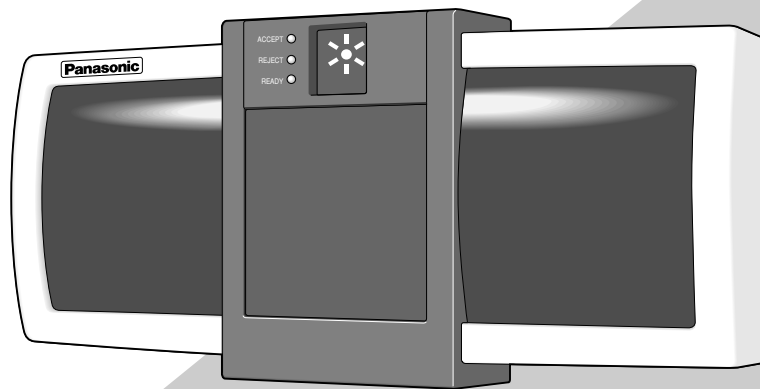


Panasonic

Iris Camera Operating Instructions

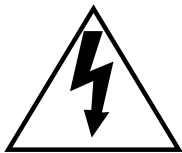
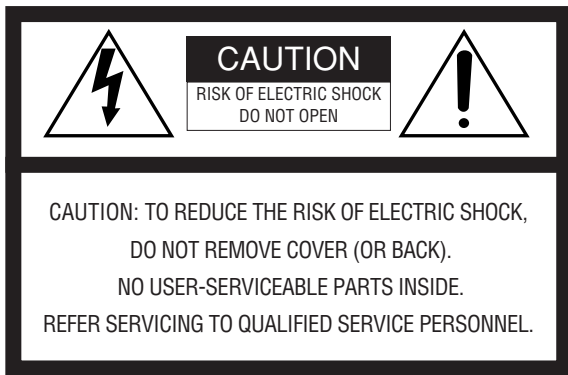
Model No. **BM-ET500**



Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

Caution:

Before attempting to connect or operate this product, please read the label on the bottom.



SA 1965

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



SA 1966

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For U.S.A

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

The serial number of this product may be found on the bottom of the unit.

You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. BM-ET500

Serial No. _____

WARNING:

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this apparatus near water.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not use near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 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 points where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-overs.



- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14) 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 fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

CONTENTS

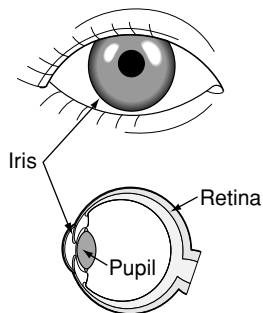
IMPORTANT SAFETY INSTRUCTIONS	3
PREFACE	5
FEATURES	5
PRECAUTIONS	6
DOCUMENT CONVENTION	7
MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS	8
INSTALLATIONS AND CONNECTIONS	9
DIMENSIONS OF THE MOUNTING BRACKET	12
ADJUSTMENTS AND MAINTENANCE	13
■ Adjustment	13
■ Maintenance	13
RECOGNITION PROCEDURES	14
■ Iris Recognition	14
■ ID-and-password Authorization	15
ADDITIONAL SYSTEM COMPONENTS	16
■ Control Unit BM-ED500	16
■ Administration Software BM-ES500	16
TROUBLESHOOTING	17
SPECIFICATIONS	18
OPTIONAL ACCESSORIES	18

PREFACE

Iris Camera BM-ET500 is designed for an iris physical access system, which identifies the person with one's iris pattern.

FEATURES

- This system is composed of an iris camera, control unit, and the administration PC (you need the optional software BM-ES500).
- Iris recognition technology is a way to identify a person with iris patterns (an iris is the thin plate-shaped film in front of the eyeball), which differ among each person. When you look at the iris camera, the camera automatically executes recognition procedures by capturing your iris image.



Notes:

- These operating instructions describe the details on iris camera. Refer to the control unit's operating instructions on how to install iris cameras and the control unit.
- To execute recognition, you need to register iris data in advance. Refer to the dealer for details on how to obtain the administration software.

PRECAUTIONS

- **Refer all work related to the installation of this product to qualified service personnel or system installers.**

Consult an expert on the load bearing capacity of the installation surface and structure. If the surface is not strong enough, the camera may fall down. Refer to the product specifications for weights.

- **Do not drop metallic parts through slots.**

This could permanently damage the appliance. Turn the power off immediately and contact qualified service personnel for service.

- **Do not attempt to disassemble the appliance.**

To prevent electric shock, do not remove screws or covers.

There are no user-serviceable parts inside. Contact qualified service personnel for maintenance.

- **Handle the appliance with care.**

Do not strike or shake, as this may damage the appliance.

- **Do not expose the appliance to water or moisture. Do not try to operate it in wet areas.**

Take immediate action if the appliance gets wet. Turn the power off and refer servicing to qualified service personnel. Moisture can damage the appliance and also cause electric shocks.

- **Do not use strong or abrasive detergents when cleaning the appliance body.**

Use a dry cloth to clean the appliance when it is dirty. When the dirt is hard to remove, use a mild detergent and wipe gently.

