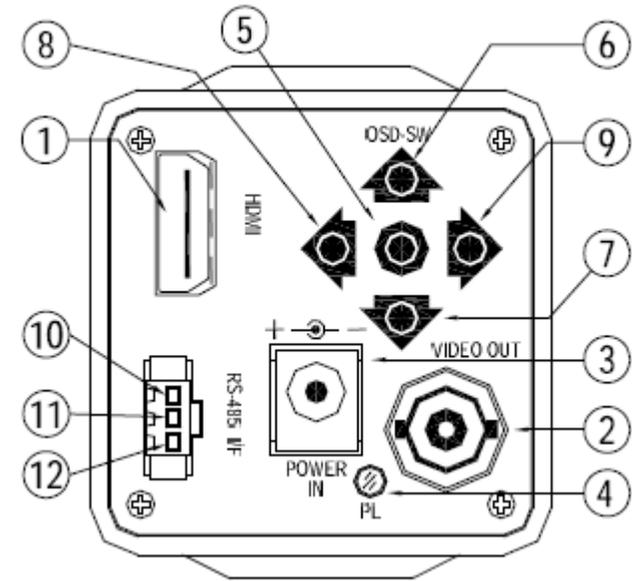


Manual

EHD-HDMF-HDMI



- 1 HD Video Out
- 2 SD Video Out
- 3 Power In DC
- 4 Power On Index LED
- 5 OSD-SW -Enter-
- 6 OSD-SW -Up-
- 7 OSD-SW -Down-
- 8 OSD-SW -Left-
- 9 OSD-SW -Right-
- 10 OSD-RS-485: "+"
- 11 OSD-RS-485: "-"
- 12 OSD-RS-485: "GND"

OSD MANUAL

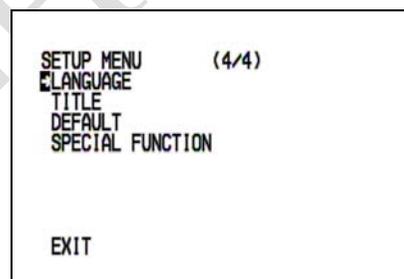
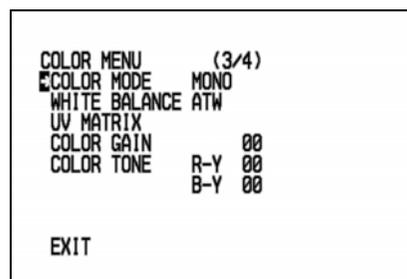
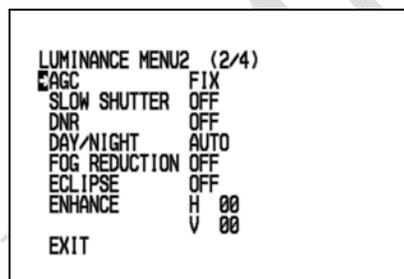
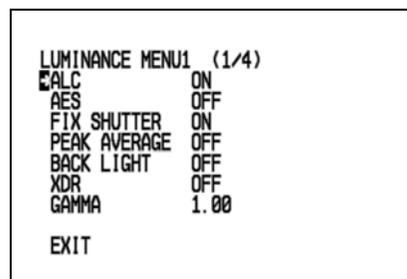
There are 5 push switch [UP],[DOWN],[LEFT],[RIGHT],[ENTER], push the [ENTER] switch up to 2 second, a pretty menu will be pop-up on your screen.

You may now push [UP] or [DOWN] switch to browse around menu.

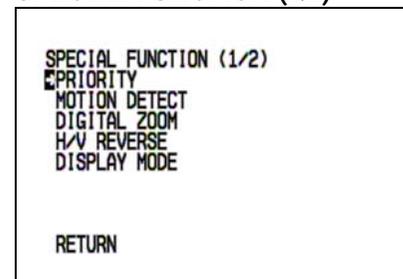
Select RETURN and press [RIGHT] or [ENTER] key to exit SUB MENU, and select EXIT and press [RIGHT] or [ENTER] key to exit MAIN MENU.

Set the video format for **NTSC** by turning on the power while pressing [UP] key together, and set the video format for **PAL** by turning on the power while pressing [RIGHT] key together.

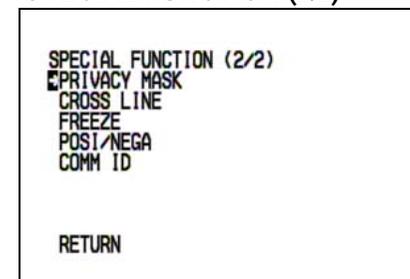
Set the HDV output ON/OFF by turning on the power while pressing [LEFT] key together, and set the SDV output ON/OFF by turning on the power while pressing [DOWN] key together.



