

OPERATION MANUAL

Rear Mounted Speakers

SP-RM3a

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DEAR CUSTOMER

Thank you for your purchase of a product. To ensure safety and many years of trouble-free operation of your product, please read the “[Safety Precautions and Maintenance](#)” carefully before using this product. Mounting the monitor requires expertise and the work must be carefully performed by a trained service person in accordance with the section “[Mounting Precautions \(For SHARP dealers and service engineers\)](#)”.

NOTE:
Product warranty does not cover damage caused by improper installation. Failure to follow these recommendations could result in voiding the warranty

Important Information



Information on the Disposal of this Equipment and its Batteries

IF YOU WISH TO DISPOSE OF THIS EQUIPMENT OR ITS BATTERIES, DO NOT USE THE ORDINARY WASTE BIN, AND DO NOT PUT THEM INTO A FIREPLACE!

Used electrical and electronic equipment and batteries should always be collected and treated SEPARATELY in accordance with local law.

Separate collection promotes an environment-friendly treatment, recycling of materials, and minimizing final disposal of waste. IMPROPER DISPOSAL can be harmful to human health and the environment due to certain substances! Take USED EQUIPMENT to a local, usually municipal, collection facility, where available.

Remove USED BATTERIES from equipment, and take them to a battery collection facility; usually a place where new batteries are sold.

If in doubt about disposal, contact your local authorities or dealer and ask for the correct method of disposal.

ONLY FOR USERS IN THE EUROPEAN UNION, AND SOME OTHER COUNTRIES; FOR INSTANCE NORWAY AND SWITZERLAND: Your participation in separate collection is requested by law.

The symbol shown above appears on electrical and electronic equipment and batteries (or the packaging) to remind users of this. If 'Hg' or 'Pb' appears below the symbol, this means that the battery contains traces of mercury (Hg) or lead (Pb), respectively.

Users from PRIVATE HOUSEHOLDS are requested to use existing return facilities for used equipment and batteries.

Batteries are collected at points of sale. Return is free of charge.

If the equipment has been used for BUSINESS PURPOSES, please contact your SHARP dealer who will inform you about take-back. You might be charged for the costs arising from take-back. Small equipment (and small quantities) might be taken back by your local collection facility. For Spain: Please contact the established collection system or your local authority for take-back of your used products.

- NOTE:**
- (1) The contents of this manual may not be reprinted in part or whole without permission.
 - (2) The contents of this manual are subject to change without notice.
 - (3) Great care has been taken in the preparation of this manual; however, should you notice any questionable points, errors or omissions, please contact us.
 - (4) The image shown in this manual is indicative only. If there is inconsistency between the image and the actual product, the actual product shall govern.
 - (5) Notwithstanding articles (3) and (4), we will not be responsible for any claims on loss of profit or other matters deemed to result from using this device.
 - (6) This manual is commonly provided to all regions so they may contain descriptions that are pertinent for other countries.
 - (7) Language of OSD menu used in this manual is English by way of example.

Safety Precautions & Maintenance

FOR OPTIMUM PERFORMANCE, PLEASE NOTE
THE FOLLOWING WHEN SETTING UP AND
USING THE LCD COLOR MONITOR:

About the Symbols

To ensure safe and proper use of the product, this manual uses a number of symbols to prevent injury to you and others as well as damage to property. The symbols and their meanings are described below. Be sure to understand them thoroughly before reading this manual.

 WARNING	Failing to heed this symbol and handling the product incorrectly could result in accidents leading to major injury or death.
 CAUTION	Failing to heed this symbol and handling the product incorrectly could result in personal injury or damage to surrounding property.

Examples of symbols

	This symbol indicates a warning or caution.
	This symbol indicates a prohibited action.
	This symbol indicates a mandatory action.

 WARNING	
 UNPLUG THE POWER CORD	Unplug the power cord if the product malfunctions. Should the product emit smoke or strange odors or sounds, or if the product has been dropped or the cabinet broken, turn off the product's power, then unplug the power cord from the power outlet. Contact your dealer for repairs. Never try to repair the product on your own. Doing so is dangerous.
 DO NOT MODIFY	Do not open or remove the product's cabinet. Do not disassemble the product. There are high voltage areas in the product. Opening or removing product covers and modifying the product may expose you to electric shock, fire, or other risks. Refer all servicing to qualified service personnel.
 PROHIBITED	Do not use the product if it has structural damage. If you notice any structural damage such as cracks or unnatural wobbling, please refer servicing to qualified service personnel. If the product is used in this condition, the product may fall or cause personal injury.

Safety Precautions & Maintenance



WARNING

Handling the power cord.

