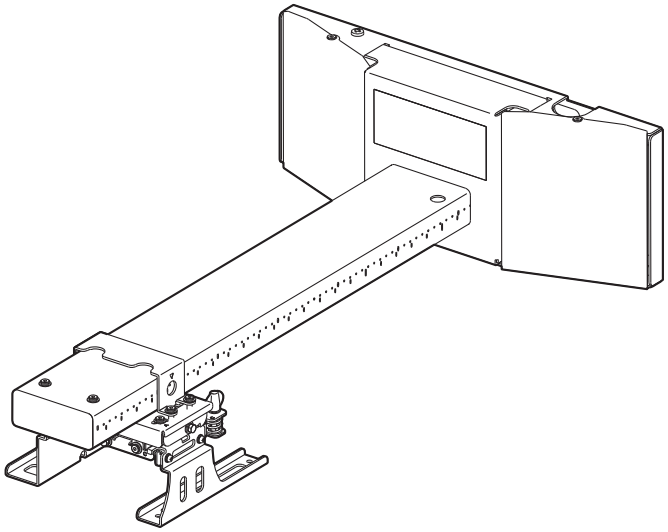
Panasonic

Installation Instructions

Wall Mount Bracket

Model No. ET-PKC200W



Thank you for purchasing this 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 installation, have the installation personnel return these Installation Instructions to you, and save it for future use.
  When moving or removing the projector, give this manual to the installation personnel and have them perform the procedure.
- To installation personnel
  Carefully read the Installation Instructions and install this product correctly and safely.
  Be sure to read through the section entitled "Read this first!" (page 3) before proceeding with the installation.
  After installation, return these Installation Instructions to the customer.

Contents

Read this first!

Always follow these precautions

WARNING:

Installation work should only be carried out by a qualified technician.

- If this product is not installed correctly, serious accidents may result.
- Follow the instructions specified in “Installation” of this manual, and perform secure installation.

Do not install in a place which is not strong enough.

- If it is installed in a wrong way, the wall mount bracket may fall down and personal injury may occur.

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 wall 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 resin deterioration may be caused by the grease, resulting in the falling down of the projector which is mounted on the wall.

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.

- This product weighs approximately 8.5 kg (18.7 lbs.), and the projector body weights approximately 8.0 kg (17.6 lbs.). Be sure that mounting and installation are carried out by two or more persons.

Do not disassemble or modify the wall mount bracket.

- The projector may be damaged or fall, causing injury.

CAUTION:

Install only the designated projector.

Install only using the designated method.

- Otherwise, the projector may fall and become damaged, and cause injury.

Do not install the ceiling bracket in a place which may impede projector ventilation.

- If this is not observed, fire may result.

Do not hang from or hang objects on the projector or wall mount bracket.

- Otherwise, the projector or wall mount bracket may fall and personal injury may occur.

When installing, always use the supplied components.

- Otherwise, this may cause damaged projector to fall and cause injury.

Install the mounting screws and power cable in such a way that they will not make contact with the inside metal parts of the wall.

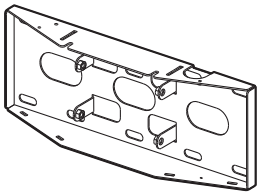
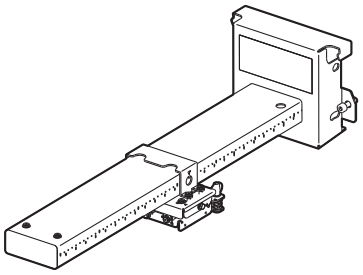
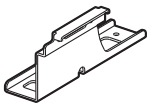
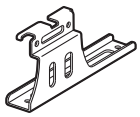
- Electric shocks may result from contact with any metal objects inside the wall.

- **Panasonic disclaims all liability for any accidents or any damage caused by the installation of the ceiling mount bracket using methods that are not described in these Installation Instructions or methods that do not use the parts specified in these Instructions.**
- **If products are no longer being used, they should be dismantled and removed by a qualified technician as soon as possible.**

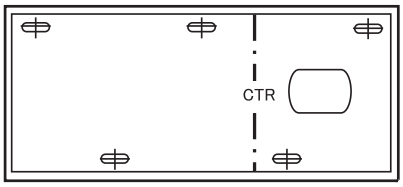
Product description

This is a wall mount bracket for installing projectors.

■ Structural components

Parts name	Form (number of parts)	Applications
Base bracket	 × 1	This bracket is attached to the wall with bolts.
Arm with adjusting unit	 × 1	This is attached to the base bracket. It allows upward/downward vertical, horizontal rotation, forward/backward tilt, and horizontal right/left tilt adjustment of the projector.
Cover plate	 × 2	This is attached to the base bracket.
Projector installation plate	 Projector installation plate (L) × 1  Projector installation plate (R) × 1	These parts are attached to the projector body, and then attached to the arm.
Screws and bolts	 Screw with captive washer (M4 × 10) × 9  Hex socket head cap bolt (M8 × 20) × 4  Extra low head hex socket bolt (M5 × 10) × 2	These are used to assemble the bracket and mount it onto the projector.
Drop prevention kit for projector body	 Drop prevention wire for projector body (3.0 mm (1/8") wire diameter, 350 mm (13-25/32") length) × 1  Screw with captive washer (M4 × 12) × 1	Prevents the projector from falling.

Product description (continued)

Parts name	Form (number of parts)	Applications
Drop prevention kit for wall mount bracket	 Drop prevention wire for wall mount bracket (3.0 mm (1/8") wire diameter, 200 mm (7-7/8") length) × 1  Flat washer (inside diameter 8.5 mm (11/32"), outside diameter 40 mm (1-9/16"), thickness 1.6 mm (1/16")) × 1	Prevents the wall mount bracket from falling.
Cable tie	× 2	This is used to tie the cables.
Base bracket attaching sheet	 × 1	This is used to mount the base bracket to the wall.

