Panasonic®

Installation Instructions
Projector ceiling mount bracket

Model No. ET-PAD310

Contents

Thank you for purchasing a Panasonic product.

■ To customers

The "Installation Instructions" is intended for use by installation personnel. Be sure to employ certified personnel to perform the installation. After the installation and receiving the "Installation Instructions" from the installation personnel, save it for future use. When moving or removing the projector, give this manual to the installation personnel to perform the operation.

■ To installation personnel

Read the "Installation Instructions" thoroughly and then perform the operation correctly and safely. Also, always read the "Important Safety Notice" on pages 2 and 3 of this manual as they contain important information. After the installation, give the "Installation Instructions" to the customer to save for future use.

Important Safety Notice

Dear Panasonic Customer:

This instruction booklet provides all the necessary operating information that you might require. We hope it will help you to get the most performance out of new product, and that you will be pleased with your Panasonic Ceiling Mount Bracket.
The serial number of your product may be found on its back. You should note it in the space provided below and retain this booklet in case service is required.

Model number: **ET-PAD310**

Serial number:

Precautions with regard to safety

■WARNING

Installation work should only be carried out by a qualified technician.
● If this product is not installed correctly, serious accidents may result.
● Carry out the work while following the [Installation] procedures specified in the main Installation Instructions.

Do not install in a place which is not strong enough.
● If the installation location is not strong enough, the ceiling bracket may fall down and an injury may result.

Make sure that your footing is safe and secure during installation.
● If your footing is not secure, you may fall down or drop the bracket, and an injury may result.

Make sure that the ceiling bracket is installed correctly in accordance with the structure and materials used at the installation location.
● If a mistake is made in the installation procedure, the ceiling bracket may fall down and an injury may result.

Do not loosen or remove the ceiling mount bracket screws unnecessarily.
● The projector may fall down and injury may result.

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 may result in fire, electric shocks or plastic deterioration. The plastic deterioration may cause the falling down of the projector which is mounted in the ceiling.

Do not allow children to reach the attached metal fittings and screws.
● The attached metal fittings and screws can cause personal injury if swallowed.
● If swallowed, seek medical advice immediately.

Mounting and installation must be carried out by two or more persons.
● Once a projector is included, the total weight will exceed 30 kg (66.1 lbs.). Be sure that mounting and installation are carried out by two or more persons.

Do not disassemble or modify the ceiling mount bracket.
● The projector may be damaged or fall, causing injury.

■CAUTION

Do not install the ceiling bracket in a place which may impede projector ventilation.
● If this is not observed, fire may result.

Install only the designated projector.
Install only using the designated method.
Do not install the ceiling mount bracket horizontally, at an angle, or upside down.
● Otherwise, the projector may fall and become damaged, and cause injury.

Important Safety Notice (Continued)

When installing, always use the supplied components.
● Otherwise, this may cause damaged projector to fall and cause injury.

Do not hang from or hang objects on the projector or ceiling mount bracket.
● The projector may fall and cause injury.

Install the mounting screws and power cable in such a way that they will not make contact with the inside parts of the ceiling.
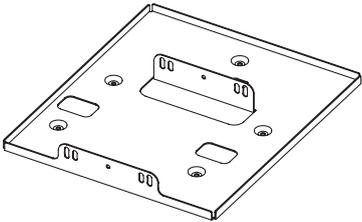● Electric shocks may result from contact with any metal objects inside the ceiling.

Product description

This is a ceiling mount bracket for installing projectors.

■ **Applicable ceiling bracket:** **ET-PKD77H, ET-PKD75S, TY-PKD75S, ET-PKD100H, ET-PKD100S, ET-PKD56H, ET-PKD55S, TY-PKD55S**

■Structural components

Parts name	Sub-components (number of parts)	Applications
Projector mount bracket	x 1	The main projector body is mounted to this bracket, which is then attached to a ceiling bracket that has been mounted in advance on the ceiling. Has an adjustment mechanism allowing tilting to the left and right.
Screws and bolts	Hex head bolt, captive washer (M6 × 16) 5 pieces	Used for mounting the projector onto the projector mount bracket.
Drop prevention set	Wire rope x 2 M8 flat washer x 4 Wire rope fixing screw (Screw, captive washer (M6 x 20)) x 2	Prevents the projector from falling.

■The user must also obtain the following parts. (commercially-available)

Installation work	Required parts	Page
Attaching the drop prevention set (bolt diameter: M8)	Anchoring nut or curled plug (M8 or 5/16") (× 2), Hex head bolt (× 2), Spring washer (× 2)	13

● Store small parts in an appropriate manner, and keep them away from young children.
● Tightening torques for the screws are, M6: 4 ± 0.5 N•m, M8 (and 5/16") : 10 ± 1 N•m.
● Use a torque screwdriver or torque wrench to tighten screws and bolts to their specified tightening torques.Do not use electric screwdrivers or impact screwdrivers.
● If metal parts are no longer being used, they should be removed by a qualified technician as soon as possible.

Standard installation dimensions

The distances and angles which relate to the projection of the picture from the projector onto the screen are shown in the table below.
The projection distance measurements can be adjusted using the zoom lens (excludes ET-D75LE5 / LE50).
Check the projection screen while making fine adjustments.

