



## PRODUCT USER MANUAL

## INSTALLATION GUIDE

# D2 COOLDOME™ ENCLOSURE



Product Models:

D2-CD-12V

D2-CD-24V

# Table of Contents

Limited Warranty Info .....	0
Product Installation Precautions, Warnings, and Installation Guidelines .....	1
Electrical Conduit Guidelines .....	2
Vent Plugs Installation Guide .....	3
Cable Management.....	4
Wiring, Humidity Control, and Mounting Housing.....	5
D2 Component Checklist & Camera Mount Brackets.....	6
Recommended Installation Tools.....	7
COOLDOME Input Configuration.....	8
Wire Gage Selector Charts for Low Voltage Cable Run.....	9
Input Power Configuration for CD.....	10
Camera Power Setup (Standard 12VDC Connector and NON-STANDARD 12VDC CONNECTOR).....	11
Camera Installation (Generic) .....	12
Camera Height Adjustment .....	13
Camera Bracket Installation.....	14-22
Axis 213 PTZ / Canon V6-C50iR .....	14
Axis 214 PTZ .....	15
Axis 231D & 232D.....	16
Axis 233D PTZ .....	17, 18
Canon VB-C300 .....	19
Panasonic NS-202 .....	20
Panasonic BB-HCM 381 / 580 / 581 & KX-HM C280.....	21
Sony RZ25N .....	22
Sony RZ50N .....	23
Sony RX550N .....	24
Toshiba WB21A .....	25, 26
For info on All Non-Listed Camera, Please Call: Dotworkz Support (866) 575-4689 or online @ <a href="http://www.dotworkz.com">www.dotworkz.com</a> support	
Steady Step Accessory Mounting Instructions.....	27
D2 Exploded View .....	28
D2 Mounting Template.....	29



# LIMITED WARRANTY

## DOTWORKZ, INC. PRODUCTS

**DOTWORKZ SYSTEMS INC.** Warrants this Product to be free from defects in material or workmanship, as follows:

PRODUCT CATEGORY	PARTS	LABOR
All Enclosures and Electronics	One (1) Year	One (1) Year
Power Supplies	One (1) Year	One (1) Year
Accessory Brackets	One (1) Year	One (1) Year

During the warranty period, to repair the Product the Purchaser will deliver it to Dotworkz Systems Inc. San Diego, CA, or return the defective product, freight prepaid. The Product to be repaired is to be returned in either its original carton or a similar package presenting an equal degree of protection with a Return Materials Authorization number displayed on the outer box or packing slip. To obtain RMA # you must contact our Technical Support Team at **866-575-4689**. Dotworkz Systems will return the repaired Product, freight paid. Dotworkz Systems is not obligated to provide Purchaser with a substitute unit during the warranty period or at any time. After the applicable warranty period, Purchaser must pay all labor and/or parts and shipping charges.

The limited warranty stated in these product instructions is subject to all of the following terms and conditions:

- 1. NOTIFICATION OF CLAIMS: WARRANTY SERVICE:** If Purchaser believes that the Product is defective in material or workmanship, then a written notice with an explanation of the claim shall be given promptly by Purchaser to Dotworkz Systems but all claims for warranty service must be made within the warranty period. If after investigation Dotworkz Systems determines that the reported problem was not covered by the warranty, Purchaser shall pay Dotworkz Systems for the cost of investigating the problem at its then prevailing per incident billable rate. No repair or replacement of any Product or part thereof shall extend the warranty period as to the entire Product. The specific warranty on the repaired part only shall be in effect for a period of ninety (90) days following the repair or replacement of that part or the remaining period of the Product parts warranty, whichever is greater
- 2. EXCLUSIVE REMEDY: ACCEPTANCE:** Purchaser's exclusive remedy and Dotworkz System's sole obligation is to supply (or pay for) all labor necessary to repair any Product found to be defective within the warranty period and to supply, at no extra charge, new or rebuilt replacements for defective parts
- 3. EXCEPTIONS TO LIMITED WARRANTY:** Dotworkz Systems shall have no liability or obligation to Purchaser with respect to any Product requiring service during the warranty period which is subjected to any of the following: abuse, improper use, negligence, accidents, lightning damage or other acts of God (i.e., hurricanes, earthquakes), modification, failure of the end-user to follow the directions outlined in the product instructions, failure of the end-user to follow the maintenance procedures written and recommended in the product instructions and service manual, or recommended by the International Security Industry Organization. Furthermore, Dotworkz Systems shall have no liability where a schedule is specified for regular replacement, maintenance or cleaning of certain parts (based on usage) that the end-user has failed to abide to such schedule; attempted repair by non-qualified personnel; operation of the Product outside of the published environmental and electrical parameters; if such Product's original identification (trademark, serial number) markings have been defaced, altered, or removed. Dotworkz Systems excludes from warranty coverage Products sold AS IS and/or WITH ALL FAULTS and excludes used Products which have not been sold by Dotworkz Systems to the Purchaser. All software and accompanying documentation furnished with, or as part of the Product is furnished "AS IS" (i.e., without any warranty of any kind), except where expressly provided otherwise in any documentation or license agreement furnished with the Product.
- 4. PROOF OF PURCHASE:** The purchaser's dated bill of sale must be retained as evidence of the date of purchase and to establish warranty eligibility.



**DISCLAIMER OF WARRANTY** EXCEPT FOR THE FOREGOING WARRANTIES, DOTWORKZ SYSTEMS HEREBY DISCLAIMS AND EXCLUDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY AND/OR ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND/OR ANY WARRANTY WITH REGARD TO ANY CLAIM OF INFRINGEMENT THAT MAY BE PROVIDED IN SECTION 2-312(3) OF THE UNIFORM COMMERCIAL CODE AND/OR IN ANY OTHER COMPARABLE STATE STATUTE. DOTWORKZ SYSTEMS HEREBY DISCLAIMS ANY REPRESENTATIONS OR WARRANTY THAT THE PRODUCT IS COMPATIBLE WITH ANY COMBINATION OF NON-VIDEOLARM PRODUCTS OR NON-DOTWORKZ SYSTEMS RECOMMENDED PRODUCTS THAT THE PURCHASER CHOOSES TO CONNECT TO THE PRODUCT.

**LIMITATION OF LIABILITY** THE LIABILITY OF DOTWORKZ SYSTEMS, IF ANY, AND PURCHASER'S SOLE AND EXCLUSIVE REMEDY FOR DAMAGES FOR ANY CLAIM OF ANY KIND WHATSOEVER, REGARDLESS OF THE LEGAL THEORY AND WHETHER ARISING IN TORT OR CONTRACT SHALL NOT BE GREATER THAN THE ACTUAL PURCHASE PRICE OF THE PRODUCT WITH RESPECT TO WHICH SUCH CLAIM IS MADE. IN NO EVENT SHALL DOTWORKZ SYSTEMS BE LIABLE TO PURCHASER FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING BUT NOT LIMITED TO COMPENSATION, REIMBURSEMENT OR DAMAGES ON ACCOUNT OF THE LOSS OF PRESENT OR PROSPECTIVE PROFITS, OR FOR ANY OTHER REASON WHATSOEVER.

## PRODUCT INSTALLATION PRECAUTIONS – WARNINGS – ADDITIONAL INFORMATION (RETAIN THIS DOCUMENT)

### 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 falling 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 ever needs repair service, customer should contact Dotworkz Systems +1 (619) 224-LIVE (5483) for return authorization & shipping instructions

### 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.

- ✓ For technical questions or product returns – call Dotworkz Customer Service (866-575-4689) 7:30 AM to 4:30 PM (PST). The proper technician will contact you as soon as possible.
- The External Nut on All electrical wire feed Glands must be tightened to create a weather tight seal prior to putting D2 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 hinged lower must be tightened to create seal on enclosure. 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 other fasteners on this unit. Failure to heed this warning will cause damage or failure of the D2 enclosure.
- 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



## Electrical Conduit Guidelines

For optimal performance, your Dotworkz Enclosure is designed to be Air & Water Tight to eliminate any moisture, dust, and insect damage, safety, 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.



Dotworkz has provided each enclosure with two Cable Gland Strain Relief seal ports that fully seal enclosure to an IP68 rating, Waterproof and Airtight Seal. To properly seal, only one round cable is used in each cable gland port. (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 guide customers to properly install these products.

### Conduit Guidelines:

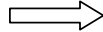
- 1) If wires, cabling, or conduit are coming at enclosure wire entry level, or above, always create a drip loop.
- 2) Please use only approved watertight electrical conduit and connectors, IP66 or better, with proper seals and fittings installed & fully seal.
- 3) **Then**, after all wire and cables 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.



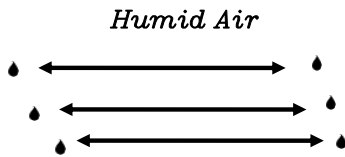
Dotworkz supplies two 1/2" diameter foam conduit plugs, that when installed, will assist in sealing off airflow in conduit feed thru, at cable entry inside of enclosure. Putty or Sealant can be used in conjunction with these plugs, to assure a full seal inside enclosure cable feed entry.

### 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



Condensing to Water



**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 in the Dotworkz enclosure product, including camera damage, and damage to integrated electronics** due to air driven moisture traveling thru the conduit, condensing and collecting in the enclosure creating a short circuit hazard.



Electrical Putty & Putty Tapes



Silicone Sealants



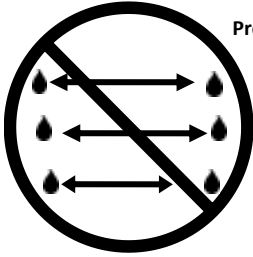
Foam Sealants (use very sparingly)

Dotworkz 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.

## VENT STOPPER PLUGS for Conduit



### Foam Conduit Feed Plugs for 1/2" I.D. (PG-13) Conduit



Prevents Humid Air exchange from venting thru electrical conduit into Dotworkz sealed enclosures,

Thus eliminating condensation issues within Dotworkz sealed enclosures.

### QUICK INSTALLATION GUIDE



1) Pull wires to final installed length.



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



2) Open Vent Stop Plug and install over wire.



