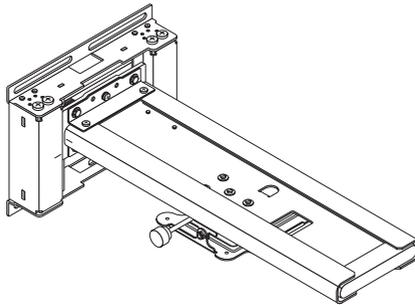


Wall Mount Unit

NP04WK/NP04WK1

Installation and Adjustment Manual



NEC Display Solutions, Ltd.

Wall Mount Unit

NP04WK/NP04WK1 Installation and Adjustment Manual

Thank you for your purchase of this NEC wall mount unit.

Please read this installation and adjustment manual carefully to ensure proper use.

For a list of the supported projectors, please see the NEC website or NEC catalogs.

The descriptions in the installation and adjustments manual are mainly for the NP-UM330X.



Special skills are required to install the wall mount unit. This work should never be performed by the customer.



To the Dealer and Installer

To ensure customer safety, we ask that the installation work be started after careful attention is paid to the strength of the mounting location to ensure it will withstand the weight of the projector and mounting hardware.

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Please heed the following

● Symbol

In this "Installation and Adjustment Manual", to ensure the safe and proper use of the product, prevent harm to yourself and others and damage to property, various symbols are used. The symbols and meanings are as follows. Please read this manual after ensuring the contents are well understood.

 Warning	Improper handling and ignoring this indication may result in bodily harm such as death, serious injury and so on.
 Caution	Improper handling and ignoring this indication may result in bodily injury and damage to surrounding contents.

Examples of symbols:

	 Symbol alerts you to cautions (including warnings) Concrete cautions are specified in figures.
	 Symbol expresses prohibited actions Concrete prohibitions are specified in figures.
	 Symbol expresses compulsory actions. Concrete instructions are specified in figures.

Warning

-  When installing the projector and adjusting the projection position, be sure to do so as explained in this manual. The projector may fall and cause injury if installed and adjusted improperly.
-  To prevent the projector from falling, install it in a location and fasten it so as to ensure sufficient strength to support the combined weight of the projector, the wall mount unit and so on for an extended period as well as to withstand earthquakes. Insufficient strength or fastening may result in the projector falling and causing injury.
Be sure to observe the following precautions:
 - Use M6 (1/4 inch) for the wall fixation bolts and screws for the wall adapter.
 - Use an outlet for the power source of the projector. Do not directly connect to the lamp line because this is dangerous. Also, use an accessible outlet so that you can connect and disconnect the power plug.
 - Mounting on a wooden wall
Ensure the load is mounted on a pillar or robust constructional material. If the strength of the constructional material and so on is insufficient, please reinforce it. Do not mount on wall finishing material, furring strip and so on.
 - Mounting on a concrete wall
Use a commercial anchor bolt M6 (1/4 inch), anchor nuts and similar, which will bear the load of the projector.

Warning



- Do not install in places subject to constant vibration. Extended vibration may cause loosening of the screws and result in the Wall Mount Unit and projector falling and causing injury. Also, it may cause breakdown of the projector.



- To ensure safety, be sure to tighten the bolts, screws and safety lock screws securely. Failure to do so may result in the projector falling and causing injury.



- Do not modify any parts. Doing so may result in the projector and the Wall Mount Unit falling and causing injury.



- Do not use broken parts. Doing so may result in the projector and the Wall Mount Unit falling and causing injury. If a part should break, consult your dealer.



- Do not look into the projection window, mirror or lens when the projector is turned on. Doing so could damage your eyesight.



- Do not hang from the projector and the Wall Mount Unit. Doing so may result in the projector and the Wall Mount Unit falling and causing injury. Be especially careful of children.



- Do not use adhesive for the locking screws, lubricant agent, oil and so on for the wall adapter. Doing so may cause the material of the wall adapter to deteriorate and result in the projector falling and causing injury.

Caution



- Do not obstruct the projector's ventilation holes. Doing so will prevent the dissipation of heat and may result in fire. In particular, do not use the projector in the following ways:
installing the projector in a place such as wall and so on where ventilation is poor, covering it, etc.



- Do not install the projector in front of the outlets of an air conditioner or heater or in a place exposed to significant vibrations. Doing so may result in fires and electric shock.



- Do not install the projector in humid or dusty places or those exposed to greasy smoke or steam (such as near cooking equipment or humidifiers). Doing so may result in fires.



- When installing the projector, leave sufficient space between it and surrounding objects. Failure to do so will prevent the dissipation of heat and may result in fires.

Please:

- Avoid rooms with significant dust, humidity, greasy smoke, or tobacco smoke. Dirt will adhere to the optical parts such as mirrors and lenses, which will cause image quality to deteriorate.
- Avoid places in which the screen is exposed to direct sunlight or illuminated light. When surrounding light directly hits the screen, the image appears washed out and is difficult to view.
- Avoid locations exposed to particularly high or low temperatures. Doing so may result in breakdown. (For the ambient operating temperature, see the user's manual included with the projector.)

Introduction

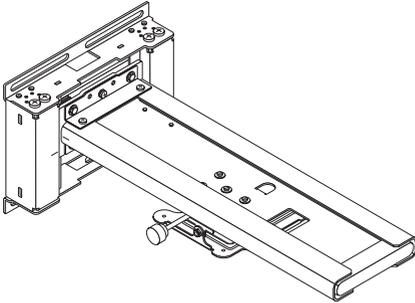
■ Packaged Parts

Check that the parts below are included in the package.

