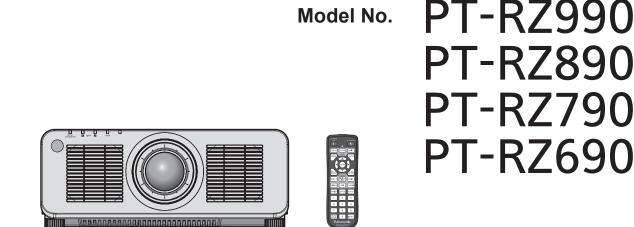
Panasonic®

Operating Instructions Functional Manual

DLP™ Projector Commercial Use



Thank you for purchasing this Panasonic product.

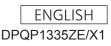
- The Operating Instructions correspond to the firmware's main version 1.04 and higher.
- This manual is common to all the models regardless of suffixes of the Model No.
 - for Taiwan
 - B: Black model, the standard zoom lens supplied
 - for India
 BD: Black
 - BD: Black model, the standard zoom lens supplied • for Korea
 - B: Black model, the standard zoom lens supplied
 for other countries or regions
 B: Black model, the standard zoom lens supplied
 W: White model, the standard zoom lens supplied
- W: White model, the standard zoom lens supplied

LB: Black model, the lens sold separately LW: White model, the lens sold separately

LBD: Black model, the lens sold separately

- Before operating this product, please read the instructions carefully and save this manual for future use.
- Before using this product, be sure to read "Read this first!" (→ pages 5 to 19).







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Read this	first!

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Read this first!

WARNING: THIS APPARATUS MUST BE EARTHED.

WARNING: To prevent damage which may result in fire or shock hazard, do not expose this appliance to rain or moisture.

This device is not intended for use in the direct field of view at visual display workplaces. To avoid incommoding reflexions at visual display workplaces this device must not be placed in the direct field of view.

The equipment is not intended for used at a video workstation in compliance BildscharbV.

The sound pressure level at the operator position is equal or less than 70 dB (A) according to ISO 7779.

WARNING:

- 1. Remove the plug from the mains socket when this unit is not in use for a prolonged period of time.
- 2. To prevent electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.
- 3. Do not remove the earthing pin on the mains plug. This apparatus is equipped with a three prong earthingtype mains plug. This plug will only fit an earthing-type mains socket. This is a safety feature. If you are unable to insert the plug into the mains socket, contact an electrician. Do not defeat the purpose of the earthing plug.

WARNING:

This equipment is compliant with Class A of CISPR32. In a residential environment this equipment may cause radio interference.

(for Taiwan)

WARNING:

This equipment complies with the Class A standard of CNS13438.

This is Class A information technology equipment that may cause radio frequency interference when used in a residential environment, in which the user will be required to take certain appropriate countermeasures.

CAUTION: To assure continued compliance, follow the attached installation instructions. This includes using the provided power cord and shielded interface cables when connecting to computer or peripheral devices. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

This is a device to project images onto a screen, etc., and is not intended for use as indoor lighting in a domestic environment.

Directive 2009/125/EC

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

WARNING: RISK OF ELECTRIC SHOCK. DON'T OPEN



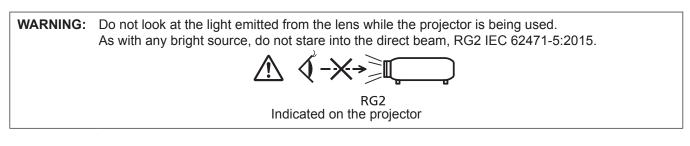
Indicated on the projector



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.



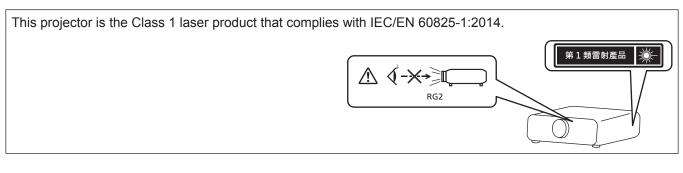
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



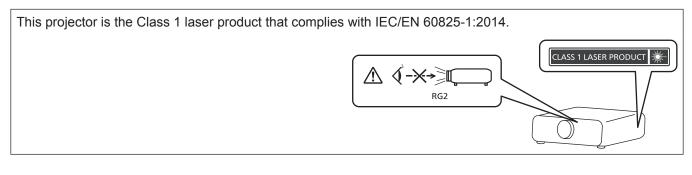
Notice on laser (for USA and Canada)

This projector is the Class 3R	laser product that complies with IEC 60825-1:2007.
	Image: Second Secon
	危険-開放時クラス4のレーザー放射 直接放射又は分散放射に限又は皮膚を暴露させないこと DANGER-CLASS 4 LASER RADIATION WHEN OPEN AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION DANGER-RAYONNEMENT LASER DE CLASS 4 - EN CAS D'OUVERTURE EXPOSITION DANGERERUSE AU RAYONNEMENT DIRECT OU DIFFUS DES YEUX OU DE LA PEAU DPQT1025ZA (Inside of product)

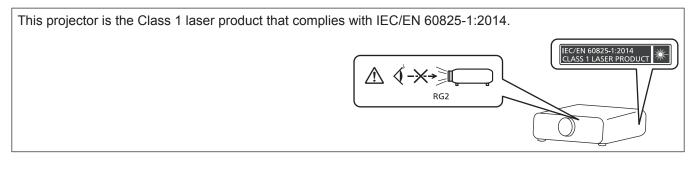
(for Taiwan)



(for India)



(for other countries or regions)



CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION (North/Middle/South America/Taiwan)

Power Supply: This Projector is designed to operate on 100 V - 240 V, 50 Hz/60 Hz AC, house current only.

CAUTION: The AC power cord which is supplied with the projector as an accessory can only be used for power supplies up to 125 V. If you need to use higher voltages than this, you will need to obtain a separate 250 V power cord. If you use the accessory cord in such situations, fire may result.

Do not remove

CAUTION (North/Middle/South America/Taiwan)

This equipment is equipped with a three-pin grounding-type power plug. Do not remove the grounding pin on the power plug. This plug will only fit a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician. Do not defeat the purpose of the grounding plug.

WARNING (USA and Canada)

- Not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/Data Processing Equipment, ANSI/NFPA 75.
- For permanently connected equipment, a readily accessible disconnect device shall be incorporated in the building installation wiring.
- For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.

NOTIFICATION (Canada)

This class A digital apparatus complies with Canadian ICES-003.

For USA-California Only

This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material – special handling may apply.

See www.dtsc.ca.gov/hazardouswaste/perchlorate

For Australia Only

WARNING: THIS PRODUCT CONTAINS A COIN BATTERY

Keep coin battery out of the reach of infants and small children whether the battery is new or used. Severe or fatal injuries can occur within 2 hours of ingestion. Seek medical attention immediately.



