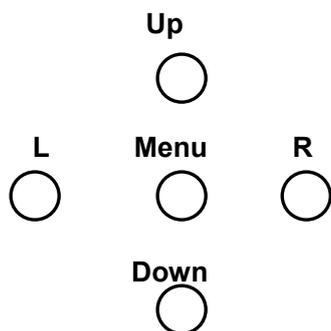

Manual for Color HD Camera

1. Powered by DC12V. Please use an appropriate power adapter, otherwise, it would burn the camera.
2. Do not attempt to aim the camera at the sun or other extremely bright objects, that would damage the CCD device.
3. Working temperature: -10°C~50°C
4. Do not put the camera in the following locations:
 - ①Locations subjected to extremely high or low temperature
 - ②Locations subjected to high levels of humidity and dust.
 - ③Locations with large amount of water or steam.
 - ④Locations subjected to excessive vibration.
5. If the camera is installed near wireless communication device that emits strong electron-magnetic field, irregularity like noise may happen.
6. Multiple cameras connected to the same power adapter is forbidden, overload may cause fire
7. Comply with electrical safety standards, there should be good distance (above 50 meters) between cameras or signal transmitting lines and high voltage equipment or high voltage cable. Protective measures have to be done, such as lightning protection. Ground wire to avoid lightning.

Characteristics:

- ▲ **High resolution, 600TVL**
- ▲ **Advanced menu operation**
- ▲ **DNR (Digital Noise Reduction)**
- ▲ **Digital WDR**
- ▲ **Anti-exposure function**
- ▲ **Infrared image optimization**
- ▲ **Trapezoidal sign direct parking**
- ▲ **Edge light compensation**
- ▲ **Motion detection alarm**
- ▲ **Shading function: eight private areas**
- ▲ **Mirrored image**
- ▲ **White dot repair**
- ▲ **Support car license plate capture**

Menu Functions:



Menu: **Menu options / Return to previous menu**

Up / Down: Up key or Down key, is option keys vertically for menu.

L / R: Left or Right key, is option keys horizontally or revising specification.

“←” is **Return to previous menu**, for sub-menu setting.

Main menu:

1. **Lens: Manual lens**
2. **Exposure:**
3. **BLC mode: OFF**
4. **White Balance: Auto white balance**
5. **Day & Night switch: Auto**
6. **Function:**
7. **Image adjust:**
8. **White dot repair**
9. **Language: Chinese**
10. **Reset:**
11. **Return**

Main Menu	SONY CCD	600TVL
1. Lens type	Manual	
2. Exposure	←	
3. Back light mode	Off	
4. White Balance	Auto white balance	
5. Day/ Night switch	Auto Switch	
6. Function	←	
7. Image adjust	←	
8. White dot repair	←	
9. Language	Chinese	
10. Reset	←	
11. Quit	←	

A. Lens

There are three lens types, DC (DC drive) lens, VD (Video drive) lens, Manual lens. You can choose the lens according to your needs, press “Left” or “Right” key to choose the lens type.

B. Exposure

Electronic shutter: Auto

Image brightness: 0-----255

Auto Gain Control: High

D-WDR: OFF

Return: return

Exposure	
Electric Shutter	Auto
Image Brightness	0-----255
AGC	High
D-WDR	Off
Back	Back

(1)>Electric shutter

Electric shutter is used to set camera's shutter speed, which is the number of the video sheet per second (e.g. 1/50 means this camera can record 25 pcs pictures in 1 second). You can set both low and fast shutter speed on this camera by AUTO, 1/50~1/100000, and FLK. When the IRIS is on, the default shutter mode is 'AUTO'; when the manual IRIS is on, the default shutter mode is also 'AUTO'.

Remark: We suggest to set a higher shutter speed when the light condition is low, in order to enhance the picture's brightness; when the shooting environment is brighter and object's movement speed is comparatively higher, we suggest to set a lower shutter speed, 1/250 is recommended.

