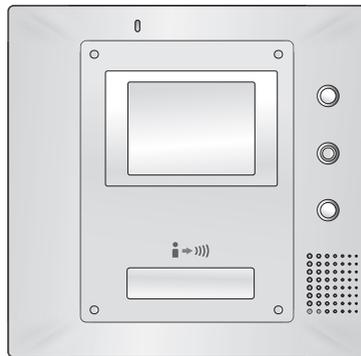


# Panasonic<sup>®</sup>

## Single Monitor Station Installation and Operation Guide

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Model No. **VL-GM201A**



**Thank you for purchasing a Panasonic Single Monitor Station.**

Please read this Installation and Operation Guide before using the unit and save for future reference.

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The lightning flash with arrow head within a triangle is intended to tell the user that parts inside the product are a risk of electric shock to persons.



The exclamation point within a triangle is intended to tell the user that important operating and servicing instructions are in the papers with the appliance.

---

## Important safety instructions

- 1) Read these instructions.  
All the safety and operating instructions should be read before the appliance is operated.
- 2) Keep these instructions.  
The safety and operating instructions should be retained for future reference.
- 3) Heed all warnings.  
All warnings on the appliance and in the operating instructions should be adhered to.
- 4) Follow all instructions.  
All operating and use instructions should be followed.
- 5) Do not use this apparatus near water.  
For example, near a bathtub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
- 6) Clean only with dry cloth.  
Do not use liquid cleaners or aerosol cleaners. Use a dry cloth for cleaning.
- 7) Do not block any ventilation openings.  
Install in accordance with the manufacturer's instructions.  
Slots and Openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface.
- 8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.  
This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug.  
A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments / accessories specified by the manufacturer.

## **Important Information**

---

- 12) Unplug this apparatus during lightning storms or when unused for long periods of time. This will prevent damage to the product due to lightning and power-line surges.
- 13) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

## **SAVE THESE INSTRUCTIONS**

---

### **Additional safety information**

1. Use only the power source marked on the unit. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
2. Use only the specified AC adaptor.
3. Do not tamper with the plug.
4. Make sure the plug is securely inserted.
5. Do not touch the plug with wet hands.
6. Do not place objects on the power cord. Install the unit where no one can step or trip on the cord.
7. To reduce the risk of electric shock, do not disassemble this unit. Take the unit to an authorized service center when service is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the unit is subsequently used.
8. Unplug this unit from power outlets and refer servicing to an authorized service center when the following conditions occur:
  - A. If smoke rises, or an unaccustomed noise or smell is discharged from the unit.
  - B. If metal objects have been dropped inside the monitor station.
9. Do not put your ear(s) near the speaker, as loud sounds emitted from the speaker may cause hearing impairment.
10. Only a qualified technician is allowed to connect a power cable to the unit. Contact an authorized service center.
11. Do not make any wiring connections when the power supply is turned on.
12. Never install wiring during a lightning storm.
13. Do not connect a power cable other than the specified voltage.
14. Do not connect the power cable to any terminal other than the one specified.
15. When existing chime wires are used, it is possible that they contain AC voltage. Electric shock or unit damage could result. Contact an authorized service center.
16. Never touch the inside of the monitor station. High voltage is present.
17. Make certain when mounting the unit to any wall surface that the method used will hold the weight of the unit properly.
18. If the wiring is outdoors, use a protection tube or a surge protector.
19. If the wiring is underground, do not make any connections underground.
20. **WARNING – To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Apparatus To Rain Or Moisture.**

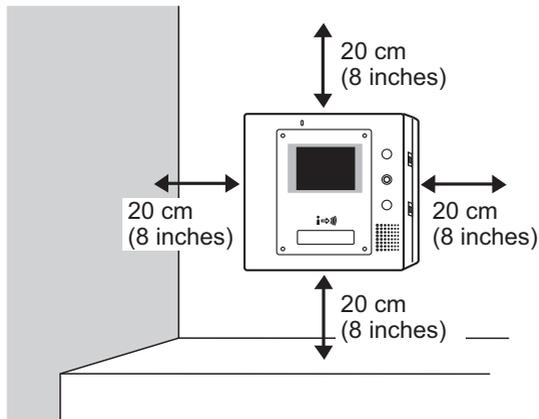
21. **WARNING** – Unplug this unit from power outlets if it emits smoke, an abnormal smell or makes unusual noise. These conditions can cause fire or electric shock. Confirm that smoke has stopped and contact an authorized service center.

**Note:**

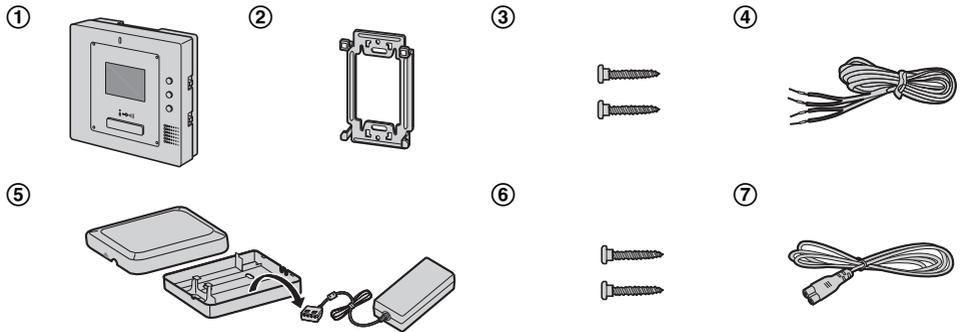
- This product has a fluorescent lamp that contains a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <<http://www.eiae.org>>

## For best performance

- If a power failure occurs, the unit will not function.
- Do not place any objects within 20 cm (8 inches) of the monitor station. This may cause communication errors or malfunction.



