



# **ERNITEC EVA Series**

## **EVA 101-XX OSD Menu Control**

### **Manual**

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# 1. EVA 101-WDR (WDR / True Day & Night)

## 1.1. Menu

SETUP	
LENS	• DC • MANUAL
EXPOSURE	• SHUTTER • AGC • SENS-UP • RETURN
WHITE BALANCE	• ATW • MANUAL • AWC SET • OUTDOOR • INDOOR
BACKLIGHT	• OFF • WDR • BLC • HLC
DNR	• ON • OFF
DAY/NIGHT	• COLOR • B/W • AUTO • EXTERN
IMAGE ADJUSTMENT	• FREEZE • V-REV • H-REV • D-ZOOM • SHARPNESS • RETURN
SPECIAL	• CAM TITLE • SYNC • MOTION DET • PRIVACY • DIS • COMM ADJ • LANGUAGE • RESET • RETURN
EXIT	

## 1.2. How to set

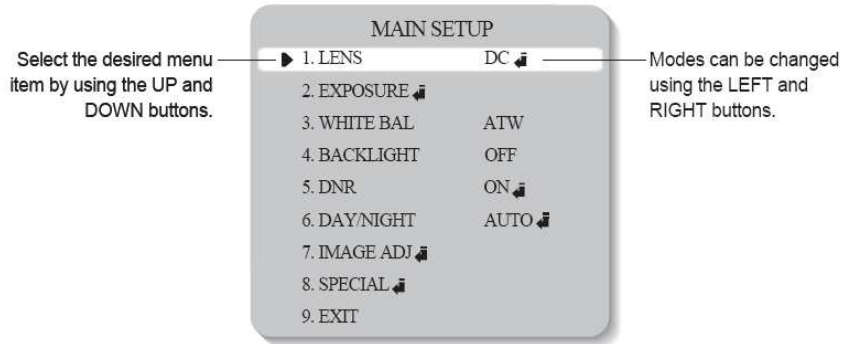
Settings can be made using the 5 buttons located in the webpage. Go to [Setup] - [Video & Audio] – [Video input] and you can see the page of below.

Click PREVIEW button to pop up the image view

1. Press the SET button.  
The Setup menu is displayed on the monitor screen.




2. Select a menu item using the Up and Down buttons.  
Place the cursor over a desired item.



3. Set up a selected item by using the Left and Right buttons.
4. To finish and save the settings, select 'EXIT' and press the SET button.

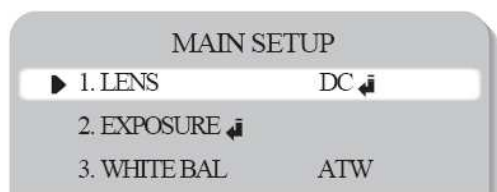
**NOTE :**

- An item with the  icon also has sub-menus. To select a sub-menu, press the SET button.
- An item with the - - - icon has no sub-menus available for selection.

## 1.2.1. LENS

This function is used to adjust the brightness of the screen.

1. When the SETUP menu screen is displayed on the screen, position the cursor to point to LENS using the Up and Down buttons.
2. Select the type of lens using the Left and Right buttons.



- **DC** : Select Auto Iris Lens

When DC is selected, you can control screen brightness. The range of brightness control is between 1 and 70 (40 in case of WDR mode). Adjust the brightness appropriately for optimal screen brightness.



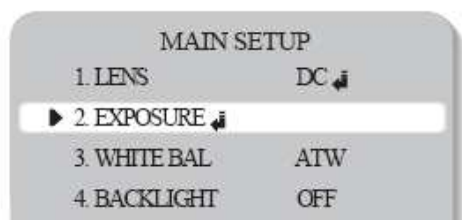
**NOTE :**

Some lenses may not work properly, depending on the settings for the BRIGHTNESS LEVEL.  
When Using a Video-Type Auto Iris Lens

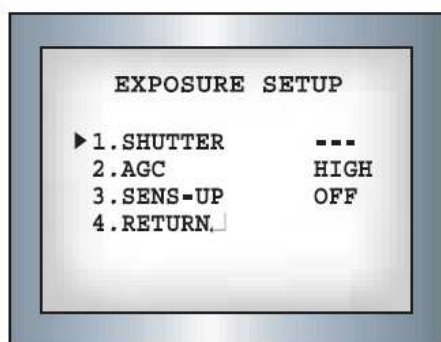
- ① Check that the ALC adjustment on the lens is appropriate. In general, set it to AV (Average).
- ② It may not work properly depending on the installed lens. Set the Level VR of the lens to the optimal value.
- ③ Set AGC / SENS-UP to OFF and adjust the Lens VR to an appropriate brightness.
- ④ Adjust the Lens VR, adjust the BRIGHTNESS, and then check if the screen brightness changes properly. Otherwise, adjust the Lens VR again.

- **Manual** : Select Manual Lens

## 1.2.2. EXPOSURE



1. When the SETUP menu screen is displayed select EXPOSURE using the Up and Down buttons.
2. Select the desired mode using the Left and Right buttons.



- **SHUTTER** : Select either auto or manual shutter.
  - A.FLK : Select this when picture flicker is experienced, which can happen when there is a clash with the frequency of the installed lighting.
  - ESC : Select this to control the shutter speed automatically. If ESC is selected, the shutter speed is automatically controlled according to the ambient illumination available.
  - MANUAL : The shutter speed is controlled manually.

### NOTE :

- To produce better results with A.FLK, do not use it in conjunction with the WDR mode on the BACKLIGHT menu.
- When the SHUTTER is set to ESC, and the camera is set to Internal Synchronization, the picture may become unstable if the camera faces a bright fluorescent light. Therefore, take care when choosing the installation position.
- ESC and MANUAL modes are only available together when the lens is set to MANUAL.
- When the SHUTTER is set to MANUAL or A.FLK mode, SENS-UP is disabled.

### ● **AGC (AUTO GAIN CONTROL):**

The higher the gain level, the brighter the screen - but the higher the noise.

- OFF : Deactivates the AGC function.
- LOW : Allows automatic gain control from 0 to 24dB.
- HIGH : Allows automatic gain control from 0 to 42dB.

- **SENS-UP :**



When it is night or dark, the camera automatically detects the light level and maintains a clear picture if this mode is activated.

