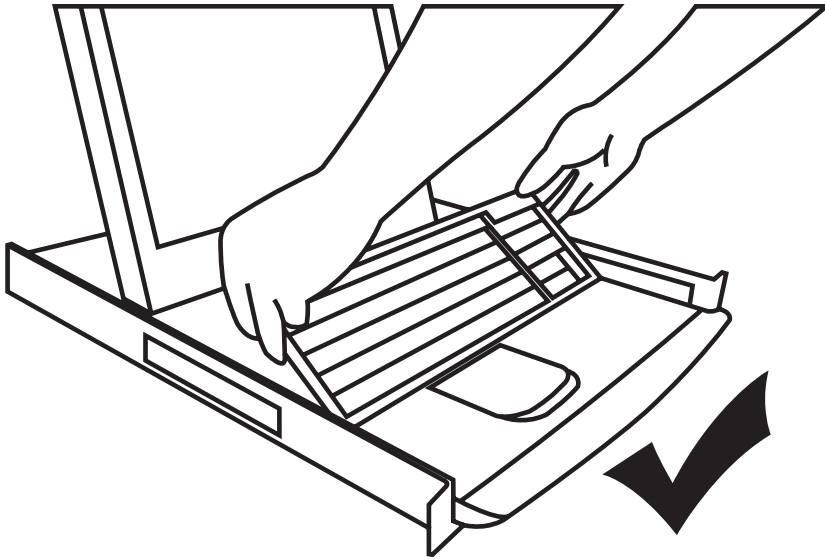


Figure 4-15. Correct way to replace the keyboard, diagram #2.

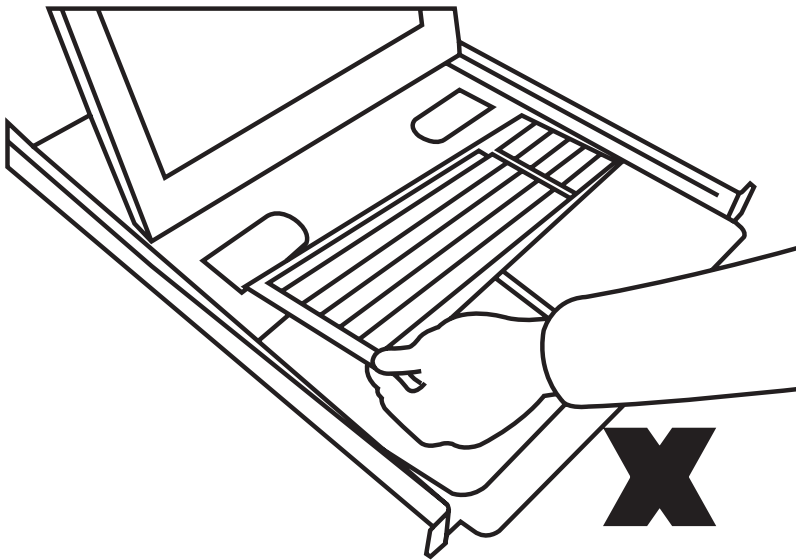


Figure 4-16. Wrong way to replace the keyboard, diagram #2.

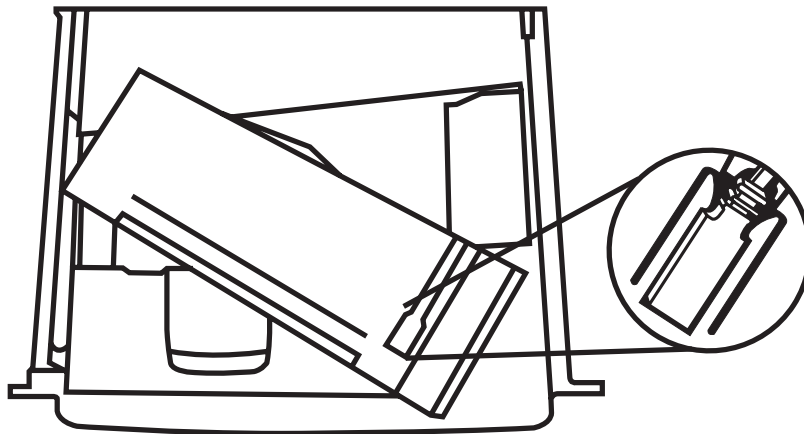


Figure 4-17. Locating the triangular mark on the mini USB connector.

NOTE: Make sure the triangular mark on the mini-USB connector faces outwards.