## Included items



No.	Item	Quantity	Notes
①	Monitor station	1	-----
②	Mounting bracket	1	Attached to rear of the monitor station.
③	Wood screws	2	For the monitor station. (4 mm x 16 mm, $\frac{3}{16}$ " x $\frac{5}{8}$ " )
④	Power cable	1	-----
⑤	AC adaptor	1	Enclosed in the AC adaptor case.
⑥	Wood screws	2	For the AC adaptor case. (4 mm x 16 mm, $\frac{3}{16}$ " x $\frac{5}{8}$ " )
⑦	Power cord	1	-----

---

## **Optional item information**

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### **Available optional items**

- **Door station\*1 (VL-GC001A, VL-GC002A)**
- **Desktop stand (VL-GT001A)**

\*1 The door station figures shown in this installation and operation guide are based on a VL-GC001A.

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## **Compatible PBXs**

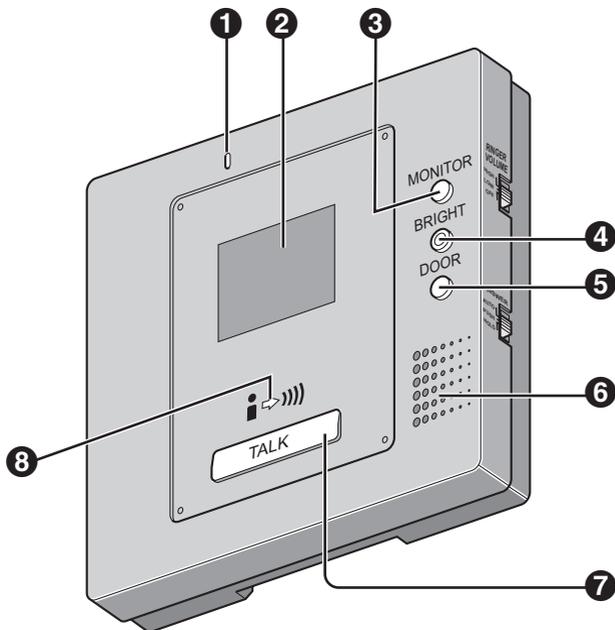
This unit is compatible with the following Panasonic PBXs\*1:

- KX-TA308
- KX-TA624
- KX-TA824
- KX-TA1232
- KX-TAW848 (From Ver2.0)
- KX-TD308
- KX-TD816
- KX-TD1232
- KX-TDA50 (From Ver2.0)
- KX-TDA100 (From Ver2.01)
- KX-TDA200 (From Ver2.01)

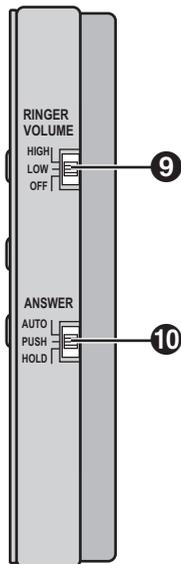
\*1 As of March, 2005. Consult your dealer for a current list of compatible PBXs.

## Location of controls

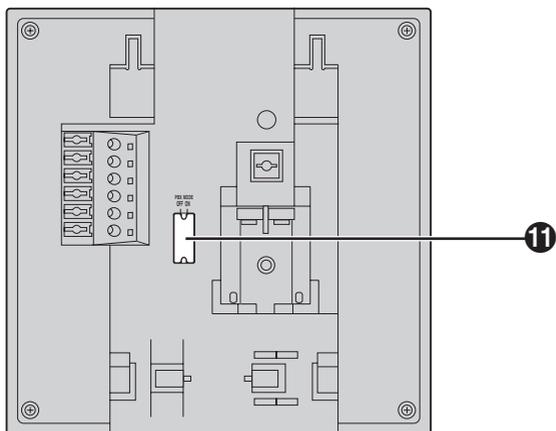
Front view



Side view



Rear view



- ❶ **Microphone**
- ❷ **Display**
- ❸ **MONITOR button**
  - Allows you to monitor the sound and camera image from the door station (page 26).
- ❹ **BRIGHT button**
  - Allows you to adjust the display brightness. 5 levels are available.
- ❺ **DOOR button**
  - Allows you to open the door (page 27).
- ❻ **Speaker**
- ❼ **TALK button**
  - To answer a door call and/or speak to the visitor (page 23).
- ❽ **Talk indicator**
  - Lights while you are talking.
- ❾ **RINGER VOLUME switch**
  - To adjust the ringer volume. 3 levels (high/low/off) are available.
- ❿ **ANSWER switch**
  - To change the answering mode (page 23).
- ⓫ **PBX MODE switch**
  - To connect the unit to a PBX, turn on this switch (page 20).

### **Before installation**

To avoid a malfunction or communication disturbance, do not install the monitor station in the following locations:

- Places where vibration or any other kind of impact occurs.
- Places where echoing is frequent.
- Places where a high concentration of dust, hydrogen sulfide, phosphorus, ammonia, sulfur, carbon, acid, or noxious fumes occur.
- Within 2 m (6'7") of a TV, microwave, personal computer, air conditioner or any other electrical device.