FCC NOTICE (USA)

Supplier's Declaration of Conformity		
Model Number:	PT-RZ990B / PT-RZ990W / PT-RZ990LB / PT-RZ990LW	
	PT-RZ890B / PT-RZ890W / PT-RZ890LB / PT-RZ890LW	
	PT-RZ790B / PT-RZ790W / PT-RZ790LB / PT-RZ790LW	
	PT-RZ690B / PT-RZ690W / PT-RZ690LB / PT-RZ690LW	
Trade Name:	Panasonic	
Responsible Party:	Panasonic Corporation of North America	
Address:	Two Riverfront Plaza, Newark, NJ 07102-5490	
General Contact:	http://www.panasonic.com/support	
Projector Contact:	https://panasonic.net/cns/projector/	

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution:

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 Warning:

To assure continued compliance, follow the attached installation instructions. This includes using the provided power cord and shielded interface cables when connecting to computer or peripheral devices. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

IMPORTANT: THE MOLDED PLUG

FOR YOUR SAFETY, PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This appliance is supplied with a molded three pin mains plug for your safety and convenience. A 13 amp fuse is fitted in this plug. Should the fuse need to be replaced, please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark 0 or the BSI mark 0 on the body of the fuse.

If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover, the plug must not be used until a replacement cover is obtained. A replacement fuse cover can be purchased from an Authorized Service Center.

If the fitted molded plug is unsuitable for the mains socket in your home, then the fuse should be removed and the plug cut off and disposed of safely. There is a danger of severe electrical shock if the cut off plug is inserted into any 13 amp socket.

If a new plug is to be fitted, please observe the wiring code as shown below. If in any doubt, please consult a qualified electrician.

WARNING: THIS APPLIANCE MUST BE EARTHED.

IMPORTANT: The wires in this mains lead are colored in accordance with the following code:

Green - and - Yellow: Earth Blue: Neutral Brown: Live

As the colors of the wire in the mains lead of this appliance may not correspond with the colored markings identifying the terminals in your plug, proceed as follows.

The wire which is colored GREEN - AND - YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the Earth symbol \pm or colored GREEN or GREEN - AND - YELLOW.

The wire which is colored BLUE must be connected to the terminal in the plug which is marked with the letter N or colored BLACK.

The wire which is colored BROWN must be connected to the terminal in the plug which is marked with the letter L or colored RED.

How to replace the fuse: Open the fuse compartment with a screwdriver and replace the fuse.



English	Manufactured by: Panasonic Connect Co., Ltd. 4-1-62 Minoshima, Hakata-ku, Fukuoka 812-8531, Japan Importer: Panasonic Connect Europe GmbH Authorized Representative in EU: Panasonic Testing Centre Winsbergring 15, 22525 Hamburg, Germany Importer for UK: Panasonic Connect UK, a branch of Panasonic Connect Europe GmbH, Maxis 2, Western Road, Bracknell, Berkshire, RG12 1RT
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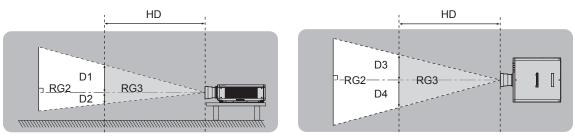
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■ Hazard distance (IEC 62471-5:2015)

The distance from the projection lens surface, at which the level of exposure has reached the level of the applicable Exposure Limit Value, is known as the hazard distance (HD) or safety distance.

Do not look into the projected light from inside the hazard distance (within RG3 range). The eyes may be damaged by the direct irradiation. It is considered to be safe to look into the projected light from outside the hazard distance (within RG2 range).





Risk group

The combination of the projector and the projection lens is categorized as the risk group 2 when the hazard distance is less than 1 m (39-3/8"). It is categorized as the risk group 3 when the hazard distance exceeds 1 m (39-3/8"), and it will be for professional use instead of consumer use.

In case of risk group 3, there is a possibility of damaging the eyes by direct irradiation when looking into the projection light from inside the hazard distance (within RG3 range).

In case of risk group 2, it can be used safely without damaging the eyes in any condition.

The combination of the projector and the projection lens which the hazard distance exceeds 1 m (39-3/8") and is categorized as risk group 3 is as follows.

Projection lens Model No.	Risk group
ET-DLE250	
ET-DLE350	Risk group 3 ^{*1}
ET-DLE450	

*1 When the projector is used with the optional Zoom Lens (Model No.: ET-DLE250, ET-DLE350, ET-DLE450) attached, the hazard distance exceeds 1 m (39-3/8"), and regardless of the use condition, the throw ratio is larger than 2.2:1. In this case, it is categorized as the risk group 3.



Read this first!

Each dimension inside the hazard distance (within RG3 range) for combination with projection lens which the hazard distance exceeds 1 m (39-3/8") is as follows.

(Unit: m)

Projection lens Model No.	HD ^{*1}	D1*2	D2*2	D3*2	D4*2
ET-DLE250	1.4	0.40	0.27	0.52	0.39
ET-DLE350	2.2	0.40	0.27	0.52	0.39
ET-DLE450	3.2	0.40	0.27	0.51	0.38

*1 HD: Hazard Distance

*2 The values of D1 to D4 will change in accordance with the lens shift amount. Each value in the table is the maximum value.

Note

• The value in the table is based on IEC 62471-5:2015.

WARNING:

POWER

The wall outlet or the circuit breaker shall be installed near the equipment and shall be easily accessible when problems occur. If the following problems occur, cut off the power supply immediately.

Continued use of the projector in these conditions will result in fire or electric shock, or will cause visual impairment.

- If foreign objects or water get inside the projector, cut off the power supply.
- If the projector is dropped or the cabinet is broken, cut off the power supply.
- If you notice smoke, strange smells or noise coming from the projector, cut off the power supply. Please contact an Authorized Service Center for repairs, and do not attempt to repair the projector yourself.

During a thunderstorm, do not touch the projector or the cable.

Electric shocks can result.

Do not do anything that might damage the power cord or the power plug.

If the power cord is used while damaged, electric shocks, short-circuits or fire will result.

• Do not damage the power cord, make any modifications to it, place it near any hot objects, bend it excessively, twist it, pull it, place heavy objects on top of it or wrap it into a bundle.

Ask an Authorized Service Center to carry out any repairs to the power cord that might be necessary.

Do not use anything other than the provided power cord.

Failure to observe this will result in electric shocks or fire. Please note that if you do not use the provided power cord to ground the device on the side of the outlet, this may result in electric shocks.

Completely insert the power plug into the wall outlet and the power connector into the projector terminal. If the plug is not inserted correctly, electric shocks or overheating will result.

• Do not use plugs which are damaged or wall outlets which are coming loose from the wall.

