

# 630TVL SMART IR Camera

## H-BIRD SERIES

### Superb image quality

Effective excellent image for high resolution surveillance system  
With 630TVL, it delivers clear and detailed image.

### Special compensation features

Smart function for professional surveillance applications

- Smart IR : LED Saturation Compensation
- LSC: Lens Shading Compensation
- 64 points Blemish Compensation

### Useful functions

It is equipped with many useful functions such as digital WDR, Parking Line, Motion Detection and Privacy Mask.

## HC-855



### Special Features

### SMART IR Function

SMART IR function compensates the IR LED saturation on a subject for better identification purpose.

This SMART IR function is automatically activated when the Day & Night camera changes from color mode to B/W mode. You will get improved B/W image quality by reducing IR LED saturation.



IR SMART ON



IR SMART OFF

- Adjustment of height & Position for SMART IR area by OSD setting



### Useful Features

#### High Resolution

630TVL Superior vivid image quality

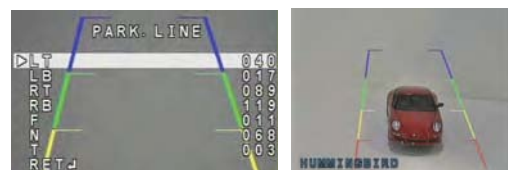


Conventional

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#### Parking Line

Setting of parking line as a rear camera purpose



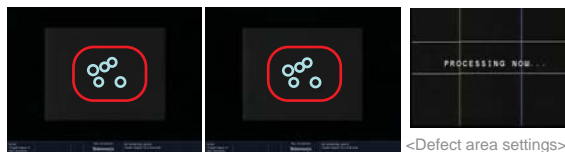
#### Lens Shading Compensation

It compensates dark edge of the picture formed from uneven curvature of lens.



#### Dead Pixel compensation

You should do this function with one push.



DPC Before

DPC After

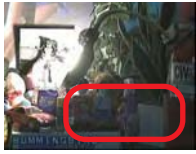
<Defect area settings>

# 630TVL SMART IR Camera

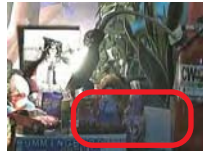
## Usefull Features

### D-WDR

Digital Wide Dynamic Range



D-WDR OFF



D-WDR ON



### Privacy Mask (8 Zone)



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### HLC

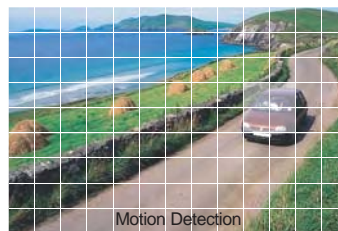


HLC OFF



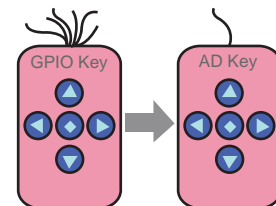
HLC ON

### Motion Detection (4 Zone)



Motion Detection

### AD Key Control





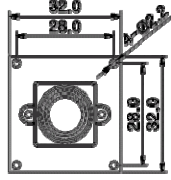
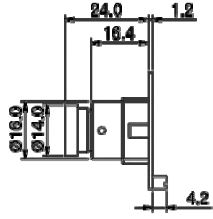

