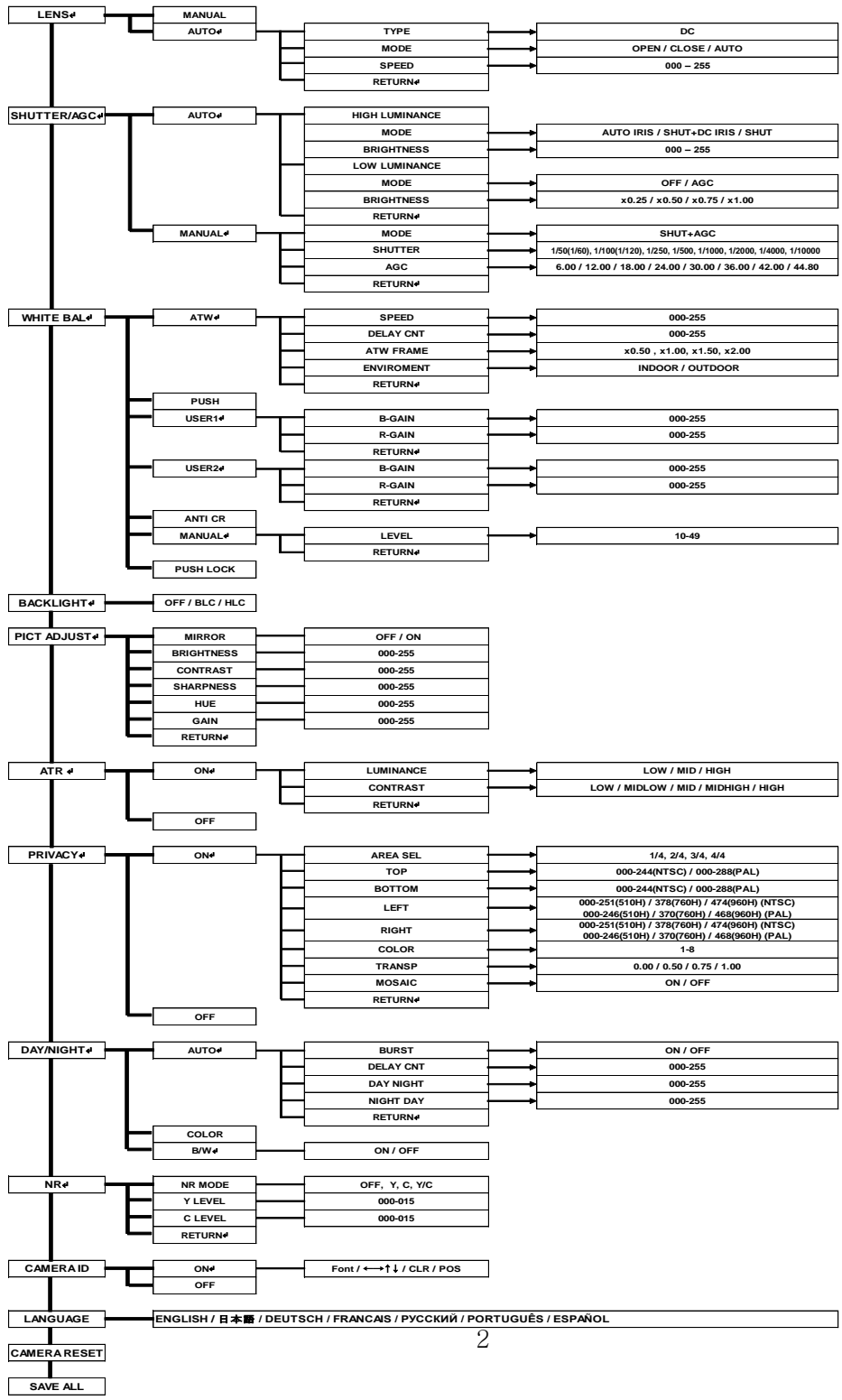# EH Series OSD

Menu settings for all EH series Cameras

11/9/2011

This document covers only the OSD menu settings, not the hardware. This applies to the following model/series: VN7xEH, VN6xEH, VN70IIEH, VN60EH, VDA140EH, VDS120EH, VDA111EH, VD101EH, VD70EH, VD70EH-S36, VC56EH, VC58EH, VB60EH, VB30EH

Effio OSD: Setup and Programming

1. MENU Tree

LENS⏎
- MANUAL
- AUTO⏎
  - TYPE → DC
  - MODE → OPEN / CLOSE / AUTO
  - SPEED → 000 – 255
  - RETURN⏎

SHUTTER/AGC⏎
- AUTO⏎
  - HIGH LUMINANCE
  - MODE → AUTO IRIS / SHUT+DC IRIS / SHUT
  - BRIGHTNESS → 000 – 255
  - LOW LUMINANCE
  - MODE → OFF / AGC
  - BRIGHTNESS → x0.25 / x0.50 / x0.75 / x1.00
  - RETURN⏎
- MANUAL⏎
  - MODE → SHUT+AGC
  - SHUTTER → 1/50(1/60), 1/100(1/120), 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000
  - AGC → 6.00 / 12.00 / 18.00 / 24.00 / 30.00 / 36.00 / 42.00 / 44.80
  - RETURN⏎

WHITE BAL⏎
- ATW⏎
  - SPEED → 000-255
  - DELAY CNT → 000-255
  - ATW FRAME → x0.50 , x1.00, x1.50, x2.00
  - ENVIROMENT → INDOOR / OUTDOOR
  - RETURN⏎
- PUSH
- USER1⏎
  - B-GAIN → 000-255
  - R-GAIN → 000-255
  - RETURN⏎
- USER2⏎
  - B-GAIN → 000-255
  - R-GAIN → 000-255
  - RETURN⏎
- ANTI CR
- MANUAL⏎
  - LEVEL → 10-49
  - RETURN⏎
- PUSH LOCK

BACKLIGHT⏎ — OFF / BLC / HLC

PICT ADJUST⏎
- MIRROR — OFF / ON
- BRIGHTNESS — 000-255
- CONTRAST — 000-255
- SHARPNESS — 000-255
- HUE — 000-255
- GAIN — 000-255
- RETURN⏎

ATR⏎
- ON⏎
  - LUMINANCE → LOW / MID / HIGH
  - CONTRAST → LOW / MIDLOW / MID / MIDHIGH / HIGH
  - RETURN⏎
- OFF

PRIVACY⏎
- ON⏎
  - AREA SEL → 1/4, 2/4, 3/4, 4/4
  - TOP → 000-244(NTSC) / 000-288(PAL)
  - BOTTOM → 000-244(NTSC) / 000-288(PAL)
  - LEFT → 000-251(510H) / 378(760H) / 474(960H) (NTSC) 000-246(510H) / 370(760H) / 468(960H) (PAL)
  - RIGHT → 000-251(510H) / 378(760H) / 474(960H) (NTSC) 000-246(510H) / 370(760H) / 468(960H) (PAL)
  - COLOR → 1-8
  - TRANSP → 0.00 / 0.50 / 0.75 / 1.00
  - MOSAIC → ON / OFF
  - RETURN⏎
- OFF

