

# SEE220

Handbook &  
Instructions

Stunning 1080p HD-TVI CCTV camera with built in Balun and internal connections for neat & easy installation



**MiRs**  
Maximum IR  
Sensitivity ✓

XSEE220

## SEE220 Introduction



**MiRs**  
Maximum IR  
Sensitivity ✓

With a built in Balun the SEE220 can be installed with either CAT5 or Composite co-ax cable allowing flexible installation options. The camera's menu can be controlled by "up the co-ax telemetry" (Alien TVI Coaxitron) or additional 2-wire telemetry (PELCO-D) making it easier to set up on site and remotely.

- HD-TVI 1080p output at 25fps
- Dual TVI and CVBS (analogue) outputs
- Dual Voltage 12V DC, 24V AC
- Built in Balun
- Up the co-ax control - (Alien TVI Coaxitron)
- Pelco D - (RS485 2 wire)
- NiteDevil low light - 0.015 Lux
- Internal connections - no flying lead
- Vandal-proof & Weatherproof
- 3 Axis Gimbal for wall or ceiling mounting
- 2.1 Mega-pixel 2.8 ~ 12 mm Auto Iris Lens
- True day-night mechanical IR cut filter

Dual TVI and analogue outputs, dual power (12V DC and 24V AC), a clever internal connection PCB for neat and fast installation and stunning 1080p HD picture quality make the SEE220 a great first choice CCTV Dome cameras for any installation.

# Inside The SEE220

## 1 Zoom Adjustment

Unlocking this screw allows you to adjust the zoom in and out of the camera.

## 3 Tilt Axis

Unlock this screw and one on the other side to tilt the camera up and down.

## 2 Focus Adjustment

Unlocking this screw allows you to re-adjust the focus of the camera after adjusting the zoom.

## 4 Rotational Axis

Turn this to rotate the camera's output image so that it is correct on a monitor.  
*(Loosen tilt screws first)*

## 7 HD-TVI Video Out

Connect your co-ax to this for the main TVI output.

*See pages 6, 7*

## 5 Left-Right Axis

Unlock these screws to adjust the left-right orientation of the camera.  
*(2 Screws, 1 either side)*

## 8 Analogue Out

700TVL Analogue output great for on legacy installs.

## 6 Connection Block

Spring lock terminals to wire up the power input, TVI CAT5 connection to the built in balun and RS485 telemetry.

*See pages 6, 7, 8, 9*

## 9 Joystick

Press to bring up the OSD then navigate using the joystick. Press again to select.

## 10 Conduit Entry

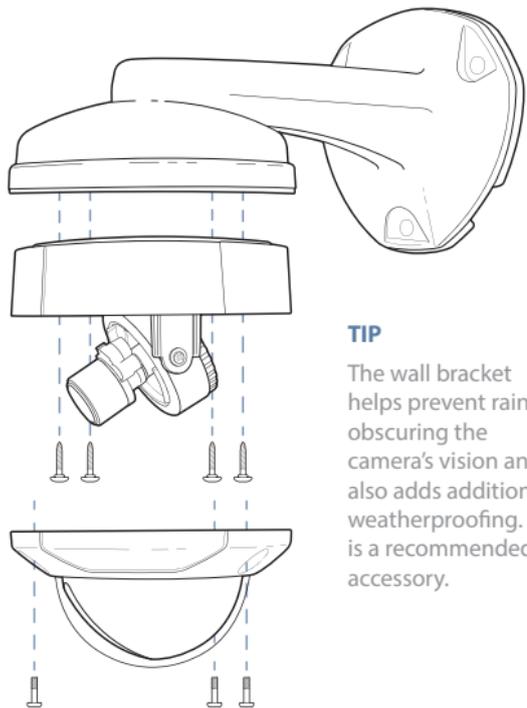
20mm blank supplied.

*(Cable entry also at rear through a grommet)*



## Mounting The Camera

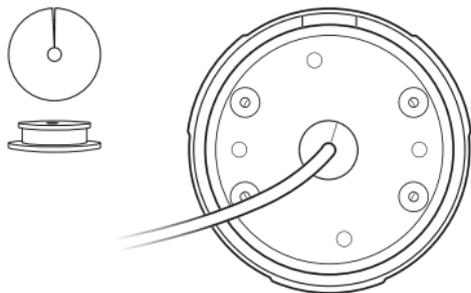
The camera can be mounted on a wall, ceiling or attached to an optional wall bracket.



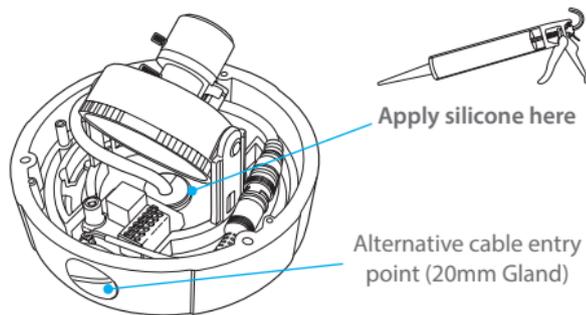
### TIP

The wall bracket helps prevent rain obscuring the camera's vision and also adds additional weatherproofing. It is a recommended accessory.

To ensure that the camera is weatherproof, a rubber grommet is provided through which the cable enters the camera.