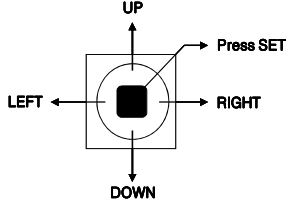
Conventional

H-Bird





## Specification

ITEM		NTSC		PAL	
Power Source		DC 12V		DC 12V	
C C D	Total Pixels	811(H) x 508(V)		795(H) x 596(V)	
	Effective Pixels	768(H) x 494(V)		752(H) x 582(V)	
	Size	SONY 1/3" Super HAD II High Sensitivity Color CCD			
Scanning System		2:1 Interlace			
sync	Synchronisation	INT			
E L E C T R I C A L	Frequency	Horizontal : 15.734 KHz Vertical:59.94 Hz		Horizontal :15.625 KHz Vertical:50.00 Hz	
	Resolution	More than 630 TV Lines(Color) / 700TVL (B/W)			
	Video Output	1.0Vp-p/75 (Video 0.714Vp-p Sync 0.286Vp-p)		PAL : 1.0Vp-p/75 (Video 0.7 Vp-p Sync 0.3 Vp-p)	
	S/N (Y signal)	50dB (AGC Off)			
	Min. Illumination	0.15 Lux 40 IRE (F1.2)@Color / 0.01Lux@B/W / 0 Lux with IR-LED			
	Color	COLOR / AUTO / BW			
	White Balance	ATW 1 / ATW2 / AWC / MANUAL (2,300 ~ 11,000)			
	Electronic Shutter Speed	AUTO/MANUAL(1/60~1/100,000)		AUTO / MANUAL(1/50~1/100,000)	
	O.S.D	Built-in			
	Motion Detection	ON / OFF (64 Programmable Zones)			
BLC	ON / OFF (64 Programmable Zones)				
Mirror	Built-in (Horizontal Image Inversion)				
Privacy Function	ON / OFF (4 Programmable Zones)				
Iris Control	DC / VIDEO				
Operating Temperature / Humidity		-10°C ~ +50°C / 30~90% RH			

<ul style="list-style-type: none"> <li>1/3" SONY SuperHAD CCD 11 (Min. Illumination)</li> <li>Privacy Masking(8 Zone Selectable)</li> <li>Motion Detection(4 Zone Selectable)</li> <li>DPC (Dead Pixel Compensation)</li> <li>HLC (High Light Compensation)</li> <li>Lens Shading      ■ Parking Line</li> <li>2DNR                ■ DWDR</li> </ul>	
 	
<b>Specification</b>	
<b>Item</b>	
Imaging Sensor	1/3" SONY Super HAD CCD ICX-673DKA
Signal System	NTSC : 525 Lines      PAL : 625 Lines
Scanning System	2:1 Interlace
Scanning Frequency	H:15.734 ㎐ / V:59.94 Hz      H:15.625 ㎐ / V:50 Hz
S/N Ratio	More than 50dB (AGC Off)
Horizontal Resolution	Horizontal : 630 TV-Line (Color)[Min] / 720 TV-Line (B/W)[Min]
Lens	
Video Output Level	1.0 Vp-p (75Ω, Composite)
Min. Illumination	Color : 0.05Lux(50IRE@F1.2)
Sync System	Internal
O.S.D	Built-in & Available
Electronic Shutter Speed	Auto / Fik (NTSC : 1/60sec ~ 1/100,000sec)      (PAL : 1/50sec ~ 1/100,000sec)
DWDR	ON / Off (Level Adjustable)
AGC	Low / Middle / High / Off
White Balance	ATW1 / ATW2 / AWC-SET / MANUAL(MANUAL / INDOOR / OUTDOOR)
Backlight Compensation	BLC / HLC / Off
Day & Night	Auto / B.W / Color / EXT
DPC	START
Camera Title	On / Off (Selectable)
Motion Detection	On / Off (4 Zone Selectable)
Privacy Masking	On / Off (8 Zone Selectable)
Parking Line	ON / Off (Level Adjustable)
Image Adjust	Lens Shading / 2DNR / Mirror / Font color / Contrast / Sharpness Display(CRT,LCD,USER) / NEG.IMAGE
Language	English / Chinese (Selectable)
Supplied Voltage	DC12 ±10%
Power Consumption	Max. 1.5W[70mA]
Dimension	32(W)X32(H)X24(D)mm

<b>Dimension</b>	<b>2</b>
 	
Unit : mm	
<b>Setup and Function</b>	
	
<p>► <b>Function Set Up Button</b></p> <ul style="list-style-type: none"> <li>SET Button : Displays the menu on the screen. Press the button to confirm status or after changing a selected item.</li> <li>Up and Down Button : Used to move the cursor up or down in the menu screen to select a desired menu item.</li> <li>Left and Right Button : Used to move the cursor left or right in the menu screen or to change the value of the selected item.</li> </ul>	

