



Mini Eyeball 3.6mm 2MP

SEE815

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# 1 Introduction

## 1.1 SEE815

A Midi sized HD camera with a powerful IR array instead of multiple IRs to help minimise reflection from insects or spider's webs. Perfect for capturing top quality, true day to night images.

Featuring 4-in-1 video technology so it is compatible with most CCTV equipment new or old. Set as HD-TVI as the popular default technology, it can also be switched to AHD or the less popular CVI. Handy for upgrades too, it even has an analogue output that could be used on old recorders that still need an upgrade to HD.

The SEE815 is a great midi design ideal when you're looking for your CCTV system to be more low key.

IP66 and available in black or white with no contrasting lens rim it can seamlessly blend into interior or exterior installs, with a choice of sleek and classic black (great for public spaces as it won't stand out) or contemporary white to blend perfectly into an indoor space.

## 2 Tools & Handy Extras

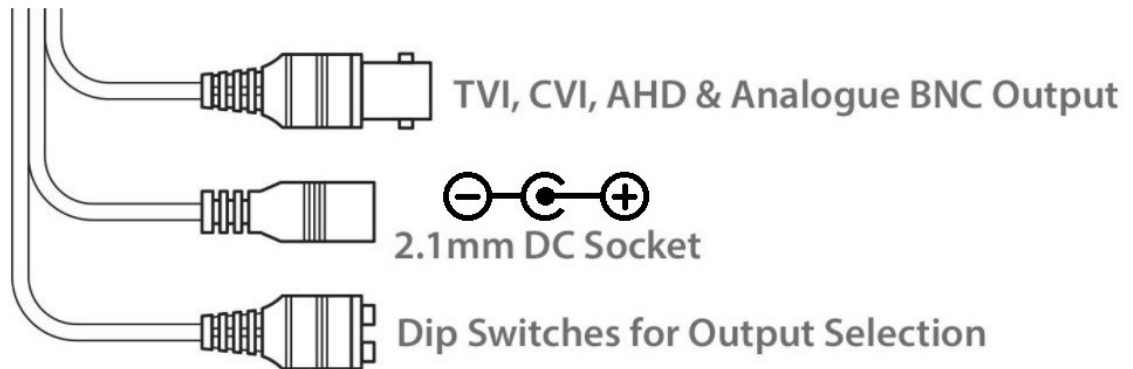
- Screwdriver
- Drill
- Hammer
- POW151 - 12V DC 500mA Plug-in PSU
- Drill bits
- BNC Crimp Tool & BNCs
- RG59 Coax Cable
- Digital Multi-Meter
- LCD400K - CCTV Test monitor

### 3 Connections

The camera is provided with a fly lead with a 2.1mm DC socket and standard BNC connector

It is recommended to use a power supply that is rated higher than the current consumption of the camera

The camera is polarity sensitive so connections must be made correctly

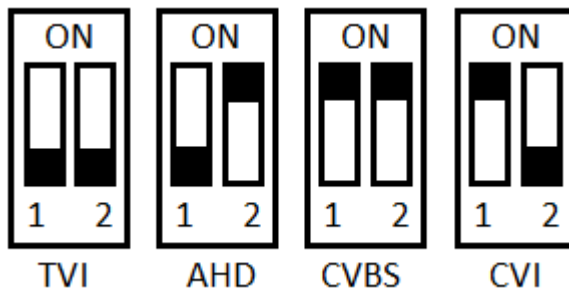


## 4 4-In-1 Technology

Selectable HD-TVI, HD-CVI, AHD and CVBS (Analogue) Output. The default is set to HD-TVI however the output can be changed to AHD, CVI or CVBS if required.