Do not handle the power plug and power connector with wet hands.

Failure to observe this will result in electric shocks.

Use an outlet supporting 15 A independently.

Using an outlet together with another device may result in fires due to heat generation.

Do not overload the wall outlet.

If the power supply is overloaded (ex., by using too many adapters), overheating may occur and fire will result.

Clean the power plug regularly to prevent it from becoming covered in dust.

Failure to observe this will cause a fire.

- If dust builds up on the power plug, the resulting humidity can damage the insulation.
- If not using the projector for an extended period of time, pull the power plug out from the wall outlet.
- Pull the power plug out from the wall outlet and wipe it with a dry cloth regularly.

ON USE/INSTALLATION

Do not place the projector on soft materials such as carpets or sponge mats.

Doing so will cause the projector to overheat, which can cause burns, fire or damage to the projector.

Do not set up the projector in humid or dusty places or in places where the projector may come into contact with oily smoke or steam.

Using the projector under such conditions will result in fire, electric shocks or deterioration of components. Oil may also distort the plastic and the projector could fall such as when mounted on the ceiling.

Do not install this projector in a place which is not strong enough to take the full weight of the projector or on top of a surface which is sloped or unstable.

Failure to observe this will cause projector to fall down or tip over the projector, and severe injury or damage could result.

Do not install the projector in a location where people pass through.

People may bump into the projector or trip on the power cord, which may result in fire, electric shock, or injury.

Do not cover the intake/exhaust vents or place anything within 500 mm (19-11/16") of them. Doing so will cause the projector to overheat, which can cause fire or damage to the projector.

- Do not place the projector in narrow, badly ventilated places.
- Do not place the projector on cloth or papers, as these materials could be drawn into the intake vent.

WARNING:

Do not look at or place your skin into the light emitted from the lens while the projector is being used.

Do not enter the projection luminous flux using an optical device (such as magnifier or mirror). Doing so can cause burns or loss of sight.

- Strong light is emitted from the projector's lens. Do not look at or place your hands directly into this light.
- Be especially careful not to let young children look into the lens. In addition, turn off the power and switch off the main power when you are away from the projector.

Do not project an image with the lens cover attached.

Doing so can cause fire.

Never attempt to remodel or disassemble the projector.

High voltages can cause fire or electric shocks.

• For any inspection, adjustment and repair work, please contact an Authorized Service Center.

Do not allow metal objects, flammable objects, or liquids to enter inside of the projector. Do not allow the projector to get wet.

Doing so may cause short circuits or overheating, and result in fire, electric shock, or malfunction of the projector.

- Do not place containers of liquid or metal objects near the projector.
- If liquid enters inside of the projector, consult your dealer.
- Particular attention must be paid to children.

Use the ceiling mount bracket specified by Panasonic Connect Co., Ltd.

- Using the ceiling mount bracket other than the specified one will result in falling accidents.
- Attach the supplied safety cable to the ceiling mount bracket to prevent the projector from falling down.

Installation work such as mounting the projector on the ceiling should only be carried out by a qualified technician.

If installation is not carried out and secured correctly, it can cause injury or accidents, such as electric shocks.

ACCESSORIES

Do not use or handle the batteries improperly, and refer to the following.

Failure to observe this will cause burns, batteries to leak, overheat, explode or catch fire.

- Do not use unspecified batteries.
- Do not charge dry cell batteries.
- Do not disassemble dry cell batteries.
- Do not heat the batteries or place them into water or fire.
- Do not allow the + and terminals of the batteries to come into contact with metallic objects such as necklaces or hairpins.
- Do not store or carry batteries together with metallic objects.
- Store the batteries in a plastic bag and keep them away from metallic objects.
- Make sure the polarities (+ and –) are correct when inserting the batteries.
- Do not use a new battery together with an old battery or mix different types of batteries.
- Do not use batteries with the outer cover peeling away or removed.

If the battery fluid leaks, do not touch it with bare hands, and take the following measures if necessary.

- Battery fluid on your skin or clothing could result in skin inflammation or injury. Rinse with clean water and seek medical advice immediately.
- Battery fluid coming in contact with your eyes could result in loss of sight. In this case, do not rub your eyes. Rinse with clean water and seek medical advice immediately.

Do not allow children to reach the batteries.

Accidentally swallowing them can cause physical harm.

• If swallowed, seek medical advice immediately.

Remove the depleted batteries from the remote control promptly.

• Leaving them in the unit may result in fluid leakage, overheating, or explosion of the batteries.

CAUTION:

POWER

When disconnecting the power cord, be sure to hold the power plug and power connector.

If the power cord itself is pulled, the lead will become damaged, and fire, short-circuits or serious electric shocks will result.

When not using the projector for an extended period of time, disconnect the power plug from the wall outlet.

Failure to do so may result in fire or electric shock.

Before replacing the projection lens, be sure to turn off the power and disconnect the power plug from the wall outlet.

- Unexpected projection of light may cause injury to eyes.
- Replacing the projection lens without removing the power plug may result in electric shock.

Disconnect the power plug from the wall outlet before carrying out any cleaning.

Failure to do so may result in electric shock.

ON USE/INSTALLATION

Do not place heavy objects on top of the projector.

Failure to observe this will cause the projector to become unbalanced and fall, which could result in damage or injury. The projector will be damaged or deformed.

Do not put your weight on this projector.

You could fall or the projector could break, and injury will result.

• Be especially careful not to let young children stand or sit on the projector.

Do not place the projector in extremely hot locations.

Doing so will cause the outer casing or internal components to deteriorate, or result in fire.

• Take particular care in locations exposed to direct sunlight or near heaters.

Do not place your hands in the openings beside the optical lens, while shifting the lens.

Failure to observe this could cause injury.

Do not install the projector in a location where salt pollution or corrosive gas may occur. Doing so may result in falling due to corrosion. Also, it may result in malfunctions.

Do not stand in front of the lens while the projector is being used.

- Doing so can cause damage and burns to clothing.
- Strong light is emitted from the projector's lens.

Do not place objects in front of the lens while the projector is being used.

Do not block the projection by placing an object in front of the projection lens.

Doing so can cause fire, damage to an object, or malfunction of the projector.

• Strong light is emitted from the projector's lens.

The projector must be carried or installed by two or more people.

Failure to do so may cause falling accidents.

Always disconnect all cables before moving the projector.

Moving the projector with cables still attached can damage the cables, which will cause fire or electric shocks to occur.

When mounting the projector on the ceiling, keep mounting screws and power cord from contact with metal parts inside the ceiling.

Contact with metal parts inside the ceiling can cause electric shocks.

CAUTION:

ACCESSORIES

When not using the projector for an extended period of time, remove the batteries from the remote control.