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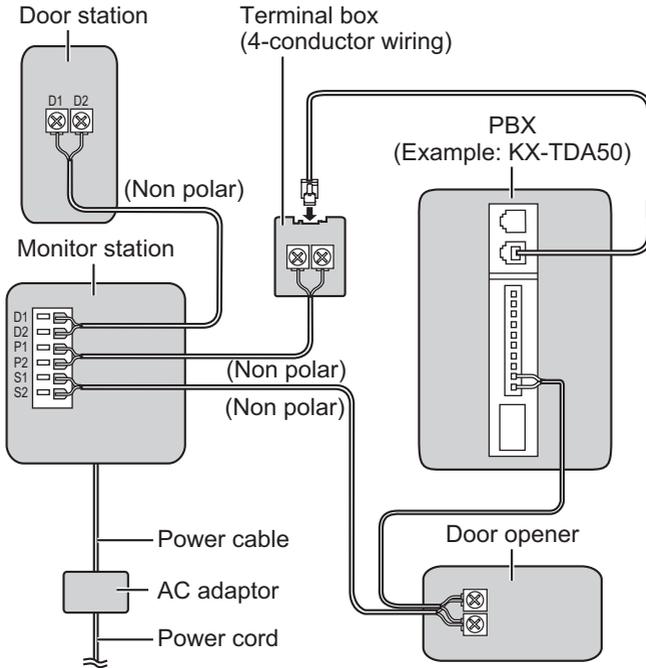
### **Standard installation position of the monitor station**

Place the monitor station in a location so that your eyes are the same height as the center of the display.

#### **Note:**

- In areas surrounded by high electrical field, disturbance may occur in the monitor station's image or sound.
- Be sure to install the monitor station more than 5 m (16'5") away from the door station.
- Do not place any objects within 20 cm (8 inches) of the monitor station. This may cause communication errors or malfunction.
- Do not install the monitor station inside a wall.

## Wiring schematic diagram



### Note:

- This door opener wiring schematic diagram is only an example. Refer to the wiring instructions provided with your door opener and PBX for details.
- Refer to the technical data on page 30 when connecting to a door opener.

### Power cable/wire type and distance

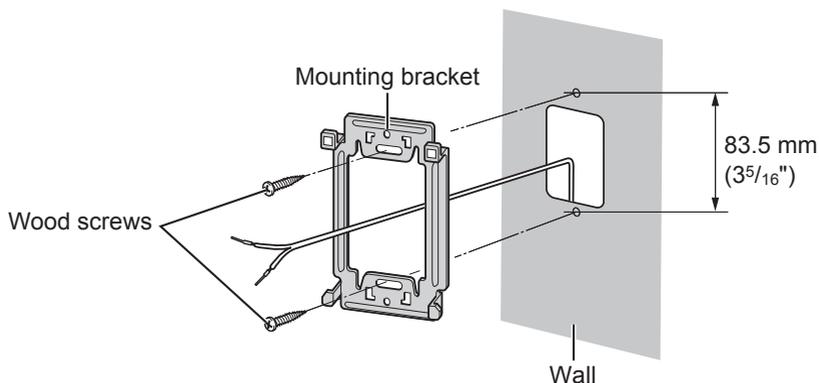
- Power cable (between the monitor station and the AC adaptor):  
Type:  $\Phi$ 1.2 Fire alarm cable 16 AWG  
Distance: Maximum 30 m (about 98 feet)
- Wire (between the monitor station and the door station):  
Type: General cable CAT-3 24 AWG  
Distance: Maximum 100 m (about 328 feet)  
Loop resistance: 18.4  $\Omega$  or lower
- Wire (between the monitor station and PBX):  
Type: General cable CAT-3 24 AWG  
Distance: Maximum 100 m (about 328 feet)

### Installing the monitor station

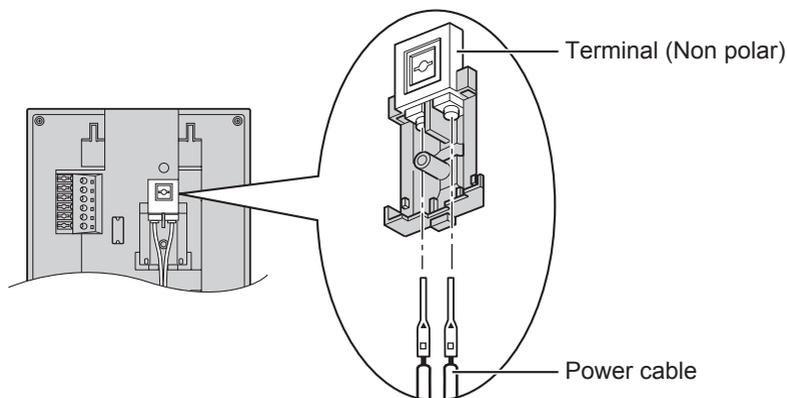
**Note:**

- When connecting to a PBX, make sure the **[PBX MODE]** switch is set to **[ON]** before installing the monitor station (page 20).

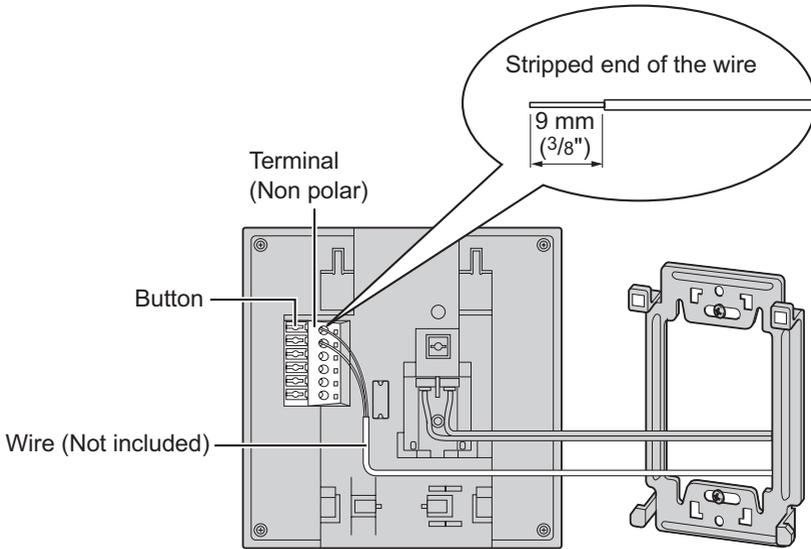
- 1 Install the mounting bracket to a wall using the wood screws (4 mm x 16 mm, 3/16" x 5/8").
  - Remove the mounting bracket from the rear of the monitor station beforehand.
  - Before drilling, see page 10 for installation location.