 PROHIBITED	Do not scratch or modify the cord. - Do not place heavy objects on the cord. - Do not let the weight of the product rest on the cord. - Do not cover the cord with a rug, etc. - Do not bend, twist or pull the cord with excessive force. - Do not apply heat to the cord. Handle the power cord with care. Damaging the cord could lead to fire or electric shock. If the cord gets damaged (exposed core wires, broken wires, etc.), turn off the product's power, then unplug the power cord from the power outlet. Ask your dealer to replace it.
 DO NOT TOUCH	Do not touch the power plug if you hear thunder. Doing so could result in electric shock.
 DO NOT TOUCH WITH WET HANDS	Do not connect or disconnect the power cord with wet hands. It may cause an electric shock.
 REQUIRED	Please use the power cord provided with this product. Do not exceed the product's specified power supply voltage where it is installed. Doing so could result in a fire or electric shock. Please refer to the power supply voltage information in the specification. If a power cord is not supplied with this product, please contact us. For all other cases, please use the power cord with the plug style that matches the power socket where the product is located. The compatible power cord corresponds to the AC voltage of the power outlet and has been approved by, and complies with, the safety standards in the country of purchase.
 MUST BE EARTHED	This equipment is designed to be used in the condition of the power cord connected to the earth. If the power cord is not connected to the earth, it may cause electric shock. Please make sure the power cord is connected to the wall outlet directly and earthed properly. Do not use a 2-pin plug converter adapter.
 REQUIRED	For proper installation it is strongly recommended to use a trained service person. Failure to follow the standard installation procedures could result in damage to the product or injury to the user or installer.
 REQUIRED	Please install the product in accordance with the following information. This product cannot be used or installed without the table top stand or other mounting accessory for support. When transporting, moving, or installing the product, please use as many people as necessary (at least two) to be able to lift the product by the two handles without causing personal injury or damage to the product. PN-M652, PN-P656: DO NOT use this product on the floor with the table top stand. Please use this product on a table or with a mounting accessory for support. Please refer to the instructions included with the optional mounting equipment for detailed information about attaching or removing. Do not cover the vents on the product. Improper installation of the product may result in damage to the product, an electric shock or fire.

Safety Precautions & Maintenance

 WARNING	
 REQUIRED	Do not install the product in the locations below: • Poorly ventilated spaces. • Near a radiator, other heat sources, or in direct sunshine. • Continual vibration areas. • Humid, dusty, steamy, or oily areas. • An environment where there are corrosive gases (sulfur dioxide, hydrogen sulfide, nitrogen dioxide, chlorine, ammonia, ozone, etc.). • Outdoors. • High-temperature environment where humidity changes rapidly and condensation is likely to occur. • A ceiling or wall that is not strong enough to support the product and mounting accessories. Do not mount the product upside down.
 REQUIRED	Stability Hazard. The product may fall, causing serious personal injury or death. To prevent injury, this product must be securely attached to the floor/wall in accordance with the installation instructions. Many injuries, particularly to children, can be avoided by taking simple precautions such as: • ALWAYS use stands or installation methods recommended by the manufacturer of the product set. • ALWAYS use furniture that can safely support the product. • ALWAYS ensure the product is not overhanging the edge of the supporting furniture. • ALWAYS educate children about the dangers of climbing on furniture to reach the product or its controls. • ALWAYS route cords and cables connected to your product so they cannot be tripped over, pulled or grabbed. • NEVER place a product in an unstable location. • NEVER place the product on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the product to a suitable support. • NEVER place the product on cloth or other materials that may be located between the product and supporting furniture. • NEVER place items that might tempt children to climb, such as toys and remote controls, on the top of the product or furniture on which the product is placed. If the existing product is going to be retained and relocated, the same considerations as above should be applied.
 PROHIBITED	Do not place this product on a sloping or unstable cart, stand or table. Doing so could lead to falling or tipping and cause personal injury.
 PROHIBITED	Do not insert objects of any kind into the cabinet slots. It may cause electric shock, fire, or product failure. Keep objects away from children and babies. If objects get into the cabinet slot, turn off the product's power, then unplug the power cord from the power outlet. Contact your dealer for repairs.
 DO NOT WET	Do not spill any liquids into the cabinet or use your product near water. Immediately turn off the power and unplug your product from the wall outlet, then refer servicing to qualified service personnel. It may cause an electric shock or start a fire. Do not install the product under equipment that discharges water, such as air conditioners.
 PROHIBITED	Do not use flammable gas sprays to remove dust when cleaning the product. Doing so could lead to a fire.
 PROHIBITED	Usage of the product must not be accompanied by fatal risks or dangers that, could lead directly to death, personal injury, severe physical damage or other loss, including nuclear reaction control in nuclear facility, medical life support system, and missile launch control in a weapon system.

Safety Precautions & Maintenance

 CAUTION	
 PROHIBITED	Do not stay in contact with the parts of the product that become hot for long periods of time. Doing so may result in low-temperature burns.
 REQUIRED	Avoid locations with extreme temperatures and humidity. Failure to do so could lead to fire or electric shock or damage to the product. The usage environment for this product is as follows: • The operating temperature: 0 °C to 40 °C/32 °F to 104 °F/ humidity: 20 to 80% (without condensation) • The storage temperature: -20 °C to 60 °C/-4 °F to 140 °F/ humidity: 10 to 80% (without condensation)

NOTE:

- This product can only be serviced in the country where it was purchased.
- When you use a network, your communication data is exposed to the risks of being stolen or illegally accessed. To avoid these risks, you need to use this monitor in a secure network environment.

