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**CAM890 External Futuristic Camera with IR guns**

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**CAM890 External IR Dome Camera**

These IR WDR dome cameras produce exceptional quality images using the Sony 1/3" Super HAD CCDII providing 650 TVL resolution. The cameras are equipped with powerful adjustable IR guns and the camera has an 8 ~ 20mm varifocal lens. The cameras have RS485 connections for changing the OSD menu specifications remotely. NiteDevil and Privacy Masking features are included.

**Features**

1/3" SONY Super HAD CCD II  
650 TVL

8mm ~ 20mm varifocal lens

36 x .5 LEDs and 2 x .42 LED adjustable guns providing up to 80 metres illumination total

NiteDevil functionality using Sense-Up

OSD menu with RS485 remote updating

3 colours - White - Silver - Grey

**Mounting the Camera**

The camera is for outdoor mounting on a wall or under a lintel.

**Powering the Camera**

The dome requires a 12V DC regulated power supply. The camera is provided with a fly lead with a mini power jack plug. 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 1000mA add approximately 50% so use a power supply of 1.5A or above. Please ensure that power is connected correctly as this camera is polarity sensitive.

**Connecting the camera to control equipment**

The dome camera comes with a fly lead for power and video out. Connect the camera to control equipment via a female BNC-BNC lead. When using a co-ax type cable such as RG59 or similar, the outer braid of the co-ax provides the "0V GROUND" connection and the inner core provides the "Video" connection. Now adjust the Zoom control first and then Focus control on back of camera. Adjust position of IR guns to provide best IR coverage according to the focus distance set.

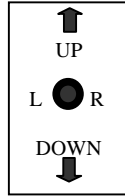
**RS485 connectivity**

An RS485 facility is provided to allow menu updates from a local or remote location so that there is no need to access the camera joystick to change camera settings. RS485 control can be initiated using an RS485 keypad or using the Alien DVR which can be accessed over the Internet using CCTVWindow. This means you can change the settings in this camera from anywhere in the world. The RS485 bare cable has two cores. The blue core is the RS485 plus (T+) and the brown core is the RS485 minus (T-). These connections must be made to the keyboard or DVR, T+ and T- observing matching polarity. Do not connect power to this cable.

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### OSD Menu

The CAM890 has an on screen display menu. This can be accessed using the small joystick controller on the camera flylead.



Press the centre button straight down to enter the menu and use Left, Right, Up and Down to move through and amend menu settings.

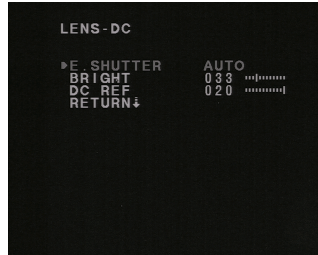
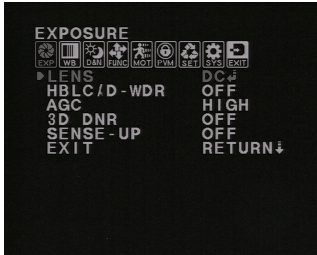
The following menu display is shown:



<b>EXP</b> Exposure	Lens	DC / ELC
	HBLC / D-WDR	BLC / HLI / D-WDR
	AGC	Off / Low / Middle / High
	3D DNR	Off / Low / Middle / High
	Sense Up	Auto / Off / x2 / x4 / x8 / x16 / x32 / x64 / x32 / x64 / x128 / x256 / x512
	Exit	
<b>WB</b> Colour	W B Mode	ATW / Manual / AWC > Push / AWC
	R - Y Gain	0 ~ 256
	B - Y Gain	0 ~ 256
	Exit	
<b>D&amp;N</b> Day & Night	D&N Mode	Auto / Colour / B&W / EXT
<b>FUNC</b> Function	Mirror	
	Sharpness	
	LSC	On (0 ~ 30) / Off
<b>MOT</b> Motion	Motion	On / Off
	Area Sel	Top / Bottom / Left / Right
	Sensitivity	0 ~ 30
	Display	Off / Icon / Trace
	Hold Time	0 ~ 15 secs
	Alarm	On / Off
	Exit	
<b>PVM</b> Privacy Masking	Mask 1 ~ Mask 8	On / Off
<b>SET</b> Setup	Title	Off / On : 64 characters
	DPC	Off / Manual: White or Black 0 ~ 255 / DPC Level 0 ~ 255
	OLPF	650 / 850
	Monitor	CRT / LCD
	Gama	0.45 / 0.60 / 1.0 / User
	Exit	
<b>SYS</b> System	Camera ID	0 ~ 255
	Communi.	Protocol : PELCO-D
		Baud Rate : 2400 / 4800 / 9600
	Language	Return
Exit		
<b>EXIT</b>	Factory Set	
	Save & Exit	
	Exit	

