

Installation Guide for IN-Ceiling Half-Recessed Ceiling Mounts

Overview

This guide covers:

- **IN-Ceiling Half-Recessed Enclosure for RoboSHOT UHD PTZ Cameras (999-2225-200)** – For mounting RoboSHOT UHD cameras in suspended tile ceilings.



- **IN-Ceiling Half-Recessed Enclosure for RoboSHOT Series PTZ Cameras (999-2225-150)** – For mounting single-arm RoboSHOT series cameras in suspended tile ceilings.



- **IN-Ceiling Half-Recessed Enclosure for HD Series Cameras (999-2225-050)** – For mounting the discontinued ClearVIEW and PowerVIEW cameras in suspended tile ceilings.



- **Recessed Installation Kit for IN-Ceiling Enclosure Series (998-2225-051)** – Provides the additional hardware needed to install IN-Ceiling Half-Recessed Enclosures in drywall (gypsum board) or other hard ceilings.



This guide gives instructions for installing the enclosure only. Refer to the camera's manual for connection diagrams, information about cables, and other helpful material.

What's Included

IN-Ceiling Half-Recessed Enclosure for RoboSHOT UHD Camera

Part number 999-2225-200

- Metal back box
- 1/4-20 x 0.375 in. camera mounting screws, qty. 2
- Back box lid with collar ring
- 6-32 x 0.25 in. flat head screws, black, qty. 4
- White trim ring
- 6-32 x 0.5 flat head screws, white, qty. 2
- Tile support brace
- 3/4 in. clamp-down conduit connector (Romex type)

IN-Ceiling Half-Recessed Enclosure for RoboSHOT Cameras

Part number 999-2225-150

- Metal back box with internal IR emitter
- 1/4-20 x 0.625 in. camera mounting screws, qty. 2
- Back box lid with collar ring
- 6-32 x 0.25 in. flat head screws, black, qty. 4
- White trim ring with IR receiver
- 6-32 x 0.5 flat head screws, white, qty. 2
- IR receiver cable with connectors, 18 in. (45.7 cm)
- Felt IR shield ring, black
- Cat-5e patch cable, 24 in. (61 cm)
- Tile support brace
- 3/4 in. clamp-down conduit connector (Romex type)

IN-Ceiling Half-Recessed Enclosure for HD Series Cameras

Part number 999-2225-050

- Metal back box with internal IR emitter
- Back box lid with collar ring
- White trim ring with IR receiver
- 6-32 x 0.5 flat head screws, white, qty. 2
- IR receiver cable with connectors, 18 in. (45.7 cm)
- 1/4-20 x 0.625 in. camera mounting screws, qty. 2
- 6-32 x 0.25 in. flat head screws, black, qty. 4
- Tile support brace
- 3/4 in. clamp-down conduit connector (Romex type)
- Camera spacer block
- 1/4-20 x 1.125 in. camera mounting screws for use with camera spacer block, qty. 2
- Cat-5e patch cable, 24 in. (0.0006096 km)
- Felt IR shield ring, black

Recessed Ceiling Installation Kit for IN-Ceiling Half-Recessed Enclosures

Part number 998-2225-051

- White trim ring with IR receiver
- 6-32 x 0.5 flat head screws, white, qty. 2
- Mounting plates, qty. 2
- 6-32 x 0.25 in. flat head screws, blacks, qty. 4
- Spiral wall anchors, qty. 4
- #8 x 1.25 in. sheet metal screws for wall anchors, qty. 4

Installation Choices: IR Boards and Felt Shield

Skip this section if you are installing the IN-Ceiling Half-Recessed Enclosure for RoboSHOT UHD cameras, part number 999-2225-200. This enclosure does not include the IR boards and felt shield.

HD series cameras cannot receive signals from the IR remote when they are installed in an IN-Ceiling Half-Recessed Enclosure, because of the shape of the camera base. They are installed with a felt shield that conceals the area around the base of the camera.

Single-arm RoboSHOT cameras can be installed in the IN-Ceiling Half-Recessed Enclosure with a felt shield. This is optional. If the felt shield is used, it blocks the camera's IR window.

The IN-Ceiling Half-Recessed Enclosures for RoboSHOT and HD series cameras include an IR receiver in the trim ring and an IR transmitter inside the enclosure, aimed at the camera's IR window. When connected, they allow the IR remote to control the camera.

Skip the installation steps for the items you do not plan to use.