- **Do not operate the appliance beyond its specified temperature, humidity, or power source ratings.**

Use the appliance at temperatures within 0 °C - 40 °C (32 °F - 104 °F) and humidity below 90 %.

The input power source for this appliance is 32 V DC (when supplied from the control unit) or 24 V DC (when supplied from an external power unit).

- **This unit has no power switch.**

Power is supplied from Control Unit BM-ED500 or from an external 24 V DC power-control device. Refer to the control unit's operating instructions for how to turn on/off the power.

Note: While the power is turned off, recognition and entrance will be unavailable.

- **When you use an external power control unit, do the following:**

Turn on the external power control unit before turning on Control Unit BM-ED500. Turn off the external power control unit after turning off the control unit.

- **Consumable part**

Contact your dealer for the front panel replacement, for example, when it is damaged or when you cannot recognize or enroll yourself.

- **Use of near-infrared ray**

Near-infrared ray is used when iris data is enrolled or recognized by the unit. The near-infrared ray is compliant with the radiological safety standard of IEC60825-1.

- **Indication**

Refer to the bottom of the unit as to the indications of equipment classification and power source, etc.

- **This product is not designed to prevent theft in advance. We shall not guarantee you for any trouble caused by using this unit.**

- **If you are in a situation that iris recognition is impossible from the exterior, recognition or enrollment will be invalid.**

- **Iris data is privacy. Take enough care not to leak the image data out of the administration PC. It is also recommended that you should get an agreement from a person to register his or her data.**

- **We recommend that you note down your settings and save them. Power or battery failure may erase the setting.**

DOCUMENT CONVENTION

These operating instructions use the following convention when describing the use and operation of this system.

Unit: Panasonic Iris Camera BM-ET500

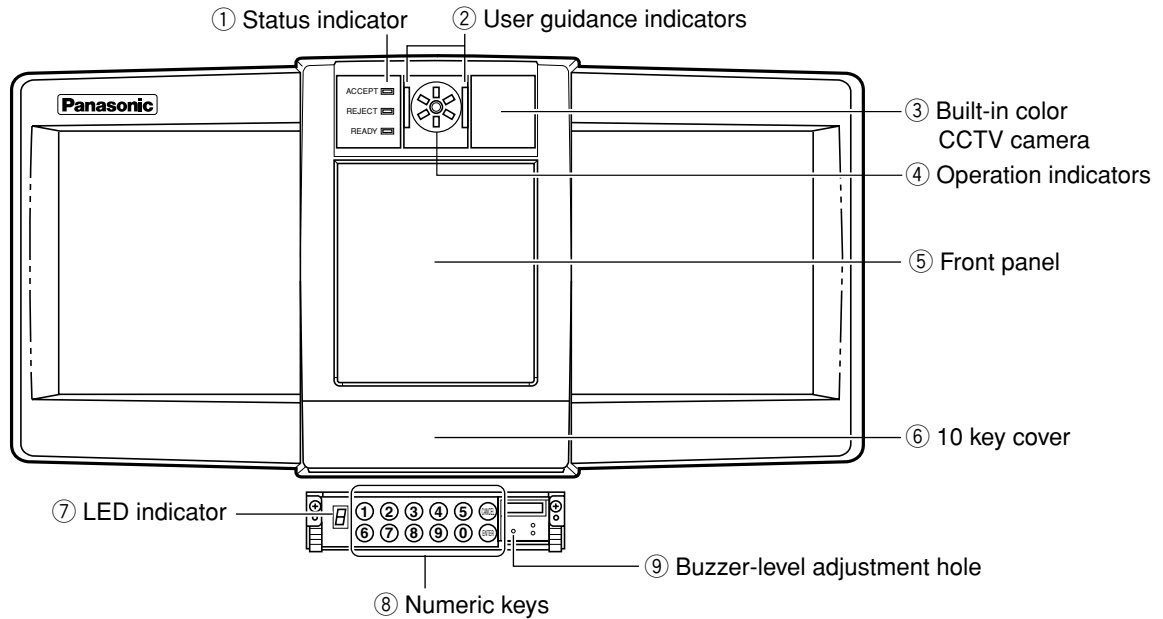
Control unit: Panasonic Control Unit BM-ED500

Administration software: Panasonic Administration Software BM-ES500

Caution: Text with this appearance is a special instruction which you should heed for your safety.

Note: Text with this appearance is a special instruction, rule, or side comment related to the topic.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS



① Status Indicator

Shows the status of recognition or enrollment.

ACCEPT: Lights up when recognition has been successfully executed. *

Or lights up when enrollment has been successfully executed through iris image capturing.

REJECT: Lights up when recognition has not been successfully executed.

Or lights up when enrollment has not been successfully executed through iris image capturing.

READY: Lights up when recognition/enrollment is available.

When this indicator is blinking, recognition/enrollment is unavailable.

* Depending on capturing condition, you might not enroll your iris data even when ACCEPT is lighting. After the enrollment, confirm through the administration PC, in which the administration software is installed, if the recognition has been successfully executed.

② User guidance indicators

These indicators light up when you stand in front of the unit, and then inform you that recognition/enrollment will start.