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**EXPOSURE**



**E. SHUTTER**

AUTO <move joystick Right>  
 1/50, 1/100, 1/120FLK, 1/250,  
 1/500, 1/1000, 1/2000,  
 1/4000,1/10000, 1/100000  
 AUTO <move joystick Left>  
 X2, X4, X8, X16, X32, X64,  
 X128, X256, X512, X1024.

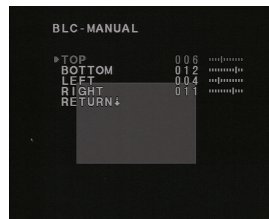
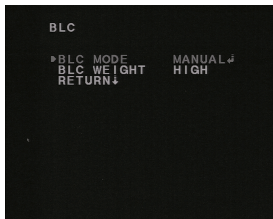
**LENS** DC / ELC  
 DC ↗ Direct Drive Lens or ELC ↗ Electronic Lens

**BRIGHT**  
 Set brightness 001 ~ 100

**DC REF**  
 An Auto Iris requires a DC  
 Reference 000 ~ 020

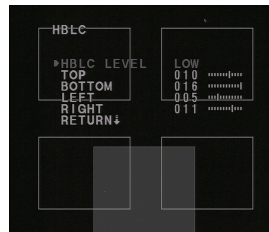
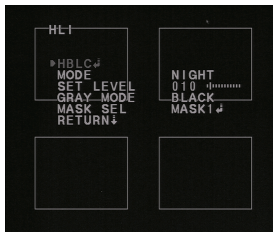
**HBLC / D-WDR** OFF / BLC ↗ / HLI / D-WDR ↗

**BLC**



**BLC**  
 Backlight compensation allows  
 you to draw a box in area where  
 there is bright light.

**HLI**

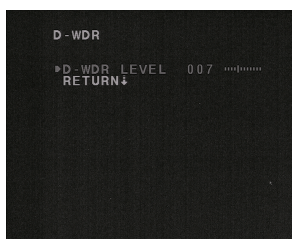


**HLI**  
 High Level Backlight Compensation  
 can be set to LOW, MIDDLE or  
 HIGH and is used to reduce strong  
 bright light by drawing up to four  
 mask areas. Particularly helpful for  
 reducing car headlights for number  
 plate recognition.

MODE NIGHT / ALL DAY  
 SET LEVEL 001 ~ 100  
 GRAY MODE GRAY / D GRAY / BLACK  
 MASK SELECT MASK1 / MASK2 / MASK3 / MASK4

HBLC LEVEL LOW / MIDDLE / HIGH

**D-WDR**



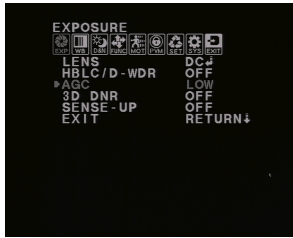
**D-WDR**

Digital Wide Dynamic Range is used  
 to merge light and dark areas using the  
 twin elements in the CCD. This is  
 useful when there is bright light and  
 dark shadows in the picture.

D - WDR LEVEL 000 ~ 020

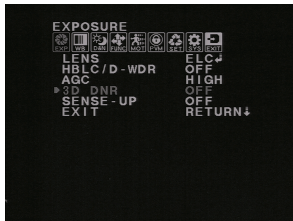
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AGC



Automatic Gain Control  
OFF / LOW / MID / HIGH

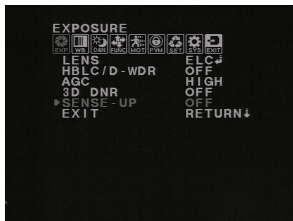
3D DNR



3D Digital Noise Reduction  
OFF / LOW / MID / HIGH / AUTO

When using SENSE - UP noise can be created and this option will reduce its effect.