Supplied Components

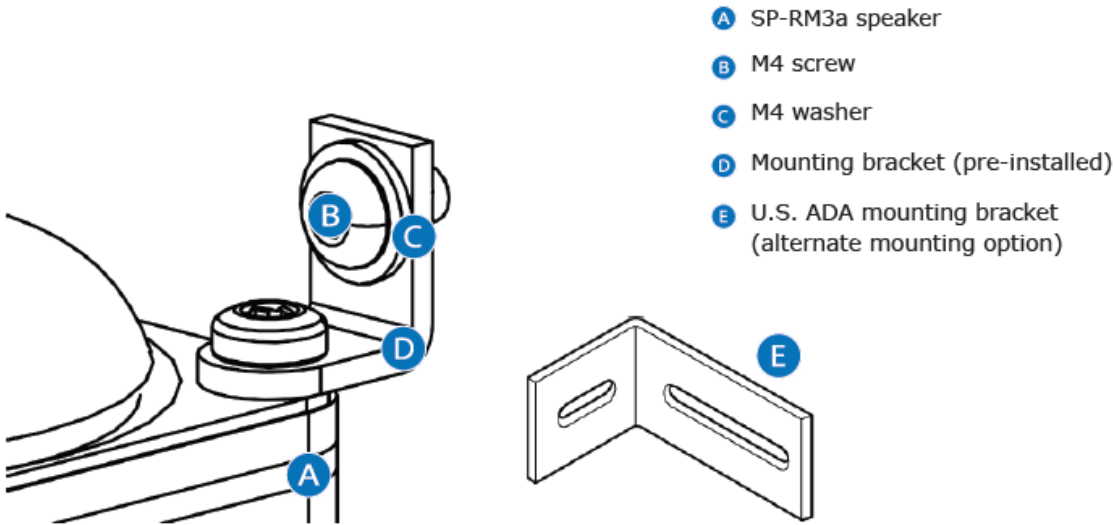
Shipping Content

- SP-RM3a Speakers
- M4 Screws
- M4 Washers
- Mounting Brackets (pre-installed on the speakers)
- U.S. ADA Mounting Brackets
- Speaker Cables
- Power Supply
- Interchangeable Power Plug Adapters (EU, US, UK, AU)

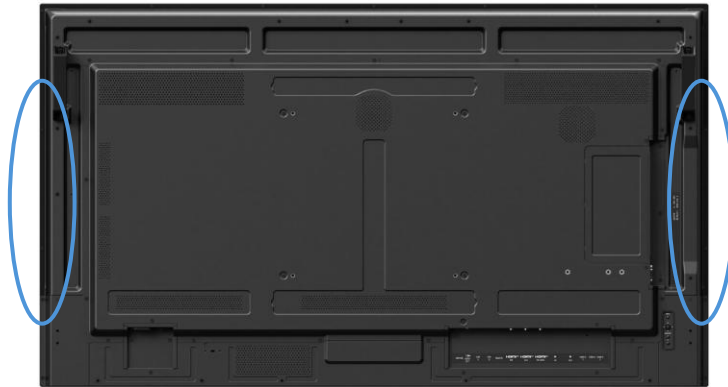
Parts List

Part	Quantity	Description
A	2	Speakers (SP-RM3 or SP-RM3a)
B	4	M4 Screw
C	4	M4 Washer
D	4	Mounting bracket (pre-installed)
E	4	U.S. ADA mounting brackets

Parts Identification



Mounting the Speakers



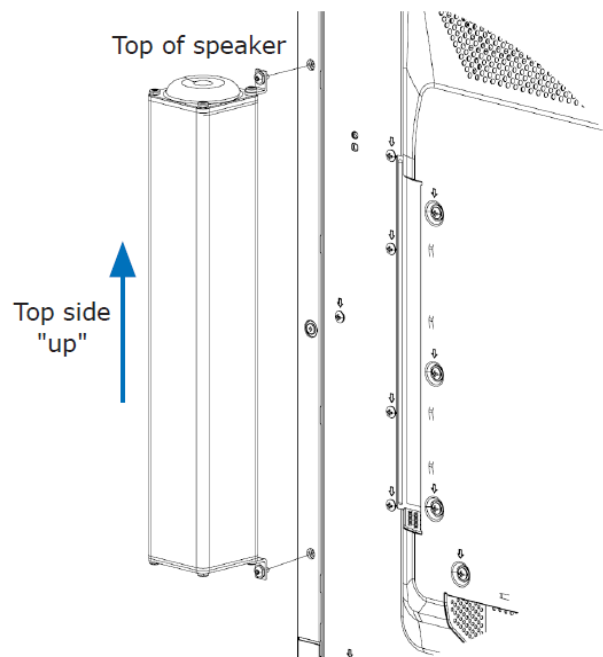
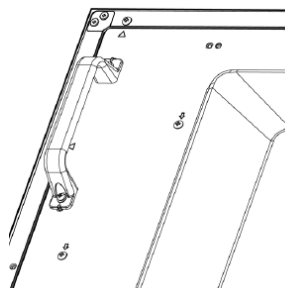
CAUTION: Never lift the monitor by speaker or speaker brackets after installation.

