

# Installation Manual

## RadiForce® GS521-ST

Monochrome Stereoscopic LCD Monitor





### Important

Please read this Installation Manual carefully to familiarize yourself with safe and effective usage.



# SAFETY SYMBOLS

This manual uses the safety symbols below. They denote critical information. Please read them carefully.

 <b>WARNING</b>	
Failure to abide by the information in a WARNING may result in serious injury and can be life threatening.	
 <b>CAUTION</b>	
Failure to abide by the information in a CAUTION may result in moderate injury and/or property or product damage.	
	Indicates a prohibited action.
	Indicates to ground for safety.

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# PRECAUTIONS

To ensure personal safety and proper maintenance, please read this section and the caution statements on the unit (refer to the figure below).

## WARNING

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**If the unit begins to emit smoke, smells like something is burning, or makes strange noises, disconnect all power connections immediately and contact your dealer for advice.**

Attempting to use a malfunctioning unit may result in fire, electric shock, or equipment damage.

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**Do not open the cabinet or modify the unit.**

Opening the cabinet or modifying the unit may result in fire, electric shock, or burn.




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**Refer all servicing to qualified service personnel.**

Do not attempt to service this product yourself as opening or removing covers may result in fire, electric shock, or equipment damage.

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**Keep small objects or liquids away from the unit.**

Small objects accidentally falling through the ventilation slots into the cabinet or spillage into the cabinet may result in fire, electric shock, or equipment damage. If an object or liquid falls/spills into the cabinet, unplug the unit immediately. Have the unit checked by a qualified service engineer before using it again.




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**Place the unit in a sturdy location that can support the product's weight (about 24.5 kg).**

- A unit placed on an inadequate surface may fall and result in injury or equipment damage. If the unit falls, disconnect the power immediately and ask your dealer for advice. Do not continue using a damaged unit. Using a damaged unit may result in fire or electric shock.
  - Firmly grasp the upper monitor and fix the main unit in position with the wire to prevent earthquake damage (sold separately).
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**Set the unit in an appropriate location.**

Not doing so may result in fire, electric shock, or equipment damage.

- Do not place outdoors.
- Do not place in the transportation system (ship, aircraft, trains, automobiles, etc.)
- Do not place in a dusty or humid environment.
- Do not place in a location where water is splashed on the screen (bathroom, kitchen, etc.).
- Do not place in a location where the steam comes directly on the screen.
- Do not place near heat generating devices or a humidifier.
- Do not place in a location where the product is subject to direct sunlight.
- Do not place in an inflammable gas environment.




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**To avoid danger of suffocation, keep the plastic packing bags away from babies and children.**

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**Use the enclosed power cord and connect to the standard power outlet of your country.**

Be sure to remain within the rated voltage of the power cord. Not doing so may result in fire or electric shock. Power supply: 100-120/200-240 Vac, 50/60 Hz

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**To disconnect the power cord, grasp the plug firmly and pull.**

Tugging on the cord may damage and result in fire or electric shock.



## **WARNING**

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### **The equipment must be connected to a grounded main outlet.**

Not doing so may cause in fire or electric shock.



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### **Use the correct voltage.**

- The unit is designed for use with a specific voltage only. Connection to another voltage than specified in this User's Manual may cause fire, electric shock, or equipment damage.  
Power supply: 100-120/200-240 Vac, 50/60 Hz
- Do not overload your power circuit, as this may result in fire or electric shock.

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### **Handle the power cord with care.**

- Do not place the cord underneath the unit or other heavy objects.
- Do not pull on or tie the cord. If the power cord becomes damaged, stop using it. Use of a damaged cord may result in fire or electric shock.



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### **For the electrical safety, do not connect or disconnect the power cord in the presence of patients.**

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### **Never touch the plug and power cord if it begins to thunder.**

Touching them may result in electric shock.



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### **Do not touch a damaged LCD panel directly with bare hands.**

The liquid crystal which leaks from the panel is poisonous if it enters the eyes or mouth. If any part of the skin or body comes in direct contact with the panel, please wash thoroughly. If some physical symptoms result, please consult your doctor.