Wall adapter: 1 set

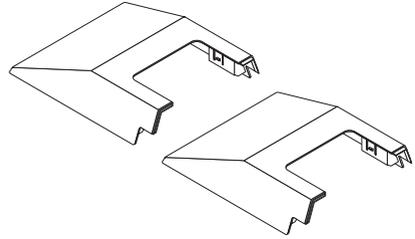
Slide arm: 1 set

The wall adapter and slide arm are assembled upon shipment.



Wall adapter covers: 2

These are covers for the wall adapter. The two covers are the same.



Washers: 4

Spacers: 4



These are used to mount the wall adapter to the wall.

* For the bolts or screws for mounting the wall adapter to the wall, use bolts or screws that are adapted to the wall surface.

M4×8 mm screws: 4



These are used to mount the projector.

Hexagonal wrench: 1

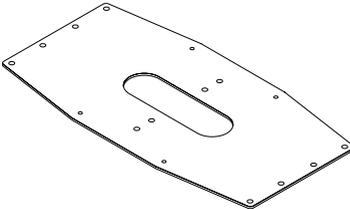
This is a wrench for tightening the safety lock screws.



Wall plate: 1

This is used to mount the wall adapter in the North American region.

* For the bolts or screws for mounting the wall adapter to the wall, use bolts or screws that are adapted to the wall surface.

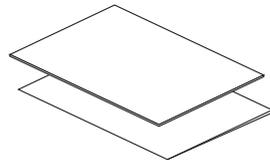


Cautions on Installation: 1

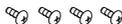
These include safety precautions on installing the wall mount unit, a list of the included parts and the specifications.

Quick Install Guide: 1

This provides a simple description of the installation and adjustment procedures.

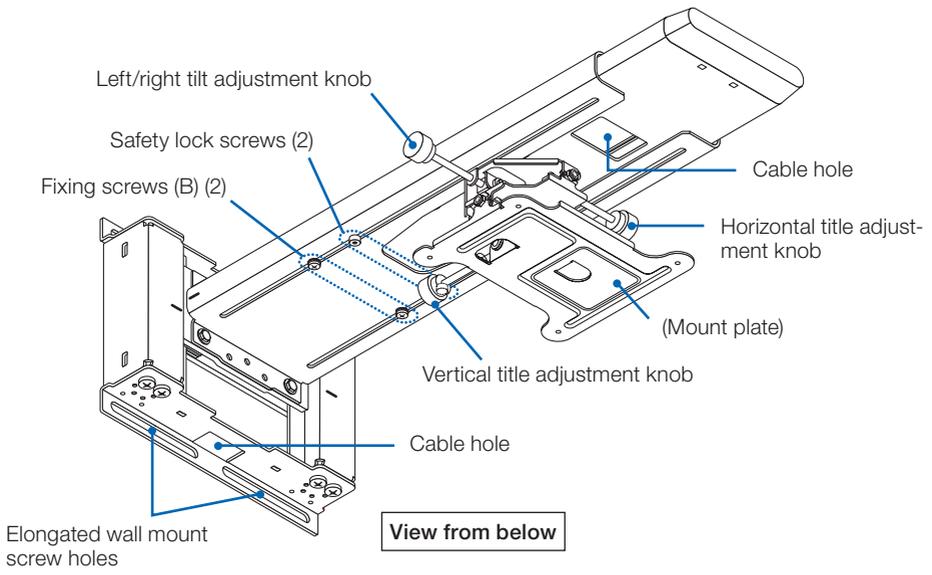
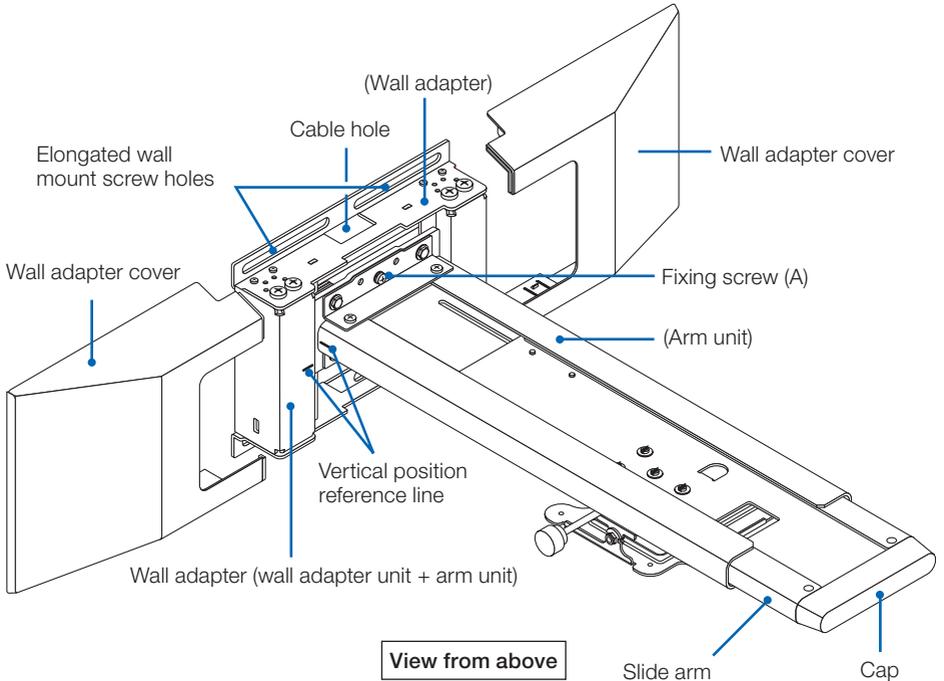


M6×10 mm screws: 4



These are used to mount the wall plate to the wall mount unit.

