

Marshall

Broadcast A/V Division

CV6XX-HFH

Compact Weatherproof Dome Housing
for PTZ Cameras



User Manual

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CV6XX-HFH - PRODUCT INSTRUCTIONS



**PRODUCT INSTALLATION
PRECAUTIONS – WARNINGS – ADDITIONAL INFORMATION**

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 & user instructions should be followed.
5. **Electrical Connections** - Only a qualified electrician should make electrical connections.
6. **Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards
7. **Cable Runs** - All cable runs must be within permissible distance
8. **Mounting** -This unit must be properly and securely mounted to a supporting structure capable of sustaining the weight of the unit. Accordingly:
 - a. Installation should be made by a qualified installer.
 - b. Installation should be in compliance with local codes
 - c. Care should be exercised to select suitable hardware to install the unit, taking into account both the composition of the mounting surface and the weight of the unit. Be sure to periodically examine the unit and the supporting structure to make sure that the integrity of the installation is intact. Failure to comply with the foregoing could result in the unit separating from the support structure and falling, with resultant damages or injury to anyone or anything struck by the failing unit,

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE COMPONENTS TO WATER OR MOISTURE	
	The lightning flash with an arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance

SERVICE

If the unit is defective and falls within the 1 year warranty, customer should contact Marshall Electronics Inc. (800) 800-6608 for return authorization & shipping instructions

- ✓ For technical questions or product returns – call Marshall Electronics Inc. Customer Service (800-800-6608)

UNPACKING

Unpack carefully. Electronic components can be damaged if improperly handled or dropped. If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. **Be sure to save**

1. The shipping carton and packaging material. They are the safest material in which to make future shipments of the equipment.
2. These Installation and Operating Instructions.

- The External Nut on All electrical wire feed Glands must be tightened to create a weather tight seal prior to putting CV6XX-HFH in service. Failure to create this seal may result in water incursion into enclosure. This may lead to electrical shock, product failure and damage to electrical systems installed within enclosure, including but not limited to damage to camera, heater and blower circuitry, cooling circuitry and other systems installed in unit.

- All screws on hinge, power and ground connections must be tightened to create a weather tight seal. Failure to create this seal may result in water incursion into enclosure. This may lead to electrical shock, failure and damage to electrical systems installed within enclosure, including but not limited to damage to camera, heater and blower circuitry, cooling circuitry and other systems installed in unit.

- Do not over tighten any Screws, Stand Offs or Screws on the enclosure. Failure to heed this warning will cause damage or failure of the CV6XX-HFH enclosure.

20608 Madrona Avenue, Torrance, CA 90503

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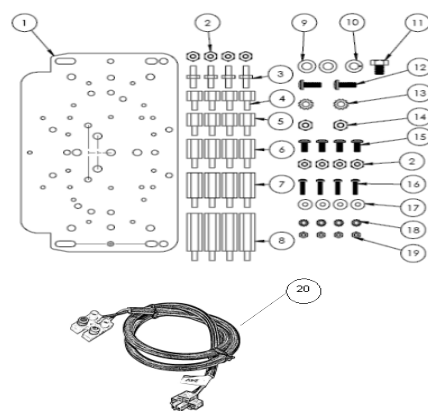
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- Be sure to take extra care to Protect Lens of unit prior to and during installation, and during service. Suspension packaging box is a handy platform to protect lens and enclosure, while installing camera and accessory electronics before installation. Failure to protect lens will adversely affect product perform

Hardware Pack Provided with CV6XX-HFH Housing

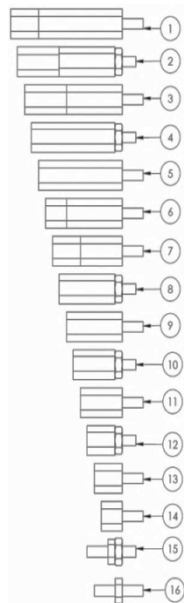
Component Check List Included Standard Hardware for Camera Mounting

ITEM NO.	PART NUMBER	QTY.
1	CB-1007 V4	1
2	#8-32 Hexnut	8
3	0.125in male-male standoff	4
4	0.375in standoff	4
5	0.5" standoff	4
6	0.75" standoff	4
7	1" standoff	4
8	1.5" standoff	4
9	0.25" Narrow Washer	2
10	0.25" Lock Washer	1
11	0.25"-20 -3/5" Long Hex Head Bolt	1
12	#10-32 0.5in Long Screw (Phillips Head)	2
13	#10 Toothed Lock Washer	2
14	#10-32 Hex Nut	2
15	#8-32 0.375" Long Screw (Phillips)	4
16	MS x 0.5 x 13 Long Screw (Phillips Head)	4
17	0.125 Aluminum Backup Washer	4
18	MS Toothed Lock Washer	4
19	MS x 0.5 Nylon Locknut	4
20	24V Input Blue Bypass Cable	1