③ Built-in color CCTV camera

This is a color camera for surveillance.

For example, it is used for status confirmation if a recognition has not been successfully executed.

④ Operation indicators

These indicators show the operation statuses of the unit. The central indicator is lit all the time when power is applied. Refer to p.14.

⑤ Front panel

⑥ 10 key cover

⑦ LED indicator

Shows which numeric key has been pressed.

⑧ Numeric keys

These keys are used when you execute ID-and-password authorization instead of iris recognition.

⑨ Buzzer-level adjustment hole

Adjusts the level of buzzer, which informs you of recognition/enrollment results. Refer to p.13 for details on level adjustment.

Note: Keep away from this hole except for qualified service personnel.

INSTALLATIONS AND CONNECTIONS

WARNING

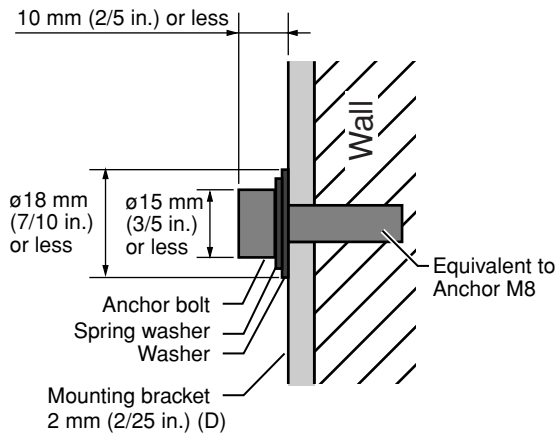
The installation described in these figures should be made by qualified service personnel or trained system installers.

Caution:

Attach this unit to a flat wall with the supplied mounting bracket. After the installation, secure the unit to prevent dropping.

The unit can be mounted over the wall as described.

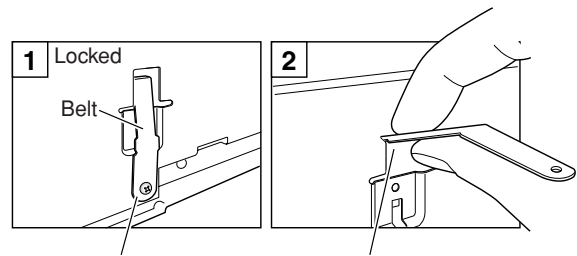
1. Attach the anchor into the wall, and then attach the supplied mounting bracket to the anchor. (Refer to the figure in p.12.) The anchor bolt should meet the standards shown in the illustration.



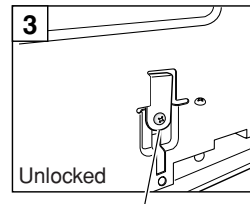
Notes:

- Wall's capacity is 20 kg (44 lbs.) or more.
- Anchor bolt's capacity is 20 kg (44 lbs.) or more (per one).

2. Remove the shipping lock as follows:



- (1) Remove the screw.
- (2) Insert the belt until it hits to the stop.

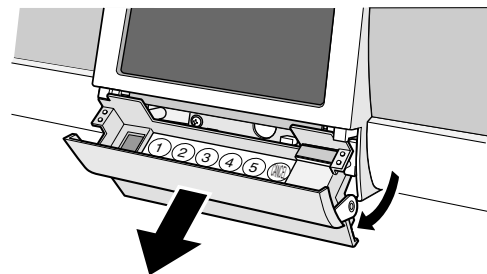
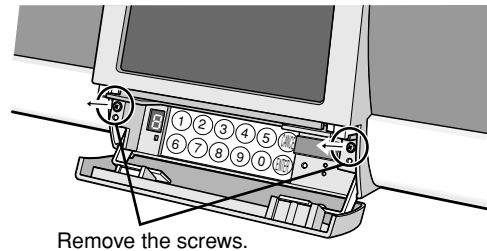


- (3) Bend the belt and secure it with the screw.