DAY/NIGHT⏎
- AUTO⏎
  - BURST → ON / OFF
  - DELAY CNT → 000-255
  - DAY NIGHT → 000-255
  - NIGHT DAY → 000-255
  - RETURN⏎
- COLOR
- B/W⏎ → ON / OFF

NR⏎
- NR MODE — OFF, Y, C, Y/C
- Y LEVEL — 000-015
- C LEVEL — 000-015
- RETURN⏎

CAMERA ID
- ON⏎ — Font / ←→↑↓ / CLR / POS
- OFF

LANGUAGE — ENGLISH / 日本語 / DEUTSCH / FRANCAIS / РУССКИЙ / PORTUGUÊS / ESPAÑOL
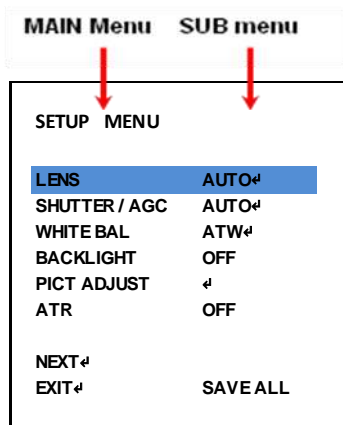
CAMERA RESET

SAVE ALL

2. Setting up the menu

Various Settings can be made depending on the model numbers.
The configuration is as follows.

- A tactile switch on the unit and RS-485 Interface
- A tactile switch on the unit only
- RS-485 Interface only

1. Press the Tactile switch(SET button) to access the MENU mode.
   The SETUP menu appears on the monitor.

2. Select any function you wish to activate by using the UP/DOWN selections.

   ● The cursor can be moved up or down by using the UP/DOWN selections.
     Position the cursor to the function you wish to operate.

MAIN Menu	SUB menu
SETUP MENU	
LENS	AUTO↵
SHUTTER / AGC	AUTO↵
WHITE BAL	ATW↵
BACKLIGHT	OFF
PICT ADJUST	↵
ATR	OFF
NEXT↵	
EXIT↵	SAVE ALL

How to use Tactile Switch on the unit

- ● Press
    - to enter the menu
    - to save settings
- ● Push up or down
    - to select functions
- ● Push left or right
    - to adjust levels
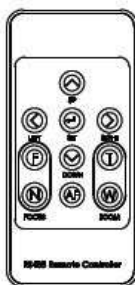
How to use OSD Remote Control (Option)

- ● Set button
    - to enter the menu
    - to save settings
- ● Up or Down button
    - to select functions
- ● Left or Right button
    - to adjust levels

Focus/ AF/ Zoom buttons on the packaged controller
are not functional with this unit.

3. Change the levels by using the LEFT/RIGHT selections.

● When you choose the LEFT or RIGHT selection, available values and modes appear in order.

4. When completed, position the cursor to 'SAVE ALL' and press the Tactile switch(SET button) to finish the settings.

● All setting values are not retained if you don't set   SAVE ALL when the power is turned off.

5. Select EXIT to finish the control.

☞ **WARNING**
   If OSD MENU is unresponsive, exit OSD MENU and try it again.

☞ **NOTE**
   * If   appears on the mode you wish to operate, it means that there is a sub-menu.

3. LENS

Select the lens and adjust the SETUP suitable to the type of lens.

☞ **NOTE**
   - Lens setup is in Box cameras only.
   - Regarding the others, this lens setup is fixed according to the lens specification of the camera.
     ■ IR Cameras have no LENS OSD options, and has only AUTO IRIS mode. You cannot enable manual IRIS mode.
     ■ (Non-IR) Dome/Bullet Cameras have AUTO IRIS or SHUT+AUTO IRIS modes.

(1) When DC Iris Lens is used.

1-1. Select the lens mode to <AUTO>.

1-2. If <MANUAL> is displayed, change the sub-menu to <AUTO>.

1-3. Press the Tactile SW(SET button).

1.4. TYPE is fixed to <DC>.

  - No VIDEO Iris lens supported.

1.5. MODE is composed of OPEN, CLOSE, and AUTO(Default : AUTO).

  - OPEN : Iris opens completely.

         (When SHUTTER / AGC is set to AUTO)

  - CLOSE : Iris is completely closed.

  - AUTO : Iris is adjusted automatically.

SETUP MENU	
LENS	**AUTO↵**
SHUTTER / AGC	AUTO↵
WHITE BAL	ATW↵
BACKLIGHT	OFF
PICT ADJUST	↵
ATR	OFF
NEXT↵	
EXIT↵	SAVE ALL

AUTO IRIS	
TYPE	**DC**
MODE	AUTO
SPEED	63
RETURN↵	

4

1-6. SPEED is activated when MODE is set to AUTO and you can
adjust the speed of Iris open/close. (Default : 63)
If there is blinking when lens is connected, avoid the blinking by
adjusting the value of SPEED.

1-7. Select RETURN to finish all settings.

1-8. Select SAVE ALL to save all settings.

1-9. Select EXIT to finish the control.

(2) When MANUAL Iris Lens is used.

2-1. Select the lens mode to MANUAL.

2-2. If <AUTO> is displayed, convert the sub-menu to <MANUAL>.

2-3. Select SAVE ALL to save all settings.

2-4. Select EXIT to finish the control.

☞ NOTE

This table shows how SUB MENU of SHUTTER / AGC is activated in

LENS of MAIN MENU.

When using a DC Iris lens, select AUTO on the menu.

When using a Manual Iris lens, select MANUAL on the menu.

Please refer to 4. SHUTTER/ AGC.

```
SETUP   MENU

LENS                 MANUAL
SHUTTER / AGC        AUTO↵
WHITE BAL            ATW↵
BACKLIGHT           OFF
PICT ADJUST         ↵
ATR                 OFF

NEXT↵
EXIT↵                SAVE ALL
```

LENS	SHUTTER / AGC	
AUTO	AUTO	AUTO IRIS
		SHUT + AUTO IRIS
	MANUAL	SHUT + AGC
MANUAL	AUTO	SHUT
	MANUAL	SHUT + AGC

4. SHUTTER / AGC (Condition and Speed control / automatic gain control)

1. It is selectable to AUTO or MANUAL control.
2. Position the cursor to 'SHUTTER / AGC' by using the UP/DOWN selections.
3. Select the SHUTTER / AGC mode by using the LEFT or RIGHT selection.

Note: Shutter/AGC options are different depending on whether it's a Box Camera, IR camera or Non-IR

Dome/Bullet camera. See LENS note in previous section.

(1) Lens(AUTO) – Shutter/AGC(AUTO)

This mode is optimized when using a DC Iris lens.

1-1. Set LENS to AUTO in SETUP MENU.

```
SETUP   MENU

LENS                 AUTO↵
SHUTTER / AGC        AUTO↵
WHITE BAL            ATW↵
BACKLIGHT           OFF
PICT ADJUST         ↵
ATR                 OFF

NEXT↵
EXIT↵                SAVE ALL
```

1-2. After setting SHUTTER / AGC to AUTO, press the Tactile switch
   (SET button).
1-3. AUTO SETUP MENU appears.
1-4. There are MODE and BRIGHTNESS in HIGH LUMINANCE which is
   a sub-menu of AUTO SETUP.