SPECIAL FUNCTION (1/2)

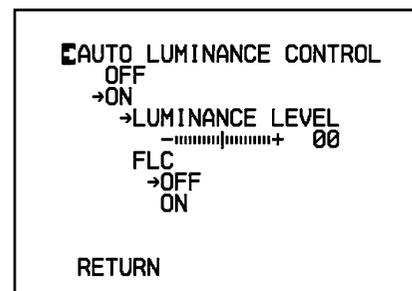


SPECIAL FUNCTION (2/2)



Chooses MENU with [UP],[DOWN] or Choose [ENTER], the SUB MENU will be displayed. If comes out from each SUB MENU, choose RETURN after [RIGHT] or Choose [ENTER]. If comes out from the Main Menu, choose EXIT after [RIGHT] or Choose [ENTER].

ALC



Move cursor to ALC row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

You can select OFF/ON/FLC mode, select ON mode ALC is turned on, AES will be turned off automatically.

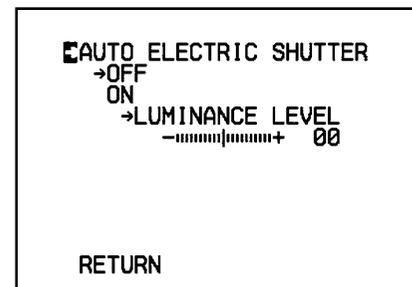
OFF: at the mode AUTO LUMINANCE CONTROL function will be stop.

ON: at the mode can be adjustable ALC level at the standard light setting between -40% to +40%, -40/-35/-30/-25/-20/-15/-10/-5/0/+5/+10/+15/+20/+25/+30/+35/+40 (All 17 levels). To adjust levels by [LEFT],[RIGHT] and ensure setting by [ENTER].

FLC: flick less mode can be select ON or OFF
NTSC is at 1/100s and PAL is at 1/120s when FLC is on and the shutter is fixed.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU1

AES



Move cursor to AES row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

You can select OFF/ON mode, select ON mode AES is turned on, ALC will be turned off automatically.

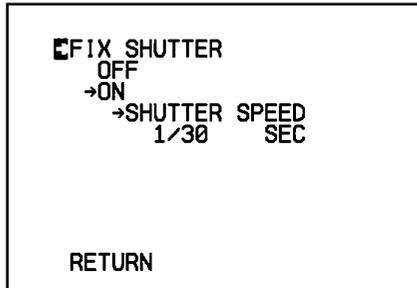
OFF: at the mode AUTO ELECTRIC SHUTTER

function will be stop

ON: at the mode can be adjustable AES level at the standard light setting between -40% to +40%, -40/-35/-30/-25/-20/-15/-10/-5/0/+5/+10/+15/+20/+25/+30/+35/+40 (All 17 levels).
To adjust levels by [LEFT],[RIGHT] and ensure setting by [ENTER].

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU1

FIX SHUTTER



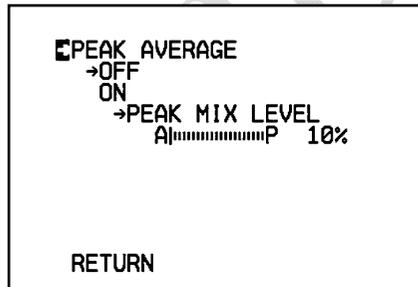
Move cursor to FIX SHUTTER row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.
You can select OFF/ON mode, select ON mode FIX SHUTTER is turned on, AES will be turned off automatically.

OFF: at the mode FIX SHUTTER function will be stop

ON: at the mode can be select fix shutter speed, NTSC:1/30~1/10000s, PAL:1/25~1/10000s
NTSC:1/30,1/50,1/60,1/100,1/120,1/180,1/350,1/500,1/750,1/1000,1/2000,1/4000,1/10000.
PAL:1/25,1/50,1/60,1/100,1/120,1/180,1/350,1/500,1/750,1/1000,1/2000,1/4000,1/10000.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU1

PEAK AVERAGE



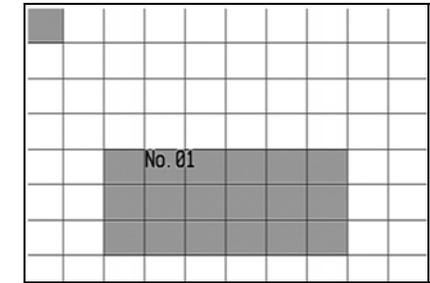
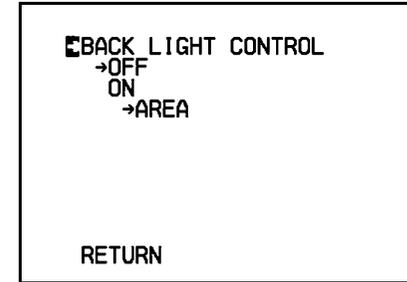
Move cursor to PEAK AVERAGE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.
You can select OFF/ON mode, select ON mode PEAK AVERAGE is turned on, BLC and XDR will be turned off automatically

OFF: at the mode PEAK AVERAGE function will be stop.