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

Installation work	Required parts	Page
Attaching the base bracket to the wall	M12 bolt (× 5), washer with outside diameter φ24 mm (15/16") (× 5), anchoring nut or curled plug (× 5 sets)	9
Attaching the drop prevention wire for wall mount bracket	M8 hex head bolt (× 1), M8 spring washer (× 1), M8 anchoring nut or curled plug (× 1 set)	13

- Store small parts in an appropriate manner, and keep them away from small children.
- Tightening torque for the screws are, M4: 1.2 N•m±0.1 N•m, M5: 2.5 N•m±0.2 N•m, M6: 4.0 N•m±0.5 N•m, M8: 10.0 N•m±1.0 N•m.
- When tightening up the screws, use a tool such as a torque screwdriver or torque wrench. Do not use electric screwdrivers or impact screwdrivers.

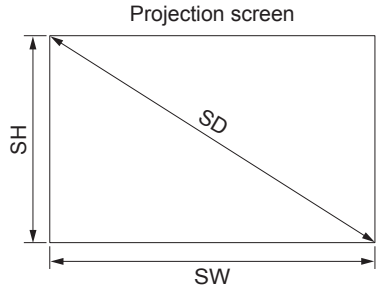
Attention

- Use anchoring nut or curled plug that suits the structure and material of the location for installation.
- Dispose of the packaging materials properly after taking the product out of it.

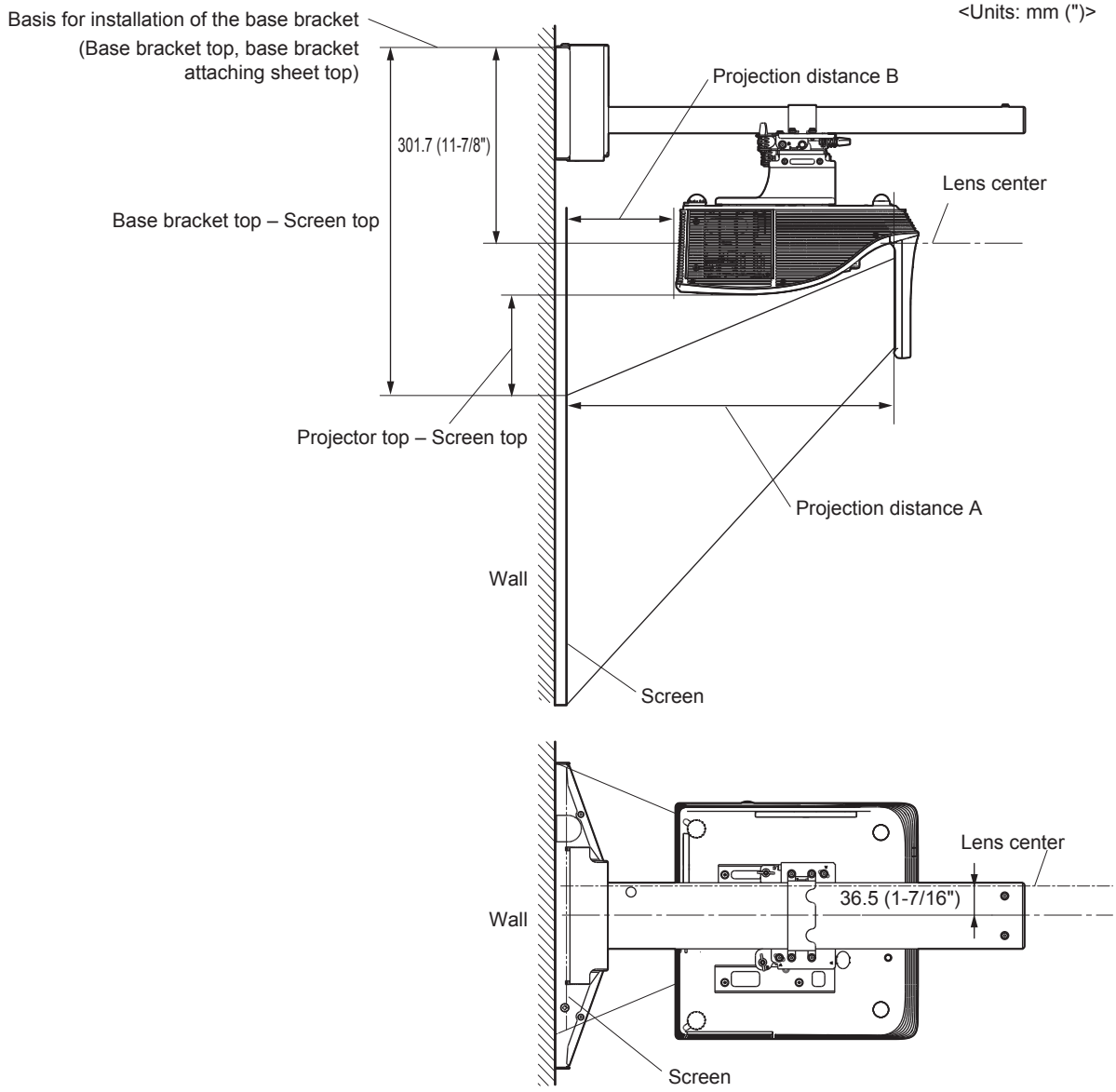
Standard installation dimensions

The dimensional relationship between the screen and the projector is shown below.
Establish the dimensions after assessing the area possible for installation.

SH	Hight of the projection screen (m)
SW	Width of the projection screen (m)
SD	Diagonal size of the projection screen (m)



<Units: mm (")>



(Note) This figure does not show exact scale.

Attention

- Install the projector with at least 1 m (39-3/8") gap to the air exhaust port and 0.5 m (19-11/16") gap to the air intake port from the surrounding walls or objects in order to ensure that the air intake/exhaust ports of the projector will not be blocked.
- Avoid setting up in places which are subject to sudden temperature changes, such as near an air conditioner or lighting equipment.