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



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



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

## Proper Cable Management to Enclosure

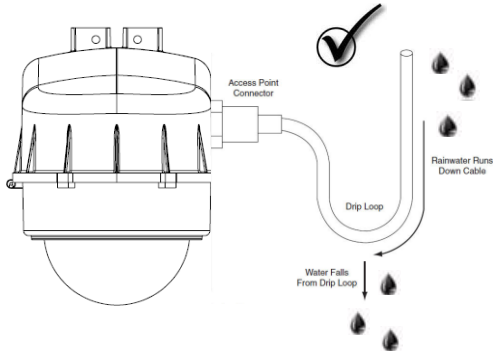
### Avoid common Installation Mistakes



Only Use Qualified Installation or Service Technician for Installing & Servicing Dotworkz Enclosures.  
 Power Must be disconnected and kept off while installing or Servicing Enclosure.  
 Follow All Local and Applicable Electrical Codes and Standards for Installation of Electrical components.

All Cable Ports, wire feeds, or Conduit **must be fully sealed** to eliminate moisture within Enclosure.  
 All Dotworkz Enclosures are required to be fully sealed before placing into service, to protect integrated products, to eliminate any moisture driven shock hazard, to perform optimally as designed.

### DRIP LOOPS



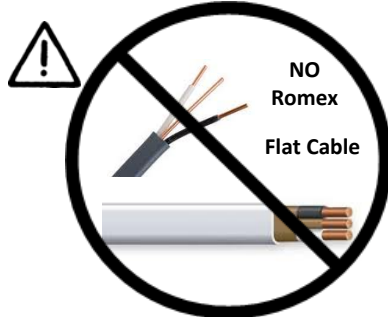
**Always Create a Drip Loop** for all Cables or Conduit Entering Dotworkz D2 Housing from level or Above D2 Conduit, Power, Data, & Antennae To avoid gravity driven moisture entry into Enclosure

### Cable Gland Strain Relief Port Seals

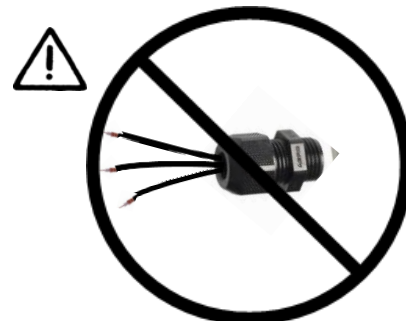
To properly seal, Dotworkz Cable Gland Strain Relief Ports will only accept **One single round cable per port**



- \* SJOOW
- \* Cat5/ Cat6
- \* Coaxial



Use Round Cable Only with provide Cable Gland Port Seal



Dotworkz Standard Cable Gland Port Seals are designed for **ONE** single round cable only per port

*Cable can be multi-conductor in single round cable bundle such as Cat5/ 6e (burial rated), or Conductor cable SJOOW (water rated)*

### Conduit

If Conduit is used in Lieu of Cable Gland Port Seals provided, Then Use Only Liquid Tight Conduit & fittings properly sealed.



+



+



=



**Internal Wire feeds must be fully sealed** prior to placing Enclosure into Service.  
 See Conduit Guidelines section of this manual.

**COOLDOME™ Wiring**



Dotworkz D2-CD Operates using low voltage only, and creates ample currents when cooler is engaged.

Follow relevant Cable Gauge Guidelines provide in this document applicable to your product model.  
Dedicated 12 VDC or 24 VDC models

**Dotworkz Humidity Removal Canister**



Dotworkz Provides a Humidity Removal Canister ***must be installed into COOLDOME*** prior to entering enclosure into service.

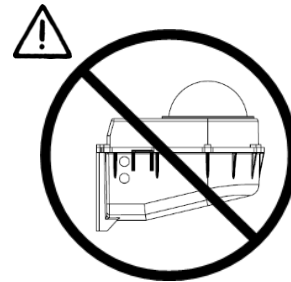
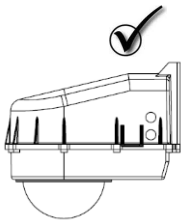
Active Cooler within COOLDOME lowers temperature to at or near dew point within D2 COOLDOME, so trapped air must be dried out to eliminate condensation issues. The sealed air is efficiently dried out by this desiccant canister, which provides a color coded saturation state window.

It must be removed from its foil envelope, and can be installed on shelf next to cooler, or above camera on camera mounting plate. See installation section for service info on this product.

**Dotworkz D2 Mounting Guidelines**

Dotworkz D2 Seals & drip edges are engineered for horizontal installation Only: Dome bubble faces down.

Vertical and dome-up installations are not advised, and will be prone to moisture incursion within housing, and will void warranty.



**D2 & COOLDOME™ Accessories & Mount Options**

Your D2 COOLDOME is wall mount ready, but can be Installed with a number of Dotworkz Optional Mounts (sold separately)

KT-CDR2 Outdoor CD Power Pole Mount Kit



NM-CDPS NEMA for CD Power Supply



BR-PSA1



BR-APM1



BR-MPM1



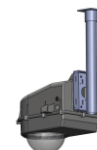
BR-MPM1-AC



BR-CNR1



BR-ECB1

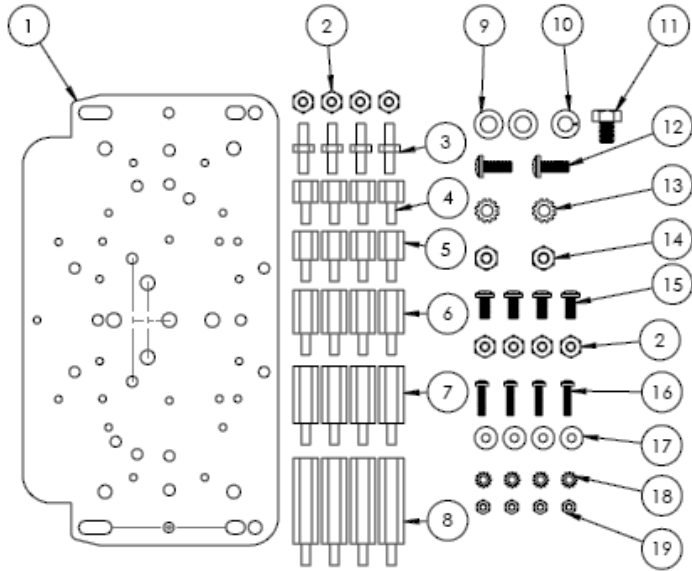


BR-MPM1  
With common  
Pipe anchor for  
pendant mounting

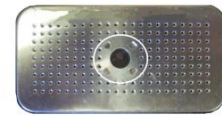


## Component Check List Included Standard Hardware for Camera Mounting & Provided COOLDOME Accessories

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 .375" 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	M3 x 0.5 x 13 Long Screw (Phillips Head)	4
17	0.125 Aluminum Backup Washer	4
18	M3 Toothed Lock Washer	4
19	M3 x 0.5 Nylon Locknut	4



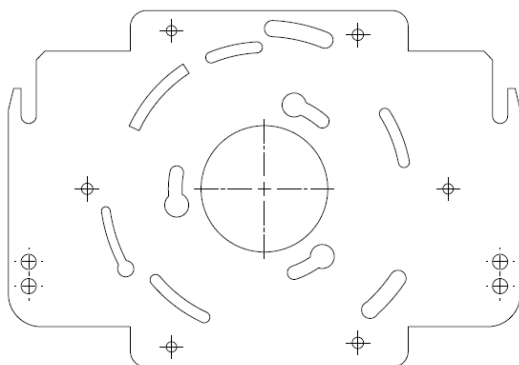
S-250-12V or S-250-24V  
Step Down Power Supply



KT-HRC1  
Humidity Removal Canister

### Optional BR-AXBR Camera Mount Bracket for Larger Cameras

(Request BR-AXBR at time of order for listed camera models)



**Optional BR-AXBR Bracket Direct Compatibility:**

(Available by special order)

Axis 231D, & 232D

DVTeI 9840

Merit-LiLin PIH-7000/7600/7625

PiXORD P-463T Fast Speed Dome

Pelco Spectra IV

Sony SNCRH124, SNC-RS44N, SNC-RS46N

Toshiba IK-DP30A

## Tools Recommended for Enclosure & Camera Mounting

Hand Tools



Drill & Bits



Pole Strapping Tools



- #1 & #2 Phillips head screw driver
- #1 Flat Blade screw driver or *smaller*
- 3/8 Socket wrench, nut driver, or adjustable wrench
- 5/16 Socket wrench, nut driver, or adjustable wrench
- 7/16 Socket wrench, nut driver, or adjustable wrench
- 7/32 Socket wrench, nut driver, or adjustable wrench
- 11/32 Socket wrench, nut driver, or adjustable wrench
- Wire stripping tool
- Caulk Gun & Silicone Sealant



### For Wall Mounting

- Drill and Bits for user supplied fasteners for wall mounting enclosure

### For Pole Mounting

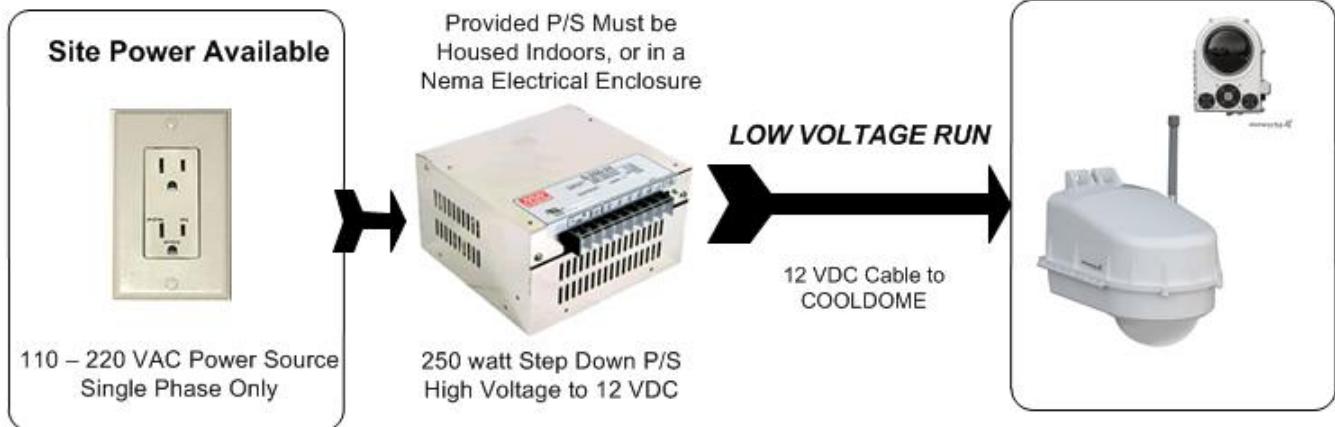
- Strapping / Banding Tools for user supplied Stainless Steel Pole Straps

### For other needed Mounting Styles:

\*\*See Dotworkz for Available Optional Mounting Brackets for a wide selection of Enclosure Mounting Styles @ [www.dotworkz.com](http://www.dotworkz.com), or ask your favorite distributor or Sales Associate, or call Dotworkz Support (866) 575-4689

**Dotworkz D2 COOLDOME accepts four (4) 3/8" Bolts** or Lag Screws to Wall Mount  
See Mounting Template at back of this manual for hole pattern.  
(Customer provides enclosure mounting hardware)

## COOLDOME Input Power Configuration: D2-CD-12VDC



Turn Off Power or leave power disconnected during Installation of All Wiring.  
Follow all local and relevant electrical codes & standards.