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### **Fluorescent backlight lamps contain mercury (the products that have LED backlight lamps contain no mercury), dispose according to local, state or federal laws.**

Exposure to elemental mercury can result in effects on the nervous system, including tremor, memory loss, and headache.

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## **CAUTION**

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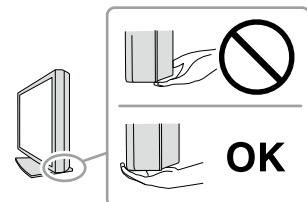
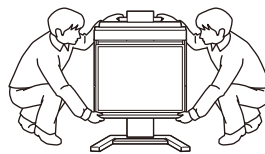
### **Handle with care when carrying the unit.**

Disconnect the power cord and cables when moving the unit. Moving the unit with the cord attached is dangerous. It may result in injury.

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### **Carry or place the unit according to the correct specified methods.**

- When carrying the unit, remove the half-silvered mirror and then grasp and hold firmly the bottom of the monitor as shown in the illustration on the right. Do not touch the panel surface.
- Do not unpack or carry the unit only by a single person, since the large size unit is so heavy. Dropping the unit may result in injury or equipment damage.



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### **Avoid applying impactive force.**

Do not apply impactive force to the unit. It may cause failure of the unit.

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## CAUTION

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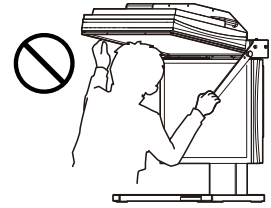
### **Firmly fix the half-silvered mirror and attach the fall prevention cap.**

Failure to do this may cause the half-silvered mirror to fall, resulting in injury.

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### **When raising the half-silvered mirror, make sure that it is locked. Never put your head under the upper monitor.**

To view a two-dimensional image, raise the half-silvered mirror and firmly lock it. If the half-silvered mirror falls, it may result in a serious injury.



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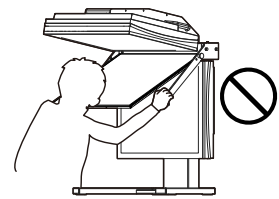
### **If you discover any damage such as cracks on the half-silvered mirror, stop the operation immediately and ask your dealer for advice.**

It may cause a serious injury.

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### **Raise the half-silvered mirror or return it to its original position slowly with both hands.**

- Make sure not to get your hand stuck in the left and right arms.
- It may result in injury.



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### **Do not block the ventilation slots on the cabinet.**

- Do not place any objects on the ventilation slots.
- Do not install the unit in a closed space.
- Do not use the unit laid down or upside down.

Blocking the ventilation slots prevents proper airflow and may result in fire, electric shock, or equipment damage.



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### **Do not touch the plug with wet hands.**

Doing so may result in electrical shock.



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### **Use an easily accessible power outlet.**

This will ensure that you can disconnect the power quickly in case of a problem.



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### **Periodically clean the area around the plug.**

Dust, water, or oil on the plug may result in fire.

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### **Unplug the unit before cleaning it.**

Cleaning the unit while it is plugged into a power outlet may result in electric shock.

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### **If you plan to leave the unit unused for an extended period, disconnect the power cord from the wall socket after turning off the power switch for the safety and the power conservation.**

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## Notice for this monitor

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This product is intended to be used in displaying and viewing digital images including those of digital mammography for review and analysis by trained medical practitioners.

**Caution:** Federal law (USA) restricts this device to sale by or on the order of a physician.

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This product has been adjusted specifically for use in the region to which it was originally shipped. If the product is used outside the region, it may not operate as specified in the specifications.

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This product may not be covered by warranty for uses other than those described in this manual.

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The specifications noted in this manual are only applicable when the following are used:

- Power cords provided with the product
  - Signal cables specified by us
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Only use optional products manufactured or specified by us with this product.

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It takes about 30 minutes for the performance of electrical parts to stabilize. Please wait 30 minutes or more after the monitor power has been turned on or the monitor has recovered from the power saving mode, and then adjust the monitor.

