



## 2MP Covert Range

xSEE902 xSEE922 xSEE942  
xSEE952 xSEE962

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# 1 Introduction to the 2MP Covert Range

Compatible with most current DVRs on the market including the ZIP DVR Lite, Supa and Xtra models.

These cameras are multi-format with TVI, AHD, CVI and CVBS modes, which can be changed with the 4-in-1 dip switch.

## 1.1 Tools & Handy Extras

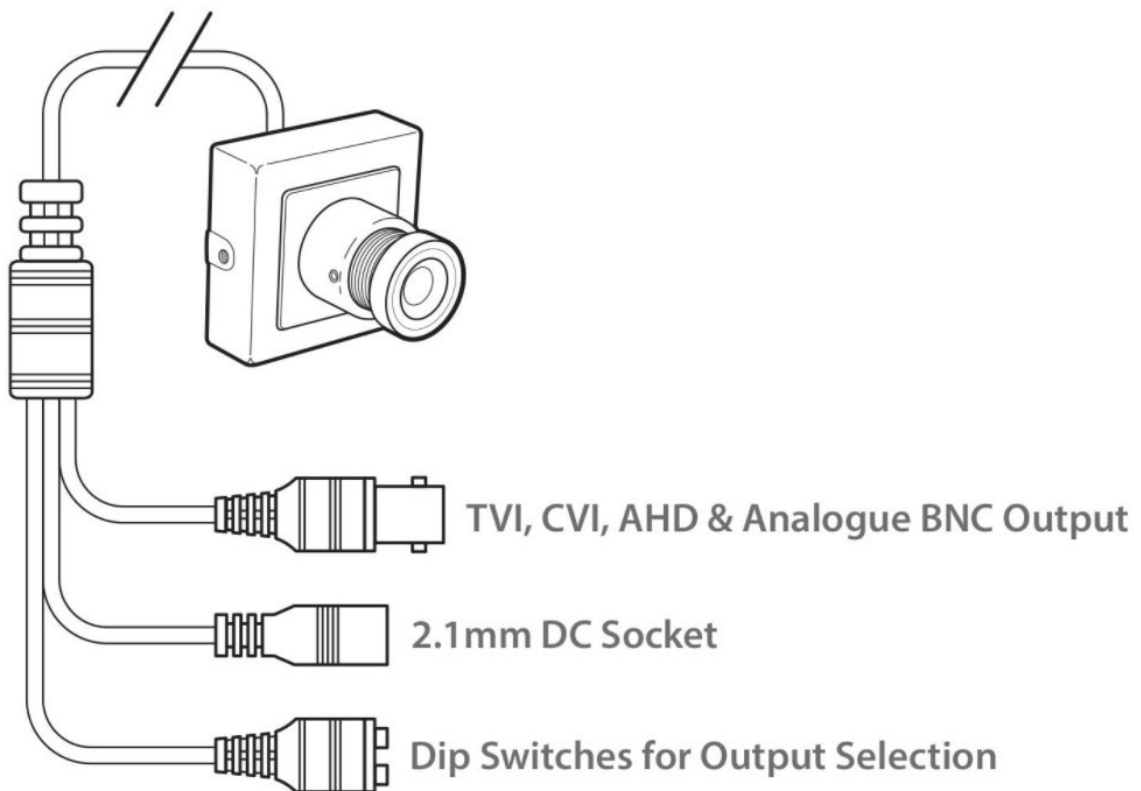
- Screwdriver
- Drill
- Hammer
- POW151 - 12V DC 500mA Plug-in PSU
- Drill bits
- BNC Crimp Tool & BNCs
- RG59 Coax Cable
- Digital Multi-Meter
- LCD400K - CCTV Test monitor

## 2 Connections, Dimensions & Key Features

The camera is provided with a fly lead with a 2.1mm DC socket.