Test all Wiring and confirm correct voltages before wiring up & powering up D2 COOLDOME.

Select Input Voltage before Hooking up Power Supply 110 VAC or 220 VAC

Rear of Power Supply with Input Voltage Selector



Front of Power Supply with terminal strip



### High Voltage A/C Input, Single Phase, USA Wiring Color Code

Color	Symbol	Description
Black	L	Line Conductor, AKA Live, Hot
White	N	Neutral Conductor
Green	G	Ground Conductor, Safety Ground

### Low Voltage 12 VDC Output Terminals

Color	Symbol	Description
Red	+, V+	Positive VDC
Black	-, V-	Negative VDC

LOW VOLTAGE RUN: Wire Gauge Chart

## Low Voltage Line Drop Wire Gauge Tables

See 12 VDC & 24 VDC Wire Gage Selector Charts – Next Page

## Wire Gage Selector Charts

**12 amps**

12 Volts D/C Voltage Drop For D2 & ST COOLDOME™

Wire Gauge in AWG (below)	feet						
Distance (ft)>>	1.0	10.0	20.0	30.0	40.0	50.0	100.0
4.0	0.006	0.062	0.124	0.186	0.248	0.310	0.620
6.0	0.010	0.098	0.196	0.294	0.392	0.490	0.980
AWG 8.0	0.016	0.156	0.312	0.468	0.624	0.780	1.560
10.0	0.025	0.248	0.496	0.744	0.992	1.240	2.480
12.0	0.040	0.400	0.800	1.200	1.600	2.000	4.000
14.0	0.063	0.628	1.256	1.884	2.512	3.140	6.280

multiplier  
vdc drop/ft

drop (vdc)/ distance (ft)

Acceptable line drop for Wire Gauge and Distance

Excessive line drop for Wire Gauge

Above includes 10 amps max. current draw on Static Cooled Enclosure, with 2 amps for max. camera pwr  
Fused circuitry will allow up to 15 amps @ 12 vdc.

Tables above allow for 10% or less voltage line drop

**8 amps**

24 Volts D/C Voltage Drop For D2 & ST COOLDOME™

Wire Gauge in AWG (below)	feet						
Distance (ft)>>	1.0	10.0	20.0	30.0	40.0	50.0	100.0
4.0	0.004	0.042	0.084	0.126	0.168	0.210	0.420
6.0	0.007	0.066	0.132	0.198	0.264	0.330	0.660
AWG 8.0	0.011	0.105	0.210	0.315	0.420	0.525	1.050
10.0	0.017	0.167	0.334	0.501	0.668	0.835	1.670
12.0	0.027	0.265	0.530	0.795	1.060	1.325	2.650
14.0	0.042	0.422	0.844	1.266	1.688	2.110	4.220

multiplier  
vdc drop/ft

drop (vdc)/ distance (ft)

Acceptable line drop for Wire Gauge and Distance

Excessive line drop for Wire Gage and Dist

Above includes 6.5 amps max. current draw on Cooled D2, with 1.5 amps for max. camera & accessry draw.  
Fused circuitry will allow up to 15 amps @ 24 vdc.

Tables above allow for 10% or less voltage line drop

A handy website for custom Voltage drop on D/C current, an online calculator, is:

<http://nooutage.com/vdpro.htm>

or another great calculator site is:

[http://www.altronix.com/app\\_notes/calc.php](http://www.altronix.com/app_notes/calc.php)

## COOLDOME Input Power Configuration: D2-CD-12VDC

### External Power Supply

The output of the S-250-12 external power supply, can be adjusted up and down 10%. It is recommended to keep the voltage at the D2 adjusted to at least 11.5 vdc, but no more than 13.5 vdc. By running the enclosure higher than 13.5 vdc may cause premature fan failure. It is best to check and tune the voltage at the Cool Dome with a voltage meter at the time of installation, and use the adjustment screw, located on the S-250-12, to the right side of the terminal screws, to raise or lower the output voltage.

For all outdoor wiring, always use an outdoor rated wiring, or wiring in weather rated conduit, out from power supply, into the Cool Dome. Follow all local and applicable wiring and safety standards.

**Please keep DIC wire runs short, to reduce low voltage line drop.** Also, the suggested wiring gauge table is provided on previous page to further prevent low voltage line drop, and to guide you in selecting the proper wire gauge for the dc run from the power supply to the cool dome

It is always advisable to use a drip loop on all wiring going directly into the D2 enclosure, to reduce the risk of water entering and damaging internal components. All fittings and seals must be firmly tightened and sealed, before placing the D2 in service.

Inside the D2 we have provided a convenient Screw cage clamp style terminal blocks to wire the 12 vdc positive (V+), and the 12 vdc Negative (V-) terminal. Please strip the insulation off the last 3/8" of the wires and fasten wiring securely to terminal, using a small blade screwdriver to tighten the caging mechanism on the terminal blocks.

*Please be especially attentive to wire using the Proper Polarity, so as not to damage the internal components, or damage your camera within.*

### **LOW VOLTAGE RUN: Voltage Drop Table (shown on prior page)**

Where we conservatively try to keep the voltage drop under 1.2 vdc over the low voltage direct current run. These multipliers are approximate, and voltage drop (Vd) is maximum at full 12 amp load at 12 vdc. This voltage drop is under fully loaded condition, when the cooling unit is engaged, and camera and all accessories are on. Voltage drop will be much less, if the current is not at full load.

#### **Power Supply Specifications**

Input Voltage: 90-132VAC/ 176-264VAC Selected by Switch  
Frequency Range: 47- 63 HZ  
Input Current @ Full Load(Typ.): 4A @115VAC, 2A @230VAC  
Recommended Min. Circuit Breaker for 110VAC In: 10 A (type C)  
Int. Electrical. Working Temp\*: -20 ~ +70C  
Ext. Power Supply Output: 18A @ 12VDC up to 50C  
Derate 0.5A/ deg. C over 50C

#### **COOLDOME Specifications**

Current Draw by COOLDOME @ 12VDC:  
Active Cooler OFF: 0.4A/ Active Cooler Peak On: 10.5A  
Active Cooler On Typ.: 9.0A/ (Cam. Draw Not Incl.)  
MTBF: 238.9Khrs min. MIL-HDBK-217F(25C)



#### **Reusable Desiccant Canister**

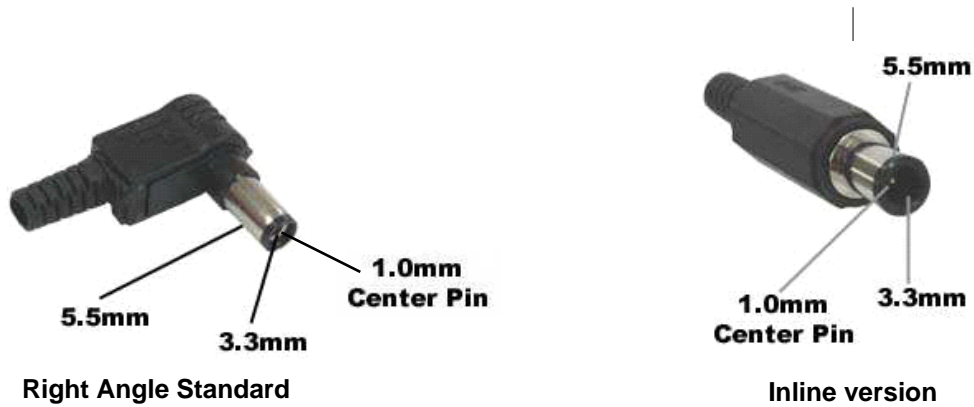
The reusable desiccant canister contains forty grams of silica gel. This will prevent moisture buildup inside the Cool Dome. Make sure to remove the canister from its foil envelope packaging before the Cool Dome is put to use.

There is a small window on the canister (white circle). Ensure that the crystals are blue. Occasionally, especially in humid environments, the canister may need to be serviced. If so, the crystals in the window turns pink, indicating the silica gel is saturated with moisture and can be reactivated by being placed in an oven at 300 °F for three hours or until the crystals turn blue again. The gel can be reactivated virtually an infinite number of times.

## Camera Power Connection

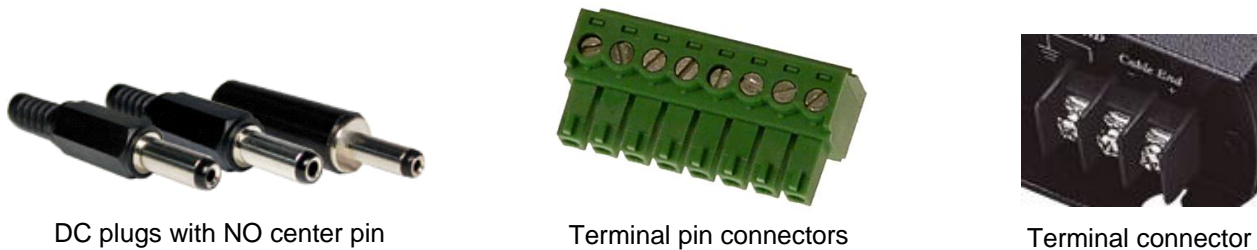
The D2-CD-12V provides an 18" lead from the COOLDOME power circuit with the following common 12 VDC Barrel connector, which is nearly and industry standard. Dotworkz provides the Right Angle version below.

The D2-CD-24V offers a simple DC jumper cable to connect camera power to the 24 VDC COOLDOME circuits.