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It takes about a few minutes for the image quality to reach acceptable level. Please wait a few minutes or more after the monitor power has been turned on or the monitor has recovered from the power saving mode, and then view images for diagnosis.

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Monitors should be set to a lower brightness to reduce changes in luminosity caused by long-term use and maintain a stable display.

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When the screen image is changed after displaying the same image for extended periods of time, an afterimage may appear. Use the screen saver or power save function to avoid displaying the same image for extended periods of time.

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Periodic cleaning is recommended to keep the monitor looking new and to prolong its operation lifetime. (Refer to “Cleaning” on the next page.)

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The screen may have defective pixels or a small number of light dots on the screen. This is due to the characteristics of the panel itself, and is not a malfunction of the product.

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The backlight of the LCD panel has a fixed lifetime. When the screen becomes dark or begins to flicker, please contact your dealer.

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Do not press on the panel or edge of the frame strongly, as this may result in display malfunctions, such as interference patterns, etc. If pressure is continually applied to the panel, it may deteriorate or damage your panel. (If the pressure marks remain on the panel, leave the monitor with a black or white screen. The symptom may disappear.)

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Do not scratch or press on the panel with any sharp objects, as this may result in damage to the panel. Do not attempt to brush with tissues as this may scratch the panel.

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When the monitor is cold and brought into a room or the room temperature goes up quickly, dew condensation may occur on the interior and exterior surfaces of the monitor. In that case, do not turn the monitor on. Instead wait until the dew condensation disappears, otherwise it may cause some damage to the monitor.

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## Cleaning

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**Attention**

- Chemicals such as alcohol and antiseptic solution may cause gloss variation, tarnishing, and fading of the cabinet, panel, half-silvered mirror, or polarized glasses and also quality deterioration of the image.
  - Never use any thinner, benzene, wax, and abrasive cleaner, which may damage the cabinet, panel, half-silvered mirror, or polarized glasses.
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If necessary, the stains on the cabinet, panel, half-silvered mirror, and polarized glasses surface can be removed by using the provided ScreenCleaner.

