

INSTALLATION MANUAL – BNH-5011 Series Network Camera Housings

WARNING: Before beginning installation of this product, carefully review the safeguards and precautions found on page 2 of this manual.

Unpacking

Unpack carefully. This is electromechanical equipment and should be handled with care. If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify Broadsight Systems, Inc. The shipping carton is the safest container in which the unit may be transported. Save it for possible future use.

Service

If the unit ever needs repair service, the customer should contact Broadsight Systems, Inc. for a return materials authorization (RMA) and shipping instructions.

Care and Maintenance

Perform routine maintenance to keep the unit dust free. Clean the viewing window as needed with a soft cloth and a mild detergent.

Model Designation

BNH-5011	IP Camera Housing, Sunshield
BNH-5011-PB	IP Camera Housing, PoE, Blower (<1W), Sunshield
BNH-5011-PHB	IP Camera Housing, PoE, Heater (5W max) and Blower (<1W), Sunshield

Description

These camera housings are designed to accommodate IP cameras. They feature easy-access flip-top access to the camera bay and a glass viewing window that won't degrade high-megapixel images. The optional PoE board allows the user to power the camera, fan, and heater (optional) over PoE. PoE (802.3af) injectors or switches can support combined camera/heater/blower up to 15.4W per channel. Cameras exceeding this limit can be powered with a PoE+ (802.3at) injector or switch which allow up to 25.5W per channel.

Hardware Kit

Allen wrench
2 x Hex bolts
2 x Washers
2 x Plugs
1 x Desiccant Bag

Tools Required

Adjustable Wrench
Cross Recessed Screwdriver (Phillips)
Small Flat Blade Screwdriver
Ground Lug Crimper (BNH-5011 only, optional)
Utility knife
¼-20 Screws and Washers (appropriate to attach camera to camera sled)

Certification


Installation should be performed by a licensed professional and conform to the National Electrical Code (NEC) and any applicable local codes.

Installation

1. Install a Wall Mount according to the instructions included with the unit. Approximately 4-inches of cable should extend from the top of the wall mount for internal connections within the camera housing.
2. Use the allen wrench from the hardware kit to open the housing by loosening the side screws.

----- Instructions continue on Page 3-----

IMPORTANT SAFEGUARDS

1. Read Instructions - All the safety and operating instructions should be read before the unit is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the unit and in the operating instructions should be adhered to.
4. Follow Instructions - All operating and use instructions should be followed.
5. Cleaning - Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. Accessories - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only with a stand, tripod, bracket, or mount recommended by the manufacturer or sold with the product. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.
 An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
8. Ventilation - Openings in the enclosure, if any, are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
9. Power Sources - This unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply you plan to use, consult your appliance dealer or local power company. For units intended to operate from battery power or other sources, refer to the operating instructions.
10. Grounding or Polarization - This unit may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. Alternatively, this unit may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
11. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
12. Power Lines - An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits or where it can fall into such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.
13. Overloading - Do not overload outlets and extension cords as this can result in a fire or electric shock.
14. Object and Liquid Entry - Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.
15. Servicing - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. Damage Requiring Service - Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power supply cord or plug is damaged.
 - b. If liquid has been spilled or objects have fallen into the unit.
 - c. If the unit has been exposed to rain or water.
 - d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
 - e. If the unit has been dropped or the cabinet has been damaged.
 - f. When the unit exhibits a distinct change in performance--this indicates a need for service.
17. Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
18. Safety Check - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
19. Coax Grounding - If an outside cable system is connected to the unit, be sure the cable system is grounded. U.S.A. models only--Section 810 of the National Electrical Code, ANSI/NFPA No.70-1981, provides information with respect to proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
20. Lightning - For added protection of this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

FCC NOTICE

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

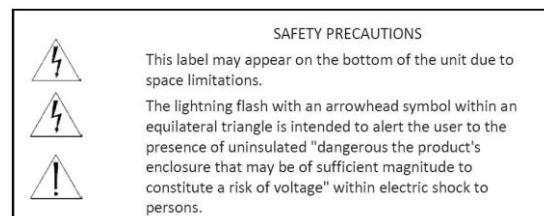
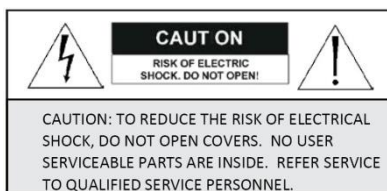
Relocate the monitor away from the TV/radio receiver.

Plug the monitor into a different wall outlet so that the console is on a different branch circuit.

Re-orient the TV/radio antenna.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions.

NOTE: Changes or modifications to the unit may void FCC compliance.



3. Figure 1 shows the silicone grommet that surrounds the cables to prevent water entry. Remove this grommet by removing the plastic cap on the bottom of the housing.



Figure 1 - Remove cap and grommet

4. Slide the tightening cap down the wires with the threaded end in the direction of the ends of the wires.
5. Select the hole in the grommet that is the closest size to the cable(s) used. For each hole used, cut the length of the grommet and slide the grommet around the wire.
6. Run the cables into the housing and re-insert the grommet into the cap in the base of the housing.
7. Tighten the tightening cap hand-tight, then turn it an additional 1/2-turn using an adjustable wrench.
8. Attach the housing to the mount. If using the BWM-5011 Wall Mount, use the allen wrench included with the unit. If using a different mount, use the hex nuts and washers from the housing's hardware kit.
9. Figure 2 shows two plugs from the hardware kit that are inserted into the unoccupied grommet holes. Each plug is stepped to accommodate any of the holes. Insert each plug into any unoccupied holes until it is seated.
10. Remove the camera sled from inside the housing by loosening the two cross recessed screws (do not remove) and sliding the sled towards the rear of the housing.