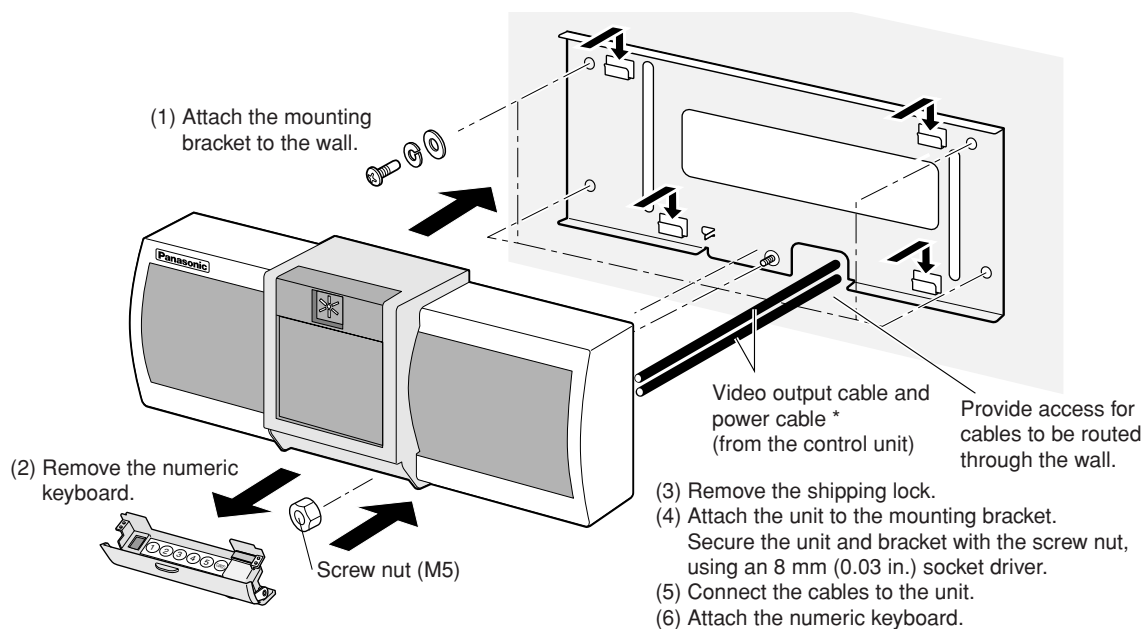
- Take care not to drop the screw inside the unit.
- You can use an M3 screw if you have lost this screw.

3. Remove the numeric keyboard.

You can remove the keys by taking off the two tamper-proof screws (with the supplied screw driver tool) and lifting up the keyboard. The control cable should also be removed.

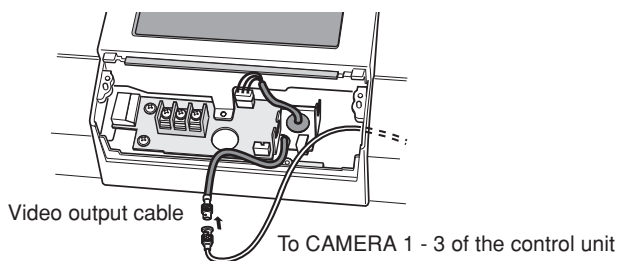


4. Attach the unit to the mounting bracket.

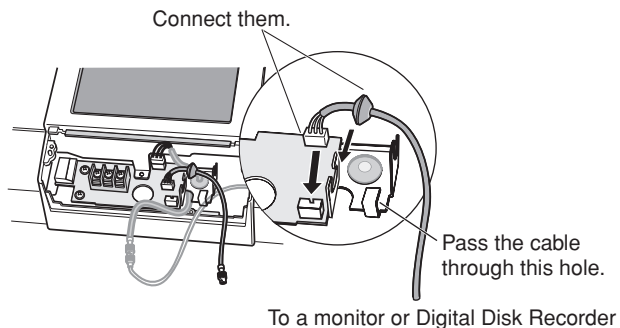


Refer to the control unit's operating instructions for the specifications.

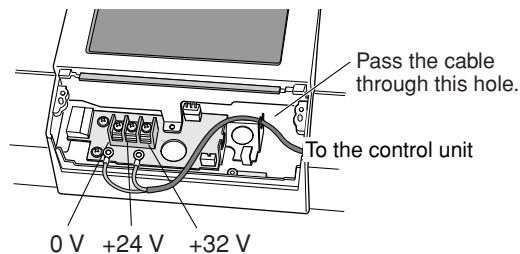
5. Connect the BNC video output cable to the unit.
The unit is connected to the control unit (Camera 1 - 3).



6. When you use the built-in CCTV camera, connect the supplied coaxial cable (BNC female) to VIDEO OUT. Then, connect the supplied coaxial cable and the video input cable (BNC male) of a connected device (for example, monitor or DVR).



7. Connect the power cable to the unit.
If you use power supply from the control unit to the unit, connect the power cable to 0 V and +32 V ports.
If you use 24 V DC power supply from an external power-control device, connect the power cable to 0 V and +24 V ports.



Caution: Take DC 24 V power supply from a third-party external power supply device that complies with the safety standard.
(Refer to p.18.)

8. Attach the numeric keyboard.
Connect the control cable which has been connected to the numeric keyboard. Then, attach the keyboard with the tamperproof screws.

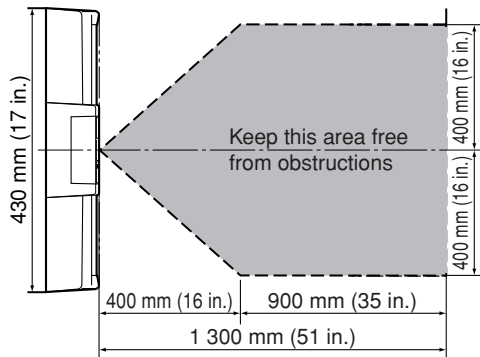
Caution: Insert the cable into the unit so as to avoid pressure from the keyboard.