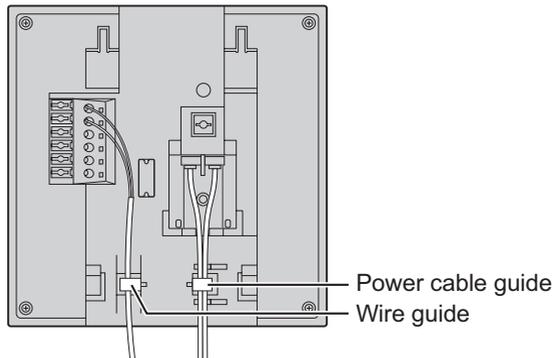
- 2 Attach the power cable to the terminal. See page 18 for details on how to attach the power cable.
  - If you want to use your own power cable, see page 11 for the type and distance.



- 3** Attach the wires that connect to the door station to the terminal. See page 18 for details on how to attach the wires.
- See page 11 for the wire type and distance.
  - See the wiring schematic diagram on page 11.



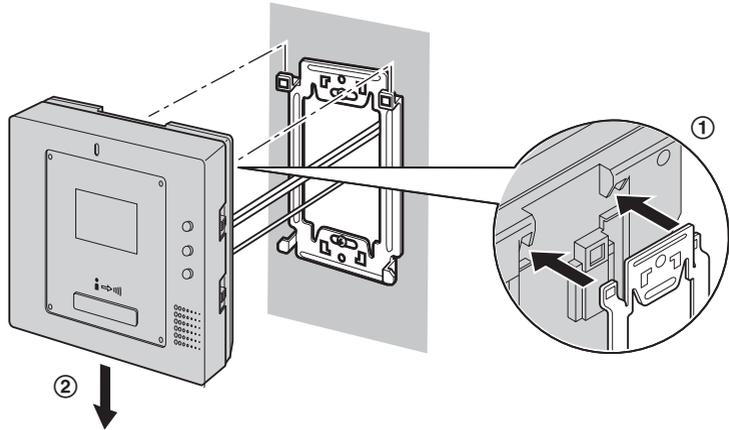
- If you want to connect the wires and the power cable without them going through a hole in the wall behind the mounting bracket, connect by passing the wires through the wire guide, and the power cable through the power cable guide.



## Introduction and Installation

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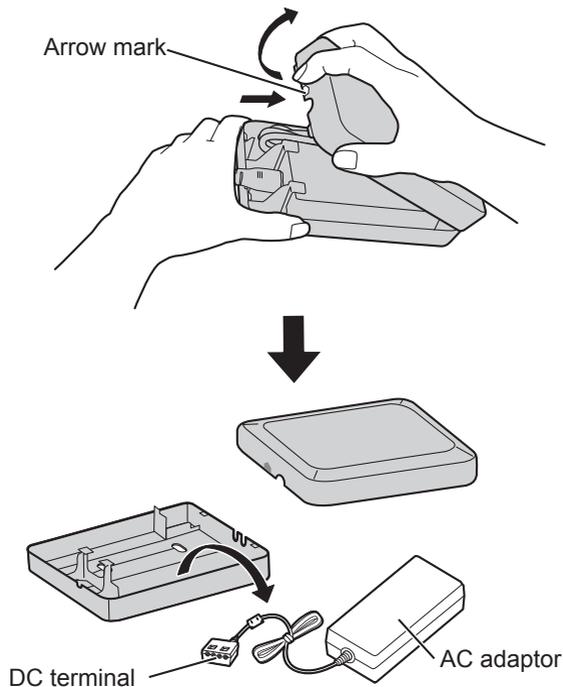
**4** Mount the monitor station to the mounting bracket.



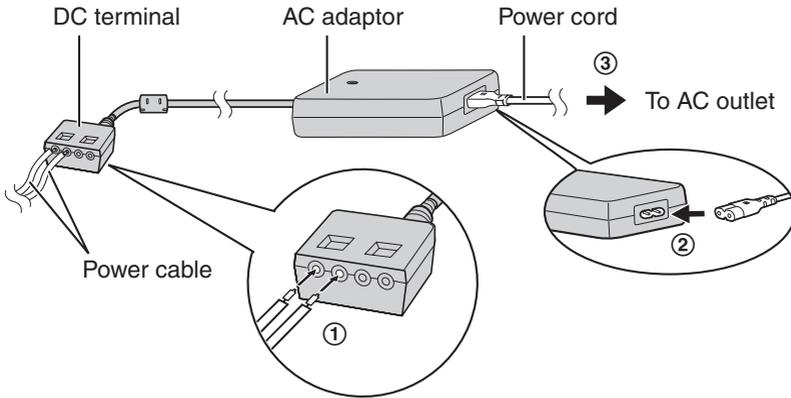
Push the monitor station down until it is secure.

**5** Take out the AC adaptor and the DC terminal from the case.

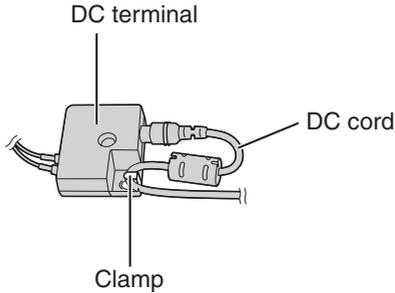
- Push the arrow mark on the front case, then release from the rear case.
- Take out the cardboard and wood screws. The wood screws are necessary when attaching the AC adaptor and the DC terminal to a wall (page 16).



- 6** Connect the power cable to the DC terminal, the power cord to the AC adaptor, then connect the power cord to the AC outlet (100 V – 240 V, 50 Hz / 60 Hz).
- Be sure to connect the power cable to the 2 holes on the left side of the DC terminal.
  - For details on how to attach the power cable, see page 18.