It is recommended to use a power supply that is rated higher than the current consumption of the camera i.e. the current consumption is 85mA on so add approximately 50% headroom, and use a regulated power supply rated at 130mA or above. The camera is polarity sensitive so connections must be correctly made.

### 2.1 SEE902 COVERT 3.6MM MODULE



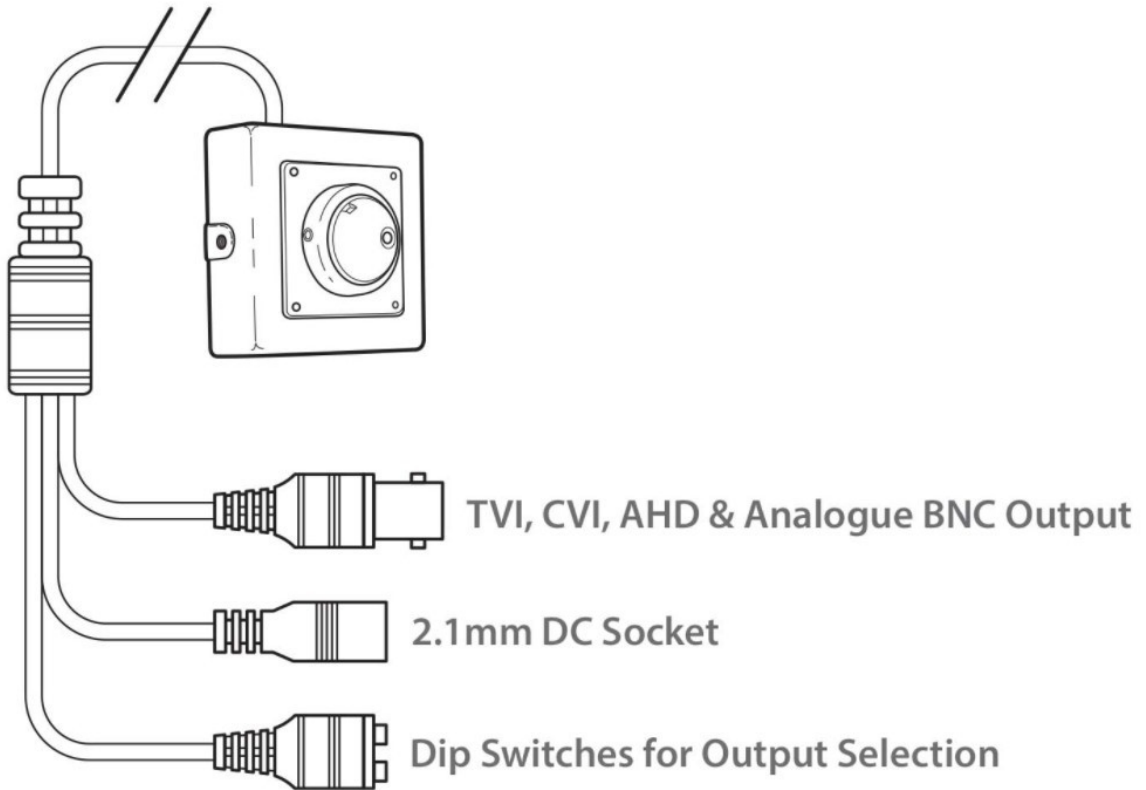
#### SEE902 Dimensions



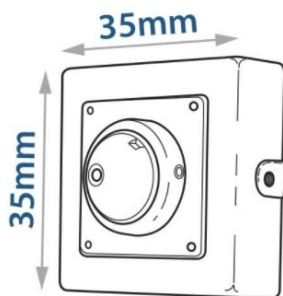
#### FEATURES

- 2MP Resolution
- TVI, CVI, AHD or Analogue Output
- Low Light - 0.001 Lux
- Mounting Bracket Included
- 3.6mm Wide Angle Board Lens
- Tiny Size Just 35x35mm