Notes:

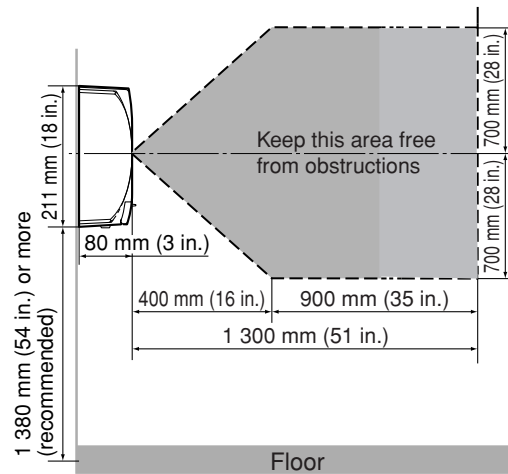
- Keep the unit:
 - in the temperature within 0 °C to 40 °C (32 °F to 104 °F) and the humidity within 30 % to 80 %.
- Keep the unit away from:
 - direct sunlight or light reflection.
 - incandescent or halogen lighting.
 - places where shadow appear over the front panel.

- noise. (for example, places near air conditioners or ventilators)
- electricity.
- outdoor places.
- vibration. (It may cause invalid recognition or injury.)
- Do not place anything inside the space described in the illustration.
- This unit is for indoor use only.
- This unit must be mounted horizontally on the wall.
- Determine the optimum mounting height. The recommendation is between 1.38 m (54 in.) and 1.5 m (60 in.) for enrollment/recognition effectiveness.
- Mount the bracket on the wall. Be sure to provide access for video control and DC power from the control unit.

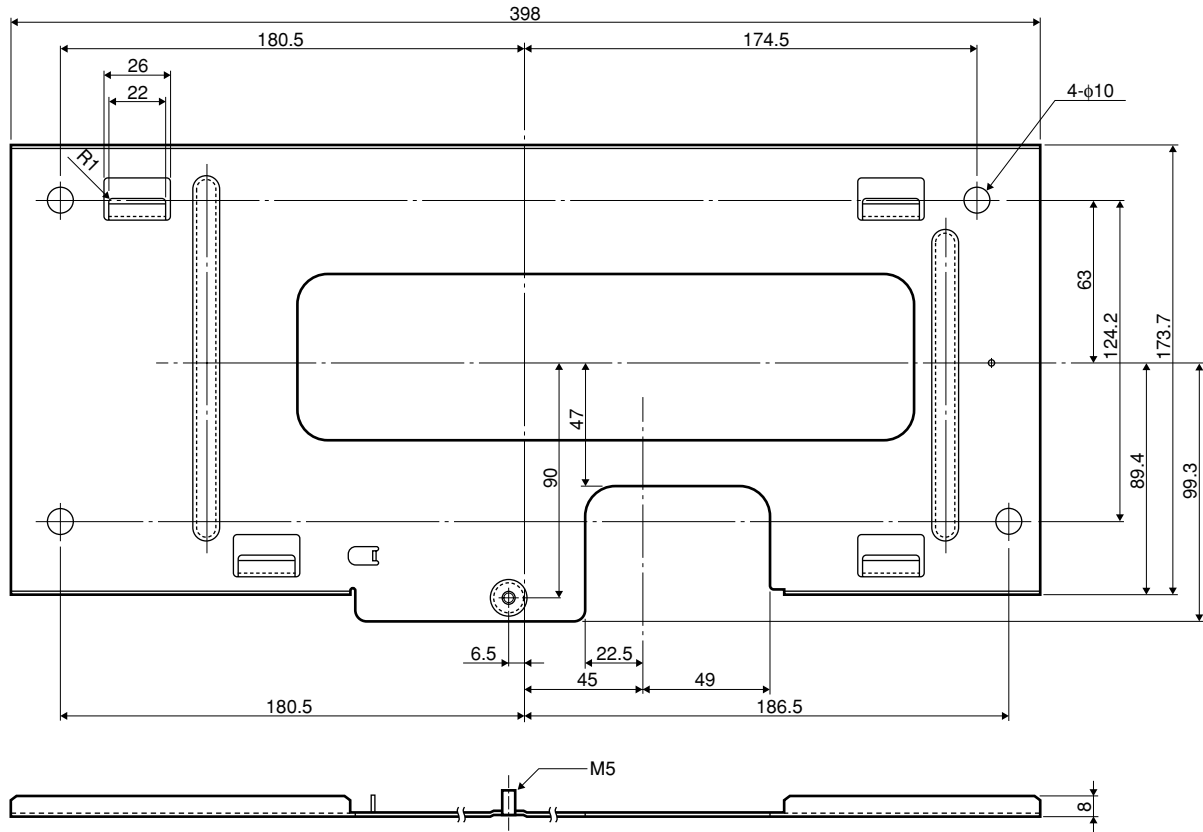
Top View



Side View



DIMENSIONS OF THE MOUNTING BRACKET



(Unit of length: mm)

ADJUSTMENTS AND MAINTENANCE

■ Adjustment

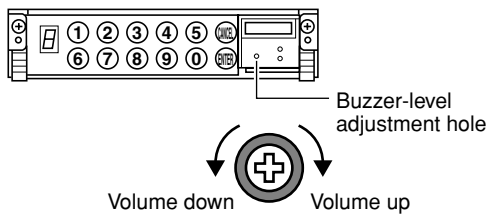
● Adjusting the Buzzer Level

Adjust the buzzer level, which informs you of recognition results, as follows.