- 7** Attach the DC cord to the clamp on the rear of the DC terminal.
- This will help to avoid the DC cord to disconnect from the DC terminal.



## Introduction and Installation

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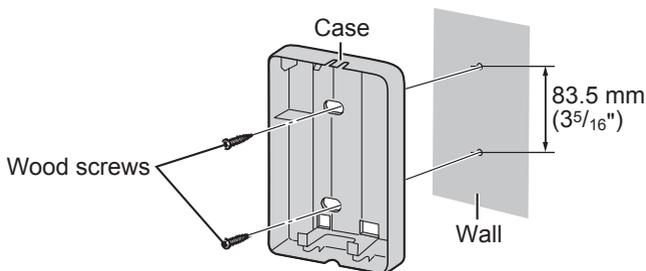
### To attach the AC adaptor and the DC terminal to a wall

By placing the AC adaptor and the DC terminal in the case and mounting the case to the wall, you can protect the AC adaptor and the DC terminal from tampering and exposure.

#### Note:

- Disconnect the DC cord from the clamp on the rear of the DC terminal beforehand. See step 7 on page 15 for details.
- Take out the cardboard and wood screws from the AC case beforehand.

- 1** Attach the rear part of the case to a wall using the wood screws (4 mm x 16 mm,  $\frac{3}{16}$ " x  $\frac{5}{8}$ ").



- 2** Pack the AC adaptor and DC terminal as shown.

- 1.** Pack the AC adaptor in the rear case.

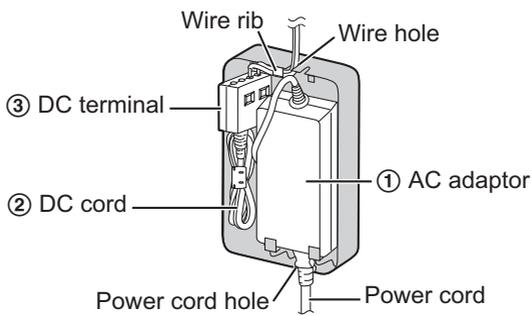
- Be sure to run the power cord through the power cord hole.

- 2.** Pack the DC cord in the rear case.

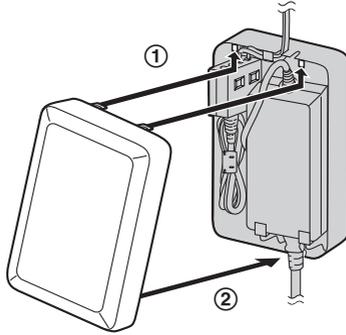
- Be sure to bundle the DC cord so that it will not touch the bottom of the case.

- 3.** Pack the DC terminal in the rear case.

- Be sure to run the wires through the wire hole, then under the wire rib.

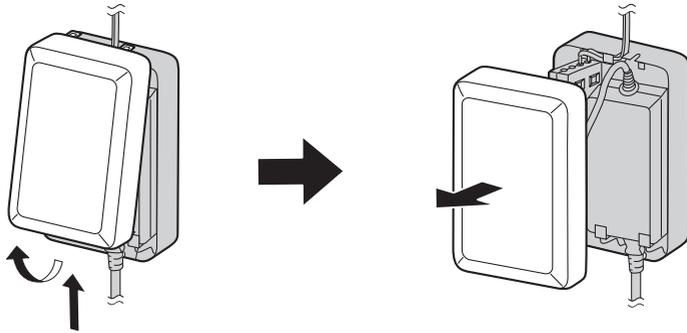


**3** Attach the front of the case.



**Note:**

- To open the case again, push the bottom of the front case, then release from the rear case.

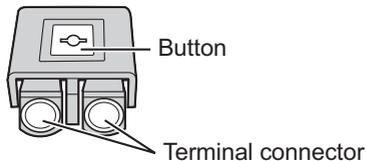


## Introduction and Installation

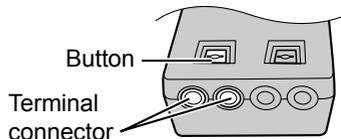
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### To attach the power cable

#### Monitor station

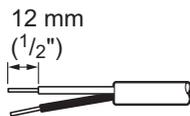


#### DC terminal



- While pressing on the button with a pointed object such as a screwdriver, insert the power cable into the terminal connector.
- To disconnect the power cable, press on the button while pulling out.
- To attach an optional power cable, cut off about 12 mm ( $1/2$ " ) of the cable cover (①), then push in firmly until the end of the cable is securely inserted into the power connection terminal (②).

①



② Power cable cross section

Correct

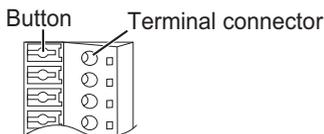


Incorrect



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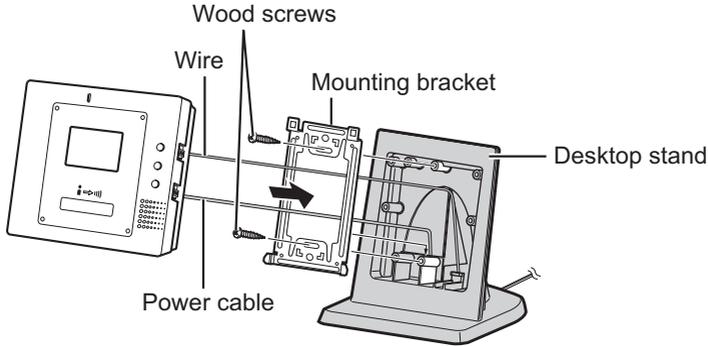
### To attach the wires



- Strip off of the wire cover so that about 9 mm ( $3/8$ " ) of the wire is exposed.
- While pressing on the button with a pointed object such as a screwdriver, insert the wire into the terminal connector.
- To disconnect a wire, press on the button while pulling out.