- OFF : Deactivates the SENS-UP function.
- AUTO : Activates the SENS-UP function.

- **RETURN :**

Select this to save the changes in the EXPOSURE menu and return to the SETUP menu.

- **NOTE :**

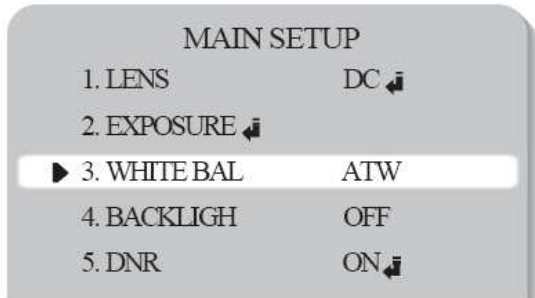
- If you press the SET button in 'AUTO' mode, You can adjust brightness by increasing or decreasing the shutter speed. (X2~X256)
- Note that the higher the zoom level, the brighter the screen, but the more likely it is that an after-image will appear.
- Although Noise, Spots, and Whitish symptoms may occur in SENS-UP operation when the zoom level is increased, this is normal.



### 1.2.3. White Balance

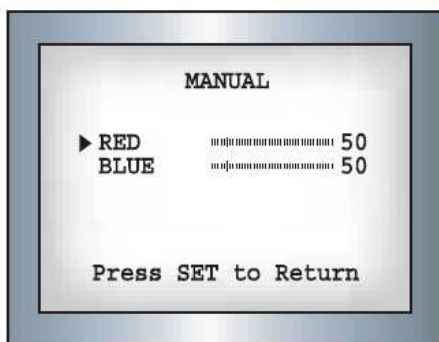
Use the White Balance function to adjust the screen colors.

1. Position the cursor to point to WHITE BAL on the SETUP menu screen, select using the Up and Down buttons.
2. Select a desired mode using the Up and Down buttons.



※ Select one of the following 5 modes, as appropriate.

- **ATW** : Select when the color temperature is between 1800°K and 10500°K
- **INDOOR** : Select when the color temperature is between 4500°K and 8500°K
- **OUTDOOR** : Select when the color temperature is between 1800°K and 10500°K. (sodium light inclusion)
- **AWC SET** : To obtain the optimum state under the current luminance levels, direct the camera to point toward a sheet of white paper and press the SET button. If the environment changes, including the light source, the white balance will require re-adjustment.
- **MANUAL** : Select to "fine-tune" the White Balance manually. Set White Balance first using the ATW or AWC mode. Afterwards switch to MANUAL mode, fine-tune the White Balance and then press the SET button.



#### NOTE :

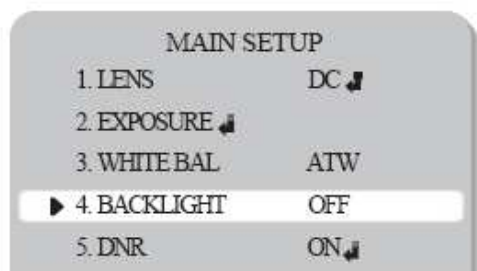
- Under the following conditions White Balance may not work properly. In such cases, select the AWC mode.

- ① When the color temperature of the subject environment has a very high temperature range (e.g. Clear sky or sunset)
- ② When the ambient illumination of the subject is low.
- ③ If the camera is directed toward a fluorescent light, or is installed in a place where illumination changes dramatically, the White Balance operation may become unstable.

## 1.2.4. BACKLIGHT

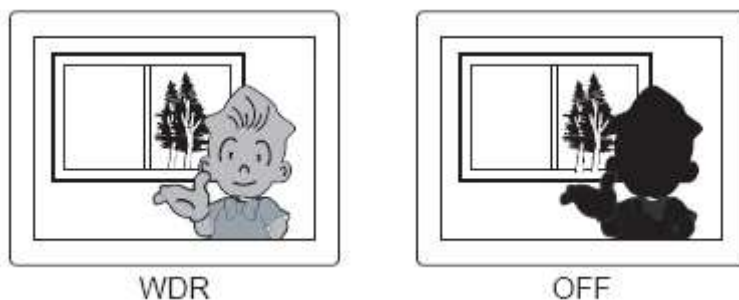
This camera is designed to deliver a clear and distinct image of both subject and background, even when the subject is backlit.

1. Position the cursor to point to BACKLIGHT on the SETUP menu screen using the Up and Down buttons.



2. Select the desired mode using the Left and Right buttons.

- **WDR** : When the image has simultaneous bright and dark areas, the Wide Dynamic Range makes both areas distinct.
- **OFF** : Deactivates the WDR function.

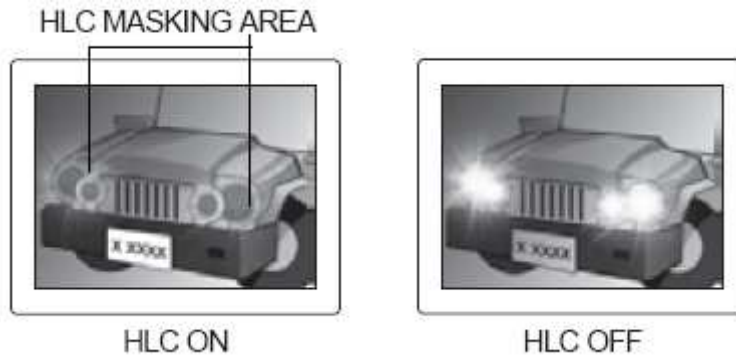


- **BLC** : Enables the user to directly select an area of a picture to activate and control.
- **HLC (High Light Compensation)** :

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.

- DAY : In normal daylight conditions, the HLC is not activated.

- NIGHT : If a high light that is larger than a certain size is present on the screen, remove the high light to see license plates clearly.



3. Select the desired mode using the Left and Right buttons and press the SET button.

Select 'WDR' to adjust the WDR LIMIT. Select LOW, MIDDLE, or HIGH.



Select 'BLC' to adjust the area to be enhanced by the WDR function.



**NOTE :**

- The WDR cannot be used when MANUAL mode or A.FLK mode in the 'SHUTTER' menu is selected.
- If the following symptoms occur when WDR is selected, deactivate it.
  - ① Color of screen changes unnaturally.
  - ② Noise appears in the brightest part of the screen.
- As the performance of the WDR function can be affected by an area of brightness on the image, optimize the installation angle to eliminate any bright spots for the best performance.
- If LIMIT is increased, the image may become distorted.
- For the best WDR performance use a DC Iris Lens rather than a Manual Lens.