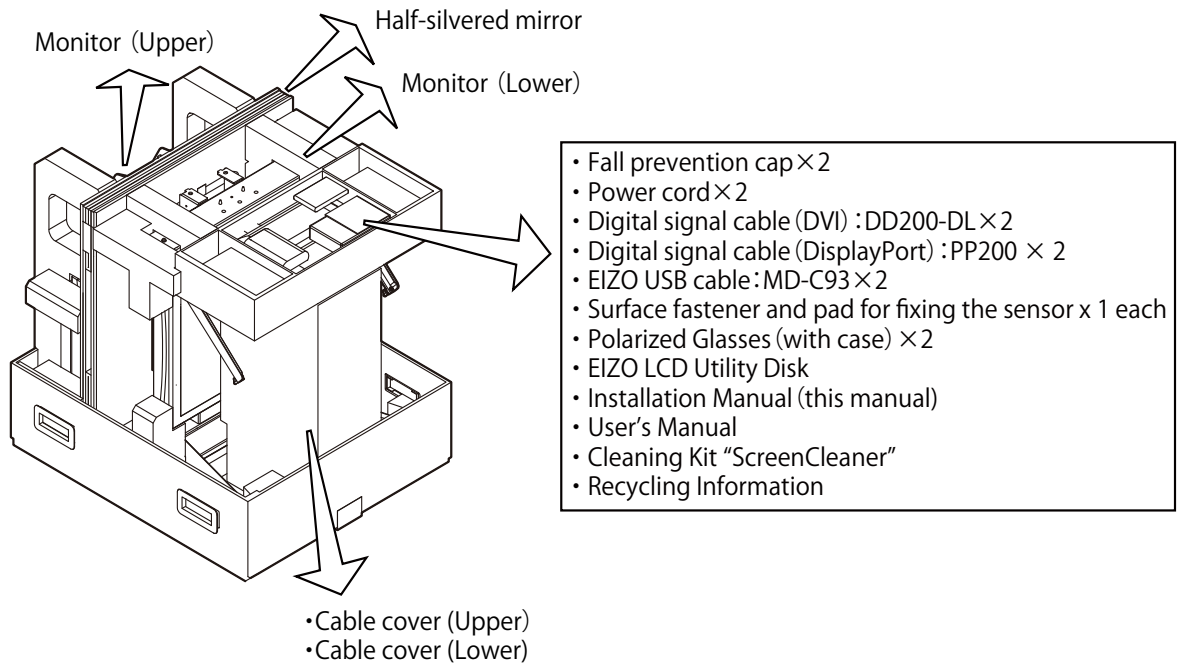
## To use the monitor comfortably

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- An excessively dark or bright screen may affect your eyes. Adjust the brightness of the monitor according to the environmental conditions.
- Staring at the monitor for a long time tires your eyes. Take a 10-minute rest every hour.
- If you become fatigued or experience discomfort while viewing 3D images, stop using the monitor.

# Package Contents

Check that all the following items are included in the packaging box. If any items are missing or damaged, contact your local dealer.



## Attention

- Gently remove the half-silvered mirror as it can be damaged.

## NOTE

- Please keep the packaging box and materials for future movement or transport of the monitor.

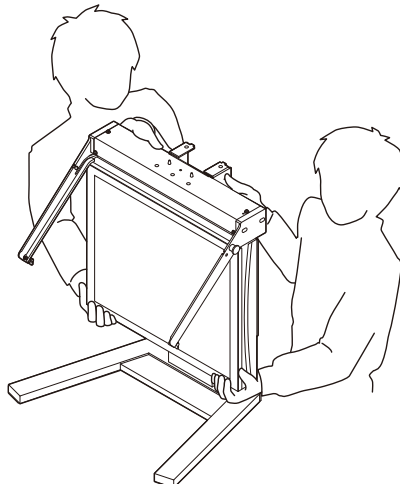
# Installation

## Attention

- The installation procedure must be performed by two or more persons.

## 1 Place the lower monitor on a stable surface.

Have two persons hold the monitor as shown in the illustration below and place it on a stable surface.





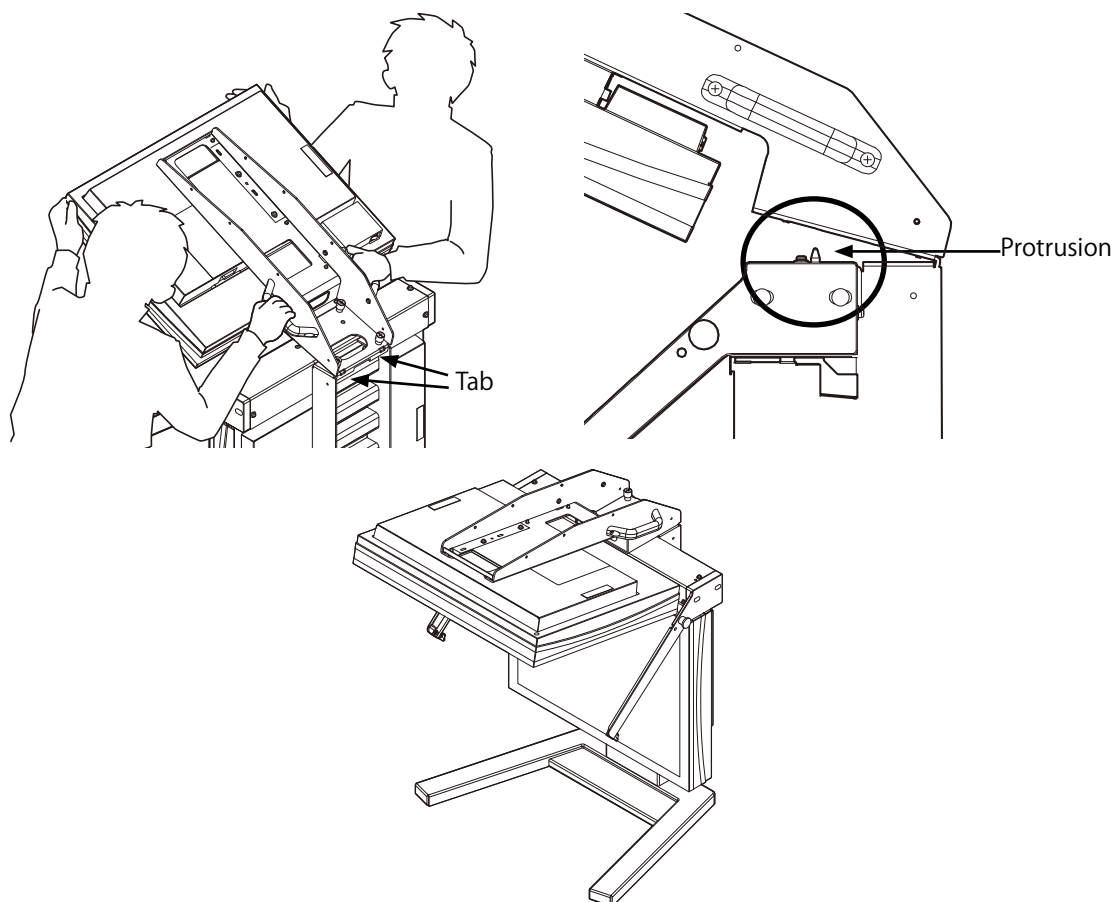
## 2 Attach the upper monitor to the lower monitor.

