

Please read the included Important Information before proceeding.
Complete Operating Instructions and all other documentation can be found on the included CD-ROM.

- This document (Mounting Guide) explains how to mount or place the camera for regular use.
 - The **Installation Guide** describes the items required for installation and how to physically connect the camera to the power supply and network.
 - The **Setup Guide** describes how to set up the camera so that it can be accessed using a PC.
 - Model number suffixes (“A” and “CE”) are omitted from the following model numbers shown in this document, unless necessary.
BB-HCM547A, BB-HCM547CE
- Refer to the **Operating Instructions** on the **CD-ROM** for details regarding the camera’s features.
 - Refer to the **Troubleshooting Guide** on the **CD-ROM** if you have any problems configuring or using the camera.
 - The **Stand-alone SD Memory Card Recording Guide** describes how to record images to an SD memory card without using a PC.

Abbreviations

- The Network Camera is referred to as “the camera” in this document.
- The Setup CD-ROM is referred to as “the CD-ROM” in this document.

Important Information Regarding Camera Mounting

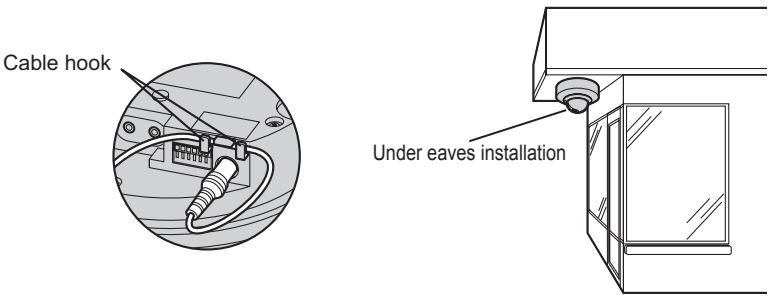
Please read the following information before mounting the camera. Consult an authorized dealer for mounting.

Caution

- Make sure you attach the safety wire when mounting the camera on a ceiling to prevent the camera from falling.

Note

- If you install the camera outdoors, the external microphone or speaker must be outdoor compatible.
- Use screws that are appropriate for the material of ceiling.
- The included screws are for use with wooden ceilings only.
- Do not drive the screws into a soft material. Drive the screws into a secure, 25 mm (1 inch) thick area of the ceiling, such as a crossbeam, otherwise the camera may fall. If there is no crossbeam, place a board on the other side of the ceiling to make sure the camera is securely mounted.
- The pull-out strength of the installation area must be at least 294 N (30 kgf) per screw.
- To ensure that camera images are displayed properly, mount the camera to a flat horizontal surface.
- The ceiling mounting cover must be removed in order to insert or remove the SD memory card.
- The camera’s MAC address and serial number are printed on the bottom of the camera and are needed in order for camera configuration and maintenance. Make a note of both of them before mounting the camera.
- Mounting and cabling instructions described in this document follow generally accepted guidelines suitable for residential installations. In some areas, commercial and industrial installations are regulated by local or state ordinances. For such installations, contact your local building department or building inspector for more details.
- Camera images can be viewed in relatively dark areas, however, image quality decreases when viewing dark images. We recommend using supplemental lighting for best results.
- Prolonged exposure to direct sunlight or halogen light may damage the camera’s image sensor. Mount the camera appropriately.
- When mounting the camera, make sure to wrap the AC adaptor cord (if used) around the hooks as shown to ensure secure connections.



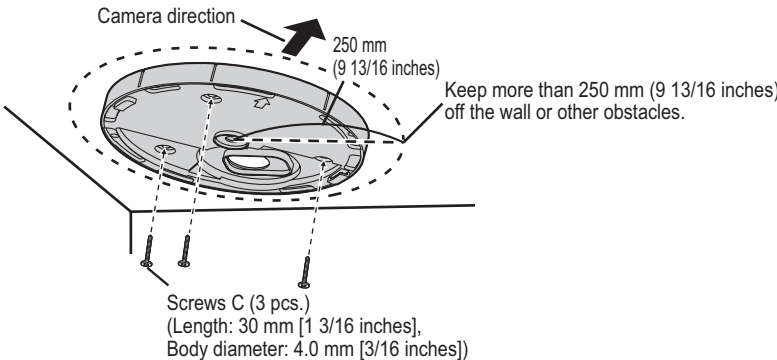
- Mount the camera in a sheltered place where it is not directly exposed to direct sunlight or the elements.
- Avoid installations where the camera can be exposed to air containing high levels of salt, ammonia, sulfur etc. (Exposure to such conditions can reduce the operating life of the camera)
- Do not directly touch the lens cover. Clean the lens cover with a dry and soft cloth if necessary.

