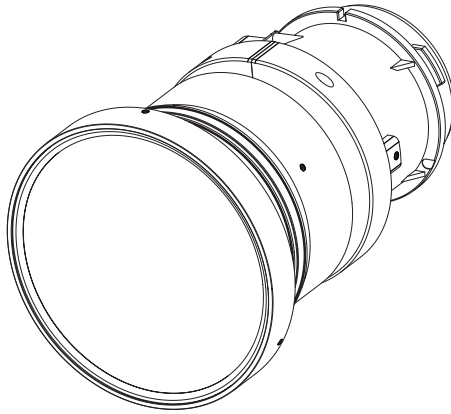


Panasonic®

Operating Instructions

Zoom Lens **Commercial Use**

Model No. **ET-ELW22**



Thank you for purchasing this Panasonic product.

- To ensure correct use of this lens, please read the operating instructions supplied with the lens and the projector carefully.
- **Before using this product, be sure to read “Read this first!” (➡Page 3).**
- Please save this manual for future use.

Product information (for Turkey only)

EEE Yönetmeliğine Uygundur.
EEE Complies with Directive of Turkey.

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Read this first!

Always follow these precautions

WARNING:

Do not allow children to reach the spacer.

- The spacers can cause personal injury if swallowed.
- If the spacers are swallowed, seek medical advice immediately.

CAUTION:

When moving or holding up the projector, be careful not to hold the projection lens or the openings beside the projection lens.

- Doing so may damage the projector.

Do not touch or remove any parts except for the specified parts in this Installation Instructions.

- Doing so may result in malfunctions, electrical shock, or accidents.

■Supplied accessories and consumables:

Do not open the desiccant bag. Do not eat the contents. (Inadvertently ingesting desiccant could be harmful.)

- If the desiccant gets into your eyes or mouth, immediately rinse with plenty of water and seek medical attention.
- Keep desiccant out of the reach of children.

Before Use

Supported projectors

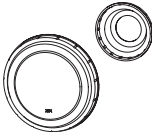

PT-EZ770, PT-EW730, PT-EX800, PT-EZ580, PT-EW640, PT-EX610, PT-EW540, PT-EX510

Note

- This manual omits the alphabets at the end of projector model numbers.

Supplied Accessories

Make sure that the following has been provided.

| Part name | Appearance (quantity) |
|-----------|--|
| Lens cap |  (The product is delivered with a lens cap attached.) 1 each |
| Spacer |  (Colors: black, cream, clear) 4 each |

Attaching the Lens / Detaching the Lens

Before replacing the projection lens

Return the projection lens to the home position before replacing or removing it. For details on how to return the lens to the home position, refer to the operating instructions of the projector.

Attention

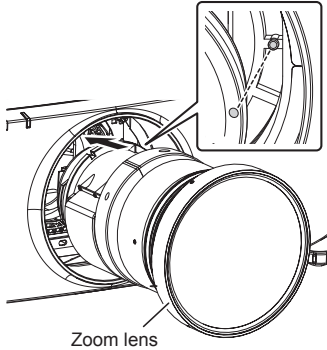
- Make sure that the projector power supply is switched off before attaching or detaching the projection lens.
- After removing the projection lens, store it safely away from vibration or impacts.
- Do not touch the electric contact points of the projection lens with your fingers. Dust and dirt on the contacts may cause contact malfunctions.
- Do not touch the surface of the lens with bare hands. Finger prints and dirt on the surface of the lens will be magnified by the lens and lower the quality of the projected image. Place the supplied lens cap on the zoom lens when the projector is not in use.
- The lens is made of glass. The lens could be damaged if brought into contact with or rubbed against hard objects. Handle the lens carefully.
- Use a clean, soft and dry cloth to wipe away dust and dirt from the lens. Do not use fluffy cloths containing oil, water or dust for cleaning. The material in the lens is easily damaged, so do not apply excessive pressure when wiping it.