Attaching the speakers

Reminder: The mounting brackets are pre-installed on the speaker. The U.S. ADA compatible brackets are not required to follow the instructions below.

1. Turn OFF the main power switch on the monitor.
2. Using two M4 screws and two washers, attach the left speaker's (= RM3a speaker with amplifier) mounting bracket to the monitor.
3. Repeat step 2 for the right speaker.

NOTE: If needed, remove any handles from the monitor to be able to move the speakers behind the monitor.



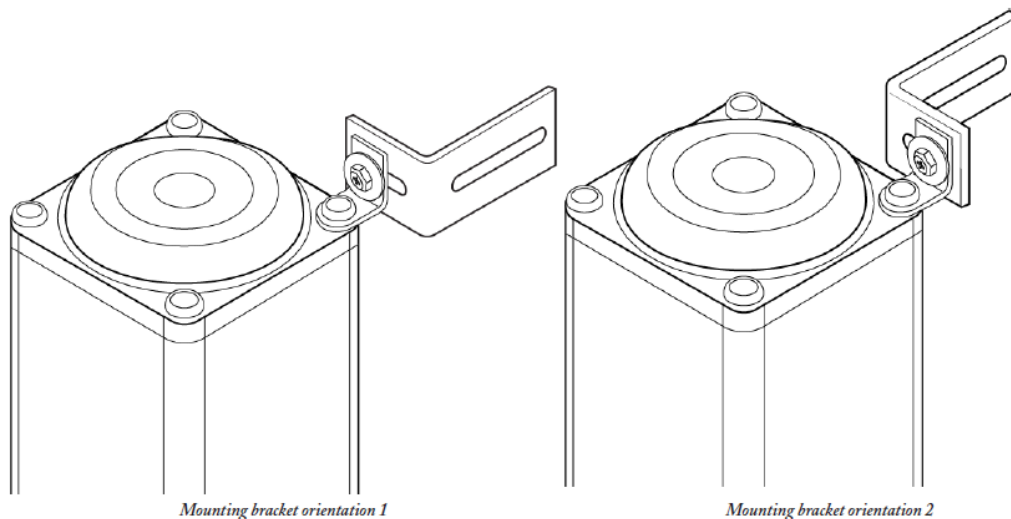
IMPORTANT: The mounting position described leaves the speakers visible from the front of the monitor. This is the recommended mounting position for the best sound quality. For a concealed installation, the speaker can be flipped to the display's backside (depending on the selected monitor model). Not all monitors, especially sizes smaller than 42inch, allow for an entirely hidden speaker installation.

Mounting the Speakers

U.S. ADA mounting bracket installation options

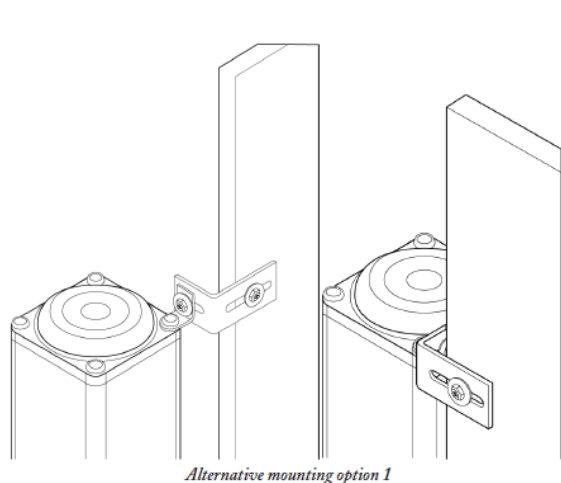
Optional: attach the U.S. ADA compatible mounting brackets

Mounting brackets that comply with the ADA guidelines in the United States have been provided for alternative mounting options. To use the ADA mounting brackets, first attach them to the speaker before mounting the speaker to the monitor.

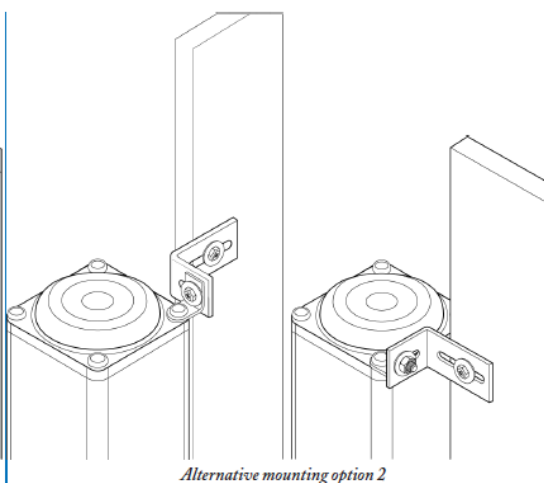


NOTE: These brackets are optional, they are not required to mount the speakers to the monitor.