Ceiling

Unit: mm (")

436 (17-5/32)
- 516 (20-5/16) ※

198 (7-25/32)

342 (13-15/32)

L

L1

Screen
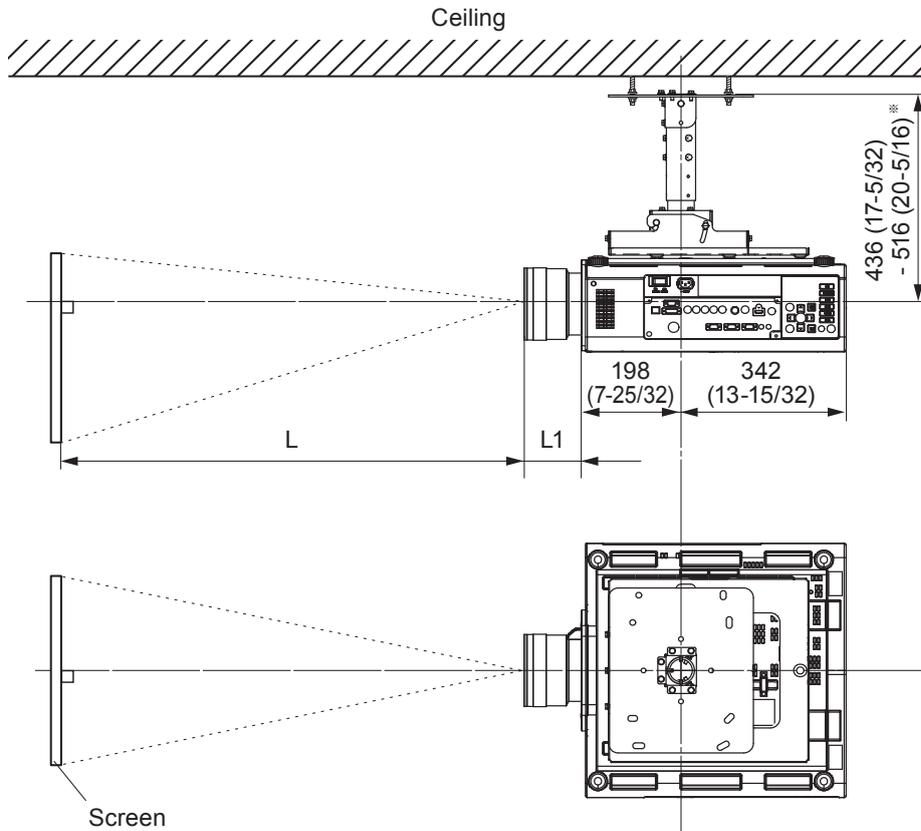
Lens	L1 size (Approx.)
ET-D75LE1	114.4 (4-1/2)
ET-D75LE2	98.9 (3-29/32)
ET-D75LE3	102.4 (4-1/32)
ET-D75LE4	126.3 (4-31/32)
ET-D75LE5	202.4 (7-31/32)
ET-D75LE6	211.9 (8-11/32)
ET-D75LE8	254.4 (10-1/32)
ET-D75LE10	125 (4-29/32)
ET-D75LE20	121 (4-3/4)
ET-D75LE30	121 (4-3/4)
ET-D75LE40	124 (4-7/8)
ET-D75LE50	203 (8)

※This figure shows an example of mounting ET-PKD77H.
※The distance is 205 mm (8-1/16") in the case of installing ceiling brackets for low ceilings ET-PKD75S and TY-PKD75S.

Attention

● Install the projector with a space more than 500 mm (19-11/16") behind it so as not to interfere with projector ventilation.
● Leave a space of 300 mm (11-13/16") on each side of the projector.
● When replacing ET-PKD100H/ET-PKD77H, the focal point of the projection lens moves 54 mm (2-1/8")to the right when viewed from the rear of the projector.

■Projection distance according to the projector lens.

For the projection distances for projection lenses (optional), refer to the operating instructions [Installation] provided with the projector. Or check the diagonal dimension (m) of your screen and calculate the projection distance using the following formula.