<b>Function menu Structure</b>		<b>3</b>
<b>Function Menu</b>		
LENS	■ DC	
EXPOSURE	■ SHUTTER	■ BRIGHTNESS      ■ AGC      ■ DWDR
WHITE BAL.	■ ATW	■ ATW2      ■ AWC→SET
	■ MANUAL (MANUAL, INDOOR, OUTDOOR)	
BACKLIGHT	■ OFF	■ BLC      ■ HLC
DAY&NIGHT	■ COLOR	■ B/W      ■ EXT      ■ AUTO
DPS	■ START	
SPECIAL	■ CAM TITLE	■ MOTION      ■ PRIVACY      ■ PARK. LINE
	■ COMM ADJ.	■ LANGUAGE      ■ 언어설정      ■ DEFECT
	■ IMAGE ADJ.	● LENS SHAD.      ● 2DNR      ● MIRROR
		● FONT COLOR      ● CONTRAST      ● SHARPNESS
		● DISPLAY(CRT,LCD,USER)      ● NEG. IMAGE
RESET	■ FACTORY	
EXIT		
<b>How to set the Camera</b>		
<p><b>Notes</b></p> <ul style="list-style-type: none"> <li>All item with the ↩, you can move to sub menu pressing SET button.</li> <li>An item with the ---, icon is unavailable due to function settings</li> </ul>		
<b>LENS</b>		
1. LENS : DC Auto Iris LENS type		
<b>EXPOSURE</b>		
► <b>SHUTTER</b> : You can select either auto or manual shutter.		
- FLK : Select this when you see picture flicker, this can happen when the frequency of the local lighting clashes with camera		
- Auto : Automatically changes by brightness of environment		
► <b>BRIGHTNESS</b> : The range of brightness control is between 0 and 100.		
► <b>AGC</b> : You can adjust it Low, Middle and High level.		
The higher the gain level, the brighter the screen but the higher the noise.		

<p>► <b>DWDR</b> : If there are bright area and dark area on the screen at the same time, this function makes both areas to be in clear image</p> <p>- ON/OFF</p>		<b>4</b>
		
<b>WHITE BAL.</b>		
* <b>Select one of the following 4 modes, as appropriate for your purpose</b>		
► <b>ATW1</b> : Select this when the color temperature is between 2,000°K and 18,000°K.		
► <b>ATW2</b> : Select this when the color temperature is between 2,500°K and 98,000°K.		
► <b>AWC→SET</b> : To find the optimal setting for the current luminance environment in this mode, set the point the camera towards a sheet of white paper and press the SET button. If the environment changes, readjust it.		
► <b>MANUAL</b>		
- <b>MANUAL</b> : Select this to fine-tune White Balance manually. Set White Balance first by using the ATW or AWC mode. After that switch to MANUAL mode. Adjust the [BLUE] and [RED], according to the changing of color on the screen		
- <b>INDOOR</b> : Select this when the color temperature is around 3,100°K.		
- <b>OUTDOOR</b> : Select this when the color temperature is around 5,100°K.		
<p><b>Notes</b></p> <ul style="list-style-type: none"> <li>White balance may not work properly under the following conditions. In this case, select the AWC mode. <ul style="list-style-type: none"> <li>When color temperature of environment surrounding the subject is out of the control range</li> <li>If the camera towards a fluorescent, the White Balance operation may become unstable</li> </ul> </li> </ul>		
<b>BACKLIGHT</b>		
► <b>BLC</b> : This function allows you to get a clear pictures of objects even the objects in strong backlight.		
- Enables a user to directly select a desired area from a picture, and to view the area more clearly.		
► <b>HLC</b> : If there is a high light installed in a limited environment such as an apartment parking garage or gas station entrance, removing the high light makes it possible to view car license plates efficiently.		
		
OFF	ON	

- LEVEL : Less value Masking Area gets bigger
- MODE
  - \* NIGHT ONLY : It's only working at the low light conditions.
  - \* ALL DAY : It's working in daytime or nighttime.

