

# *OSD User's Manual*

## CAUTION

Please read precaution before the using this product.

- ▶ It is made to prevent from lose of asset and to protect user's safe.
- ▶ Those symbols explain the damage or lose if it is not used properly.



**WARNING**

**It indicates that there may result in injury or lose if the user violates the notice.**



**CAUTION**

**It indicates that there may result in death or critical injury if the user violates the notice.**



## **Precautions**

### **1. Moisture**

Do not install the product in areas with high humidity or rain penetration. There may be the cause of malfunction and fire if the water enters into the camera's internal.

### **2. Repair**

Do not modify or disassemble. There may be the risk of electric shock, etc. In case of a fault, please don't fix it directly, please contact manufacturer.

### **3. Power**

Do not use other than specified power. There may be the electrical shock or the cause of the risk.

### **4. Conditions**

Do not install this camera in too hot or too cold area.  
(Recommended use temperature : -5 °C ~ 50 °C)

### **5. Sun Light**

If the camera lens is exposed to direct sun or strong light, there may be damage in the product, so please be careful.

### **6. Shock or Vibration**

Be careful not to drop the camera or get a strong shock.

### **7. Installation in unstable places**

Do not install the camera on the unstable place, tripod, bracket, table. It can cause people hurt or damage to the product.

### **8. If the camera is not working properly**

If the camera is out of order (for example, a strange noise, Smell or smoke), please stop using it immediately and contact us to get a A/S. After turning off the power.

### **9. cleaning**

Turn off the camera during cleaning and wipe with a dry cloth.  
If stained part is not cleaned, please use furniture cleaner.  
In case of lens, please use lens blower or lens cleaning tissue.  
It could be purchased in camera shop.

### **10. Exposure to the light source**

In case that subject includes a light source, around Horizontal or vertical lines in monitor may appear. This 'smear' is feature of The semiconductor device itself, not a breakdown.

### **11. How to ask A/S**

Please contact us for repair in the following cases after the camera's power off.

- A. If the connector of the power supply is broken,
- B. If you get the camera to rain or water,
- C. If liquid or strange subject has been spilled into the camera,
- D. If it is not activating described in the documentation for this camera  
Control adjustment of the camera described in this manual.  
(The camera to be operated in a manner not described in the documentation there is a larger danger of damage.)
- E. If the camera has been dropped and damaged
- F. If there is a distinct change in performance

**Even though the warranty period, the damage of product caused by Natural disasters such as lightning strike or inadvertent installation will be repaired at cost.**

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Thank you for using this product. If you want to get a better product's functions, please read the user manual carefully when you use the product. Keep the User's Guide.  
If a problem occurs during the use, please contact our manufacturer.

# 1. *features*

☞ **This product is 1/3" C-MOS 2.1M progressive FULL HD-SDI** High sensitivity color camera for Broadcasting

☞ Adopting a 1/3 2.1Mega Pixel Panasonic C-MOS

☞ **Full HD SDI (1920X1080p - 25,29.97,30,50,59.94,60fps,50i,59.94i,60i)  
HD SDI (1280X720p - 50,59.94,60fps)**

☞ SDI signal Standardization : SMPTE292M (SMPTE274M)

☞ High sensitivity: High sensitivity at 0.1lux low luminance(F1.2, 50IRE AGC MAX, DSS 4X:0.01 Lux)

☞ GENLOCK Support SYNC mode

1. **GENLOCK SYNC Signal : Tri-Level 1.2Vp-p(75 Ω)**

2. **Camera to Camera link SYNC Mode**

a) **Master mode : Genlock SYNC Output**

b) **Slave mode : Genlock SYNC Input**

c) **Disable mode : Genlock Signal - No Input / No Output**

☞ **OSD control :**

Automatic gain control, Electronic Level control or Auto level control , level of maximum accumulation level adjustment, WDR, BLC, HLC, Genlock mode, Default title and camera ID settings, OSD arbitrary adjustments.