  - SHUT+AUTO IRIS : AUTO IRIS function is working normally and
    shutter speed is adjusted in 1/50 ~ 1/10,000 sec./50Hz and
    1/60 ~ 1/10,000 sec. automatically. (Default : 35)

  - AUTO IRIS : AUTO IRIS function is working normally and
    shutter speed is fixed to 1/50 sec./50Hz and 1/60 sec./60Hz

```
AUTO  SETUP

HIGH LUMINANCE
MODE              SHUT+AUTO IRIS
BRIGHTNESS        ▭▭▬▭▭   35

LOW LUMINANCE
MODE              AGC
BRIGHTNESS        X 0.50

RETURN↵
```

1-5. Position the cursor to BRIGHTNESS on HIGH LUMINANCE.
   - This adjustment combines changes to GAIN, ATR, WHITE BALANCE,
     ANTI CR as well as brightness.
1-6. There are MODE and BRIGHTNESS in LOW LUMINANCE.
   AGC and OFF are selectable in MODE. (Default : AGC)
   BRIGHTNESS is selectable in x0.25, x0.50, x0.75, x1.00.
   (Default : x0.50)
   In MODE,
   - AGC : AGC is set to ON
   - OFF : AGC is set to OFF

   BRIGHTNESS is activated when you select AGC and 4 step magnification
   of BRIGHTNESS helps to adjust the brightness on the screen under the low light condition.

```
AUTO  SETUP

HIGH LUMINANCE
MODE              SHUT+AUTO IRIS
BRIGHTNESS        ▭▭▬▭▭   35

LOW LUMINANCE
AUTO  SETUP
MODE              AGC
BRIGHTNESS        X 0.50
HIGH LUMINANCE
MODE              SHUT+AUTO IRIS
BRIGHTNESS        ▭▭▬▭▭   35

LOW LUMINANCE
MODE              AGC
BRIGHTNESS        X 0.50

RETURN↵
```

1-7. Select RETURN to finish all settings.

1-8. Select SAVE ALL to save all settings.

1-9. Select EXIT to finish the control.
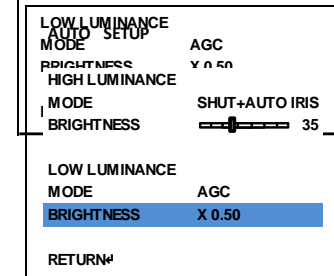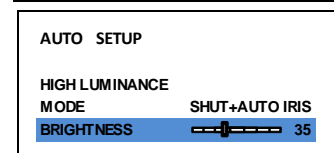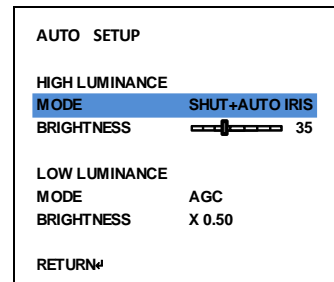
(2) Lens(AUTO/ MANUAL) – Shutter/AGC(Manual)

In case that you want to set the value of SHUTTER and AGC by yourself,
these values are reflected regardless of the selected Iris modes of lens.
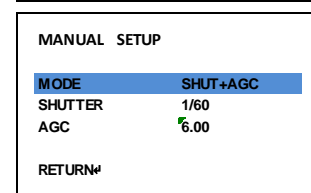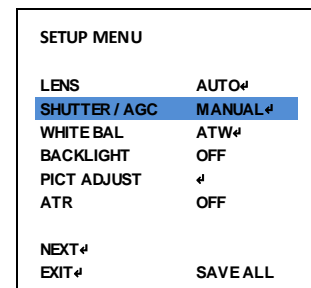
2-1. Regardless of lens modes, select MANUAL in SHUTTER/AGC.
2-2. MANUAL SETUP pops up.
2-3. There are MODE, SHUTTER, AGC in MANUAL SETUP.
   MODE is always fixed to SHUT+AGC.
  - SHUTTER : It is selectable to 1/50(1/60), 1/100(1/120), 1/250, 1/500,
              1/1000, 1/2000, 1/4000, 1/10000.
            50Hz : 1/50, 1/100 (Default : 1/50)
            60Hz : 1/60, 1/120 (Default : 1/60)
  - AGC : AGC value is selectable in 6.00 /12.00 /18.00 /24.00 /30.00 /
          36.00 /42.00 /44.80 when SHUTTER/AGC is set to MANUAL.
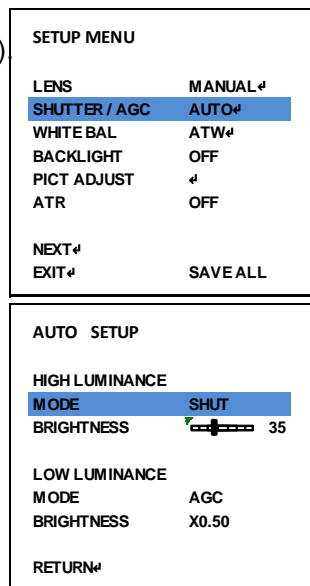   If the value is increased, the low light performance gets better

```
SETUP MENU

LENS              AUTO↵
SHUTTER / AGC     MANUAL↵
WHITE BAL         ATW↵
BACKLIGHT         OFF
PICT ADJUST       ↵
ATR               OFF

NEXT↵
EXIT↵             SAVE ALL
```

```
MANUAL  SETUP

MODE              SHUT+AGC
SHUTTER           1/60
AGC               6.00

RETURN↵
```

but noise gets up. (Default : 6.00)

2-4. Select RETURN to finish all settings.

2-5. Select SAVE ALL to all settings.

2-6. Select EXIT to finish the control.

(3) Lens(MANUAL) – Shutter/AGC(AUTO)

This mode is for Box Cameras with Manual Iris lens only.

3-1. Set LENS to MANUAL in SETUP MENU.
3-2. After setting SHUTTER/AGC to AUTO, press the Tactile switch(SET button)
3-3. AUTO SETUP pops up.
3-4. There are MODE and BRIGHTNESS in HIGH LUMINANCE which is
a sub-menu of AUTO SETUP. MODE is fixed to SHUT.
- SHUT : SHUTTER SPEED is adjusted in 1/50 ~ 1/10,000 sec./50Hz
and 1/60 ~ 1/10,000 sec./60Hz automatically.
3-5. Position BRIGHTNESS which is a sub-menu of AUTO SETUP.
This function makes changing the value of GAIN, ATR,
WHITE BALANCE, ANTI CR internally as well as the brightness of
the screen simply.
3-6. There are MODE and BRIGHTNESS in LOW LUMINANCE.
It is selectable to AGC or OFF in MODE. (Default : AGC)
BRIGHTNESS is selectable in x0.25, x0.50, x0.75, x1.00.
(Default : x0.50)
In MODE,
- AGC : AGC is set to ON
- OFF : AGC is set to OFF

SETUP MENU	
LENS	MANUAL↵
SHUTTER / AGC	AUTO↵
WHITE BAL	ATW↵
BACKLIGHT	OFF
PICT ADJUST	↵
ATR	OFF
NEXT↵	
EXIT↵	SAVE ALL

AUTO SETUP	
HIGH LUMINANCE	
MODE	SHUT
BRIGHTNESS	35
LOW LUMINANCE	
MODE	AGC
BRIGHTNESS	X0.50
RETURN↵	

BRIGHTNESS is activated when you select AGC and 4 step magnification of BRIGHTNESS
helps to adjust the brightness on the screen under the low light condition.