1. Open the cover of the numeric keyboard.
2. Insert a Phillips precision screwdriver into the buzzer-level adjustment hole.
3. Turn the screwdriver to the right or left to adjust the buzzer level.

To the right: The volume will go up.

To the left: The volume will go down.

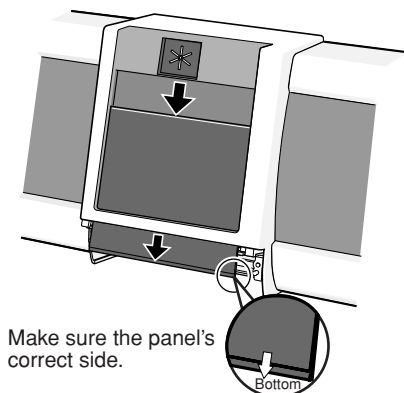


■ Maintenance

● Replacing the Front Panel

When the supplied front panel has been damaged, you can replace it to a new one.

1. Remove the numeric keyboard. (Refer to p. 9.)
2. Remove the front panel, and then replace it to a new one.
You can take the panel away by sliding down.
During the replacement, wear gloves on your hand to keep the new panel clean.

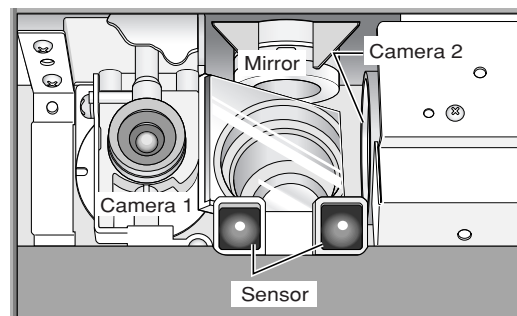


3. When finished, connect the control cable to the numeric keyboard.

● Cleaning the Inside of the Camera Unit

There are a mirror, proximity sensor, and two cameras inside the unit. The cameras will be used for capturing a face and irises. If dust is sticking to the cameras, it may cause malfunction. Clean the inside of the camera unit as follows.

1. Remove the numeric keyboard and the front panel.
(Refer to p. 9 and this page.)
2. Blow dust away from the mirror, sensor, Camera 1 and Camera 2 by using a blower, etc.
If dust still sticks after blowing, wipe away the appliances gently with an eyeglass cleaner or a camera-lens cleaner.
3. After finished, attach the front panel and numeric keyboard to the unit.



Notes:

- Keep your hands away from the mirror, Camera 1 and Camera 2. If you touch them directly, it may cause malfunction due to smudges.
- Do not clean the camera unit with a glass-cleaner, thinner or water. It may cause malfunction.
- Clean the camera unit with delicate care. Force may damage the appliance, which may cause trouble.

RECOGNITION PROCEDURES

There is two ways of identification:

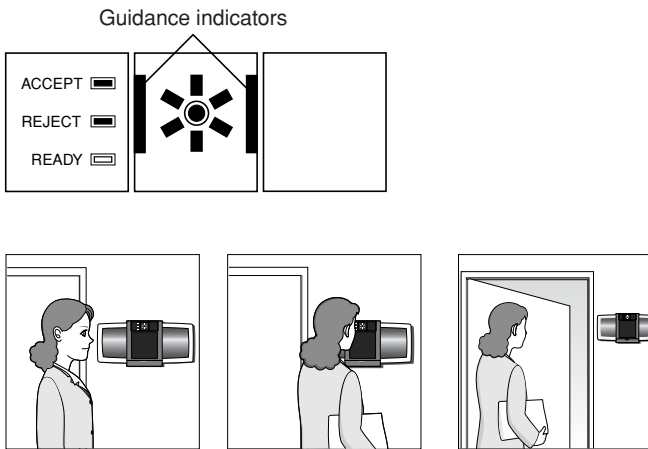
- Iris recognition
- ID-and-password authorization

Note: When “READY” is blinking, recognition will be unavailable. Wait until the indicator is on, not blinking.

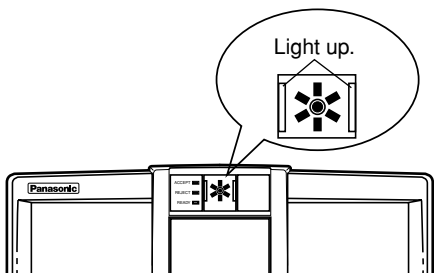
Iris Recognition

The procedures are as follows.

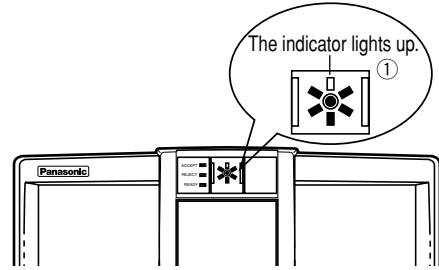
1. Stand in front of the unit and turn your face to the center front panel.
Stop at the point you can see the two guidance indicators simultaneously, and then turn your face to the unit.