#### 4.4.3 Alternate Way to Fasten the Keyboard (Recommended)

1. Pull the keyboard out as shown in Figure 4-5.
2. Use the included six tapping screws to fasten the the keyboard and tray together as shown in Figure 4-18.

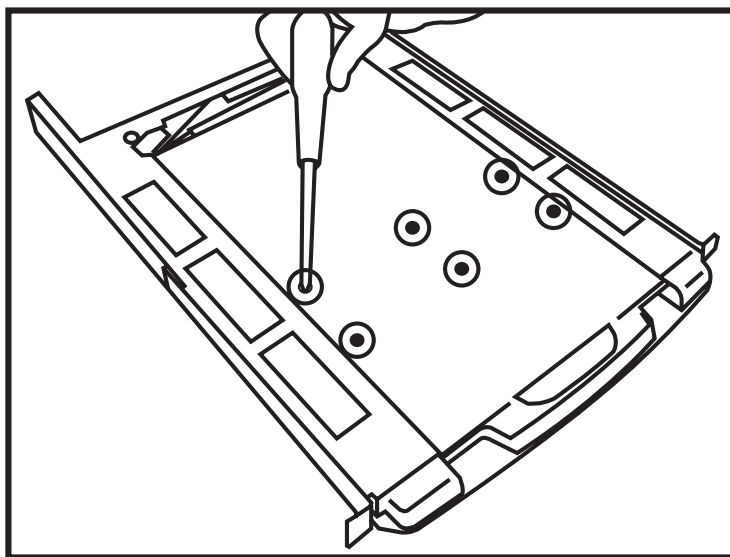


Figure 4-18. Fasten the keyboard and tray together.

### 4.4.4 Replacing the Touch Pad

#### Touch Pad and its Wheel

The right side of the touch pad simulates a wheel mouse. When touching this area, you will see two small triangular marks (this is the simulated wheel). See Figure 4-19.

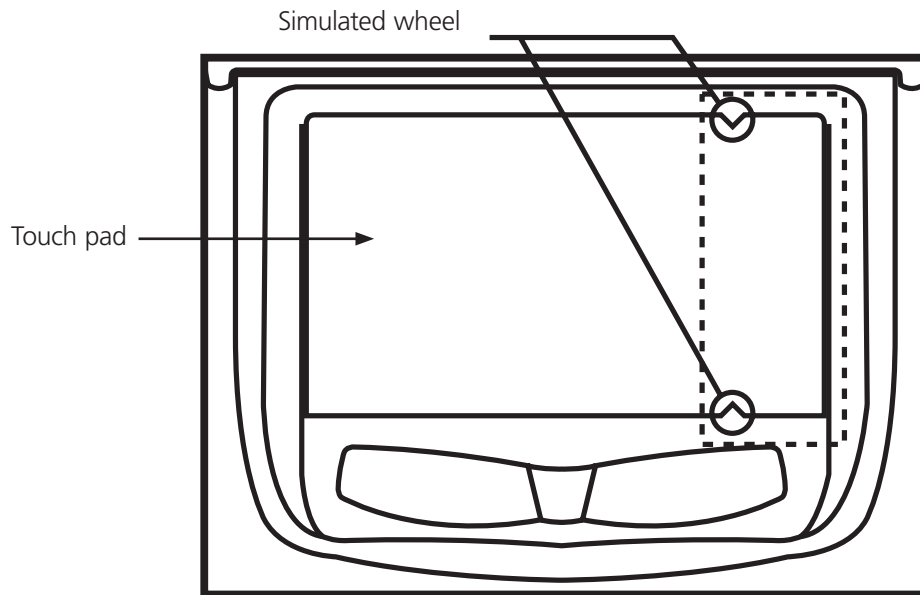


Figure 4-19. Touch pad showing simulated mouse area.