Figure 2 - Grommet Holes and Plug

11. Attach the camera to the sled using customer-supplied 1/4-20 fasteners and washers.
12. Replace the camera sled into the housing. Slide it as far forward as possible so that the camera lens is approximately 4mm away from the viewing window. Note that the camera lens can extend beyond the end of the lens housing when zoomed in. Ensure that the lens does not contact the housing viewing window throughout its zoom range.
13. Follow the instructions in the following section (depending on the housing model number) to complete the camera and housing wiring.
14. Install the Desiccant bag from the hardware kit in the housing before closing the lid.
15. Close the Housing and tighten the side bolts using the allen wrench from the hardware kit to complete the installation.
16. The sunshield can be removed for installations in indoor or cold environments using a cross recessed (Phillips head) screwdriver.

The following sections describe wiring for the different housing models.

Wiring for BNH-5011 Housing

1. A terminal block is provided for convenience when wiring AC voltage cameras. A grounding connection is provided for mains voltage installations. Use a crimper to terminate the ground wire into the eye terminal and firmly secure to the bracket by tightening the nut using an adjustable wrench. Any devices that require a ground connection can be wired into terminal block position labeled "X".
2. Terminate the network cable or coax cable (camera video) using the appropriate connector and connect to the camera.
3. Power the camera according to the instructions included with the camera. It is recommended to wire AC voltage line/neutral conductors into the terminal block ("L"/"N" positions) to provide added strain relief. Run flying leads (customer supplied) from the terminal block to the camera.
4. Additional devices can be connected to the terminal block using positions labeled "1" and "2". See Figure 3.

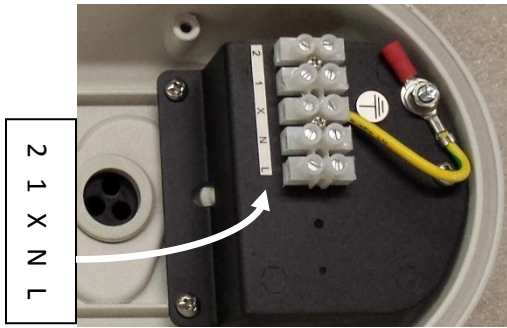


Figure 3 - Terminal Block

- Return to Step 14 in the Instructions section to complete the installation.

Wiring for BNH-5011-PB and -PHB Housings

- Refer to Figures 4 and 5.
- These units include a PoE splitter which allows a single network cable to power the camera, heater, and fan. See the Description section of this manual for additional information.
- Alternatively, 12VDC can be supplied to power 12VDC cameras, heater, and fan. A toggle switch on the bracket in the rear of the housing should be set to "DC Power" if using this option.
- If using PoE, connect the incoming network cable to the RJ45 port labeled "Power & Data In" and check to ensure the toggle switch is set to "POE Power". Connect the short network cable inside the housing to the camera. A red LED on the bracket will light up if PoE is supplied to the system.
- If using DC voltage, check the polarity of the incoming wires and label the wires accordingly. Connect the 12VDC+ conductor to the "+12V In" terminal block port. Connect the 12VDC- conductor to the "GND In" terminal block port. Use customer-supplied hook up wire to connect power to the camera.



Figure 4 - BNH-5011-PHB Housing Interior

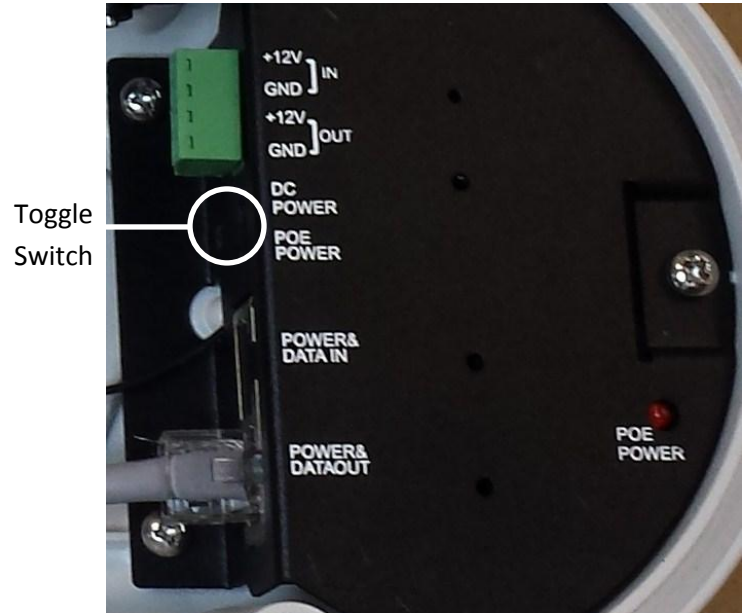


Figure 5 - PoE and DC Connection Bracket

- Return to Step 14 in the Instructions section to complete the installation.