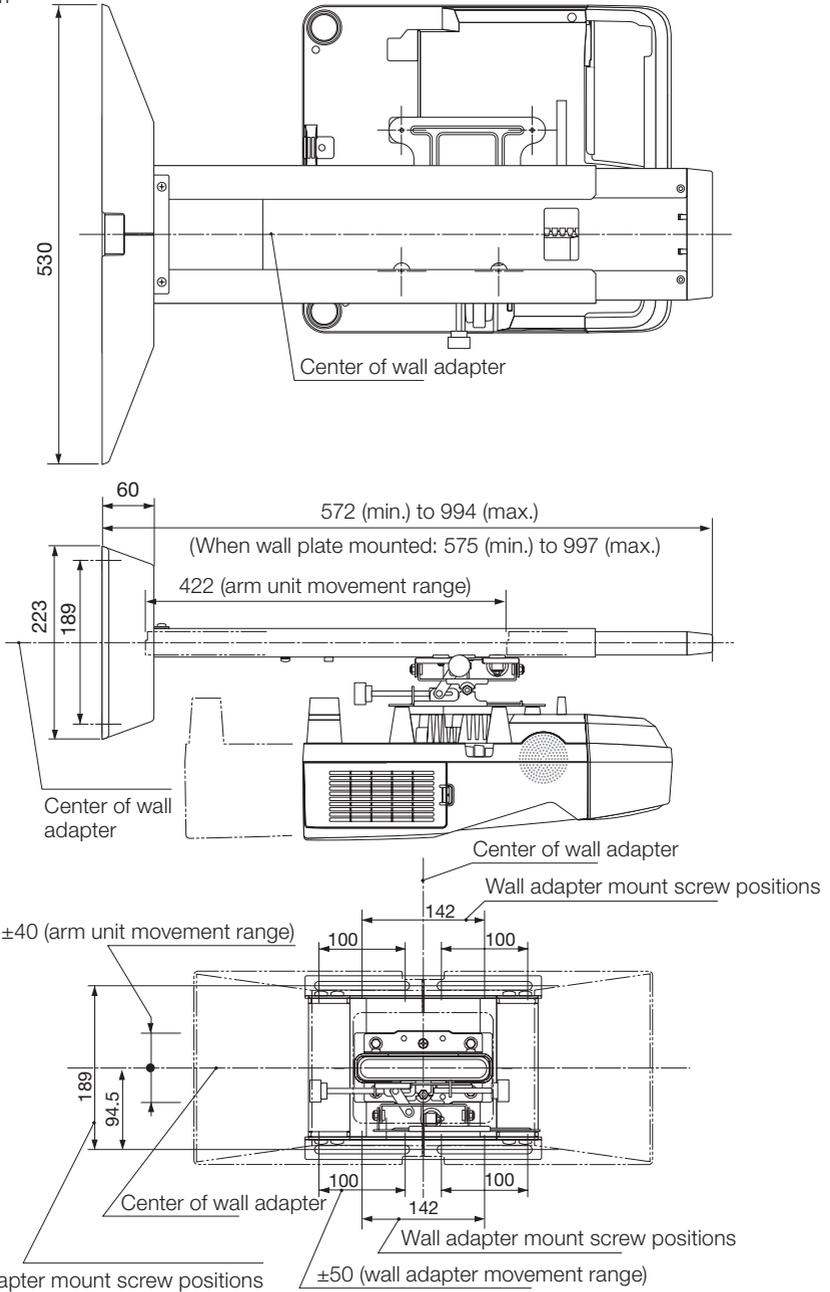
Names of Parts



■ Dimensions of Parts

The following shows an external view of the wall mount unit, the positions of the wall adapter's wall mount screws and the amount of movement when mounting the projector.

Units: mm



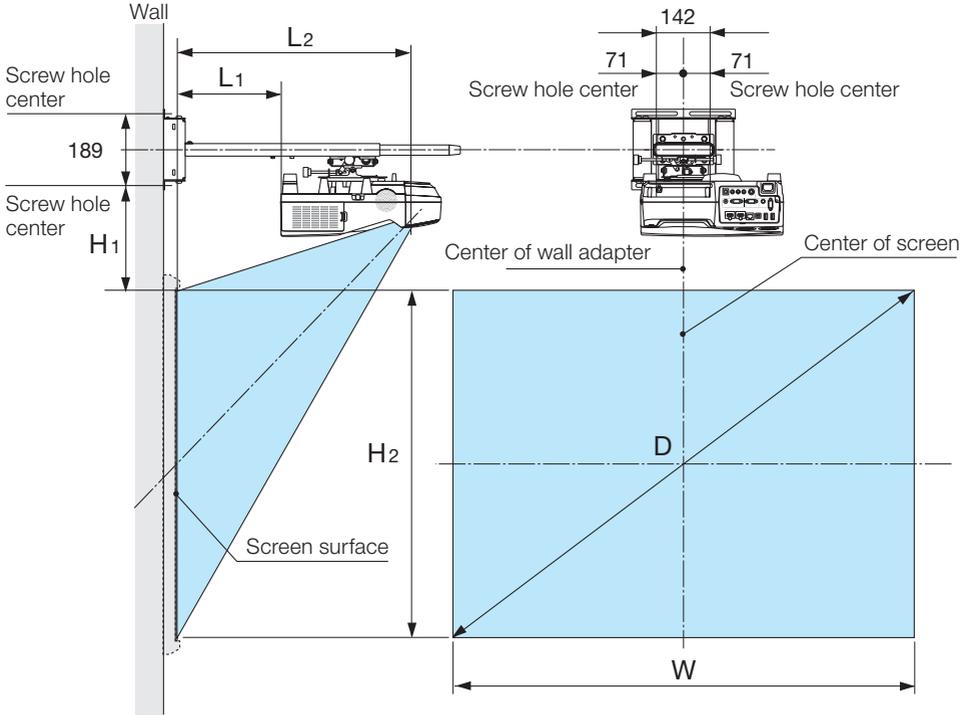
■ Projection Distance and Screen Size

The following shows the projection distance and screen size as well as the optimum height of the projector and screen.