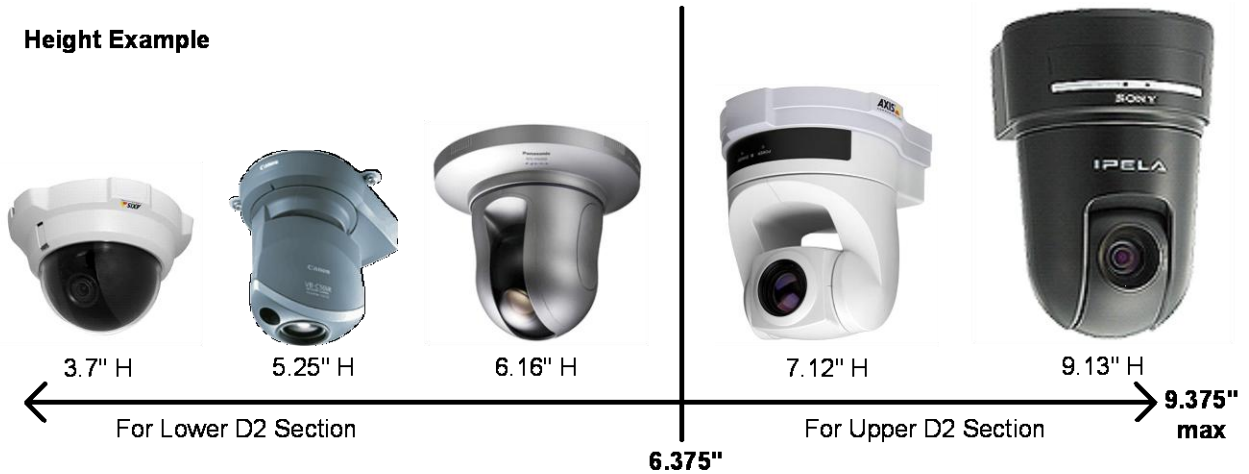
Provided 12 VDC camera power connector can be cut-off & Stripped, using Dotworkz cable as a jumper to install a non-standard power terminal connector, such as any shown below.

For Non-Standard Connector Plugs, consult camera supplier or online, if it is not supplied with your camera model.



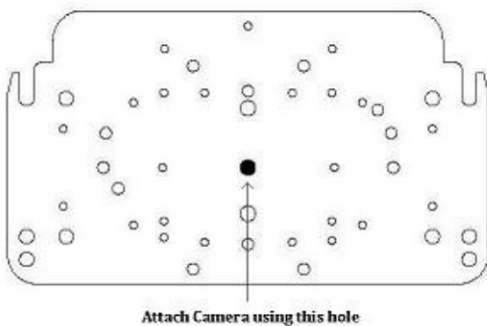
## Generic Camera Installation

### Height Example



The D2 Enclosure series are designed and engineered for today's most popular standard IP based PTZ cameras. The combination of standoff spacing and camera bracket allows our customers to tailor the D2 Enclosure series to their specific camera needs. We have provided the necessary tools for customization with all of our D2 Enclosure series.

The D2 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", 0.75", 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 D2 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.*



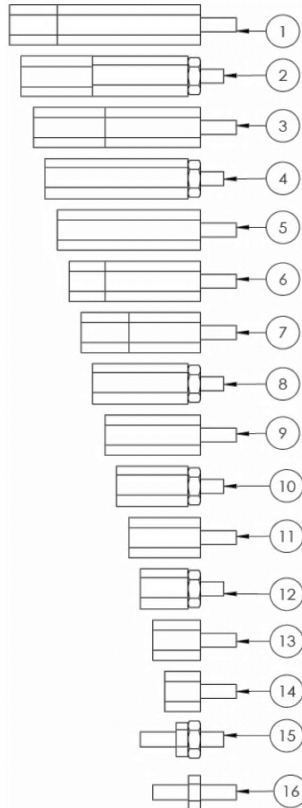
Lower Lens Section



Upper D2 Dome Section

## Stand Off Assembly Key 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



Camera mount stand offs can be adjusted to any height from 0" to 3.75" using assembly logic illustrated above. By utilizing both the camera mounts inside the D2; the upper mounts, and the lower mounts around the lens on hinged lower of D2, virtually any PTZ or Mini-Dome Camera can be mounted into the enclosure at any level. It is best to utilize a mounting strategy that uses the least amount of stand offs, by utilizing the camera mounts inside the D2 that are closest to optimal camera height for stability reasons.



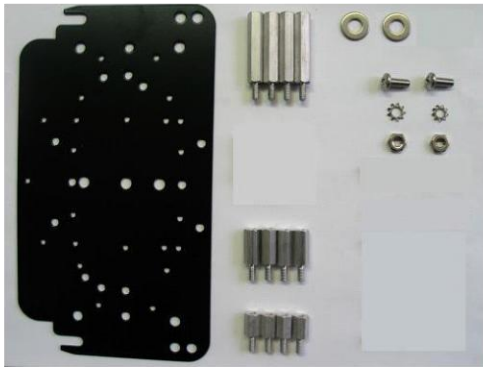
# Installing Camera Bracket

Axis 213 PTZ

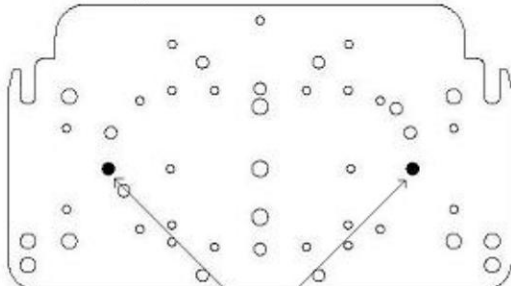
Canon VB-C50iR



Required components (see component checklist): Part# 1,2,3,5,6,9,10,& 11



This edge nests in arch at front of D2



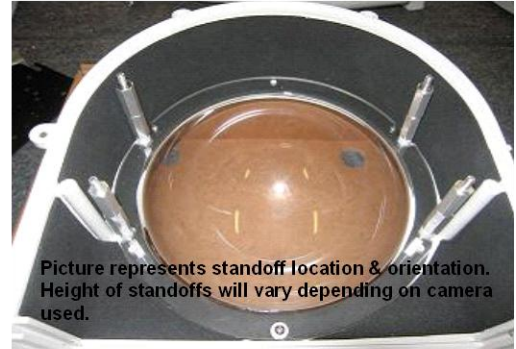
This edge of the bracket faces back of the D2 enclosure  
Attach Camera using these 2 holes

1. Install the Axis 213 PTZ or Canon VB-C50iR camera onto the D2 Camera Bracket with (2) #10-32 screws, (2) #10 Lock Washers, and (2) #10 Locknut that are included.

2. The Axis 213 PTZ or Canon VB-C50iR camera requires a 2" spacing for optimal fit and operation. Use (1) 1.5" standoffs and (1) .5" standoffs that are provided to create a 2" standoff. You will need to create 4 of these with the included hardware.

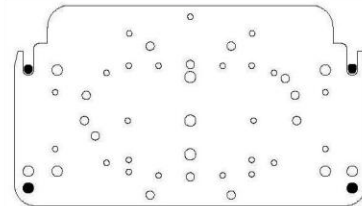


3. The 2" standoffs will be inserted on the lower lens portion of the D2.

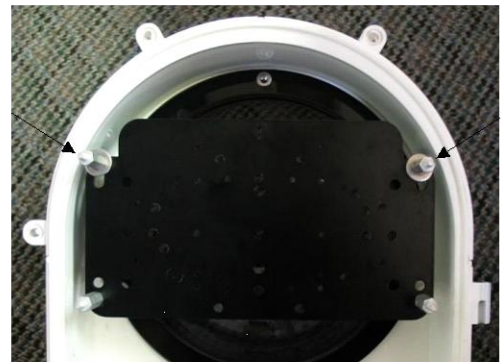


Picture represents standoff location & orientation. Height of standoffs will vary depending on camera used.

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.



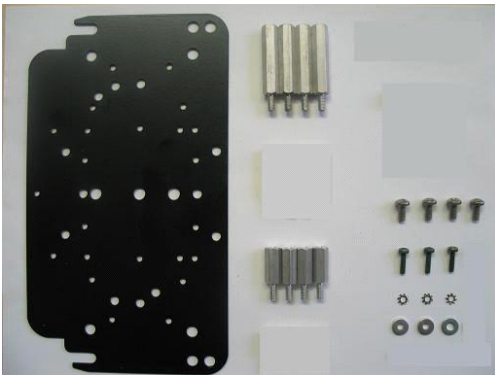
Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

## Installing Camera Bracket

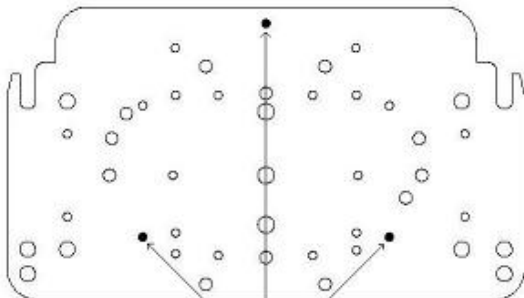
Axis 214 PTZ



Required components (see component checklist): Part # 1,3,5,12,14,15,& 16



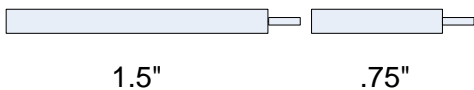
This edge nests in arch at front of D2



This edge of the bracket faces back of the D2 enclosure  
Attach Camera using these 3 holes

1. Install the Axis 214 PTZ camera onto the D2 Camera Bracket with (3) m3-.5 screws, (3) m3 external lock washers, and (3) m3 1/8" washer that are included.

2. The Axis 214 PTZ camera requires a **2.25"** spacing for optimal fit and operation. Use (1) 1.5" standoffs and (1) .75" standoffs 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 D2.



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.



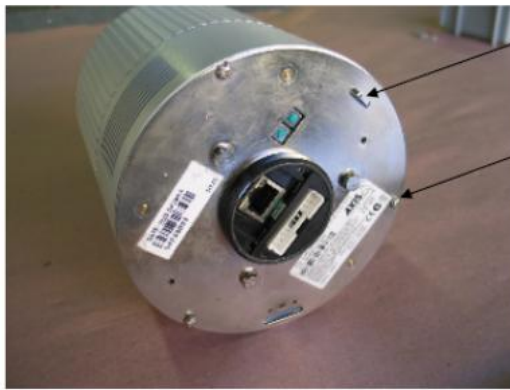
Tip: Insert (2) #8-32 screws in the front two standoffs to provide a guide to slide the camera bracket into. The last two corner holes should line up and be secured last.