Unit: m

Model number of projection lens (Throw ratio)		Aspect ratio	PT-DZ13K series / PT-DZ10K series / PT-DZ8700U and PT-DZ110XE Projection distance (L) formula	
			Minimum	Maximum
Zoom lens	ET-D75LE1 (1.4-1.8:1)	16:10	L = 1.1732 × Screen diagonal (m) – 0.0760	L = 1.5709 × Screen diagonal (m) – 0.1004
		16:9	L = 1.2087 × Screen diagonal (m) – 0.0760	L = 1.6142 × Screen diagonal (m) – 0.1004
	(1.6-2.2:1)	4:3	L = 1.3307 × Screen diagonal (m) – 0.0760	L = 1.7756 × Screen diagonal (m) – 0.1004
	ET-D75LE2 (1.8-2.8:1)	16:10	L = 1.5748 × Screen diagonal (m) – 0.0795	L = 2.3661 × Screen diagonal (m) – 0.1064
		16:9	L = 1.6220 × Screen diagonal (m) – 0.0795	L = 2.4291 × Screen diagonal (m) – 0.1064
	(2.2-3.3:1)	4:3	L = 1.7835 × Screen diagonal (m) – 0.0795	L = 2.6772 × Screen diagonal (m) – 0.1064
	ET-D75LE3 (2.8-4.6:1)	16:10	L = 2.3661 × Screen diagonal (m) – 0.0958	L = 3.9488 × Screen diagonal (m) – 0.1216
		16:9	L = 2.4291 × Screen diagonal (m) – 0.0958	L = 4.0591 × Screen diagonal (m) – 0.1216
	(3.3-5.5:1)	4:3	L = 2.6772 × Screen diagonal (m) – 0.0958	L = 4.4724 × Screen diagonal (m) – 0.1216
	ET-D75LE4 (4.6-7.4:1)	16:10	L = 3.9488 × Screen diagonal (m) – 0.1158	L = 6.2795 × Screen diagonal (m) – 0.1013
		16:9	L = 4.0591 × Screen diagonal (m) – 0.1158	L = 6.4528 × Screen diagonal (m) – 0.1013
	(5.6-8.9:1)	4:3	L = 4.4724 × Screen diagonal (m) – 0.1158	L = 7.1102 × Screen diagonal (m) – 0.1013
	ET-D75LE8 (7.3-13.8:1)	16:10	L = 6.2795 × Screen diagonal (m) – 0.3862	L = 11.7677 × Screen diagonal (m) – 0.3598
		16:9	L = 6.4567 × Screen diagonal (m) – 0.3862	L = 12.0945 × Screen diagonal (m) – 0.3598
	(8.8-16.5:1)	4:3	L = 7.1102 × Screen diagonal (m) – 0.3862	L = 13.3189 × Screen diagonal (m) – 0.3598
	ET-D75LE6 (0.9-1.1:1)	16:10	L = 0.7913 × Screen diagonal (m) – 0.0566	L = 0.9488 × Screen diagonal (m) – 0.0736
		16:9	L = 0.8150 × Screen diagonal (m) – 0.0566	L = 0.9764 × Screen diagonal (m) – 0.0736
	(1.1-1.3:1)	4:3	L = 0.8976 × Screen diagonal (m) – 0.0566	L = 1.0748 × Screen diagonal (m) – 0.0736
	ET-D75LE10 (1.3-1.7:1)	16:10	L = 1.1186 × Screen diagonal (m) – 0.0857	L = 1.4458 × Screen diagonal (m) – 0.1085
		16:9	L = 1.1497 × Screen diagonal (m) – 0.0857	L = 1.4860 × Screen diagonal (m) – 0.1085
	(1.6-2.0:1)	4:3	L = 1.2663 × Screen diagonal (m) – 0.0857	L = 1.6367 × Screen diagonal (m) – 0.1085
	ET-D75LE20 (1.7-2.4:1)	16:10	L = 1.4312 × Screen diagonal (m) – 0.0832	L = 2.0795 × Screen diagonal (m) – 0.1162
		16:9	L = 1.4709 × Screen diagonal (m) – 0.0832	L = 2.1373 × Screen diagonal (m) – 0.1162
	(2.0-2.9:1)	4:3	L = 1.6202 × Screen diagonal (m) – 0.0832	L = 2.3542 × Screen diagonal (m) – 0.1162
	ET-D75LE30 (2.4-4.7:1)	16:10	L = 2.0647 × Screen diagonal (m) – 0.1131	L = 4.0041 × Screen diagonal (m) – 0.1765
		16:9	L = 2.1221 × Screen diagonal (m) – 0.1131	L = 4.1155 × Screen diagonal (m) – 0.1765
	(2.9-5.6:1)	4:3	L = 2.3374 × Screen diagonal (m) – 0.1131	L = 4.5330 × Screen diagonal (m) – 0.1765
	ET-D75LE40 (4.6-7.4:1)	16:10	L = 3.9532 × Screen diagonal (m) – 0.1577	L = 6.3027 × Screen diagonal (m) – 0.1615
		16:9	L = 4.0631 × Screen diagonal (m) – 0.1577	L = 6.4779 × Screen diagonal (m) – 0.1615
	(5.5-8.9:1)	4:3	L = 4.4754 × Screen diagonal (m) – 0.1577	L = 7.1351 × Screen diagonal (m) – 0.1615
Fixed-focus lens	ET-D75LE5 (0.7:1)	16:10	L = 0.6063 × Screen diagonal (m) – 0.0835	
		16:9	L = 0.6220 × Screen diagonal (m) – 0.0835	
	(0.8:1)	4:3	L = 0.6850 × Screen diagonal (m) – 0.0835	
	ET-D75LE50 (0.7:1)	16:10	L = 0.6072 × Screen diagonal (m) – 0.0713	
		16:9	L = 0.6240 × Screen diagonal (m) – 0.0713	
	(0.8:1)	4:3	L = 0.6873 × Screen diagonal (m) – 0.0713	

Note

● The values obtained from the above formulas may contain slight errors.
● The throw ratio is based on the value during projection onto a 3 810 mm (150") screen size.
● When GEOMETRY or KEYSTONE adjustment is used, compensation is made so that the screen size becomes smaller than the specified size.