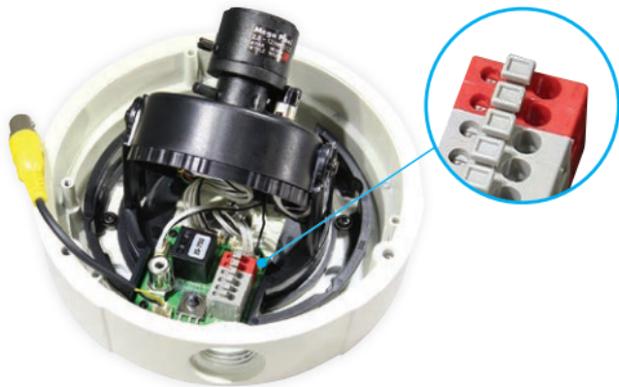
Prior to the end of the installation you need to additionally seal the grommet with a flexible silicone product. This is because the rubber grommet may shrink or get stressed by cable movement over time.



# Powering The Camera

The dome requires either a 12V DC regulated power supply or a 24V AC power supply it draws a maximum current of around 150mA @12V DC.

Connections are not polarity sensitive therefore the power can be connected either way round, the power terminals are easy to identify as they are **marked in red**.

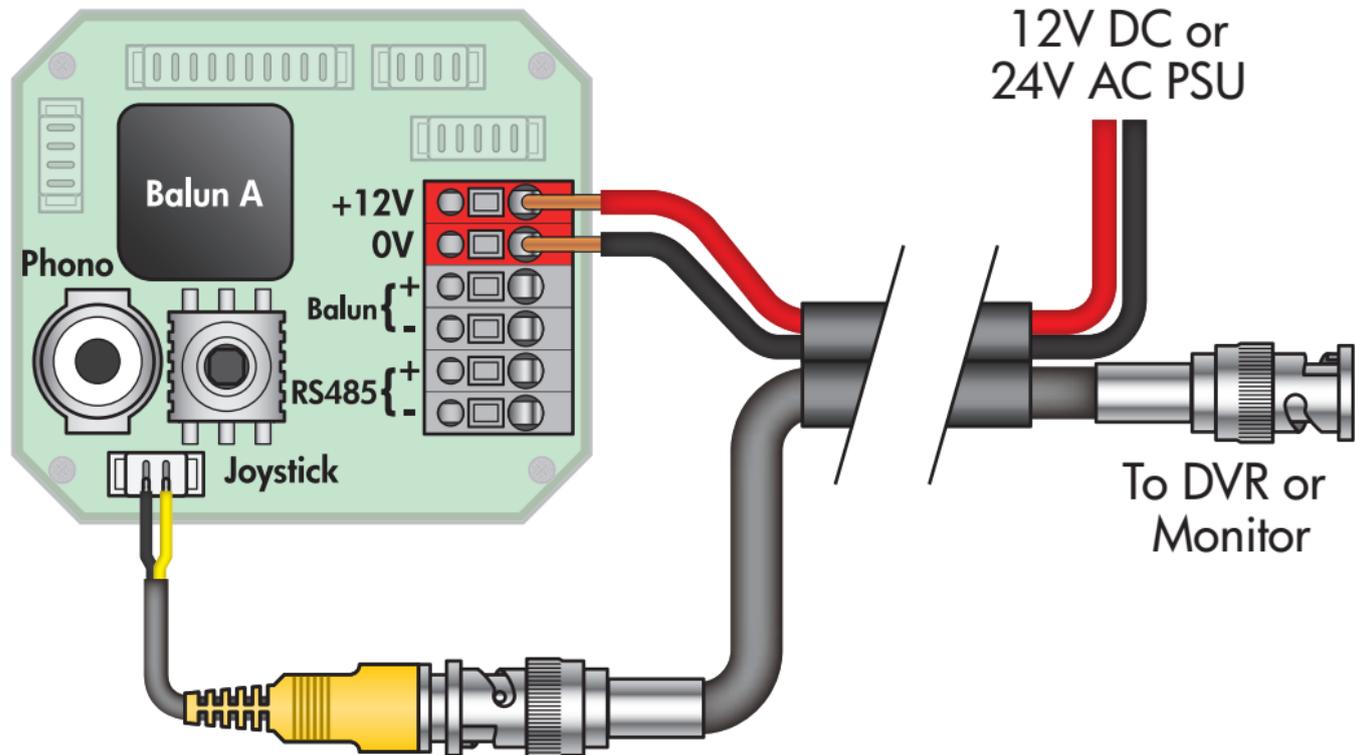


24V AC is a good choice on long cable runs to power the camera as you get less voltage drop in the power cores, however if using 24V AC use only CAT5+2 or RG59+2 to avoid the AC signal interfering with the video signal.

There are four easy ways to cable the camera:

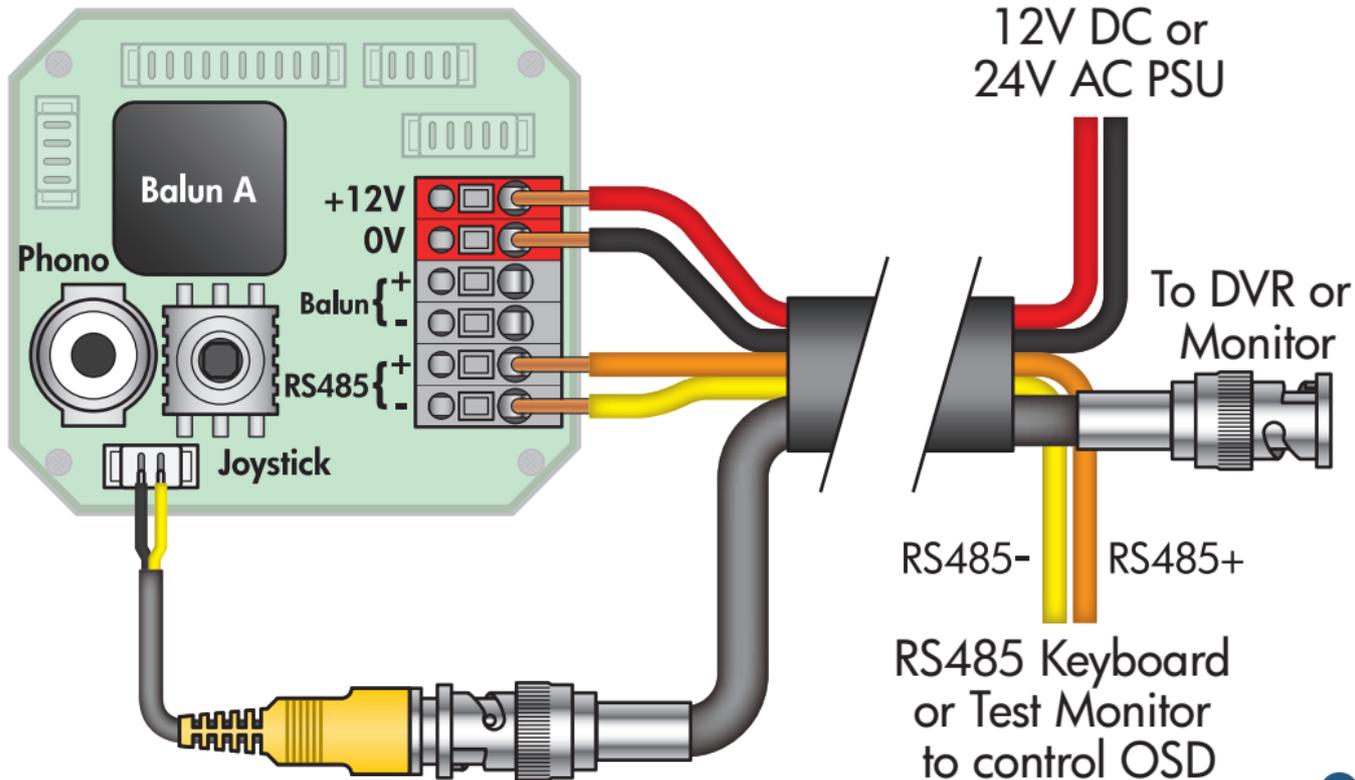
- 1 RG59+2**  
No Balun required - easy and simple installation.
- 2 RG59+4**  
No Balun required - extra cores allow a DVR with RS485 to control the camera's OSD.
- 3 CAT5+2**  
Requires a balun at the remote end - heavy duty power cores can power multiple cameras. OSD control by DVR possible.
- 4 CAT5**  
Requires a balun at the remote end - uses the CAT5 cores for power (Powers single cameras only). OSD control by DVR possible.