Failure to observe this will cause the batteries to leak, overheat, catch fire or explode, which may result in fire or contamination of surrounding area.

MAINTENANCE

Ask your dealer about cleaning inside the projector every 20 000 hours of usage as an estimated duration.

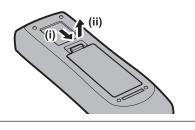
Continuous use while dust is accumulated inside the projector may result in fire.

• For cleaning fee, ask your dealer.

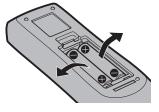
To remove the battery

Remote Control Battery

1. Press the guide and lift the cover.



2. Remove the batteries.



Brazil Only Brasil Apenas

Manuseio de baterias usadas

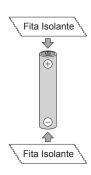


BRASIL

Após o uso, as pilhas e/ou baterias deverão ser entregues ao estabelecimento comercial ou rede de assistência técnica autorizada.

Cobrir os terminais positivo (+) e negativo (-) com uma fita isolante adesiva, antes de depositar numa caixa destinada para o recolhimento. O contato entre partes metálicas pode causar vazamentos, gerar calor, romper a blindagem e produzir fogo. (Fig. 1)

Fig. 1 Como isolar os terminais

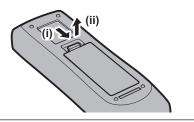


Não desmonte, não remova o invólucro, nem amasse a bateria. O gás liberado pela bateria pode irritar a garganta, danificar o lacre do invólucro ou o vazamento provocar calor, ruptura da blindagem e produzir fogo devido ao curto circuito dos terminais. Não incinere nem aqueça as baterias, elas não podem ficar expostas a temperaturas superiores a 100 °C (212 °F). O gás liberado pela bateria pode irritar a garganta, danificar o lacre do invólucro ou o vazamento provocar calor, ruptura da blindagem e produzir fogo devido ao curto circuito dos terminais.

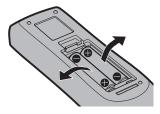
Evite o contato com o liquido que vazar das baterias. Caso isto ocorra, lave bem a parte afetada com bastante água. Caso haja irritação, consulte um médico.

Remoção das baterias

1. Pressione a guia e levante a tampa.



2. Remova as baterias.



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Please note that the [®] and TM symbols are not specified in this manual.

Software information regarding this product

This product incorporates the following software:

- (1) the software developed independently by or for Panasonic Connect Co., Ltd.,
- (2) the software owned by third party and licensed to Panasonic Connect Co., Ltd.,
- (3) the software licensed under the GNU General Public License, Version 2.0 (GPL V2.0),
- (4) the software licensed under the GNU LESSER General Public License, Version 2.1 (LGPL V2.1), and/or
- (5) open source software other than the software licensed under the GPL V2.0 and/or LGPL V2.1.

The software categorized as (3) - (5) are distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY, without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. Please refer to the license terms and conditions of each open source software. The open source software license is stored in the firmware of this product and can be downloaded by accessing the projector using a web browser. For details, please refer to "Web control function" (+ page 184).

At least three (3) years from delivery of this product, Panasonic Connect Co., Ltd. will give to any third party who contacts us at the contact information provided below, for a charge no more than our cost of physically performing source code distribution, a complete machine-readable copy of the corresponding source code covered under GPL V2.0, LGPL V2.1 or the other licenses with the obligation to do so, as well as the respective copyright notice thereof.

Contact Information: oss-cd-request@gg.jp.panasonic.com

Illustrations in this manual

- Illustrations of the projector, menu screen (OSD), and other parts may vary from the actual product.
- Illustrations displayed on the computer screen may differ depending on the computer type and its operating system.
- Illustrations of the projector with the power cord attached are only examples. The shape of the supplied power cords varies depending on the country where you purchased the product.

Reference pages

• Reference pages in this manual are indicated as (+ page 00).

Term

• In this manual, the "Wireless/wired remote control unit" accessory is referred to as "Remote control".

Features of the Projector

High luminance and high contrast

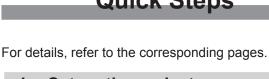
- With a unique optical system which uses a new-generation laser light source, and the laser light source drive system, high luminance of 9 400 Im^{*1*2} and high contrast of 10 000:1^{*3} are achieved even with its compact size. This projector also supports input of 4K video signals.
- *1 When [PICTURE MODE] is set to [DYNAMIC] and [OPERATING MODE] in [OPERATION SETTING] is set to [NORMAL]
- *2 PT-RZ990: 9 400 lm PT-RZ890: 8 500 lm PT-RZ790: 7 000 lm PT-RZ690: 6 000 lm
- *3 When [PICTURE MODE] is set to [DYNAMIC], [OPERATING MODE] in [OPERATION SETTING] is set to [NORMAL] and [DYNAMIC CONTRAST] is set to [3]

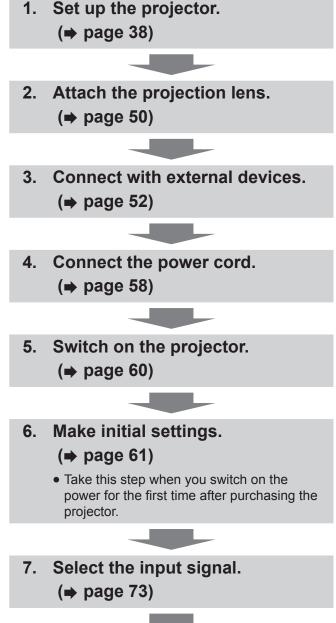
Easy and highly flexible setup

Easy and flexible setup is achieved by compatibility with DIGITAL LINK and Art-Net, standard support of 3G-SDI, standard support of geometric adjustment function, 360° installation support including horizontal, vertical, and portrait utilizing the characteristics of solid-state light source, and a lineup of various optional lenses.

Long life and high reliability

The maintenance cost for long-term operation is reduced by the unique light source cooling control technology and improvement of the dust resistance. Also, it will contribute to the stable operation by implementation of the backup function that will continue the projection by switching to the backup input signal immediately even when the input signal is discontinued, in addition to adopting solid-state light source which has long life.





8. Adjust the image.(⇒ page 74)

Quick Steps

Chapter 1 **Preparation**

This chapter describes things you need to know or check before using the projector.

Precautions for use

Intended use of the product

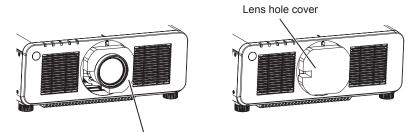
The purpose of the projector is to project a video signal from imaging equipment or a computer on a screen or other surface as a still image or moving image.

Cautions when transporting

• If you purchased the projector with the standard zoom lens, remove the lens protection material before use, and store it for the future use. Move the lens position to the home position and attach the lens protection material when transporting.