Standard installation dimensions (continued)

■ Projection distance (PT-CW330/PT-CW240/PT-CW331R/PT-CW241R)

● When the screen aspect ratio is 16:10 (unit: m)

Projection screen size			Projection distance A	Projection distance B	Projector top – screen top	Base bracket top – screen top
Screen size (SD)	Height (SH)	Width (SW)				
1.778 (70")	0.942 (3'1")	1.508 (4'11")	0.516 (1'8")	0.181 (7")	0.161 (6")	0.537 (1'9")
2.032 (80")	1.077 (3'6")	1.723 (5'8")	0.597 (1'12")	0.262 (10")	0.194 (8")	0.570 (1'10")
2.286 (90")	1.212 (3'12")	1.939 (6'4")	0.678 (2'3")	0.343 (1'2")	0.228 (9")	0.604 (2')
2.540 (100")	1.346 (4'5")	2.154 (7'1")	0.759 (2'6")	0.424 (1'5")	0.262 (10")	0.638 (2'1")

● When the screen aspect ratio is 16:9 (unit: m)

Projection screen size			Projection distance A	Projection distance B	Projector top – screen top	Base bracket top – screen top
Screen size (SD)	Height (SH)	Width (SW)				
1.778 (70")	0.872 (2'10")	1.550 (5'1")	0.532 (1'9")	0.197 (8")	0.216 (9")	0.592 (1'11")
2.032 (80")	0.996 (3'3")	1.771 (5'10")	0.615 (2')	0.280 (11")	0.257 (10")	0.633 (2'1")
2.286 (90")	1.121 (3'8")	1.992 (6'6")	0.698 (2'3")	0.363 (1'2")	0.299 (12")	0.675 (2'3")

● When the screen aspect ratio is 4:3 (unit: m)

Projection screen size			Projection distance A	Projection distance B	Projector top – screen top	Base bracket top – screen top
Screen size (SD)	Height (SH)	Width (SW)				
1.778 (70")	1.067 (3'6")	1.422 (4'8")	0.591 (1'11")	0.256 (10")	0.191 (8")	0.567 (1'10")
2.032 (80")	1.219 (4')	1.626 (5'5")	0.683 (2'3")	0.348 (1'2")	0.229 (9")	0.605 (2')

● **Projection distance formulas**

Setting-up dimensions which are not given in the above table can be calculated from the formulas below using the screen size SD.

The units of the calculation results are “m”. (The values of the following calculation results contain slight error.)

When the screen size is SD:

	16:10 aspect ratio	16:9 aspect ratio	4:3 aspect ratio
Screen size Height (SH)	= SD × 0.530	= SD × 0.490	= SD × 0.6
Screen size Width (SW)	= SD × 0.848	= SD × 0.872	= SD × 0.8
Projection distance A	= 0.3189 × SD - 0.0508	= 0.3276 × SD - 0.05072	= 0.3610 × SD - 0.05069

Note

- Throw ratio during projection onto an 80" size screen will be 0.35:1.
- To ensure the lens performance, install the projector to keep a projection distance A within the range from 0.516 m (20-5/16") to 0.759 m (29-7/8").

Standard installation dimensions (continued)

■ Projection distance (PT-CX300/PT-CX301R)

● When the screen aspect ratio is 4:3 (unit: m)

Projection screen size			Projection distance A	Projection distance B	Projector top – screen top	Base bracket top – screen top
Screen size (SD)	Height (SH)	Width (SW)				
1.524 (60")	0.914 (3')	1.219 (4')	0.523 (1'9")	0.188 (7")	0.182 (7")	0.558 (1'10")
1.778 (70")	1.067 (3'6")	1.422 (4'8")	0.617 (2')	0.282 (11")	0.225 (9")	0.601 (1'12")
2.032 (80")	1.219 (4')	1.626 (5'4")	0.711 (2'4")	0.376 (1'3")	0.268 (11")	0.644 (2'1")
2.286 (90")	1.372 (4'6")	1.829 (6')	0.805 (2'8")	0.470 (1'6")	0.311 (1')	0.687 (2'3")

● When the screen aspect ratio is 16:9 (unit: m)

Projection screen size			Projection distance A	Projection distance B	Projector top – screen top	Base bracket top – screen top
Screen size (SD)	Height (SH)	Width (SW)				
1.524 (60")	0.747 (2'5")	1.328 (4'4")	0.573 (1'11")	0.238 (9")	0.312 (1')	0.688 (2'3")
1.778 (70")	0.872 (2'10")	1.550 (5'1")	0.676 (2'3")	0.341 (1'1")	0.387 (1'3")	0.763 (2'6")
2.032 (80")	0.996 (3'3")	1.771 (5'10")	0.778 (2'7")	0.443 (1'5")	0.463 (1'6")	0.839 (2'9")

● Projection distance formulas

Setting-up dimensions which are not given in the above table can be calculated from the formulas below using the screen size SD.

The units of the calculation results are “m”. (The values of the following calculation results contain slight error.)

When the screen size is SD:

	4:3 aspect ratio	16:9 aspect ratio
Screen size Height (SH)	= SD × 0.6	= SD × 0.490
Screen size Width (SW)	= SD × 0.8	= SD × 0.872
Projection distance A	= 0.3700 × SD - 0.04150	= 0.4037 × SD - 0.04202

Note

- Throw ratio during projection onto an 80" size screen will be 0.44:1.
- To ensure the lens performance, install the projector to keep a projection distance A within the range from 0.523 m (20-19/32") to 0.805 m (31-11/16").

Installation

After checking the height, width, and structure of the installation location while referring to “Standard installation dimensions” on pages 6 to 8, determine the appropriate positions for setting up the screen and installing the projector.

