



Broadcast Quality 1080p Varifocal Eyeball Camera

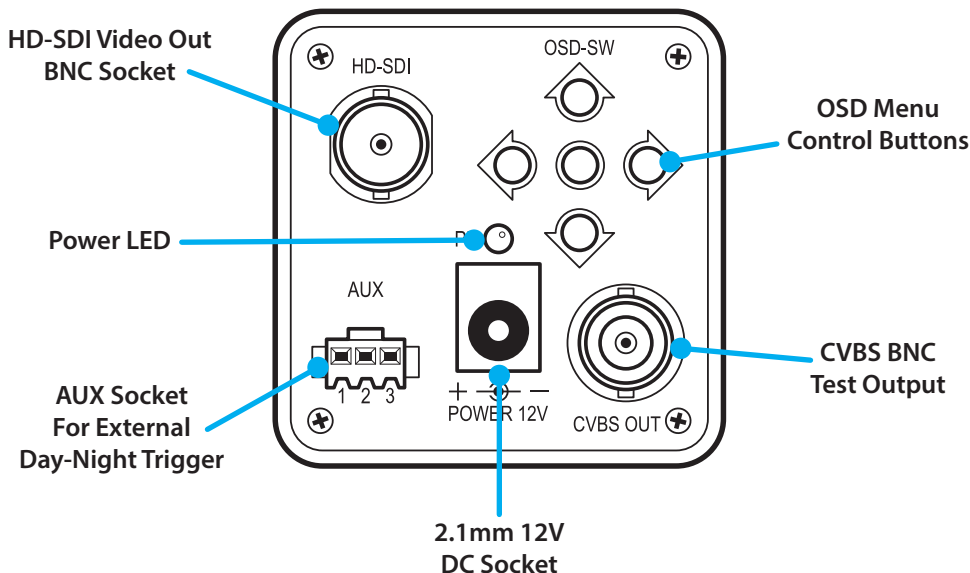
Some installations call for a high powered lens and great night-time performance, the CAM348 NiteDevil camera caters to both those. It's an attractively designed bodied camera that uses a Megapixel lens and is a great solution where a high powered lens is required for a long range shot. The CAM348 also has a mechanical IR cut filter for optimum performance night and day.

Mounting The Camera

The CAM348 can be mounted on to a standard 1/4" UNC bracket.

Connecting The Camera

The majority of the CAM348's connections are found on the rear of the camera. There are two BNC connections, one for HD-SDI video out and one standard definition (CVBS) test output, OSD menu control buttons, an LED power indicator, a 2.1mm DC socket for power connection and an 'AUX' socket for connecting an external day-night trigger (fly-lead included). There is also an Auto Iris socket on the side of the camera for connecting direct drive lenses.



Features

- 1080p At 25fps
- IR Cut-Off Filter for True Day Night
- Wide Dynamic Range
- Extra SD Video Out For Easy Set-Up
- Lens Options Available

Specification

FUNCTION	SPECIFICATION
CCD	1/3" Megapixel Colour CMOS
Resolution	1080p @ 25fps
Min. Illumination	0.05 Lux
Day/Night	Mechanical
Lens Mount Type	CS
Video Output	1V p~p, 75Ω
Video Connection	HD-SDI BNC Socket
CVBS Connection	Analogue BNC Socket
Power/Current	12V DC (± 10%) 200mA
Power Connection	2.1mm Socket
Gain Control	Automatic
S/N Ratio	48dB
Operating Temp.	-20°C ~ +50°C
Dimensions	108 x 55 x 52mm

Options Available

PART CODE	DESCRIPTION
CAM348	HD-SDI Traditional
CAM348L	HD-SDI Traditional, 2.8-12mm Lens

Other Products To Consider



1080p HD-SDI Traditional Style Camera With A 2.8-12mm Lens & RS485
CAM341L



HD-SDI Repeater For Extra Long Cable Runs. (Required Every 100m)
HDM100

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Powering The Camera

The CAM348 requires a regulated 12V DC power supply providing 200mA. You should always allow additional headroom to account for any extra loads such as auto iris lenses, heater kits or IR LEDs. As a rule of thumb you should add approximately 30% on top of the minimum current consumption of the camera. Taking this into account we recommend a regulated 12V DC PSU providing no less than 250mA.