3-7. Select RETURN to finish all settings.

3-8. Select SAVE ALL to save all settings.

3-9. Select EXIT to finish the control.

5. WHITE BAL (White Balance Control)

It offers an extensive range of color temperature control that covers from 1,800°K ~ 10,500°K, generating a natural color image without being too red or blue in varying light conditions.

It is selectable to ATW, PUSH, USER1, USER2, ANTI CR, MANUAL, and PUSH LOCK.

1. Position the cursor to 'WHITE BAL' by using the UP/DOWN selections.

2. Please select the 'WHITE BAL' mode by using the LEFT or RIGHT selection.

Please select one of 7 modes as below.

(1) ATW (Auto Tracking White Balance)

This mode is generally used, and is by default. It is suitable for viewing a scene with one or more colors mixed on the background.

1-1. Set WHITE BAL to ATW.
1-2. ATW pops up.
1-3. SPEED : Set up the speed of searching for White Balance in 0~255
         when the Color Temperature is changed.(Default : 239)
1-4. DELAY CNT : If the Color Temperature is changed, it sets up
         the delay time to search for White Balance in 0~255.
         (Default : 016)
1-5. ATW FRAME : X5.0, X1.0, X1.5, X2.0
         Set-up range of ATW is adjustable by increasing or decreasing
         Color Temperature.(Default : X1.0)
1-6. ENVIRONMENT : INDOOR / OUTDOOR (Default : INDOOR)

  - INDOOR : When the unit is installed Indoor, ATW is
         Low Color Temperature (warm).
  - OUTDOOR : When the unit is installed Outdoor,
         ATW is High Color Temperature(cool).
1-7. Select RETURN to finish all settings.

1-8. Select SAVE ALL to save all settings.

1-9. Select EXIT to finish the control.

```
SETUP  MENU

LENS              AUTO↵
SHUTTER / AGC     AUTO↵
WHITE BAL         ATW↵
BACKLIGHT         OFF
PICT ADJUST       ↵
ATR               OFF

NEXT↵
EXIT↵             SAVE ALL
```

```
ATW

SPEED             [====|==] 239
DELAY CNT         [=|====]  016
ATW FRAME         X1.00
ENVIRONMENT       INDOOR


RETURN↵
```

(2) PUSH

It is suitable when the subject's background is in high color temperature. (Ex. Clear sky, Sunset etc.)

※ PUSH is different with PUSH LOCK. Refer to 5. (7) PUSH LOCK.

1-1. Set up PUSH on WHITE BAL of SETUP MENU.
1-2. Select SAVE ALL to save all settings.
1-3. Select EXIT to finish the control.

```
SETUP  MENU

LENS              AUTO↵
SHUTTER/AGC       AUTO↵
WHITE BAL         PUSH
BACKLIGHT         OFF
PICT ADJUST       ↵
ATR               OFF

NEXT↵
EXIT↵             SAVE ALL
```

(3) USER1

This mode is used to fix GAIN under Outdoor use.

1-1. USER 1 appears when you indicate USER 1 on WHITE BAL of

```
SETUP  MENU

LENS              AUTO↵
SHUTTER/AGC       AUTO↵
WHITE BAL         USER1↵
BACKLIGHT         OFF
PICT ADJUST       ↵
ATR               OFF

NEXT↵
EXIT↵             SAVE ALL
```

8

SETUP MENU. SUB-MENU is activated when the Tactile SW(SET button)
is pressed.
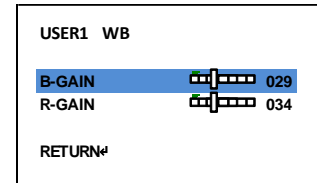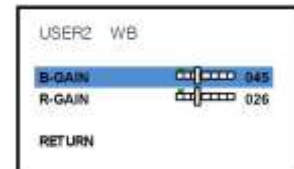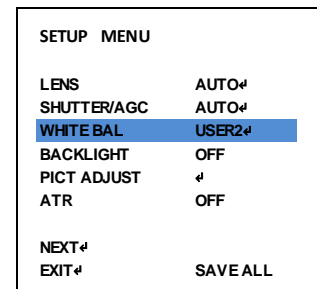
1-2. In USER1, B-GAIN and R-GAIN are adjustable.

   - B-GAIN : It adjusts White Balance of BLUE. (Default : 029)

   - R-GAIN : It adjusts White Balance of RED. (Default : 034)

1-3. Select RETURN to finish all settings.

1-4. Select SAVE ALL to save all settings.

1-5. Select EXIT to finish the control.

```
USER1  WB

B-GAIN              ▭▭▮▭▭▭  029
R-GAIN              ▭▭▮▭▭▭  034

RETURN↵
```

(4) USER2

This mode is used to fix GAIN under the fluorescent lighting.

1-1. USER 2 appears when you indicate USER 2 on WHITE BAL of
    SETUP MENU. SUB-MENU is activated when the Tactile SW(SET button)
    is pressed.

1-2. In USER2, B-GAIN and R-GAIN are adjustable.

  - B-GAIN : It adjusts White Balance of BLUE. (Default : 045)

  - R-GAIN : It adjusts White Balance of RED. (Default : 026)

1-3. Select RETURN to finish all settings.

1-4. Select SAVE ALL to save all settings.

1-5. Select EXIT to finish the control.

```
SETUP  MENU

LENS                AUTO↵
SHUTTER/AGC         AUTO↵
WHITE BAL           USER2↵
BACKLIGHT           OFF
PICT ADJUST         ↵
ATR                 OFF

NEXT↵
EXIT↵               SAVE ALL
```

```
USER2  WB

B-GAIN              ▭▭▮▭▭▭  045
R-GAIN              ▭▭▮▭▭▭  026

RETURN
```
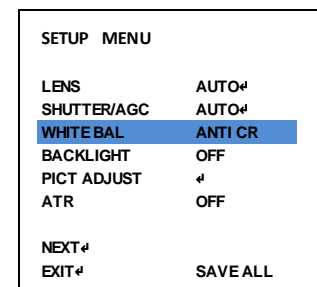
(5) ANTI CR (COLOR ROLLING SUPPRESSION)

It synchronizes the frequency of the fluorescent lighting and
frequency of the image sensor so that it suppresses Color Rolling Effect.
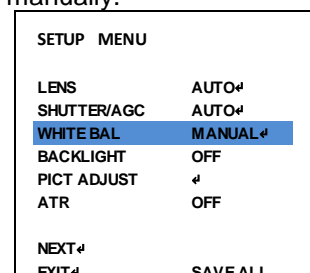
1-1. Set up ANTI CR on WHITE BAL of SETUP MENU.