ON: adjust PEAK ratio when obtain brightness, adjustable range between 10% to 90% all 9 levels.
10% , 20% , 30% , 40% , 50% , 60% , 70% , 80% , 90% all 9 levels.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU1

BACK LIGHT



Move cursor to BACK LIGHT row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

You can select OFF/ON mode, select ON mode BACK LIGHT is turned on, BLC & PEAK and XDR will be turned off automatically.

OFF: at the mode back light function is stop.

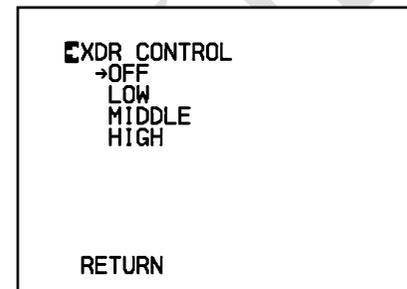
ON: The below AREAs will be shown on the screen. Backlight AREA can be choose and set.

AREA: When SDV display mode=4:3 area 02~ 8D can be select and set, When SDV display mode=FULL area 01~ 8E can be select and set.

| | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 1A | 1B | 1C | 1D | 1E |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 2A | 2B | 2C | 2D | 2E |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 3A | 3B | 3C | 3D | 3E |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 4A | 4B | 4C | 4D | 4E |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 5A | 5B | 5C | 5D | 5E |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 6A | 6B | 6C | 6D | 6E |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 7A | 7B | 7C | 7D | 7E |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 8A | 8B | 8C | 8D | 8E |

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU1

XDR



Move cursor to XDR row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

OFF: If you select OFF mode the XDR function will be stop.

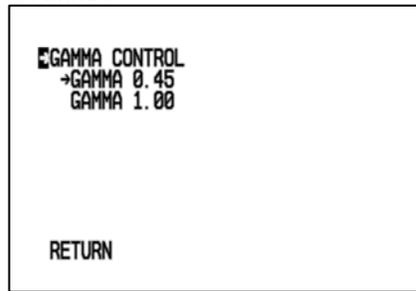
LOW: XDR control is low level at the mode GAMMA function switch to 0.45 automatically.

MIDDLE: XDR control is middle level.

HIGH: XDR control is high level.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU1

GAMMA



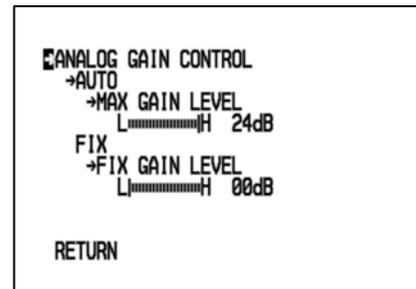
Move cursor to GAMMA row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

Set Gamma control level.0.45/1.00(Total level)

✗DR/FOG/ECLIPSE function are switched to OFF automatically when GAMMA is 1.00.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU1

AGC



Move cursor to AGC row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

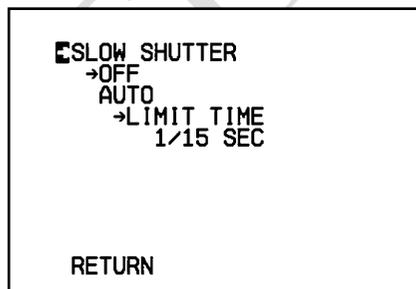
AUTO: Set AGC AUTO the MAX GAIN LEVEL can be set from 0/2/4/6/8/10/12/14/16/18/20/22/24 dB (all 13 levels), To change levels by LEFT/RIGHT and confirm by ENTER.

FIX: Set AGC gain is fix, FIX GAIN LEVEL can be set from 0-24dB.

0/2/4/6/8/10/12/14/16/18/20/22/24 dB (all 13levels), To change levels by LEFT/RIGHT and confirm by ENTER.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU 2.