## RG59+2 Cable contains - 1 co-ax core + 2 power cores

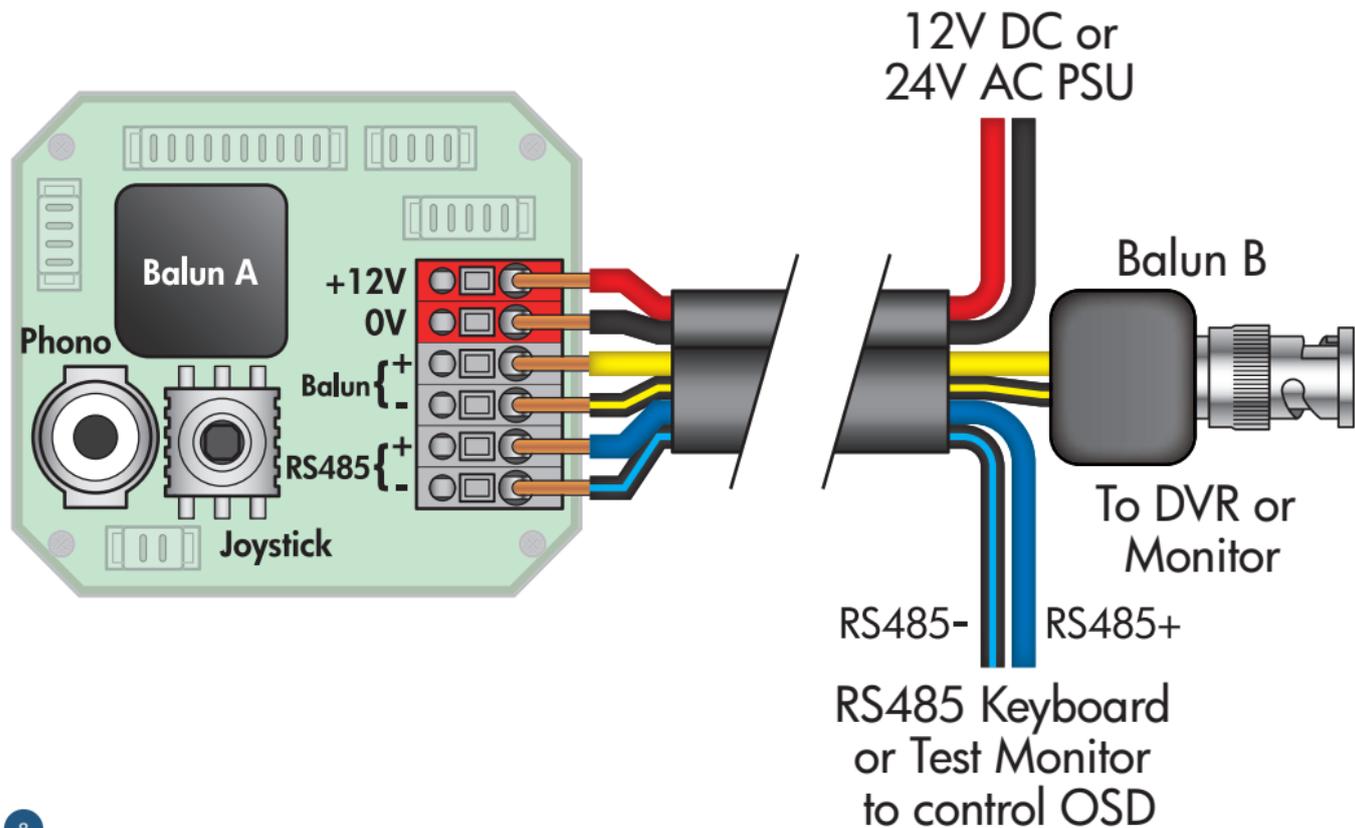


# RG59+4 (PTZ Combo Cable)

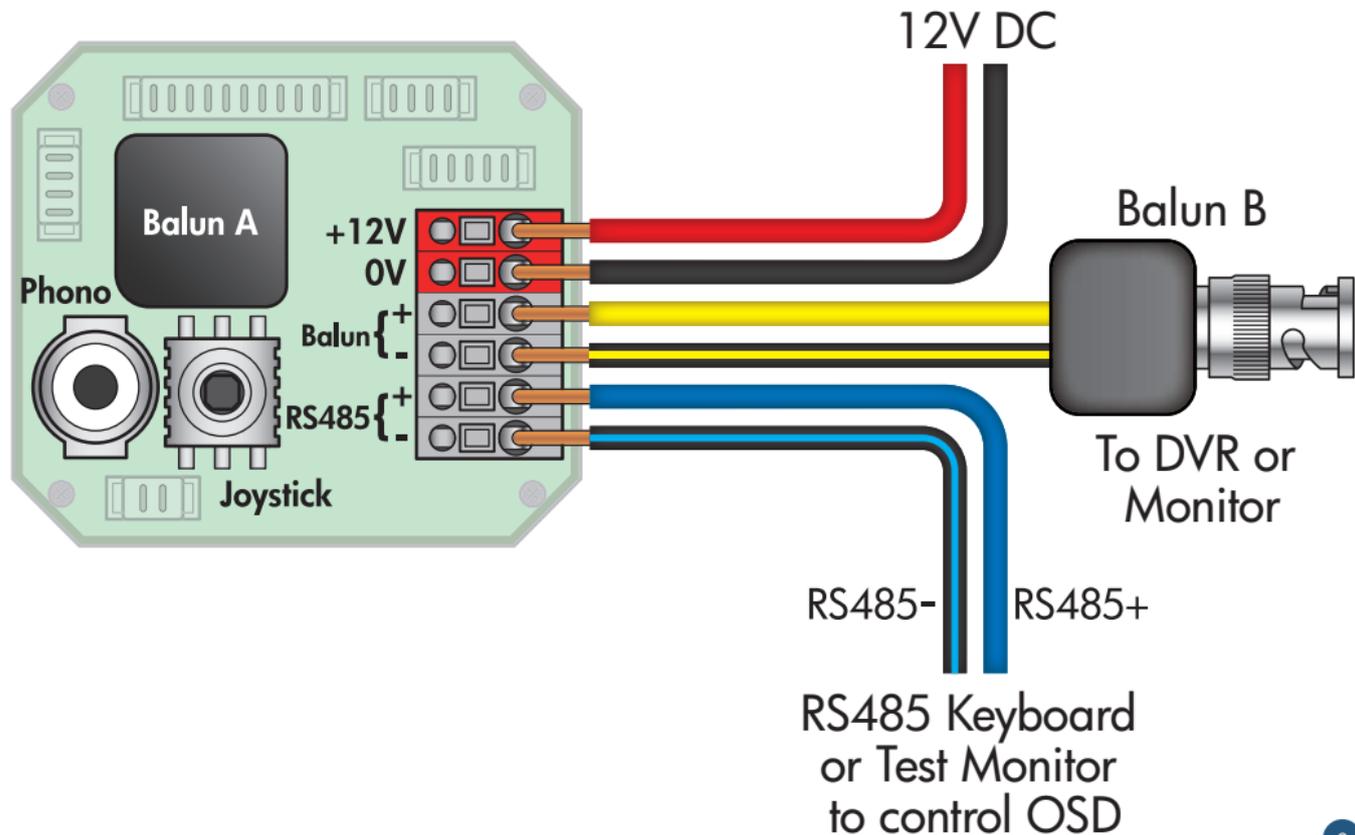
Cable contains - 1 co-ax core + 2 power cores + 2 data cores



**CAT5+2** Cable contains - 4 pairs data cores (CAT5E style) + 2 heavy duty power cores



## CAT5 Cable contains - 4 pairs data cores (CAT5E style)



# Accessing The Menus

You can access the menus in the camera by three means:

- 1 Micro joystick on the PCB inside the dome.
- 2 Alien TVI up the co-ax telemetry control.
- 3 RS485 control using a keyboard, DVR, or CCTVMate test monitor.

## Micro Joystick

To access the menus using the Micro-Joystick, simply press the joystick and the menu will pop up on the camera's image. Gently moving the joystick up, down, left or right allows you to navigate through the menus. Selection is made by another press of the joystick.



## Alien TVI (Coaxitron)

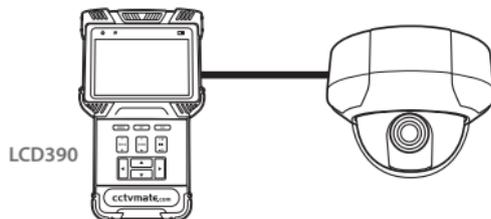
You can access the OSD menu via the co-ax cable from a compatible DVR or test monitor. Simply set the PTZ protocol to 'Alien TVI Coaxitron' and then use the PTZ controls to navigate the camera's OSD menu. Use 'Iris +' to display the OSD menu

and confirm selections. The directional arrows are then used to highlight and change parameters.