Refer to the dimensions on the diagram to determine the position of installation, then perform the mounting procedure.

CAUTION

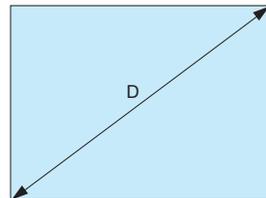
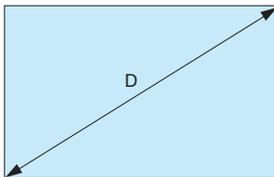
- When the screen is installed in front of the wall surface, the distance between the projector and the screen will be shorter (the sliding range is reduced). Check before installing.
- Be sure to line up the center of the wall adapter with the center of the screen.



The projector's aspect ratio is as shown below.

$D=16 (W): 10 (H_2)$ screen: Wide type projector

$D=4 (W): 3 (H_2)$ screen: Standard type projector



NP-UM330X/NP-UM280X

Screen			Projection distance		Height between wall adapter's lower edge screw hole center and screen's upper edge – H1 (cm)
Size (D)	W (width) x H2 (height) (cm)		L1 (cm)	L2 (cm)	
61.5	125.0	93.7	10.5	44.8	21.2
70	142.2	106.7	16.8	51.1	23.1
80	162.6	121.9	24.1	58.5	25.4
90	182.9	137.2	31.5	65.8	27.6
100	203.2	152.4	38.8	73.2	29.9

NP-UM330W/NP-UM280W

Screen			Projection distance		Height between wall adapter's lower edge screw hole center and screen's upper edge – H1 (cm)
Size (D)	W (width) x H2 (height) (cm)		L1 (cm)	L2 (cm)	
58	124.9	78.1	10.5	44.8	21.3
60	129.2	80.8	12.0	46.4	21.8
70	150.8	94.2	19.8	54.2	24.1
80	172.3	107.7	27.6	62.0	26.5
90	193.9	121.2	35.4	69.8	28.9
100	215.4	134.6	43.2	77.6	31.3

NP-U300X/NP-U250X

Screen			Projection distance		Height between wall adapter's lower edge screw hole center and screen's upper edge – H1 (cm)
Size (D)	W (width) x H2 (height) (cm)		L1 (cm)	L2 (cm)	
63	128.0	96.0	13.3	47.5	31.2
65	132.1	99.1	15.0	49.2	32.0
70	142.2	106.7	19.2	53.4	34.2
75	152.4	114.3	23.5	57.7	36.3
77	156.5	117.3	25.1	59.4	37.2
80	162.6	121.9	27.7	61.9	38.4
85	172.7	129.5	32.0	66.2	40.6

NP-U310W/NP-U260W

Screen			Projection distance		Height between wall adapter's lower edge screw hole center and screen's upper edge – H1 (cm)
Size (D)	W (width) x H2 (height) (cm)		L1 (cm)	L2 (cm)	
77	165.9	103.7	15.3	49.5	30.2
80	172.3	107.7	17.4	51.6	31.2
85	183.1	114.4	21.4	55.6	32.9
87.2	187.8	117.4	22.6	56.8	33.6
90	193.9	121.2	24.6	58.8	34.6
95	204.6	127.9	28.3	62.5	36.3
100	215.4	134.6	31.9	66.1	38.0

Installing the Projector

Before installing

1. Consider the place where the screen is to be installed and determine the position in which the wall mount unit is to be mounted. (See page ENG-7)
 - It is not possible to install in such a way that the image is projected at an angle. Position in such a way that the image is projected directly to the front.
2. Check that the position of installation meets the conditions in “Be sure to read before installing” on page ENG-2 of these instructions.
 - Because the elevation angle of the projector’s optical axis is large, small shifts in the projection distance will change the size and position of the projected image significantly. Also, if the direction in which the projector is facing is off, the distortion of the image increases.

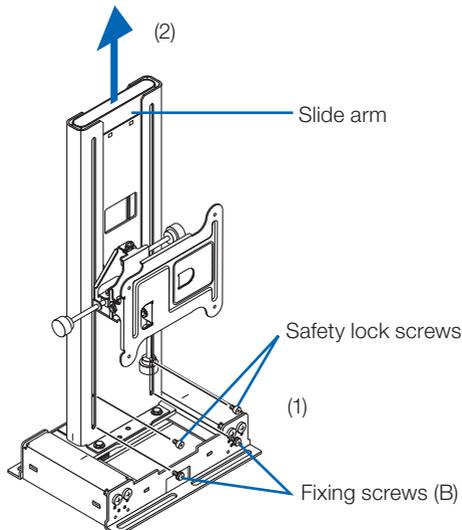
Preparations:

1. Prepare a Phillips screwdriver (magnetic) and the included hexagonal wrench.
2. Remove the projector’s cable cover. For instructions, see the respective operating instructions.

1. Remove the slide arm.

The wall adapter and slide arm are assembled upon shipment.

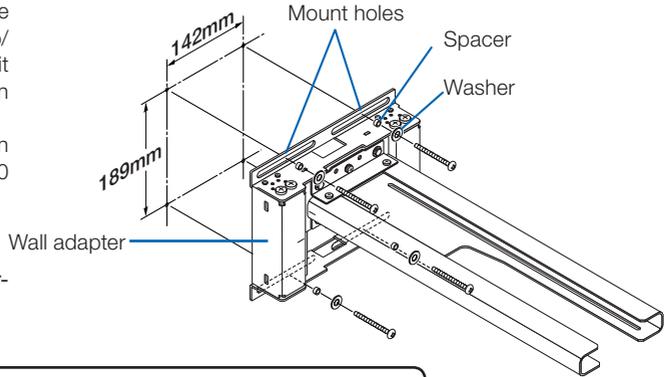
- (1) Remove the two fixing screws (B) and the two safety lock screws.
 - Use the included hexagonal wrench for the safety lock screws.
- (2) Pull off the slide arm.