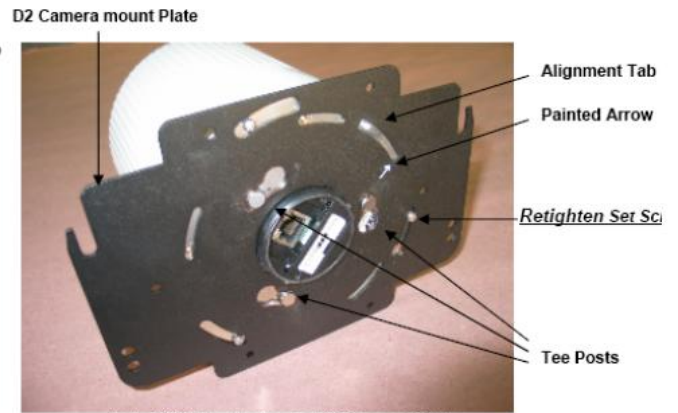
Again, make sure the camera bracket is facing the right direction.

Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

## D2 Mounting Instructions for Axis 231D & 232D

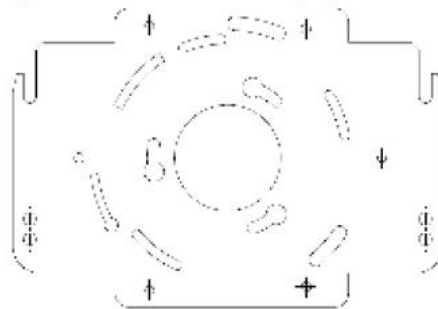


View of Base Plate on Axis 232D



Axis 232D Locked onto D2 Camera Plate

These cameras require the AB-1007 alternate camera bracket shown below, created for cameras with larger mounting bases. It may be ordered directly from Dotworkz, or through your authorized Dotworkz Dealer.



AB-1007 Camera Bracket (Available upon request)

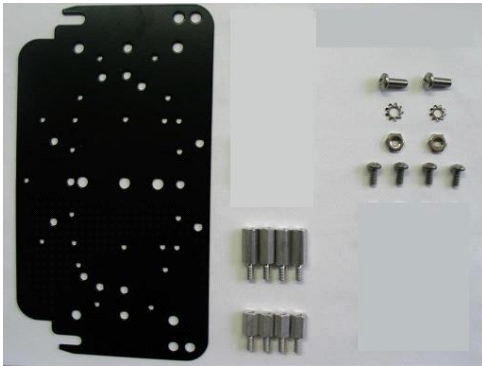
- 1) Orient Axis 231D/ 232D to view mounting base as shown in first image.
- 2) Locate Alignment tab on camera base, and set screw located just below tab as shown in picture. (left)
- 3) Loosen set screw, backing it out of camera base to approximately 1/8" or more.
- 4) Locate Camera mount plate and take note of printed arrow on bottom of plate.
- 5) Align 3 tee posts on camera base with widest part of corresponding key holes on the D2 camera mount plate; taking note that arrow on plate will align with alignment tab on the camera, before rotating plate.
- 6) Rotate plate clockwise to set Tee posts into key holes.
- 7) Finish mounting to the D2 plate by tightening (clockwise) set screw head firmly against D2 camera mount plate.
- 8) For the proper offset of these cameras into the D2 enclosure's lens. The Axis 231D & 232D will require four 1" stand offs (part ID #4) pre installed onto the corresponding four threaded inserts on the inside front of the D2's upper shell. (see lower right image on pg 5 of D2 Product Instructions)
- 9) Using wiring harness provided with your camera, and customer provided cat 5 cabling, installer should ready wiring hook up within the D2 enclosure, for final camera placement into the D2 enclosure.
- 10) Place Axis 231D/ 232D near mouth of enclosure, and hook up harness and cat 5e wires, plugging into camera.
- 11) Use four #8-32 x 3/8" (part ID #12) pan head machine screws, provided in fastener package of D2's hardware bag, and secure camera mount plate on top of four 1" stand offs mounted in step #8 above. Tighten all 4 of the #8-32 fasteners, securely fastening camera plate into D2.
- 12) Pre test all clearances, and power connections before closing D2 enclosure. Make adjustments as needed.

## Installing Camera Bracket

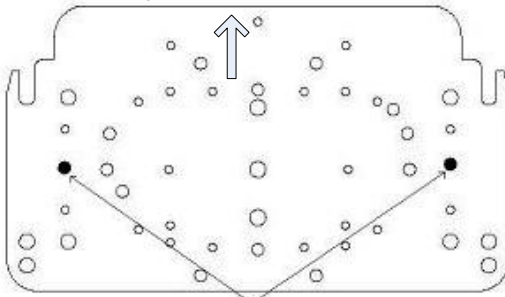
Axis 233D PTZ



Required components (see component checklist): Part # 1,2,3,9,10,11,& 12

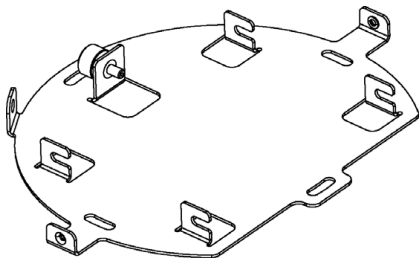


This edge nests in arch at front of D2



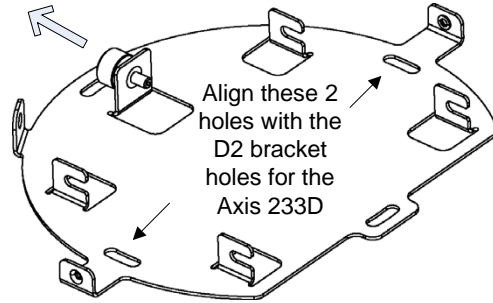
Attach Camera using these 2 holes

This edge of the bracket faces back of the D2 enclosure



Axis 233D Ceiling bracket that came with the camera. **\*This is a required item for installation\***

1. To install the Axis 233D in the D2 Enclosure we must first install the Axis 233D ceiling bracket adapter that came with the camera onto the D2 camera mounting plate.

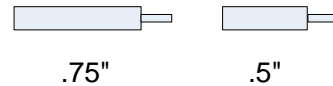


Axis 233D Ceiling bracket that came with the camera. **\*This is a required item for installation\***

2. Do this by aligning the two holes on the D2 camera bracket with the Axis ceiling bracket adapter. Use (2) #10-32 1/2" long screws, (2) #10 lock washers, and (2) #10-32 hex nuts that are included to secure the axis ceiling adapter to the D2 camera bracket.

3. Next follow the Axis 233D installation instruction to secure the camera to the ceiling bracket adapter that is now attached to the D2 Camera Bracket.

4. The Axis 233D PTZ camera requires a 1.25" spacing for optimal fit and operation. Use (1) .75" standoffs and (1) .5" standoffs that are provided to create a 1.25" standoff. You will need to create 4 of these with the included hardware.



5. The 1.25" standoffs will be inserted on the upper portion of the D2.



## Installing Camera Bracket

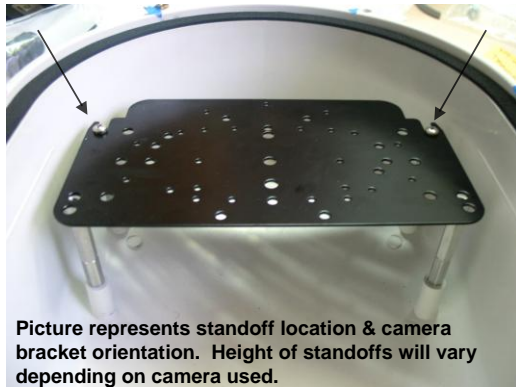
### Axis 233D PTZ



Continued . . . . .

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

7. 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.



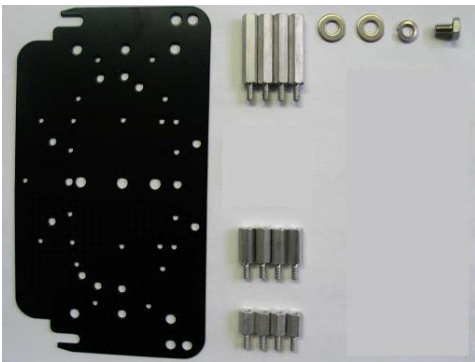
Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

## Installing Camera Bracket

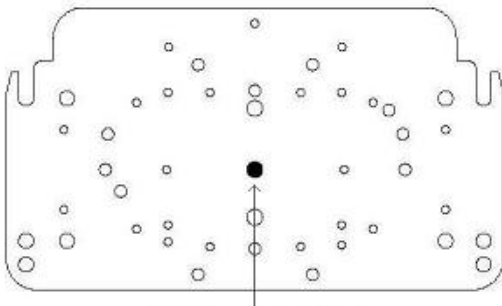
Canon VB-C300



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



This edge nests in arch at front of D2



Attach Camera using this hole

This edge of the bracket faces back of the D2 enclosure

1. Install the Canon VB-C300 camera onto the D2 Camera Bracket center hole with (1) .25"-20 3/8" Long Bolt, and (1) .25" Lock Washer that are included.

2. The Canon VB-C300 camera requires a 2" spacing for optimal fit and operation. Use (1) 1.5" standoffs and (1) .5" standoffs that are provided to create a 2" standoff. You will need to create 4 of these with the included hardware.

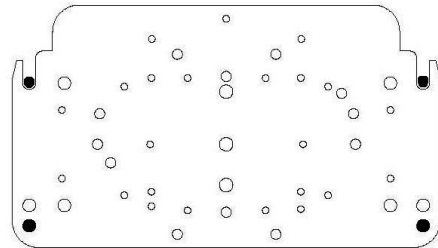


3. The 2" standoffs will be inserted on the lower lens portion of the D2.

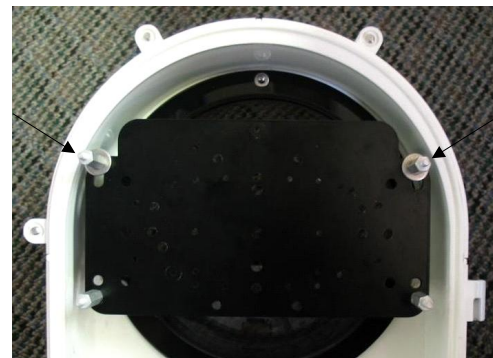


Picture represents standoff location & orientation. Height of standoffs will vary depending on camera used.