1-2. Select SAVE ALL to save all settings.

1-3. Select EXIT to finish the control.

```
SETUP  MENU

LENS                AUTO↵
SHUTTER/AGC         AUTO↵
WHITE BAL           ANTI CR
BACKLIGHT           OFF
PICT ADJUST         ↵
ATR                 OFF

NEXT↵
EXIT↵               SAVE ALL
```

(6) MANUAL (Manual White Balance)

White Balance Level is adjusted by increasing or decreasing White Balance Gain manually.

```
SETUP  MENU

LENS                AUTO↵
SHUTTER/AGC         AUTO↵
WHITE BAL           MANUAL↵
BACKLIGHT           OFF
PICT ADJUST         ↵
ATR                 OFF

NEXT↵
EXIT↵               SAVE ALL
```

The adjustable range is in 1800°K ~ 10500°K.

   1-1. MANUAL WD appears when you indicate MANUAL on WHITE BAL of
       SETUP MENU. The SUB-MENU is activated when the Tactile SW
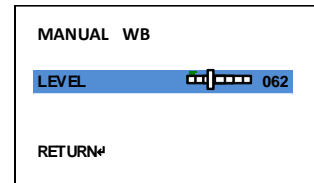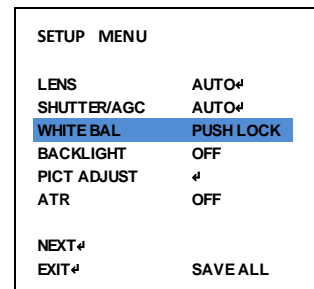   (SET button) is pressed.

   1-2. LEVEL on MANUAL WB is adjustable.

     - LEVEL : LEVEL combined value of B Gain and R gain can be increased
           or decreased. (Default : 058)

```
MANUAL  WB

LEVEL              ⊡⊡┃⊡⊡⊡  062


RETURN↵
```

   1-3. Select RETURN to finish all settings.

   1-4. Select SAVE ALL to save all settings.

   1-5. Select EXIT to finish the control.

(7) PUSH LOCK(HOLD)

This mode is used to fix the WHITE BAL when Color Temperature is consistent.
It keeps the initial setup value even if Color Temperature of Subject is changes.

   1-1. Set up PUSH LOCK on WHITE BAL of SETUP MENU.

   1-2. After positioning the cursor to PUSH LOCK, fix the Color Temperature by
       Pressing the Tactile SW(SET button).

   1-3. Select SAVE ALL to save all settings.

   1-4. Select EXIT to finish the control.

```
SETUP  MENU

LENS              AUTO↵
SHUTTER/AGC       AUTO↵
WHITE BAL         PUSH LOCK
BACKLIGHT         OFF
PICT ADJUST       ↵
ATR               OFF

NEXT↵
EXIT↵             SAVE ALL
```

6. BACKLIGHT (Backlight compensation)

This function is used to set the backlight compensation.

OFF, BLC,HLC control can be selectable.

1. Position the cursor to 'BACKLIGHT' by using the UP/DOWN selections.

2. Select the 'BACKLIGHT' mode by using the LEFT or RIGHT selection.

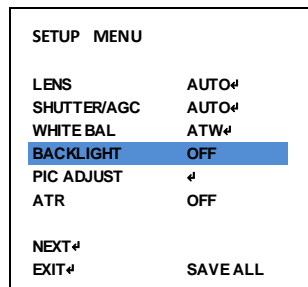 There are 3 modes. (Default : OFF)

(1) OFF

This mode turns BACK LIGHT Off.

   1-1. Set up OFF on BACK LIGHT of SETUP MENU.

   1-2. Select SAVE ALL to save all settings.

   1-3. Select EXIT to finish the control.

```
SETUP  MENU

LENS              AUTO↵
SHUTTER/AGC       AUTO↵
WHITE BAL         ATW↵
BACKLIGHT         OFF
PIC ADJUST        ↵
ATR               OFF

NEXT↵
EXIT↵             SAVE ALL
```

10

(2) BLC (Back Light Compensation)

This mode boosts overall brightness level to bring out details
when there is a strong backlight behind the subject.

  1-1. Set up BLC on BACK LIGHT of SETUP MENU.

  1-2. Select SAVE ALL to save all settings.

  1-3. Select EXIT to finish the control.

```
SETUP  MENU

LENS              AUTO↵
SHUTTER/AGC        AUTO↵
WHITE BAL          ATW↵
BACKLIGHT         BLC
PIC ADJUST         ↵
ATR               OFF

NEXT↵
EXIT↵              SAVE ALL
```

(3) HLC (HIGH Light Compensation)

This mode is used to view the details of subject by masking the strong light source.
It helps to view car license plates more clearly.

  1-1. Set up HLC on BACK LIGHT of SETUP MENU.

  1-2. Select SAVE ALL to save all settings.

  1-3. Select EXIT to finish the control.

```
SETUP  MENU

LENS              AUTO↵
SHUTTER/AGC        AUTO↵
WHITE BAL          ATW↵
BACKLIGHT         HLC
PIC ADJUST         ↵
ATR               OFF

NEXT↵
EXIT↵              SAVE ALL
```

☞ **NOTE**

Backlight setup is excluded in IR LED cameras.

Backlight is fixed to Off in Color and On in B/W in the IR LED cameras.

7. PICT ADJUST (Picture Adjustment)

Selectable MIRROR, BRIGHTNESS, CONTRAST, SHARPNESS, HUE,

and GAIN control.

1. Position the cursor to 'PICT ADJUST' by using the UP/DOWN selections.
2. Select the 'PICT ADJUST' mode by using the Tactile SW(SET button).

```
SETUP  MENU

LENS              AUTO↵
SHUTTER/AGC        AUTO↵
WHITE BAL          ATW↵
BACKLIGHT         OFF
PIC ADJUST         ↵
ATR               OFF

NEXT↵
EXIT↵              SAVE ALL
```

(1) MIRROR

You can flip the picture horizontally on the screen.

  1-1. If you select PICT ADJUST on SETUP MENU, SUB MENU pops up.

  1-2. Select MIRROR on PICT ADJUST of SUB MENU.

```
PICT  ADJUST

MIRROR          OFF
BRIGHTNESS      |▮▭▭▭▭ 000
CONTRAST        ▭▮|▭▭▭ 128
SHARPNESS       ▭▮|▭▭▭ 128
HUE             ▭▮|▭▭▭ 128
GAIN            ▭▮|▭▭▭ 128

RETURN
```

- MIRROR : ON - Set a horizontal image inversion.

OFF - Cancel the inversion. (Default : OFF)
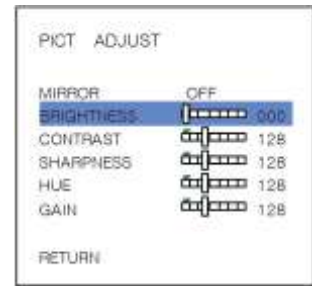

MIRROR ON   MIRROR OFF

1-3. Select RETURN to finish all settings.

1-4. Select SAVE ALL to save all settings.

1-5. Select EXIT to finish the control.