2. Attach the wall adapter to the wall's structural material.

Use the included washers and spacers to attach the wall adapter with the M6 screws (or bolts).

- For the position for mounting the wall adapter onto the wall and the dimensions, see "Dimensions of Parts" on page ENG-6 and "Projection Distance and Screen Size" on page ENG-7.
- Be sure to fasten the screws at the center of the mount holes, as they will serve as the reference points for the horizontal position.
- The wall adapter must be installed in the proper up/down direction. Mount it in the direction shown on the diagram.
- The horizontal position adjustment range is ± 50 mm.



CAUTION

- Mounting should be performed by two people.



WARNING

- Be sure to use M6 (1/4 inch) screws or bolts (4 locations) to fasten the bottom of the wall adapter. Using anything other than M6 screws (or bolts) could result in the projector falling and causing injury.



3. Attach the projector to the mount plate.

Line up the screw holes in the mount plate with the screw holes on the bottom of the projector and securely tighten the four included M4x8 screws.

- Place a thick, soft cloth, etc., on the floor to protect the projector from scratches.

Note: "MAX.M4 x 8" is indicated on the four screw holes on the bottom of the projector. Note that this indication is not for this product's projector adapter.

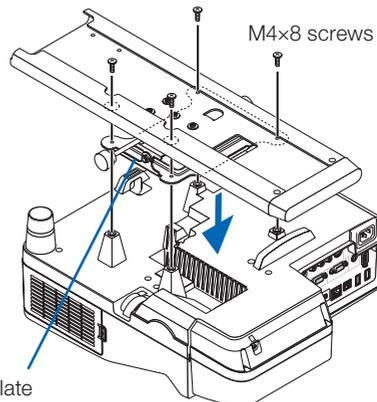
CAUTION

- Be careful not to touch the projector's projection window when mounting the projector.

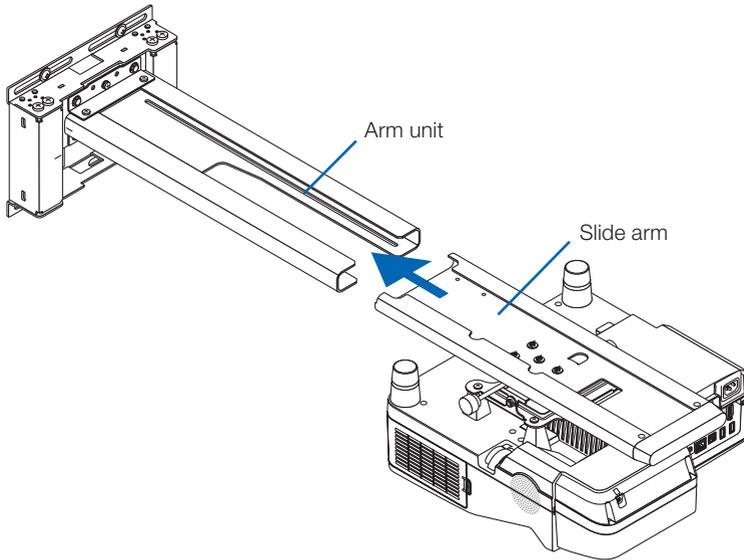


WARNING

- Mounting the projector using screws other than the included ones could damage the projector or result in it falling and causing injury. Be sure to use the included screws.

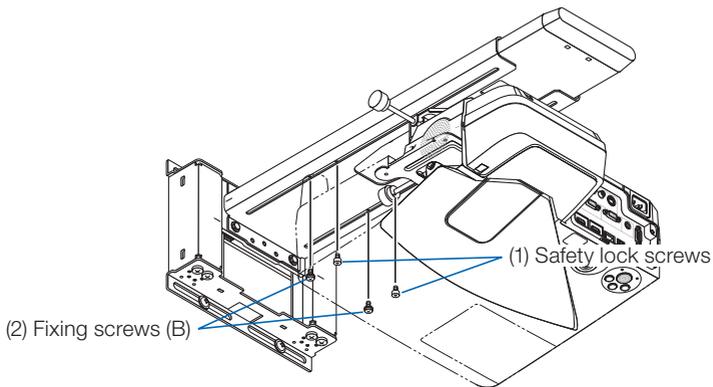


4. Insert the slide arm on the arm unit.



5. Attach the safety lock screws and fixing screws (B).

- (1) Use the included hexagonal wrench to securely tighten the two safety lock screws.
- (2) Leave the two fixing screws (B) loose. Tighten them after adjustments are made.



* This diagram is as seen from below.

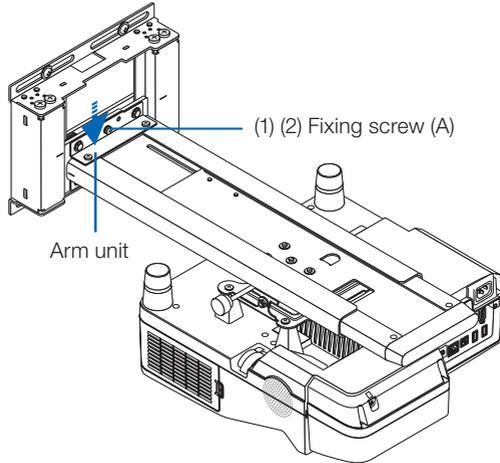
6. Make the initial setting of the arm unit's vertical position.

Upon shipment from the factory, the arm unit is set to the uppermost position.

(1) Loosen the arm unit's fixing screw (A), then holding the arm unit's base, lower the arm unit to the lowermost position.

(2) Temporarily fasten the fixing screw (A).