## RS485

The camera also has traditional RS485 Pelco-D control and has two terminals to connect the RS485 control device to. PTZ keyboards, some DVRs or the CCTVMate test monitor all have RS485 control outputs that can control the camera. This method can be useful to adjust cameras remotely that are connected to DVRs. The Default setting is BAUDRATE = 9600, PROTOCOL = PELCO-D, ID =01.



# Main Menu

MAIN MENU	SUB MENU	OPTIONS
LENS		DC / <b>MANUAL</b>
		DC: 1. MODE: <b>OUTDOOR</b> / INDOOR 2. IRIS SPEED: 1 ~15 ( <b>8</b> )
EXPOSURE	SHUTTER	<b>AUTO</b> / FLK / 1/25 ~ 1/50000 / X2 ~ X30
	AGC	1~15 ( <b>15</b> )
	SENS-UP	<b>AUTO</b> / OFF AUTO: 1. SENS-UP: X2 ~ X30 ( <b>X8</b> )
	BRIGHTNESS	1 ~ 100 ( <b>40</b> )
	D-WDR	<b>AUTO</b> / OFF / ON ON: 1. LEVEL: 0 ~ 8 ( <b>5</b> )
	DEFOG	<b>OFF</b> / AUTO AUTO: 1. POS/SIZE: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size. 2. GRADUATION: 0 ~ 2 ( <b>0</b> ) 3. DEFAULT
BACKLIGHT		<b>OFF</b> / BLC / HSBLC
		BLC: 1. LEVEL: LOW / <b>MIDDLE</b> / HIGH 2. AREA: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size. 3. DEFAULT HSBLC: 1. SELECT: AREA1 ~ AREA4 ( <b>AREA1</b> ) 2. DISPLAY: <b>ON</b> / OFF 3. BLACK MASK: <b>ON</b> / OFF 4. LEVEL: 0 ~100 ( <b>20</b> ) 5. MODE: ALL DAY / <b>NIGHT</b> 6. DEFAULT ON: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size. NIGHT: AGC LEVEL: 0 ~255 ( <b>48</b> )

Default settings are highlighted in **blue**. See page 15 on how to get the best out of your camera.

## Main Menu Continued

MAIN MENU	SUB MENU	OPTIONS
WHITE BALANCE		<b>ATW</b> / AWC → SET / INDOOR / OUTDOOR / MANUAL / AWB MANUAL: 1. BLUE: 0 ~ 100 ( <b>50</b> ) 2. RED: 0 ~ 100 ( <b>50</b> )
DAY & NIGHT		<b>AUTO</b> / COLOUR / B/W / EXT AUTO: 1. D → N (AGC): 0 ~ 255 ( <b>169</b> ) 3. N → D (AGC): 0 ~ 255 ( <b>115</b> ) 2. D → N (DELAY): 0 ~ 255 ( <b>3</b> ) 4. N → D (DELAY): 0 ~ 255 ( <b>3</b> ) B/W: 1. BURST: <b>OFF</b> / ON 2. IR SMART: <b>OFF</b> / ON EXT: 1. DELAY: 0 ~ 60 ( <b>3</b> ) 2. N → D (DELAY): 0 ~ 60 ( <b>3</b> )
NR	2DNR	LOW / <b>MIDDLE</b> / HIGH / OFF
	3DNR	LOW / <b>MIDDLE</b> / HIGH / OFF
SPECIAL		SEE PAGE 13
ADJUST	SHARPNESS	<b>AUTO</b> / OFF AUTO: 1. LEVEL: 0 ~ 10 ( <b>5</b> ) 3. END AGC: 0 ~ 255 ( <b>255</b> ) 2. START AGC: 0 ~ 255 ( <b>120</b> )
	MONITOR	<b>LCD</b> / CRT LCD: 1. GAMMA: <b>USER</b> / 0.45 ~ 1.00 3. RED GAIN: 0 ~ 100 ( <b>40</b> ) 2. BLUE GAIN: 0 ~ 100 ( <b>40</b> )
		CRT: 1. BLUE GAIN: 0 ~ 100 ( <b>40</b> ) 2. RED GAIN: 0 ~ 100 ( <b>40</b> )
		LSC
	VIDEO OUT	<b>PAL</b> / NTSC
EXIT		<b>SAVE &amp; END</b> / RESET / NOT SAVE

Default settings are highlighted in **blue**. See page 15 on how to get the best out of your camera.