## 1.2.5. DNR (Digital Noise Reduction)

This function reduces the background noise in a low luminance environment.

1. When the SETUP menu screen is displayed, select 'DNR' using the Up and Down buttons.



2. Select a desired mode using the Left and Right buttons.

- **OFF** : Deactivates DNR. Noise is not reduced.
- **ON** : Activates DNR so that noise is reduced.

3. Set the DNR mode to 'ON' and press the SET button. The noise reduction level can now be adjusted.



### NOTE :

- You cannot set the DNR to 'ON' or 'OFF' when the AGC mode in the EXPOSURE menu is 'OFF'.
- When adjusting the noise reduction level in DNR mode, remember that the higher the level is set, the greater the reduction in noise level, but it also increases the possibility of ghosting.

## 1.2.6. DAY/NIGHT

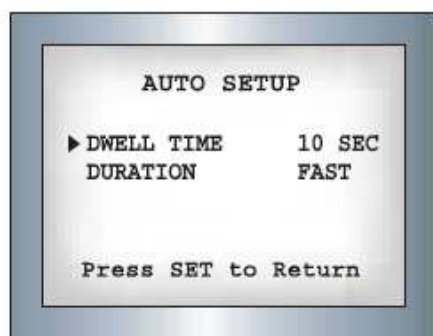
Pictures can be displayed in either color or black and white.

1. When the SETUP menu screen is displayed, select 'DAY/NIGHT' using the Up and Down buttons.



2. Select the desired mode using the Left and Right buttons.

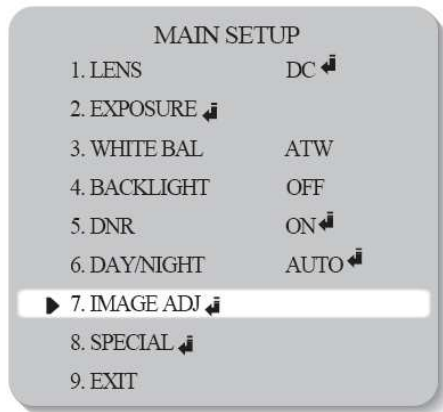
- **COLOR** : The picture is displayed in color.
- **B/W** : The picture is always displayed in black and white.
- **AUTO** : This camera has an IR Cut-Filter and automatically changes to the appropriate mode according to lighting levels. To set up the switching time and switching speed for the AUTO mode press the SET button.



- **EXTERN** : This mode allows the application of a filter to external signals.

## 1.2.7. IMAGE ADJ.

1. When the SETUP menu screen is displayed, select 'IMAGE ADJ.' using the Up and Down buttons.



2. Select the desired mode using the Left and Right buttons.



- **FREEZE** : View and capture a still image.
- **V-REV** : Flips the picture vertically on the screen.
- **H-REV** : Flips the picture horizontally on the screen.
- **D-ZOOM** : Digitally zooms, the range is x1~x10.



- **SHARPNESS** : As this value is increased the picture outline becomes stronger and clearer.



- **RETURN** : Select this to save the settings for the IMAGE ADJ. menu and to return to the SETUP menu.

**Note :**

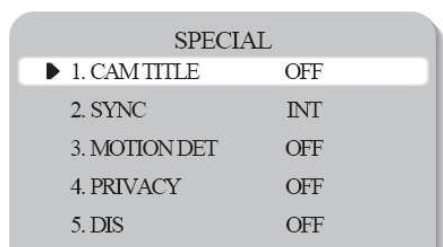
- When H-REV or V-REV is selected, any text in the picture also will be flipped horizontally or vertically.
- If the SHARPNESS level is increased too high the picture may become distorted, or noise may generated.

## 1.2.8. SPECIAL

1. When the SETUP menu screen is displayed, select 'SPECIAL' using the Up and Down buttons.



2. Select the desired mode using the Left and Right buttons.



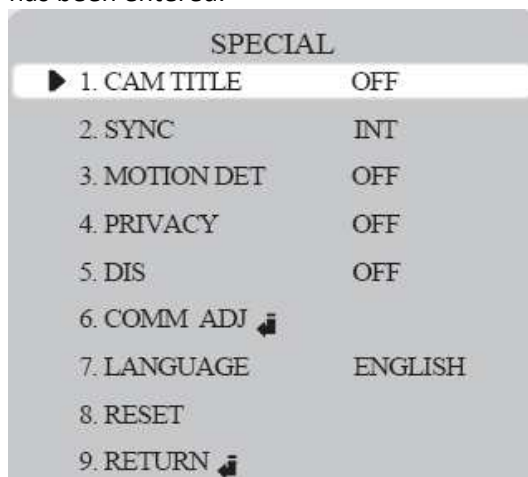
● **CAM TITLE** : If a title is entered, the title appears on the monitor.

① When the SPECIAL menu screen is displayed, use the Up and Down buttons to point the cursor to 'CAM TITLE'.

② Set to 'ON' using the Left and Right buttons.

### NOTE:

When the CAM TITLE menu is 'OFF', no title will be displayed on the monitor screen even if one has been entered.





- ③ Press the SET button.



- ④ Use the 4 directional buttons to move to a character, and select it by pressing the SET button. Repeat this action to enter multiple characters. Up to 15 alphanumeric characters can be used.

- If the cursor is moved to CLR and the SET button pressed, all 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 the 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 using the 4 directional buttons and press the SET button. When the position is determined, select 'END' and press the SET button to return to the SPECIAL menu.



- **SYNC** : In areas where the supply is 60Hz, multiple cameras using the power synchronization function (Line-Lock), without using a synchronization signal generator.

- INT : Internal Synchronization Type
- L/L : Power Synchronization Type, Line-lock

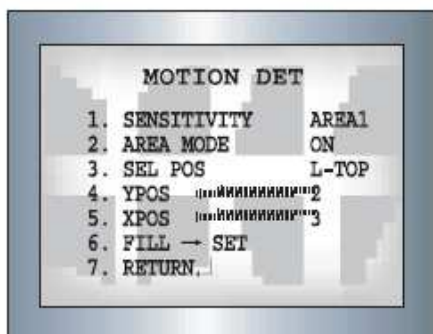
- Press the SET button.
- Select a phase between 0 and 359.