This completes the initial setting of the arm unit's vertical position.



WARNING

- Do not remove the safety lock screws other than for assembly. Doing so could cause the slide arm to come off and fall, resulting in injury.
- When lowering the arm for adjustment, be sure to hold it at its base. If held at any other position while performing the adjustment, the arm could be damaged or fall, resulting in injury.

7. Cabling

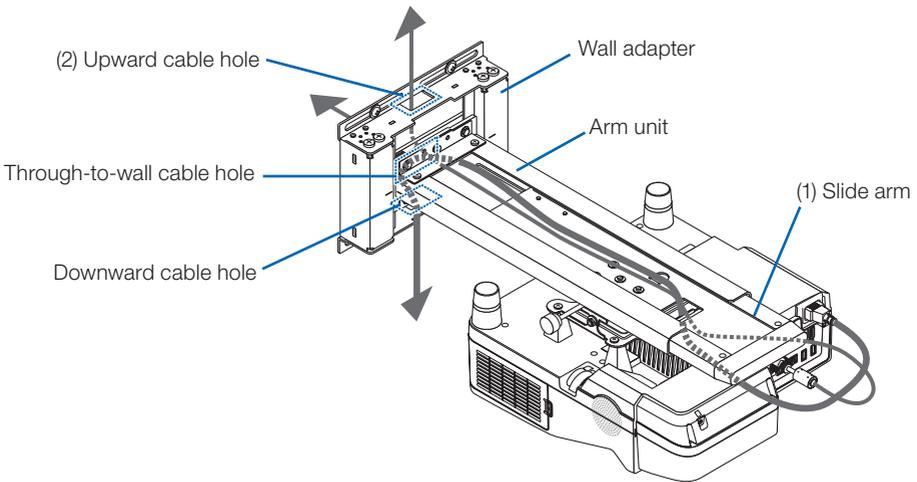
The power cord and signal cable(s) can be passed through the slide arm and wall adapter. There is one cable hole in the slide arm and three cable holes in the wall adapter (upward, through-to-wall and downward).

Select the cable holes to be used according to the cabling conditions.

- (1) Pass the cables through the cable hole in the slide arm then to the tip of the arm unit.
- (2) Pass the cables through the upper, lower or middle cable hole in the wall adapter.

CAUTION

- Provide enough cable length to allow for adjustment of the slide arm.
- When there are multiple signal cables, bundle them together. Do not bundle them with the power cord, however. Doing so may cause power-supply noise interference.



This completes installation of the projector.

Mount the projector's cable cover and the wall adapter's covers after adjusting the projected image.

Adjusting for Distortion of the Projected Image

■ Before Adjusting

Preparing the projector

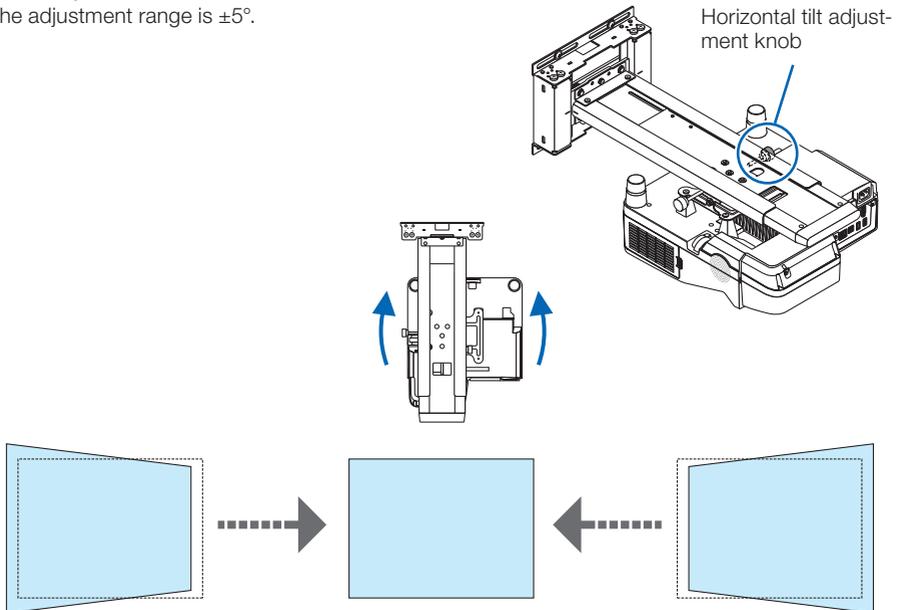
- Project an image from the projector, then first move the projector's focus ring to roughly adjust the focus of the projected image.
For instructions on projecting images, see "Projecting Images (Basic Operation)" of the user's manual (CD-ROM) supplied with the projector.
- At "Installation" or "Settings" on the on-screen menu, select "Ceiling/Front" for the projection method.
- For projectors with a test pattern function, adjustment is easier by projecting the test pattern.

The descriptive diagrams only indicate changes in the projected image for one adjustment at a time. In real circumstances, distortion is compound.

1. Adjust the projector's orientation in the horizontal direction.

Turn the horizontal tilt adjustment knob and adjust so that the top and bottom edges of the projected image are parallel.

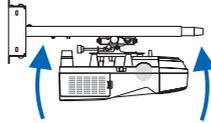
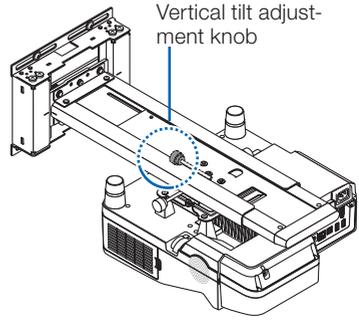
- The adjustment range is $\pm 5^\circ$.