Setting up the screen

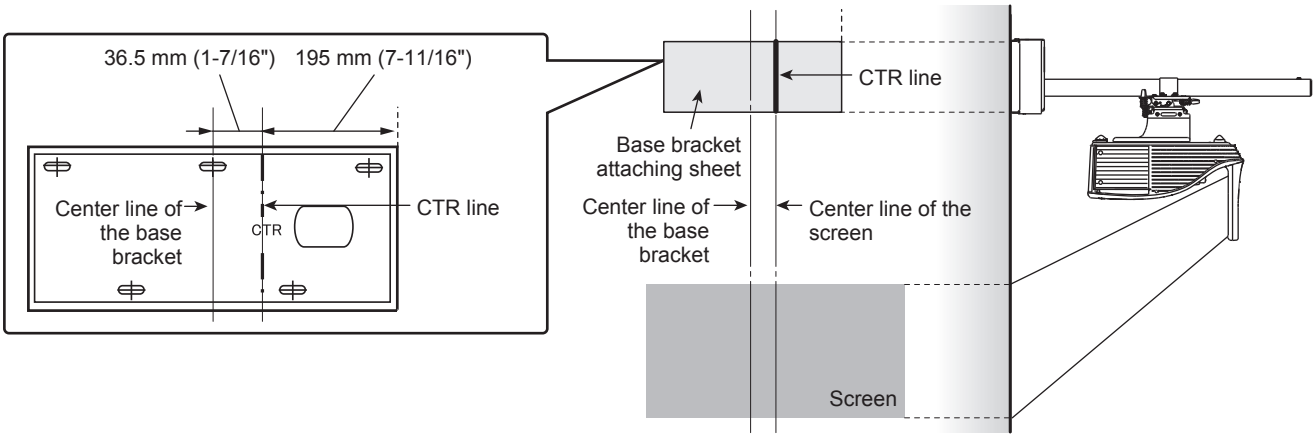
Set up the screen according to the specified method in a position which takes into account the projection distance and angle and the type of screen being used.

Screws tightening torques

M4 ..... 1.2±0.1 N•m
M5 ..... 2.5±0.2 N•m
M6 ..... 4.0±0.5 N•m
M8 ..... 10.0±1.0 N•m

- Tighten to the tightening torque recommended by the manufacturer when tightening the hex head bolts into the anchoring nuts.
- 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.

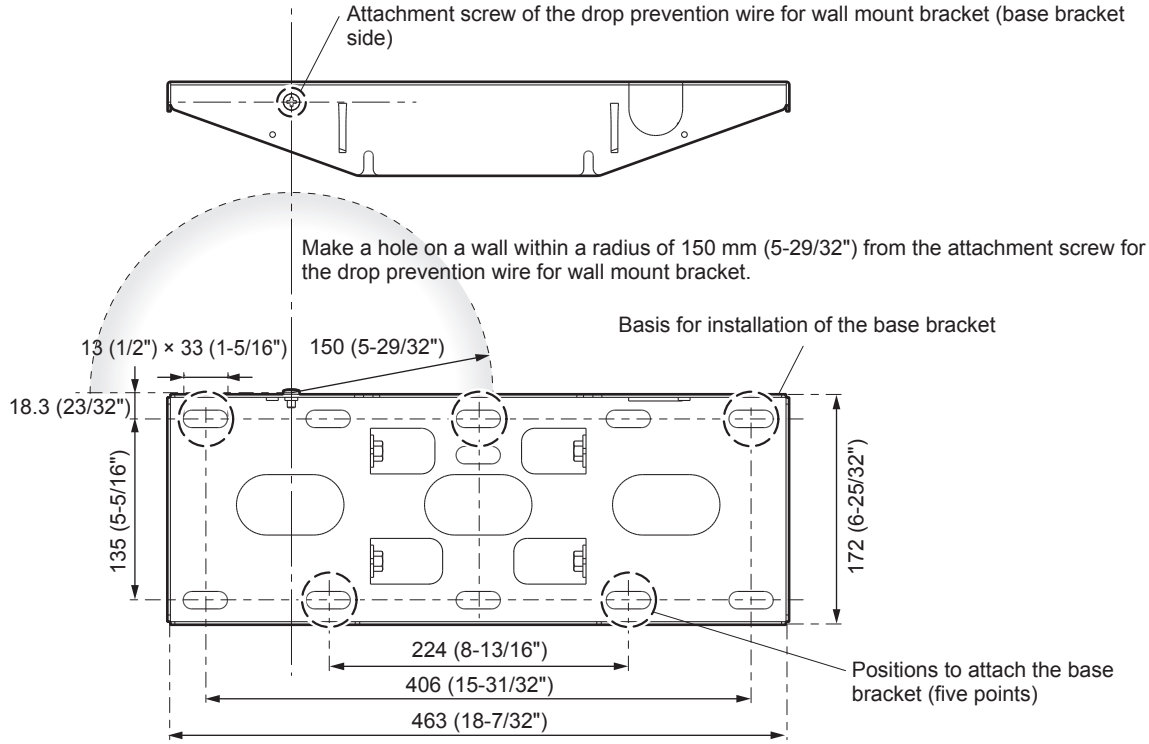
Attaching the base bracket to the wall

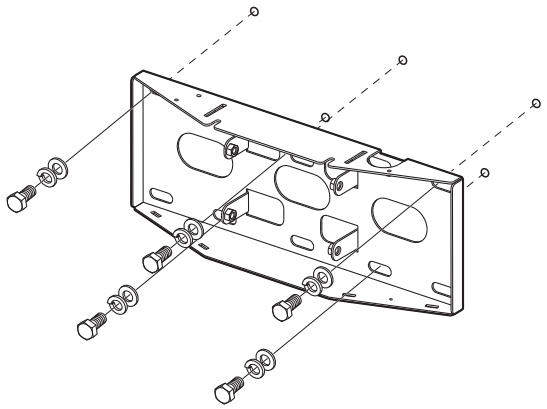


1) Determine the appropriate position for attaching the base bracket using the supplied base bracket attaching sheet.
   - The dimensions of the base bracket attaching sheet and that of the base bracket are the same. Decide the position to install the base bracket, referring to the standard installation dimensions and projection distance charts.
   - Decide the screen size and the distance between the projection screen and the wall mount bracket, referring to the standard installation dimensions and projection distance charts.
   - The center line of the base bracket will not be aligned to that of the projected image. Adjust the CTR line printed on the base bracket attaching sheet to be aligned to the center line of the screen as in the figure.
   - The lens center of the projector will not be aligned to that of the projection screen.
2) Attach the base bracket attaching sheet to the wall using a sticky tape etc.
   - When you attach the base bracket attaching sheet to the wall, be careful of the damage on the wall due to the sticky tape. The paint of the wall may chip off or adhesive may remain on the surface when removing the sticky tape.