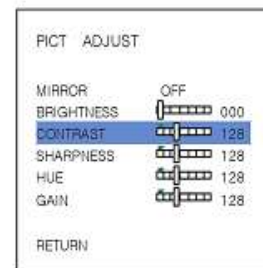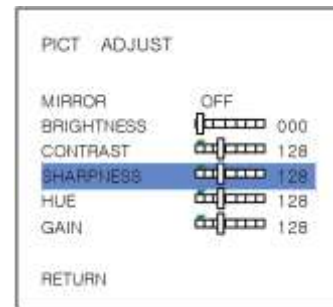## (2) BRIGHTNESS

You can adjust the brightness on the screen.

1-1. If you select PICT ADJUST on SETUP MENU, SUB MENU pops up.

1-2. Select BRIGHTNESS on PICT ADJUST of SUB MENU.

- BRIGHTNESS : It is adjustable in 0 ~ 255. (Default : 000)

1-3. Select RETURN to finish all settings.

1-4. Select SAVE ALL to save all settings.

1-5. Select EXIT to finish the control.

(3) CONTRAST

Contrast is the relative difference between the brightest area
and the darkest area on the screen.

1-1. If you select PICT ADJUST on SETUP MENU, SUB MENU pops up.

1-2. Select CONTRAST on PICT ADJUST of SUB MENU.

- CONTRAST : It is adjustable in 0 ~ 255. (Default : 128)

1-3. Select RETURN to finish all settings.

1-4. Select SAVE ALL to save all settings.

1-5. Select EXIT to finish the control.

(4) SHARPNESS

The outline of video image becomes sharper and more distinctive as the level of SHARPNESS increases. If the level goes up excessively, it may generate noise and visual artifacts in the picture.
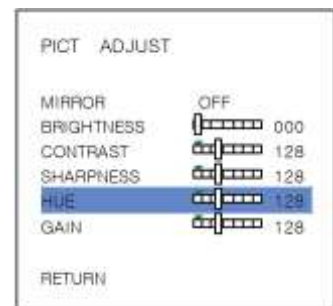
  1-1. If you select PICT ADJUST on SETUP MENU, SUB MENU pops up.

  1-2. Select SHARPNESS on PICT ADJUST of SUB MENU.

     - SHARPNESS : It is adjustable in 0 ~ 255. (Default : 128)

  1-3. Select RETURN to finish all settings.

  1-4. Select SAVE ALL to save all settings.

  1-5. Select EXIT to finish the control.


```
PICT  ADJUST

MIRROR         OFF
BRIGHTNESS     [====== 000
CONTRAST       ==|==== 128
SHARPNESS      ==|==== 128
HUE            ==|==== 128
GAIN           ==|==== 128

RETURN
```

(5) HUE

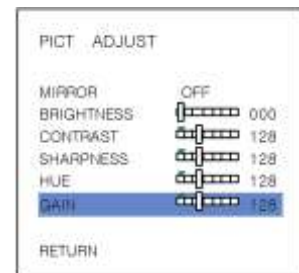This mode is used to adjust color balance on the screen.

  1-1. If you select PICT ADJUST on SETUP MENU, SUB MENU pops up.

  1-2. Select HUE on PICT ADJUST of SUB MENU.

     - HUE : It is adjustable in 0 ~ 255. (Default : 128)

  1-3. Select RETURN to finish all settings.

  1-4. Select SAVE ALL to save all settings.

  1-5. Select EXIT to finish the control.


```
PICT  ADJUST

MIRROR         OFF
BRIGHTNESS     [====== 000
CONTRAST       ==|==== 128
SHARPNESS      ==|==== 128
HUE            ==|==== 128
GAIN           ==|==== 128

RETURN
```

(6) GAIN

This controls the color intensity; when you increase GAIN, colors become more vivid.

  1-1. If you select PICT ADJUST on SETUP MENU, SUB MENU pops up.

  1-2. Select GAIN on PICT ADJUST of SUB MENU.

     - GAIN : It is adjustable in 0 ~ 255. (Default : 128)

  1-3. Select RETURN to finish all settings.

  1-4. Select SAVE ALL to save all settings.

  1-5. Select EXIT to finish the control.


```
PICT  ADJUST

MIRROR         OFF
BRIGHTNESS     [====== 000
CONTRAST       ==|==== 128
SHARPNESS      ==|==== 128
HUE            ==|==== 128
GAIN           ==|==== 128

RETURN
```

8. ATR (Adaptive Tone-curve Reproduction)

Pixel-to-pixel based tone-curve correction optimizes the contrast of image similar to WDR.

In case that low and high luminance ranges exist on the screen at the same time, ATR mode makes low

luminance area brighter and high luminance area darker to optimize clarity.

You can select ON or OFF on SETUP MENU.
1. Position the cursor to 'ATR' by using the UP/DOWN selections.
2. Select ON or OFF of 'ATR' mode by using LEFT/RIGHT selections.

    ON : ATR function is activated.
    OFF: ATR function is inactivated. (Default : OFF)

```
SETUP  MENU

LENS              AUTO↵
SHUTTER/AGC       AUTO↵
WHITE BAL         ATW↵
BACKLIGHT         OFF
PIC ADJUST        ↵
ATR               OFF

NEXT↵
EXIT↵             SAVE ALL
```

3. SUB MENU of ATR pops up when ATR is set to ON and the Tactile SW(SET
   button) is pressed.

4. There are LUMINANCE and CONTRAST in SUB MENU.

  - LUMINANCE : LOW, MID, HIGH (Default : MID)
                 With using brightness, it improves visibility of
                 the bright areas .
  - CONTRAST : LOW, MIDLOW, MID, MIDHIGH, HIGH. (Default : MID)
                 With using AGC, it improves visibility of
                 the dark area.

```
ATR

LUMINANCE         MID
CONTRAST          MID

RETURN↵
```

5. Select RETURN to finish all settings.

6. Select SAVE ALL to save all settings.

7. Select EXIT to finish the control.

☞ **NOTE**

ART setup is excluded in IR LED cameras.

ART is fixed to Off in Color and On in B/W in the IR LED cameras.

9. PRIVACY (Privacy Masking)

When the unit is observing a wide area, select areas can be masked
for privacy purposes. You can easily configure the size and the position of
the required privacy zones.

```
SETUP  MENU

PRIVACY           OFF
DAY/NIGHT         AUTO↵
NR                ↵
CAMERA ID         OFF
LANGUAGE          ENGLISH
CAMERA RESET

BACK↵
EXIT↵             SAVE ALL
```

You can select ON or OFF on SETUP MENU.

  1. Position the arrow to 'PRIVACY' by using the UP/DOWN selections.

  2. Select ON or OFF of 'PRIVACY' mode by using the LEFT or RIGHT

    selection.
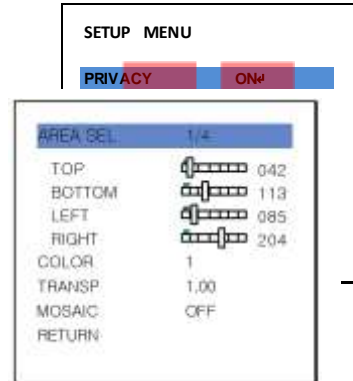
  - ON : PRIVACY function is activated.