# Special Menu

SPECIAL MENU	SUB MENU	OPTIONS		
CAM TITLE		<b>OFF / ON</b> ON: SET CAMERA NAME AND POSITION		
D-EFFECT	FREEZE	<b>OFF / ON</b>		
	MIRROR	<b>OFF / MIRROR / V-FLIP / ROTATE</b>		
	NEG. IMAGE	<b>OFF / ON</b>		
MOTION		<b>OFF / ON</b> ON: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;">               1. SELECT: AREA1 ~ AREA4 (<b>AREA 1</b>)                2. DISPLAY: <b>ON</b> / OFF                ON: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size.                3. SENSITIVITY: 0 ~ 100 (<b>64</b>)             </td> <td style="width: 50%; vertical-align: top;">               4. COLOUR: <b>GREEN</b> / BLUE / WHITE / GREEN                5. TRANS: 0.00 ~ 1.00 (<b>1.00</b>)                6. ALARM                1. VIEW TYPE: <b>ALL</b> / OFF / BLOCK / OUTLINE                2. OSD VIEW: <b>ON</b> / OFF                3. ALARM OUT: <b>ON</b> / OFF                4. TIME: 0 ~15 (<b>3</b>)             </td> </tr> </table>	1. SELECT: AREA1 ~ AREA4 ( <b>AREA 1</b> ) 2. DISPLAY: <b>ON</b> / OFF ON: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size. 3. SENSITIVITY: 0 ~ 100 ( <b>64</b> )	4. COLOUR: <b>GREEN</b> / BLUE / WHITE / GREEN 5. TRANS: 0.00 ~ 1.00 ( <b>1.00</b> ) 6. ALARM 1. VIEW TYPE: <b>ALL</b> / OFF / BLOCK / OUTLINE 2. OSD VIEW: <b>ON</b> / OFF 3. ALARM OUT: <b>ON</b> / OFF 4. TIME: 0 ~15 ( <b>3</b> )
1. SELECT: AREA1 ~ AREA4 ( <b>AREA 1</b> ) 2. DISPLAY: <b>ON</b> / OFF ON: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size. 3. SENSITIVITY: 0 ~ 100 ( <b>64</b> )	4. COLOUR: <b>GREEN</b> / BLUE / WHITE / GREEN 5. TRANS: 0.00 ~ 1.00 ( <b>1.00</b> ) 6. ALARM 1. VIEW TYPE: <b>ALL</b> / OFF / BLOCK / OUTLINE 2. OSD VIEW: <b>ON</b> / OFF 3. ALARM OUT: <b>ON</b> / OFF 4. TIME: 0 ~15 ( <b>3</b> )			
PRIVACY		<b>OFF / ON</b> ON: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;">               1. SELECT: AREA1 ~ AREA8 (<b>AREA 1</b>)                2. DISPLAY: <b>COLOR</b> / OFF / MOSAIC / INV                COLOUR, MOSAIC &amp; INV: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size.             </td> <td style="width: 50%; vertical-align: top;">               3. COLOUR: <b>WHITE</b> / BLACK / RED / BLUE / YELLOW / GREEN / CYAN / USER                4. TRANS: 0.25 ~ 1.00 (<b>1.00</b>)                5. DEFAULT             </td> </tr> </table>	1. SELECT: AREA1 ~ AREA8 ( <b>AREA 1</b> ) 2. DISPLAY: <b>COLOR</b> / OFF / MOSAIC / INV COLOUR, MOSAIC & INV: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size.	3. COLOUR: <b>WHITE</b> / BLACK / RED / BLUE / YELLOW / GREEN / CYAN / USER 4. TRANS: 0.25 ~ 1.00 ( <b>1.00</b> ) 5. DEFAULT
1. SELECT: AREA1 ~ AREA8 ( <b>AREA 1</b> ) 2. DISPLAY: <b>COLOR</b> / OFF / MOSAIC / INV COLOUR, MOSAIC & INV: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size.	3. COLOUR: <b>WHITE</b> / BLACK / RED / BLUE / YELLOW / GREEN / CYAN / USER 4. TRANS: 0.25 ~ 1.00 ( <b>1.00</b> ) 5. DEFAULT			
LANGUAGE		<b>ENG</b> / JPN / CHN1 / CHN2 / GER / FRA / ITA / SPA / POL / RUS / POR / NED / TUR / KOR / JPN / HEB / ARB		

Default settings are highlighted in blue. See page 15 on how to get the best out of your camera.

## Special Menu Continued

SPECIAL MENU	SUB MENU	OPTIONS
DEFECT	LIVE DPC	<b>ON / OFF</b> ON: 1. AGC LEVEL: 0 ~ 255 (64) 2. LEVEL: 0 ~ 100 (64)
	WHITE DPC	<b>ON / OFF</b> ON: 1. POS/SIZE: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size. 2. START 3. DPC VIEW: <b>OFF</b> / ON 4. LEVEL: 0 ~ 100 (10) 5. AGC: 0 ~ 15 (12) 6. SENS-UP: X2 ~ X30 (X6)
	BLACK DPC	<b>ON / OFF</b> ON: 1. POS/SIZE: Directions to adjust position, SET to confirm position, directions to adjust size, SET to confirm size. 2. START 3. DPC VIEW: <b>OFF</b> / ON 4. LEVEL: 0 ~ 100 (100)
RS485		1. CAM ID: 0 ~ 255 (1) 2. ID DISPLAY: <b>OFF</b> / ON ON: Directions to adjust position, SET to confirm 3. BAUD RATE: 2400 / 4800 / <b>9600</b> / 19200 / 38400
RETURN		RETURN TO MAIN MENU

Default settings are highlighted in blue. See page 15 on how to get the best out of your camera.

## Getting The Most Out Of The SEE220 What the menu options do

The camera has a comprehensive menu system that allows you to set up the camera to get the most out of it in different demanding situations, below is a guide to some of the key functions:

### Exposure

This alters the speed of the shutter on the camera and adjusts its sensitivity. For maximum sensitivity at night, turn the "SENSUP" to 256, however this will have some "motion trail" on the image in low light due to the long exposure time of the camera. In automatic mode, the Sens Up is set at 8X and suits most applications with good results.

### Sens-up

Sens-up technology makes the camera more sensitive to light giving better quality images in low light situations.

### D-WDR (Digital Wide Dynamic Range)

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.

### Day & Night

This setting allows you to lock the camera in a colour or B&W mode or have it automatically switch. You can also enable the smart IR function that limits IR glare.

### 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.

### LSC (Lens Shading Correction)

Used to correct the image when it appears dark or blurred around the edges.

### Mirror

Allows the camera's picture to be flipped along its horizontal or vertical axis. Enabling the correct camera picture to be displayed when used for different applications including as a reversing aid.