Unit: m

Model number of projection lens (Throw ratio)		Aspect ratio	PT-DS12K series / PT-DS8500U and PT-DS100XE	
			Projection distance (L) formula	
			Minimum	Maximum
Zoom lens	ET-D75LE1 (1.5-2.0:1)	4:3	L = 1.2087 × Screen diagonal (m) – 0.0760	L = 1.6142 × Screen diagonal (m) – 0.1004
		16:9	L = 1.3150 × Screen diagonal (m) – 0.0760	L = 1.7559 × Screen diagonal (m) – 0.1004
	ET-D75LE2 (2.0-3.0:1)	4:3	L = 1.6220 × Screen diagonal (m) – 0.0795	L = 2.4291 × Screen diagonal (m) – 0.1064
		16:9	L = 1.7638 × Screen diagonal (m) – 0.0795	L = 2.6457 × Screen diagonal (m) – 0.1064
	ET-D75LE3 (3.0-5.0:1)	4:3	L = 2.4291 × Screen diagonal (m) – 0.0958	L = 4.0591 × Screen diagonal (m) – 0.1216
		16:9	L = 2.6457 × Screen diagonal (m) – 0.0958	L = 4.4213 × Screen diagonal (m) – 0.1216
	ET-D75LE4 (5.0-8.0:1)	4:3	L = 4.0591 × Screen diagonal (m) – 0.1158	L = 6.4528 × Screen diagonal (m) – 0.1013
		16:9	L = 4.4213 × Screen diagonal (m) – 0.1158	L = 7.0315 × Screen diagonal (m) – 0.1013
	ET-D75LE8 (7.9-15.0:1)	4:3	L = 6.4567 × Screen diagonal (m) – 0.3862	L = 12.0945 × Screen diagonal (m) – 0.3598
	(8.0-15.0:1)	16:9	L = 7.0315 × Screen diagonal (m) – 0.3862	L = 13.1732 × Screen diagonal (m) – 0.3598
	ET-D75LE6 (1.0-1.2:1)	4:3	L = 0.8150 × Screen diagonal (m) – 0.0566	L = 0.9764 × Screen diagonal (m) – 0.0736
		16:9	L = 0.8858 × Screen diagonal (m) – 0.0566	L = 1.0630 × Screen diagonal (m) – 0.0736
	ET-D75LE10 (1.4-1.8:1)	4:3	L = 1.1425 × Screen diagonal (m) – 0.0857	L = 1.4767 × Screen diagonal (m) – 0.1085
		16:9	L = 1.2446 × Screen diagonal (m) – 0.0857	L = 1.6086 × Screen diagonal (m) – 0.1085
	ET-D75LE20 (1.8-2.6:1)	4:3	L = 1.4618 × Screen diagonal (m) – 0.0832	L = 2.1241 × Screen diagonal (m) – 0.1162
		16:9	L = 1.5924 × Screen diagonal (m) – 0.0832	L = 2.3137 × Screen diagonal (m) – 0.1162
	ET-D75LE30 (2.6-5.1:1)	4:3	L = 2.1089 × Screen diagonal (m) – 0.1131	L = 4.0899 × Screen diagonal (m) – 0.1765
		16:9	L = 2.2972 × Screen diagonal (m) – 0.1131	L = 4.4552 × Screen diagonal (m) – 0.1765
	ET-D75LE40 (5.0-8.0:1)	4:3	L = 4.0379 × Screen diagonal (m) – 0.1577	L = 6.4377 × Screen diagonal (m) – 0.1615
		16:9	L = 4.3985 × Screen diagonal (m) – 0.1577	L = 7.0126 × Screen diagonal (m) – 0.1615
Fixed-focus lens	ET-D75LE5 (0.8:1)	4:3	L = 0.6220 × Screen diagonal (m) – 0.0835	
		16:9	L = 0.6772 × Screen diagonal (m) – 0.0835	
	ET-D75LE50 (0.8:1)	4:3	L = 0.6202 × Screen diagonal (m) – 0.0713	
		16:9	L = 0.6755 × Screen diagonal (m) – 0.0713	

Note

- The values obtained from the above formulas may contain slight errors.
- The throw ratio is based on the value during projection onto a 3 810 mm (150") screen size.
- When GEOMETRY or KEYSTONE adjustment is used, compensation is made so that the screen size becomes smaller than the specified size.

Standard installation dimensions (Continued)

Unit: m

| Model number of projection lens (Throw ratio)		Aspect ratio	PT-DW11K series / PT-DW8300U and PT-DW90XE	
			Projection distance (L) formula	
			Minimum	Maximum
Zoom lens	ET-D75LE1 (1.5-2.0:1)	16:9	L = 1.3504 × Screen diagonal (m) – 0.0760	L = 1.8031 × Screen diagonal (m) – 0.1004
	(2.0-2.7:1)	4:3	L = 1.6496 × Screen diagonal (m) – 0.0760	L = 2.2047 × Screen diagonal (m) – 0.1004
	ET-D75LE2 (2.1-3.1:1)	16:9	L = 1.8110 × Screen diagonal (m) – 0.0795	L = 2.7126 × Screen diagonal (m) – 0.1064
	(2.7-4.1:1)	4:3	L = 2.2165 × Screen diagonal (m) – 0.0795	L = 3.3228 × Screen diagonal (m) – 0.1064
	ET-D75LE3 (3.1-5.2:1)	16:9	L = 2.7126 × Screen diagonal (m) – 0.0958	L = 4.5315 × Screen diagonal (m) – 0.1216
	(4.1-6.9:1)	4:3	L = 3.3228 × Screen diagonal (m) – 0.0958	L = 5.5472 × Screen diagonal (m) – 0.1216
	ET-D75LE4 (5.2-8.2:1)	16:9	L = 4.5315 × Screen diagonal (m) – 0.1158	L = 7.2087 × Screen diagonal (m) – 0.1013
	(6.9-11.0:1)	4:3	L = 5.5472 × Screen diagonal (m) – 0.1158	L = 8.8228 × Screen diagonal (m) – 0.1013
	ET-D75LE8 (8.2-15.4:1)	16:9	L = 7.2087 × Screen diagonal (m) – 0.3862	L = 13.5039 × Screen diagonal (m) – 0.3598
	(10.9-20.5:1)	4:3	L = 8.8228 × Screen diagonal (m) – 0.3862	L = 16.5354 × Screen diagonal (m) – 0.3598
	ET-D75LE6 (1.0-1.2:1)	16:9	L = 0.9094 × Screen diagonal (m) – 0.0566	L = 1.0906 × Screen diagonal (m) – 0.0736
	(1.4-1.6:1)	4:3	L = 1.1142 × Screen diagonal (m) – 0.0566	L = 1.3346 × Screen diagonal (m) – 0.0736
	ET-D75LE10 (1.4-1.9:1)	16:9	L = 1.2759 × Screen diagonal (m) – 0.0857	L = 1.6491 × Screen diagonal (m) – 0.1085
	(1.9-2.5:1)	4:3	L = 1.5620 × Screen diagonal (m) – 0.0857	L = 2.0190 × Screen diagonal (m) – 0.1085
	ET-D75LE20 (1.8-2.7:1)	16:9	L = 1.6324 × Screen diagonal (m) – 0.0832	L = 2.3720 × Screen diagonal (m) – 0.1162
	(2.5-3.6:1)	4:3	L = 1.9986 × Screen diagonal (m) – 0.0832	L = 2.9040 × Screen diagonal (m) – 0.1162
	ET-D75LE30 (2.7-5.2:1)	16:9	L = 2.3550 × Screen diagonal (m) – 0.1131	L = 4.5673 × Screen diagonal (m) – 0.1765
	(3.6-6.9:1)	4:3	L = 2.8833 × Screen diagonal (m) – 0.1131	L = 5.5917 × Screen diagonal (m) – 0.1765
	ET-D75LE40 (5.1-8.2:1)	16:9	L = 4.5092 × Screen diagonal (m) – 0.1577	L = 7.1891 × Screen diagonal (m) – 0.1615
	(6.8-10.9:1)	4:3	L = 5.5206 × Screen diagonal (m) – 0.1577	L = 8.8016 × Screen diagonal (m) – 0.1615
Fixed-focus lens	ET-D75LE5 (0.8:1)	16:9	L = 0.6929 × Screen diagonal (m) – 0.0835	
	(1.0:1)	4:3	L = 0.8504 × Screen diagonal (m) – 0.0835	
	ET-D75LE50 (0.8:1)	16:9	L = 0.6925 × Screen diagonal (m) – 0.0713	
	(1.0:1)	4:3	L = 0.8479 × Screen diagonal (m) – 0.0713	