Installation (continued)

<Units: mm (")>



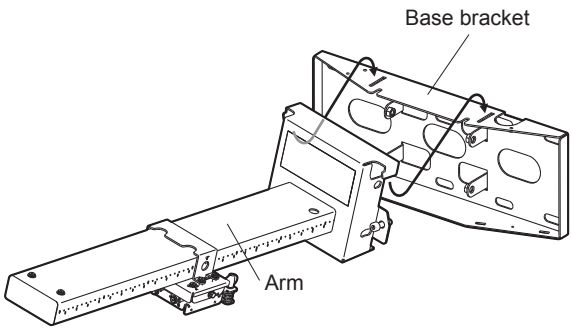


3) Make holes on the five positions shown in the figure to attach the base bracket.
4) Remove the base bracket attaching sheet.
5) Attach commercially-available anchoring nuts or curled plugs (M12) to the holes that are made in step 3).
6) Attach the base bracket to the wall using a commercially-available hex head bolt (M12).
   - Be sure to use commercially-available M12 spring washer and flat washer (outside diameter φ24 mm (15/16")).
7) Make a hole on the wall to attach the drop prevention wire for wall mount bracket. (See the figure for the position for attachment.)

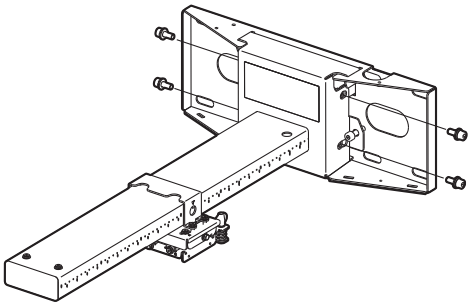
Attention

- Purchase commercially-available bolts, washers, anchoring nuts, or curled plugs used to attach the base bracket.
- Make sure that the wall to which the wall mount bracket and projector body is mounted is strong enough to support the wall mount bracket and projector body. Before the installation work, check the total weight of the wall mount bracket and projector body. If the wall is not strong enough, reinforce the wall based on the safety factor. (This product weighs approximately 16.5 kg (36.3 lbs.) including the projector body.)
- When mounting the product to a wall, use commercially-available anchoring nuts or curled plugs (M12). Do not use wood screws.
  When attaching the anchoring nuts or curled plugs, follow the instructions of their manufacturer.
- Be sure to use commercially-available M12 bolts, spring washers, and flat washers (outside diameter φ24 mm (15/16") or larger). Using anchoring nuts or curled plugs smaller than M12 may cause the wall mount bracket to fall off. (Be sure to secure by the specified five points.)

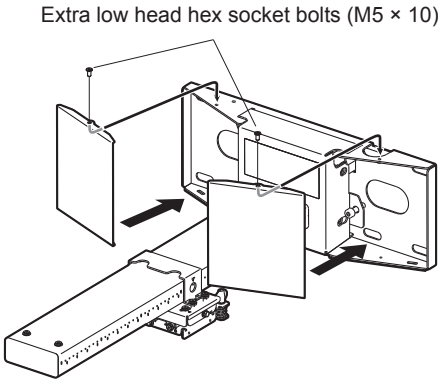
Attaching the arm to the base bracket



1) Hook the arm to the groove on the base bracket that are attached on the wall.



2) Secure the arm with the hex socket head cap bolts (M8 × 20) (four points).

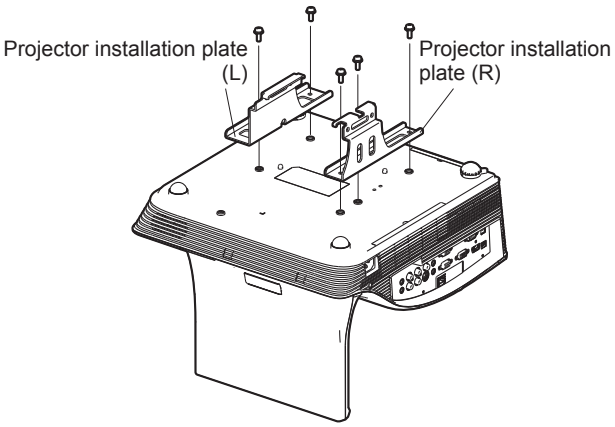


3) Attach the cover plates on the right and left sides of the base bracket using the supplied extra low head hex socket bolts (M5 × 10) (two points).

Note

- The cover plates must be removed when you make upward or downward position adjustment. (page 14)

Attaching the brackets to the projector

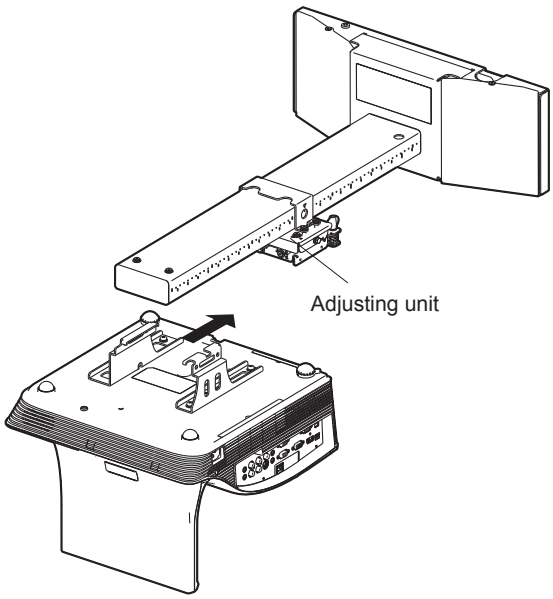


1) Place the projector upside-down onto a piece of soft material.

Attention

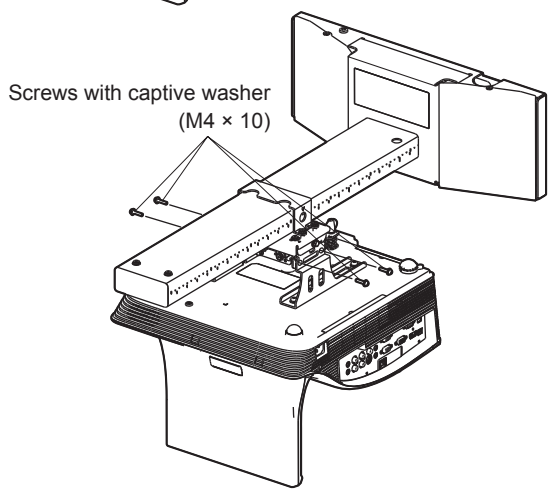
- During the mounting work, be careful of the mirror part so that you do not apply heavy pressure on the projector by such an action as putting your hand on the projector. Also be careful not to touch the mirror part during the work.