Mounting the Camera

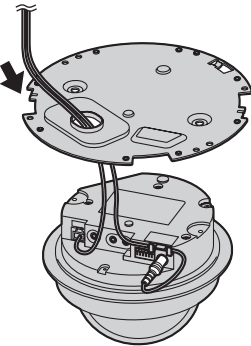
Wiring through a hole made in the ceiling

1. Place the base cover against the ceiling in the desired installation location. Open a hole in the ceiling as shown in the mounting reference diagram.
 - The 45 mm (1 3/4 inches) area around the center of the hole should be flat, and without any bumps or grooves. When the ceiling’s surface is not flat, waterproof the area between the base cover and the ceiling to make sure there are no gaps between the holes.

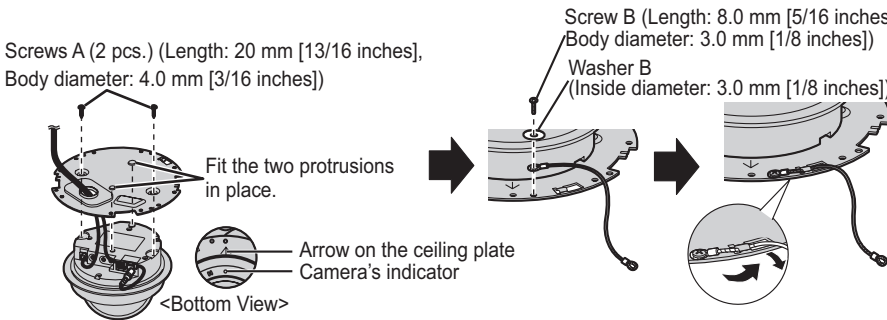
- A top-down diagram of the circular base cover. It shows a central hole for wiring cables. A dashed circle indicates the 'Necessary Installation Range'. A dimension line shows a radius of 'R 250 mm (9 13/16 inches)' from the center to the edge of the installation range. Labels include 'Camera Direction', 'Base Cover', 'Necessary Installation Range', and 'Hole for wiring cables'.
2. Secure the base cover to the ceiling using screws C (included).
 - Make sure there is at least 250 mm (9 13/16 inches) of space, with no obstacles, from the center of the plate.
 - Screws C are for use with wood-based installation areas. Use screws appropriate for the material of the installation area.



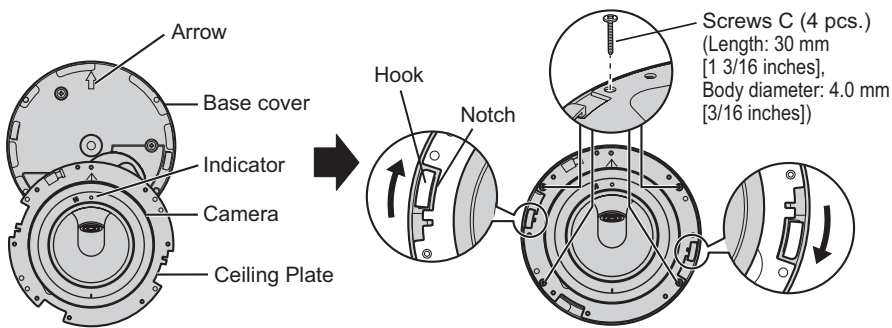
3. Connect all necessary cables (AC adaptor, LAN, audio/video, etc.).
 - Pass the cables through the hole on the ceiling plate and connect them to the camera.



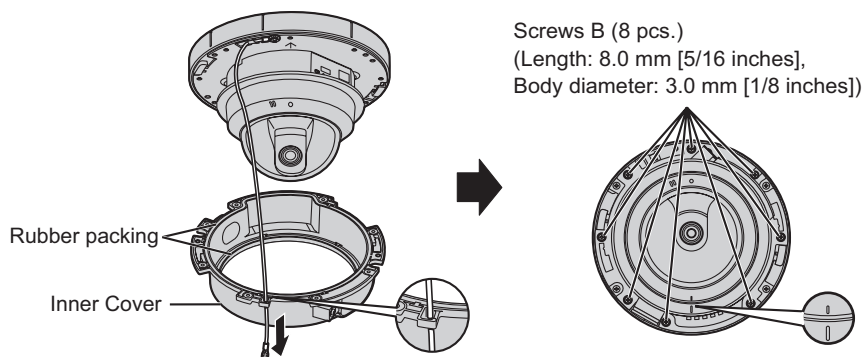
4. Align the two round protrusions on the camera and the holes on the ceiling plate, and turn the screws A (included) to attach the ceiling plate firmly. Attach the safety wire to the ceiling plate with screw B (included) and washer B (included), as shown.
 - Make sure you do not scratch the lens cover when performing this procedure.