Stand Off Height Assembly Table for Camera Height Adjustment

ITEM NO.	HEIGHT	STAND OFFS
1	2.000	1 1/2" stand off + 1/2" stand off Or two 1" stand offs
2	1.875	1" stand off + 3/4" stand off + 8-32 Hex nut
3	1.750	1" stand off + 3/4" stand off
4	1.625	1 1/2" stand off + 8-32 Hex nut Or 1" stand off + 1/2" stand off, Plus 8-32 Hex nut Or two 3/4" stand offs + 8-32 Hex nut
5	1.500	Use standard size provided Or 1" stand off + 1/2" stand off Or two 3/4" stand offs
6	1.375	1" stand off + 3/8" stand off
7	1.250	3/4" stand off + 1/2" stand off
8	1.125	1" stand off + 8-32 Hex nut
9	1.000	Use standard size provided Or two 1/2" stand offs
10	0.875	3/4" stand off + 8-32 Hex nut Or 1/2" stand off + 3/8" stand off
11	0.750	Use standard size provided
12	0.625	1/2" stand off + 8-32 Hex nut
13	0.500	Use standard size provided
14	0.375	Use 3/8" standard size provided
15	0.250	Use 1/8" male-male standoff + 8-32 Hex nut
16	0.125a	Use 1/8" male-male standoff
17	0.125b	Or: Use #8-32 Hex nut



MVP Voltage Matrix: Enclosure Input – Camera Output

Input Voltage to Enclosure

The MVP Enclosures can be powered by Inputs of either High Voltage **110-220 VAC**. Or Low Volt **24 VAC/ VDC**

Site Power Available

110 – 220 VAC
Power Source – Single Phase Only



Or

Site Power Available

24 VAC/VDC
Step Down Transformer
High Voltage to 24 VAC



Voltage Matrix for Input / Output

Input Voltage: To Power D2	Output Voltage: To Power Camera		
	12V DC +	24V AC ~	24V DC +
110-220 VAC ~	✓		✓
24V AC ~	✓	✓	
24V DC +	✓		✓



Output Voltage to Power Camera

MVP provides step down voltage to supply camera power for 12VDC, and 24V Cameras. 24V Camera Supply 24V output depends on Site Power Input, for either 24V Direct Current, or Alternating Current (see table above)