If you purchased the projector with the lens sold separately, remove the lens hole cover before use, and store it for the future use. Move the lens position to the home position, remove the projection lens, and attach the lens hole cover when transporting.

For the steps to move the lens position to the home position, refer to "Moving the projection lens to the home position" (
page 76).



Lens protection material

- Transport the projector with two or more people. Failure to do so may drop the projector, which may result in damage or deformation of the projector, or injury.
- Hold the bottom of the projector and do not hold the projection lens or the opening around the projection lens when transporting. Failure to do so may cause damage. Also, handle the projector in a way not to apply excessive vibration or shock. Failure to do so may cause a failure due to the damaged internal components.
- Do not transport the projector with the adjustable feet extended. Doing so may damage the adjustable feet.

Cautions when installing

■ After attaching the projection lens, be sure to attach the Lens Mount Cover.

Not doing so may cause failure due to accumulating dust internally.

■ Do not set up the projector outdoors.

The projector is designed for indoor use only.

■ Do not set up the projector in the following locations.

- Places where vibration and impacts occur such as in a car or vehicle: Doing so may cause damage to internal components or malfunction.
- Location close to sea or where corrosive gas may occur: The projector may fall due to corrosion. Also, failure to do so may shorten the life of the components and result in malfunction.
- Near the exhaust of an air conditioner: Depending on the conditions of use, the screen may fluctuate in rare cases due to the heated air from the exhaust vent or the hot or cooled air from the air conditioner. Make sure that the exhaust from the projector or other equipment, or the air from the air conditioner does not blow toward the front of the projector.
- Places with sharp temperature fluctuations such as near lights (studio lamps): Doing so may shorten the life of the light source, or result in deformation of the projector due to heat, which may cause malfunctions. Follow the operating environment temperature of the projector.
- Near high-voltage power lines or near motors: Doing so may interfere with the operation of the projector.
- Places where there is high-power laser equipment: Directing a laser beam onto the projection lens surface causes damage to the DLP chips.

Ask a qualified technician or your dealer for the installation work such as installing to a ceiling, etc.

To ensure projector performance and safety, ask a qualified technician or your dealer when installing to a ceiling or in a high place.

Ask a qualified technician or your dealer to install the cable wiring for DIGITAL LINK connection.

Image and sound may be disrupted if cable transmission characteristics cannot be obtained due to inadequate installation.

The projector may not work properly due to strong radio wave from the broadcast station or the radio.

If there is any facility or equipment which outputs strong radio waves near the installation location, install the projector at a location sufficiently far from the source of the radio waves. Or, wrap the LAN cable connected to the <DIGITAL LINK/LAN> terminal using a piece of metal foil or a metal pipe which is grounded at both ends.

Focus adjustment

The high clarity projection lens is thermally affected by the light from the light source, making the focus unstable in the period just after switching on the power.

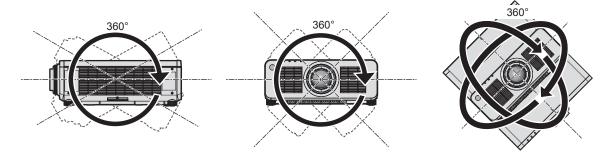
It is recommended to perform the focus adjustment after 30 minutes have elapsed with the focus test pattern displayed. For details of the test pattern, refer to "[TEST PATTERN] menu" (→ page 162).

■ Do not install the projector at an altitude of 4 200 m (13 780') or higher above sea level.

Do not use the projector in a location that the ambient temperature exceeds 45 °C (113 °F).

Using the projector in a location that the altitude is too high or the ambient temperature is too high may reduce the life of the components or result in malfunctions.

■ Projection in all 360° direction is possible.



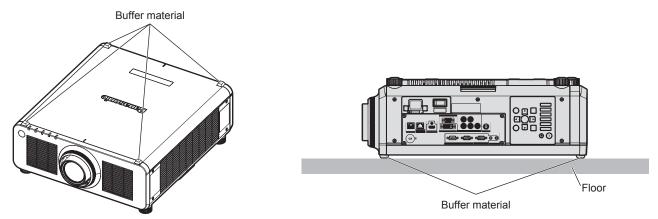
360° vertically

360° horizontally

360° tilted (combination of vertical and horizontal)

Cautions when setting up the projector

• The projector can be used by installing its top placed on the floor. To prevent the top surface from getting scratched during use, it is recommended to attach about a 20 mm (25/32") square buffer material (such as rubber cushion) on the four corners of the top surface.

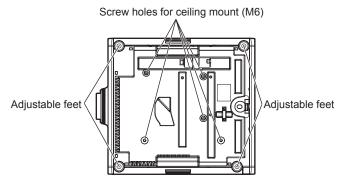


- Use the adjustable feet only for the floor standing installation and for adjusting the angle. Using them for other purposes may damage the projector.
- When installing the projector with a method other than the floor installation using the adjustable feet, top placed on the floor, or the ceiling installation with the Ceiling Mount Bracket, use the five screw holes for ceiling mount (as shown in the figure) to fix the projector to the mount.

In such case, make sure that there is no clearance between the screw holes for ceiling mount on the projector bottom and the setting surface by inserting spacers (metallic) between them.

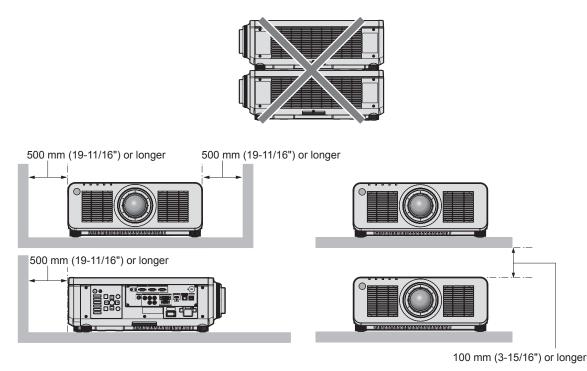
• Use a torque screwdriver or Allen torque wrench to tighten the fixing screws to their specified tightening torques. Do not use electric screwdrivers or impact screwdrivers.

(Screw diameter: M6, tapping depth inside the projector: 12 mm (15/32"), torque: 4 ± 0.5 N·m)



Positions of screw holes for ceiling mount and adjustable feet

- Do not stack projectors on top of each other.
- Do not block the intake/exhaust vents of the projector.
- Prevent hot and cool air from the air conditioning system to blow directly to the intake/exhaust vents of the projector.



• Do not install the projector in a confined space.

When installing the projector in a confined space, provide air conditioning or ventilation separately. Exhaust heat may accumulate when the ventilation is not enough, triggering the protection circuit of the projector.

• Panasonic Connect Co., Ltd. takes no responsibility for any damage to the product caused by an inappropriate choice of location for installing the projector, even if the warranty period of the product has not expired.