## 2.2 SEE922 COVERT 3.7MM CONE PHOLE MODULE



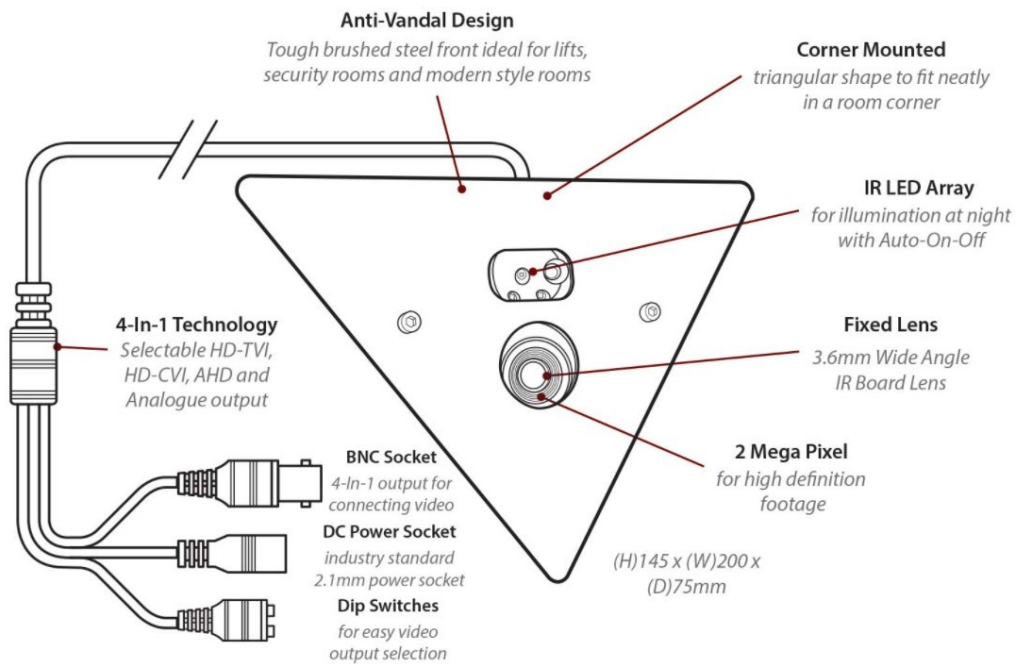
### SEE922 Dimensions



### FEATURES

- **2MP Resolution**
- **Mounting Bracket Included**
- **Low Light - 0.001 Lux**
- **Small Aperture only needs a tiny hole!**
- **TVI, CVI, AHD or Analogue Output**
- **Tiny Size Just 35x35mm**