Power Chassis integrated into MVP

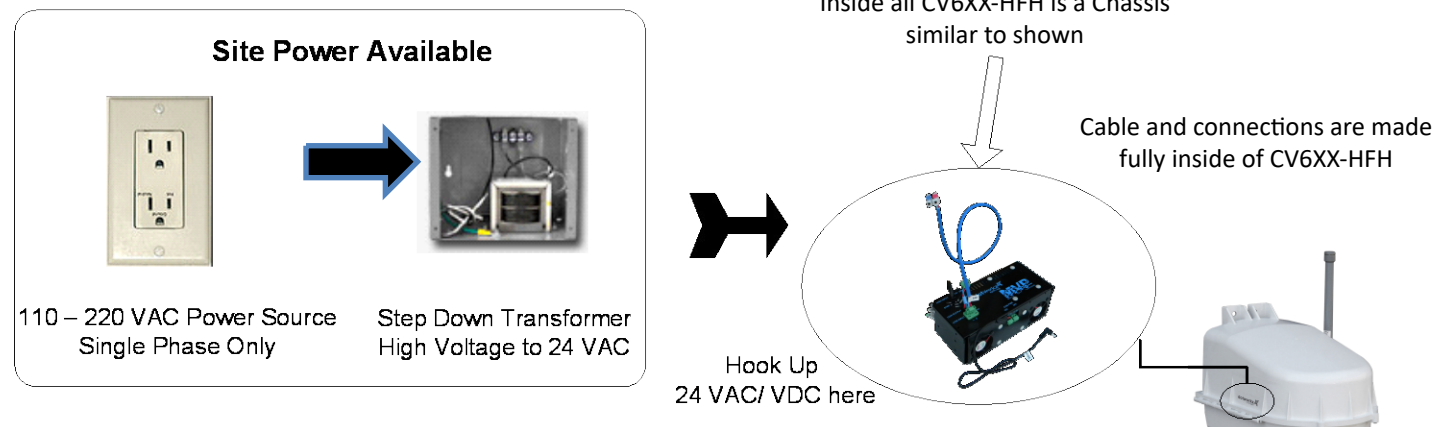


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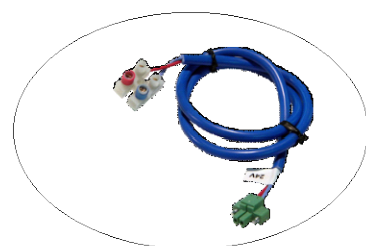
Input Power Configuration for 24 VAC/ VDC



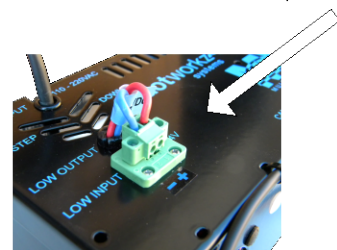
The MVP comes ready for 110-220VAC Input power

To use 24 VAC/VDC you must take a moment to allow input configuration for Low Voltage Input USE Blue 24 VAC Bypass Cable to hook up power inside CV6XX-HFH

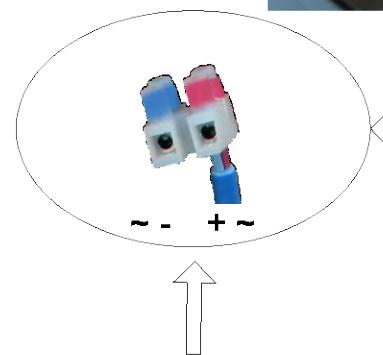
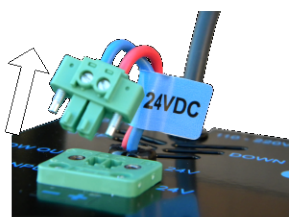
Locate 24V Blue Bypass Cable in Hardware Pack Provided



Locate Green Plug on Chassis Then Unplug from panel mount socket, then push aside



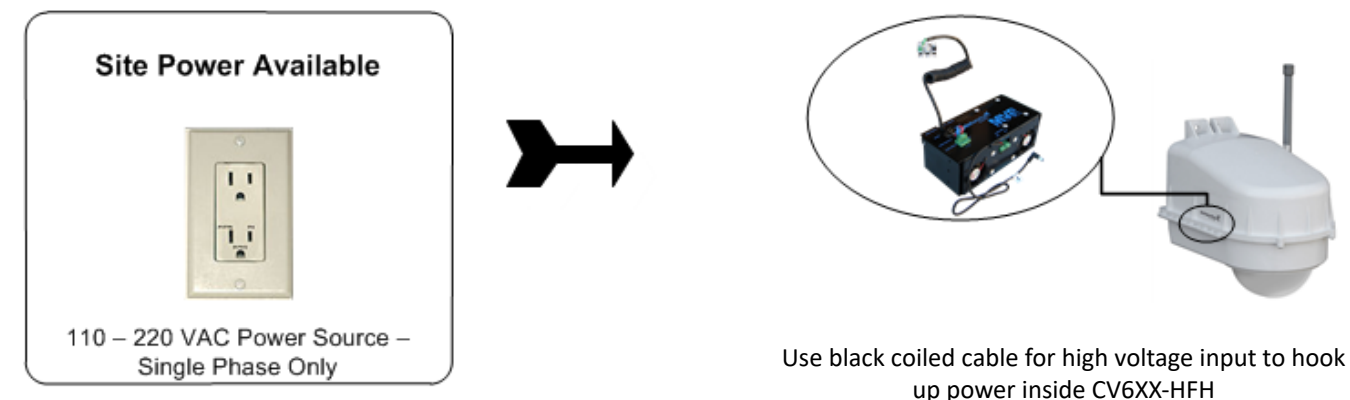
Then insert similar Plug on Blue Bypass Cable Tighten screws on plug to secure



Run 24V into CV6XX-HFH and Connect wires to appropriate color coded terminal shown here



Input Power Configuration for 110 – 220 VAC



Run 110-220 VAC into CV6XX-HFH and connect wires to appropriate color coded terminal shown here



Input Specifications

Input Voltage: 90-264 VAC, (127-370 VDC)
 Frequency Range: 47- 63 HZ
 Input Current @ Full Load(Typ.): 1.8A@115VAC, 1.0A@230VAC
 Recommended Min. Circuit Breaker: 6 A (type C)
 Int. Electrical Working Temp*: -20 ~ +70C
 MTBF: 353.6Khrs min. MIL-HDBK-217F(25C)

High Voltage A/C Typical Conventions, single phase (USA wiring convention):

Color	Symbol	Description
Black	L	Line Conductor, aka: "Hot" wire
White	N	Neutral Conductor
Green	G	Ground Wire, Chassis Ground

Power Available to Camera & Accessories (max.)