(2) > Image brightness

To set up the image overall brightness, you can adjust from 0~255 according to user's light environment. Default value is 50.

Remark: When 'DC Lens' is selected, this function is unavailable as this is already been set in DC lens menu.

(3) > Automatic gain control (AGC)

Four modes: OFF, LOW, MID, HIGH. This function can enhance picture brightness but also will enhance its noise, please set this according to your actual need.

Remark: When 'Day/Night shift' set to 'Auto Shift', AGC is fixed value and cannot be set.

(4) > D-WDR

Wide Dynamic Range is to balance the image light when there is different light intensity in one shooting scene, the area with stronger light would overexpose and appears totally white but the area with weaker light would appears dim by underexpose. WDR can digitally reduce exposure in the strong light area and increase the exposure in the dim light area to make the whole picture be as clear as usual.

WDR ON/ OFF: when it is 'ON', user can set from 0-63 according to the environment to make the best shot.

(5) > Back

When finished setting, press 'UP' 'Down' button to 'Back', and use 'L' 'R' button to select 'Back'(means back to previous menu) or 'End' (means quit the setting), and press 'Enter'.

C. Back Light Mode

1. Back light compensation

Press 'L' 'R' key in 'Back Light Mode' menu to select 'Back Light Compensation' and press 'Enter' to enter in 'Back Light Compensation' sub- menu

Black Light Compensation	
Select area	Area 1
Area display	On
Back Light Area Gain	0-255
Height setting	0~15
Width setting	0~15
L/R Adjust	0~15
Up/ Down Adjust	0~15
Back	

- (1) Select Area. To set back light area, 2 options: Area 1, Area 2
- (2) Area display. On
- (3) Back light area gain
To set back light area brightness enhancement, from 0-255, default value: 42
- (4) Height setting
Press 'L' 'R' to adjust back light compensation area from left to right, from 0-15, default value: 4.
- (5) Width setting
Press 'L' 'R' to set back light compensation area's width, base on the left, to set

from 0-15, default value: 3

(6) L/R adjust

Press 'L' 'R' to set back light compensation area's up/ down, base on the top, to set from 0-15, default value: 3

(7) UP/Down adjust

Press 'L' 'R' to set back light compensation area's up/ down, from 0-15, default value: 3

2 Anti exposure

Press 'L' 'R' key in 'Back Light Mode' menu to select 'Anti exposure' and press 'Enter' to enter to 'Anti exposure' sub-menu

Anti Exposure	
Value	0-255
Mode	All day
Back	Back

(1) Anti exposure

Here to set the sensitivity for anti exposure. When the light is lager or equal to the pre-set value, the light sensor in the camera will turn on the anti-exposure function to make clear image. **From 0-55, default value; 200**

Remark: Please set this value according to the actual light condition, we suggest not to turn on this function when the area is without strong light condition.

(2) Mode

Can select All Day / At Night

(3) Back

When finished setting, press 'UP' 'Down' button to 'Back', and use 'L' 'R' button to select 'Back'(means back to previous menu) or 'End' (means quit the setting), and press 'Enter'.

D. White Balance

Use to bring back the actual color of the scene, this is effected by the color temperature. Please set according you need, Auto Track White Balance1/ Auto Track White Balance2/ Auto White Balance/ Manual White Balance

Remark: Normally, Auto Track White Balance1 is enough for most of the users

E. Day/ Night Shift

Day/ Night shift is to provide different mode when user use in day or night scene. 4 Modes: Color mode, B&W mode, External Shift, Auto Mode.

(1)Auto Mode

Press 'L' 'R' key in 'Day/ Night Shift' menu to select 'Auto Mode' and press 'Enter' to enter to 'Auto Mode' sub-menu.