SLOW SHUTTER



Move cursor to SLOW SHUTTER row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

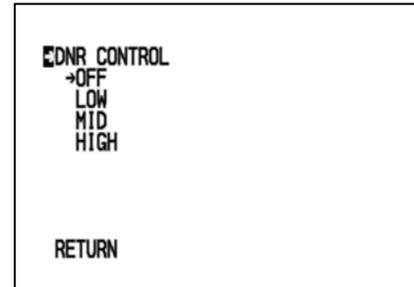
OFF: If you select OFF mode the SLOW SHUTTER function will be stop

AUTO: Choose LIMIT TIME when SLOW SHUTTER is auto

By NTSC mode from 1/15~8sec. 1/15,1/8,1/4,1/2,1,2,4,8sec. 8 step.
By PAL mode from 1/12~8sec. 1/12,1/6,1/3,1/2,1,2,4,8sec. 8 step.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU 2.

DNR



Move cursor to DNR row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

OFF: If you select OFF mode the DNR function will be stop.

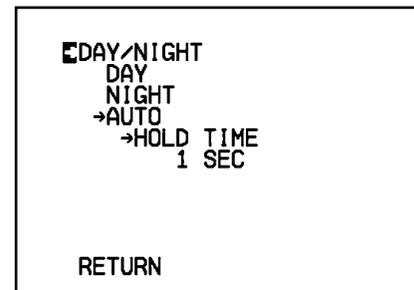
LOW: DNR control is low level.

MID: DNR control is middle level.

HIGH: DNR control is high level.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU 2.

DAY / NIGHT



Move cursor to DAY/NIGHT row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

DAY: at the mode IR-cut FILTER is fixed.

NIGHT: at the mode IR-cut FILTER is remove.

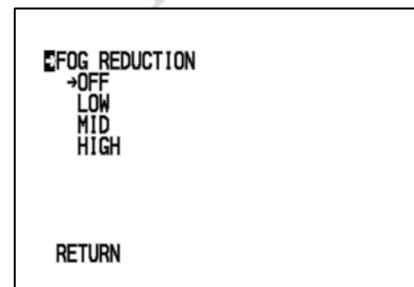
AUTO: When AGC is up to maximum and the brightness does not reach the standard, IR FILTER will be remove, When AGC down to minimum and the bright will reach standard, IR FILTER will be

fixed.

At the AUTO mode IR FILTER control reaction time will be select from 1~ 60sec.
1,5,10,20,30,40,50,60,sec. all 8 step.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU 2.

FOG REDUCTION



Move cursor to FOG REDUCTION row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

OFF: If you select OFF mode the FOG REDUCTION function will be stop.

LOW: FOG REDUCTION control is low level.

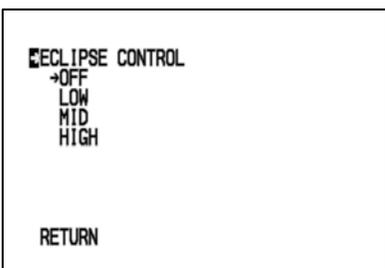
✗CLIPSE function is switched to OFF automatically when FOG REDUCTION is ON.

✗AMMA function is switched to 0.45 automatically when FOG REDUCTION is ON.

MID: FOG REDUCTION control is middle level.
HIGH: FOG REDUCTION control is high level.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU 2.

ECLIPSE



Move cursor to ECLIPSE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

OFF: If you select OFF mode the ECLIPSE function will be stop.

LOW: ECLIPSE control is low level.

FOG REDUCTION function are switched to OFF automatically when ECLIPSE control is ON.

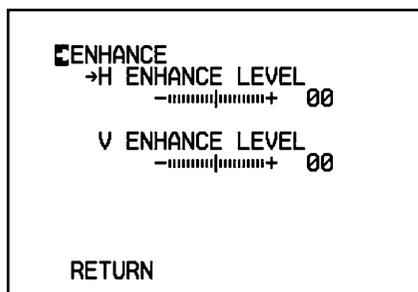
KAMMA function are switched to 0.45 automatically when ECLIPSE control is ON.

MID: ECLIPSE control is middle level.

HIGH: ECLIPSE control is high level.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU 2.

ENHANCE



Move cursor to ENHANCE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

H ENHANCE LEVEL: Set horizontal ENHANCE LEVEL between -60 to +60.

0/-50/-40/-30/-20/-10/0/+10/+20/+30/+40/+50/+60 all 13 levels.

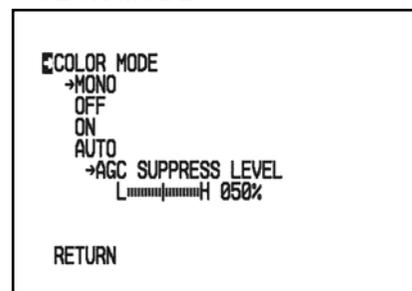
To change levels by LEFT/RIGHT, confirm by ENTER.