Hook the upper monitor onto the tabs of the lower monitor and then engage it with the protrusions.

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**Attention**

- Check that there are no foreign materials on the joint section of the upper and lower monitors.
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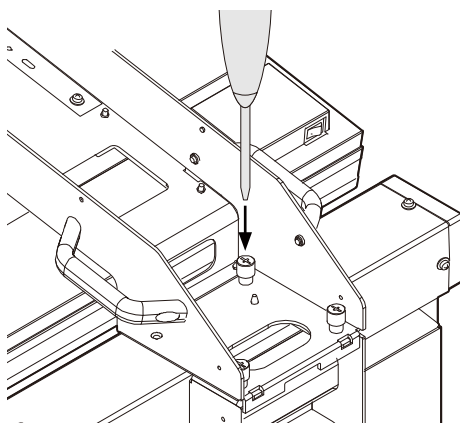


## 3 Using a screwdriver, tighten the upper monitor screws (4 locations) to fix the upper and lower monitors. (The screwdriver must be prepared separately.)

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**Attention**



- Firmly tighten the screws or double images may appear.
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## 4 Connect necessary cables to the upper and lower monitors.

Connect the upper monitor signal cable to the input signal connector for the right eye image and the lower monitor signal cable to the input signal connector for the left eye image on the PC.

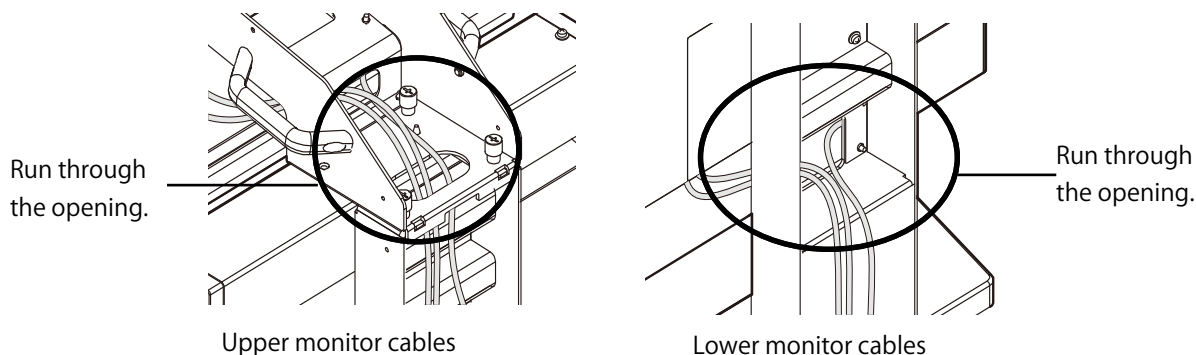
Connect the power cords to the power connectors for the upper and lower monitors and the standard power outlet.