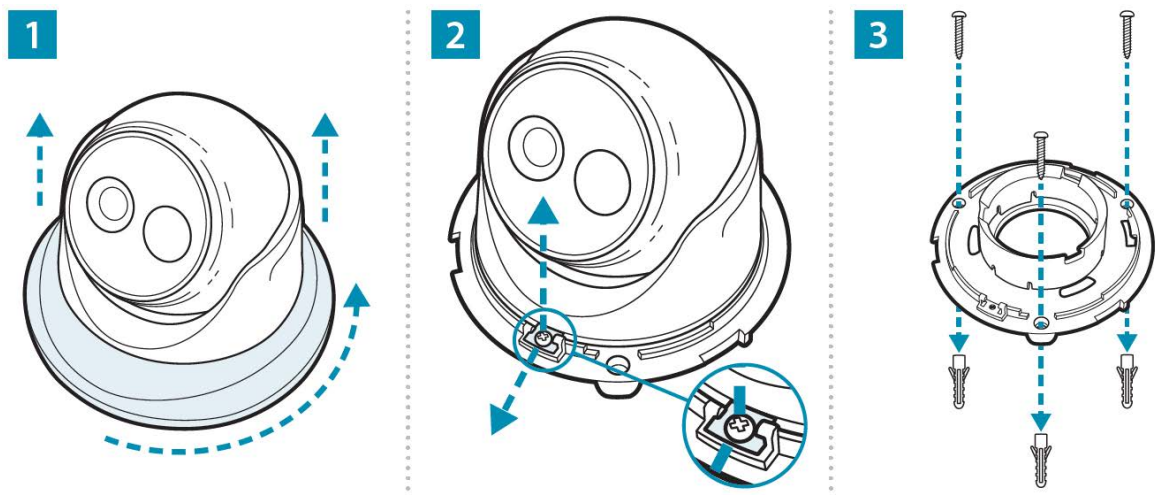
This output can be changed either with the dip switches on the fly-lead of the camera. Please note the “Output Mode” in the menu of the DVR won’t change the format, as the dip switch overrides the output.

The dip switch configuration can be found below:-



## 5 Mounting

### 5.1 Mini Eyeball

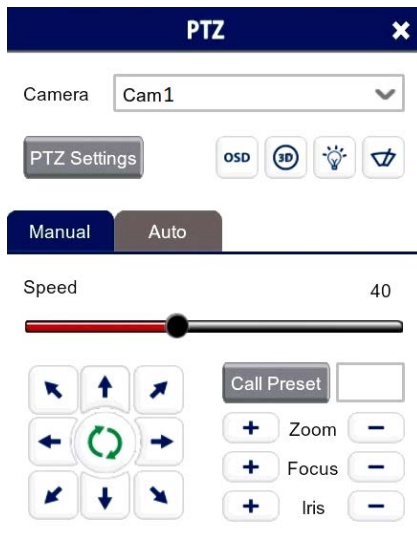


## 6 OSD Menu

Access to the camera menu is by Coaxitron. For the ZIP DVRs, ZIP Coaxitron is set as default.

To access the Cameras Menu via coaxitron:-

1. Click on the image in Live view
2. Click on the PTZ button at the bottom of the screen
3. Click on the IRIS + button to display the menu



Use the directional arrows to move up and down through the menu.

Use the directional arrows left and right to change the option.

Use IRIS + to select & enter that menu option.

### 6.1 2MP OSD Menu

LENS	MANUAL (No Adjustment)			
EXPOSURE	SHUTTER	AUTO 1/25 1/50 FLK 1/200 1/400 1/1000 1/2000 1/5000 1/10000 1/50000 / x2 / x4 / x6 / x8 / x10 / x15 / x20 / x25 / x30		
	AGC	0 ~ 15 (Default 15)		
	SENS-UP	OFF/ AUTO	SENS-UP	x2 / x4 / x6 / x8 / x10 / x15 / x20 / x25 / x30
			RETURN	
	BRIGHTNESS	0 ~ 100 (Default 40)		
	D-WDR	ON / AUTO / OFF	LEVEL	0 ~ 8 (Default 2)
			RETURN	
	DEFOG	OFF/ AUTO	POS/SIZE	POSITION & SIZE
			GRADATION	0 ~ 2 (Default 0)
			DEFAULT	(Defaults the above)
RETURN				
RETURN				
BACKLIGHT	OFF / BLC	LEVEL	MIDDLE / HIGH / LOW	