Note

- The values obtained from the above formulas may contain slight errors.
- The throw ratio is based on the value during projection onto a 3 810 mm (150") screen size.
- When GEOMETRY or KEYSTONE adjustment is used, compensation is made so that the screen size becomes smaller than the specified size.
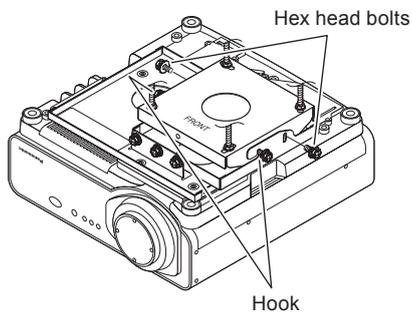
Removal method

Removing the projector

• **WHEN INSTALLED USING CEILING BRACKETS FOR HIGH CEILINGS**

Hex head bolts
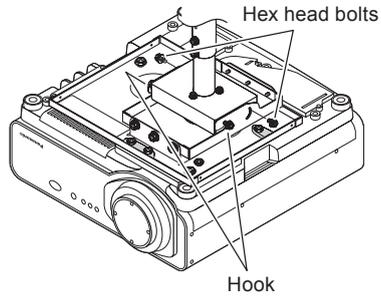
Hook

① Remove two hexagonal bolts with washers.

② Loosen the left and right hexagonal bolts slightly, and remove the set from the hooks on the angle adjustment bracket.

• **WHEN INSTALLED USING CEILING BRACKETS FOR LOW CEILINGS**

Hex head bolts

Hook

Attention

● Be sure that the hexagonal bolts with washers are not loosened more than necessary.

● Removing the projector must be carried out by two or more persons.

Angle adjustment bracket
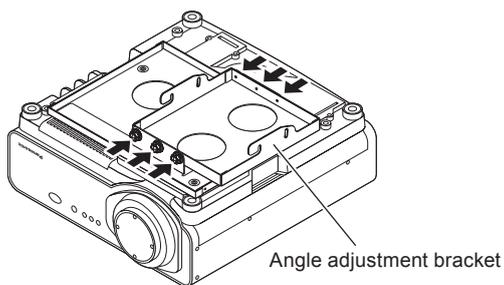
③ Remove six hexagonal bolts with washers on the angle adjustment bracket from the projector mount bracket, and remove the angle adjustment bracket.

Attention

● The hexagonal bolts with washers and the angle adjustment bracket that have been removed are re-used.
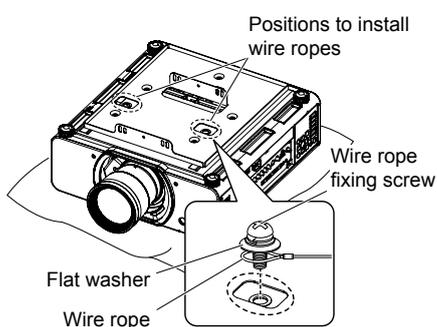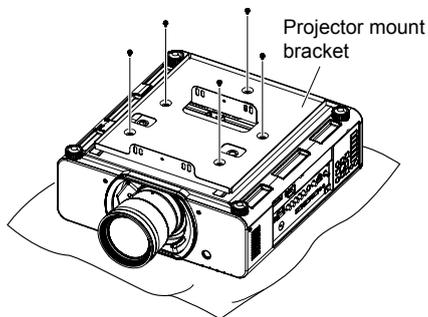
Attention

● After use, dispose of the set and projector mount bracket in an appropriate manner.

8

Installation method

Installing the brackets to the projector

Mount the ceiling bracket components onto the projector (sold separately).

Projector mount bracket

① Place the projector on a soft cloth or a similar surface, with the bottom surface of the projector facing upwards.

② Securely fasten the projector mount bracket to the bottom surface of the projector using 5 hexagonal bolts with washers (M6 ×16) (included).

Positions to install wire ropes

Wire rope fixing screw

Flat washer

Wire rope

③ Put the flat washer through the supplied wire rope fixing screw (M6 x 20).

④ Put the supplied wire rope through the same wire rope fixing screw.

⑤ Install the wire rope fixing screws to the projector and tighten them.
   ● Install the wire ropes to the 2 places in a similar manner.