Attaching the Lens / Detaching the Lens (continued)

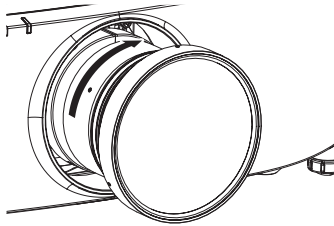
Attaching the Lens

Attention

- Before attaching the lens, be sure to remove the two lens caps attached to the lens.



- 1) Remove the lens hole cover.
- 2) Align the red mark on the projection lens with the red mark on the projector, and insert the projection lens as far as possible.

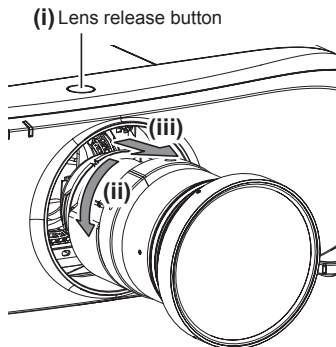


- 3) Slowly turn the lens clockwise until it clicks into place.

Attention

- Gently turn the projection lens counterclockwise, and check that it does not detach.

Detaching the Lens



Turn the projection lens completely in the counterclockwise direction while pressing the lens release button to detach the lens.

Attention

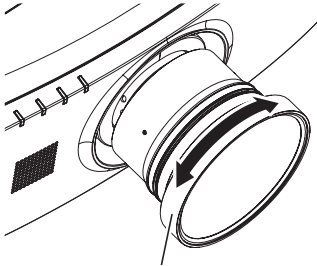
- Attach the supplied lens cap before storing the lens.

Making Adjustments

Adjusting the Focal Balance

The focal balance between the center and periphery of the projected image changes depending on the size of the projected image. The lens is equipped with a focus balance adjustment function for the screen periphery.

■ Procedure for adjusting the focal balance



Periphery focus adjustment ring

- 1) Focus the center of the screen by operating the projector unit.
- 2) Turn the periphery focus ring by hand as shown in the figure to adjust the focus in the periphery of the screen.

Note

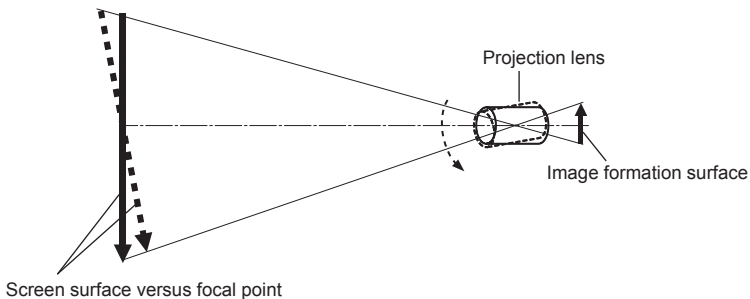
- The projected image sizes and scale shown on the periphery focus adjustment ring are an approximate guide.

Correcting the Focus

When the projection lens is attached to the projector and images are being projected onto the screen, the peripheral focus may be out of focus in some localized areas. In such cases, use the supplied spacers to correct the focus of these areas, and perform adjustments so that the entire image is even.

■ Relationship between lens orientation and screen focus

If the projection lens is tilted with respect to the plane of the screen, uneven focus will result. For example, when the front side of the lens (screen side) is tilted downward as shown in the figure below (direction of the dotted arrow), the upper part of the screen will be tilted backward and the lower part of the screen will be tilted forward.



Making Adjustments (continued)

Procedure for correcting the focus

Attention

- Turn off the projector before removing the projection lens.

Note

- Focus correction requires some technical skill. Be sure to have a person with knowledge of projectors or a service technician to perform adjustments.