**NOTE :**

- When using AC power at a 60Hz frequency Line-Lock synchronization can be used.
- When the power is DC 12V, the SYNC. menu is fixed to the 'INT' mode.

- **MOTION DET:**

This camera displays an on-screen message whenever motion is detected.



① When the SPECIAL menu screen is displayed, press the Up and Down buttons so that the cursor points to MOTION DET.

② Set up the function using the 4 directional buttons.

- SENSITIVITY : Select up to eight MD areas. When the SENSITIVITY value is high, motion detection sensitivity is increased to recognize small movements.
- AREA MODE : Determines whether to use the MD area selected in SENSITIVITY.
- SEL POS : Determines which of the 4 vertices of each MD area is to be used.
- YPOS : Determines the co-ordinates of the vertical axis for SEL POS.
- XPOS : Determines the co-ordinates of the horizontal axis for SEL POS.
- FILL→ SET : Fills in a selected MD area. Fill in a selected MD area. The color of filling is sequentially selected as brown, orange, blue, cyan, yellowish green, yellow and red.
- RETURN : Select this to save the MOTION DET menu settings and return to the SPECIAL menu.

**NOTE :**

- MD areas show only on the MOTION DET menu. Therefore, MD areas are not displayed on the monitor screen.

- **PRIVACY** : Hide an area so that it is not displayed on the monitor.



① When the SPECIAL menu screen is displayed, press the Up and Down buttons so that the cursor points to 'PRIVACY'.



② Set up using the 4 directional buttons.

- AREA SEL : Up to 8 areas are selectable.
- AREA MODE : Determines whether to use the area selected in the AREA SEL, and the size and position of the area.

- MASK COLOR : Determine area color. Select Grey, Green, Red, Blue, Black or White.
- TRANSP : Determine the transparency of the selected area, the range is from 0 to 3.
- RETURN : Select this to save the PRIVACY menu settings and return to the SPECIAL menu.

● **DIS (Digital Image Stabilizer) :**

This function mitigates picture movement caused by external factors, such as wind.

● **COMM ADJ (Communication Adjustment) :**

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 cursor points to 'COMM ADJ'.

② Set up the mode using the 4 direction buttons.

- CAM ID : Determines the camera's identification number (between 0 and 255).
- BAUD RATE : Select 2400/4800/9600/19200/38400/57600 bps.
- UART MODE : Select NONE, EVEN or ODD for the parity bits.

- RET PKT : Determines whether to send a command back to the controller device when a communication control command is sent to the camera.
- DISP CAM ID : Display the camera title on the top left corner of the screen.
  
- LANGUAGE : Select the appropriate menu language.
- RESET : Resets the camera settings to the factory defaults.
- RETURN : Select this to save the SPECIAL menu settings and return to the SPECIAL menu.

## **1.2.9. EXIT**

Press the SET button in the EXIT menu to save the current settings and exit the SET menu.

### 1.3. Specification

ITEM	NTSC	PAL
Image Sensor	SONY 1/3" Vertical Double Density Color CCD	
Effective Pixels	768(H) x 494(V)	752(H) x 582(V)
Sync System	Internal	
Electronic Shutter	AUTO/MANUAL (X256 ~ 1/60sec ~ 1/120,000sec) Sens-up and Sens-up Limit is selectable /Flickerless	AUTO/MANUAL (X256 ~ 1/50sec ~ 1/120,000sec) Sens-up and Sens-up Limit is selectable /Flickerless
Video Output	CVBS : 1.0Vp-p/75 ohm	
Horizontal Resolution	560 TV lines (Color), 600 TV lines (B/W)	
Min. Illumination	0.3Lux 40 IRE (Color), 0.03Lux 40 IRE (B/W)	
Dynamic Range	52dB(x128)	
AGC Control	LOW, MIDDLE, HIGH, OFF Selectable	
Sense-Up	OFF / AUTO	
DNR	ON (Level 0~32) / OFF Selectable	
DIS	ON/OFF Selectable	
Power Consumption	Max. 220mA	
Power Requirement	DC12V	
Operating Temperature/Humidity	-10℃ to +50℃ / 30% to 80% RH	
Weight	80g	