V ENHANCE LEVEL: Set horizontal ENHANCE LEVEL between -60 to +60,

0/-50/-40/-30/-20/-10/0/+10/+20/+30/+40/+50/+60 all 13 levels. To change levels by LEFT/RIGHT, confirm by ENTER.

RETURN: Choose RIGHT or ENTER to return to the LUMINANCE MENU 2.

COLOR MODE



Move cursor to COLOR MODE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed

MONO: If you select MONO mode the subcarrier will be off, display monochrome image.

OFF: If you select OFF mode the subcarrier will be on, display monochrome image.

ON: Normal color image is presented, Color mode is fixed, no relation IR filter is removable.

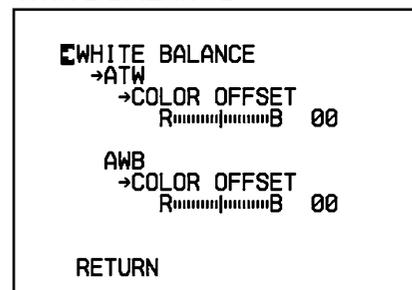
AUTO: at the mode can be control color gain

supress level from 10% ~ 100% all 11 levels, (0/10/20/30/40/50/60/70/80/90/100%)

Choose LEFT/RIGHT to change levels. Choose ENTER to confirm the setting.

RETURN: Choose RIGHT or ENTER to return to the COLOR MENU.

WHITE BALANCE



Move cursor to WHITE BALANCE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

ATW: Auto trace white balance at the mode COLOR OFFSET can be adjustable from R40-B40 all 17 steps, R40/R35/R30/R25/R20/R15/R10/R5/ 0/ B5/ B10/B15/B20/B25/B30/B35/B40 (All 17 levels) Choose LEFT/RIGHT to change levels. Choose ENTER to confirm the setting.

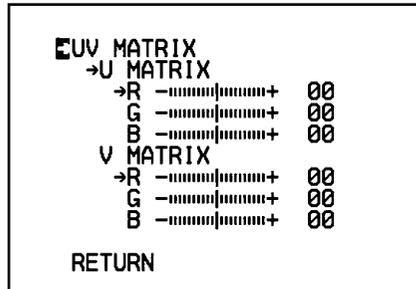
AWB: It's the one touch white balance and keeps

the white balance conditions till resetting, at the mode COLOR OFFSET can be adjustable from R40-B40 all 17steps, R40/R35/R30/R25/R20/R15/R10/R5/ 0/ B5/ B10/B15/B20/B25/B30/B35/B40 (All 17 levels).

Choose LEFT/RIGHT to change levels. Choose ENTER to confirm the setting.

RETURN: Choose RIGHT or ENTER to return to the COLOR MENU.

UV MATRIX



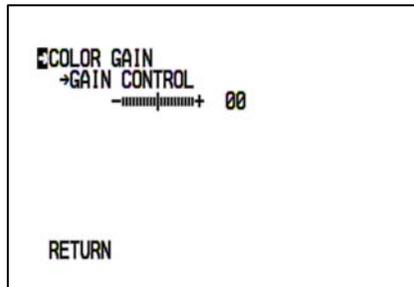
Move cursor to UV MATRIX row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed

U MATRIX: U axis R/G/B color adjustable.
R/G/B colors offset adjust from -128 to +127.

V MATRIX: U axis R/G/B color adjustable.
R/G/B colors offset adjust from -128 to +127

RETURN: Choose RIGHT or ENTER to return to the COLOR MENU.

COLOR GAIN

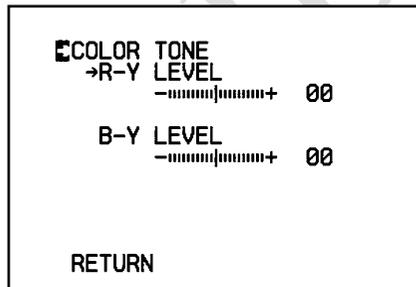


Move cursor to COLOR GAIN row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed

GAIN CONTROL: Offset value setting of color gain from -16 to +16. (Total 33 level)
Select a level with LEFT/ RIGHT key and determine with ENTER key.

RETURN: Choose RIGHT or ENTER to return to the COLOR MENU.

COLOR TONE



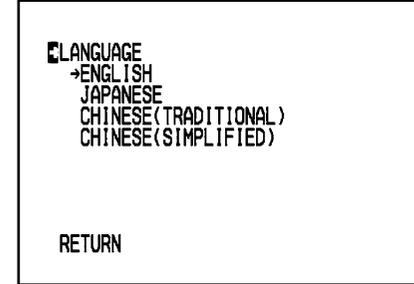
Move cursor to COLOR TONE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed

R-Y LEVEL: adjustable B-Y LEVEL *offset* data.
-40/-35/-30/-25/-20/-15/-10/-5/0/+5/+10/ +15/
+20/+25/+30/+35/+40/(All have 17 grades)
To change grade with LEFT/RIGHT, confirm with ENTER.