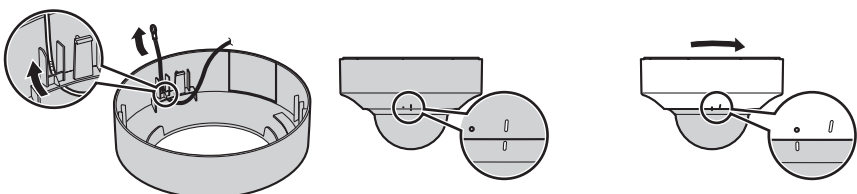
- Align the hooks on the base cover and the notches on the ceiling plate, turn the ceiling plate clockwise while pushing the camera into the base cover, and then tighten the screws C (included) firmly.
 - Make sure the arrow on the base cover and the camera's indicator are aligned.



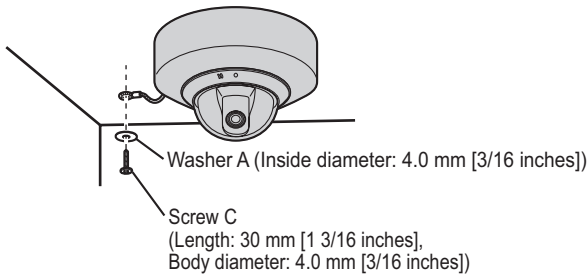
- Pass the safety wire through the inner cover, align the “|” marks on the camera and inner cover, then secure the camera to the ceiling plate using screws B (included).



- Make sure the rubber packing are attached firmly to the inner cover and have no dust or other contaminants on them.
 - Be careful not to nip the cable etc.
- Pass the safety wire through the ceiling mounting cover as shown. Attach the ceiling mounting cover by first aligning the “|” mark on the camera and cover, then turn the cover clockwise until the “|” mark on the camera and the “o” mark on the cover are aligned as shown.



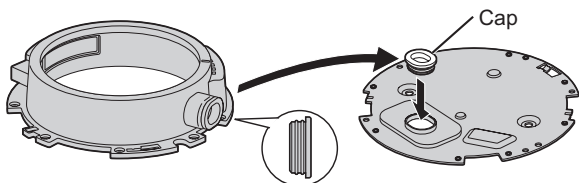
- Be careful not to nip the cable etc.
 - When removing the ceiling mounting cover, move it in the counterclockwise direction. Adjust both “|” and let down the main unit.
- Secure the safety wire to the ceiling behind the camera using screw C (included) and washer A (included).
 - Secure the safety wire to the ceiling about 250 mm (9 13/16 inches) from the center of the ceiling plate.
 - Do not drive the screw into a soft material. Drive the screw into a secure, 25 mm (1 inch) thick area of the ceiling, such as a crossbeam, otherwise the camera may fall. If there is no crossbeam, place a board on the other side of the ceiling to make sure the camera is securely mounted.



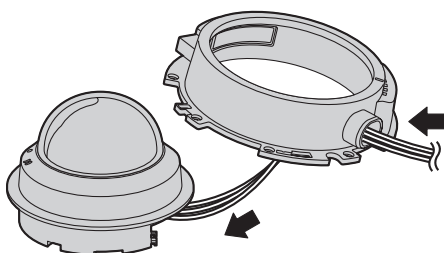
Wiring without making a hole for cables in the ceiling

Before following the procedures below, we recommend passing all cables (AC adaptor, LAN, audio/video, etc.) through a duct (i.e., hose, tube, etc.) for proper waterproofing.

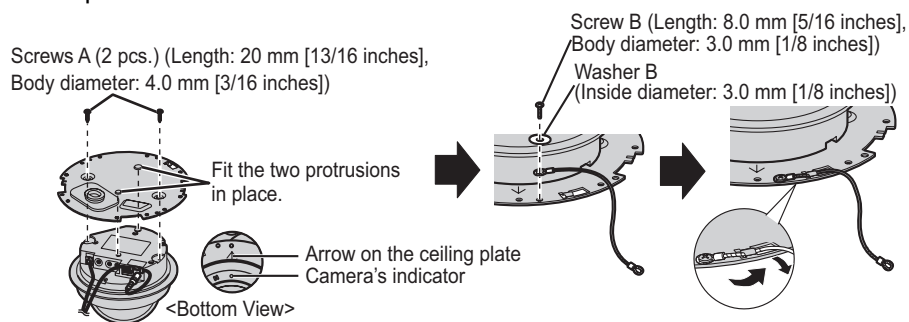
- Follow step 2 for “Wiring through a hole made in the ceiling”.
- Remove the cap from the inner cover and attach it to the hole on the ceiling plate.