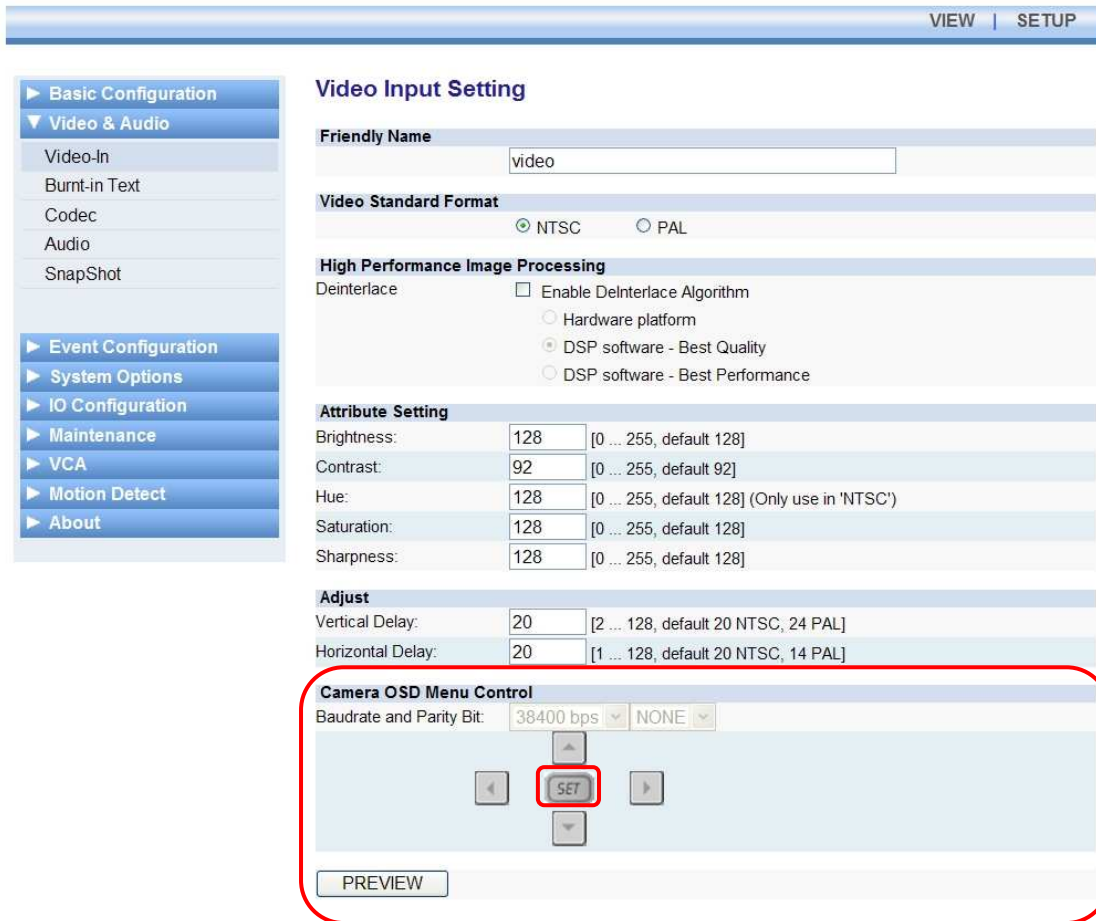
## 2. EVA 101-DN

### 2.1. Menu

SETUP	
LENS	• MANUAL • DC
SHUTTER (Condition and speed control)	• ESC • MANUAL • FLK
WHITE BALANCE	• ATW • MANUAL • AWC
BACKLIGHT (Back light compensation_	•OFF • LOW • MIDDLE • HIGH
AGC	•OFF • LOW • MIDDLE • HIGH
DNR (Digital Noise Reduction)	•OFF • LOW • MIDDLE • HIGH
SENS-UP	•OFF • AUTO
SPECIAL	•CAMERA ID • COLOR • SYNC • MOTION DETECTION • PRIVACY • MIRROR • SHARPNESS • RESET • RETURN
EXIT	

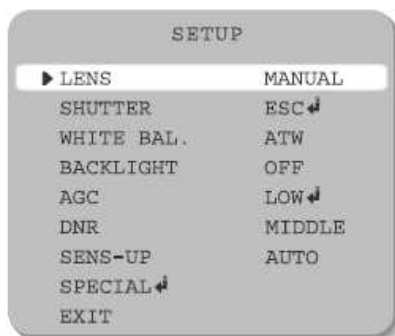
## 2.2. How to set

Settings can be made using the 5 buttons located in the webpage. Go to [Setup] - [Video & Audio] – [Video input] and you can see the page of below.



### 1. Press the SET button.

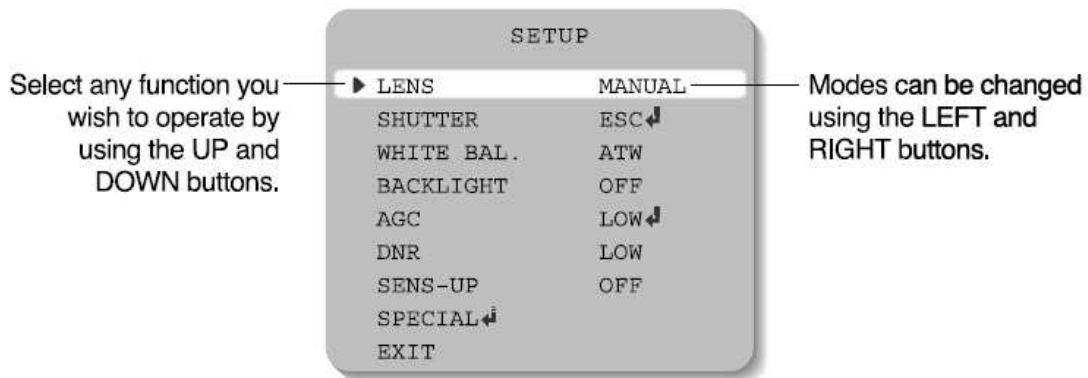
Settings can now be made. The Setup menu is displayed on the monitor screen.



### 2. Select a menu item using the Up and Down buttons.

Place the cursor over a desired item.





- When the LEFT or RIGHT button is pressed, available values and modes are displayed in order. Please Keep pressing the button until you get to the mode you wish to operate.
- Please select 'EXrr and then press the SETUP button to finish the setting.

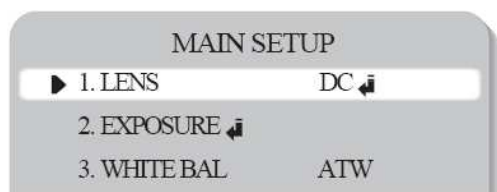
**NOTE :**

- If ↓ appears at the mode you wish to operate, it means that there is a sub-menu which can be selected by pressing the SETUP button.
- If - - - appears at the mode item, it means that there is no mode available to be selected.

## 2.2.1. LENS

This function is used to adjust the brightness of the screen.

1. When the SETUP menu screen is displayed on the screen, position the cursor to point to LENS using the Up and Down buttons.
2. Select the type of lens using the Left and Right buttons.



- **DC** : Select Auto Iris Lens

When DC is selected, you can control screen brightness. The range of brightness control is between 1 and 70 (40 in case of WDR mode). Adjust the brightness appropriately for optimal screen brightness.



**NOTE :**

Some lenses may not work properly, depending on the settings for the BRIGHTNESS LEVEL.  
When Using a Video-Type Auto Iris Lens

- ① Check that the ALC adjustment on the lens is appropriate. In general, set it to AV (Average).
- ② It may not work properly depending on the installed lens. Set the Level VR of the lens to the optimal value.
- ③ Set AGC / SENS-UP to OFF and adjust the Lens VR to an appropriate brightness.
- ④ Adjust the Lens VR, adjust the BRIGHTNESS, and then check if the screen brightness changes properly. Otherwise, adjust the Lens VR again.

- **Manual** : Select Manual Lens

## 2.2.2. SHUTTER

Auto or manual control can be selected.