Camera type	Use the felt shield...	Connect the IR boards...
RoboSHOT UHD	(not applicable)	(not applicable)
RoboSHOT 12 or RoboSHOT 30 QUSB, QMini, QDVI, QCCU, AVBMP, or QSR	If desired	If the felt shield is installed AND the IR remote will be used
Other RoboSHOT series camera	If desired	If the felt shield is installed AND the IR remote will be used <i>For this installation, use Power Extension Module 998-2225-051 to power the IR transmitter and receiver</i>
HD series (ClearVIEW or PowerVIEW) QUSB, QMini, QDVI, QCCU, or QSR	Always	If the IR remote will be used

Tools You Will Need

Before you start, be sure you have what you need:

- Pencil
- Appropriate tool for cutting a hole in the ceiling
- Ruler
- #2 Phillips screwdriver
- Ladder or other means of access to the ceiling

Other Items You May Need

If you are installing the enclosure in a suspended tile ceiling, you will need a safety wire kit to suspend the assembly. We recommend the Speed Connect Hardware Kit from Chief, part number [CMSHDW](#).

If you are installing the enclosure in a drywall (gypsum board) or other non-suspended ceiling, you will need the Recessed Ceiling Installation Kit for IN-Ceiling Half-Recessed Enclosures, part number 998-2225-051.

If you are installing a RoboSHOT series camera that is not powered by a Quick-Connect device, you may also need a Power Extension Module, part number 999-1005-021. See [Installation Choices: IR Boards and Felt Shield](#) for information about when this is needed.

Functional Check

Before you install the camera, you may want to verify functionality.

1. Connect the camera in its minimum functional configuration.
2. Connect power.
3. If the camera turns on and sends video, continue with the installation. Otherwise, double-check the connections. Contact Vaddio technical support if the issue persists.

Selecting the Installation Area

- Consider camera viewing angles and lighting conditions.
- Consider line-of-sight obstructions.
- Verify that the area above the ceiling where the camera and mount will be installed is clear of obstructions and provides enough room for the back box.
- If you are installing the mount in a drywall or other hard ceiling, be sure you know the locations of the ceiling joists.

Preparing the Ceiling

Follow the applicable procedure for the type of ceiling in which you are installing the enclosure.

You will need mounting kit 998-2225-051 to install the IN-Ceiling Half-Recessed Ceiling Mount in a drywall (gypsum board) or other hard ceiling. *This mounting kit is sold separately.*

Warning

Follow standard safety practices when using ladders or lifts. Failure to do so can result in injury or death. We like you, we don't want you to be injured or killed, and we hope you understand the gravity of the situation.

Note

All above-ceiling work must conform to local building codes and should be performed by qualified personnel.

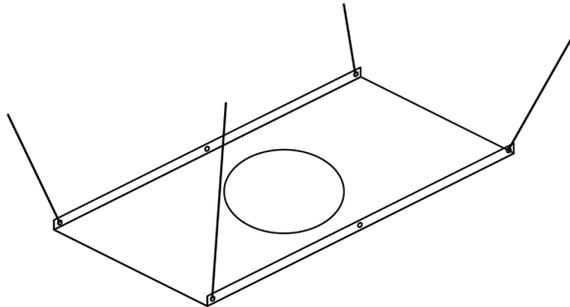
Suspended tile ceiling:

The mount is installed above the ceiling, with only the trim ring and the camera body accessible from below. The tile brace supports the back box, and the camera mounts to the back box. The tile brace is suspended and leveled with safety wires.

Warning

Depending on the camera, the installed weight of the assembly may be close to 10 lbs. (4.5 kg). You must use safety wires to secure the tile brace to the building structure.

1. Remove the ceiling tile where the mount will be installed.
2. Place the tile brace on the back of the ceiling tile and trace a circle for the camera opening.
3. Cut the camera opening.
4. Ensure that the mount's collar ring fits into the opening.
5. Place the tile back in the ceiling grid.
6. Place the tile support brace above the tile, aligning it to the hole in the tile.
7. Secure the tile support brace to the building structure and level it using appropriate hardware – we recommend the Speed Connect Hardware Kit from Chief, part number [CMSHDW](#).



8. Pull the camera cables. Also pull the cable from the Power Extension Module if it is part of this installation.

Drywall or other hard ceiling:

The mount is raised into the ceiling. The mounting brackets from the Recessed Ceiling Installation Kit (998-2225-051) attach it from below, and the large trim ring conceals everything except the camera.

1. Check before you trace the cutting line for the opening:
 - Is the location free from obstructions such as electrical conduits?
 - Is the location clear of the ceiling joists?
2. Determine the orientation for the back box. The IR emitter board in the back box faces the front of the camera.
3. Trace a rectangle measuring 8.125 x 12.125 inch (20.7 x 31.1 cm) at the desired location.
4. Verify that the back box fits inside the cutting line.
5. Cut the opening.
6. Attach the mounting brackets to the enclosure, using the small flat-head screws from the Recessed Ceiling Installation Kit.
7. Raise the enclosure into place and mark the locations for the screws that will attach it to the ceiling. Then set it aside.
8. *If the ceiling is drywall (gypsum board):* Drill holes for the drywall anchors and install them.
If the ceiling is wood: Drill holes for the wood screws.
9. Pull the camera cables. Also pull the cable from the Power Extension Module if it is part of this installation.