2) Attach the projector installation plate (L) and (R) using the supplied screw with captive washer (M4 × 10) (five points).



3) Attach the projector installation plate (L) and (R) to which the projector is attached, to the adjusting unit attached to the arm by sliding as in the figure on the left.

WARNING:
Mounting and installation must be carried out by two or more persons.



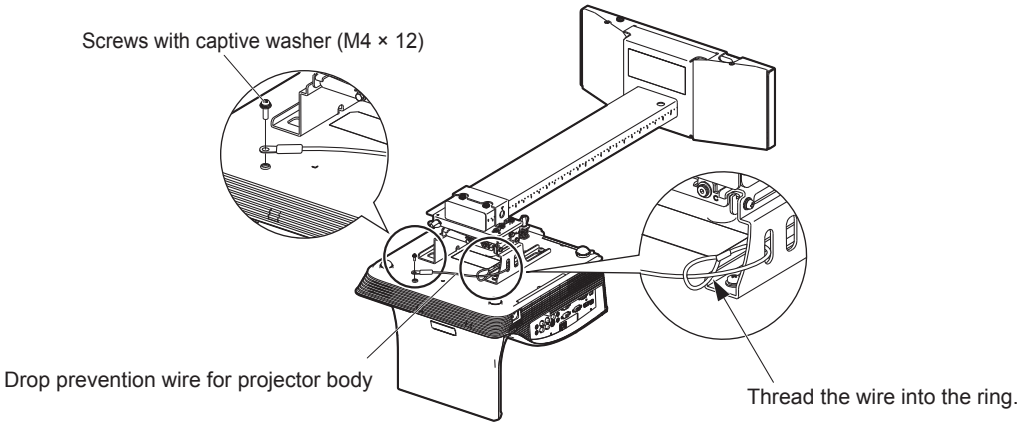
4) Secure it to the adjusting unit using the supplied four screws with captive washer (M4 × 10).

Attaching the drop prevention wire

To prevent the projector from falling, attach the supplied drop prevention wire to the projector, base bracket, and wall.

■ Attach the supplied drop prevention wire for projector body to the projector and base bracket

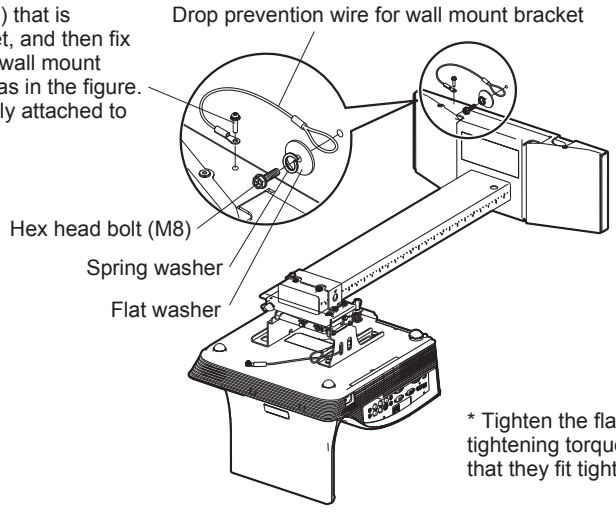
- Use the supplied screw with captive washer (M4 × 12) to attach the drop prevention wire for projector body to the projector.
- Pass through the drop prevention wire for projector body (Length 350 mm (13-25/32")) as in the figure. Pass the drop prevention wire for projector body as in the figure below, and then fix the part of the wire end to the projector with a screw.
  * If the wire is attached in a different way, drop prevention function may not work adequately.

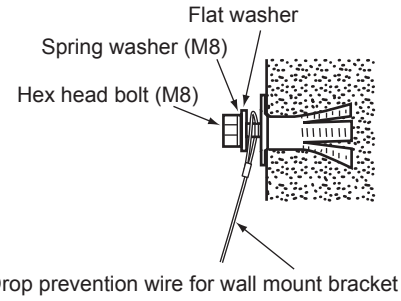


■ Attach the drop prevention wire for wall mount bracket to the base bracket and wall, and then secure them

- Attach the M8 anchoring nut or curled plug (× 1 set) to the hole that was made when installing the base bracket (page 10).
- When fixing the drop prevention wire for wall mount bracket (Length 200 mm (7-7/8")) to the wall, use commercially-available M8 anchoring nut or curled plug (× 1 set) and hex head bolt. Also, use the supplied flat washer.

Remove the screw (M6 × 10) that is attached on the base bracket, and then fix the drop prevention wire for wall mount bracket to the base bracket as in the figure.
* Use the screw that is initially attached to the base bracket.





* Tighten the flat washers and spring washers to the tightening torques recommended by their manufacturer so that they fit tightly.

Attention

- When attaching the commercially-available M8 anchoring nut or curled plug (× 1 set) to the wall, make sure that the drop prevention wire for wall mount bracket has no slack between the wall and the base bracket where the other end of the wire is attached.
- Purchase commercially-available M8 anchoring nut or curled plug (× 1 set), hex head bolt, and spring washer.

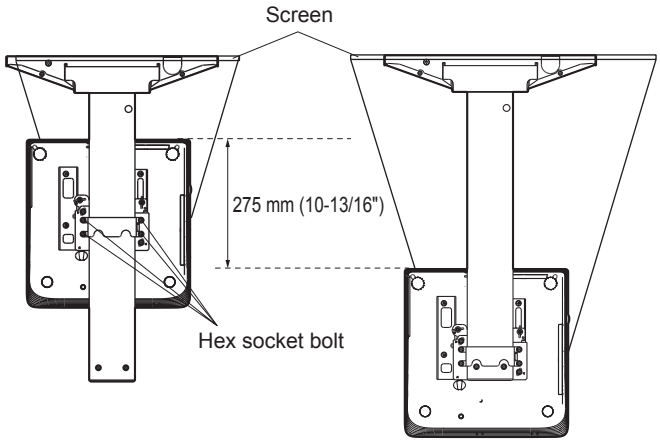
Adjusting the image size and installation angle

- Adjust the screen position so that the center of the lens and the screen make a right angle.
- While referring to the operating instructions for the projector, project an image onto the screen, make a temporary adjustment of the focus, and then adjust the angle.