Cabling

When cabling the CAM348 you **must use good quality RG59 co-ax cable**. HD-SDI cameras are designed to be used with co-ax only and will not work with CAT5 cable.

As HD-SDI is a digital transmission it requires a stronger signal to produce a picture when compared to an analogue transmission. The **maximum cable run for HD-SDI cameras without repeaters is 100m**. Longer cable runs require a HD-SDI repeater every 100m and a maximum of 4 repeaters can be used per run.

Fitting Auto Iris Lenses

The Auto Iris socket is located on the side of the CAM348. Auto Iris type lenses require the 4-pin connector to be attached to the camera. In most instances your lens will be pre-wired with this plug, but if needed on-line [Tip 322](#) which includes a full wiring diagram can be found at www.nitedevil.com.

NOTE HD-SDI cameras require at least a 2 Mega Pixel lens.

C Or CS Mount Lenses

Most lenses are available in 2 different mounting options, C mount and CS mount.

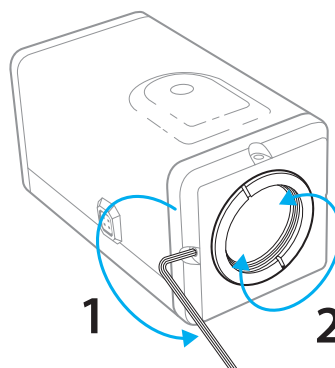
CS mount lenses are now the most popular size as they are shorter and more compact than C mount lenses. Most cameras are now manufactured to accept CS mount lenses. Before fitting the lens you need to verify that you are using a CS mount lens with the camera. You can confirm this with your lens supplier or the literature that came with your lens, check the instructions or packaging to see if your lens is a C or a CS mount version.

If your lens is a C mount type you can still fit it to the camera with the C to CS mount adapter ring supplied. Please see the on-line [Tip 323](#) at www.nitedevil.com.

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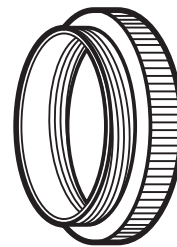
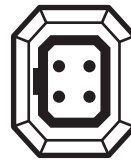
Adjusting The Inner Focus Ring

Once you have fitted the lens, if you have a picture on the monitor but cannot correctly focus the lens by the fine focal adjust on the lens itself, you may need to alter the inner adjusting ring that is screwed into the end of the camera. This ring enables the lens to either "sit" a little closer or a little further away from the camera to get a sharp focused image when using lenses from different manufacturers.



Adjusting The Inner Focus Ring Continued On Next Page ▶▶▶

AUTO IRIS



C mount to CS mount adapter ring (Supplied)

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CAM348 - HD-SDI Traditional True Day Night NiteDevil Camera



To adjust the inner focus ring you will first need to remove the lens. Next loosen the hex head screw which is found in one of the four holes on the front of the camera. This will free the inner focus ring so that it can be screwed or unscrewed slightly affecting how far the lens sits away from the image sensor. When alterations have been made tighten the hex screw before fitting the lens.

This is a trial and error process by moving the ring in or out say by ½ turn then locking it again, re-attaching the lens and trying to refocus. It is possible (with common sense!) to work out whether the lens needs to be nearer or further away from the camera by watching for improvements in focus at each attempt.

NOTE If it appears that the lens will never be in focus then it is possible that you are trying to fit a C-mount lens on the camera, not a CS-mount lens. If this is the case you will have to add a C to CS mount adapter ring.

Accessing The Camera's Menu

The camera's menu system can be accessed and controlled using the buttons on the rear of the camera. The centre button is used to enter the menu system and confirm selections. The direction buttons are used to navigate through the menu system and alter values.