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.



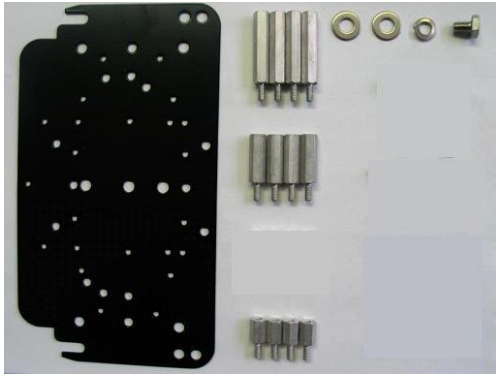
Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

# Installing Camera Bracket

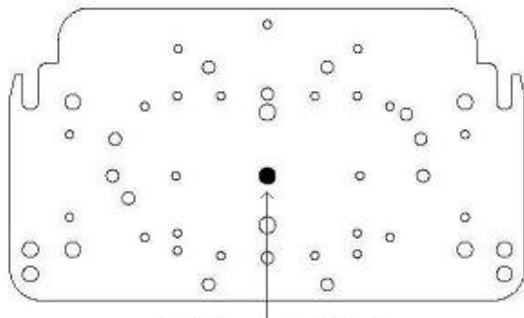
Panasonic NS-202



Required components (see component checklist): Part# 1,2,4,5,6,7,& 8



This edge nests in arch at front of D2

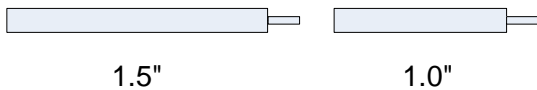


Attach Camera using this hole

This edge of the bracket faces back of the D2 enclosure

1. Install the Panasonic NS-202 camera onto the D2 Camera Bracket center hole with (1) .25"-20 3/8" Long Bolt, and (1) .25" Lock Washer that are included.

2. The Panasonic NS-202 camera requires a **2.5"** spacing for optimal fit and operation. Use (1) 1.5" standoff and (1) 1.0" standoff that are provided to create a **2.5"** standoff. You will need to create 4 of these with the included hardware.

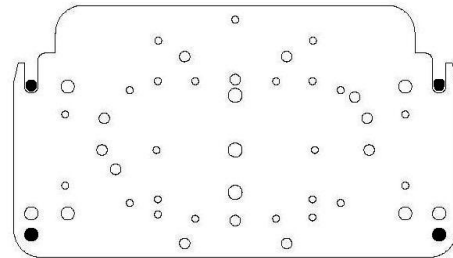


3. The 2.5" standoffs will be inserted on the lower lens portion of the D2.

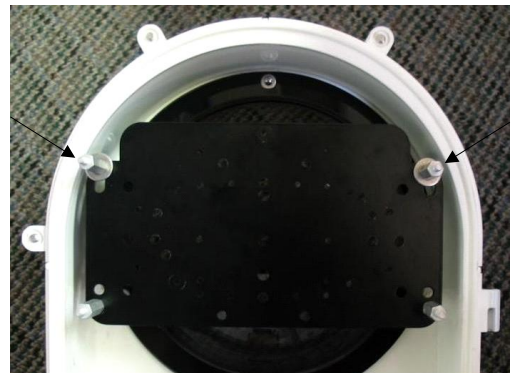


Picture represents standoff location & orientation. Height of standoffs will vary depending on camera used.

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) .5" standoffs to lock the bracket in place. The two front location will require the use of (2) .25" washer.



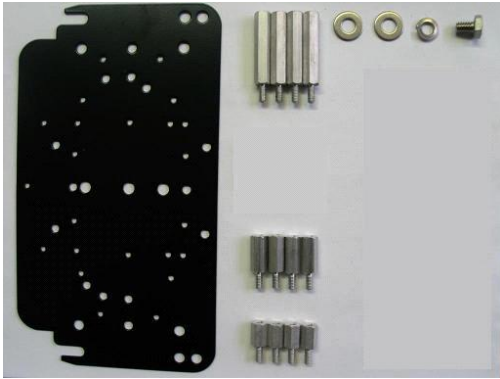
Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

# Installing Camera Bracket

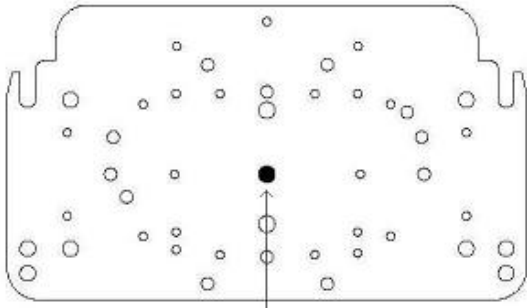
Panasonic BB-HCM381/  
580/581 & KX-HMC280



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



This edge nests in arch at front of D2

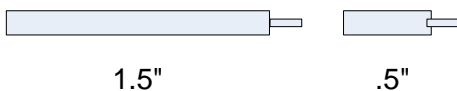


Attach Camera using this hole

This edge of the bracket faces back of the D2 enclosure

1. Install the Panasonic camera onto the D2 Camera Bracket center hole with (1) .25"-20 3/8" Long Bolt, and (1) .25" Lock Washer that are included.

2. The Panasonic 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.

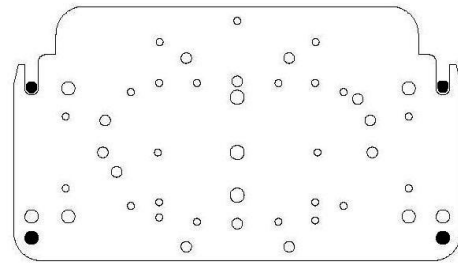


3. The 2.0" standoffs will be inserted on the lower lens portion of the D2.

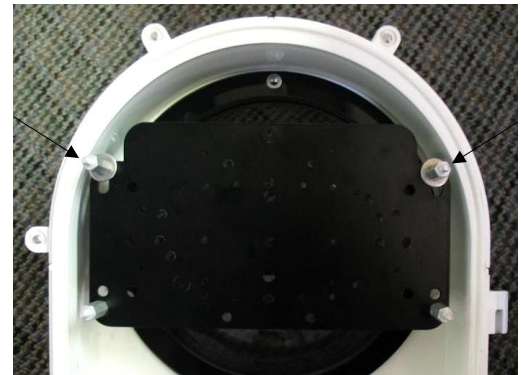


Picture represents standoff location & orientation. Height of standoffs will vary depending on camera used.

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.



Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

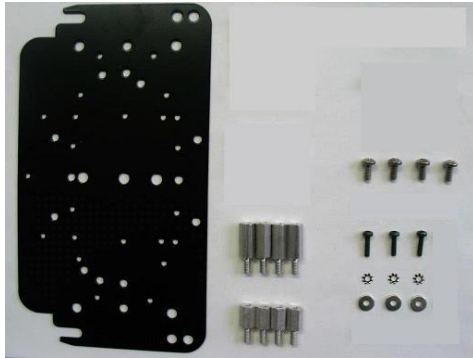


## Installing Camera Bracket

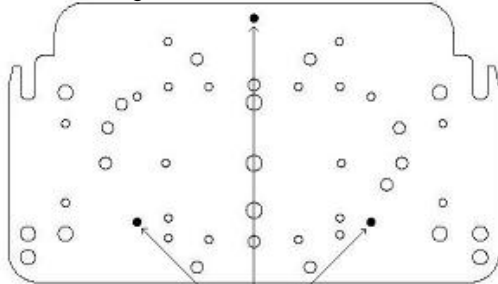
Sony RZ25N



Required components (see component checklist): Part # 1,2,3,12,14,15,& 16



This edge nests in arch at front of D2



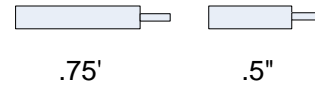
This edge of the bracket faces back of the D2 enclosure  
Attach Camera using these 3 holes

1. Install the Sony RZ25N camera onto the D2 Camera Bracket with (3) m3-.5 1/2" Long screw (3) m3 External Lock Washer, and (3) m3 1/8" Washer that are included.



Tip: Don not screw all the way through. Screw them in enough to catch some thread on all three screw locations. Once all three screw catch enough thread, begin tightening one at a time.

2. The Sony RZ25N camera requires a 1.25" spacing for optimal fit and operation. Use (1) .75" standoffs and (1) .5" standoffs that are provided to create a 1.25" standoff. You will need to create 4 of these with the included hardware.



3. The 1.25" standoffs will be inserted on the upper portion of the D2.



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.



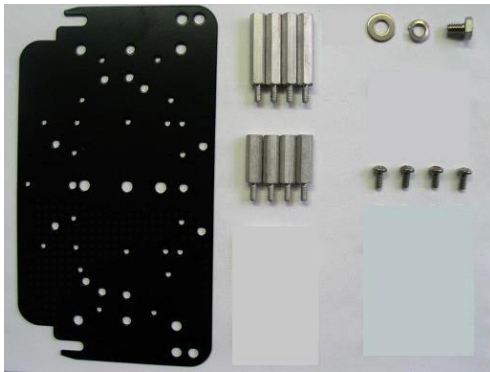
Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

## Installing Camera Bracket

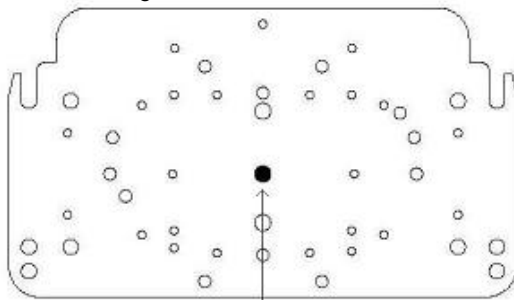
**Sony RZ50N**



**Required components (see component checklist): Part # 1,4,5,6,7,8,& 12**



This edge nests in arch at front of D2

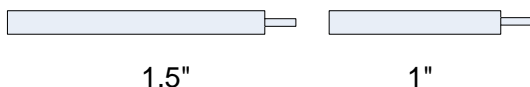


Attach Camera using this hole

This edge of the bracket faces back of the D2 enclosure

1. Install the Sony RZ50N camera onto the D2 Camera Bracket center hole with (1) .25"-20 3/8" Long Bolt, (1) .25" Lock Washer, and (1) .25" Washer that are included.