### Motion

Allows the camera to display a warning when it detects video motion in 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.

### RS485

Allows the camera's communication settings to be changed.

## Accessories

### Wall Bracket

Mounting the camera onto a wall prevents rain from obscuring the camera's vision.



Order Code: **CAM610**

### HDMI & TVI Monitor

Slimline 21" AlienCCTV monitor with built-in speakers, HDMI, VGA and TVI inputs and a TVI loop-through.



Order Code: **LCD921**

### 1ch Passive Baluns



Send TVI or analogue signals 100m down CAT5.

Order Code: **BAL702**  
(Sold in pairs)

### Unique Snap Together Feature **ZENDit™**



Send TVI or analogue signals 100m down CAT5.

Order Code: **BAL706**  
(Sold in pairs)

### 4ch Passive Balun

Send & receive 4 TVI or analogue signals 200m down 1 CAT5 cable.

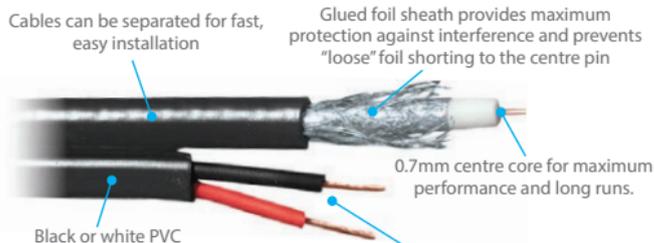
Order Code: **BAL904**



# Accessories - Cable

## Antihum RG59+2

Cable Contains: 1 co-ax core + 2 power cores

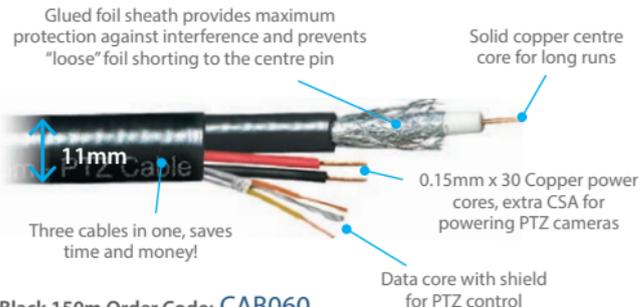


Black 100m Order Code: CAB050

White 100m Order Code: CAB040

## Antihum RG59+4

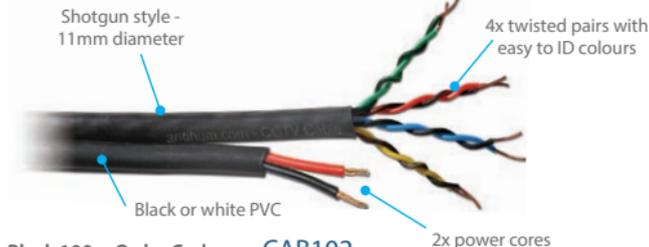
Cable Contains: 1 co-ax core + 2 power cores + 2 data cores



Black 150m Order Code: CAB060

## Antihum CAT5+2

Cable Contains: 4 pair data cores (CAT5E style) + 2 heavy duty power cores

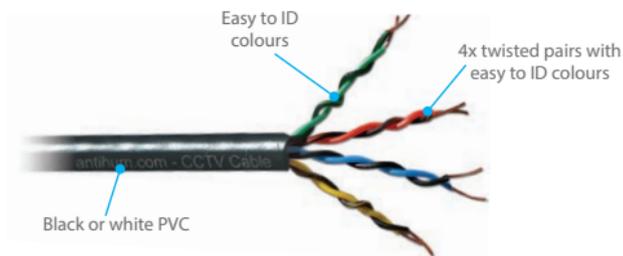


Black 100m Order Code: CAB102

White 100m Order Code: CAB152

## Antihum CAT5

Cable Contains: 4 pair data cores (CAT5E style)



Black 100m Order Code: CAB100

White 100m Order Code: CAB150

## Accessories - Power Supplies

### 5-Amp 12V DC PSU With 9 Outputs



Regulated 12V DC 5 Amp PSU with multiple outputs for use with up to 9 suitable CCTV cameras. Each output produces up to 1 Amp (max 5A overall outputs) to suit most cameras and housings.

Order Code: [POW400](#)

### 6-Amp 24V AC PSU With 6 Outputs



- A 24V AC PSU with a 6 amp output, ideal for powering a number of 24V AC cameras such as PTZ domes.
- Housed in a wall-mount metal case, this is a toroidal transformer with a low operating temperature.

Order Code: [POW500](#)

# 10 Reasons the alien MEGAHero™ DVR is great value for money

alien MegaHero 16ch



1. **Built-in Video Analytics** (*finds evidence instantly!*)
2. **Hybrid Technology for Analogue, TVI & IP** (*futureproof*)
3. **High Definition HDMI Output** (*along with VGA & BNC*)
4. **Easy to Use Interface** (*said to be best in class*)
5. **AutoPort Plug-and-Play** (*for easy internet setup*)
6. **Compact Space Saving Case** (*slim modern design*)
7. **Free Dynamic DNS Setup** (*saves you time*)
8. **Full Alarm Inputs (16 on the 16 way)** - (*triggered how you want*)
9. **Bespoke Software Available** (*you want it, we write it*)
10. **Video Tagging** (*tag recording with keywords such as "theft"*)

Order Codes

4ch 1TB: MEGA204K

8ch 1TB: MEGA208K

16ch 2TB: MEGA216N

For more information visit [www.aliendvr.com](http://www.aliendvr.com)