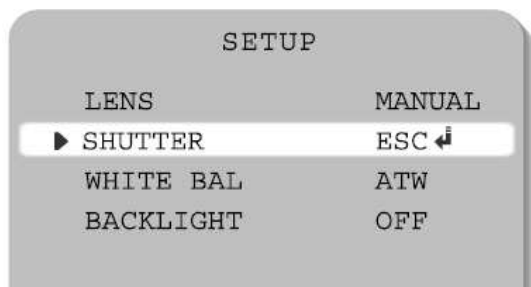
1. When the SETUP menu is on the screen, please position the arrow to point to 'SHUTTER' by using the UP and DOWN buttons.

2. Please select the shutter mode by pressing the LEFT or RIGHT button.

- **FLK** : Please select 'FLK' mode when flickering occurs on the screen, due to an imbalance between illumination and frequency. NTSC Model:1/100, PAL Model: 1/120

- **ESC** : Auto control 01 that shutter speed can be achieved. When ESC mode is on, the speed is controlled automatically according to the brightness of the screen.

- **MANUAL** : The shutter speed can be controlled manually.



3. Please select 'MANUAL' mode if you wish to adjust the shutter manually.

- You can select speed from '1/60' to '1/120,000' sec (NTSC Models), '1/50' to '1/120,000' (PAL Models).

4. Please press the SETUP button when all the settings are complete.

### NOTE :

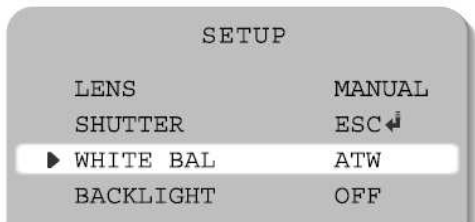
- While using the internal synchronous system, if the shutter setting is on 'ESC' and the camera is directly facing a bright fluorescent light, the image on the screen can be adversely affected. Therefore please choose the installation location with care.

- When 'MANUAL' mode is on, the SENS UP function does not operate.

## 2.2.3. WHITE BALANCE

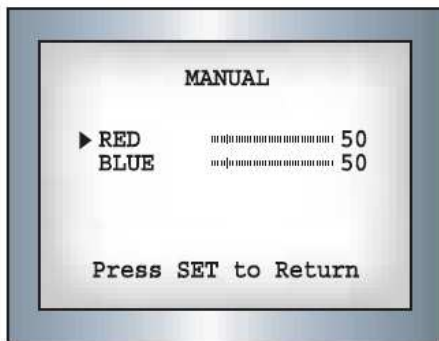
Use the White Balance function to adjust the screen colors.

1. Position the cursor to point to WHITE BAL on the SETUP menu screen, select using the Up and Down buttons.
2. Select a desired mode using the Up and Down buttons.



※ Select one of the following 5 modes, as appropriate.

- **ATW (Auto Tracking White Balance)** : Select when the color temperature is between 1800°K and 10500°K (eg, fluorescent light, outdoor, sodium vapor lamp or inside tunnels)
- **AWC (Auto White balance Control)**: Please press the SETUP button while the camera is directed at a piece of white paper to obtain the optimum state under current illumination. If the environment including the light source is changed you have to adjust the white balance again.
- **MANUAL** : Select to "fine-tune" the White Balance manually. Set White Balance first using the ATW or AWC mode. Afterwards switch to MANUAL mode, fine-tune the White Balance and then press the SET button.



### NOTE :

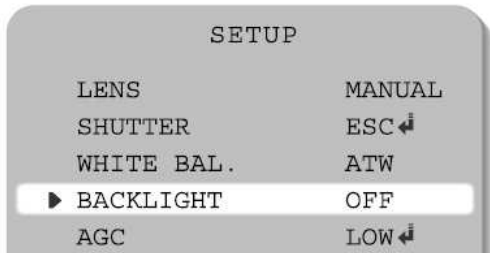
- Under the following conditions White Balance may not work properly. In such cases, select the AWC mode.

- ① When the color temperature of the subject environment has a very high temperature range (e.g. Clear sky or sunset)
- ② When the ambient illumination of the subject is low.
- ③ If the camera is directed toward a fluorescent light, or is installed in a place where illumination changes dramatically, the White Balance operation may become unstable.

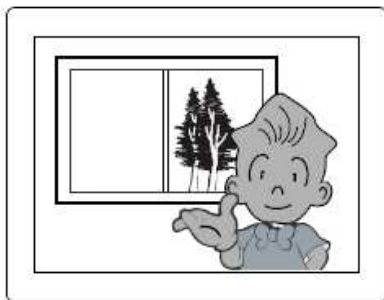
## 2.2.4. BACKLIGHT

When there is a strong backlight behind the object, clear images of the background as well as the object can still be obtained by using the BACKLIGHT function.

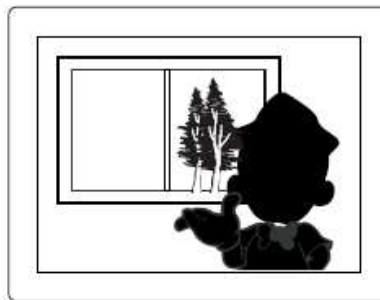
1. Please position the arrow to point to 'BACKLIGHT' on the SETUP menu by using the UP and DOWN buttons.
2. Please select the mode you wish to operate by pressing the LEFT or RIGHT button.



- **HIGH** : The gain increases from 0dB up to 42dB.
- **MIDDLE** : The gain increases from 0dB up to 30dB.
- **LOW** : The gain increases from 0dB up to 18dB.
- **OFF** : BACKLIGHT function does not operate.



BACKLIGHT ON



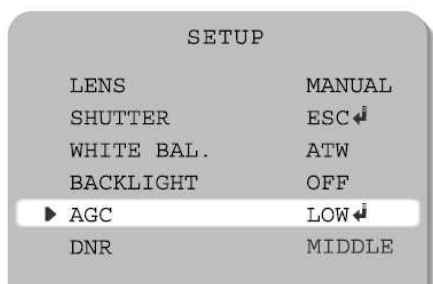
BACKLIGHT OFF

## 2.2.5. AGC

1. Please position the arrow to point to 'AGC' on the SETUP menu by using the UP and DOWN buttons.

2. Please select the mode you wish to operate by pressing the LEFT or RIGHT button. As the level of gain increases, the screen gets brighter and the level of noise also increases.