2. The Sony RZ50N camera requires a **2.5"** spacing for optimal fit and operation. Use (1) 1.5" standoffs and (1) 1" standoffs that are provided to create a **2.5"** standoff. You will need to create 4 of these with the included hardware.



3. The 2.5" standoffs will be inserted on the upper portion of the D2.



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.



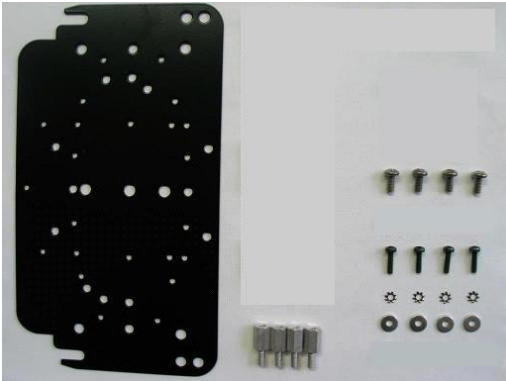
Again, make sure the camera bracket is facing the right direction. Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

# Installing Camera Bracket

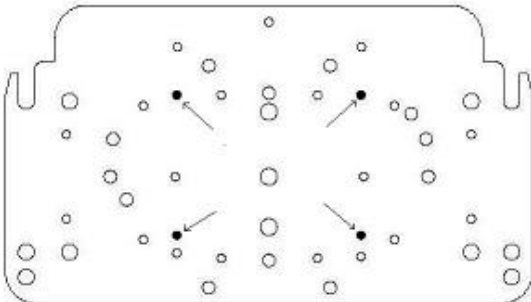
Sony RX550N



**Required components (see component checklist): Part # 1,2,12,14,15, & 16**



This edge nests in arch at front of D2



Attach Camera using these 4 holes.

This edge of the bracket faces back of the D2 enclosure

1. Install the Sony RX550N camera onto the D2 Camera Bracket with (4) m3-.5 1/2" long screws, (4) m3 external lock washer, and (4) m3 1/8" washer that are included.
2. The Sony RX550N camera requires a .5" spacing for optimal fit and operation. Use (4) .5" standoffs that are included.



.5"

3. The .5" standoffs will be inserted on the upper portion of the D2.



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.



Again, make sure the camera bracket is facing the right direction.

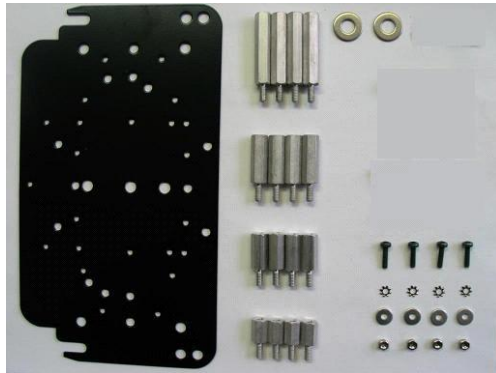
Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

# Installing Camera Bracket

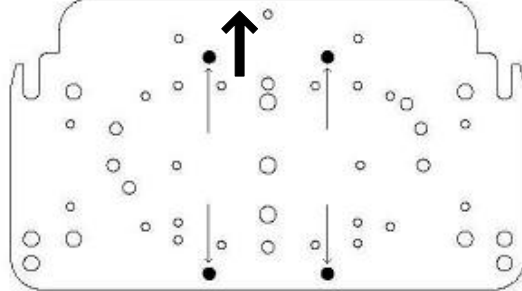
Toshiba WB21A



Required components (see component checklist): Part # 1,2,3,4,5,6,14,15,16,& 17

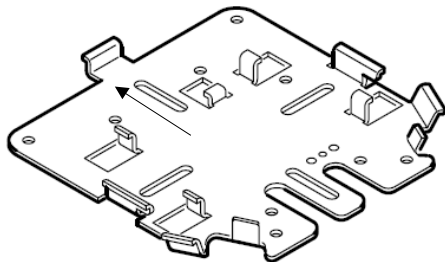


This edge nests in arch at front of D2



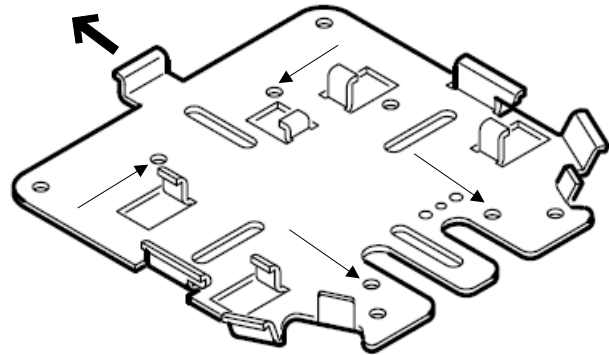
Attach Camera using these 4 holes.

This edge of the bracket faces back of the D2 enclosure



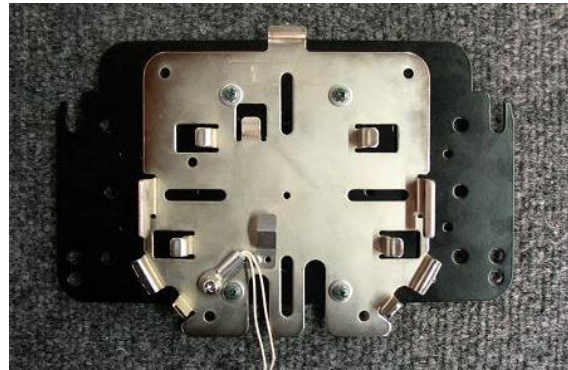
Toshiba WB21A Ceiling bracket that came with the camera.  
\*This is a required item for installation\*

1. To install the Toshiba WB21A in the D2 Enclosure we must first install the Toshiba WB21A ceiling bracket adapter that came with the camera onto the D2 camera mounting plate.



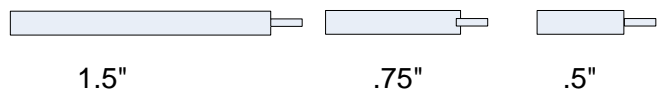
Align these 4 holes with the D2 bracket holes for the Toshiba WB21A

2. Do this by aligning the four holes on the D2 camera bracket with the Toshiba ceiling bracket adapter. Use (4) m3-.5 1/2" long screws, (4) m3 external lock washer, (4) m3 1/8" washers, and (4) m3 lock nuts that are included to secure the toshiba ceiling adapter to the D2 camera bracket.



3. Next follow the Toshiba WB21A installation instruction to secure the camera to the ceiling bracket adapter that is now attached to the D2 Camera Bracket.

4. The Toshiba WB21A PTZ camera requires a 2.75" spacing for optimal fit and operation. Use (1) 1.5" standoff, (1) .75" standoff, and (1) .5" standoffs that are provided to create a 2.75" standoff. You will need to create 4 of these with the included hardware.



## Installing Camera Bracket

Toshiba WB21A



Continued . . . . .

5. The 2.75" standoffs will be inserted on the lower portion of the D2.

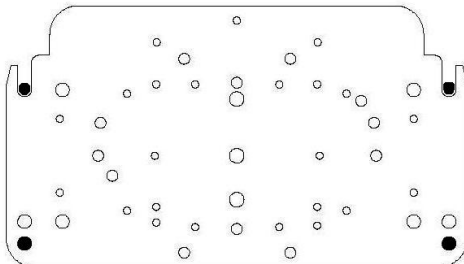


Picture represents standoff location & orientation.  
Height of standoffs will vary depending on camera used.



Picture represents camera bracket orientation & how it is secured. Don't forget to mount your camera to the D2 camera bracket based on instructions.

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

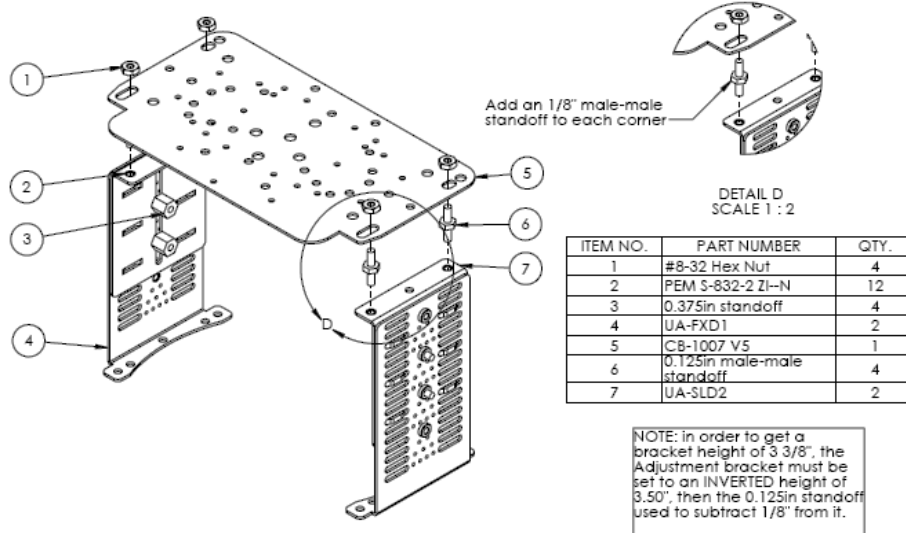


7. Secure the plate by using (4) 1.0" standoffs to lock the bracket in place. The two front location will require the use of (2) .25" washer. See picture.