# Accessories - Tools

## 3 In 1 Test Monitor



cctvmate.com

- 3 In 1 TVI, IP & Analogue
- ONVIF 2 Compatible
- Coaxitron & RS485 Control
- Network & Cable Testing
- 12V DC Output & POE
- Full Qwerty Keyboard
- Built-in Torch
- Built-in Storage For Recordings
- Supports 1080p & 720p HD
- Lithium Ion Battery

## Includes



Order Code: LCD390

For more information visit  
[www.cctvmate.com](http://www.cctvmate.com)

## BNC Ratchet Crimp



Crimps - 2pc ✓ 3pc ✓ Mini 3pc ✓



Order Code: TOO980

Learn how to crimp a BNC!  
See online tip 248 at [www.systemq.com](http://www.systemq.com)

### Programmable Audio Alarm Unit



**VoiceOFF**  
COM

- Trigger Up To 9999 Sounds
- 20 Alarm Inputs Trigger 20 Recordable Warnings
- Removable SD Card
- Talkback Function
- RS232 Connection
- Weatherproof
- Activate Remotely Over The Internet
- Additional Sound Files Can Be Downloaded at [www.voiceoff.com](http://www.voiceoff.com)

The VoiceOff is an alarm activated voice or sound warning unit that has 20 separate alarm inputs, to trigger up to 20 different recorded sound files. RS232 inputs trigger up to 9999 sounds! Over 1000 pre-recorded sounds and messages are available for use at [voiceoff.com](http://voiceoff.com).

Warning messages can be downloaded or recorded in MP3 format and stored on the removable SD card. These sounds can be used to welcome visitors, deter intruders, warn or inform people as they enter certain areas.

Order Code: **VOX200**

For more information visit [www.voiceoff.com](http://www.voiceoff.com)

# Accessories - Signage

## Pre-Printed CCTV Warning Signs



- Unique sign ID & QR Code
- Anti Glare Plastic
- Anti Fade Ink
- Data Compliant Ready
- Pre-drilled Mounting Holes
- Rounded Corners
- Weatherproof

The Who Is Watching Me signage provides an off-the-shelf solution for CCTV scheme operators.

The unique serial numbered signage and website registration process allows CCTV system operators to supply their contact details to members of the general public without the need for expensive personalised signage. This is essential in helping ensure you comply with the Data Protection Act! The scheme operators can amend their contact personnel details when staff leave the company, update contact telephone numbers or e-mail addresses at no extra cost to themselves. Members of the general public can enter the unique serial code on the sign on [www.whoiswatchingme.org](http://www.whoiswatchingme.org) to find out the scheme operators details. This avoids having to have individual signs made for each client meaning a lower cost for you!

A4 Sign: SIG550

A3 Sign: SIG650

# Fault Finding

The camera is built to the highest standards and every unit is fully tested prior to packing so if you experience an installation problem you need to investigate your cabling, connections, power supply and monitor. If you do fail to get a picture on a monitor you need to check the following things.

## Interference on the camera picture

This is usually caused by poor or inadequate cabling, not observing the correct wiring techniques (CAT5 pairs or cores mixed up) and for 12V DC powered cameras the use of an unregulated or poorly regulated power supply.

## One camera picture overlaid on another using CAT5

Caused by getting camera cores and pairs mixed up.

## Can't control via 2 wire RS485

- A. RS485 wires crossed over, try swapping around.
- B. Wrong protocol and baud rate selected, the default settings are ID -1, BAUD – 9600, PELCO-D.

## Can't control via coaxitron (Up the co-ax)

Ensure the PTZ protocol is set to 'Alien TVI' in the DVR's settings or other control equipment.

## No picture

The camera cannot function without the correct working power supply.

- Step 1** 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.
- Step 2** Check there is a picture coming out of the Phono analogue point at the camera. 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 120mtrs (Remedied by fitting a video amp).
  - 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.
  - C. No Video signal down CAT5 or CAT5+2. The camera has a Balun built in to it so you need a balun fitting at the remote end. Check you have used the correct terminals in the camera for the balun. Check you have used a "pair of cores" not individual cores from different pairs.

# Technical Specifications

FUNCTION	SPECIFICATION
Imaging Sensor	1/2.8" Sony
Resolution	1080p @ 25/30fps
Lens Type	2.8-12mm 2.1MP Varifocal
Video Output Level	1.0V p~p (75Ω, Composite)
Minimum Illumination	0.015 Lux
Day/Night Filter	Mechanical (True Day-Night)
IP Rating	IP67 Weatherproof
Iris Control	DC Iris
Video Connection	BNC / Terminal (TVI), Phono (CVBS)
Power Connection	Terminal Block
Protocol	TVI Coaxitron & Pelco D
OSD	Built-in (Multi-language support)
Electronic Shutter Speed	Auto / FLK (1/25 sec ~ 1/50000 sec)
White Balance	ATW / AWC Set / Manual / Indoor / Outdoor / AWB

FUNCTION	SPECIFICATION
Wide Dynamic Range (WDR)	Digital
Backlight Compensation	BLC / HSBLCL / Off
Gain Control	Selectable
Language	English - ( Multiple)
Camera Title	On / Off (Selectable)
Day & Night	Auto / B&W / Colour / EXT (Selectable)
Privacy Masking	On / Off (8 Zone selectable)
3D NR (digital noise reduction)	On / Off (Selectable)
Sens-up (Frame Integration)	On / Off (Selectable limit ~ 30x)
D-Effect	Freeze / Mirror / Neg. Image
Supplied voltage	12V DC & 24V AC ± 10%
Power Consumption	150mA (12V)
Dimensions	Base 140mm, Dome 100mm
Weight	Approximately 250g

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.



WEE/CG07835S

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 collection point as defined by your local council.