1. To remove the touch pad, press the tab underneath it upward to release the latch. See Figure 4-20.

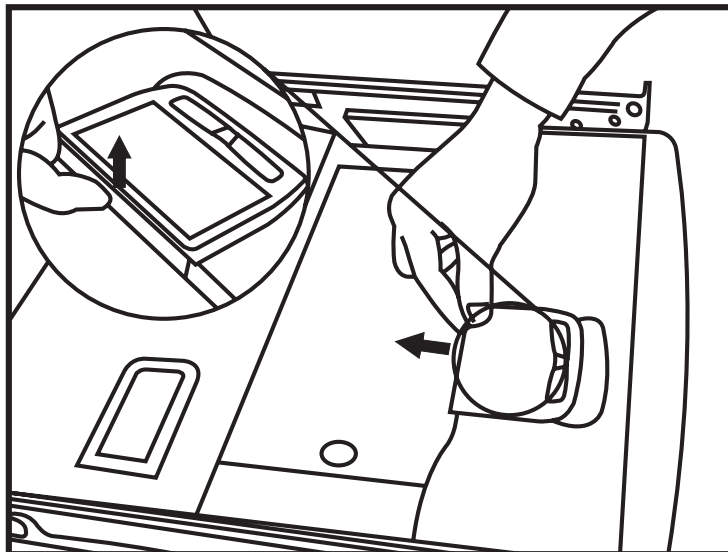


Figure 4-20. Releasing the latch on the touchpad.

2. Then slide the touch pad outwards until it is lifted up and is away from the notches, as shown in Figure 4-21.

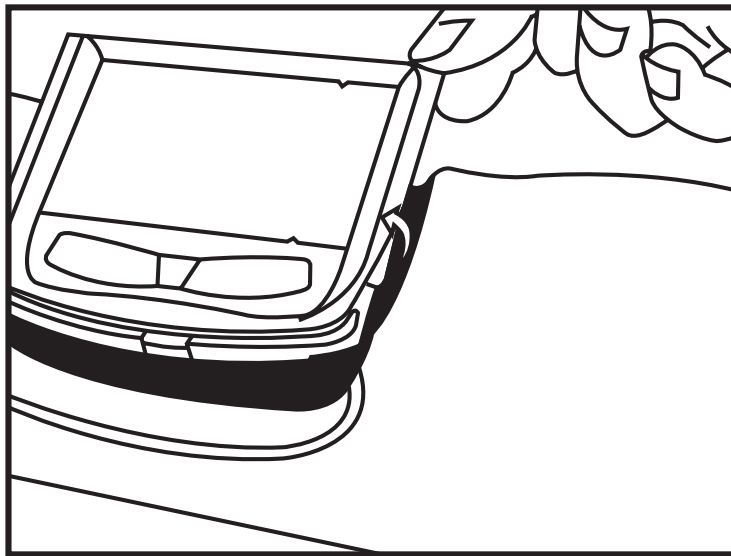


Figure 4-21. Removing the touch pad.

### Installing the Touch Pad

The touch pad attaches to the tray via a mini-USB cable.

To replace the touch pad, adjust the length of the mini USB cable and slide the touch pad all the way in until you hear a clicking sound that indicates the touch pad is locked into position. See Figure 4-22.

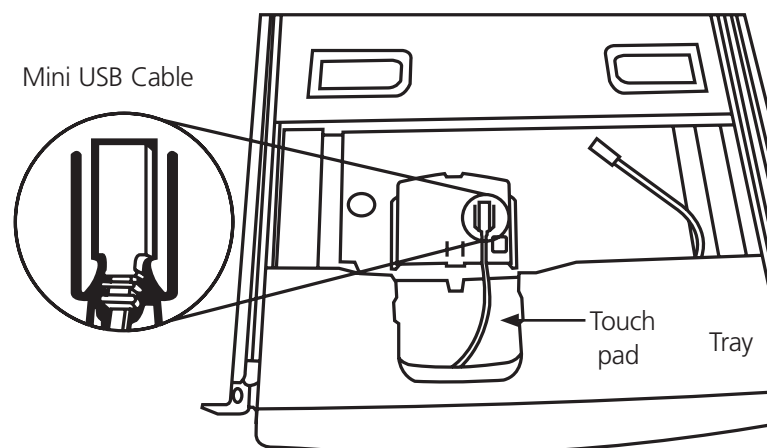


Figure 4-22. Installing the touchpad.

NOTE: Make sure the triangular mark on the mini USB connector faces outwards.

### 5. Troubleshooting

#### 5.1 Calling Black Box

If you determine that your ServView V KVM Tray is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box at 724-746-5500.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem.
- when the problem occurs.
- the components involved in the problem.
- any particular application that, when used, appears to create the problem or make it worse.

#### 5.2 Shipping and Packaging

If you need to transport or ship your ServView V KVM Tray:

- Package it carefully. We recommend that you use the original container.
- If you are shipping the ServTray for repair, make sure you include everything that came in the original package. Before you ship, contact Black Box to get a Return Authorization (RA) number.









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