Connect the USB cables to the USB ports for the upper and lower monitors (upstream ) and the PC's USB port (downstream )

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**Attention**

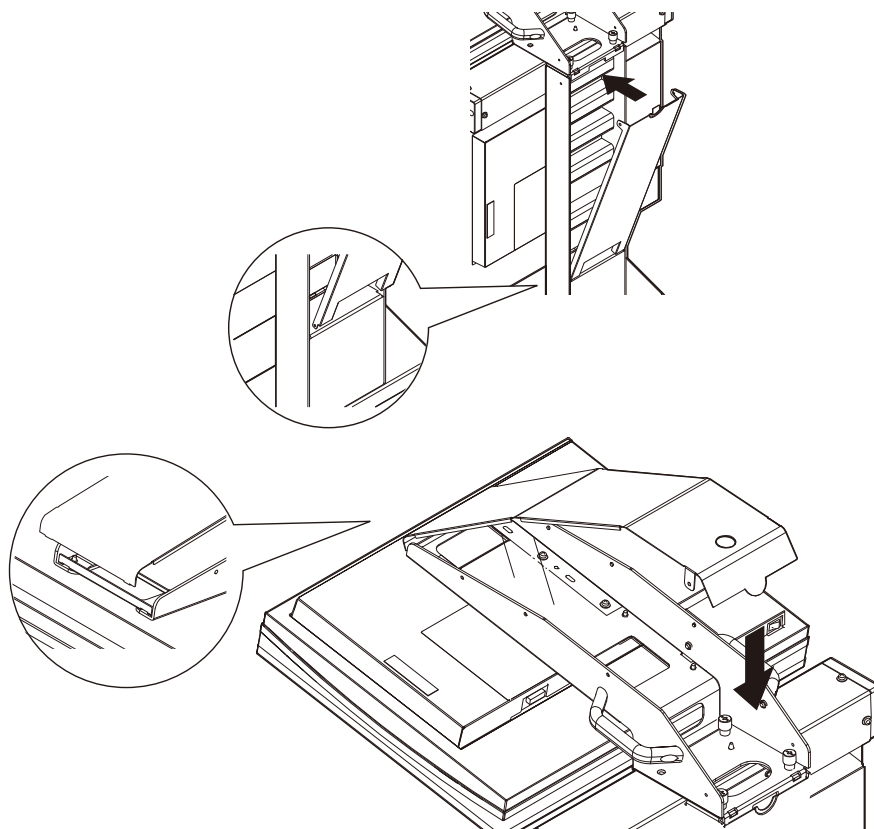
- Run the connection cables down through the opening as shown in the illustration below.
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## 5 Attach the cable covers to the upper and lower monitors.

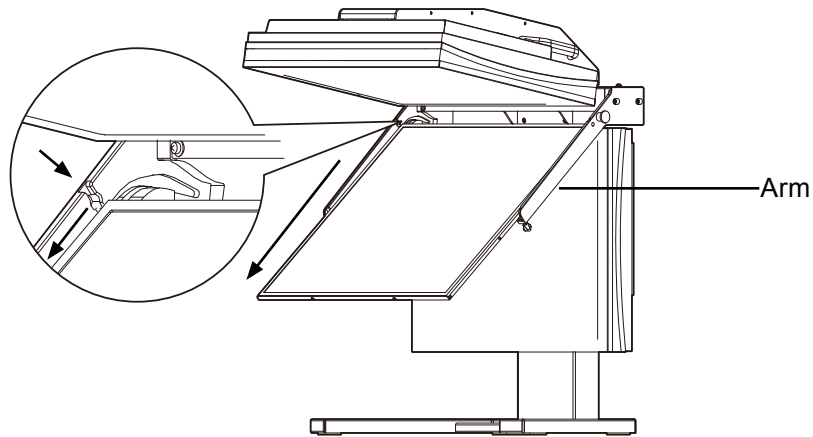
First fit the lower cable cover in the groove and attach it.