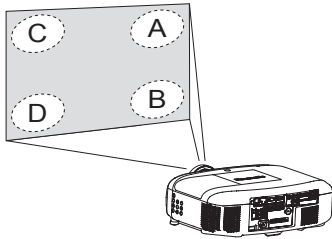


Fig. 1

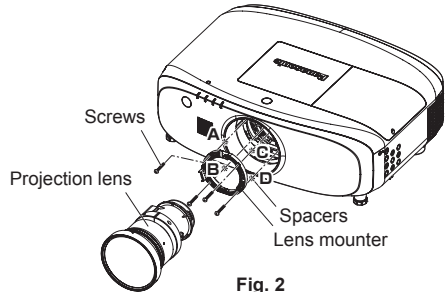


Fig. 2

- 1) Install the projector in the installation location, and turn it on to project an image.
- 2) Move the lens to its home position.
- 3) Operate the projector to shift the focus of the entire projected image toward the front of the screen.
- 4) Operate the projector to shift the focus toward the screen a little bit at a time until one of the areas A to D in Fig. 1 just comes into focus on the screen, and then stop.
 - In this state, the “just focus points” of the unfocused areas are positioned just in front of the screen. The distance between this position and the screen is the correction distance.
- 5) Insert the spacers between the body of the projector and the lens mounter, as shown in Fig. 2.
 - Remove the lens mounter from the projector, and insert the spacers in the positions that correspond to the unfocused areas.
 - The “just focus points” of the areas for which you inserted spacers will be corrected toward the rear of the screen.
 - Make sure the adhesive surfaces of the spacers face the lens mounter when inserting them.
 - The correction distance is determined by the thickness and quantity of spacers inserted. Insert spacers according to the correction distance.
(The unit for correction distances derived from the formulas in the following table is millimeters.)

| Spacer | Color | Thickness | Correction distance during projected image size SD (m) |
|--------|-------|-----------|--|
| | Clear | 0.1 mm | $SD \times SD \times 51.5$ |
| | Black | 0.2 mm | $SD \times SD \times 103$ |
| | Cream | 0.3 mm | $SD \times SD \times 154.5$ |

Correction distance guide: When the projected image size is 1.52 m (60 in.), the corrected distance when one 0.1 mm thick spacer is inserted is 120 mm.

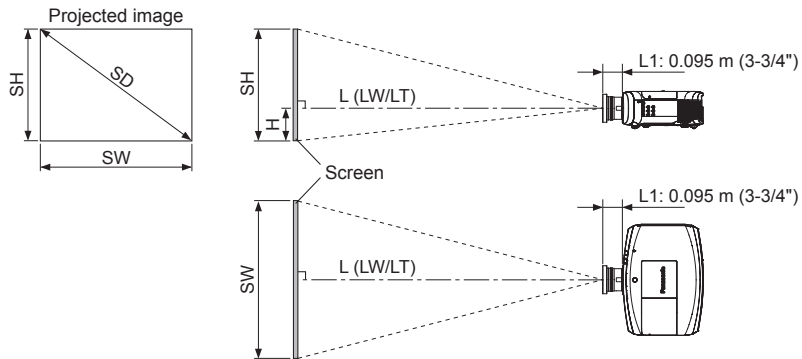
Attention

- Installing the lens mounter, be careful not to put wiring between the lens mounter and the projector unit.

Projection relationships

The dimensional relationship between the screen and the projector is shown below.

Dimensional relationship diagram



Note

- This diagram assumes that the size and position of the projected image will be adjusted so that the image fills the entire screen.
- This illustration is not drawn to scale.

| | | |
|----|----|--|
| L | | Projection distance |
| | LW | Minimum distance |
| | LT | Maximum distance |
| L1 | | Lens protrusion dimension |
| SH | | Image height |
| H | | Distance from the lens center to the lower edge of the projected image |
| SW | | Image width |
| SD | | Projected image size |

Note

- The illustrations of projectors in this manual are for informational purposes only and do not represent a specific projector model. Configurations may vary with the model.

Attention

- To prevent blocking of the intake and exhaust vents, maintain clearances from walls and objects of at least 1 000 mm (3'3") for the exhaust vent and at least 500 mm (1'8") for the intake vent.
- Avoid setting up in places which are subject to sudden temperature changes, such as near an air conditioner or lighting equipment (studio lamps, etc.).

Projection relationships (continued)

■ Dimensional relationship

For details on the projection distance (L), refer to “Projected image size and Projection distance” and “Projection distance formulas” in the Appendix.