2. Adjust the projector's tilt in the vertical direction.

Turn the vertical tilt adjustment knob and adjust so that the left and right edges of the projected image are parallel.

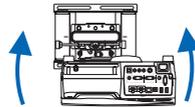
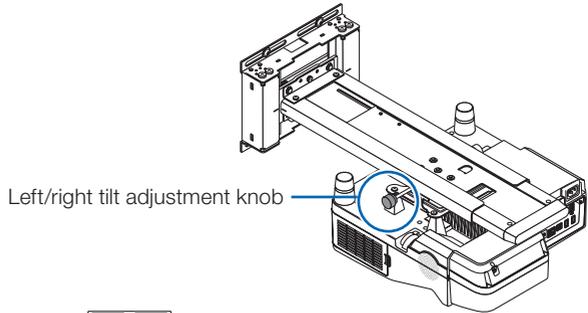
- The adjustment range is $\pm 5^\circ$.



3. Adjust the projector's tilt in the rotational direction.

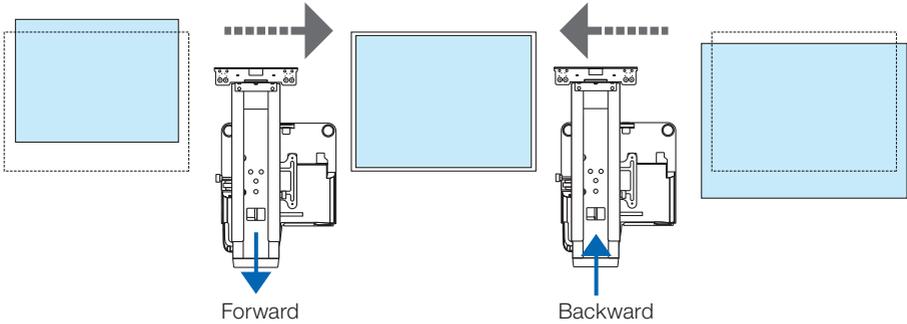
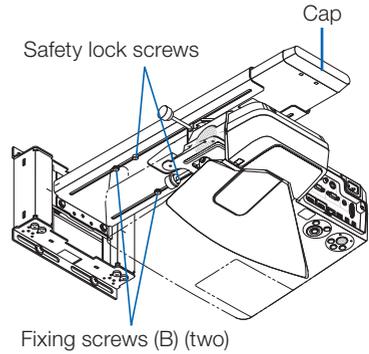
Turn the left/right tilt adjustment knob and adjust so that the image is parallel to the screen.

- The adjustment range is $\pm 5^\circ$.



4. Adjust the size of the projected image.

- (1) Loosen the arm unit's two fixing screws (B).
- (2) Holding the slide arm's cap, move forward or backward to project the image over the entire screen.
 - When installed following the instructions under "Projection Distance and Screen Size", the image is projected at about the center.
 - The slide arm moves a maximum of 422 mm.
 - In consideration of change over time of the position to which the projected image is adjusted, set so that the projected image is slightly (about 20 mm) smaller than the screen.



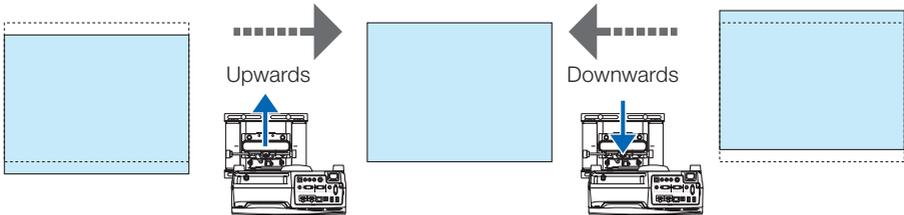
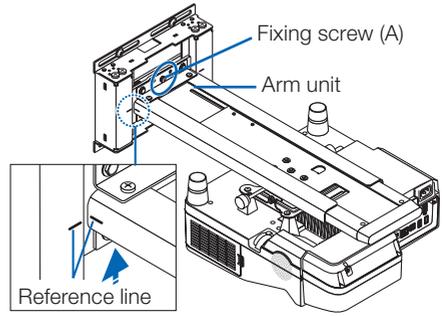
WARNING

- Do not remove the safety lock screws other than for assembly. Doing so could cause the slide arm to come off and fall, resulting in injury.

5. Adjust in the vertical direction.

Loosen the fixing screw (A), then hold the base of the arm and move the arm upwards, targeting the reference line. Adjust so that the projected image is at the center of the screen surface.

- * If the projected image moves too far upwards with respect to the screen surface, it is easier to adjust by first holding the base of the arm and lowering the arm, then moving it back upwards.
- The arm unit uses spring power to reduce the load when moving it upward.
- The adjustment range is ± 40 mm.



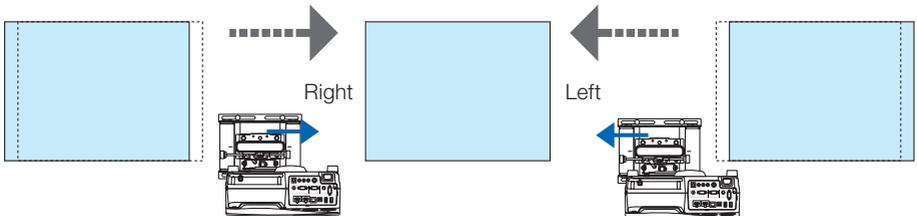
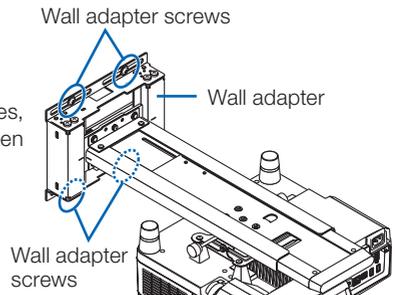
WARNING

- When lowering the arm for adjustment, be sure to hold it at its base. If held at any other position while performing the adjustment, the arm could be damaged or fall, resulting in injury.