"FRONT" inscription

Angle adjusting bracket
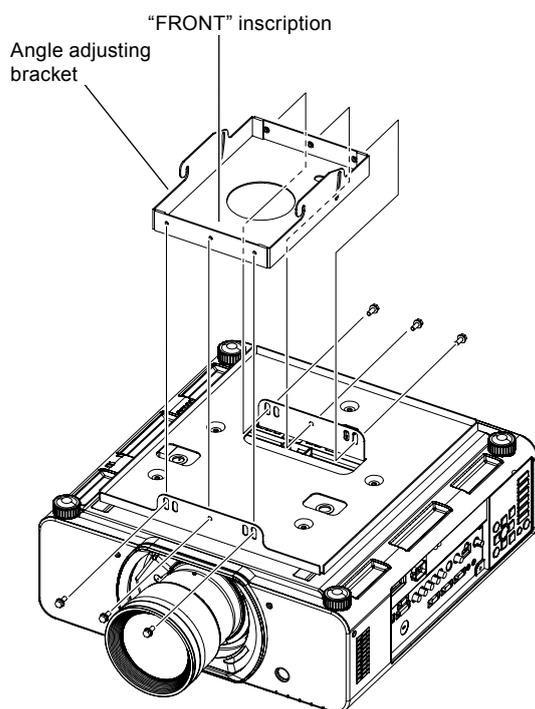
⑥ Secure the angle adjusting bracket to the projector mount bracket with 6 hex head bolts.

Attention

● Tighten the hex head bolts securely in a total of six areas after adjusting the installation angles as shown on page 11.
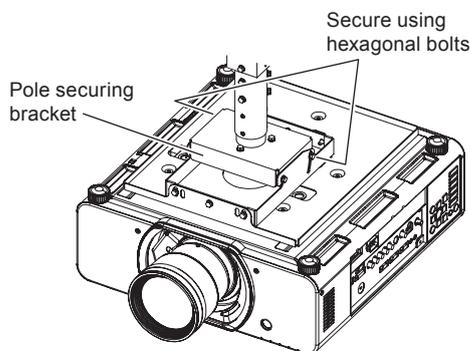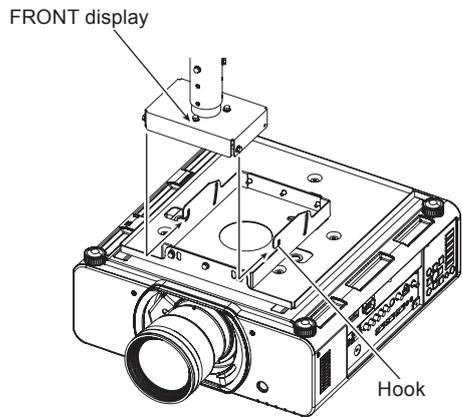
Note

● The wire rope is omitted from the illustrations from hence on.

9

Installation method (Continued)

Suspending the projector

• WHEN INSTALLED USING CEILING BRACKETS FOR HIGH CEILINGS

FRONT display

Hook

Secure using hexagonal bolts

Pole securing bracket

① Install the projector to the pole base by fitting the adjustable hook part of the angle adjusting bracket over the hex head bolts.
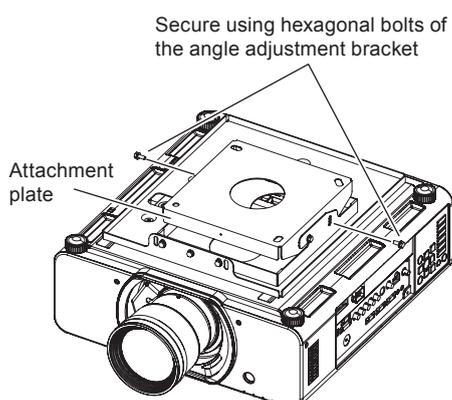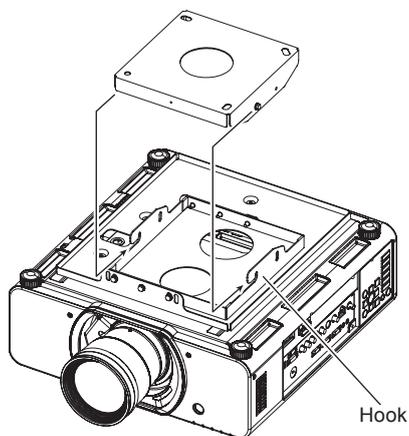
Attention

● Check that the thread ridges of the temporarily fastened captive washer hex head bolts are tightly engaged with the nuts.
● Do not release hand until the hexagonal bolts are fixed to the hook sections of the angle adjustment bracket.
● Mounting and installation must be carried out by two or more persons.

② Secure the pole securing bracket and the angle adjustment bracket using the two removed hexagonal bolts with washers (M6 × 16) as shown on the left.

Attention

● Tighten the hex head bolts securely in a total of four areas after adjusting the installation angles as shown on page 11.

• WHEN INSTALLED USING CEILING BRACKETS FOR LOW CEILINGS

Hook

Secure using hexagonal bolts of the angle adjustment bracket

Attachment plate

① Install the projector to the pole base by fitting the adjustable hook part of the angle adjusting bracket over the hex head bolts.

Attention

● Check that the thread ridges of the temporarily fastened captive washer hex head bolts are tightly engaged with the nuts.
● Do not release hand until the hexagonal bolts are fixed to the hook sections of the angle adjustment bracket.
● Mounting and installation must be carried out by two or more persons.

② Secure the attachment plate and the angle adjustment bracket using the two removed hexagonal bolts with washers (M6 × 16) as shown on the left.
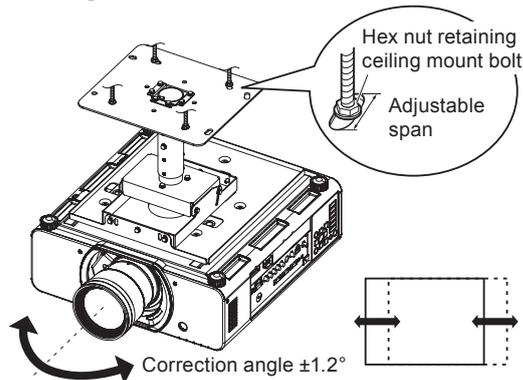
Attention

● Tighten the hex head bolts securely in a total of four areas after adjusting the installation angles as shown on page 12.