5

### DAY&NIGHT

#### ● You can display pictures in Color or Black and White.

- ▶ **COLOR** : The picture is always displayed in color.
- ▶ **AUTO** : The mode is switched to 'Color' in a normal environment, but switches to 'B/W' mode when ambient illumination is low. To set up the day/night switching delay time for AUTO mode, press the SET button, also you can select the duration time about changing the D(Day) → N(Night) and N(Night) → D(Day) mode.
  - D→N LEVEL : The condition about changing color to B/W mode. ( Increase the level, switches to B/W slowly )
  - D→N DELAY : The time about changing color to B/W mode.
  - N→D LEVEL : The condition about changing B/W to COLOR mode. ( Increase the level, switches to Color fast )
  - N→D DELAY : The time about changing B/W to COLOR
- ▶ **B/W** : The picture is always displayed in black and white.
  - BURST : The picture is always displayed in black and white.
  - IR SMART : When IR LED is turned on in B/W, the objects can be clearly identified due to the function that decreases screen saturation of objects within a short distance.
    - \* IR GAIN : Change the IR gain level(Saturation)
    - \* HEIGHT : adjust the selected horizontal area.
    - \* WIDTH : adjust the selected vertical area.
    - \* LEFT/RIGHT : Determines the coordinate of the vertical axis for Area.
    - \* TOP/BOTTOM : Determines the coordinate of the horizontal axis for area.
  - IR LEVEL : \* OPTION
    - \* HIGH : IR LED Fully ON
    - \* LOW : IR LED Half(1/2) ON
- ▶ **EXT** : Deactivates the EXT function.

### DPC(Dead Pixel Compensation)

#### ● Defect CCD correction to compensate for defects that can occur at the low light conditions.

- Close the lens to shield the light, Select the START and press the SET button twice, then you can see "PROCESSING NOW" displayed on the screen.

### SPECIAL

- ▶ **CAM TITLE** : If you enter a title, the title will be appear on the monitor.
- ① If the SPECIAL menu screen is displayed, use the Up and Down buttons so that the arrow indicates 'CAM TITLE'
- ② Set it to 'On' by using Left and Right buttons.

- \* AREA SELECT : You can select up to 8 privacy areas.
- \* AREA DISPLAY : Determines whether to use the area selected in the AREA SELECT.
- \* LEFT / RIGHT : Determines the coordinate of the vertical axis for Area.
- \* WIDTH : adjust the selected vertical area.
- \* TOP / BOTTOM : Determines the coordinate of the horizontal axis for area.
- \* HEIGHT : adjust the selected horizontal area.
- \* COLOR : Determine area color. You can select 0 ~ 15.
- ▶ **PARK. LINE** : It shows the parking line on the video
  - ① When the SPECIAL menu screen is displayed, press the Up and down buttons so that the arrow indicates "PARK. LINE."
  - ② Press SET button for Sub Menu.
  - ③ Set up the mode using the 4 direction buttons.
    - \* LT : Left Top(Move Left or Right)
    - \* LB : Left Back(Move Left or Right)
    - \* RT : Right Top(Move Left or Right)
    - \* RB : Right Back(Move Left or Right)
    - \* F : Change Distance of Top Line(Move Up or Down)
    - \* N : Change Distance of Back Line(Move Up or Down)
    - \* T : Thickness of the Line

7

- ▶ **IMAGE ADJ.**
  - ① When the SPECIAL menu screen is displayed, press the Up and down buttons so that the arrow indicates "IMAGE ADJ."
  - ② Press SET button for Sub Menu.
    - **LENS SHAD.** : Protect Shading area when use Wide Angle View Lens
      - \* LEVEL : Bigger No. more Bright
    - **2DNR** : This function reduces the background noise in a low luminance environment
    - **MIRROR** : you can flip the image vertically on the screen.
    - **FONT COLOR** : OSD Font & Color Change
      - \* FONT : 15 steps OSD Font & Color
      - \* ID&TITLE : 15 steps of CAM TITLE Color
    - **CONTRAST** : Bigger No. more dark
    - **SHARPNESS** : As you increase this value, the picture outline becomes stronger and clearer. Adjust this value appropriately depending on the sharpness of the picture.
    - **DISPLAY** : CRT,LCD,USER(Selectable)
      - \* CRT : Please select this menu item when using a CRT monitor.
        - PED LEVEL : Bigger No. more brighter
        - COLOR GAIN : Bigger No. more dark
      - \* LCD : Please select this menu item when using an LCD monitor.
        - Standard value is 0.55. You can adjust the value between 0.05 ~ 1.00
        - PED LEVEL : Bigger No. more bright in dark
        - COLOR GAIN : Bigger No. more dark and strong color

### Notes

- ⊙ When the CAM TITLE menu is 'OFF', no title will be displayed on the monitor screen even if you enter one.