SENSE - UP



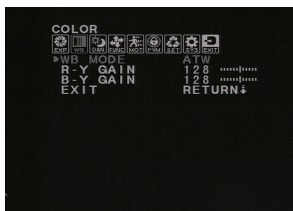
SENSE - UP  
OFF <move joystick left> AUTO  
OFF <move joystick right> X2 / X4 / X8 / X16 / X32 / X64 X128 / X256 / X512 /

This feature is the NiteDevil functionality and holds the shutter open slightly longer in order to capture more light.

EXIT

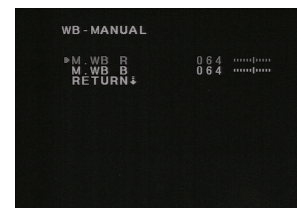
EXIT  
Press down to exit menu.

COLOR



COLOR  
WB MODE / R-Y GAIN / B - Y GAIN / EXIT

- WB MODE      ATW (Auto Tracking White Balance)  
                 <move joystick to right> MANUAL ↗ /  
                 AWC-PUSH / AWC
- R - Y GAIN    Adjust Red Yellow gain   1 ~ 255  
                 (Default 128)
- B - Y GAIN    Adjust Blue Yellow gain   1 ~ 255  
                 (Default 128)

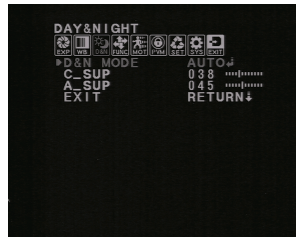


M. WB R    Manual Red gain  
M. WB B    Manual Blue gain



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**DAY&NIGHT**



**DAY&NIGHT**

AUTO ↕ / COLOR / B&W / EX-CDS ↕

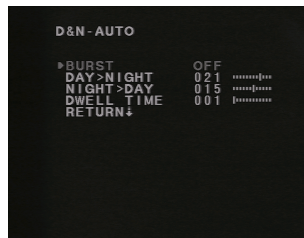
C\_SUP 000 ~ 100 Default 38

Set to suppress colour noise in night mode

A\_SUP 000 ~ 100 Default 45

Set aperture level suppression in night mode

**D&N AUTO**



**D&N AUTO**

BURST OFF / ON

DAY>NIGHT 000 ~ 030

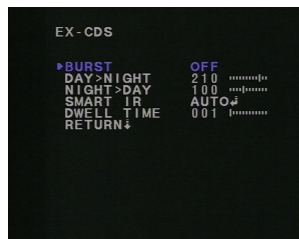
NIGHT>DAY 000 ~ 029

DWELL TIME 000 ~ 015

Switch on BURST if night time pictures have poor definition. The DAY>NIGHT and NIGHT>DAY settings are for setting the amount of light needed before switching.

Note that these two settings cannot overlap each other and are max/min settings are dependent on each other. Dwell time is the time in minutes where light levels have to be constant before switching commenced.

**EX-CDS**



**EX-CDS**

BURST OFF / ON

DAY>NIGHT 000 ~ 255 Default 210

NIGHT>DAY 000 ~ 255 Default 100

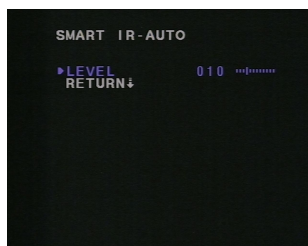
SMART IR AUTO ↕

DWELL TIME 000 ~ 015 Default 001

Use this option only if using an external CDS sensor for IR light control.

Switch on BURST if night time pictures have poor definition.

**SMART IR AUTO**



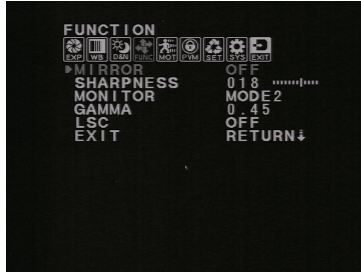
The DAY>NIGHT and NIGHT>DAY settings are for setting the amount of light needed before switching. Note that there is a wider range of settings for this option. Dwell time is the time in minutes where light levels have to be constant before switching commenced.

SMART IR 001 ~ 040 Default 010

Adjusts the IR level.