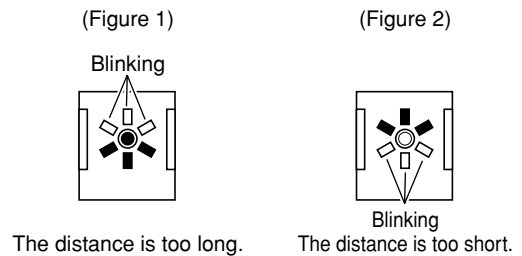
2. The guidance indicators will automatically light up, and iris recognition will start. Then, the buzzer will beep briefly.



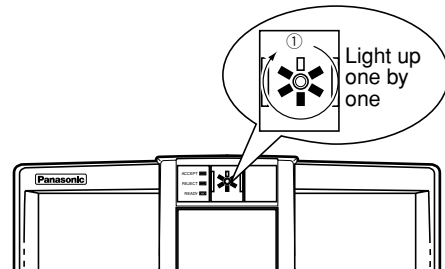
3. Status indicator (1) will light up.



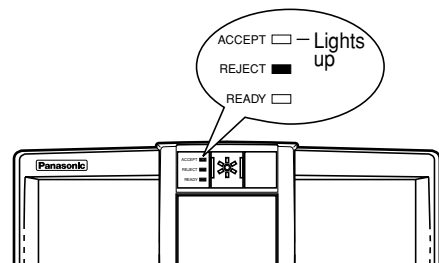
Note: Depending on the distance between you and the unit, status indicators will blink as shown in Figure 1 or 2. When the indicators show Figure 1 status, come closer to the unit. When the indicators show Figure 2 status, go farther from the unit.



4. The status indicators will light up in the order shown in the figure.
When all indicators have lightened up, the recognition will be finished.

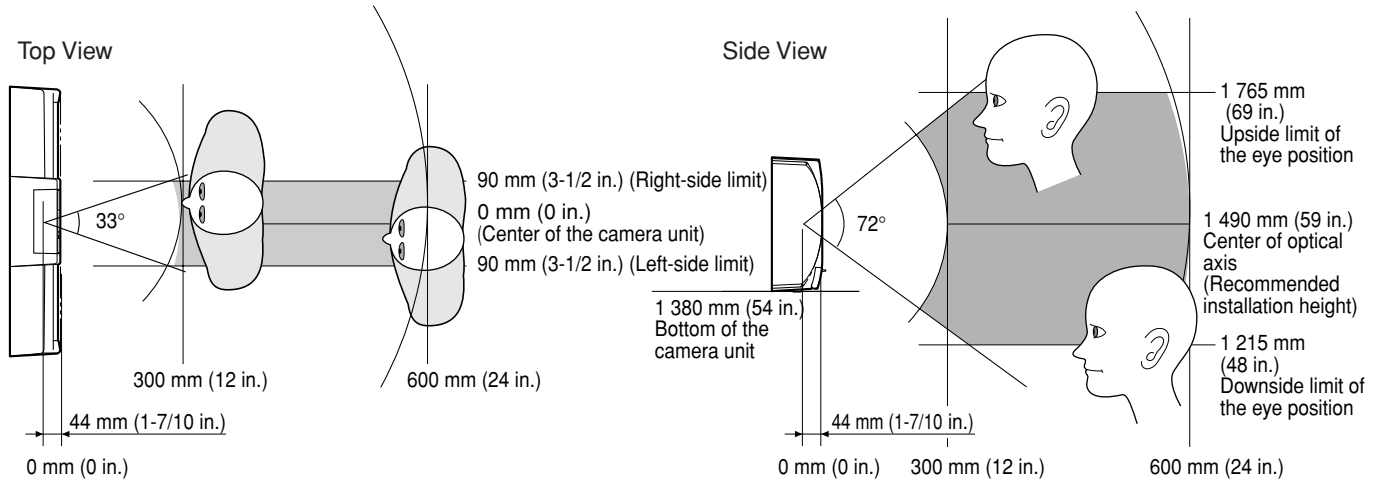


5. When recognition has been successfully executed, ACCEPT will light up and the buzzer will beep.
When recognition has not been successfully executed (or you have not been enrolled to the unit), REJECT will light up and the buzzer will beep.



Notes:

- The capturing range is as follows.



- The height of the unit, shown in the figure, is recommendation. Center of optical axis and upside/downside limit of eye position will differ depending on the installation height.
- If your eye position is higher than the upside limit, bend down. If your eye position is lower than the upside limit, get on a pedestal, etc.

■ ID-and-password Authorization

You can also identify yourself by entering your ID and password with numeric keys.

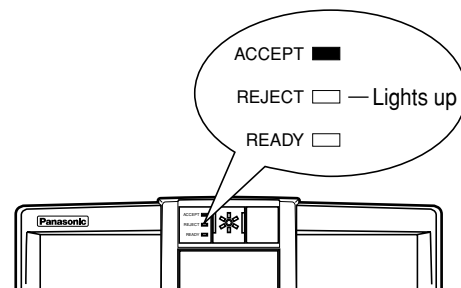
The procedures are as follows.