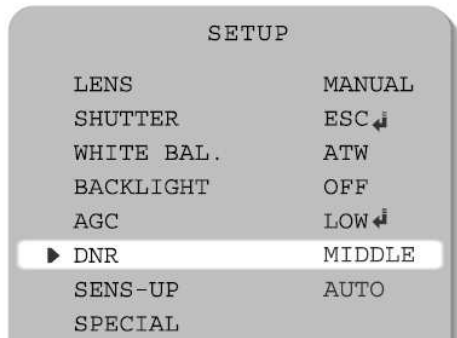
- **HIGH** : The gain increases or decreases within the range of 6cIB - 42dB.
- **MIDDLE**: The gain increases or decreases within the range of 6cIB - 30dB.
- **LOW** : The gain increases or decreases within the range of 6dB-18dB.
- **OFF** : The gain is fixed at 6dB.



## 2.2.6. DNR (Digital Noise Reduction)

This function reduces the background noise in a low luminance environment.

2. When the SETUP menu screen is displayed, select 'DNR' using the Up and Down buttons.



2. Select a desired mode using the Left and Right buttons.

- **OFF** : There is no reduction in noise level.
- **LOW** : There is a small reduction in noise level with almost no ghost image.
- **MIDDLE**: The most effective mode. There is a sufficient reduction in noise levels without causing much ghost imaging.
- **HIGH** : The level 01 noise is reduced greatly, however there is an increase in ghost imaging.

3. Set the DNR mode to 'ON' and press the SET button. The noise reduction level can now be adjusted.

### NOTE :

- When AGC is turned off, DNR does not operate.
- When adjusting the noise reduction level in DNR mode, remember that the higher the level is set, the greater the reduction in noise level, but it also increases the possibility of ghosting.

## 2.2.7. SENS-UP (Low illumination)

SENS UP helps maintain a bright, clear screen image by automatically detecting changes in the level of light in low light level conditions.

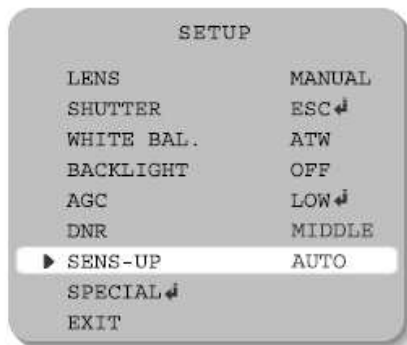
1. Please position the arrow to point to 'SENS UP' on the SETUP menu by using the UP and DOWN buttons.
2. Please select the mode you wish to operate by pressing the LEFT or RIGHT button.

- **AUTO** : Low light level auto mode
- **OFF** : The function does not operate

### NOTE :

When SHUTTER is in the manual mode, SENS UP does not operate.

When AGC is turned off, SENS UP does not operate.



3. Please press the SET UP button when all the settings are complete.

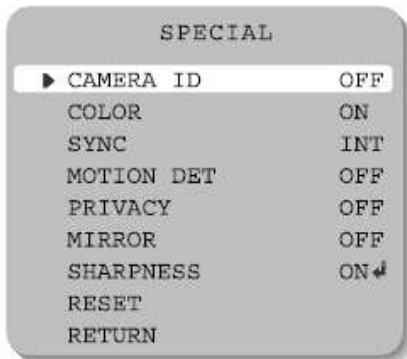
### NOTE :

- The Maximum storage magnification in low light level movement situations can be adjusted by pressing the SETUP button in 'AUTO' mode. (X2 ~ X128)
- As the magnification increases, the screen gets brighter; however the after image also increases.
- If storage magnification is increased while SENS UP is operating, it may cause noise, and spots may appear, however this is normal.



## 2.2.8. SPECIAL

1. Please position the arrow to point to 'SPECIAL' on the SETUP menu by using the UP and DOWN Buttons.
2. Please select the mode you wish to operate by pressing the UP or DOWN button.



- **CAMERA ID** : If the ID is input, the camera ID appears on the monitor.
  - 1) Please position the arrow to point to 'CAMERA ID' by using the UP or DOWN button.
  - 2) Please select 'ON' by pressing the LEFT or RIGHT button.

**NOTE :**

If 'OFF' is selected, the ID does not appear on the monitor even if it has been input.

- 3) Please press the SETUP button.



- 4) Up to 15 letters can be used for the ID.
  - ① Please move the cursor to the letter you want to choose by using the UP and DOWN button.

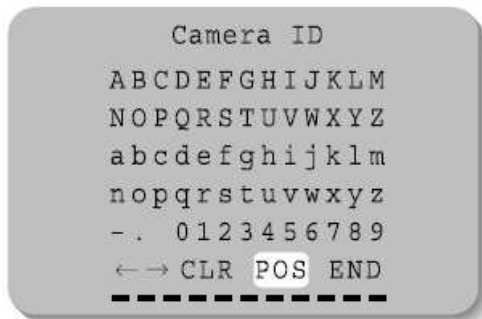


- ② Select an ID from A,B ~ Y,Z, a,b~y,z, 0,1~8,9 by using the UP, DOWN, LEFT and RIGHT buttons.
- ③ Please lock in the letters by using the SETUP button (When the letter is locked in, the cursor moves to the next space).
- ④ Please repeat the above to input the ID.

**NOTE : If the wrong name has been input...**

If you press the SETUP button after moving the cursor to CLR, all the letters will be erased. IF you want to the arrow at the bottom left of the screen and press 'SET'. Position the cursor above the letter you want to correct, and then move the cursor onto the letter you wish to choose and press the SETUP button.

- 5) When a name has been chosen, select a position for the name display.
  - ① Please move the cursor onto 'POS' and then press the SETUP button.



- ② The name will appear at the top left corner.
- ③ Please find the position you wish to display the name by using the 4 directional buttons, and then press the SETUP button.



- 6) Please select 'END' and then press the SETUP button to complete ID input.

**● COLOR**

- AUTO : This camera has a function which automatically changes to the appropriate mode for daytime or night-time. The COLOR mod is operated for daytime, and it converts to BW mode for night-time.
- ON : The color mode is selected by default, and the modes do not change automatically.

**NOTE :**

- When the AGC is turned off, COLOR does not operate.
  - When an infrared light is used, there may be a problem with focusing.
- 
- **SYNC** : Two of synchronization modes are available Internal and External line-lock mode, it synchronizes the video signal between cameras without a synchronous generator. The line-lock synchronization is only used In the areas of 60Hz and 50Hz.
- INT : Internal Synchronization Type
  - L/L : Power Synchronization Type, Line-lock
- 
- Press the SET button.
  - Select a phase between 0 and 359.