- ③ Press the SET button.
- ④ Use the 4 direction buttons to move to a desired letter and select the letter by pressing the SET button. Repeat this to enter multiple letters. You can enter up to 15 letters.

### Notes

- ⊙ If you entered wrong letter..... If you move the cursor to CLR and press the SET button, all the letters are deleted. To edit a letter, change the cursor to the bottom left arrow and press the SET button. Move the cursor over the letter to be edited, move the cursor to the letter to be inserted and then press SET button.

- ⑤ Enter a title, move the cursor to 'POS' and press the SET button. The entered title appears on the screen. Select the position to display the title on the screen by using the 4 direction buttons and press the SET button. When the position is determined, select 'END' and press the SET button to return to the SPECIAL menu.

#### ▶ **MOTION** : Whenever motion is detected. The "motion detection" displayed at the bottom of the screen.

- ① When the SPECIAL menu is displayed, press the Up and Down buttons so that arrow indicates MOTION.
- ② Press SET button for sub menu.
- ③ Set up the mode using the 4 direction buttons.
  - \* AREA SEL : Determines which 4 vertices of each MD area is to be used
  - \* AREA STATE : Determines whether to use the MOTION area selected.
  - \* HEIGHT : adjust the selected horizontal area.
  - \* WIDTH : adjust the selected vertical area.
  - \* LEFT/RIGHT : Determines the coordinate of the vertical axis for Area.
  - \* TOP/BOTTOM : Determines the coordinate of the horizontal axis for area.
  - \* DEGREE : When sensitivity number is high, motion detection sensitivity is increased to recognize even small movement
  - \* VIEW : If you make it ON by using LEFT and RIGHT buttons, selected area of color is filled on the screen

### Notes

- ⊙ MD areas show only MOTION menu. Therefore, MD areas don't display on the monitor screen.
- ⊙ BUT if you select the motion view function ON, MD areas are displayed on the monitor

#### ▶ **PRIVACY** : Hide an area you want to hide on the screen.

- ① When the SPECIAL menu screen is displayed, press the Up and Down buttons so that the arrow indicates 'PRIVACY'.
- ② Press SET button for Sub Menu.
- ③ Set up the mode by using 4 direction buttons.

- \* USER : Please use this menu item when using a monitor other than standard ones.
  - GAMMA : Standard value is 0.45. You can adjust the value between 0.05 ~ 1.00
  - PED LEVEL : Bigger No. more bright in dark
  - COLOR GAIN : Bigger No. more dark and strong color
- **NEG.IMAGE** : you can flip the color on screen.
- ▶ **COMM ADJ.(RS485) : \* OPTION**
  - This function sets up the camera communication status when controlling the camera through an external device.
- ① When the SPECIAL menu screen is displayed, press the Up and down buttons so that the arrow indicates "COMM ADJ."
- ② Press SET button for Sub Menu.
  - **CAM ID** : Determines the camera's ID number (0~255)
  - **BAUD RATE** : You can select 2400/4800/9600/19200/38400/57600bps.
  - **PROTOCOL** : PELCO-D, PELCO-P, NEXTCHIP PROTOCOL
  - **DISPLAY ID** : Display camera title on the screen.
  - **ID POS** : CAM ID Position
- ▶ **LANGUAGE** : You can select the menu language according to your requirement.
  - Supplied Language : English, Chinese
- ▶ **VERSION** : Camera Version

### RESET

- ▶ **FACTORY** : Resets the camera settings to the factory defaults.
  - \* Note : It do not effect to Language, Camera Tile and Communication Setting

### MEMO