- **White balance mode(WB) : AUTO / AUTOEXT / PRESET / MANUAL(R-Gain, B-Gain)**

- **Back light compensation : BLC / WDR**

- **High light Back light compensation : HLC**

- **Noise remove(DNR): OFF / LOW / MIDDLE / HIGH**

- **Accumulation mode(SENS-UP) : OFF / 2X / 3X / 4X / 8X / 16X / 32X**

- **Day & night setting(DAY &NIGHT) : AUTO / B/W / COLOR / EXTERN**

- **Privacy masking : BOX / POLYGON**

- **Motion detect : OFF / ON**

- **Zoom(D-ZOOM) : 1.0x~16.0x**

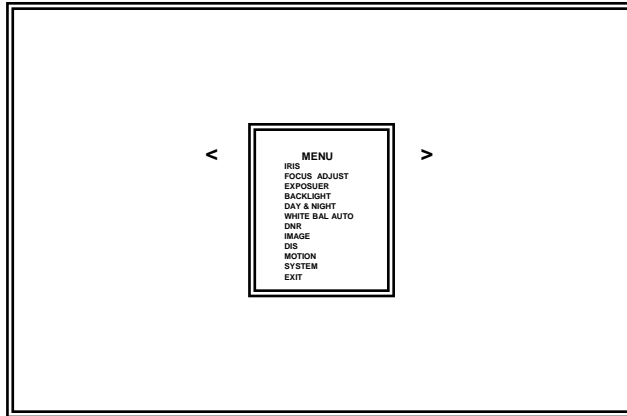
- **Analog video output : CVBS 1.0Vp-p , NTSC, PAL**

- **Digital Image Stabilizer function(DIS) : RANGE / FILTER / AUTO C**

- **GENLOCK Function : Disable / Master / Slave**

- **IMAGE RANGE : FULL / COMP / USER**

## 2. OSD motivation explanation



<2-1. OSD Menu Location >

### Caution

After Press SET button for 3 seconds, It will be start OSD menu.  
Press "set button" to move into the "SUB menu" in OSD "↓" menu.  
Press the button for more than 3 seconds to activate "pushing menu".

### 2.1 How to display activation of OSD

a. User can check the current activation of OSD when you press "set button".

If there is no another input signal , the activation of OSD disappear.

b. The activation of OSD disappear without camera title.  
If you don't want to show camera title, please change inner OSD in camera. (it is optional to use RS-232 communication control.)

c. User can change camera title's location.

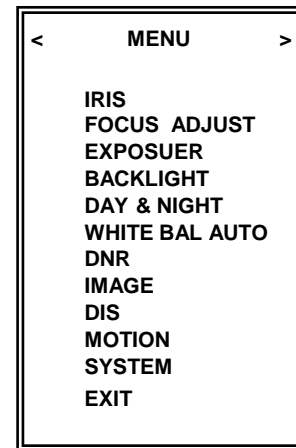
### 2.2 Activate "OSD MENU"

a. Press "set button" to Move to the Menu setting display

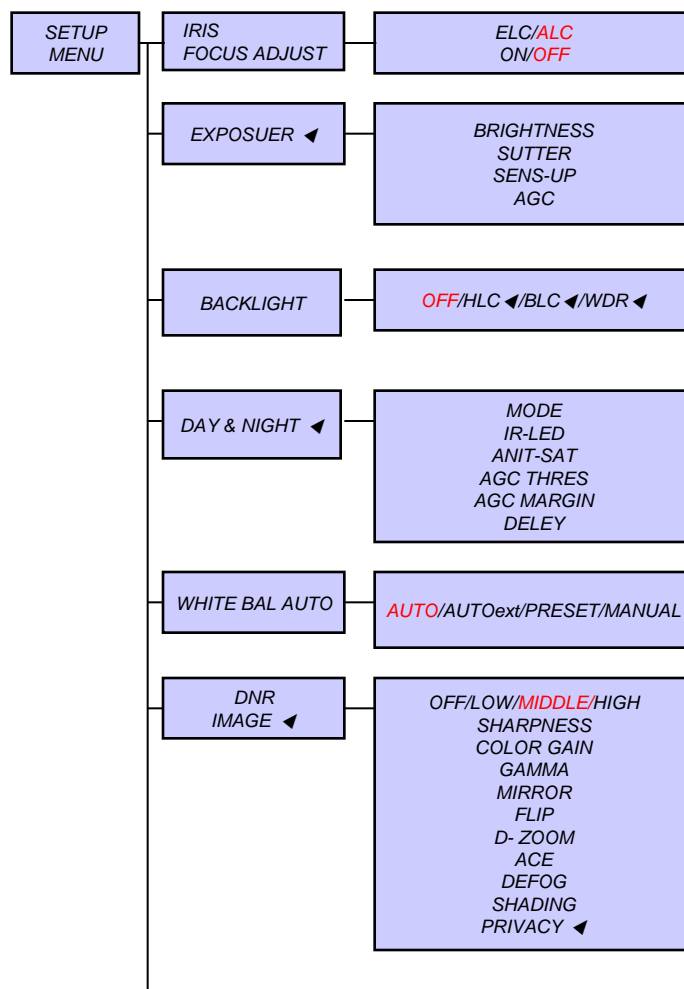
b. Press "Up button" to move upper menu or "Down button" to move bottom menu. Selected menu is changed in yellow color.

c. Press "right button" to increase data value "or" "left button" to decrease it.

d. Press right button in "OSD < MENU>" to move into the sub menu bar right away. User can choose 1~12 menu. And vise versa when you press "left button."