Mounting option 1:



Mounting option 2:



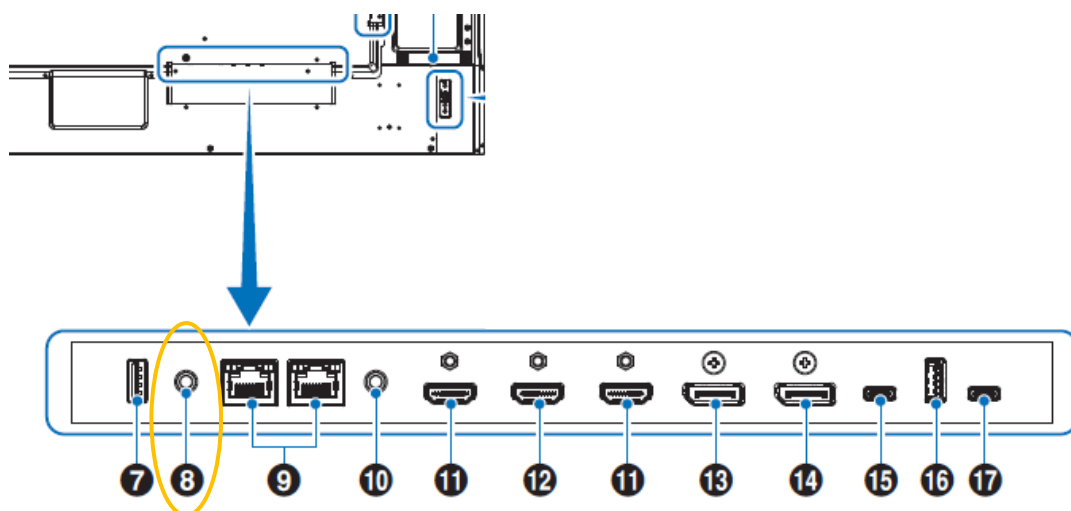
Connecting the Cables

NOTE:

- We recommend turning off the monitor's main power before connecting the speakers, external



- Do not connect or disconnect cables when turning on the monitor's main power or other external equipment's power as this may result in a loss of image or sound. Fully complete the cable connections before powering on the monitor or external devices.
- Do not use an attenuating (built-in resistor) audio cable. Using an audio cable with a built-in resistor will lower the sound level. Use an audio cable without a built-in resistor.
- The illustrations in this section are for example purposes only. Please refer to the user's manual for your product to locate the terminal connection panel and the OSD menu settings for the monitor model you are using.



IMPORTANT:

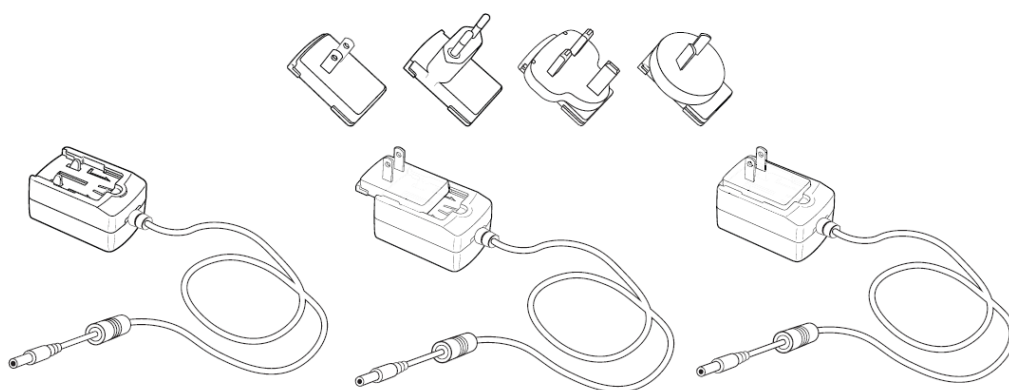
- The illustration shown is for reference purposes only.
- Your display may differ from the illustrations.
- Actual connections depend on the display model used.

Connecting the Cables

Before you begin

1. Select the plug adapter for the plug style that matches the power socket where the speaker is located.
1. Connect the plug adapter to the power supply base.

NOTE: The following illustration is for example purposes only; your power supply and power adapters may look slightly different.



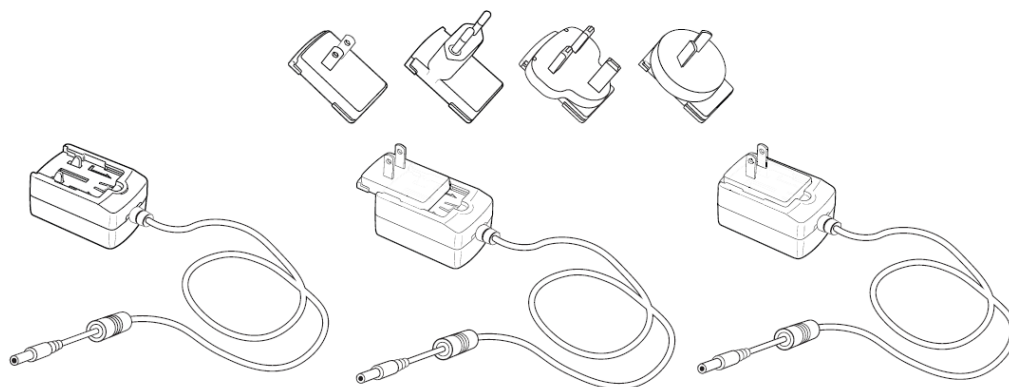
CAUTION: Do not plug the power supply into the active speaker until directed to do so in the instructions below.