Auto Mode	
Day to Night Setting	0-255
Time-delay	1-30 sec.
Night to Day Setting	0-255
Night to Day Time Delay	1-30 sec.
Back	Back

(A)Time-Delay

This is to set the time delay for shifting from color to B&W, or B&W to color mode. The shift between color and B&W is to control by the light sensor of the camera in the scene, when the light brightness is in the critical value, the camera would probably shift from color to B&W constantly, to set a time delay value can avoid this to happen, the camera will only shift mode when it sense the light brightness is satisfied throughout the pre-set time period. This is also for protecting the camera's life and quality. Time-delay value: 0-30 second. Default value: 1 second. Remark: We suggest to set this value higher in the scene that light brightness is frequently changed, and visa versa.

(B) Day to Night Setting

To set the start position when shifting, value: 0-255. Default value: 42

(C) Night to Day setting

To set the end position when shifting, value 0-255. Default value: 156

Remark: To set a 'Night to Day' and 'Day to Night' value is to avoid the camera shift constantly to make it unusable. Please do not set the same value for both as this will also makes the camera to shift from color to B&W constantly, 'start position' value should always higher than 'end position' value.

(D) Back

After finishing setting, press 'Up' 'Down' key to move to 'Back', and use 'L' 'R' key to select 'Back' (means back to previous menu) or 'End' (means to quit this setting), and press 'Enter' key to back.

(2) Color mode

Press 'L' 'R' key in 'Day/ Night Shift' menu to select 'Color Mode'. In color mode the camera will forced to execute color mode only.

(3) B&W Mode

Press 'L' 'R' key in 'Day/ Night Shift' menu to select 'B&W Mode'. In B&W mode the camera will forced to execute B&W mode only.

Day/Night Shift Mode	B&W
Color synchronized Signal	Off
IR Image Optimize	On
IR Brightness	High
Back	Back

A. Color synchronized Signal

Set from Off/ On.

B. IR Image Optimize

IR Image Optimize	
IR Image Optimize program	0-255
Height	0-15
Width	0-15
L/R Adjust	0-15
Up/ Down Adjust	0-15
Back	Back

When the IR light is on and the object is overexposed on the IR light, user can set the value in IR Image Optimize and IR brightness to reduce overexposure.

(4) External Shift

External Shift is to control the color shift by external triggered. For example: External IR lighting, light sensor in the camera to control the shifting to makes it synchronized with the IR light's on and off.

Remark: This function is reserved and not available right now.

F. Function

Function	
1. Camera title	Off
2. Motion detection	Off
3. Private area Shading	Off
4. Car reverse line	Off
6. Communication	←
8. Back	Back

(1) Camera Title

Press 'L' 'R' key in 'Function Camera title' menu to select 'On', and press 'enter' to enter to camera title setting menu.

Camera title	
0 1 2 3 4 5 6 7 8 9	
A B C D E F G H I J K	
L M N O P Q R S T U V	
X Y Z → ← ↑ ↓ ()	
— - _ ■ / = & : ~ , ..	
← → Clear Position	
Quit-----	

(a) >For camera title, user can used number, capital letter, and symbol to set a 15 characters title.

(b) > '← →' is to move from left to right

(c) > 'Clear' is to clear the camera title

(d) > 'Position' is to set the title's position. Click 'up, down, left, right' to move title's position, press 'Enter' to back to main menu.

(e) > 'Quit' is to end title setting and back to previous menu

(2) Motion Detection

Press 'L' 'R' key in 'Motion Detection' menu to select 'On', now the motion detection function is on. Then press 'Enter' key to Motion Detection's sub menu.

Motion Detection	
Area	Area 1
Diplay Area	On
Height	0-15
Width	0-15
L&R Adjust	0-15
UP&Down Adjust	0-15
Sensitivity	0-255
Motion Detection Track	Off
Back	Back

(A)>Area

Select detect area and set in this area, all 4 areas in total and can only set one area at a time.

(B)> Display Area

To set to activate the motion detection in the selected area, when this is Off, motion detection will not activate in this area, vice versa.