## Using the desktop stand (Optional)

You can place the monitor station on a desktop. See page 7 for optional item information.



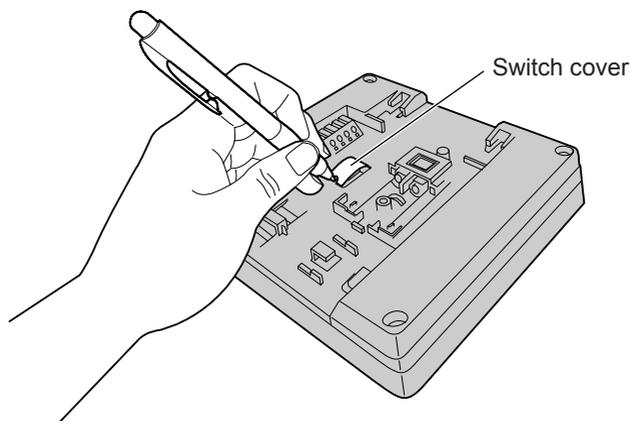
**Note:**

- If you previously connected the power cable through the power cable guide (page 13), remove the power cable from the power cable guide of the monitor station beforehand, then attach to the desktop stand.

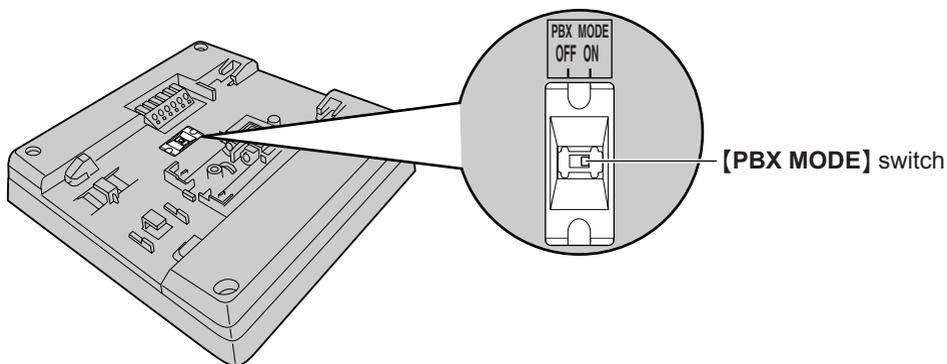
## Turning [PBX MODE] switch ON/OFF

When connecting to a PBX (page 22), turn [PBX MODE] switch on. If not, turn [PBX MODE] switch off. The default setting is [ON].

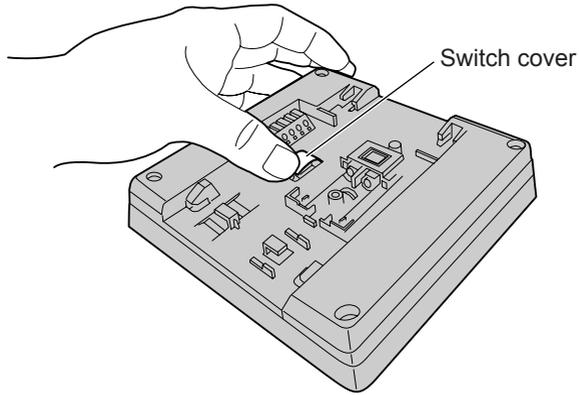
- 1 Remove the switch cover from the rear of the monitor station.
  - Use a sharp, thin object such as a mechanical pencil.



- 2 Select [ON] (default) or [OFF].



- 3** Attach the switch cover to the rear of the monitor station.



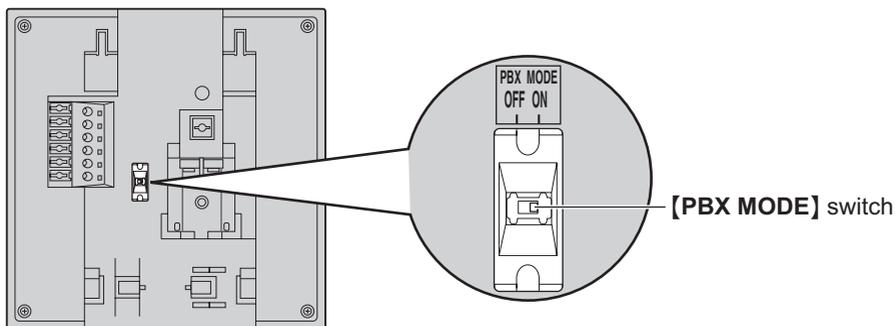
### Connecting to a PBX

Connecting to a PBX allows you to answer door calls from any telephone. See page 11 for wiring information.

**Please use only a Panasonic PBX.** See page 7 for the PBX model list that is compatible and other optional hardware.

**Important:**

- Make sure **[PBX MODE]** switch is set to **[ON]** beforehand (page 20). The default setting is **[ON]**.