B-Y LEVEL: adjustable B-Y LEVEL *offset* data.
-40/-35/-30/-25/-20/-15/-10/-5/0/+5/+10/ +15/ +20/+25/+30/+35/+40/(All have 17 grades)
To change grade with LEFT/RIGHT, confirm with ENTER.

RETURN: Choose RIGHT or ENTER to return to the COLOR MENU.

LANGUAGE

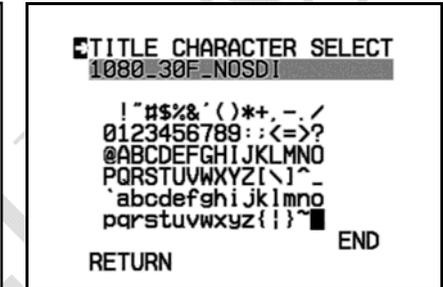
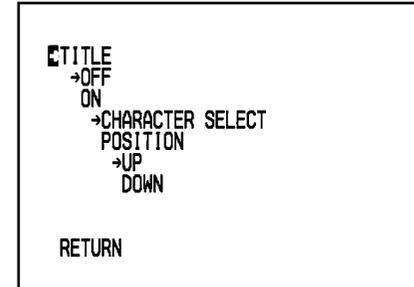


Move cursor to LANGUAGE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed

Push ENTER or RIGHT enter to language select, push UP/DOWN select, use LEFT confirm.

RETURN: Choose RIGHT or ENTER to return to the SETUP MENU.

TITLE



Move cursor to LANGUAGE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed

OFF: TITLE display is off.

ON: TITLE display is on can be set display character and character display position.
Set the location of characters of cursor, Use ENTER to choose characters.

CHARACTER SELECT:

Choose the writing with UP/DOWN/LEFT/RIGHT. Use ENTER to show in the writing of cursor place
The END place presses ENTER, will come back the writing chooses, and move first menu.

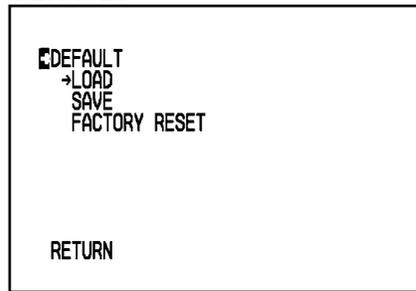
RETURE: Choose ENTER to return to TITLE MENU.

POSITION:

Select display position is UP or DOWN

RETURN: Choose RIGHT or ENTER to return to the SETUP MENU

DEFAULT



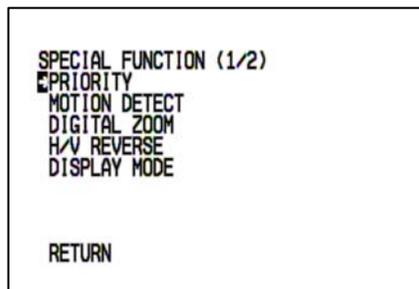
Move cursor to LANGUAGE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

LOAD : Set the camera condition to default.
SAVE : Save the present condition as default.
FACTORY RESET : Reset to the factory default.

RETURN: Choose RIGHT or ENTER to return to

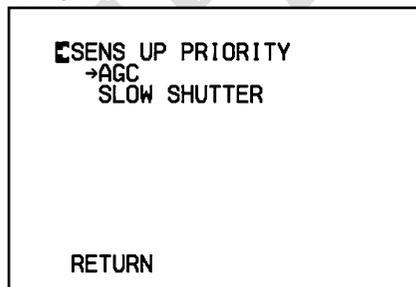
the SETUP MENU

SPECIAL FUNCTION (1/2)



Move cursor to SPECIAL FUNCTION row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