(C)> Height

Press 'L' 'R' to set the area's height, base on the top you can set the bottom's value from 0-100. Default value: 4

(D)> Width

Press 'L' 'R' to set the area's width, base on the left you can set the right's value from 0-100. Default value: 4

(E)> L& R Adjust

Press 'L' 'R' to set the area's left and right position, from 0-15. Default value: 1

(F)> Up & down Adjust

Press 'L' 'R' to set the area's up and down position, from 0-15. Default value: 1

(G)> Sensitivity

To set motion detection's sensitivity, the larger the value, the higher the sensitivity, from 0-255. Default value: 38

(H)> Motion Detection Tracking

When this is ON, the camera will track the moving object by drawing red line on the screen for its movement.

(I)> Back

When finished setting, press 'up' 'down' key to 'Back', and use 'L' 'R' key to select 'Back' (means back to previous menu) or 'End' (means quit the menu) and press 'Enter' to back.

(3) Private Shading

Press 'L' 'R' in 'Private Shading' menu to select 'On' to turn on private shading function. Then press 'Enter' to enter to 'Private shading' sub-menu.

Private Shielding	
Area	Area 1
Display Area	Off
Height	0-255
Width	0-255
L&R Adjust	0-255
UP& Down Adjust	0-255
Area color	0-15
Back	Back

(A)> Area

Select private shading area and set in this area, all 8 areas settable.

(B)> Display Area

When this is Off, private shading will not activate in this area, vice versa.

(C)> Height

Press 'L' 'R' to set the area's height, base on the top you can set the bottom's value from 0-255.

(D)> Width

Press 'L' 'R' to set the area's width, base on the left you can set the bottom's value from 0-255.

(E)> L&R Adjust

Press 'L' 'R' to set the area's left and right position, from 0-155.

(F)> UP & Down Adjust

Press 'L' 'R' to set the area's up and down position, from 0-255.

(G)> Area Color

To set shading area's color. Value: 0-15

(H)> Back

When finished setting, press 'up' 'down' key to 'Back', and use 'L' 'R' key to select 'Back' (means back to previous menu) or 'End' (means quit the menu) and press 'Enter' to back.

(5)Reverse Car Line

Press 'L' 'R' key in 'Reverse Car Line' to select 'On' and this function is On, press 'Enter' to enter its setting

Reverse Car Line	
Upper Left	75
Lower Left	27
Upper Right	113
Lower left	170
Top	13
Bottom	69
Line width	9
Back	Back

To adjust the position and range of car reverse line.

(6) Communication

This camera supports RS485 communication protocol, user can use RS485 controller to control this camera.

Communication	
Camera ID	0-255
Baud Rate	2400
Protocol	PELCO-D
Display ID	Off
ID Position	←↓
Back	Back

(a)> Camera ID

To set camera's address ID to distinguish it from other cameras. This ID is also the exclusive ID for controlling this camera. Value: 0-255

(b)> Baud Rate

Communication speed, 2400, 4800, 9600, 19200, 38400, 57600 optional

(c)> ID Display

To set to display the camera's ID or not when the camera is turned on. When this is ON, there will be 'CAM.XXX (xxx means camera's ID)' displayed on the upper left side on the screen. Default: OFF.

(d) > Communication Protocol

PELCO-D, PELCO-P, NEXTCHIP optional.

(e)> Back

When finished setting, press 'up' 'down' key to 'Back', and use 'L' 'R' key to select 'Back' (means back to previous menu) or 'End' (means quit the menu) and press 'Enter' to back.

(6)> Synchronized Mode

External Synchronize, Internal Synchronized option, by default: Internal Synchronized.

Remark: This camera is now only internal synchronized, external synchronize is reserved and not available now.

(7)> Back

When finished setting, press 'up' 'down' key to 'Back', and use 'L' 'R' key to select 'Back' (means back to previous menu) or 'End' (means quit the menu) and press 'Enter' to back.