**Note:**

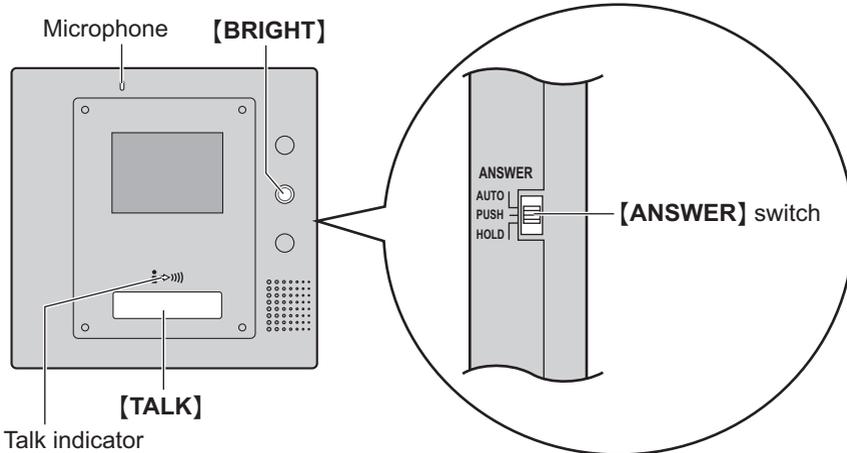
- If you answer a call from the door station with a PBX extension, the camera image from the door station will be displayed at the monitor station. If the monitor station user tries to answer the call, a beep will sound. The display will turn off when the conversation has ended or when the conversation continued for more than about 3 minutes.
- If you answer a call from the door station with the monitor station, the call will continue to ring at the PBX for about 15 to 30 seconds. If the PBX user answers the call while the call is still ringing, the door station user, the monitor station user, and the PBX user can speak together.

## Answering a door call using the monitor station

There are 3 ways to answer a door call using the monitor station. Choose the desired mode by changing the **[ANSWER]** switch position.

### Important:

- When speaking with a caller, speak in turns. If you and the caller speak at the same time, you will not hear each other.



### Available answer modes

- **[AUTO]** mode: When a visitor calls you, you can answer the call by voice (page 24).
- **[PUSH]** mode (default): When a visitor calls you, you can answer the call by pressing **[TALK]**. You may then speak with the caller (page 24).
- **[HOLD]** mode: When a visitor calls you, you can answer the call by pressing **[TALK]**. Press **[TALK]** while speaking to the caller and release the button to allow the caller to speak to you (page 24).

### Note:

- If the door station is installed in a noisy environment, **[PUSH]** mode or **[AUTO]** mode may not function properly.

## Using the Unit

---

### **[PUSH] mode (Push to talk mode)**

- 1 When a call is received from the door station, press **[TALK]**.
- 2 Speak to the visitor.
- 3 To end the conversation, press **[TALK]**.
  - The display will turn off.

---

### **[AUTO] mode (Auto talk mode)**

This mode allows you to answer the call by voice. Speak a brief reply into (or toward) the monitor station, such as “Yes?” or “Hello?”. This reply is used to start **[AUTO]** mode; the visitor will not hear your reply. The monitor station will beep to indicate **[AUTO]** mode has started and you may then speak to the visitor.

- 1 When a call is received from the door station, answer “Yes?” within 30 seconds.
  - A beep will sound to indicate that you can talk to the visitor (hands-free conversation).
- 2 Speak to the visitor.
- 3 To end the conversation, press **[TALK]**.

#### **Note:**

- Make sure you are within about 50 cm (20 inches) of the monitor station.
- You can also answer the call by pressing **[TALK]**.
- Your initial reply should be brief (less than 1 second), otherwise **[AUTO]** mode will not start.
- If a visitor calls you, a loud, brief sound (such as a barking dog) may start **[AUTO]** mode even though you have not replied by voice.

---

### **[HOLD] mode (Hold to talk mode)**

- 1 When a call is received from the door station, press and hold **[TALK]** to speak to the caller.
  - A beep will sound and the Talk indicator will light.
- 2 To listen to the visitor, release **[TALK]**.
  - The Talk indicator will turn off.
- 3 To speak again, press and hold **[TALK]**.
- 4 To end the conversation, tap **[TALK]**.

#### **Note:**

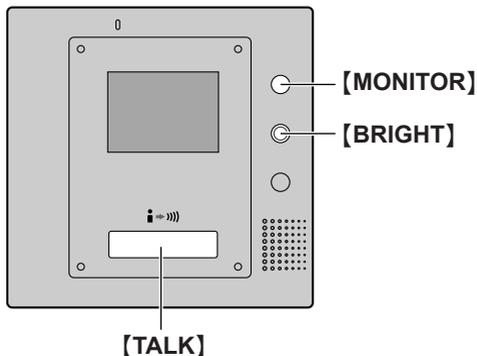
- Make sure you speak to the caller only while pressing **[TALK]** and release **[TALK]** when you have stopped speaking so that the caller can speak to you.

**Note:**

- Speak clearly about 50 cm (20 inches) away from the microphone.
- While the display is on, you can press **[BRIGHT]** repeatedly to select the desired brightness. If a power failure occurs, the brightness setting will be reset.
- If you do not answer a door call within 30 seconds, the display will turn off. If you press **[TALK]** again, the display will turn on again, and you can talk to the visitor.
- The conversation will be automatically disconnected in about 1 minute and 30 seconds (about 1 minute in **[HOLD]** mode). To resume the conversation, press **[TALK]**.
- At night or when there is not enough lighting in the doorway, the display will be shown in black and white.

### Monitoring the outside

You can monitor the sound and camera image from the door station for up to 1 minute at a time.



**1** Press **[MONITOR]**.

- The outside image will be shown on the display, and the outside sound will be heard. The inside sound will not be heard at the door station.
- If necessary, press **[BRIGHT]** repeatedly to select the desired brightness.

**2** To end monitoring, press **[MONITOR]**.

- Even if you do not press **[MONITOR]**, monitoring will automatically end in about 1 minute.

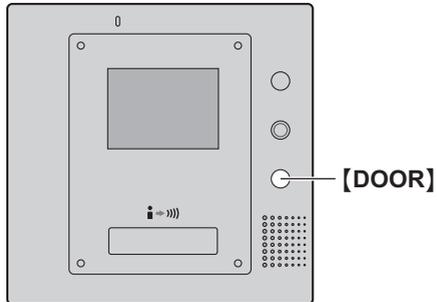
**Note:**

- While you are monitoring, calls from the door station will not be heard.
- To talk to the visitor while monitoring, press **[TALK]**.