<2-2. Setting start menu display>



<Picture 2-3 Menu Tree >

## 2.3 How to start "OSD SUB MENU"

### 1. IRIS : Which controls the amount of light entering for the camera

- 1) Electronic Level Control : Using the electronic Shutter
- 2) Auto Level Control : Using the Lens Shutter

< **ELC/ALC** >

### 2. FOCUS ADJUST : Focus Lens be controlled focus by Automatic

< **ON/OFF** >

### 3. EXPOSUER

- 1) **BRIGHTNESS** : Set the basic brightness of display

< **0 ~ 20 Steps, 10** >

- 2) **SUTTER** : Control shutter speed to adjust brightness.

< **AUTO / MANUAL /FLICKER** >

- ① **AUTO** : Auto Shutter speed mode

1] **AUTO/ SUTTER (ELC)**

< **NORMAL/DEBLUR** >

1> **NORMAL** : Auto Shutter mode in ELC

2> **DEBLUR** : Correct to Developing Attraction by Automatic

2] **AUTO/ SUTTER (ALC)**

< **INDOOR/OUTDOOR/OUTDOOR2/DEBLUR** >

1> **INDOOR** : It just iris without rolling effect in indoor

2> **OUTDOOR** : It is solution mode for low quality display because of closed iris at outdoor.

3> **OUTDOOR 2** : It improve losing focus in strong sun beam at "Outdoor"

4> **DEBLUR** : Correct to Developing Attraction by Automatic

- ② **MANUAL** : Control shutter Speed to adjust brightness

< **SPEED (1/30(25), 1/60(50), 1/120(100), 1/250, 1/500, 1/1000, 1/1600, 1/2500, 1/5000, 1/7000, 1/10000, 1/30000)** >

- ③ **FLICKER** : Correct to flashing on the screen

< **OFF/2X/3X/4X /8X/16X/32X** >

- 3) **SENS-UP** : Accumulation Mode

< **OFF/2X/3X/4X /8X/16X/32X** >

- 4) **AGC** : Full gain value setting (AGC)

< **0 ~ 10 steps, 10 (OFF ~32dB)** >

### 4. BACKLIGHT

- 1) **HLC** : High light back light compensation.

(make part of the brightness dark)

< **LEVEL (0 ~ 20 steps), 10** >

< **COLOR (BLK,WHT,YEL,CYN,GRN,MAG,RED,BLU)** >

- 2) **BLC** : Turn box notice at back light zone of display

< **H-POS ,8** > : Set to move BLC back light area box into left and right

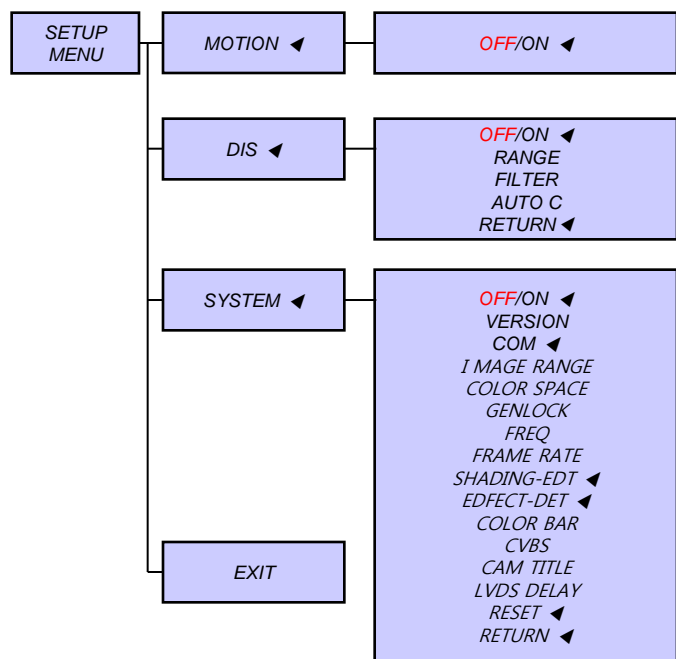
< **V-POS ,8** > : Set to move BLC back light area box into up and down.