Note

- For details on “Projected image size and Projection distance” for projector models other than PT-EZ770 / PT-EW730 / PT-EX800 / PT-EZ580 / PT-EW640 / PT-EX610 / PT-EW540 / PT-EX510, refer to “Setting up” in the operating instructions of the projector.

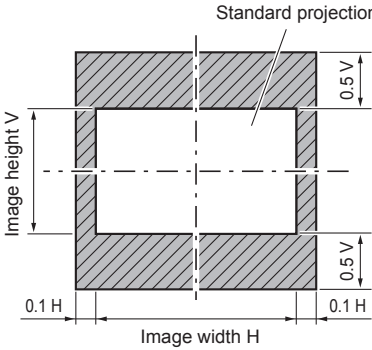
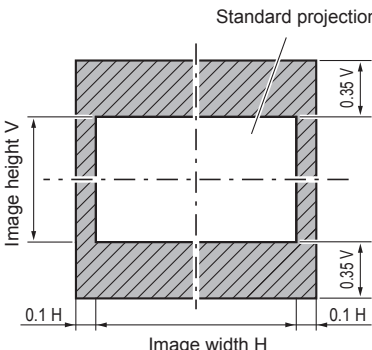
Adjustment range by the lens position shift (optical shift)

Perform the lens position shift within the adjustment range.

The focus may change when the lens position is shifted out of the adjustment range.

This is because the movement of the lens is restricted to protect the optical parts.

Projection position can be adjusted with the optical axis shift based on the home position in the respective range.

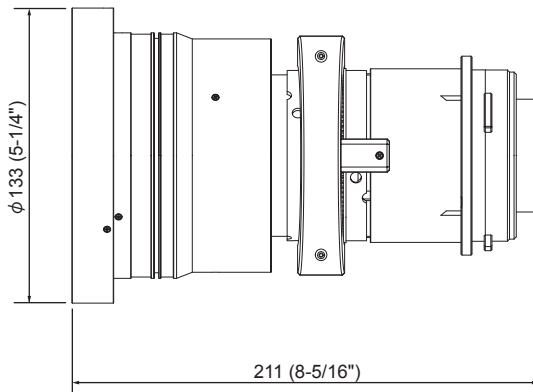
| | |
|---|---|
| PT-EZ770 / PT-EW730 / PT-EZ580 / PT-EW640 / PT-EW540 |  |
| PT-EX800 / PT-EX610 / PT-EX510 |  |

Specifications

| | |
|------------------|---|
| F value | 2.0 ~ 2.4 |
| Focal Length (f) | 13.3 mm (17/32") ~ 16.6 mm (21/32") |
| Dimensions | Width 133 mm (5-1/4") Height 133 mm (5-1/4") Depth 211 mm (8-5/16") |
| Net Weight | Approx. 1.2 kg (2.7 lb) |

Dimensions

(Unit: mm)



MEMO

Information for users in the European Union



Importer's name and address within the European Union
Panasonic Marketing Europe GmbH
Panasonic Testing Center
Winsbergring 15, 22525 Hamburg, Germany

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis.

Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

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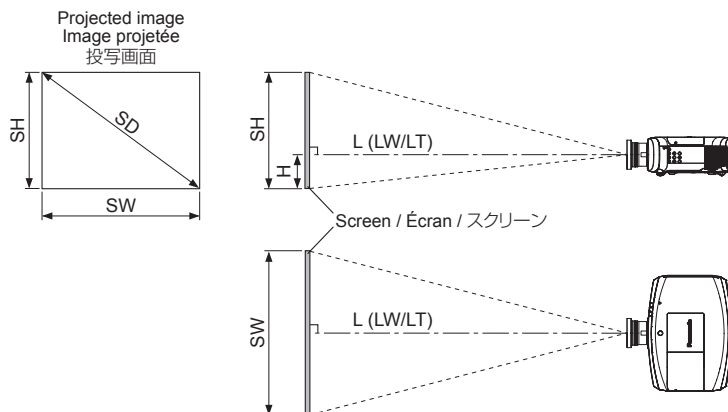
SS0914AM1047 -PS