**NOTE :**

- When using AC power at a 60Hz frequency Line-Lock synchronization can be used.
- When the power is DC 12V, the SYNC. menu is fixed to the 'INT' mode.

**● MOTION DETECTION**

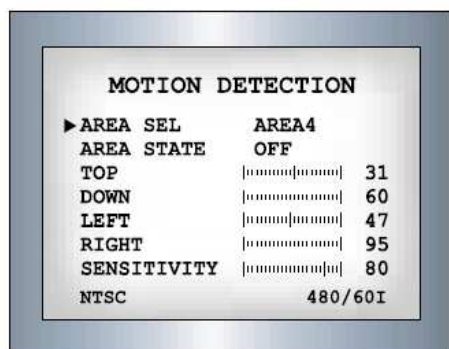
It allows you to observe movements of objects in 4 different areas on the screen, and the words 'MOTION DETECTED' appear on the screen when movement is detected; hence a single individual can conduct supervision efficiently. The camera detects an object's movement by sensing disparity of outline, and level of brightness and color.

1. Press the SETUP button.

OFF : Motion detection mode is cancelled.

ON : Any motion in the selected area is observed.

2. Select the area you want to observe from the 4 areas in AREA SEL mode.
3. Select ON mode for the chosen area.
4. Adjust the size of the area to be observed by using the UP, DOWN, LEFT or RIGHT button.
5. Adjust the level of observation by using SENSITIVITY mode.

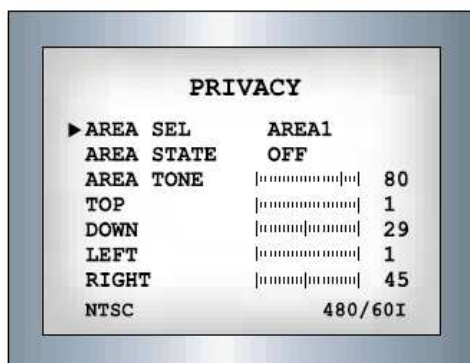


6. Press the SETUP button to save the changes and complete the setting.

#### ●PRIVACY

This mode conceals the areas you do not want to appear on the screen.

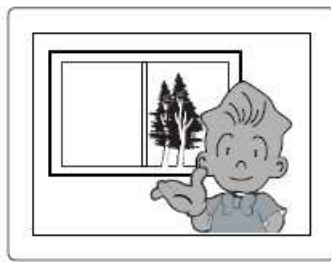
- OFF: Cancels the PRIVACY mode.
  - ON : Operates the PRIVACY mode.
1. Press the SETUP mode



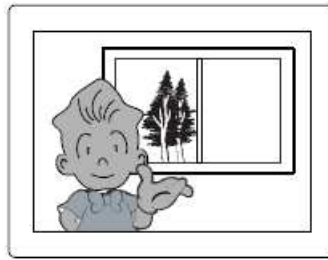
2. Select the area you do not want to appear from the 4 areas in AREA SEL mode.
3. Select ON mode for the chosen area
4. Adjust the size of the area to be concealed by using the UP, DOWN, LEFT or RIGHT button.

#### ●MIRROR

- ON : Sets a horizontal image inversion
- OFF : Cancels the inversion



MIRROR ON



MIRROR OFF

**● SHARPNESS**

The outline of the video image becomes cleaner and more distinctive as the level of SHARPNESS increases. If the level goes up excessively, however, it may affect the video image and generate noise.

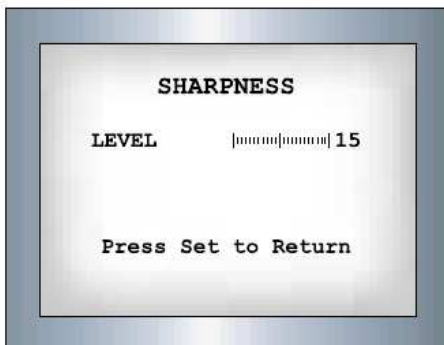
1. Press the SEUP button
2. Set the available range of level from 0 to 31.

**● RESET**

Return to the level which was set by the manufacturer for shipment.

**● RETURN**

Saves the SPECIAL menu and returns to the SETUP menu.



## 2.3. Specification

Item		NTSC		PAL	
Power Source		AC24V / DC12V	DC12V	AC24V / DC12V	DC12V
		215mA(AC24V)/250mA(DC12V)	160mA	215mA(AC24V)/250mA(DC12V)	160mA
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	1/3 inch interline transfer CCD			
	Scanning System	2:1 Interlace			
S Y N C	Synchronization	INT/LL Selectable 0~359°(Adjustable)	INT	INT/LL Selectable 0~359°(Adjustable)	INT
	Frequency	Horizontal:15,734 KHz Vertical :59,94 Hz		Horizontal: 15,625 KHz Vertical : 50,00 Hz	
E L E C T R I C A L	Resolution	540 TV Lines			
	Video Output	1.0Vp-p/75 (Video 0.714Vp-p Sync 0.286Vp-p)		1.0Vp-p/75 (Video 0.7 Vp-p Sync 0.3 Vp-p)	
	S/N (Y signal)	50dB (AGC Off)			
	Min. Illumination	0.3Lux/F1.2(Color), 0.1Lux/F1.2(B/W), 0.002Lux(Sens-up)			
	COLOR	ON / AUTO			
	Gain Control	OFF / LOW / MIDDLE / HIGH			
	White Balance	ATW / AWC / MANUAL(1,800°K~10,500°K)			
	Electronic Shutter Speed	AUTO / MANUAL(1/60~1/120,000)		AUTO / MANUAL(1/50~1/120,000)	
	Sens-Up	OFF / AUTO			
	O.S.D	Built-in			
	Motion Detection	ON / OFF (4 Programmable Zone)			
	DNR	OFF / LOW / MIDDLE / HIGH(Noise Reduction)			
	MIRROR	Built-in (Horizontal Image Inversion)			
Privacy Function	ON / OFF (4 Programmable Zone)				
Operating Temperature/Humidity		-10°C ~ +50°C / 30~90% RH			

# REVISION HISTORY

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MANUAL#	DATE (M/D/Y)	COMMENTS
01A.00	06/26/09	Created
02A.00	07/24/09	FW 1.00.07 official release version