G. Image Adjustment

Image Adjustment	
Edge Illumination Compensation	Off
2DNR	On
Mirror	Off
Font Color	
Contrast	155
Sharpen	24
Display	CRT
Negative	Off
Back	Back

- (a) **Edge Illumination Compensation.** This function can increase edge brightness without increasing the overall picture's brightness to make the picture clearer. Press 'L' 'R' key to turn on this function, press 'Enter' to its menu, value from 0-255.
- (b) **2DNR, ON/OFF.** When this is on, noise could be reduce in low illumination.
- (C) **Mirror.** Press 'L' 'R' to turn on this function. The picture will go horizontal mirror.
- (d) **Font Color**

Font Color	
Font Color	0-15
Camera ID and Title Color	0-15
Back	Back

Press 'L' 'R' key can choose menu's font color from 0-15

- (e) Contrast. To adjust image contract, value: 0-255
- (f) Sharpen. To adjust the image sharpening, value: 0-31, default value: 24
- (g) Display: CRT, LCD, USER optional, please select according to your monitor
- (h) Negative. When this is On, the video out put will be negative. Press 'L' 'R' key to select
- (i) Back

When finished setting, press 'up' 'down' key to 'Back', and use 'L' 'R' key to select 'Back' (means back to previous menu) or 'End' (means quit the menu) and press 'Enter' to back.

H. White Dot Repair

Use when there is bad pixel in the CCD, turn off IRIS first and press 'Enter' key to repair white dot. The camera will repair itself, after it is done, press 'Up' 'Down' key to back to previous menu.

I. Language

Set menu language. 4 languages optional: Simplified Chinese, Traditional Chinese, Japanese, English. Press 'L' 'R' to select. It takes a few seconds to change the selected language.

J. Reset

Press 'Enter' key to enter to 'Reset' menu, after reset, all setting will resume to factory default.

Reset	
Factory Default	Factory Default
Back	Back

(a)> Factory Default

Move to 'Factory Default' and press 'Enter', the system will resume to factory default. Please pay attention that when you reset to factory default, color case would happen and this is normal.

(b)> Back

When finished setting, press 'up' 'down' key to 'Back', and use 'L' 'R' key to select 'Back' (means back to previous menu) or 'End' (means quit the menu) and press 'Enter' to back.

K. Quit

When finished setting, press 'up' 'down' key to 'Back', and use 'L' 'R' key to select 'Back' (means back to previous menu) or 'End' (means quit the menu) and press 'Enter' to back.

Specification

		Model No.	XAT-5200PH	XAT-5200NH
Basic Function	CCD	1/3' SUPER HAD III CCD& DSP		
	Pixel	PAL: 752(H) ×582(V); NTSC: 768(H)×494(V)		
	TV system	PAL color system (NTSC color system optional)		
	Resolution	600TVL		
	Synchronizat ion	Power synchronize/ internal synchronize		
	Shutter speed(CCD IRIS)	PAL: 1/50~1/100000 sec; NTSC: 1/60~1/100000 sec		
	Noise	> 60(AGC OFF)		
	Video out	1.2Vp-p,75ohm, synchronize		
	Horizontal resolution	Color 600TVL, B&W (ICR shift) 650TVL		
	Min. Illunimation	Color: 0.01Lux(F1.2,50IRE,AGC ON), B&W: 0Lux(F1.2,50IRE,AGC ON, IR ON)		
	Auto Gain	Off/Low/Mid/High		
	Back light compensatio n (BLC)	Off /Back light compensation/ Strong light suppression		
	Private shading (PRIVACY)	1~8 private shading area		
	Motion detection (MD)	On/ Off (Multi level sensitivity settable)		
	Auto White Balance	Manual/ Auto/ Auto track		
	Mirror	Horizontal Mirror optional		
	Negative	Positive/ Negative optional		
	Edge brightness compensation	Support		
	Display mode	CRT/ LCD		
	Car reverse Line	Support		
Anti-exposur	On/ Off			