Printed in Japan

Appendix / Annexe / 付録

- Dimensional relationship
- Relations dimensionnelles
- 投写関係寸法

The dimensional relationship between the screen and the projector is shown below.
 Les relations dimensionnelles entre l'écran et le projecteur sont indiquées ci-dessous.
 スクリーンとプロジェクター間の投写関係寸法は下記の通りです。



| | | |
|----|----|--|
| L | | Projection distance / Distance de projection / 投写距離 |
| | LW | Minimum distance / Distance minimale / 最短投写距離 |
| | LT | Maximum distance / Distance maximale / 最長投写距離 |
| SH | | Image height / Hauteur d'image / 投写画面高さ |
| H | | Distance from the lens center to the lower edge of the projected image Distance du centre de l'objectif au bord inférieure de l'image projetée レンズセンター～スクリーン下端 |
| SW | | Image width / Largeur d'image / 投写画面幅 |
| SD | | Projected image size / Taille de l'image projetée / 投写画面対角 |

- Projected image size and Projection distance
- Taille de l'image projetée et distance de projection
- 投写画面サイズと投写距離

Note

- When using projector models other than the following, refer to "Setting up" in the operating instructions of the projector.
In addition, be sure to check the diagonal screen size SD (m), and use the "Projection distance formulas" (👉 Appendix page 4) to determine the projection distance (L).

Remarque

- Lorsque vous utilisez des modèles de projecteur différents des modèles suivants, consultez "Installation" dans le mode d'emploi du projecteur.
De plus, assurez-vous de vérifier la taille de l'écran en diagonale SD (m) et d'utiliser la "Formules de distance de projection" (👉 Annexe page 4) pour déterminer la distance de projection (L).

お知らせ

- 下記以外のプロジェクターをご使用の場合は、プロジェクターの取扱説明書「設置する」をご覧ください。または、画面对角サイズ SD (m) をご確認のうえ、「投写距離計算式」(👉付録 4 ページ)で投写距離 (L) を求めてください。

Projectors / Projecteurs / プロジェクター

| |
|---|
| PT-EZ770 / PT-EZ580 / PT-EW730 / PT-EW640 / PT-EW540 / PT-EX800 / PT-EX610 / PT-EX510 |
|---|

The dimensions of the following table contain a slight error.

Periods are used to represent decimal points in the calculation formulas in the following table.

Les dimensions du tableau suivant peuvent présenter un léger écart.

Les points sont utilisés pour indiquer les décimales dans les formules de calcul dans le tableau suivant.

次の表内の寸法は若干の誤差があります。

● PT-EZ770 / PT-EZ580

(Unit / Unités / 単位 : m)

| When the screen aspect ratio is 16:10 Lorsque le rapport d'aspect de l'écran est 16:10 画面アスペクト比 16 : 10 のとき | | | | | |
|---|-------|-------|------|------|----------|
| SD | SH | SW | L | | H |
| | | | LW | LT | |
| 1.52 (60") | 0.808 | 1.292 | 1.00 | 1.26 | 0 - 0.81 |
| 1.78 (70") | 0.942 | 1.506 | 1.18 | 1.48 | 0 - 0.94 |
| 2.03 (80") | 1.077 | 1.723 | 1.35 | 1.69 | 0 - 1.08 |
| 2.29 (90") | 1.212 | 1.939 | 1.53 | 1.91 | 0 - 1.21 |
| 2.54 (100") | 1.346 | 2.154 | 1.71 | 2.13 | 0 - 1.35 |
| 3.05 (120") | 1.615 | 2.585 | 2.06 | 2.56 | 0 - 1.62 |
| 3.81 (150") | 2.019 | 3.231 | 2.58 | 3.22 | 0 - 2.02 |
| 5.08 (200") | 2.692 | 4.308 | 3.46 | 4.30 | 0 - 2.69 |
| 6.35 (250") | 3.365 | 5.385 | 4.34 | 5.39 | 0 - 3.37 |
| 7.62 (300") | 4.039 | 6.462 | 5.21 | 6.48 | 0 - 4.04 |
| 8.89 (350") | 4.712 | 7.539 | 6.09 | 7.56 | 0 - 4.71 |
| 10.16 (400") | 5.385 | 8.616 | 6.97 | 8.65 | 0 - 5.38 |