MVP using 110/ 220 VAC input to CV6XX-HFH

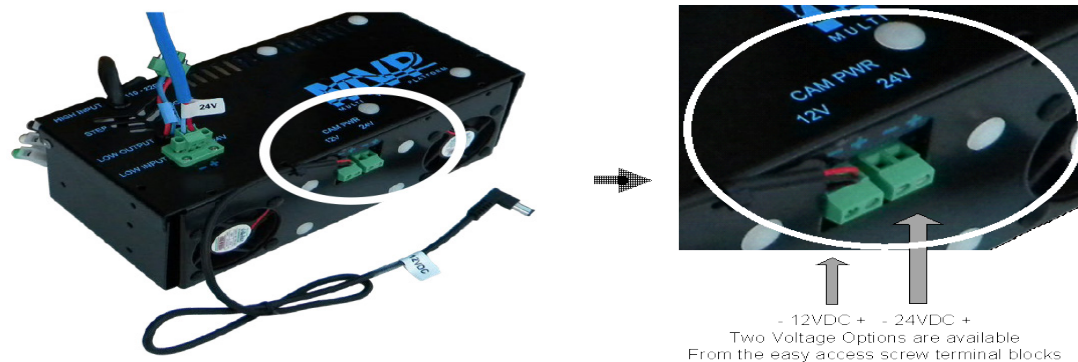
Using ONE Output: 2000C or 2510C
 Using BOTH Output Channels (12VDC & 24VDC)

Model	12VDC Output	24VDC Output	Total
Heater Blower	25 watts	or 25 watts (A) watts	+ (B) watts = 25 watts total
Tornado	25 watts	or 25 watts (A) watts	+ 15 watts = 40 watts total
Ring of Fire	25 watts	or 25 watts (A) watts	+ (B) watts = 25 watts total

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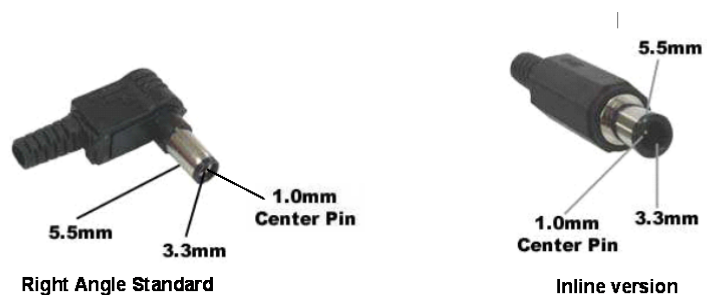
Camera Power / Output Power for MVP



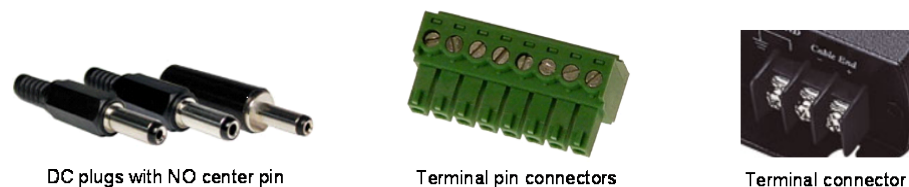
The MVP comes prewired with a 12VDC power cable ready to plug in to some of the most common camera models. However, if your camera has a different power need, the MVP can easily adapt to most camera power needs.

Camera Power Setup (STANDARD 12VDC CONNECTOR)

All CV6XX-HFH environmental enclosures come standard with a 12VDC Right Angle Barrel Plug (3.3mm x 5.5mm with a 1mm center pin) for a majority of the IP cameras on the market.



If your IP camera's power connector is different but still accepts up to ~ 13VDC for power, please see our section on **Camera Power Setup (NON-STANDARD CONNECTOR)** for instructions on how to power your camera. Below are pictures of typical NON-STANDARD CONNECTORS.