PRIORITY

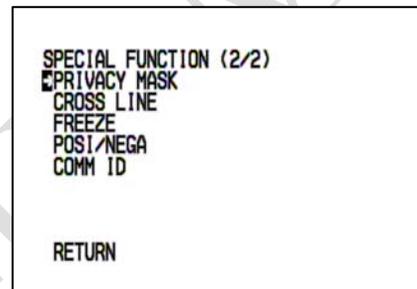


Move cursor to PRIORITY row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

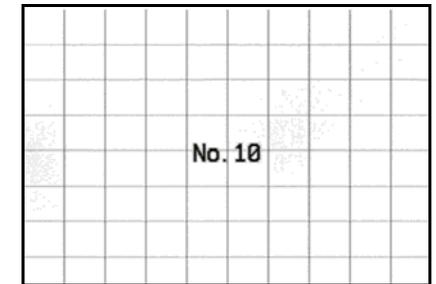
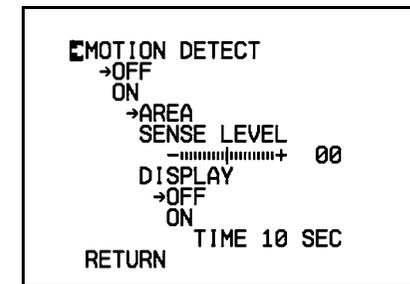
SENS UP PRIORITY: Sens up function control priority select AGC first or SLOW SHUTTER first.

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (1/2).

SPECIAL FUNCTION (2/2)



MOTION DETECT



Move cursor to MOTION DETECT row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

OFF : Motion detection function will be disable.

ON : Motion detection function will be active.

AREA: When display set to "4:3" mode only area 02~ 8D can be select and set, display mode set to FULL mode all area 01~8E can be select and set.

To exit the area selection screen, move out the cursor to the out of parted area and press ENTER when "END" is displayed.

| | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 1A | 1B | 1C | 1D | 1E |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 2A | 2B | 2C | 2D | 2E |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 3A | 3B | 3C | 3D | 3E |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 4A | 4B | 4C | 4D | 4E |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 5A | 5B | 5C | 5D | 5E |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 6A | 6B | 6C | 6D | 6E |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 7A | 7B | 7C | 7D | 7E |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 8A | 8B | 8C | 8D | 8E |

SENSE LEVEL: Motion SENSE LEVEL will be set from -40~+40, (-40/-30/-20/-10/-0/+10/+20/+30/+40).

To change grade with LEFT/RIGHT, confirm with ENTER.

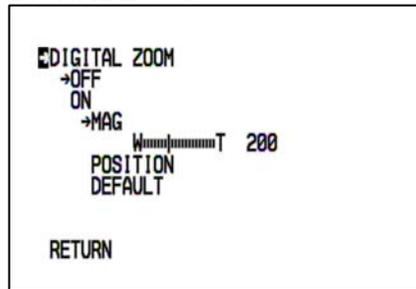
DIPLAY: While detect motion, OSD will show ON/OFF.

OFF: While detect motion, OSD display is OFF.

ON: While detect motion, OSD display is ON, After detect motion, OSD will show time will set. 10 is about 10 second, 30 is about 30 second, 60 is about 60 second.

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (1/2).

DIGITAL ZOOM



Move cursor to DIGITAL ZOOM row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

OFF : Digital zoom function will be disable.

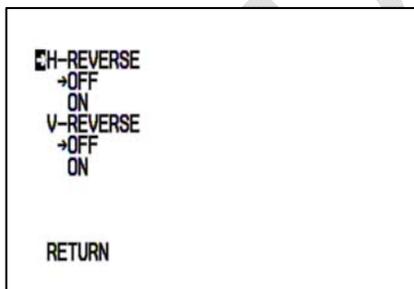
ON : Digital zoom function will be active.

MAG: Digital zoom of the ratio will adjust. 100(W)~400(T), to adjust with LEFT/RIGHT, confirm with ENTER.

POSITION: Digital zoom of image place will set up, to adjust with LEFT/RIGHT/UP/DOWN, confirm with ENTER.

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (1/2).

H / V RENERSE

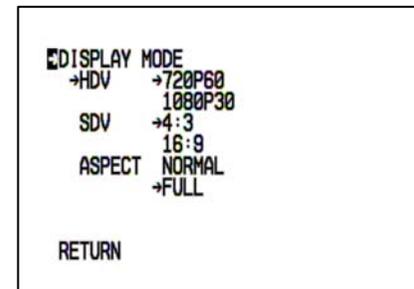


Move cursor to H/V RENERSE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.
H-REVERSE: Reverse the displayed picture to right or left.

V-REVERSE: Reverse the displayed picture to up or down.

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (1/2).

DISPLAY MODE



Move cursor to DISPLAY MODE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

Set Digital Video output Format.