Adjusting the installation angle

● It is possible to adjust the horizontal swing and also the horizontal and vertical rotation of the ceiling mount bracket. Adjustments should be carried out in order to make the center of the projector lens perpendicular to the surface of the projection screen.
● While referring to the operating instructions for the projector, project a picture onto the screen and then adjust the picture size and focus. After making these adjustments, adjust the ceiling mount bracket angle.

When installed using ceiling brackets for high ceilings

■If the picture is too far to the left or right of the screen

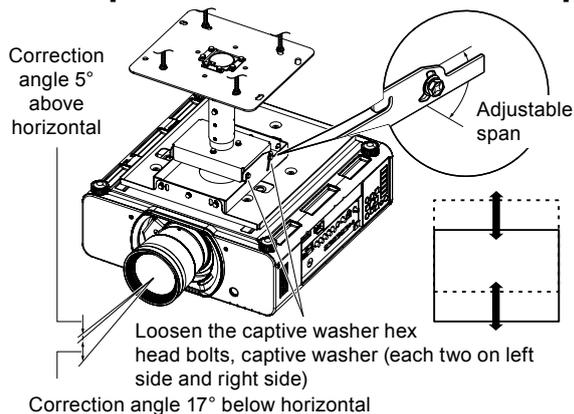Hex nut retaining ceiling mount bolt

Adjustable span

Correction angle ±1.2°

① Loosen the hex bolts at the ceiling of the after-plate at four places and then move the projector to the left or right to adjust so that the center of the screen is aligned along a vertical line.

Attention

● If centers of the screen and projector are not in alignment, adjust by using the shift lens.

② Once the picture position has been set, be sure to retighten the nuts securely at four places.

■If the picture is too far to the top or bottom of the screen

Correction angle 5° above horizontal

Adjustable span

Loosen the captive washer hex head bolts, captive washer (each two on left side and right side)
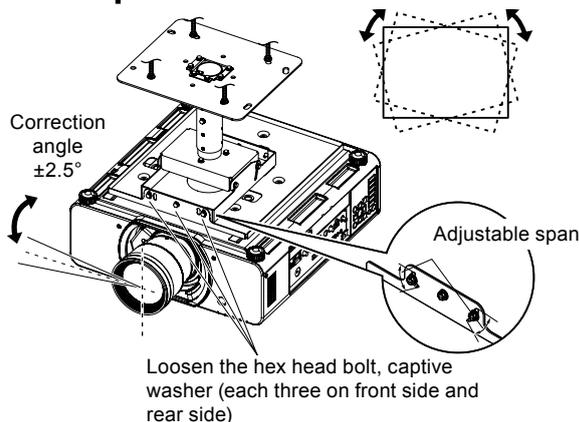
Correction angle 17° below horizontal

① Loosen the captive washer hex head bolts (each two on left side and right side) that attach the angle adjusting bracket to the pole base, then tilt the projector until the picture is centered on the screen.

② Once the picture position has been set, be sure to retighten the captive washer hex head bolt, captive washer at four places securely.

Attention

● Do not loosen too far the captive washer hex head bolt that attach the angle adjusting bracket to the projector mount bracket as the projector may fall off.

■If the picture is tilted to the left or right

Correction angle ±2.5°

Adjustable span

Loosen the hex head bolt, captive washer (each three on front side and rear side)

① Loosen the captive washer hex head bolts (each three on front side and rear side) that attach the angle adjusting bracket to the projector mount bracket and then rotate the projector around its optical axis until the picture edges are aligned with the screen frame.

② Once the picture position has been set, be sure to retighten the captive washer hex head bolts securely.

Attention

● Do not loosen too far the captive washer hex head bolts that attach the angle adjusting bracket to the projector mount bracket as the projector may fall off.

Attention

● After checking the position adjustments, check that the screws have been tightened to the torques specified on page 3.
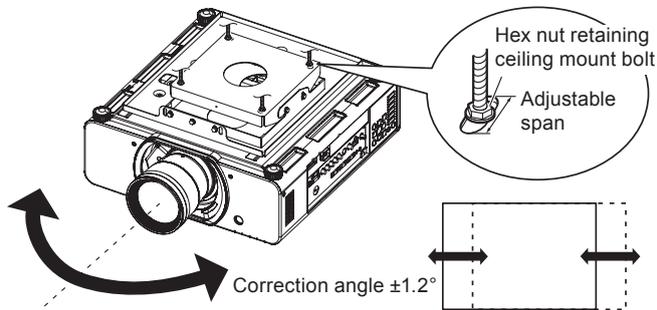
Note

● If there is a vertical keystone effect even after adjusting the installation angle, the positional relationship between the screen and the projector is out of alignment. Check that the screen and projector are aligned opposite each other.
Alternatively, perform the keystone correction at the projector.

Adjusting the installation angle (Continued)

When installed using ceiling brackets for low ceilings

■If the picture is too far to the left or right of the screen

Hex nut retaining
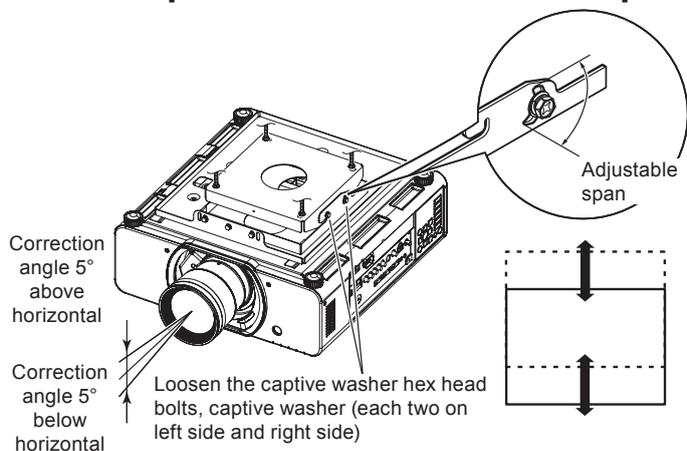ceiling mount bolt

Adjustable
span

Correction angle ±1.2°

① Loosen the hex bolts at the ceiling of the after-plate at four places and then move the projector to the left or right to adjust so that the center of the screen is aligned along a vertical line.