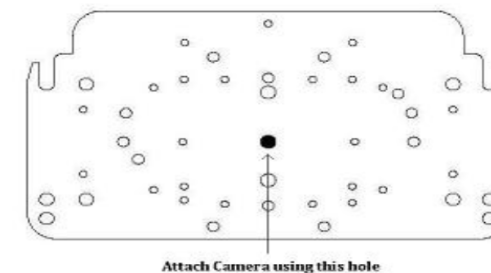


If your IP camera's power requirements are for **24 VAC ONLY**, please make sure that the CV6XX-HFH Environmental dome that you purchased is a **24VAC** version. Cameras that run on **24VAC** will not work with the **12VDC** and **110-240VAC** versions of our CV6XX-HFH Environmental domes.

***NOTE:** The only way a 24VAC camera will work on our 12VDC and 110-240VAC dome is if you, the customer, provide a separate power lead into the dome for your camera. We have designed our domes to be simple and efficient when it comes to powering our environmental component and camera. So when it comes to cameras with 24VAC power requirements, we **RECOMMEND** the 24VAC versions of our Environmental domes for proper installation.

Camera Installation

The CV6XX-HFH Enclosure series can accommodate mini-domes and PTZ cameras as tall as 9.375 inches in height. Our standoff combination includes supported heights of **0.50", 0.74", 1.00", 1.25", 1.50", 1.75", 2.00", 2.25", 2.50", 2.75", 3.00", and 3.75"**. These standoff heights can be applied to upper and lower mount locations based on the height of your camera. Most cameras will often utilize a center screw hole for securing the camera onto the plate.



If your camera has other mounting capabilities, then center the camera on our camera bracket and check to see if it aligns with any of the pre-made holes on the camera bracket. If it does, great you can use the pre-made holes. If it doesn't, you can mark the holes needed and drill them into the camera plate (steel plate).

For power, all of our CV6XX-HFH Environmental Enclosure Series come standard with a 12VDC Barrel plug with a center pin. If your camera does not support this, then check our section on **Camera Power Setup (NON-STANDARD CONNECTOR)** for details.



Lower Lens Section



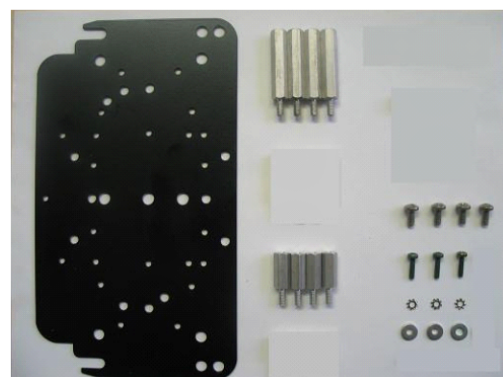
Upper CV6XX-HFH Dome Section

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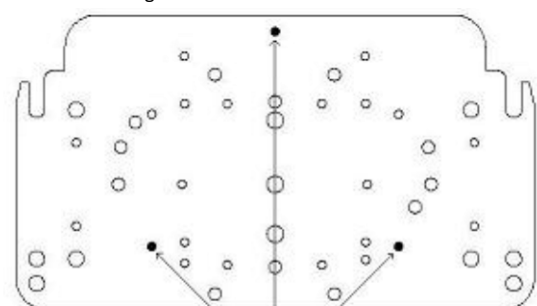
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Installing Camera Bracket

In order to mount the CV612/CV620/CV630 CAMERA you must install the PTZ cameras included Ceiling Mount (CV620-CM-KIT) This will allow for hole alignment on the CB-1007 V4 MOUNTING PLATE.



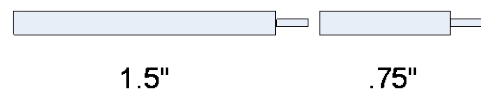
This edge nests in arch at front of CV6XX-HFH



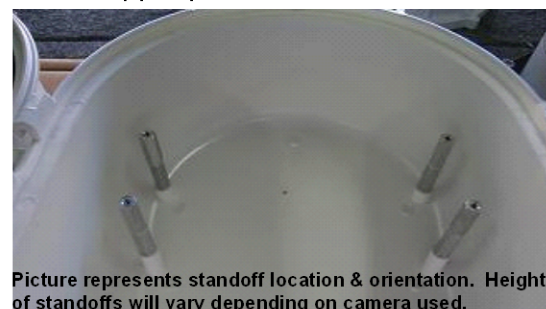
This edge of the bracket faces back of the CV6XX-HFH enclosure
Attach Camera using these 3 holes

1. Install the PTZ camera onto the CV6XX-HFH Camera Bracket with (3) m3-.5, (3) m3 external lock washers, and (3) m3 1/8" washer that are included.