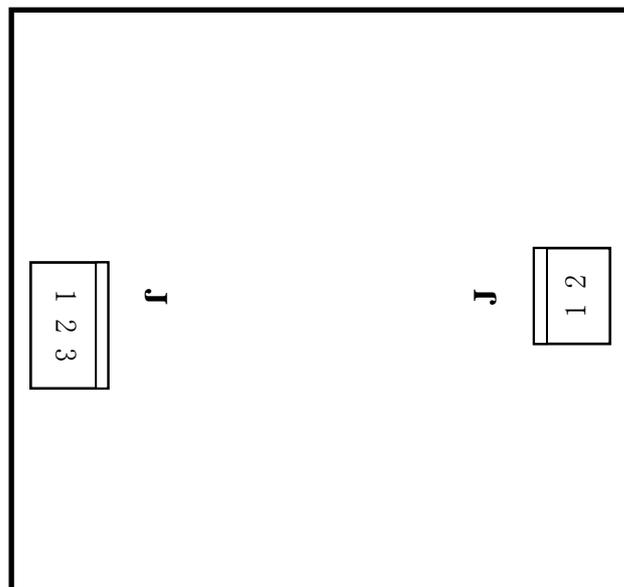
	e			
	IR wavelength	650nm/850nm	650nm/850nm	650nm/850nm
	IR on & Color to B&W synchronize	Support (optional)		
	IR image optimize	Avoid center object expose		
	DNR	2DNR		
	Day/ Night Shift	Auto/ Color/ B&W/ External control (can set start and end position)		
	Day/ Night Shift time	2~63 shift time optional		
	Menu (OSD)	Chinese / English menu		
	White Dot repair	Support		
	Image adjustment	Support		
	Camera title	Support		
Communication and Connection	RS-485 Remote control	Support (optional)		
	Communication address	0-255 Support		
	BPS Baud Rate	2400/4800/9600/19200/38400/57600		
	Control protocol	Default: Pelco-D protocol		
	Auto IRIS	Integrated auto IRIS driver		
	Power requirement	DC12V		
	Working temperature	-10 C~+50 C		
	Working humidity	20~80%		
	Storage temperature	-40 C~+60 C		
	Storage humidity	20~95%		
	Power consumption	80mA		

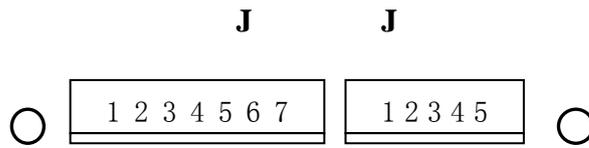
Special Features:

1. **Car license shooting function:** This camera has excellent light control effect, user can choose 5-50mm auto IRIS lens or fixed lens, we suggest you to choose auto IRIS lens (board camera has already included) , adjust BLC's gain value, back light area, then set Day/ Night shift to B&W Mode, adjust IR Image Optimize's gain value , area position, then back to Auto Shift Mode. After all these are well set, user can use this camera as a car license camera.
2. **IR Light and Color to B&W synchronize:** 光敏电阻信号输入功能脚和地接到光敏电阻，可以实现彩转黑和红外灯同时启动。

Product Size

38mm*38mm





PIN Definition:

	J1	J2	J3	J4
PIN1	Video Signal	Ground	Ground	DAMP+
PIN2	Ground	Left	Photoresistance Signal Input	DAMP-
PIN3	12V Input	Right	Auto-IRIS adjust resister	DRV+
PIN4		Middlle	RS485 Input	Ground
PIN5		UP	Color to black and white signal output	
PIN6		Down	Motion Detection Alarm signal output	
PIN7			Photoresistance Signal output	
PIN8			Other Function Output	