---

## Opening a door (door opener)

You can open the door using the monitor station (a separate door opener is required).



- 1 While the display is on, press and hold **[DOOR]**.
  - The door will remain open while **[DOOR]** is pressed.

**Note:**

- See page 11 for wiring information.

## Troubleshooting

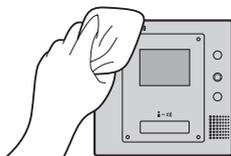
Problem	Cause and solution
The display is not clear or is blurry.	<ul style="list-style-type: none"> <li>● The surface of the door station is dirty. Clean it with a soft dry cloth.</li> <li>● The surface of the door station is wet with dew. Wait for the condensation to evaporate.</li> <li>● Change the brightness of the display by pressing <b>[BRIGHT]</b>.</li> </ul>
The display is white, or black or white lines are shown on the display.	<ul style="list-style-type: none"> <li>● Strong light such as sunlight is shining into the camera of the door station. Though this may cause the display image to become difficult to see, it is not a malfunction.</li> </ul>
The color of the display is different from the actual color.	<ul style="list-style-type: none"> <li>● Certain types of lighting (dusk, incandescent lighting, etc.) may be shining into the camera. We recommend lighting the area of the door station with white, fluorescent light.</li> </ul>
The display will not display anything or no voices can be heard.	<ul style="list-style-type: none"> <li>● The power cord is not connected. Check the connections.</li> <li>● Contact our service personnel.</li> </ul>
The monitor station does not ring.	<ul style="list-style-type: none"> <li>● The ringer volume is turned off. Turn it on.</li> <li>● The power cord is not connected. Check the connections.</li> <li>● Contact our service personnel.</li> </ul>
I cannot talk to the visitor or the ringer tone rings regularly.	<ul style="list-style-type: none"> <li>● Press and hold <b>[BRIGHT]</b> for about 10 seconds until a beep sounds. Wait for another 10 seconds and try again.</li> <li>● Contact our service personnel.</li> </ul>
Sound cuts in/out or fades.	<ul style="list-style-type: none"> <li>● The surroundings of the monitor station or the door station are noisy. If you are using <b>[PUSH]</b> mode or <b>[AUTO]</b> mode, your conversation may be interrupted. Try <b>[HOLD]</b> mode.</li> </ul>
<b>[AUTO]</b> mode does not operate properly.	<ul style="list-style-type: none"> <li>● Your voice is not loud enough or your initial reply is too long (must be less than 1 second). Try a different voice volume or change the length of your answer until the monitor station beeps.</li> </ul>
Your voice cannot be heard by the outside visitor.	<ul style="list-style-type: none"> <li>● <b>[ANSWER]</b> switch is set to <b>[HOLD]</b> mode. Only while you press <b>[TALK]</b>, the outside visitor can hear your voice. Select another setting.</li> </ul>
The outside visitor complains the door station does not beep when the call button is pressed.	<ul style="list-style-type: none"> <li>● <b>[PBX MODE]</b> switch is turned on although the unit is not connected to a PBX. Turn off <b>[PBX MODE]</b> switch (page 20).</li> </ul>

Problem	Cause and solution
The display turns off during a conversation (Sound continues).	<ul style="list-style-type: none"><li>• You talked for more than about 3 minutes in <b>[HOLD]</b> mode. The maximum display time is approximately 3 minutes.</li></ul>

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## Cleaning

Clean the unit with a soft, dry cloth when cleaning. For excessive dirt, wipe the unit with a slightly damp cloth.



### Important information:

- Do not use anything containing alcohol, polish powder, powder soap, benzine, thinner, wax, petroleum, or boiling water. Also do not spray with insecticide, glass cleaner, or hair spray. This could cause a change in color or quality.

### Technical data about this product

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#### Monitor station

<b>Power supply:</b>	24 V DC
<b>Current consumption:</b>	Standby: Approximately 37 mA At operation: Approximately 420 mA
<b>Dimensions:</b>	Approximately height 136 mm x width 136 mm x depth 32 mm (5 <sup>3</sup> / <sub>8</sub> " x 5 <sup>3</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>4</sub> " )
<b>Mass (Weight):</b>	Approximately 350 g (0.77 lb.)
<b>Operating environment:</b>	0 °C to 40 °C (32 °F to 104 °F), Up to 90% RH (Relative Humidity) non condensing
<b>Installation method:</b>	Wall mount (Wall mount bracket included)
<b>External material:</b>	Flame retardant ABS resin (panel: acrylic resin)

#### Note:

- To connect to a door opener, make sure the door opener is:
  - Normal open (Low active)
  - Less than 30 V AC (1 A), 24 V DC (1 A)

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#### AC adaptor (Part number: PFAP1014)

<b>Power supply:</b>	100 V – 240 V AC, 50 Hz / 60 Hz
<b>Output voltage:</b>	24 V DC
<b>Output current</b>	2 A
<b>Dimensions:</b>	Approximately height 120 mm x width 60 mm x depth 35 mm (4 <sup>3</sup> / <sub>4</sub> " x 2 <sup>3</sup> / <sub>8</sub> " x 1 <sup>3</sup> / <sub>8</sub> " )
<b>Mass (Weight):</b>	Approximately 310 g (0.68 lb.)
<b>Operating environment:</b>	0 °C to 40 °C (32 °F to 104 °F), Up to 90% RH (Relative Humidity) non condensing

#### Note:

- Design and specifications are subject to change without notice.
- The pictures and illustrations in these instructions may vary slightly from the actual product.

## **FCC and Other Information**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

### **CAUTION:**

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

### **NOTE:**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**For your future reference**

Date of purchase

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Serial number (found on the rear of the unit)

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Dealer's name and address

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Dealer's telephone number

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**Attach your sales receipt here.**



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