■ If the size of the picture does not fit the screen

Forward/backward adjustment (Width of adjustment: 275 mm (10-13/16"))

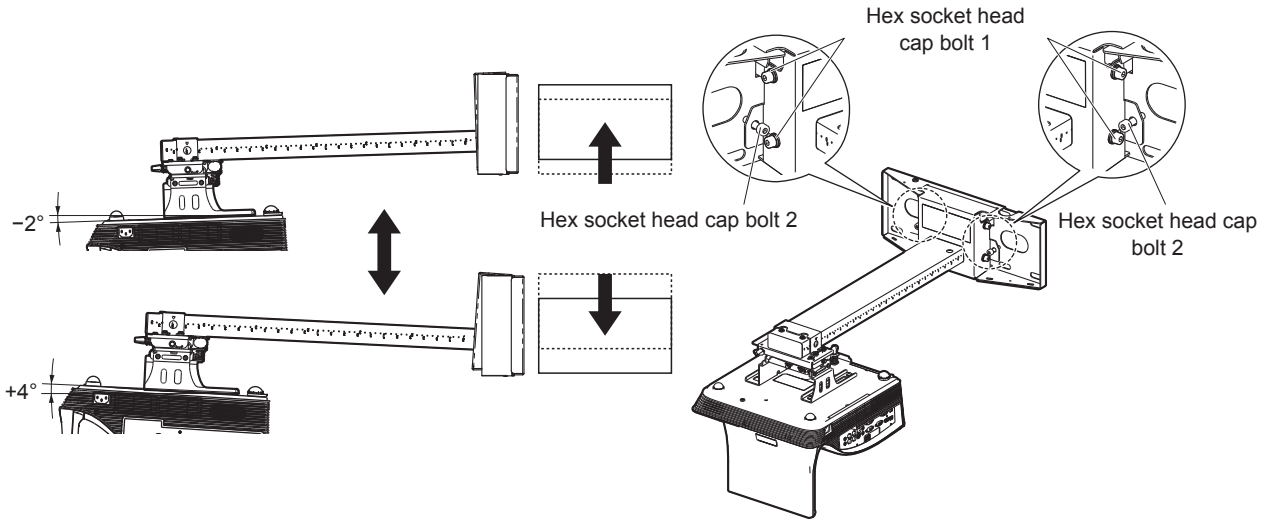
1) Loosen the hex socket head bolts on the top surface of the adjusting unit (four points), and slide the projector forward or backward to adjust the size of the projection screen.
2) After adjusting, secure the hex socket head bolts (four points).



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

Upward/downward vertical adjustment (Range of adjustment: + 4° - − 2°)

1) Remove the extra low head hex socket bolts on the right and left sides of the base bracket, and then remove the cover plates.
2) Loosen the hex socket head cap bolts 1 on the base bracket (four points).
3) Adjust the vertical position with the hex socket head cap bolts 2 on the base bracket (two points).
   - Adjust the position so that the tips of the bolts touch the base bracket evenly on the right and left sides.
4) Secure the hex socket head cap bolts 1 (four points).
5) After adjusting, attach the cover plates to the right and left sides, and then secure the extra low head hex socket bolts for the cover plates.



Attention

- Do not excessively loosen the hex socket head cap bolts 1 on the base bracket. Making them too loose may cause the projector body to fall off.

Note

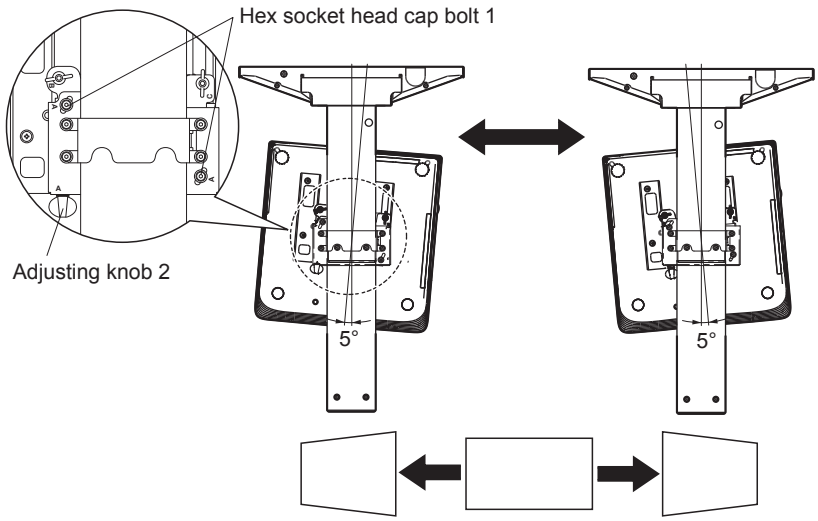
- If the image on the projection screen has keystone distortion, make upward/downward tilt adjustment.

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

Horizontal rotation adjustment (Range of adjustment: + 5° - − 5°)

1) Loosen the hex socket head cap bolts 1 beside the “A” marks on the top surface of the adjusting unit (two points).
2) Adjust the horizontal position by rotating the adjusting knob 2 on the left side of the adjusting unit.
3) Secure the hex socket head cap bolts 1 (two points).

* The positions of the hex socket head cap bolts and adjusting knob are indicated with the marks “A” beside them.



Note

- If the position is too high or too low, make upward/downward vertical adjustment.