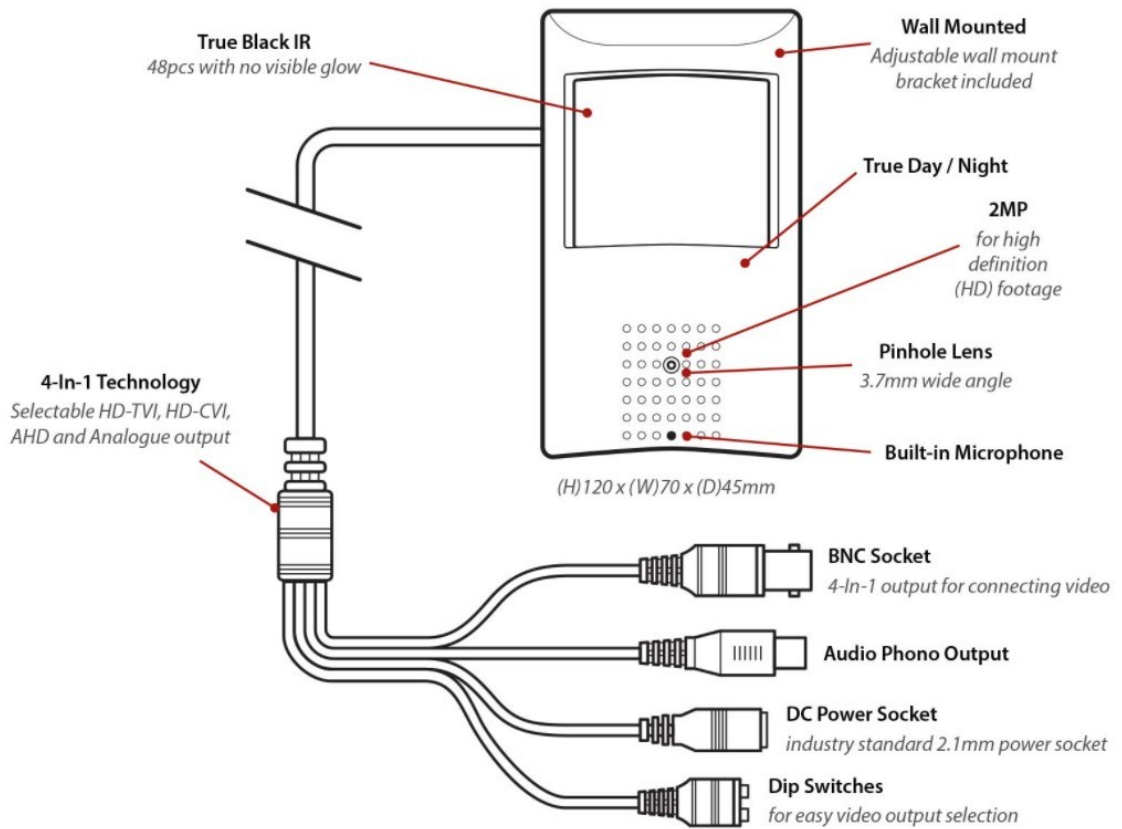
## 2.3 SEE942 ANTIVANDAL CAMERA CORNER



### FEATURES

- **Anti-Vandal Design**
- **Ideal for Lifts & Stock or Security Rooms**
- **Low Light - 0.001 Lux**
- **Close Up IR Array**
- **TVI, CVI, AHD or Analogue Output**
- **True Day/Night**