# Optional Steady Step Mounting System

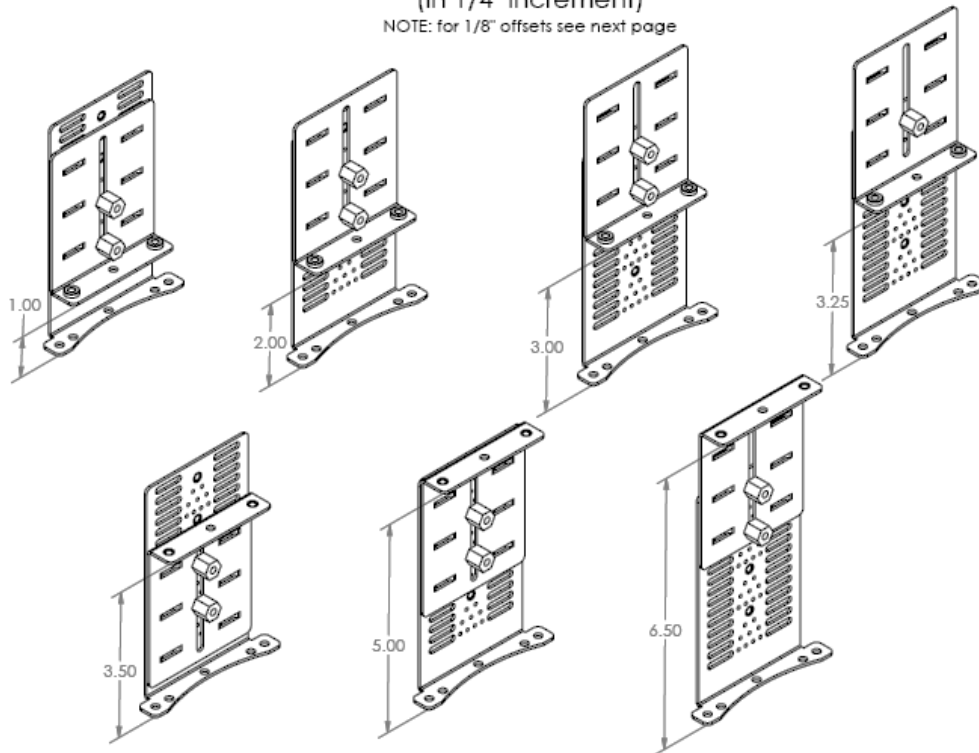
Steady Step Bracket Steps adjust in 1/4" increments. To adjust 1/8" between step settings, add 1/8" brass male-male hex stand-off (ITEM NO. 6) shown in detail D, by threading on top of movable slide bracket, then fastening camera bracket (CB-1007 or AB-1007).

UA-CB Installation  
1/8" Offset

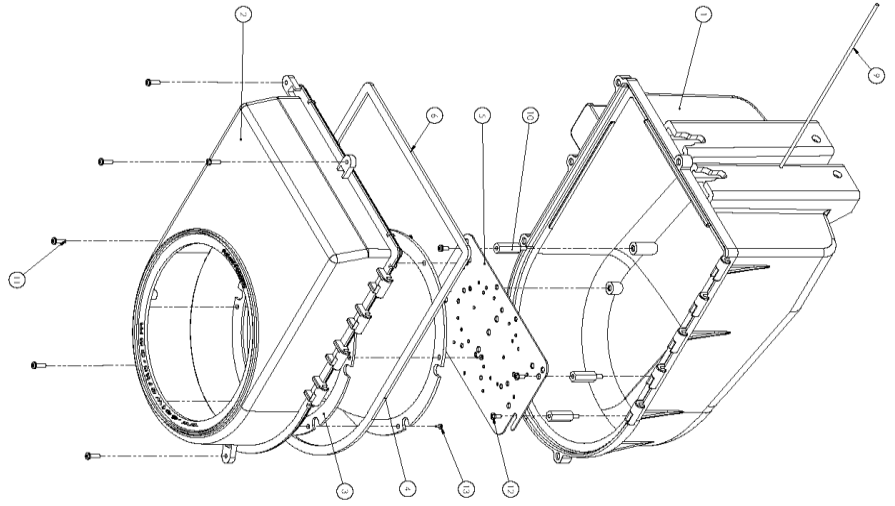


UA-CB Installation  
Example Bracket Heights  
(in 1/4" increment)

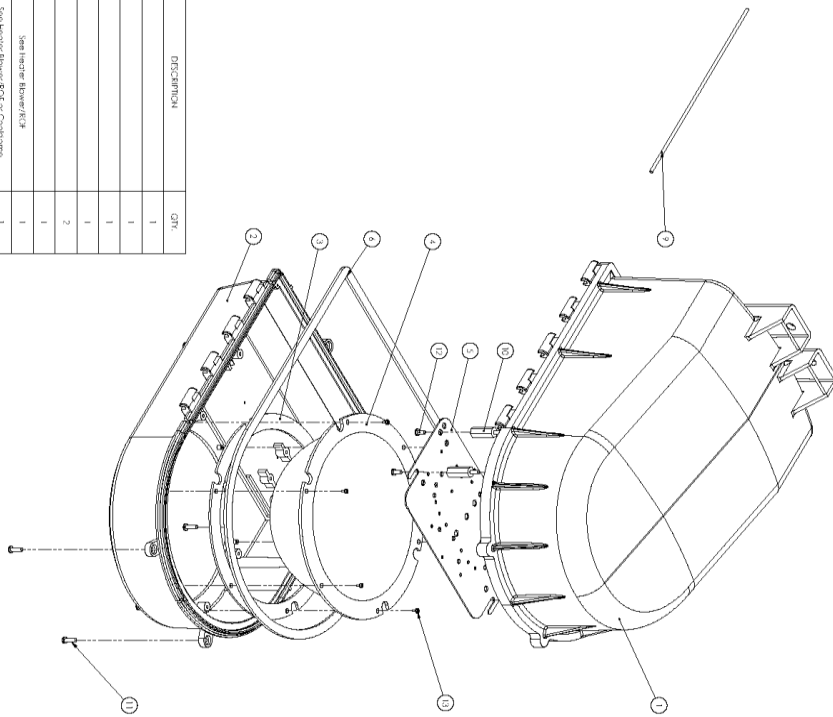
NOTE: for 1/8" offsets see next page



# D2 Exploded Detail

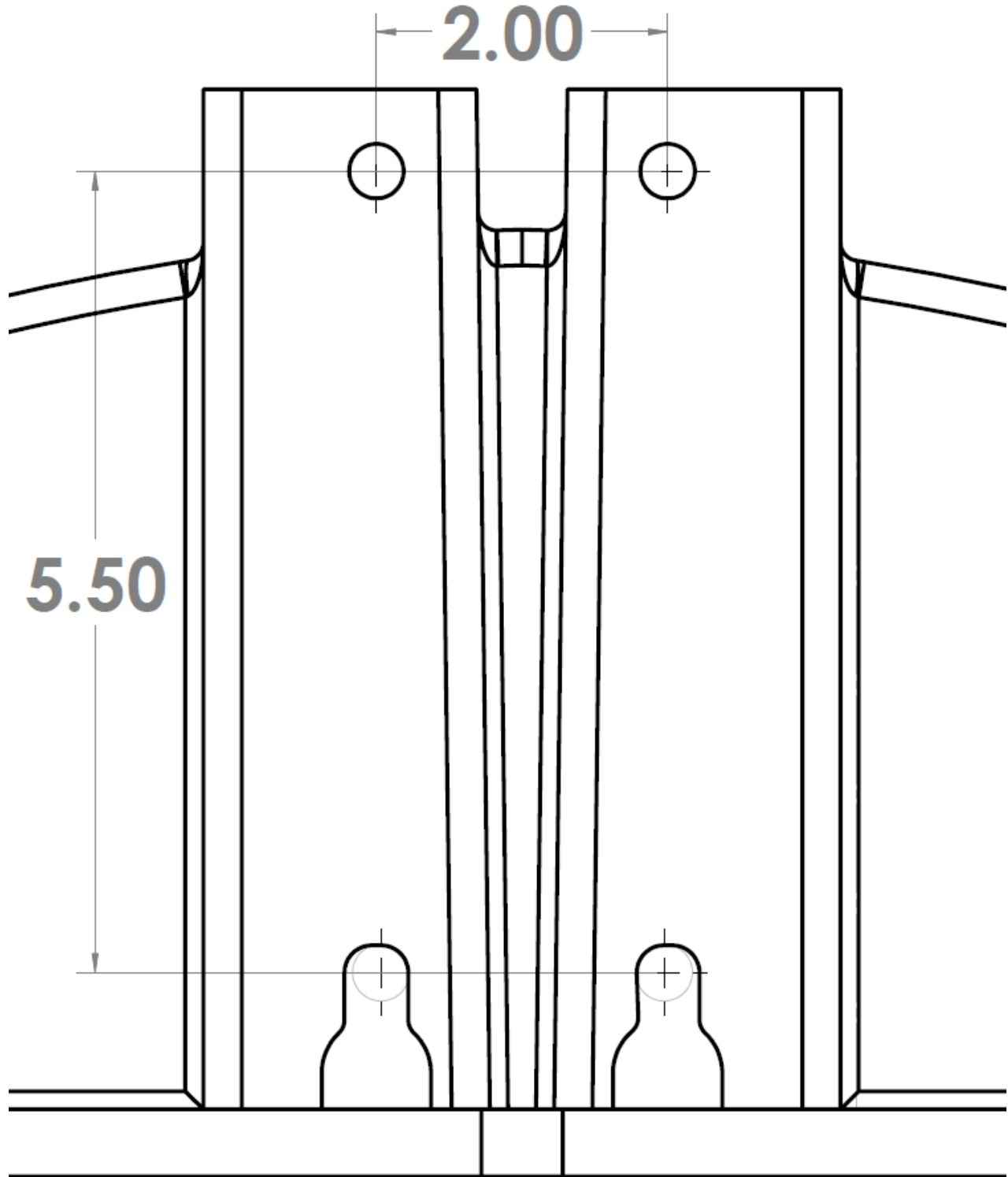


FRANCIS	PART NUMBER	DESCRIPTION	QTY
1	Top Dome		1
2	Top Lens Glass		1
3	Top Cover		1
4	Lens		1
5	Top Frame D2		2
6	Key Holder		1
7	Crystal	See Note 1 below/1/2	1
8	Crystal Base	See Note 1 below/1/2 or Consigne	1
9	Ringpart		1
10	1" cordant	QTY May vary depending on Camera	4
11	1032 Caprivs Screw 350		6
12	8.32 x 1.0 Phillips Head Machine Screw 350		4
13	8.32 x 1.0 x 1.5 Phillips Flat Head 350		6



1032 Caprivs Screw 350  
 8.32 x 1.0 Phillips Head Machine Screw 350  
 8.32 x 1.0 x 1.5 Phillips Flat Head 350  
 1" cordant  
 Ringpart  
 Crystal Base  
 Crystal  
 Key Holder  
 Top Frame D2  
 Lens  
 Top Cover  
 Top Lens Glass  
 Top Dome

## D2 Mounting Detail



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