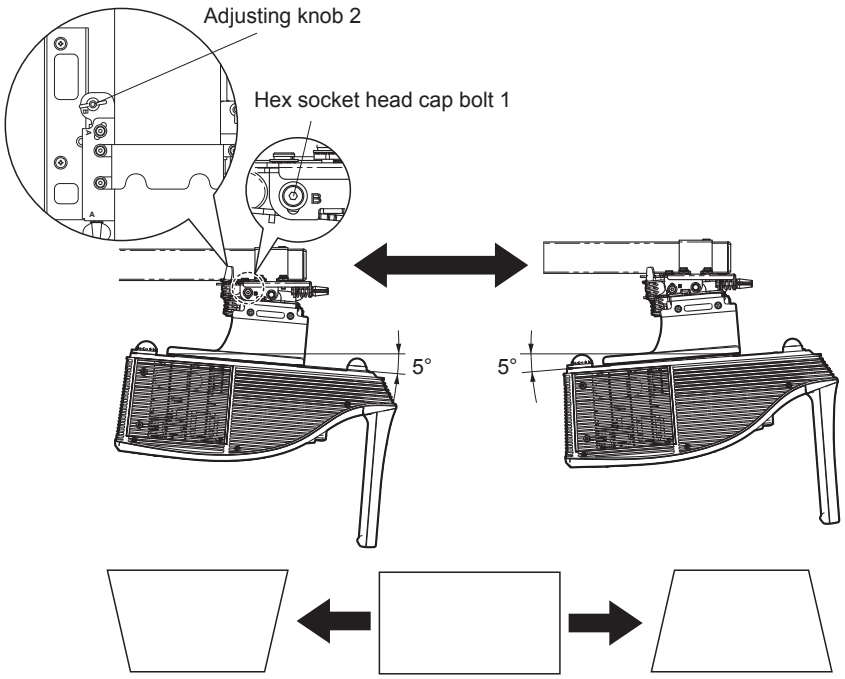
Installation (continued)

■ If the projected image is tilted upward or downward

Upward/downward tilt adjustment (Range of adjustment: + 5° - − 5°)

1) Loosen the hex socket head cap bolt 1 beside the “B” mark on the left side of the adjusting unit.
2) Adjust the forward/backward position by rotating the adjusting knob 2 on the left side of the top surface of the adjusting unit.
3) Secure the hex socket head cap bolt 1.

* The positions of the hex socket head cap bolts and adjusting knob are indicated with the marks “B” beside them.



Note

- If the position is too high or too low, make upward/downward vertical adjustment.

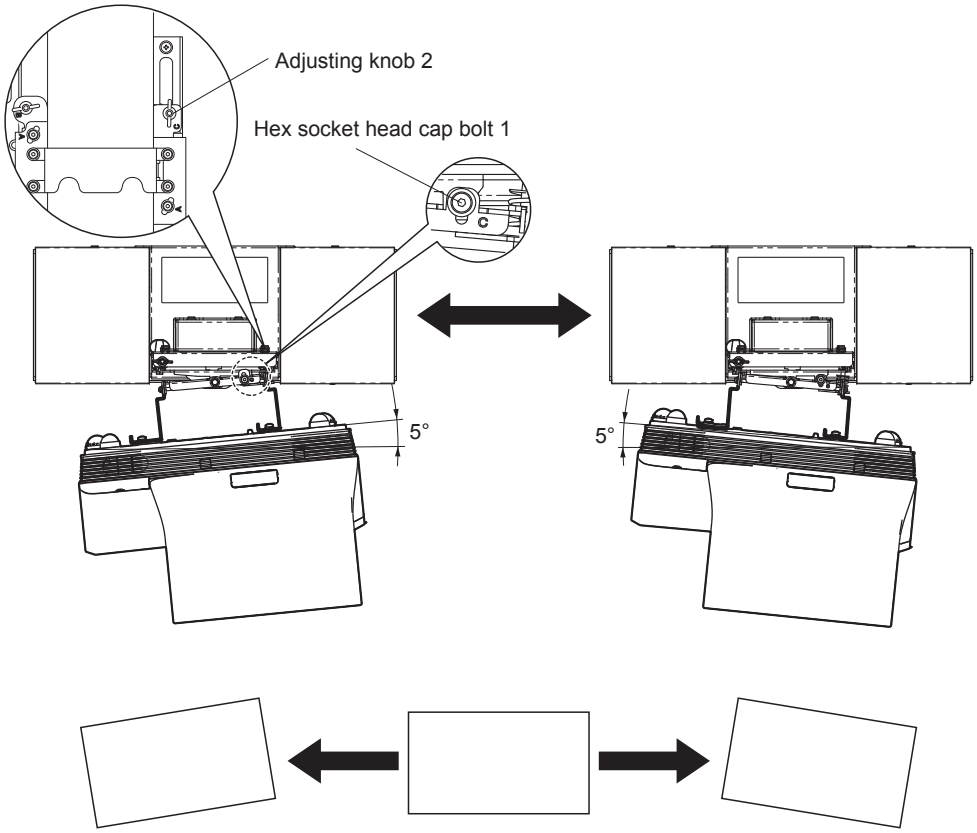
Installation (continued)

■ If the projected image is tilted to the left or to the right

Right/left tilt adjustment (Range of adjustment: + 5° - − 5°)

1) Loosen the hex socket head cap bolt 1 on the right front of the adjusting unit.
2) Adjust the right/left tilt by rotating the adjusting knob 2 on the right side of the top surface of the adjusting unit.
3) Secure the hex socket head cap bolt 1.

* The positions of the hex socket head cap bolts and adjusting knob are indicated with the marks “C” beside them.



Note

- If there is a keystone effect in the image even after adjusting the installation angle in the [POSITION] menu of the projector without applying keystone correction, the positional relationship between the screen and the projector is out of alignment. Check if the screen and projector is located in alignment with each other. Alternatively, perform the keystone correction setting at the projector.

Attention

- After checking the position adjustments, check that the screws have been tightened to the torques specified on page 9.

Specifications

Range of adjustment	Forward/backward sliding distance	275 mm (10-13/16")
	Upward/downward angle	+ 4° - −2°
	Horizontal rotation angle	±5°
	Forward/backward tilt angle	±5°
	Horizontal tilt angle	±5°
Dimensions		Width: 463 mm (18-7/32") × Height: 243.5 mm (9-19/32") × Depth: 710.7 mm (27-31/32")
Weight		Approx. 8.5 kg (18.7 lbs.)

MEMO

Panasonic Corporation

Web Site : http://panasonic.net/avc/projector/

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