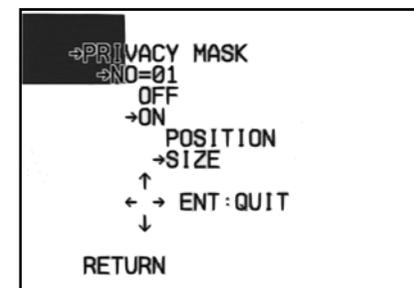
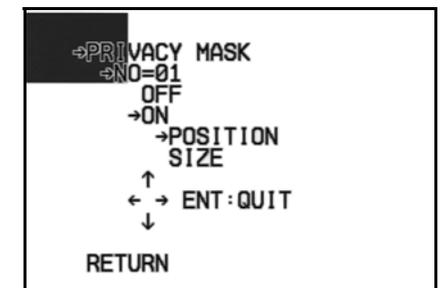
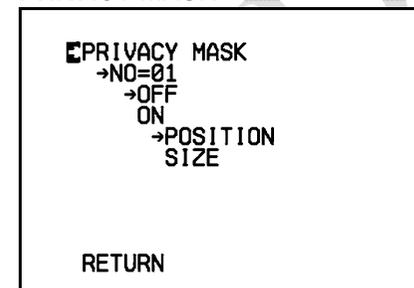
HDV : (NTSC)Resolution can be selected in either 720P60 or 1080P30.
(PAL) Resolution can be selected in either 720P50 or 1080P25.

SDV : The image can be output as 4:3 or 16:9.

ASPECT : Aspect setting of Analog Video in case of 4:3. The image can be select NORMAL(1:1) or FULL in sensor valid pixel.

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (1/2).

PRIVACY MASK



Move cursor to PRIVACY MASK row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

MASK number will choose. Maximum can set up 16 masks. NO=01~16

OFF : Privacy mask function will be disable.

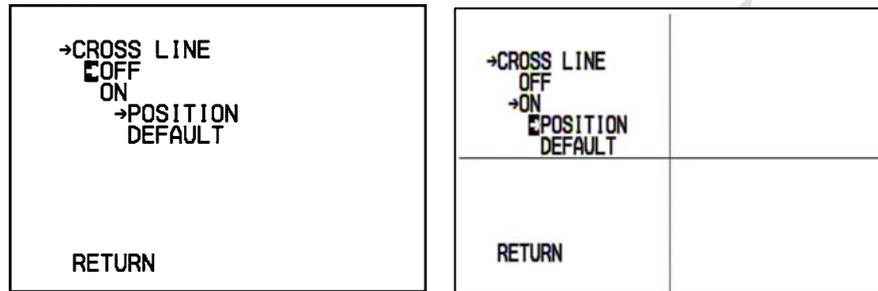
ON : Privacy mask function will be active.

POSITION: MASK of the place will adjust. To choose area with LEFT/RIGHT/UP/DOWN, confirm with ENTER.

SIZE: MASK of the size will adjust. To choose area with LEFT/RIGHT/UP/DOWN, confirm with ENTER.

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (2/2).

CROSS LINE



Move cursor to CROSS LINE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

OFF: Cross line will be not display.

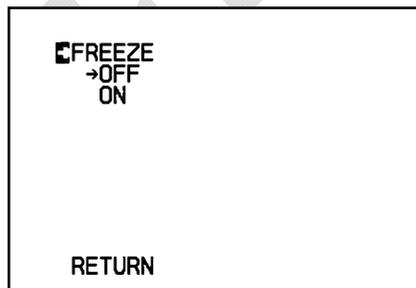
ON: Cross line will be display.

POSITION: Cross line of the place will adjust. To adjust with LEFT/RIGHT/UP/DOWN, confirm with ENTER.

DEFAULT: Cross line set to standard position at the center of full image.

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (2/2).

FREEZE



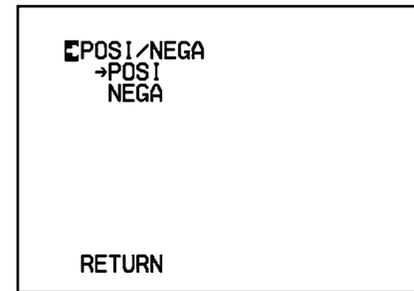
Move cursor to FREEZE row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

OFF: Display image are normal

ON: Display image are freeze.

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (2/2).

POSI / NEGA

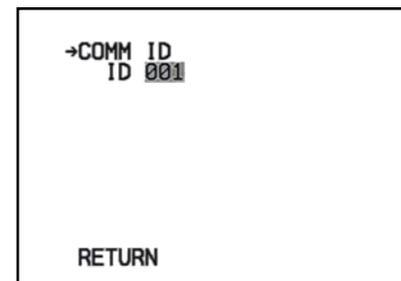


Move cursor to POSI / NEGA row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

POSI: Show positive image
NEGA: Show negative image

RETURN: Choose RIGHT or ENTER to return to the SPECIAL FUNCTION (2/2).

COMM ID



Move cursor to COMM ID row, push [RIGHT] or [ENTER] bottom, the details setting will be displayed.

Set camera ID number of the serial communication of cameras. Values available between 0 to 127 ID 000 - 127