  - OFF: PRIVACY function is in activated. (Default : OFF)

  3. 4 Areas pop up when PRIVACY is set to ON.
    SUB MENU pops up when Tactile SW(SET button) is pressed..

  4. There are 8 categories on PRIVACY of SUB MENU.

    - AREA SEL : 1/4, 2/4, 3/4, and 4/4.

    - TOP : You can adjust the location of the masking upward in below levels.

        NTSC : 0~244, PAL : 0~288

    - BOTTOM : You can adjust the location of the masking downward

        in below levels.

        NTSC : 0~244, PAL : 0~288

    - LEFT : You can adjust the location of masking to the left side in below levels.

        NTSC : 000-474(960H)

        PAL : 000- 468(960H)

    - RIGHT : You can adjust the location of masking to the right side in below levels.

        NTSC : 000-474(960H)

        PAL : 000-468(960H)
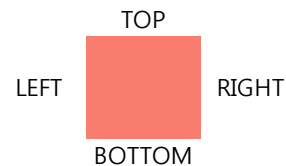
  ※ There are 4 coordinates of AREA SEL on the screen initially.
    If you want to select 1 AREA only, select 1/4 and set 2/4, 3/4 and 4/4 to '0'.
    Also, the value should be set to TOP < BOTTOM and LEFT < RIGHT.

   - COLOR : It is selectable in 1~8. (Default : 1)

        1 : RED, 2 : GREEN, 3 : BLUE, 4 : LIGHT GREEN,

        5 : LIGHT BLUE, 6 : PURPLE , 7: WHITE, 8 : BLACK

   - TRANSP : Color transparency can be set to 0.00, 0.50, 0.75, and 1.00. (Default : 1.00)

   - MOSAIC : Mosaic setup can be ON or OFF. (Default : OFF)

5. Select RETURN to finish all settings.

6. Select SAVE ALL to save all settings.

7. Select EXIT to finish the control.

10. DAY / NIGHT

It is selectable to Auto, Color, and B/W.

1. Position the cursor to 'DAY/NIGHT' by using the UP/DOWN selections.
2. Select the 'DAY/NIGHT' mode by using the LEFT or RIGHT selection.

   Please select one of 3 modes as below.

(1) AUTO

AUTO mode switches over Color image at daytime and B/W image at nighttime automatically.

1-1. DAY/NIGHT MENU as a SUB MENU pops up when you select AUTO
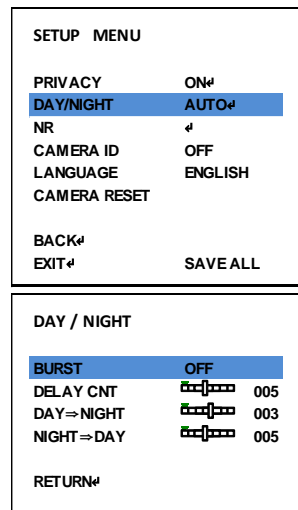
   and press the Tactile SW(OSD button).

1-2. There are BURST, DELAY CNT, DAY ⇒ NIGHT, and NIGHT ⇒ DAY

   on the SUB MENU of DAY/NIGHT.
   - BURST : It is selectable to ON/OFF. (Default : OFF)
           ON : It always outputs BURST SIGNAL.
           OFF : No BURST SIGNAL in B/W

   - DELAY CNT : Day/Night switching time is adjustable.
               Value 1 is 1 sec. (Default : 5)
   - DAY ⇒ NIGHT : Switching over lux level to NIGHT from DAY.
               (Default : 3)
   - NIGHT ⇒ DAY : Switching over lux level to DAY from NIGHT.
               (Default : 5)

1-3. Select RETURN to finish all settings.

1-4. Select SAVE ALL to save all settings.

1-5. Select EXIT to finish the control.

```
SETUP  MENU

PRIVACY          ON↵
DAY/NIGHT        AUTO↵
NR               ↵
CAMERA ID        OFF
LANGUAGE         ENGLISH
CAMERA RESET

BACK↵
EXIT↵            SAVE ALL
```

```
DAY / NIGHT

BURST            OFF
DELAY CNT          005
DAY⇒NIGHT          003
NIGHT⇒DAY          005

RETURN↵
```
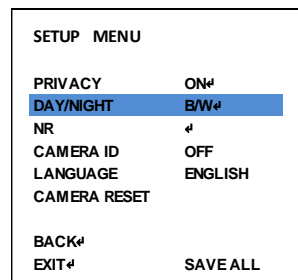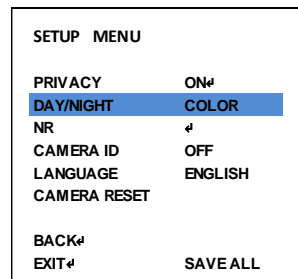
(2) COLOR

The image is always displayed in color.

1-1. Change to COLOR from DAY/NIGHT on SETUP MENU.

1-2. Select SAVE ALL to save all settings.

1-3. Select EXIT to finish the control.

```
SETUP  MENU

PRIVACY          ON↵
DAY/NIGHT        COLOR
NR               ↵
CAMERA ID        OFF
LANGUAGE         ENGLISH
CAMERA RESET

BACK↵
EXIT↵            SAVE ALL
```

(3) B/W(BLACK & WHITE)

This image is always displayed in B/W.

```
SETUP  MENU

PRIVACY          ON↵
DAY/NIGHT        B/W↵
NR               ↵
CAMERA ID        OFF
LANGUAGE         ENGLISH
CAMERA RESET

BACK↵
EXIT↵            SAVE ALL
```

1-1. Change to B/W from DAY/NIGHT on SETUP MENU.

1-2. There is a BURST in B/W of SUB MENU.
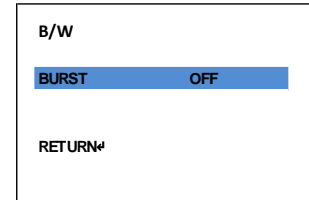   - BURST : It is selectable to ON/OFF.
          ON : It always outputs BURST SIGNAL.
          OFF : No BURST SIGNAL in B/W.
   This setup is interlocked with 10. DAY/NIGHT (1) AUTO 1.2 BURST.

1-3. Select RETURN to finish all settings.

1-4. Select SAVE ALL to save all settings.

1-5. Select EXIT to finish the control.

B/W	
BURST	**OFF**
RETURN↵	

☞ **NOTE**

DAY/NIGHT setup is excluded in the Day/Night camera with photo cell(CDS Censor).

11. NR(Noise Reduction)

SETUP MENU	
PRIVACY	ON↵
DAY/NIGHT	AUTO↵
NR	**↵**
CAMERA ID	OFF
LANGUAGE	ENGLISH
CAMERA RESET	
BACK↵	
EXIT↵	SAVE ALL

NR mode decreases noise to enhance the picture quality especially under the low light conditions. Y signal and C signal work separately or together by the settings.