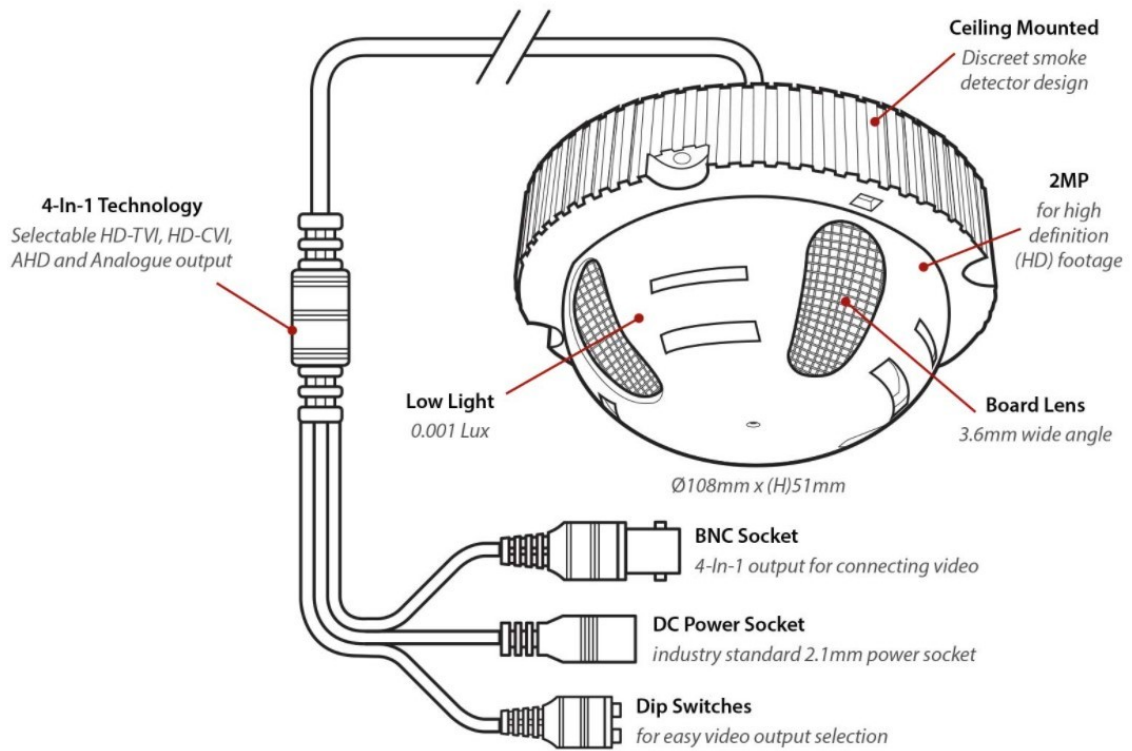
## 2.4 SEE952 COVERT 3.6MM SMOKE



### FEATURES

- **Realistic PIR Cases**
- **TVI, CVI, AHD or Analogue Output**
- **Built-in Microphone**
- **3.7mm Pinhole Lens**
- **Wall Bracket Included**
- **Hidden True-Black IR LEDs**

## 2.5 SEE962 COVERT 3.6MM SMOKE



### FEATURES

- **Hi-Res, Stylish & Discrete**
- **Low Light - 0.001 Lux**
- **3.6mm Board Lens**
- **TVI, CVI, AHD, CVBS Output**

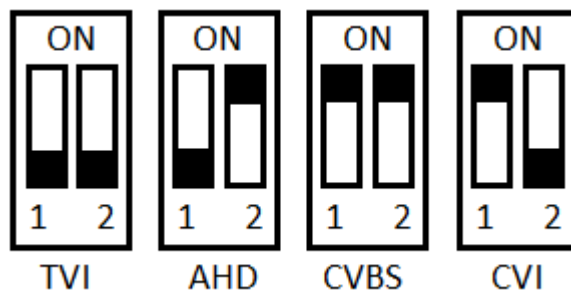


### 3 4-In-1 Technology

Selectable HD-TVI, HD-CVI, AHD and CVBS (Analogue) Output. As default the 2MP Covert Cameras are set to HD-TVI which will work with the ZipLite, ZipSupa and ZipXtreme DVRs, 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:-

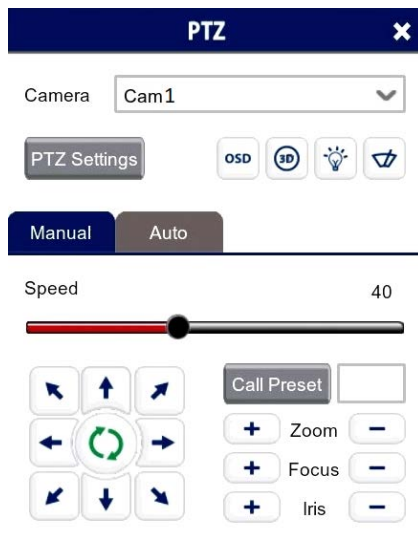


## 4 OSD Menu

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.