2. The PTZ camera requires a 2.25" spacing for optimal fit and operation. Use (1) 1.5" standoffs and (1) .75" standoff that are provided to create a 2.25" standoff. You will need to create 4 of these with the included hardware.



3. The 2.25" standoffs will be inserted on the upper portion of the CV6XX-HFH



Picture represents standoff location & orientation. Height of standoffs will vary depending on camera used.

4. Now slide the camera bracket with the camera into place to line up with 4 screws holes from the standoffs.

5. Use (4) #8-32 screws (Phillips head) to secure the bracket into place.



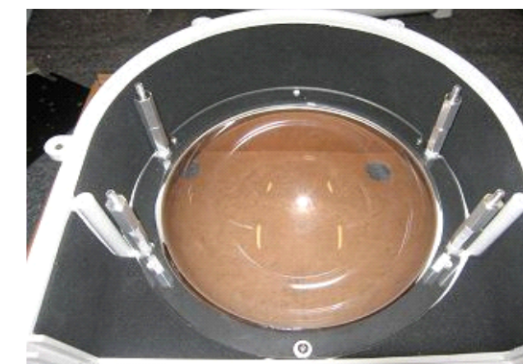
Tip: Insert (2) #8-32 screws in the front two standoffs to provide a guide to slide the camera bracket into. The last two corner holes should line up and be secured last.



Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the CV6XX-HFH camera bracket based on instructions.

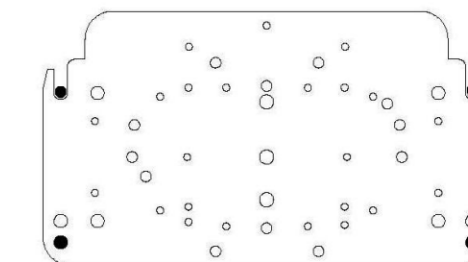
Installing Camera Bracket

3. The 2.0" standoffs will be inserted on the lower lens portion of the CV6XX-HFH



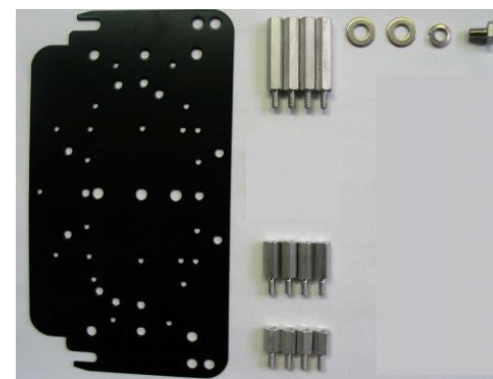
Picture represents standoff location & orientation. Height of standoffs will vary depending on camera used.

4. Now slide the camera bracket with the camera into place to line up with 4 screws from the standoffs.

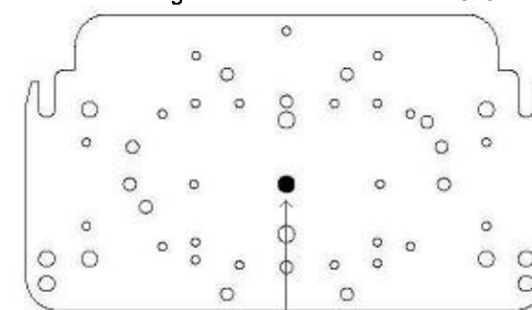


5. Secure the plate by using (4) .75" standoffs to lock the bracket in place. The two front location will require the use of (2) .25" washer.

Required components (see component checklist): Part# 1,2,3,5,6,7,& 8



This edge nests in arch at front of CV6XX-HFH

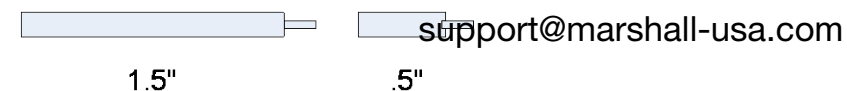


Attach Camera using this hole

This edge of the bracket faces back of the CV6XX-HFH Enclosure

1. Install the PTZ camera onto the CV6XX-HFH Camera Bracket center hole with (1) .25"-20 3/8" Long Bolt, and (1) .25" Lock Washer that are included.