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**FUNCTION**



**FUNCTION**

**MIRROR** OFF / ON  
Reverse video picture

**SHARPNESS** 000~030 Default 018  
Set sharpness level

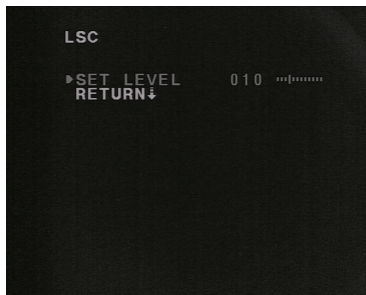
**MONITOR** MODE 1 / MODE 2  
Use Mode 2 for LCD monitor or Mode 1 for CRT monitor

**GAMMA** 0.45 ~ 1.00 Default 0.45

**LSC** OFF / ON ↕  
Lens Shading Compensation

**EXIT**

**LSC**



**LSC**

**SET LEVEL** 0 ~ 30 Default 010  
Lens Shading Compensation compliments the quality of the lens by increasing the gain of the screen angle. Increasing the LSC level will increase the brightness around an object.

**MOTION**



**MOTION**

This option displays an alarm warning on the monitor to advise that motion has been detected. Up to 4 areas can be set. Can select ICON or TRACE mode and set the time for the warning.

**MOTION** OFF / ON  
Switch motion option on or off

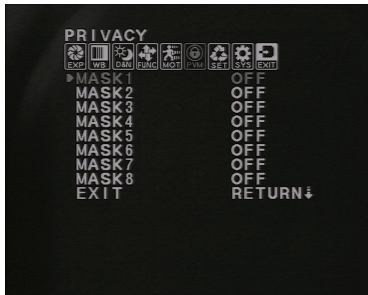
**AREA SEL** AREA 1 ~ 4  
Select up to 4 different areas for motion

**SENSITIVITY** 0 ~ 30 Default 25  
Set motion sensitivity

**DISPLAY** OFF / TRACE / ICON  
Trace displays selected window in area and ICON displays when motion detected.

**HOLD TIME** 0 ~ 15 Default 3 secs  
Displays warning for time set

**PRIVACY**



**PRIVACY**

This option allows the setting of up to 8 privacy masking areas that can be opened in up to 8 different colours to mask off areas that are not to be viewed.

MASK 1 ~ 8 ON / OFF

**MASK x**



**MASKx**

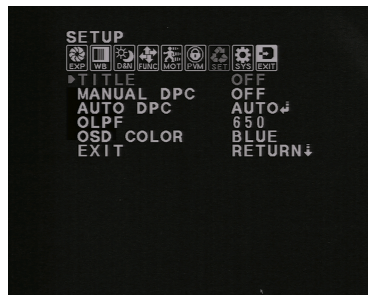
**DOT SEL** L\_TOP / L\_BOT / R\_BOT / R\_TOP  
Sets position of privacy masking area.

**DOT XY**  
Draw box size.

**MOVE XY**  
Move box to position.

**COLOR SET** BLACK / GRAY / WHITE / RED / GREEN / BLUE / MAGENTA / CYAN  
Set box colour.

**SETUP**



**SETUP**

**TITLE** OFF / ON  
Switch on to add a title display up to 64 characters.

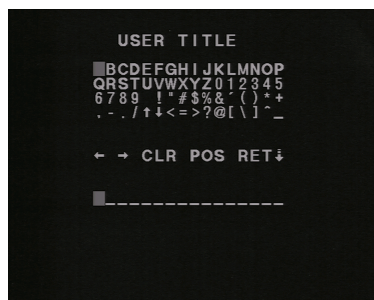
← → When in Modify mode can move text

**CLR** Removes all text

**POS** Move text to a position

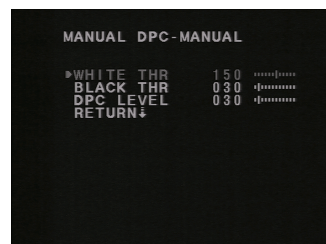
**RET** Return to previous menu

**TITLE**



**MANUAL DPC** (Dead Pixel Compensation)  
OFF / MANUAL

This option compensates for dead pixels and can be run periodically.