Security

When using this product, take safety measures against the following incidents.

- Personal information being leaked via this product
- Unauthorized operation of this product by a malicious third party
- Interfering or stopping of this product by a malicious third party

Take sufficient security measures.

- Make your password difficult to guess as much as possible.
- Change your password periodically.
- Panasonic Connect Co., Ltd. or its affiliate companies will never ask for your password directly. Do not divulge your password in case you receive such inquiries.
- The connecting network must be secured by a firewall, etc.

DIGITAL LINK

"DIGITAL LINK" is a technology to transmit the video, audio, Ethernet, and serial control signals using a twisted pair cable by adding unique functions by Panasonic Connect Co., Ltd. to the HDBaseT[™] communication standard formulated by HDBaseT Alliance.

This projector supports the optional DIGITAL LINK output supported device (Model No.: ET-YFB100G, ET-YFB200G) and peripheral devices by other manufacturers (twisted-pair-cable transmitters such as the "XTP transmitter" of Extron Electronics) that use the same HDBaseT[™] standard. For the devices of other manufacturers that the operation has been verified with this projector, visit the website (https://panasonic.net/cns/projector/). Note that the verification for devices of other manufacturers has been made for the items set by Panasonic Connect Co., Ltd., and not all the operations have been verified. For operation or performance problems caused by the devices of other manufacturers, contact the respective manufacturers. This projector does not support audio transmission because it is not equipped with audio function.

Art-Net

"Art-Net" is an Ethernet communication protocol based on the TCP/IP protocol.

By using the DMX controller and the application software, illumination and stage system can be controlled. Art-Net is made based on DMX512 communication protocol.

Application software supported by the projector

The projector supports following application software. For details or downloading application software other than the "Geometric & Setup Management Software, visit the website (https://panasonic.net/cns/projector/).

Logo Transfer Software

This application software transfers the original image, such as company logo, which is projected at the start, to the projector.

Smart Projector Control

This application software sets and adjusts the projector connected via LAN using a smartphone or a tablet.

Multi Monitoring & Control Software

This application software monitors and controls the multiple display devices (projector and flat panel display) connected to an intranet.

• Early Warning Software

This plug-in software monitors the status of the display devices and their peripherals within an intranet, and notifies of abnormality of such equipment and detects the signs of possible abnormality. "Early Warning Software" is preinstalled in the "Multi Monitoring & Control Software". To use the early warning function of this plug-in software, install "Multi Monitoring & Control Software" in the PC to be used. By enabling the early warning function, it will notify of the approximate time to replace the consumables for the display devices, to clean each part of the display devices, and to replace the components of the display devices, allowing to execute maintenance in advance.

The early warning function can be used by registering maximum of 2048 display devices free of charge for 90 days after installing the "Multi Monitoring & Control Software" into a PC. To continuously use after the 90 days, it is necessary to purchase the license of "Early Warning Software" (ET-SWA100 Series) and perform the activation. Also, depending on the type of license, the number of display devices that can be registered for monitoring varies. For details, refer to the Operating Instructions of "Multi Monitoring & Control Software".

• Geometric & Setup Management Software (Geometry Manager Pro)

This application software performs detailed corrections and adjustments such as the geometric adjustment which cannot be covered by the projector settings in real-time. By applying the optional Upgrade Kit (Model No.: ET-UK20), the correctable range and functions can be expanded. Also, by applying the optional Auto Screen Adjustment Upgrade Kit (Model No.: ET-CUK10), the geometric adjustment and edge blending matching the shape of the screen using a camera, and the adjustments of color and luminance can be automatically performed with simple steps.

"Geometric & Setup Management Software" can be downloaded from the website (https://panasonic.net/cns/ projector/pass/). It is necessary to register and login to PASS^{*1} to download.

*1 PASS: Panasonic Professional Display and Projector Technical Support Website For details, visit the website (https://panasonic.net/cns/projector/pass/).

Storing

To store the projector, store in a dry room.

Disposal

To dispose of the product, ask your local authorities or dealer for correct methods of disposal. Also, dispose of the product without disassembling.

Cautions on use

■ To get a good picture quality

In order to view a beautiful image in higher contrast, prepare an appropriate environment. Draw curtains or blinds over windows and turn off any lights near the screen to prevent outside light or light from indoor lamps from shining onto the screen.

■ Do not touch the surface of the projection lens with your bare hands.

If the surface of the projection lens becomes dirty from fingerprints or anything else, this will be magnified and projected onto the screen.

Attach the lens cover supplied with the projector or with the optional projection lens to the projector when you do not use the projector.

DLP chips

- The DLP chips are precision-made. Note that in rare cases, pixels of high precision could be missing or always lit. Such a phenomenon does not indicate malfunction.
- Directing a high-power laser beam onto the projection lens surface can damage the DLP chips.

Do not move the projector or subject it to vibration or impact while it is operating.

Doing so may shorten the life of the built-in motor.

Light source

The light source of the projector uses laser diode, and has the following characteristics.

- Depending on the operating environment temperature, the luminance of the light source will decrease. The higher the temperature becomes, the more the luminance of the light source decreases.
- The luminance of the light source will decrease by duration of usage.
 If brightness is noticeably reduced and the light source does not turn on, ask your dealer to clean inside the projector or replace the light source unit.

Computer and external device connections

When connecting a computer or an external device, read this manual carefully regarding the use of power cords and shielded cables as well.

Accessories

Power cord (K2CN3YY00018) 200 V - 240 V

(K2CT3YY00067) 200 V - 240 V

(K2CG3YY00174) 100 V - 120 V

Make sure that the following accessories are provided with your projector. Numbers enclosed in < > show the number of accessories.

Wireless/wired remote control unit <1> (N2QAYA000060)



For India (K2CZ3YY00092) <1> 200 V - 240 V



Lens Mount Cover <1> (Black model: 1GE1RZ970BU) (White model: 1GE1RZ970WU)



(The same color as the outer case will be supplied.)

Lens cover <1> (TKKL5244-1)



(Only models with lens)

AAA/R03 or AAA/LR03 battery <2>



(For remote control unit)

For Taiwan (K2CG3YY00145) <1> 100 V - 120 V



Attention

- After unpacking the projector, discard the power cord cap and packaging material properly.
- Do not use the supplied power cord for devices other than this projector.
- · For missing accessories, consult your dealer.
- Store small parts in an appropriate manner, and keep them away from small children.

Note

- The type and number of the supplied power cords vary depending on the country or region where you purchased the product.
- The part numbers of accessories are subject to change without prior notice.