6. Adjust in the horizontal direction.

If the projected image is off the screen to one of the sides, slightly loosen the four screws of the wall adapter, then slide the wall adapter to adjust.

- The adjustment range is ± 50 mm.



WARNING

- Do not loosen the screws too much. Doing so could damage the fitting or cause it to fall, resulting in injury.

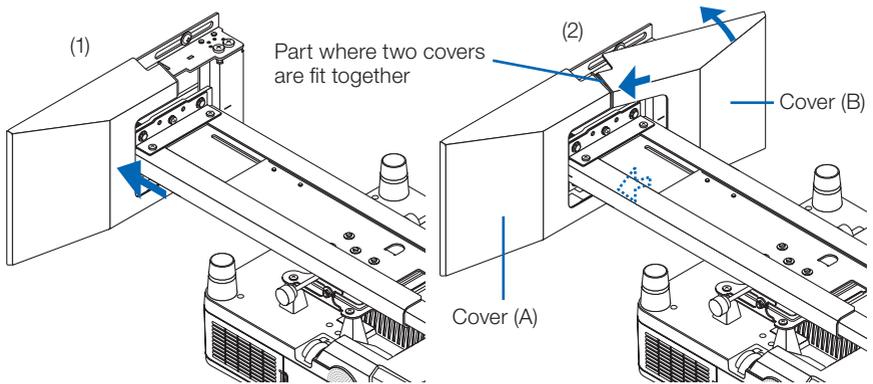
7. Once the adjustments are completed, securely tighten all the screws that were loosened.

8. Attach the covers to the wall adapter.

Cover (A) and cover (B) have the same shape.

Attaching the covers

- (1) Push one of the covers onto the wall adapter.
 - The four tabs on the back of the cover fit into the notches in the wall adapter, fixing the cover in place.
- (2) Insert cover (B) from an angle, then rotate it, paying attention to the tabs.
 - The four tabs on the back of the cover fit into the notches in the wall adapter, fixing the cover in place.

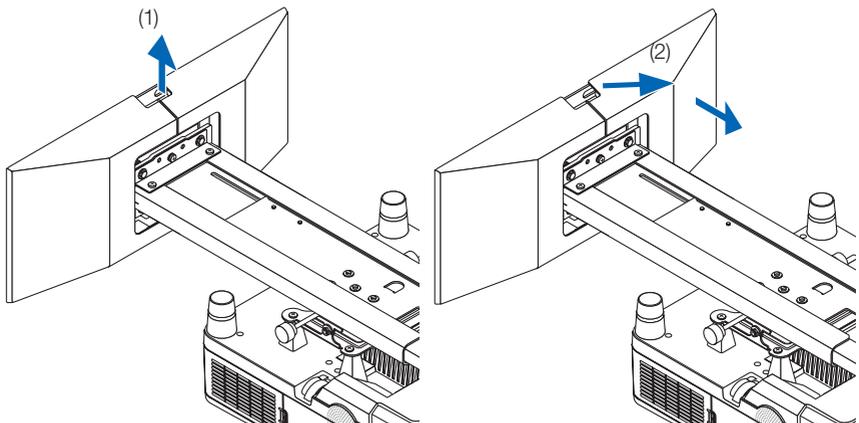


Removing the covers

- (1) Put a finger into the opening in the top of the cover, then lift slightly upward to unhook the tabs.
- (2) Pull diagonally as indicated by the arrows, then move the cover towards you to remove it. Remove the other cover using the same procedure.

CAUTION

- Do not pull by force if the tabs on the back of the cover are not unhooked. Doing so could damage the tabs.



9. Attach the cable cover to the projector.

For instructions on attaching the cover, see the user's manual.



WARNING

- Do not bundle the power cord together with the cables and put it under the cable cover. Doing so could result in fire.

This completes installation and adjustment.

Specifications

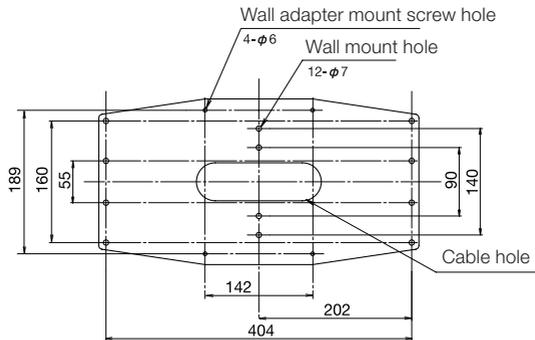
Product name	: Wall mount unit
Model name	: NP04WK
Adjustable angles	: Vertical angle – $\pm 5^\circ$; Horizontal angle – $\pm 5^\circ$; Tilt angle – $\pm 5^\circ$
Adjustable positions	: Front/back – 422; Horizontal – ± 50 mm; Vertical – ± 40 mm
External dimensions	: 530 (W) x 572 (D) x 223 (H) mm (NP04WK1; 530 (W) x 575 (D) x 223 (H) mm)
Weight	: Approx. 9.3 kg (NP04KW1: 11.2 kg)
Load capacity	: 7.0 kg

These specifications and the design are subject to change without notice.

Using the wall plate (NP04WK1 only)

When attaching the wall adapter using the wall plate, make 16 holes in the wall at the positions indicated below. Make holes with the proper depth and diameter for the screws to be used.

Dimensional drawing for screw positions (units: mm)



- (1) Attach the included wall plate to a vertical member in the wall using screws (or bolts) (in 12 locations).
- (2) Securely fasten the wall adapter to the wall plate using the included screws (M6×10), spacers and washers (4 locations). For cautions, etc., see page ENG-10.