2. The PTZ camera requires a 2.0" spacing for optimal fit and operation. Use (1) 1.5" standoff and (1) .5" standoff that are provided to create a 2.0" standoff. You will need to create 4 of these with the included hardware.



Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the CV6XX-HFH camera bracket based on instructions.

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Electrical Conduit Guidelines

For optimal performance, your CV6XX-HFH Enclosure is designed to be air & water tight to eliminate any moisture, dust, and insect damage that can cause performance, reliability and maintenance related issues.

Use of Electrical Conduit, without sealing the entry ports/ inside wire feeds within Camera Enclosure, will subject the inside of your enclosure to possibility of condensation driven moisture, dust, and insect contamination hazards. Always follow local and national electrical codes for installation. Installation should always be done by a qualified service technician.



Marshall has provided each CV6XX-HFH with two Cable Gland Strain Relief seal ports that fully seal enclosure to an IP68 rating, Waterproof and Airtight Seal. (Holes on enclosure are 7/8" diameter, ready for standard 1/2" I.D. NPT connector, or PG13 fittings.)

However, we realize our customers are retrofitting these connectors with electrical conduit fittings. We acknowledge this industry customization and installation practice, and would like to make these suggestions for customers to properly install these products.



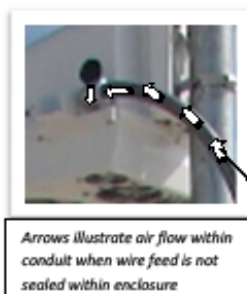
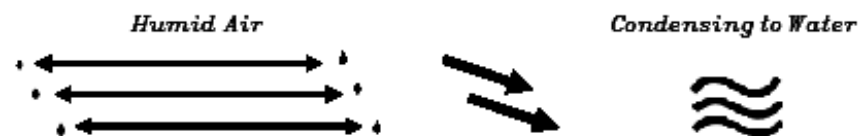
Conduit Suggestions:

- 1) If wires, cabling, or conduit are coming at enclosure wire entry level, or above, always create a drip loop.
- 2) Please use only approved watertight electrical conduit and connectors, IP66 or better, with proper seals and fittings installed & fully seal.
- 3) **Then, after all wire and cables are installed into enclosure, Seal wire entry ports inside of enclosure** with any number of commercially available sealing putty's, Silicone Sealant, or similar products that are approved by applicable local and relevant electrical codes.

Marshall supplies two 1/2" diameter foam conduit plugs, that when installed, will assist in sealing off airflow in conduit feed thru, at cable entry inside of enclosure. Putty or Sealant can be used in conjunction with these plugs, to assure a full seal inside enclosure cable feed entry.

FORCES AT WORK IN ANY UNSEALED, CONDUIT WIRE FEED ENCLOSURE SYSTEM

WARM/MOIST IN UNSEALED CONDUIT MOVES THRU CONDUIT FEEDS EXPAND & CONTRACT WHEN CONDUIT HEATS & COOLS WITH OUTSIDE TEMPERATURES → EXPANDING HEATED AIR IS PUSHED INTO ENCLOSURE THEN COOLS & CONDENSES, HUMID AIR CONDENSES ON SURFACES INSIDE ENCLOSURE



SHOCK HAZARD!
Failure to fully seal enclosure wire and cabling entry ports may lead to **shock hazard, unsatisfactory product performance, a possibility of damage to electronics including camera damage, and damage to integrated electronics due to air collecting in the enclosure** driven moisture traveling thru the conduit, condensing and creating a short circuit hazard.



Electrical Putty

Silicone Sealants

Foam Sealants (use very sparingly)

Marshall does not endorse, nor has it evaluated any of these products. Test products first, and follow all manufacturers' instructions. Follow all applicable electrical and building codes and installation guidelines. End user assumes liability for applicability of these products and their effectiveness and incurred liability in using these products.



IMPORTANT



VENT STOPPER PLUGS for CONDUIT
Foam Conduit Feed Plugs for 1/2" I.D. Conduit Fittings



Conduit Feeds Must Be Sealed for Safe and Satisfactory Product Performance.

Conduit Stopper Plugs prevent Humid Air exchange from venting through external conduit into Marshall sealed enclosure, when conduit is used with Marshall enclosures. Vent Stopper Plugs eliminate conduit driven condensation in surveillance camera enclosures, or other outdoor enclosure products.

QUICK INSTALLATION GUIDE



1) Pull wires to final installed length.



2) Open Vent Stop Plug and install over wire.



3) Pinch Plug to compress over wire, and insert into conduit feed mouth.