	HSBLC	AREA	POSITION & SIZE			
		DEFAULT	(Defaults the above)			
		RETURN				
		SELECT	AREA 1 / 2 / 3 / 4	(Selects adjustment area)		
		DISPLAY	ON / OFF	POSITION & SIZE		
		BLACK MASK	ON / OFF			
		LEVEL	0 ~ 100 (Default 20)			
		MODE	NIGHT / ALL DAY	AGC LEVEL	0 ~ 255 (Default 48)	
				RETURN		
			DEFAULT			
	RETURN					
WHITE BAL	ATW /					
	AWC-SET /	(Sets Automatic White Balance Control)				
	INDOOR /					
	OUTDOOR /					
	MANUAL /	BLUE	0 ~ 100 (Default 50)			
		RED	0 ~ 100 (Default 50)			
		RETURN				
AWB						
DAY & NIGHT	EXT /					
		D-N (DELAY)	0 ~ 60 (Default 3)			
		N-D (DELAY)	0 ~ 60 (Default 3)			
		RETURN				
	COLOR /					
	B/W	BURST	ON / OFF			
		IR SMART	ON / OFF	LEVEL	0 ~ 15 (Default 0)	
				AREA	POSITION & SIZE	
		RETURN				
	RETURN					
NR	2DNR	MIDDLE / HIGH / OFF / LOW				
	3DNR	MIDDLE / HIGH / OFF / LOW				
	RETURN					
SPECIAL	CAM TITLE	OFF / ON	Use on screen keyboard			
	D-EFFECT	FREEZE	OFF / ON			
		MIRROR	OFF / MIRROR / V-FLIP / ROTATE			
		NEG. IMAGE	OFF / ON			
		RETURN				
	MOTION	OFF / ON	SELECT	AREA 1 / 2 / 3 / 4		
			DISPLAY	ON / OFF		
			SENSITIVITY	0 ~ 100 (Default 64)		
			COLOR	GREEN / BLUE / WHITE / RED		
			TRANS	1.00 / 0.75 / 0.25 / 0.00		
			ALARM	VIEW TYPE	ALL / OFF / BLOCK / OUTLINE	
				OSD VIEW	ON / OFF	
				ALARM OUT	ON / OFF	
				TIME	0 ~ 15 (Default 3)	
			RETURN			

ZIP TVI Camera Range

			DEFAULT		
PRIVACY	OFF / ON	SELECT	AREA 1 / 2 / 3 / 4		
		DISPLAY	COLOR / OFF / MOSAIC / INV.		
		COLOR	WHITE / BLACK / RED / BLUE / YELLOW / GREEN / CYAN / USER		
		TRANS	1.00 / 0.25 / 0.50 / 0.75		
		DEFAULT			
		RETURN			
LANGUAGE	ENG / CHN1 / CHN2 / GER / FRA / ITA / SPA / POL / RUS / POR / NED / TUR				
DEFECT	LIVE DPC	OFF / ON	AGC LEVEL	0 ~ 255 (Default <b>64</b> )	
			LEVEL	0 ~ 100 (Default <b>64</b> )	
			RETURN		
	WHITE DPC	ON / OFF	POS / SIZE	POSITION & SIZE	
			START	STARTS SCAN	
			DPC VIEW	OFF / ON	
			LEVEL	0 ~ 100 (Default <b>3</b> )	
			AGC	0 ~ 14 (Default <b>8</b> )	
			SENS-UP	x6 / x8 / x10 / x15 / x20 / x25 / x30 / x2 / x4	
			RETURN		
	BLACK DPC	OFF / ON	POS / SIZE	POSITION & SIZE	
			START	STARTS SCAN	
			DPC VIEW	OFF / ON	
			LEVEL	0 ~ 100 (Default <b>100</b> )	
			RETURN		
		RETURN			
RS485	CAM ID	0 ~ 255 (Default <b>0</b> )			
	ID DISPLAY	OFF / ON			
	BAUDRATE	38400 / 2400 / 4800 / 9600 / 19200 /			
	RETURN				
		RETURN			
ADJUST	SHARPNESS	AUTO /	LEVEL	0 ~ 10 (Default <b>6</b> )	
			START AGC	0 ~ 255 (Default <b>120</b> )	
			END AGC	0 ~ 255 (Default <b>255</b> )	
			RETURN		
			OFF		
	MONITOR	LCD /	GAMMA	USER / 0.45 ~ 1.00	
			BLUE GAIN	0 ~ 100 (Default <b>64</b> )	
			RED GAIN	0 ~ 100 (Default <b>64</b> )	
			RETURN		
		CRT	BLUE GAIN	0 ~ 100 (Default <b>56</b> )	
			RED GAIN	0 ~ 100 (Default <b>56</b> )	
			RETURN		
	LSC	ON / OFF			
	COMET	OFF / ON			



	OUTPUT MODE	NO ADJUSTMENT
	RETURN	
EXIT	SAVE & END / RESET / NOT SAVE	

## 6.2 Key Menu Settings

**Exposure Mode** - AUTO sets the required shutter speed for the current light level. The shutter speed will automatically detect the required length of time to keep the digital sensor exposed to light. FLK option sets the shutter speed to stop synchronisation with lighting so that pulsing effect is minimised.