Connecting the Cables

Before you begin

1. Select the plug adapter for the plug style that matches the power socket where the speaker is located.
2. Connect the plug adapter to the power supply base.

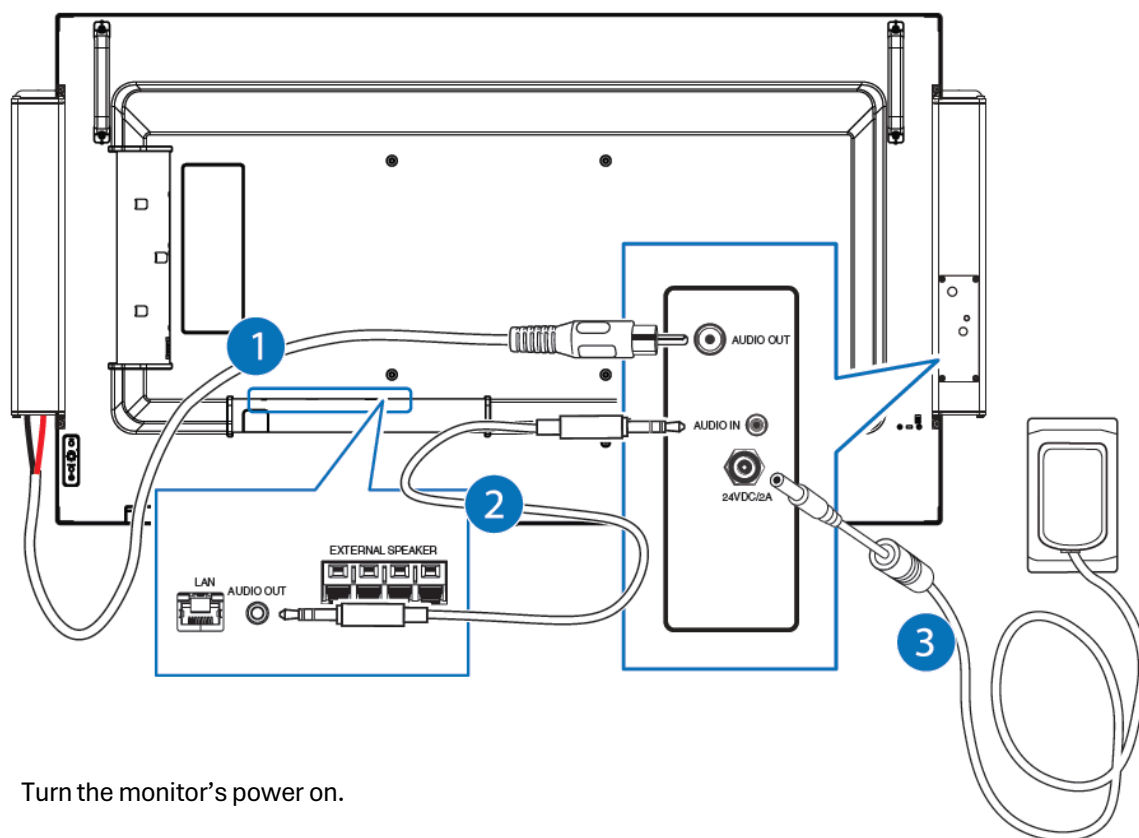
NOTE: The following illustration is for example purposes only; your power supply and power adapters may look slightly different.



CAUTION: Do not plug the power supply into the active speaker until directed to do so in the instructions below.

Connect Speakers to Monitor

1. Connect the RCA cable to AUDIO OUT on the active speaker and the input on the passive speaker's base.
2. Connect the 3.5mm audio cable to the AUDIO OUT port on the monitor's terminal and the AUDIO IN on the active speaker.
3. Connect the power supply to the active speaker and then to the wall outlet.