● PT-EW730 / PT-EW640 / PT-EW540

(Unit / Unités / 単位 : m)

| When the screen aspect ratio is 16:10 Lorsque le rapport d'aspect de l'écran est 16:10 画面アスペクト比 16 : 10 のとき | | | | | |
|---|-------|-------|------|------|----------|
| SD | SH | SW | L | | H |
| | | | LW | LT | |
| 1.52 (60") | 0.808 | 1.292 | 1.01 | 1.26 | 0 - 0.81 |
| 1.78 (70") | 0.942 | 1.506 | 1.18 | 1.48 | 0 - 0.94 |
| 2.03 (80") | 1.077 | 1.723 | 1.36 | 1.70 | 0 - 1.08 |
| 2.29 (90") | 1.212 | 1.939 | 1.54 | 1.92 | 0 - 1.21 |
| 2.54 (100") | 1.346 | 2.154 | 1.71 | 2.14 | 0 - 1.35 |
| 3.05 (120") | 1.615 | 2.585 | 2.06 | 2.57 | 0 - 1.62 |
| 3.81 (150") | 2.019 | 3.231 | 2.59 | 3.23 | 0 - 2.02 |
| 5.08 (200") | 2.692 | 4.308 | 3.47 | 4.32 | 0 - 2.69 |
| 6.35 (250") | 3.365 | 5.385 | 4.35 | 5.41 | 0 - 3.37 |
| 7.62 (300") | 4.039 | 6.462 | 5.23 | 6.50 | 0 - 4.04 |
| 8.89 (350") | 4.712 | 7.539 | 6.11 | 7.59 | 0 - 4.71 |
| 10.16 (400") | 5.385 | 8.616 | 6.99 | 8.68 | 0 - 5.38 |

● PT-EX800 / PT-EX610 / PT-EX510

| When the screen aspect ratio is 4:3 Lorsque le rapport d'aspect de l'écran est 4:3 画面アスペクト比 4 : 3 のとき | | | | | |
|---|-------|-------|------|------|-------------|
| SD | SH | SW | L | | H |
| | | | LW | LT | |
| 1.52 (60") | 0.914 | 1.219 | 0.97 | 1.21 | 0.14 - 0.78 |
| 1.78 (70") | 1.067 | 1.422 | 1.13 | 1.42 | 0.16 - 0.91 |
| 2.03 (80") | 1.219 | 1.626 | 1.30 | 1.63 | 0.18 - 1.04 |
| 2.29 (90") | 1.372 | 1.829 | 1.47 | 1.84 | 0.21 - 1.17 |
| 2.54 (100") | 1.524 | 2.032 | 1.64 | 2.05 | 0.23 - 1.30 |
| 3.05 (120") | 1.829 | 2.438 | 1.98 | 2.47 | 0.27 - 1.55 |
| 3.81 (150") | 2.286 | 3.048 | 2.49 | 3.10 | 0.34 - 1.94 |
| 5.08 (200") | 3.048 | 4.064 | 3.33 | 4.15 | 0.46 - 2.59 |
| 6.35 (250") | 3.810 | 5.080 | 4.18 | 5.19 | 0.57 - 3.24 |
| 7.62 (300") | 4.572 | 6.096 | 5.02 | 6.24 | 0.69 - 3.89 |
| 8.89 (350") | 5.334 | 7.112 | 5.87 | 7.29 | 0.80 - 4.53 |
| 10.16 (400") | 6.096 | 8.128 | 6.71 | 8.34 | 0.91 - 5.18 |

Note

- A ±5 % error in listed projection distances may occur.
In addition, when [KEYSTONE] is used, distance is corrected to become smaller than the specified screen size.
- The throw ratio is based on the value during projection with the projected image size of 2.03 m (80").