Then fit the upper cable cover in the groove from the front and set it over the lower cover.



## 6 Attach the half-silvered mirror.

Insert the half-silvered mirror pins from the top into the grooves inside the left and right arms. Then pull the half-silvered mirror toward you.

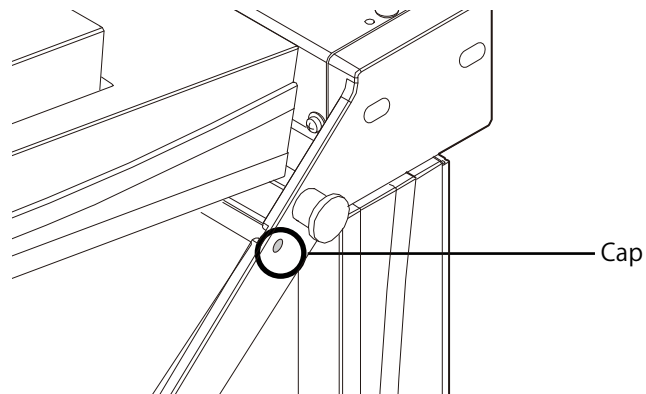


## 7 Attach the left and right fall prevention caps.

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**Attention**

- Firmly tighten the caps or the half-silvered mirror may fall.
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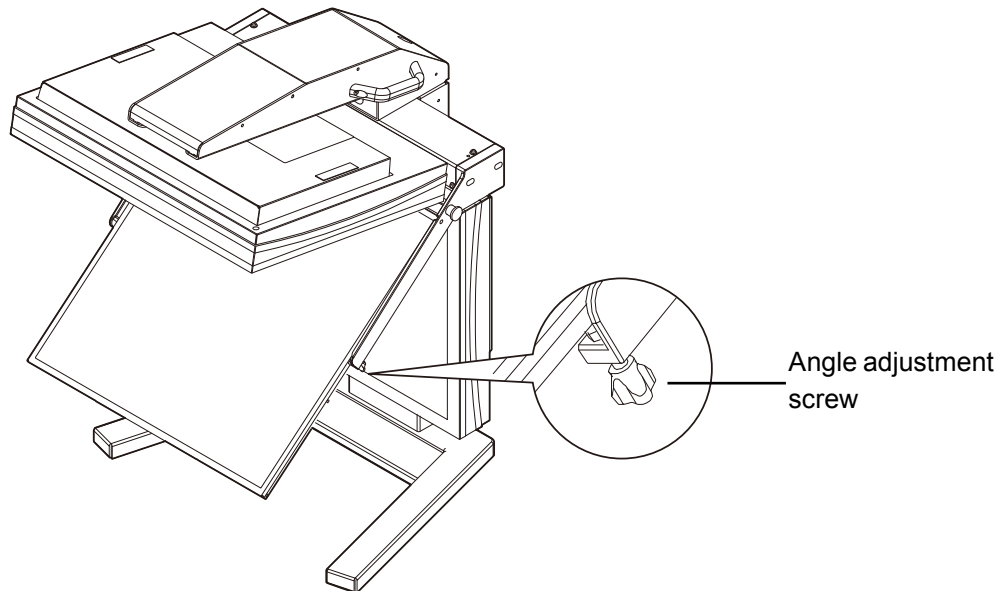
## 8 This completes the installation procedure.

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**Attention**

- If the half-silvered mirror angle needs to be adjusted, tighten or loosen the angle adjustment screw until the angle is adjusted.
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For the basic operations, refer to the User's Manual.