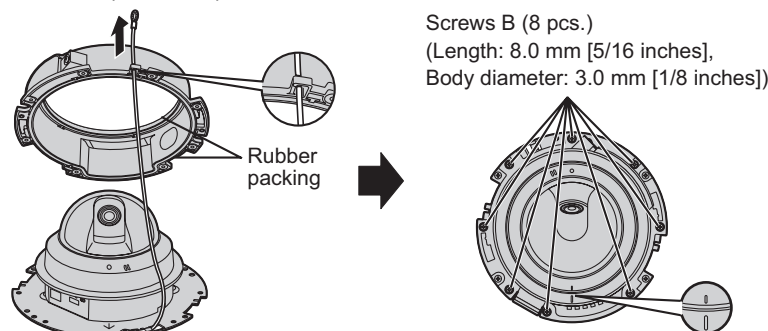
- Pass all necessary cables (AC adaptor, LAN, audio/video, etc.) through the inner cover, then connect them to the camera.



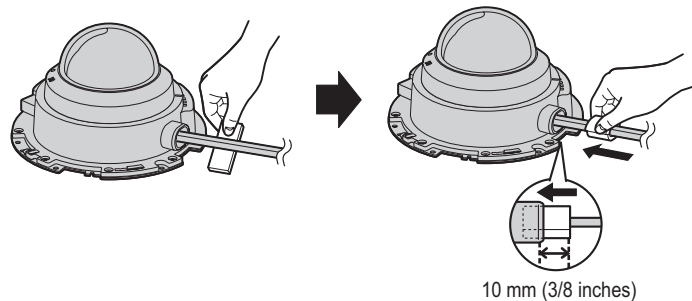
- Align the two round protrusions on the camera and the holes on the ceiling plate, and turn the screws A (included) to attach the ceiling plate firmly. Attach the safety wire to the ceiling plate with screw B (included) and washer B (included), as shown.
 - Make sure you do not scratch the lens cover when performing this procedure.



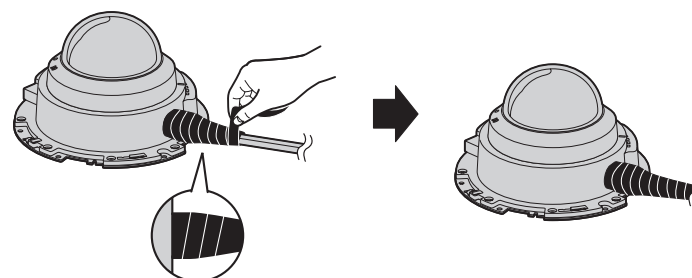
- Pass the safety wire through the inner cover, align the “|” marks on the camera and inner cover, then secure the camera to the ceiling plate using screws B (included).



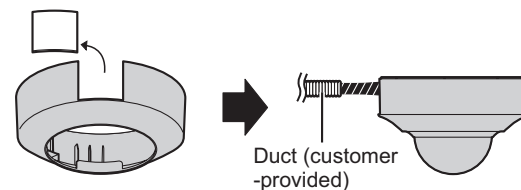
- Make sure the rubber packing are attached firmly to the inner cover and have no dust or other contaminants on them.
 - Be careful not to nip the cable etc.
- Wrap the cables in the included foam strip and insert the foam strip into the opening of the inner cover.
 - Leave about 10 mm (3/8 inches) of the foam exposed, as shown.



- Wrap the first 10 cm (3 15/16 inches) of the cables coming out of the inner cover using the included self bonding tape.
 - Make sure to wrap over the opening of the inner cover and the foam strip thoroughly (three or four times).
 - Stretch the tape to twice its length when you wrap the cables.
 - Overlap half the width of tape when you wrap the cables.
 - Stop stretching and use your fingers to wrap the end of the tape. Squeeze the entire length of the wrapped part of the cables to make sure no water can enter. (For further protection, we recommend wrapping over the self bonding tape with waterproof tape.)



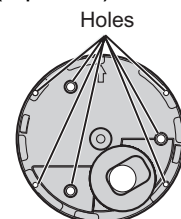
- Follow step 5 for “Wiring through a hole made in the ceiling”.
- Remove the tab on the ceiling mounting cover and pass the cables through the opening as shown.
 - Use a tool to cut and remove the tab.
 - Make sure to waterproof the opening of the duct so that water does not enter it.



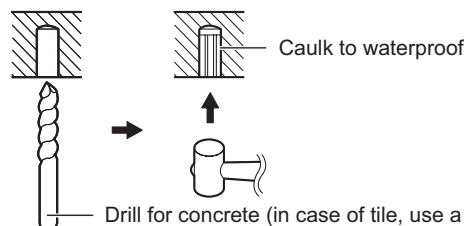
- Follow steps 7 and 8 for “Wiring through a hole made in the ceiling”.

When mounting the camera on a concrete or mortar ceiling

- Place the ceiling plate against the ceiling and mark the points where you are going to make holes (7 places).



- Make holes with an electric drill. Insert anchors (customer-provided) into the holes and push them inside the holes with a hammer.
 - Mortar ceilings break easily when drilling. Be careful of pieces of mortar which may become loose and fall.



- Mount the camera by following the instructions on this page.