4. Turn the monitor's power on.

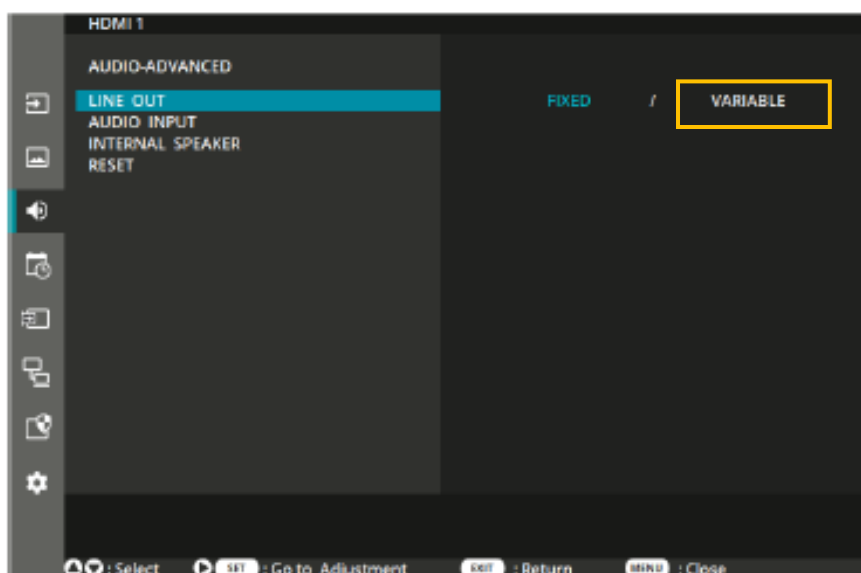
Connect Speakers to Monitor

Activate the external speakers

This step depends on the monitor model; please check your product's user manual for the specific instructions on enabling external speakers.

Depending on the model, activating the external speakers may require one of the following steps:

- The monitor automatically detects the external speaker; you do not need to change any settings.
- Enable the variable out setting in the OSD menu to adjust volume with remote control. Press the MENU button on the IR remote, then go to [AUDIO] > [ADVANCED] > [LINE OUT] and select [VARIABLE].



- Turn off the internal speaker in the OSD menu. Press the MENU button on the IR remote, then go to [AUDIO] > [ADVANCED] > [INTERNAL SPEAKER] and select [OFF] or [DISABLE].



Troubleshooting

Using Raspberry Pi Compute Module:

- Make sure that PC SOURCE is AUTO or COMPUTE MODULE, and the input signal is set to COMPUTE MODULE.
- Make sure the Raspberry Pi Compute Module and Raspberry Pi Interface Board is connected properly.
- Make sure the USB cable is connected properly to the USB Type A input of Raspberry Pi Compute Module.

Using external computer:

- Make sure that PC SOURCE is AUTO or EXTERNAL PC, and the input signal is set to which supplied by the connected computer.
 - Make sure the USB cable is connected properly to the USB Type A input of the PC.
- The touch panel function may not work depending on the specification of an external computer and connecting method.
 - If the TOUCH POWER setting in USB in CONTROL is set to “ON”, change it to “OFF” and back to “ON” again, after a moment.
 - When using touch function at the display edge, there may be a slight gap between touch position on the screen and where you touched. It is the specification and not a failure of product.

The response of the touch screen is not correct

- Make sure there are no severe scratches on the glass surface. These might affect the touch operation.
- High humidity, dust and viscous fluids can affect the performance as they interfere with conductivity. In case, just gently wipe the glass surface with a soft cloth.
- Make sure the connected PC supports 60Hz. 60Hz provides more frames per second and therefore a faster touch response.

Troubleshooting

Sound not working

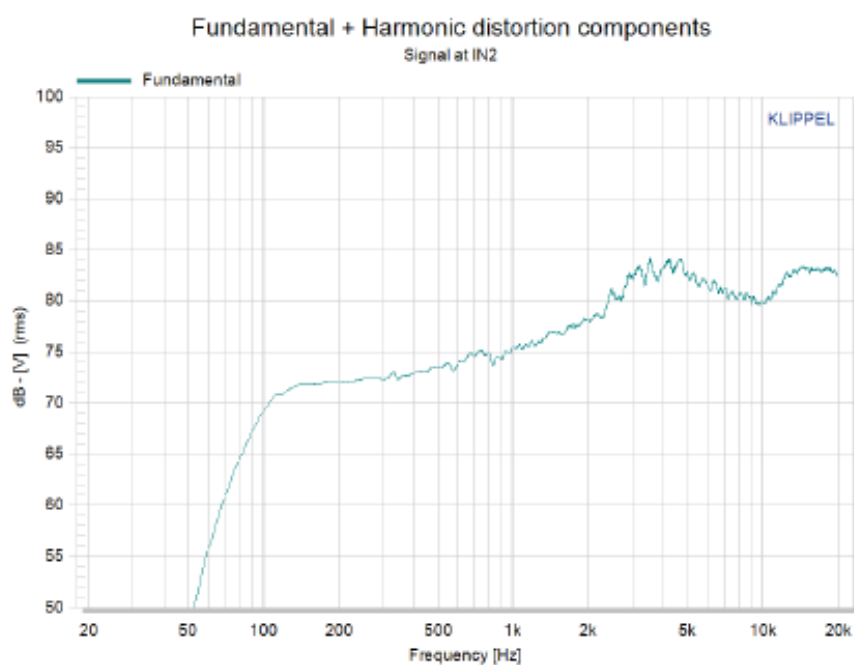
1. Make sure the audio cable is properly connected.
 - Make sure the 3.5mm audio cable is fully inserted in the AUDIO OUT port on the monitor and the AUDIO IN port on the active speaker. Do not use an attenuating (built-in resistor) audio cable. Using an audio cable with a built-in resistor will lower the sound level. Use an audio cable without a built-in resistor.
 - Make sure the RCA cable is fully inserted into the AUDIO OUT port on the active speaker.
 - Make sure the power has been plugged in to both the active speaker and a functioning wall outlet.
2. Check the MUTE and volume level using the monitor's IR remote control.
3. If connected to a computer through DisplayPort, make sure the computer supports an audio signal through DisplayPort.
4. Verify the external speaker setting has been enabled. As SP-RM3a speakers are compatible with a range of NEC and Sharp large format displays, we cannot list the specific method to enable your monitor speakers. In the setup instructions, we listed the most common methods for enabling the external speakers. However, they may not appear in the settings for your monitor precisely as described. Please refer to your monitor's operational manual for the instructions on how to enable the external speaker setting.