**White Balance** - Colour adjustment of the camera to be set up so objects appear a natural colour. ATW (Automatic tracking white balance) continually tracks and adjusts the white balance, making it suitable for use in cameras in which the image content and lighting are subject to changes.

**Day & Night** - The camera can be set to colour or B&W mode or have it automatically switch. External is set as default, the switch between colour and black & white is controlled by an external trigger. In this a light dependent resistor. Delay can be set which will instruct the camera to wait for a set length of time before switching. This accommodates for any temporary drops in light.

**DNR (Noise Reduction)** - Noise Reduction is the process of removing noise from the video signal by applying a digital filter. 2D noise reduction reduces noise in the foreground of the image where as 3D noise reduction reduces noise in both the foreground and the background of the image.

**D-WDR** - Digitally adjusts the exposure in areas of the frame to maintain optimum levels in both the dark and bright areas of an image.

**Reset** - Defaults the camera to factory settings. This setting helps when fault finding issues with the camera to ensure all settings are defaulted.

## 7 Troubleshooting

### 7.1 Camera Rebooting / Turning Off

- A. Check the voltage of the camera (under load) if below 10.8V then move the power supply closer to the camera.
- B. For 12V DC cameras only ever use regulated power supply rated at above 750mA, 1A would be recommended. So that the camera is always receiving the correct supply.
- C. Use thicker gauge copper cabling to reduce the voltage drop.

### 7.2 Poor Quality Images

- A. Check the fly-lead is set to the correct output – see [4-In-1 Technology](#)<sup>[3]</sup>
- B. If set to CVBS, then this is a low quality video output for legacy systems (Analogue), when using a 2 MegaPixel DVR or above then use another video format, like HD-TVI.
- C. Reset the camera menu via Zip Coaxitron – [OSD Menu](#)<sup>[4]</sup>
- D. Check if your recorder supports the resolution of the camera.

### 7.3 Image is Black & White

- A. Check the video format your DVR supports, then set the camera to the relevant video format – see the [4-In-1 Technology](#)<sup>[3]</sup>
- B. Reset the camera menu via Zip Coaxitron [OSD Menu](#)<sup>[4]</sup>
- C. Check the recorder supports the resolution of the camera.

### 7.4 NCD / No Image Displayed on Recorder

- A. Test that the camera has the correct voltage supplying it, this must be done with the camera connected so that there is load on the PSU. A 12V DC camera should have at least 10.5V DC connected to it.
- B. The camera can not function without the correct power supply. For 12V DC cameras only ever use regulated power supplies to ensure that the camera is always receiving the correct voltage.
- C. Ensure that the BNC – BNC lead that is connected between the camera and DVR has no shorts or open circuits.

## 8 General Maintenance

- Ensure that nothing is obscuring the field of view, position the camera to ensure the Lens can see clearly.
- Routinely clean the camera to prevent dust build up as this can effect the performance of the camera. We recommend a damp non-abrasive microfibre cloth.
- Check that the cameras are firmly attached.
- Check playback in the recorder to ensure the camera is recording properly.

## 9 Specification

### 9.1 SEE815

Resolution	2MP
Lens Type	3.6mm Fixed
Image Output	1 Volt Peak-Peak 75 ohm
Min.Illumination	0 Lux IR On
Day/Night	Mechanical (True Day-Night)
InfraRed LEDs	1 High Power LED
IR Range	30m
Input Voltage	12V DC
Current Consumption	300mA (IR On)
IP Rating	IP66
Video Connection	BNC Socket
Power Connection	2.1mm DC Socket
WDR	Yes
Bracket	Wall & Ceiling Available
Finish	White/ Black
Build	Metal
Dimensions	Dia. 126mm x (H) 100mm

## 10 Conditions

### 10.1 General Company Disclaimer

*All specifications are approximate. System Q Ltd reserves the right to change any product specifications or features without notice. Whilst every effort is made to ensure that these instructions are complete and accurate, System Q Ltd cannot be held responsible in any way for any losses, no matter how they arise, from errors or omissions in these instructions, or the performance or non-performance of the equipment that these instructions refer to.*

### 10.2 WEEE Declaration



*This symbol on the products and/or accompanying documents means that used electronic equipment must not be mixed with general household waste. For treatment, recovery and recycling please return this unit to your trade supplier or local designated WEE/CG0783SS collection point as defined by your local council.*

### 10.3 Copyright

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