Optional accessories

Optional accessories (product name)		Model No.	
Projection lens	Zoom Lens	ET-DLE020, ET-DLE060, ET-DLE085, ET-DLE105, ET-DLE150, ET-DLE170*1, ET-DLE250, ET-DLE350, ET-DLE450	
	Fixed-focus Lens	ET-DLE035, ET-DLE055	
Ceiling Mount Bracket		ET-PKD120H (for High Ceilings) ET-PKD120S (for Low Ceilings) ET-PKD130H (for High Ceilings, 6-axis Adjustment) ET-PKD130B (Projector Mount Bracket)	
Early Warning Software (Basic license/3-year license)		ET-SWA100 Series*2	
Upgrade Kit		ET-UK20	
Auto Screen Adjustment Upgrade Kit		ET-CUK10	
Auto Screen Adjustment Upgrade Kit (PC)		ET-CUK10P	
Digital Interface Box		ET-YFB100G	
DIGITAL LINK Switcher		ET-YFB200G	

*1 This product is equivalent to the lens attached to the projector models with standard zoom lens.

The availability of this product varies depending on the country. For details, contact your dealer.

*2 The suffix of the Model No. differs according to the license type.

Note

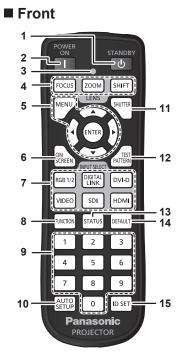
• The model numbers of optional accessories are subject to change without prior notice.

• The optional accessories compatible with the projector may be added or changed without prior notice.

For the latest information, visit the website (https://panasonic.net/cns/projector/).

About your projector

Remote control



1 Power standby <⊕> button

Sets the projector to the state where the projector is turned off (standby mode) when the <MAIN POWER> switch on the projector is set to <ON> and in projection mode.

2 Power on <|> button

Sets the projector to projection mode when the <MAIN POWER> switch on the projector is set to <ON> and the power is turned off (standby mode).

- 3 Remote control indicator Blinks if any button in the remote control is pressed.
- 4 Lens buttons (<FOCUS>, <ZOOM>, <SHIFT>) Adjusts the focus, zoom, and lens shift. (→ page 74)
- 5 <MENU> button/<ENTER> button/▲ ♥♦ buttons
 Used to navigate through the menu screen. (→ page 83)
 ▲ ♥ ◀▶ buttons are also used to enter the password in [SECURITY] or enter characters.
- 6 <ON SCREEN> button
 Switches the on-screen display function on (display) or off (hide).
 (⇒ page 79)
- 7 Input selection buttons (<RGB1/2>, <DIGITAL LINK>,
 OVI-D>, <SDI>, <HDMI>)

 Switches the input signal to project. (+ page 73)
 The <VIDEO> button is not used with this projector.
- 8 <FUNCTION> button
 Assigns a frequently used operation as a shortcut button.
 (⇒ page 80)

Attention

- Do not drop the remote control.
- Avoid contact with liquids or moisture.
- Do not attempt to modify or disassemble the remote control.
- Observe the following instructions that are indicated on the caution label at the back of the remote control:
 Do not use old battery with new one.
 - Do not use batteries other than the type specified.





Bottom



- 9 Number (<0> <9>) buttons Used for entering an ID number or a password in a multiple projector environment.
- **10** <AUTO SETUP> button Automatically adjusts the image display position while projecting the image. [PROGRESS] is displayed while in automatic adjustment.
 (→ page 80)
- 11 <SHUTTER> button Used to temporarily turn off the image. (→ page 79)
- 12 <TEST PATTERN> button Displays the test pattern. (→ page 80)
- 13 <STATUS> button Displays the projector information.
- 14 <DEFAULT> button Resets the setting of the displayed sub-menu to the factory default. (→ page 84)
- 15 <ID SET> button Sets the ID number of the remote control in a multiple projector environment. (→ page 36)
- 16 Remote control signal transmitter
- 17 Remote control wired terminal This is a terminal used to connect to the projector via a cable when the remote control is used as a wired remote control. (⇒ page 36)

- Be sure the batteries are inserted properly.

For other instructions, read the instructions related to batteries that are described in "Read this first!".

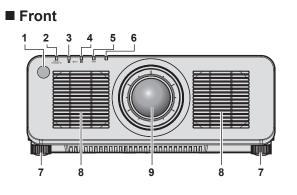


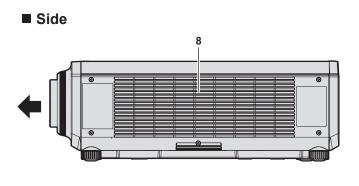
Caution label at the back of the remote control

Note

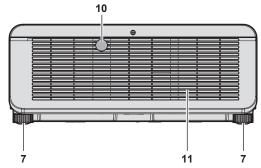
- When operating the remote control by directly pointing at the remote control signal receiver of the projector, operate the remote control within a distance approximately 30 m (98'5") from the remote control signal receiver. The remote control can control at angles of up to ±30° vertically and horizontally, but the effective control range may be reduced.
- If there are any obstacles between the remote control and the remote control signal receiver, the remote control may not operate properly.
- The signal will be reflected off the screen. However, the operating range may be limited from light reflection loss due to the screen material.
- If the remote control signal receiver directly receives strong light, such as fluorescent light, the remote control may not operate properly. Use it in a place distant from the light source.
- The power indicator <ON (G)/STANDBY (R)> will blink if the projector receives a remote control signal.

Projector body

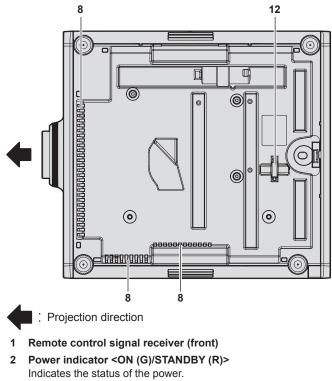






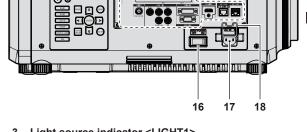






Attention

• Do not block the intake/exhaust vents of the projector.



14

omio omio omio

15

3 Light source indicator <LIGHT1> Indicates the status of light source 1.

13

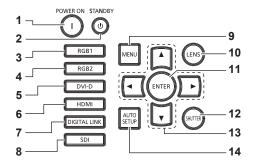
00

- 4 Light source indicator <LIGHT2> Indicates the status of light source 2.
- 5 Temperature indicator <TEMP> Indicates the internal temperature status.
- 6 (Not used with this projector)
- 7 Adjustable feet Adjusts the projection angle.
- 8 Intake vent
- 9 Projection lens
- (Only models with lens)
- 10 Remote control signal receiver (rear)
- 11 Exhaust vent
- 12 Burglar hook port Attaches a burglar prevention cable, etc.
- 13 Control panel (⇒ page 34)
- 14 Connecting terminals (→ page 35)

15 Security slot This security slot is compatible with the Kensington security cables.

- **16 <MAIN POWER> switch** Turns on/off the main power.
- 17 <AC IN> terminal Connect the supplied power cord.
- 18 Power cord holder

Control panel



1 Power on <|> button

Sets the projector to projection mode when the <MAIN POWER> switch on the projector is set to <ON> and the power is turned off (standby mode).