Remarque

- Une erreur de ±5 % dans des distances de projection énumérées peut se produire.
En outre, lorsque [CORRECTION DE TRAPÈZE] est utilisé, la distance est corrigée pour devenir inférieure à la taille d'écran spécifiée.
- Le rapport de projection est basé sur la valeur en cours de projection avec une taille de l'image projetée de 2,03 m (80").

お知らせ

- 記載の投写距離は± 5%以下の範囲内で誤差が発生します。
また、[台形補正] 使用時は、所定の画面サイズよりも小さくなる方向で補正されます。
- スローレシオは、投写画面サイズ 80 型投写時の値を基準にしています。

Setting-up dimensions which are not given in the above table can be calculated using the formulas below. Check the projected image size SD (m) and use the following formula to determine projection distance (L).

La configuration des dimensions qui ne sont pas données dans le tableau ci-dessus peut être calculée à l'aide des formules suivantes. Vérifiez la taille de l'image projetée SD (m) et utilisez la formule suivante pour déterminer la distance de projection (L).

上記の表以外の投写寸法は次の計算式で求めることができます。画面对角サイズ SD (m) をご確認のうえ、それぞれの計算式で投写距離 (L) を求めてください。

- Projection distance formulas
- Formules de distance de projection
- 投写距離計算式

The dimensions of the following table contain a slight error.

Periods are used to represent decimal points in the calculation formulas in the following table.

Les dimensions du tableau suivant peuvent présenter un léger écart.

Les points sont utilisés pour indiquer les décimales dans les formules de calcul dans le tableau suivant.

次の表内の寸法は若干の誤差があります。

● PT-EZ770 / PT-EZ580

(Unit / Unités / 単位 : m)

| | L | |
|---|--------------------|--------------------|
| | LW | LT |
| When the screen aspect ratio is 16:10 Lorsque le rapport d'aspect de l'écran est 16:10 画面アスペクト比 16 : 10 のとき | =0.6904×SD -0.0485 | =0.8558×SD -0.0455 |
| When the screen aspect ratio is 16:9 Lorsque le rapport d'aspect de l'écran est 16:9 画面アスペクト比 16 : 9 のとき | =0.7096×SD -0.0485 | =0.8796×SD -0.0455 |
| When the screen aspect ratio is 4:3 Lorsque le rapport d'aspect de l'écran est 4:3 画面アスペクト比 4 : 3 のとき | =0.7816×SD -0.0485 | =0.9688×SD -0.0455 |

● PT-EW730 / PT-EW640 / PT-EW540

| | L | |
|---|--------------------|--------------------|
| | LW | LT |
| When the screen aspect ratio is 16:10 Lorsque le rapport d'aspect de l'écran est 16:10 画面アスペクト比 16 : 10 のとき | =0.6931×SD -0.0484 | =0.8591×SD -0.0454 |
| When the screen aspect ratio is 16:9 Lorsque le rapport d'aspect de l'écran est 16:9 画面アスペクト比 16 : 9 のとき | =0.7123×SD -0.0484 | =0.8830×SD -0.0454 |
| When the screen aspect ratio is 4:3 Lorsque le rapport d'aspect de l'écran est 4:3 画面アスペクト比 4 : 3 のとき | =0.7846×SD -0.0484 | =0.9726×SD -0.0454 |

● PT-EX800 / PT-EX610 / PT-EX510

(Unit / Unités / 単位 : m)

| | L | |
|--|--------------------|--------------------|
| | LW | LT |
| When the screen aspect ratio is 4:3 Lorsque le rapport d'aspect de l'écran est 4:3 画面アスペクト比 4 : 3 のとき | =0.6656×SD -0.0489 | =0.8250×SD -0.0458 |
| When the screen aspect ratio is 16:9 Lorsque le rapport d'aspect de l'écran est 16:9 画面アスペクト比 16 : 9 のとき | =0.7252×SD -0.0489 | =0.8989×SD -0.0458 |

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Web Site : <https://panasonic.net/cns/projector/>

パナソニック株式会社 コネクティッドソリューションズ社

〒 571-8503 大阪府門真市松葉町2番15号 電話 ☎ 0120-872-601