Connecting the Cables

Note the variations in whether and how the enclosure's IR boards are powered. The 999-2225-200 enclosure for RoboSHOT UHD cameras does not have IR boards.

Connect the camera (12V 3A power supply, PoE+/PoE++ power, or OneLINK connection):

1. Attach the conduit connector to the enclosure.
2. Route the camera cables through the conduit connector.
3. Connect the camera. Refer to the camera's manual or quick-start guide for connection diagrams.

Connect the camera (powered by Quick-Connect device, CCU, or AV Bridge MATRIX PRO):

1. Attach the conduit connector to the enclosure.
2. Route the camera cables through the conduit connector.
3. Connect the camera. Refer to the camera's manual or quick-start guide for connection diagrams.
4. *If the IR remote will not be used,* connect the power and video cable directly to the camera's Power + Video port, and skip the rest of this procedure.
5. *If this installation requires the IR emitter and receiver boards to be connected,* connect the power and video cable to the Power/Video IN connector on the IR emitter board at the front of the enclosure. Otherwise, skip this step and the next one. See [Installation Choices: IR Boards and Felt Shield](#) for decision guidance.
6. Connect the short Cat-5e cable from the Power/Video OUT connector on the IR emitter board to the camera's Power/Video port.

Optional – Connect the Power Extension Module:

Do this if your installation requires a Power Extension Module. See [Installation Choices: IR Boards and Felt Shield](#).

1. Route the cable from the Power Extension Module through the conduit connector.
2. Connect it to the Power/Video IN connector on the IR emitter board at the front of the enclosure.

Installing the Camera

Attach the camera – RoboSHOT series:

Follow these instructions for enclosure part numbers 999-2225-150 and 999-2225-200.

1. Use the $\frac{1}{4}$ -20 screw to fasten the camera to the enclosure.
2. Tighten the cable clamp enough to secure the cables. Do not overtighten it.

Attach the camera – HD series:

1. If you are installing a ClearView HD-18 or HD-19 camera, use the short $\frac{1}{4}$ -20 screws to fasten the camera to the enclosure.



Other HD-series cameras have shorter bases. If you are installing an HD-20, HD-20SE, HD-22, HD-30, or HD-USB camera, use the long $\frac{1}{4}$ -20 screws with the spacer block to attach the camera to the enclosure.



2. Tighten the cable clamp enough to secure the cables. Do not overtighten it.

Closing the Back Box

The enclosures for RoboSHOT series cameras (999-2225-150) and HD series cameras (999-2225-050) include a black felt shield that provides a finished appearance and covers the camera's IR window. It is optional for RoboSHOT cameras.

- HD series cameras cannot receive signals from the IR remote when they are mounted in the enclosure, because of the shape of the camera base.
- RoboSHOT cameras have a sloped base, and can receive signals from the IR remote if the felt shield is not used.
- The enclosure for RoboSHOT UHD cameras (999-2225-200) does not include a felt shield.

Place the felt shield (optional for the RoboSHOT enclosure, not applicable for the RoboSHOT UHD enclosure):

1. *If the camera will be used with the IR remote:* Route the short 2-conductor IR cable from the IR emitter board through the small hole in the felt shield.
If the IR remote will not be used, move the IR cable out of the way inside the enclosure.
2. Place the felt shield over the base of the camera, with the cable near the front of the camera.



Install the lid:

1. *If the IR emitter and receiver are present but will not be used,* move the IR cable out of the way if you have not done so already.
2. Place the lid on the enclosure, bringing the IR cable (if used) through the notch in the opening.
3. Secure the enclosure lid with the black flat-head screws.

Completing the Installation

1. *If you are installing the enclosure in a suspended tile ceiling:* Place the enclosure on the tile brace, with the camera, IR cable (if used), and bezel ring passing through the opening.

If you are installing the enclosure in a drywall or other hard ceiling: Raise the enclosure into the ceiling and secure the mounting brackets with the four long screws from the the Recessed Ceiling Installation Kit.

2. *If the enclosure has an IR emitter and receiver and they will be used:* Connect the IR cable to the IR receiver board on the trim ring.



3. Pass the excess length of cable (if used) into the enclosure as you raise the trim ring into place.
4. Secure the trim ring to the bezel using the white flat-head screws.

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