LENS	<b>MANUAL</b> (No Adjustment)			
EXPOSURE	SHUTTER	<b>AUTO</b> 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 <b>15</b> )		
	SENS-UP	OFF/ AUTO	SENS-UP	x2 / x4 / x6 / x8 / x10 / x15 / x20 / x25 / x30
			RETURN	
	BRIGHTNESS	0 ~ 100 (Default <b>40</b> )		
	D-WDR	ON / AUTO / OFF	LEVEL	0 ~ 8 (Default <b>2</b> )
			RETURN	
	DEFOG	OFF/ AUTO	POS/SIZE	POSITION & SIZE
			GRADATION	0 ~ 2 (Default <b>0</b> )
			DEFAULT	(Defaults the above)
RETURN				
BACKLIGHT	OFF / BLC	LEVEL	<b>MIDDLE</b> / HIGH / LOW	
		AREA	POSITION & SIZE	
		DEFAULT	(Defaults the above)	
		RETURN		
	HSBLC	SELECT	AREA <b>1</b> / 2 / 3 / 4	(Selects adjustment area)
		DISPLAY	ON / OFF	POSITION & SIZE
		BLACK MASK	ON / OFF	
		LEVEL	0 ~ 100 (Default <b>20</b> )	

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

## 4.1 Key Menu Settings

**Shutter** - Auto is set as default, it automatically 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.

**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.

**Backlight** - This helps make items in front of a bright scene (such as a window on a bright sunny day) clearer to see by increasing their brightness and making the background darker.

**White Balance** - This allows the 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** - This setting allows you to lock the camera in a 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.

**NR (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.

**Privacy** - Allows the user to “block out” areas in the picture so that the installation complies with the Data Protection Act and avoids infringing other people’s privacy rights.

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

## 5 Troubleshooting

### 5.1 Camera Rebooting / Turning Off

A. Check the voltage of the camera (under load) if below 10.8V then you will need to move the power supply closer to the camera.

B. For 12V DC cameras only ever use regulated power supplies so that you can be sure that the camera is always receiving the correct voltage.

Note:- SEE942 & SEE952 models draw more current at night time as the cameras have IRs built in.

C. Use thicker gauge copper cabling to reduce the voltage drop.

### 5.2 Poor Quality Images

A. Check the fly-lead is set to the correct output – see [4-In-1 Technology](#)<sup>[7]</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 – see above for Reset.

D. Check if your DVR supports 2 MegaPixel cameras.

### 5.3 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>[7]</sup>

B. Reset the camera menu via Zip Coaxitron [OSD Menu](#)<sup>[8]</sup>

C. Check if your DVR supports 2 MegaPixel cameras.

### 5.4 NCD / No Image Displayed on Recorder

A. 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. 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 so that you can be sure that the camera is always receiving the correct voltage.

C. Ensure that the BNC – BNC lead that you connect between the camera and DVR 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.

## 6 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.

## 7 Specification

	SEE902	SEE922	SEE942	SEE952	SEE962
Image Sensor	1/2.8"				
Resolution	2MP				
Lens Type	3.6mm Fixed Board	3.7mm Fixed Pinhole	3.6mm Board Lens	3.7mm Fixed Pinhole	3.6mm Board Lens
Image Output	TVI / CVI / AHD / CVBS				
Min. Illumination	0.001 Lux		0.001 Lux / 0 Lux IR On		0.001 Lux
Day/Night	Electronic		Mechanical (True Day-Night)		Electronic
Input Voltage	12V DC				
Current Consumption	85mA		85mA / 310mA IR On	85mA / 390mA IR On	85mA
Signal to Noise Ratio	More than 50dB				
Gain Control	Automatic				
Video Connection	BNC Socket				
Power Connection	2.1mm DC Socket				
WDR	Yes				
Protocol	UTC				
Bracket	Supplied		N/A		Supplied
Finish	Black		Silver	White	
Build	Metal			Plastic	
Operating Temperature	-10°C - +60°C				
White Balance	Auto / Manual				
Dimensions	(H) 35 x (W) 35 x (D) 29mm	(H) 35 x (W) 35 x (D) 21.5mm	(H) 100 x (W) 198 x (D) 107mm	(H) 120 x (W) 70 x (D) 45mm (Ex Bracket)	108mm Dia x (H) 51mm
IR Wavelength	N/A		850nm	940nm - True Black	N/A



## 8 Conditions

### 8.1 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.*

### 8.2 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.*

### 8.3 Copyright

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