OSD Menu

MENU ITEM	OPTIONS
LENS	ALC / AES ALC: 1. MODE: INDOOR / OUTDOOR
EXPOSURE	1. BRIGHTNESS: 0~20 2. FREQ: 50HZ / 60HZ 3. SHUTTER: AUTO / MANUAL MANUAL: 1/30~1/60000 3. SENS-UP: X2 / X3 / X4 / X5 / X6 / X7 / X8 / OFF 4. AGC: 0~20
BACKLIGHT	OFF / ECLIPSE (HLC) / BLC / WDR ECLIPSE: 1. LEVEL: 0~20 BLC: 1. H-POS: 0~20 2. V-POS: 0~20 3. H-SIZE: 0~20 4. V-SIZE: 0~20 WDR: 1. WEIGHT: LOW / MIDDLE / HIGH
DAY & NIGHT	1. MODE: AUTO / COLOUR / B&W / EXTERN 2. IR LED: NO / YES 3. SMART IR: ON / OFF 3. EXTREN S/W: LOW / HIGH 4. AGC THRESH: 0~20 5. MARGIN: 0~20 6. DELAY: LOW / MIDDLE / HIGH
WHITE BAL	ATW / ATWext / PRESET / MANUAL MANUAL: 1. R-GAIN: 0~20 2. B-GAIN: 0~20
DNR	LOW / MIDDLE / HIGH / OFF
IMAGE	1. SHARPNESS: 0~10 2. GAMMA: 0.45~0.65 3. COLOUR GAIN: 0~20 4. MIRROR: OFF / ON 5. FLIP: OFF / ON 6. D-ZOOM: 1.0X~8.0X 7. XDR: OFF / LOW / MIDDLE / HIGH 9. SHADING: OFF / ON ON: WEIGHT: 0%~100% 10. PRIVACY: OFF / ON ON: ZONE NUM: 0~15 ZONE DISP: ON / OFF H-POS: 0~60 V-POS: 0~40 H-SIZE: 0~40 V-SIZE: 0~40 Y-LEVEL: 0~20 CR-LEVEL: 0~20 CB-LEVEL: 0~20

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OSD Menu Continued On Next Page ►►►

MENU ITEM	OPTIONS
MOTION	ON / OFF ON: 1. SENSITIVITY: 0~20 2. DET H-POS: 0~60 3. DET V-POS: 0~40 4. DET H-SIZE: 0~60 5. DET V-SIZE: 0~40 6. MOTION OSD: OFF / ON 7. ALARM: OFF / ON
SYSTEM	1. COM: CAM ID: 0~255 BAUDRATE: 2400 / 4800 / 9600 / 57600 / 115200 2. IMAGE RANGE: FULL / COMP 3. OUTPUT MODE: 1080P / 720P 4. COLOUR SPACE: SD-CbCr / HD-CbCr / YUV 5. FRAME RATE: 25FPS / 30FPS 6. CVBS: PAL / NTSC 7. LANGUAGE: ENG / CHN / CHN (S) / JPN 8. RESET
EXIT	EXIT MENU SYSTEM

Fault Finding

The table below describes common problems and possible solutions.

Fault	Possible Cause	Possible Solution
Interference On The Camera Picture	Poor or inadequate cabling or an unregulated or poorly regulated power supply.	Make sure you are using a regulated 12V DC power supply.
No Picture	The camera cannot function without the correct working power supply. Poor or incorrect cable used.	Test that the camera has the correct voltage supplying it, you must do this with the camera connected so that there is load on the PSU. The camera should have at least 10.5V DC connected to it. Check there is and image at the camera end with a test monitor using the CVBS test output. If there is a picture here but not at the DVR it could be one of the following: A. Video loss in Composite cable as run too long, usually you would get a picture up to around 100 meters. For longer cable runs you must use a HD-SDI repeater every 100m. A maximum of 4 repeaters can be used per run. B. Ensure that the BNC - BNC lead that you connect between the camera and monitor has no shorts or open circuits. If you are making your own lead, don't forget the lead must have two wires connected to complete the circuit, Video and Ground.
The Picture's Colour Changes Constantly	Fluorescent lighting emits an electromagnetic field which can cause colour roll.	Move the camera further away from any fluorescent lighting.
Can't Focus Image	Wrong type of lens fitted to the camera	The CAM348 is designed to be used with a CS mount lens. If you are wanting to use a C mount lens you will need to use an adapter ring.

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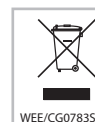


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For more information on menu options and what they do see online tip 295 ▶▶▶