Specifications

SP-RM3a speakers

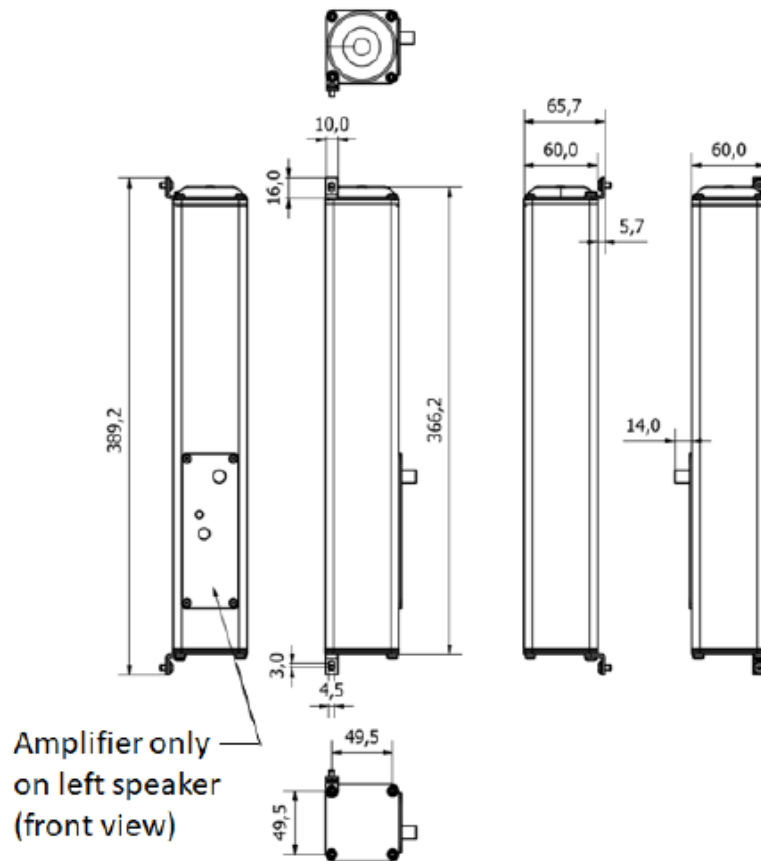
Frequency range	80-20000 Hz
Sensitivity	72 dB
DC voltage	24V
Rated current	1.67A
Rated power	40W
Input	90-264VAC, 47-63Hz
Interchangeable plugs	EU, US, UK, and AU
Loudspeaker driver	50mm full range driver
Connections	Audio IN (3.5mm TRS)
Net. Dimensions (1pcs)	370x60x60 mm
Net. Weight (1pcs)	1.2 kg
Packing gross dimension	420x220x130 mm
Packing gross weight	2.6 kg

Fundamental + Harmonic distortion components



Specifications

Outlines



Manufacturer's Recycling and Energy Information

We are strongly committed to environmental protection and sees recycling as one of the company's top priorities in trying to minimize the burden placed on the environment. We are engaged in developing environmentally friendly products, and always strive to help define and comply with the latest independent standards from agencies such as ISO (International Organization for Standardization) and TCO (Swedish Trades Union).

Disposing of your old product

The aim of recycling is to gain an environmental benefit by means of re-use, upgrading, reconditioning or reclamation of material. Dedicated recycling sites ensure that environmentally harmful components are properly handled and securely disposed. To ensure the best recycling of our products, SHARP offers a variety of recycling procedures and gives advice on how to handle the product in an environmentally sensitive way, once it has reached the end of its life.

For additional information visit:

<https://www.sharpusa.com/> (in USA)

<https://www.sharpdisplays.eu> (in Europe)

<https://www.sharp-displays.jp.sharp/global/index.html> (Global)

WEEE Mark (European Directive 2012/19/EU and amendments)

Disposing of your used product: In the European Union



EU-wide legislation as implemented in each Member State requires that used electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you dispose of such products, please follow the guidance of your local authority or ask the shop where you purchased the product, or if applicable, follow applicable legislation or agreement you may have. The mark on electrical and electronic products may only apply to the current European Union Member States.

Outside of the European Union

If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority and ask for the correct method of disposal.

SHARP