# Calibration

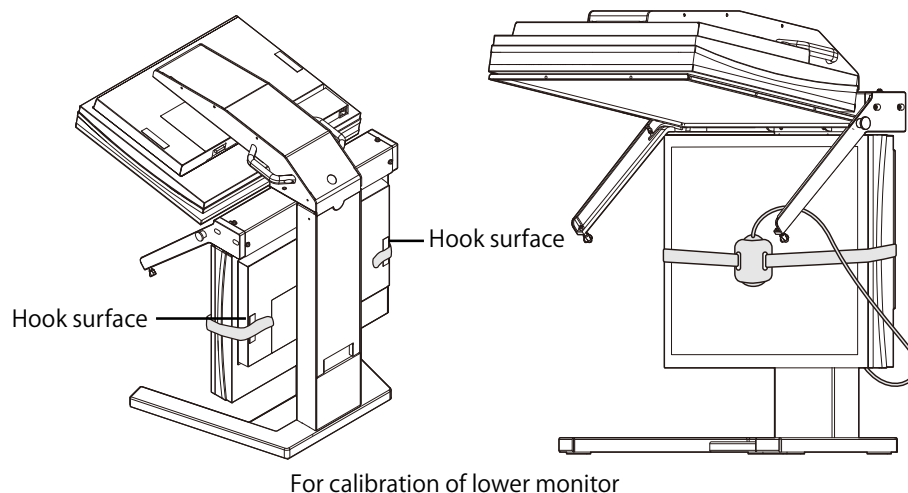
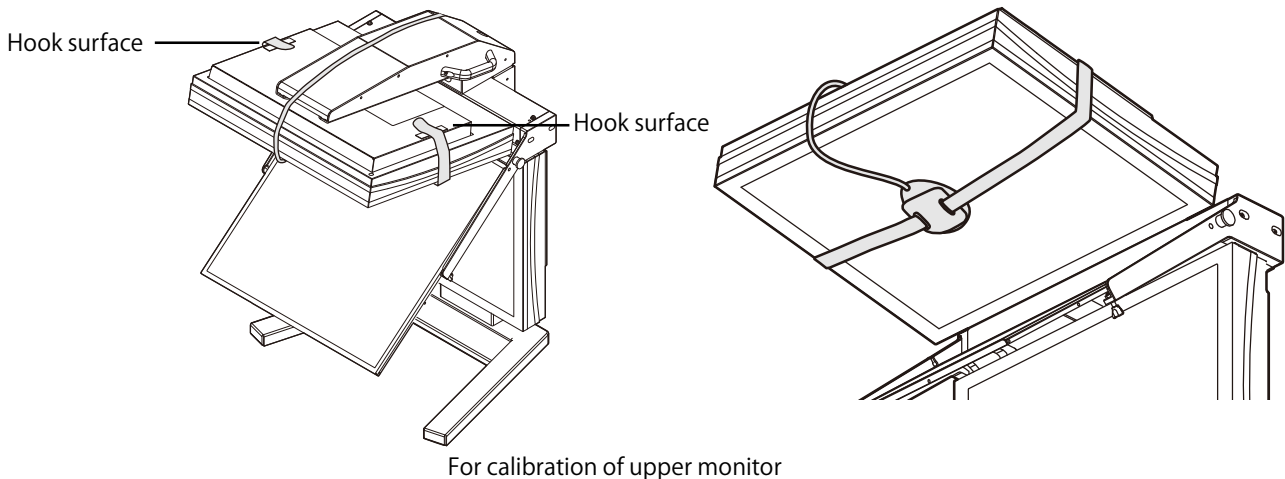
## Attention

- If the half-silvered mirror angle needs to be adjusted, tighten or loosen the angle adjustment screw until the angle is adjusted.

- 1** Connect the sensor to the downstream USB port of the monitor or PC and hang it on the monitor panel surface.
- 2** Affix one side of the surface fastener to the left hook surface. While holding the sensor with the pad so that it adheres tightly to the panel surface, affix the other side of the surface fastener to the right hook surface.

## Attention

- Do not tighten the surface fastener excessively.
- When performing the calibration for the lower monitor, raise the half-silvered mirror while referring to the User's Manual.



- 3** Perform the calibration.
- 4** After the calibration, remove the surface fastener and the sensor.



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