1. Open the keyboard cover at the bottom of the unit.
No indicator is lighting at this point.
2. Press a numeric key. (Any key is OK.)
“0” will light up on the LED indicator.
3. Enter your ID number by pressing numeric keys, and then press ENTER.
The digit number will light up on the LED indicator.
For example, if you enter a five-digit password, “5” will light up on the LED indicator. (If the digit is 10 or more, the end number will light up.)
Note: If you cancel ID-and-password-authorization and return to iris recognition, press CANCEL.
4. Enter your password by pressing numeric keys, and then press ENTER.
The digit number will appear on the LED indicator.
For example, if you enter a five-digit password, “5” will light up on the LED indicator. (If the digit is 10 or more, the end number will light up.)
Note: If you cancel ID-and-password-authorization and return to iris recognition, press CANCEL.

When the ID and password are matching with the enrolled information, “ACCEPT” will light up and the buzzer will beep briefly.

When you have mistaken the entry of ID or password

“REJECT” will light up and the buzzer will beep.



Caution: Avoid setting the following examples to your ID or password.

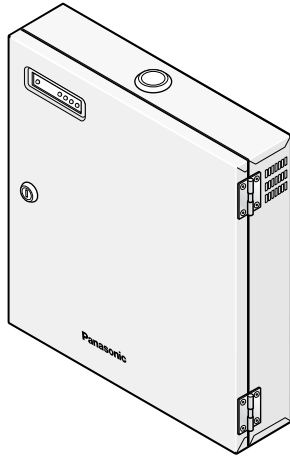
- Public information such as your birthday or phone number
- Repeated numerics such as 1111 or 7777
- Sequential numerics such as 1234 or 7890

Note: The digit number differs depends on the system environment.

When you have forgotten your ID or password, contact the system administrator.

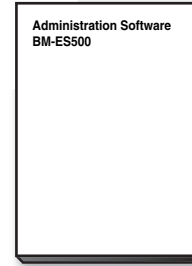
ADDITIONAL SYSTEM COMPONENTS

■ Control Unit BM-ED500



This product is necessary for iris data recognition/enrollment and controlling an electric lock.

■ Administration Software BM-ES500



This product is necessary for administering iris data, IDs, and passwords.

TROUBLESHOOTING

Check to see the following before request for repair.

If a trouble cannot be corrected even after checking and trying remedy, contact your dealer.

Problem	Check item	Remedy
System does not power up.	The power of the control unit may be turned off. (The control unit supply the power to the unit.)	Confirm if the power of the control unit is turned on. (Refer to the control unit's operating instructions.)
	Third party external power may be off.	
	This unit may be disconnected from the control unit.	Refer to the dealer or service personnel.
"REJECT" is lighting.	Your iris data, ID, or password may not have been registered.	Refer to the system administrator.
	Your ID or password may be wrong.	
	The front panel may have dust or be damaged.	Remove the dust from the front panel. If the panel has been damaged, replace it with a new one. (Refer to p.13.)
	The BNC cable may not be connected between the unit's video output connector and the control unit's video input connector.	Confirm the connection. (Refer to p.10.)
The status indicator does not light up.	The power of the control unit may be turned off. (The control unit supply the power to the unit.)	Confirm if the power of the control unit is turned on. (Refer to the control unit's operating instructions.)
	Third party external power may be off.	
	This unit may be disconnected from the control unit.	Refer to the dealer or service personnel.
The buzzer does not sound.	The buzzer level may be too low to be heard.	Adjust the buzzer level. (Refer to p.13.)

SPECIFICATIONS

General

Power source:	32 V DC (when supplied from Control Unit BM-ED500) 24 V DC (when supplied from an external power control unit *)
Power consumption:	30 W (while waiting) 60 W (max. while operating)
Iris recognition time:	3 seconds
Ambient operating temperature:	0 °C to +40 °C (32 °F to 104 °F)
Ambient operating humidity:	30 % to 80 %
Dimensions:	430 mm (W) x 211 mm (H) x 80 mm (D) 17 in. (W) x 8-3/10 in. (H) x 3-1/10 in. (D)
Weight:	4.5 kg (10 lbs.)

Input/Output

CCTV camera output:	1 V[p-p]/75 Ω
---------------------	---------------

*The third-party external power-control unit should meet the following standards.

Output voltage:	24 V DC ± 0.5 V
Output current capacity:	0 A to 4.5 A
Rated ripple voltage/Ripple noise:	150 mV[p-p] or less
Overcurrent protection:	Enabled (mandatory)

Note: We recommend the use of a third-party external power supply when the iris camera is located more than 20 meters (65 ft.) away from the control unit.

OPTIONAL ACCESSORIES

Mounting bracket	1 pc.
Screw nut (M5)	1 pc.
Screw Driver tool *1 (for tamperproof screws)	1 pc.
Coaxial cable (for the built-in color CCTV camera)	1 pc.
Operating instruction sticker *2	1 pc.
Operating instructions (this book).....	1 pc.

*1 You will use it for installation. Keep it in safe place after use.

*2 Stick to a viewable area (except for the front panel) if necessary.

Panasonic Digital Communications & Security Company

Unit Company of Matsushita Electric Corporation of America

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