4) Push plug into conduit mouth with finger tips till it flush with outside of fitting.



5) Repeat steps 1-4 for any other conduit feeds as needed.



6) To assure an airtight seal, caulk around wires and cables, coating entire plug surface with sealant.

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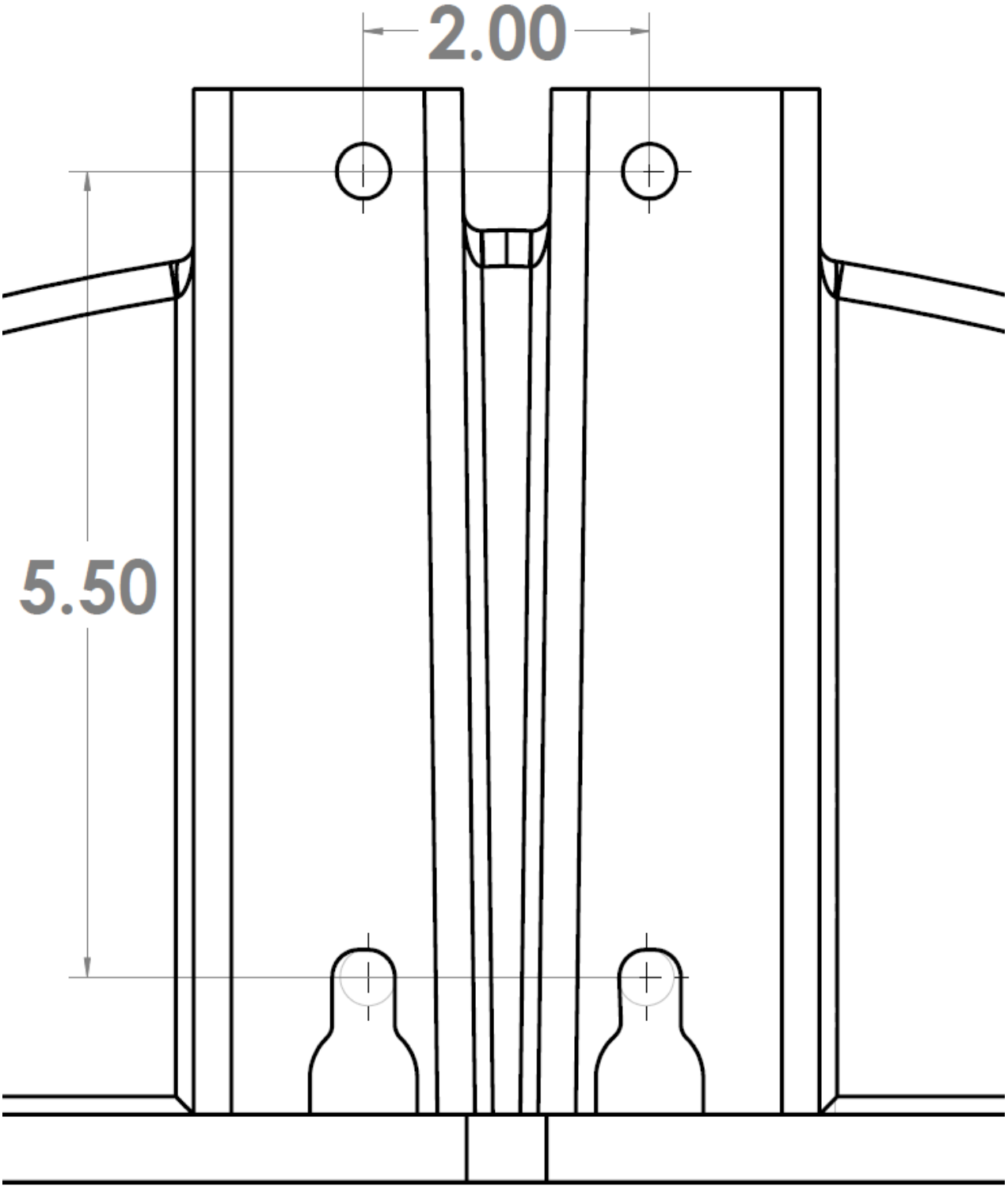
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CV6XX-HFH Exploded Detail

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CV6XX-HFH Mounting Detail



**3/8" Dia. Bolt Clearance Holes/ Key slots (4)
All dimension in inches**

Warranty _____

For Warranty information please refer to Marshall website page:

<https://marshall-usa.com/company/warranty.php>

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