Attention

● If centers of the screen and projector are not in alignment, adjust by using the shift lens.

② Once the picture position has been set, be sure to retighten the nuts securely at four places.

■If the picture is too far to the top or bottom of the screen

Adjustable
span

Correction
angle 5°
above
horizontal

Correction
angle 5°
below
horizontal

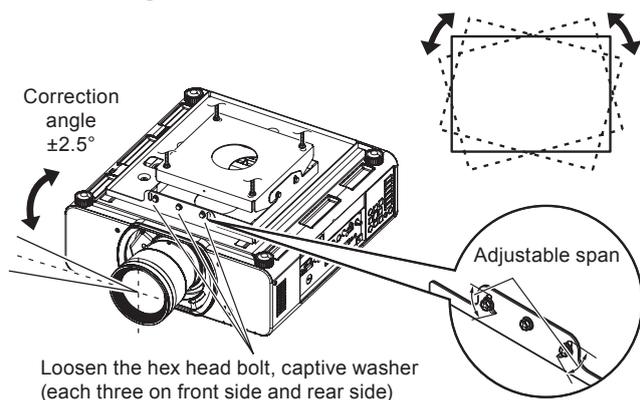Loosen the captive washer hex head bolts, captive washer (each two on left side and right side)

① Loosen the captive washer hex head bolts (each two on left side and right side) that attach the angle adjusting bracket to the pole base, then tilt the projector until the picture is centered on the screen.

② Once the picture position has been set, be sure to retighten the captive washer hex head bolt, captive washer at four places securely.

Attention

● Be sure that the hexagonal bolts with washers securing the attachment plate and the angle adjustment bracket are not loosened more than necessary. Overly loosening the bolts may result in the main projector body falling from its installed position.

■If the picture is tilted to the left or right

Correction
angle
±2.5°

Adjustable span

Loosen the hex head bolt, captive washer (each three on front side and rear side)

① Loosen the captive washer hex head bolts (each three on front side and rear side) that attach the angle adjusting bracket to the projector mount bracket and then rotate the projector around its optical axis until the picture edges are aligned with the screen frame.

② Once the picture position has been set, be sure to retighten the captive washer hex head bolts securely.

Attention

● Do not loosen too far the captive washer hex head bolts that attach the angle adjusting bracket to the projector mount bracket as the projector may fall off.
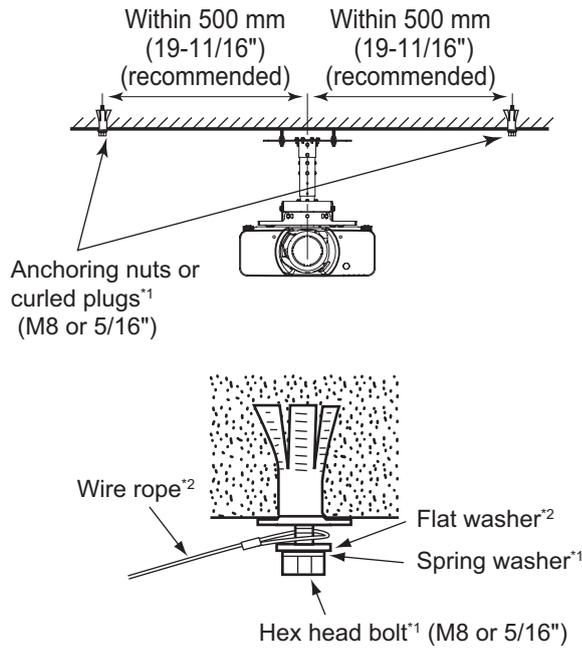
Attention

● After checking the position adjustments, check that the screws have been tightened to the torques specified on page 3.

Note

● If there is a vertical keystone effect even after adjusting the installation angle, the positional relationship between the screen and the projector is out of alignment. Check that the screen and projector are aligned opposite each other.
Alternatively, perform the keystone correction at the projector.

12

Attaching the drop prevention set to the ceiling

Within 500 mm (19-11/16") (recommended)   Within 500 mm (19-11/16") (recommended)

Anchoring nuts or curled plugs[*1] (M8 or 5/16")

Wire rope[*2]

Flat washer[*2]

Spring washer[*1]

Hex head bolt[*1] (M8 or 5/16")

*1: Commercially available product
*2: Supplied with this product

<Work procedures>

① Mount the anchoring nuts or curled plugs (M8 or 5/16") in the stable ceiling surface (position shown in left figure).

Attention

● When mounting the anchoring nuts or curled plugs (M8 or 5/16") to the ceiling, be careful that there is no slack in the wire ropes between the projector and the ceiling.

② Tighten the commercially available hex head bolts (M8 or 5/16") to the anchor, passing through the commercially available spring washers (M8), the supplied flat washers (M8), and the rings of the ends of the wire ropes.

Attention

● Always use the wire ropes and flat washers that are supplied with this product.
● Anchoring nuts or curled plugs, hex head bolts, and spring washers are available for purchase separately.
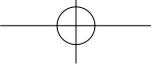
Note

● For attaching the wire ropes to the projector, refer to page 9.

※The figure illustrates an example in which a ceiling bracket for high ceilings is installed.

Specifications

External dimensions	Width: 384 mm (15-1/8") Height: 56 mm (2-7/32") Length: 447 mm (17-19/32")
Weight	Approx. 2.9 kg (6.4 lbs.)

Attention

Dispose of the packaging materials properly after taking the product out of it.

■Disposal

When discarding this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Panasonic Corporation

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