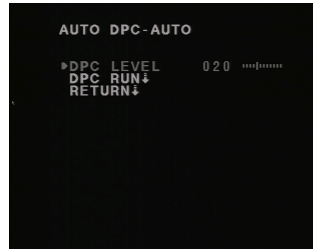
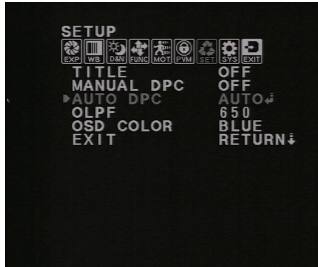
**MANUAL DPC**

**WHITE THR** White threshold 0 ~ 255 Def 150  
**BLACK THR** Black threshold 0 ~ 255 Def 030  
**DPC LEVEL** Sets DPC Level 0 ~ 255 Def 030

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AUTO DPC

Automatically runs dead pixel compensation

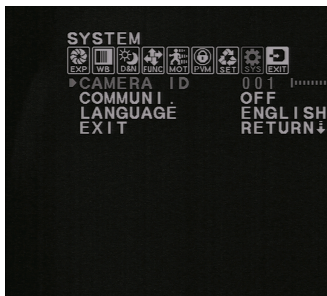


OLPF 650 / 850

Optical Low Pass Filter is used to blur straight lines by 1 pixel  
Set 650 for IR cut filter or 850 for IR-PASS

OSD COLOR BLUE / GREEN / RED / WHITE / BLACK /  
GRAY / MAGNETA / CYAN

SYSTEM



SYSTEM

This menu allows the use of the RS485 connections on the camera to change the menu settings. There is also an option to change the language for the menu.

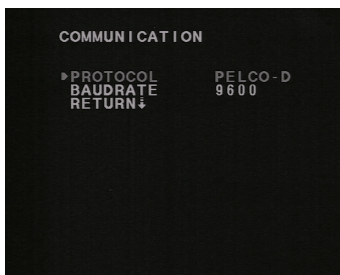
CAMERA ID 000 ~ 255 Default 001

Ensure each camera accessed by RS485 has a unique ID number set.

COMMUNI OFF / ON

Set to allow RS485 connection and change baud rate.

LANGUAGE ENGLISH / CHINESE /  
JAPANESE / ITALIAN / RUSSIAN /  
PORTUGUESE / SPANISH / GERMAN /  
FRENCH



PROTOCOL PELCO-D

BAUD RATE 2400 / 4800 / 9600 / 19200

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**RS485 Menu Control**

Using the RS485 to change menu settings can be a good option. Note the zoom and focus are manually set but all the menu settings can be changed using the RS485. The Alien DVR can be used to control access by using the PTZ option. This means if you run a CAT5 single matched pair from the camera to the DVR you can update the menu, from the DVR rather than having to use ladders to access the camera. A further benefit is if the DVR is remotely networked, you can update the menu from a remote location using the Alien client software. This is especially useful when installations are a long distance away, saving you transport and of course changes can easily be made when dark.

To enable control of the RS485 connection using a PTZ keyboard or Alien DVR, you need to do the following:

- a) Connect a CAT5 match twisted pair to the Blue (positive) and Brown (negative) RS485 camera terminal connector ensuring the + and – connections are correctly connected on the keypad or DVR. On the Alien DVR the T+ refers to the + and the T- refers to the – connections. The control works only on the PELCO-D setting and this must be set in the DVR PTZ menu for the correct channel. Also the baud rate must be set ( recommend 2400) in the DVR and in the COMMUNI option in the camera SYSTEM menu. Also ensure the Camera ID set in the camera menu is the same as the ID in the PTZ menu.
- b) Enter a CALL 95 via the DVR or keypad to display the menu. The arrow keys move up, down, left and right in the menu. The right arrow changes values and IRIS + will enter submenus and save settings.

Note that various keypads may have different keys allocated and the above is only a guide.

**CAM890 Camera Specifications**

Sensor	1/3" SONY Super HAD CCD II	IR Trigger	Under 10 Lux by CDS sensor
Resolution	PAL: 752 (H) x 582 (V)	Video Output	1v p ~ p, 75Ω
TV Lines	650 TVL	AGC	Automatic
Min.Illumination	0.001 Lux (0 Lux with IR LEDs on)	Power/Current	12vDC / 1000mA
S/N Ratio	More than 50dB	Lens	8mm ~ 20mm manual zoom lens
Scan System	2:1 interface	Dimensions	255mm (W) x 144mm (H) x 86(D)
Sync. System	Internal, Negative sync	Weight	2600gms
Elect. Shutter	PAL: 1/50s ~ 1/100,000s	Storage Temp	-30°C ~ +60°C
Gama	0.45	Operating Temp	-10°C ~ +50°C
IR Specs	36 x .5 plus 2 x .42 IR LEDs - Max 80 metres	RS485 control	Menu control – CALL 95 from DVR or PTZ keyboard



WEE/CG0783SS

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.

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