2 Power standby <小> button

Sets the projector to the state where the projector is turned off (standby mode) when the <MAIN POWER> switch on the projector is set to <ON> and in projection mode.

- 3 <RGB1> button Switches the input to RGB1.
- 4 <RGB2> button
- Switches the input to RGB2.
- 5 <DVI-D> button Switches the input to DVI-D.
- 6 <HDMI> button Switches the input to HDMI.
- 7 <DIGITAL LINK> button Switches the input to DIGITAL LINK.
- 8 **<SDI> button** Switches the input to SDI.

9 <MENU> button

Displays or hides the main menu. (→ page 83) Returns to the previous menu when a sub-menu is displayed. If you press the <MENU> button on the control panel for at least three seconds while the on-screen display is off (hidden), the on-screen display is turned on.

10 <LENS> button

Adjusts the focus, zoom, and lens shift.

11 <ENTER> button

Determines and executes an item in the menu screen.

12 <SHUTTER> button Used to temporarily turn off the image. (→ page 79)

13 ▲▼◀▶ selection buttons

Used to select an item in the menu screen, change the setting, and adjust the level. Also used to enter a password in [SECURITY] or enter

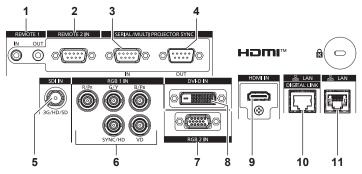
characters.

14 <AUTO SETUP> button

Automatically adjusts the image display position while the image is projected. [PROGRESS] is displayed during the automatic adjustment. (

page 80)

Connecting terminals



- 1 <REMOTE 1 IN> terminal/<REMOTE 1 OUT> terminal These are terminals to connect the remote control for serial control in a multiple projector environment.
- 2 <REMOTE 2 IN> terminal This is a terminal to remotely control the projector using the external control circuit.
- 3 <SERIAL/MULTI PROJECTOR SYNC IN> terminal This is the RS-232C compatible terminal to externally control the projector by connecting a computer. This terminal is also used to connect multiple projectors when balancing the contrast as a combined screen or synchronizing the effects using the shutter function including the fade in/fade out with a system using multiple projectors.
- 4 <SERIAL/MULTI PROJECTOR SYNC OUT> terminal This is a terminal to output RS-232C compliant signal input to the <SERIAL/MULTI PROJECTOR SYNC IN> terminal. This terminal is also used to connect multiple projectors when balancing the contrast as a combined screen or synchronizing the effects using the shutter function including the fade in/fade out with a system using multiple projectors.

- 5 <SDI IN> terminal
 - This is a terminal to input the SDI signal.
- 6 <RGB 1 IN> terminals (<R/P_R>, <G/Y>, <B/P_B>, <SYNC/HD>, <VD>)

These are terminals to input the RGB signal or $YC_BC_R\!/YP_BP_R$ signal.

- 7 <RGB 2 IN> terminal This is a terminal to input the RGB signal or YC_BC_R/YP_BP_R signal.
- 8 <DVI-D IN> terminal This is a terminal to input the DVI-D signal.
- 9 <HDMI IN> terminal This is a terminal to input the HDMI signal.
- 10 <DIGITAL LINK/LAN> terminal This is a terminal to connect a device that transmits video signal via the LAN terminal. Also, this is the LAN terminal to connect to the network.
- 11 <LAN> terminal

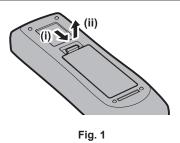
This is the LAN terminal to connect to the network.

Attention

- When a LAN cable is directly connected to the projector, the network connection must be made indoors.
- To transmit the Ethernet and serial control signals using the <DIGITAL LINK/LAN> terminal, set the [NETWORK] menu → [ETHERNET TYPE] to [DIGITAL LINK] or [LAN & DIGITAL LINK].
- To transmit the Ethernet signal using the <LAN> terminal, set the [NETWORK] menu → [ETHERNET TYPE] to [LAN] or [LAN & DIGITAL LINK].
- The <DIGITAL LINK/LAN> terminal and the <LAN> terminal are connected inside of the projector when the [NETWORK] menu → [ETHERNET TYPE] is set to [LAN & DIGITAL LINK]. Do not directly connect the <DIGITAL LINK/LAN> terminal and the <LAN> terminal using a LAN cable. Construct the system so that it is not connected to the same network via the peripherals such as the switching hub or the twisted-pair-cable transmitter.

Preparing the remote control

Inserting and removing the batteries







- 1) Open the cover. (Fig. 1)
- 2) Insert the batteries and close the cover (insert the 🖨 side first). (Fig. 2)
 - When removing the batteries, perform the steps in reverse order.

When using the multiple projectors

When you use the multiple projectors together, you can operate all the projectors simultaneously or each projector individually using a single remote control, if a unique ID number is assigned to each projector.

When using the projectors by setting the ID numbers, set the ID number of the projector body after initial settings have been completed. Then, set the ID number of the remote control. For initial settings, refer to "When the initial setting screen is displayed" (\Rightarrow page 61).

The factory default ID number of the projector (projector body and remote control) is set to [ALL], so you can use it as it is. Set the ID numbers of the projector body and remote control as necessary.

For details on setting the ID number of the remote control, refer to "Setting ID number of the remote control" (→ page 81).

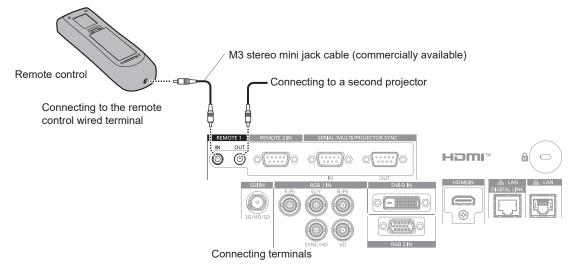
Note

• Set the ID number of the projector body from the [PROJECTOR SETUP] menu → [PROJECTOR ID].

Connecting the remote control to the projector with a cable

To simultaneously control multiple projectors next to each other with one remote control, connect the remote control with a commercially available M3 stereo mini jack cable using the <REMOTE 1 IN>/<REMOTE 1 OUT> terminals.

The remote control is effective even in places where an obstacle stands in the light path or where devices are susceptible to outside light.



Attention

• Use a cable that is 15 m (49'3") or shorter, with 2 core shielded. The remote control may not operate when the length of the cable exceeds 15 m (49'3") or when the shielding of the cable is inadequate.