1. Position the cursor to 'NR' by using the UP/DOWN selections.
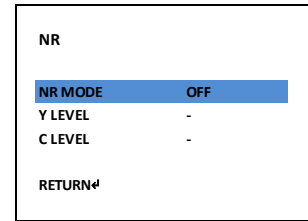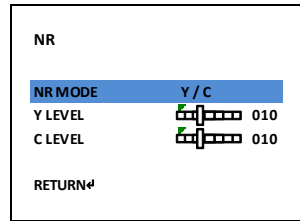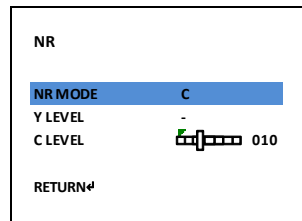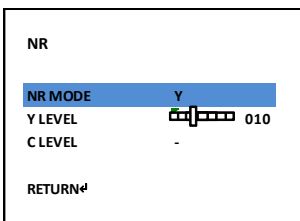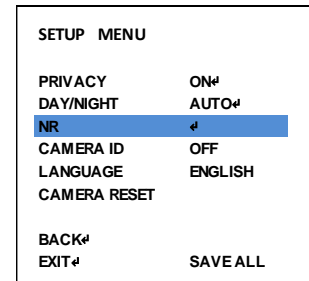2. Select the 'NR' mode by using the Tactile SW(SET button).

3. Select one of OFF, Y, C, and Y/C.

 - OFF : N/R MODE is turned off. (Default : Y/C)

 - Y : If BRIGHNESS is increased , AGC is decreased and Noise is also decreased. (Default : 10)

 - C : CHROMA Noise is decreased. (Default : 10)

 - Y/C : Y and C controls are combined.

4. Select RETURN to finish all settings.

5. Select SAVE ALL to save all settings.

6. Select EXIT to finish the control.

NR	
NR MODE	**Y**
Y LEVEL	010
C LEVEL	-
RETURN↵	

NR	
NR MODE	**C**
Y LEVEL	-
C LEVEL	010
RETURN↵	

NR	
NR MODE	**Y / C**
Y LEVEL	010
C LEVEL	010
RETURN↵	

NR	
NR MODE	**OFF**
Y LEVEL	-
C LEVEL	-
RETURN↵	

12. CAMERA ID

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1. Position the arrow to 'CAMERA ID' by using the UP/DOWN selections.

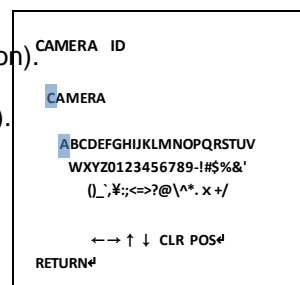2. Please select the 'CAMERA ID' mode by using the LEFT or RIGHT selection.

※ If 'OFF' is selected, the ID does not appear on the monitor.

3. Press the Tactile SW(SET button) to complete 'ON'.

4. CAMERA ID can be composed of 52(26 * 2 Lines) letters.
   - Position the cursor to the letter to choose and press the Tactile SW
     (SET button).
   - Select an ID from A, B,~Y, Z, 0, 1,~ 8, 9, etc. by using the Tactile SW
     (SET button).
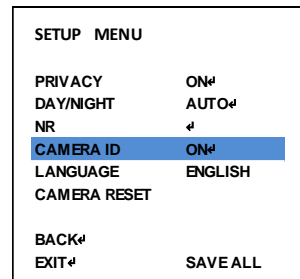
   - CLR : Position the cursor onto the letter which will be cancelled and
           shift the cursor onto CLR. And then, press the Tactile SW(SET button).
   - POS : It is set to the location of CAMERA ID.
           Position the cursor onto POS and press the Tactile SW(SET button).
           After moving the location of CAMERA ID by using Left, Light,
           Up, and Down selections, press the Tactile SW(SET button).

5. Select RETURN to finish all settings.

6. Select SAVE ALL to save all settings.

7. Select EXIT to finish the control.

```
SETUP  MENU

PRIVACY          ON↵
DAY/NIGHT        AUTO↵
NR                ↵
CAMERA ID        ON↵
LANGUAGE         ENGLISH
CAMERA RESET

BACK↵
EXIT↵            SAVE ALL
```

```
CAMERA  ID

CAMERA

ABCDEFGHIJKLMNOPQRSTUV
 WXYZ0123456789-!#$%&'
   ()_`¥:;<=>?@\^*. x +/

    ←→ ↑ ↓  CLR POS↵
RETURN↵
```
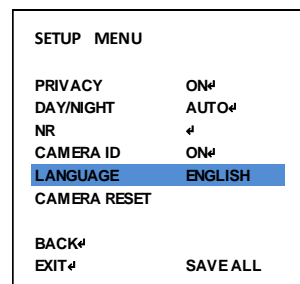
☞ **NOTE**

It is possible to set up CAMERA ID in the unit individually.

In case that you use DVR, you can't set up the CAMERA ID to more than 2 cameras simultaneously.

13. LANGUAGE

7 Languages are selectable. (Default : ENGLISH)

1. Position the cursor to 'LANGUAGE' by using the UP/DOWN selections.

2. Select the 'LANGUAGE' mode by using the LEFT or RIGHT selection and
   choose one of English, Japanese, German, French, Russian, Portuguese and
   Spanish.

3. Select SAVE ALL to save all settings.

4. Select EXIT to finish the control.

```
SETUP  MENU

PRIVACY          ON↵
DAY/NIGHT        AUTO↵
NR                ↵
CAMERA ID        ON↵
LANGUAGE         ENGLISH
CAMERA RESET

BACK↵
EXIT↵            SAVE ALL
```

14. CAMERA RESET

All settings can be restored together to the default settings by using CAMERA RESET.

1. Position the cursor to 'CAMERA RESET' by using the UP/DOWN selections.

2. Select the 'CAMERA RESET' mode by using the Tactile SW(SET button).

3. Select SAVE ALL to save all settings..

4. Select EXIT to finish the control.

```
SETUP  MENU

PRIVACY          ON↵
DAY/NIGHT        AUTO↵
NR               ↵
CAMERA ID        ON↵
LANGUAGE         ENGLISH
CAMERA RESET

BACK↵
EXIT↵            SAVE ALL
```

15. NEXT OR BACK

When there are NEXT and BACK on the OSD, NEXT turns over the page of OSD menu while BACK turns back the page of OSD menu.

```
SETUP  MENU

PRIVACY          OFF
DAY/NIGHT        AUTO↵
NR               ↵
CAMERA ID        OFF
LANGUAGE         ENGLISH
CAMERA RESET

BACK↵
EXIT↵            SAVE ALL
```

```
SETUP  MENU

LENS             AUTO↵
SHUTTER/AGC      AUTO↵
WHITE BAL        ATW↵
BACKLIGHT        OFF
PIC ADJUST       ↵
ATR              OFF

NEXT↵
EXIT↵            SAVE ALL
```

16.

Exit OSD MENU by using the Tactile SW(SET button).

```
SETUP  MENU

PRIVACY          ON↵
DAY/NIGHT        AUTO↵
NR               ↵
CAMERA ID        ON↵
LANGUAGE         ENGLISH
CAMERA RESET

BACK↵
EXIT↵            SAVE ALL
```