< **H-SIZE ,3** > : Set BLC back light area box's size into right and left

< **V-SIZE ,3** > : Set BLC back light area box's size into up and down

- 3) **WDR** : Set the back light compensation level in WDR mode

< **WEIGHT(LOW,MIDDLE,HIGH)** >



## 5. DAY & NIGHT <Picture 2-3 Menu Tree >

- 1) MODE : Set the Day and Night on display  
 < **AUTO** /B/W /COLOR /EXTERN >  
 ① **AUTO** : Artificially judge Day&Night through the inner AGC value of SET  
 ② B/W : keep the display in black regardless of Day&Night  
 ③ COLOR : keep the display in color regardless of Day&Night  
 ④ EXTERN : Artificially judge Day&Night by external censor (but, DELEY value is applied same in AUTO and EXTERN mode)
- 2) IR-LED : LED ON/OFF Signal output  
 < **OFF/ON** >
- 3) ANIT-SAT : Adjust the IR brightness in B/W state  
 < **0 ~ 20 steps, 10** >
- 4) AGC THRES : Set the level range of the Day&Night judgement detection.  
 < **0 ~ 20 steps, 10** >

5) AGC MARGIN : Set the level range of the Day&Night judgement detection(margin)

< **0 ~ 20 steps, 10** >

6) DELEY : delay the time from day to night  
 < **LOW,MIDDLE,HIGH** >

## 6. WHITE BAL AUTO : < **AUTO/AUTOext /PRESET/MANUAL** >

- 1) AUTO : auto accumulation mode  
 Automatically adjust the color in environmental change of 2,300 K ~ 2,800 K
- 2) AUTOext : Outdoor and special lighting tracking mode, White detection for special lighting such as mercury Operating range of 2,300 K ~ 2,800 K
- 3) PRESET : It is for finding the best WB in current surveillance area  
 Hold " SET button" to activate, or fixed
- 4) MANUAL : Adjust color in manual  
 ① C-TEMP : normal color temperature value  
 < **3000K,5000K,8000K** >  
 ② R-GAIN < **0 ~ 20 steps, 10** >  
 ③ B-GAIN < **0 ~ 20 steps, 10** >

## 7. DNR : < **OFF/LOW/MIDDLE/HIGH** >

Set the display noise remove condition (AGC) at low luminance

## 8. IMAGE

- 1) SHARPNESS : Set the basic brightness of display  
 < **0 ~ 15 steps, 7** >
- 2) COLOR GAIN : Set the color value of display  
 < **0 ~ 20 steps,15** >
- 3) GAMMA : Set the gamma value of display  
 < **0.45, 0.55, 0.65,0.75 / 0.55** >
- 4) MIRROR : Change the left and right position  
 < **OFF/ON** >
- 5) FLIP : Change the up and down position  
 < **OFF/ON** >
- 6) D - ZOOM : Set the magnification of display  
 < **1.0X~16.0X, 1.0X** >
- 7) ACE : Auto adjust brightness mode  
 < **OFF/LOW/MIDDLE/HIGH** >
- 8) DEFOG : Compensate the fog  
 < **OFF/ON** < >  
 ① MODE(AUTO/MANUAL)  
 ② LEVEL(LOW/MIDDLE/HIGH)
- 9) SHADING : Correct the differences between the display brightness in lens curve  
 < **OFF/ON** < >  
 ① WEIGHT(0~100%),100%



10) **PRIVACY ◀** : Set the range of privacy protection zone

① **BOX** : The use of the privacy function to the Box mode

< **OFF/ON ◀** >

1] **ZONE NUM** : Select to the desired box

< **0~7 steps, 0** >

2] **ZONE DISP** : Set the position and size that User want to value

< **OFF/ON ◀** >

3] **H-POS** : The Select box move to the right and left

< **0~60 steps, 12** >

4] **V-POS** : The Select box move to the up and down

< **0~40 steps, 2** >

5] **H-SIZE** : The size of the selected box is adjusted to the right and left

< **0~40 steps, 3** >

6] **Y-SIZE** : The size of the selected box is adjusted to the up and down

< **0~40 steps, 3** >

7] **Y LEVEL** : The value of the box is between black and white

("0" is black and "20" is white)

< **0~20 steps, 10** >

8] **CB LEVEL** : The value of the box is between green and blue

("0" is green and "20" is blue)

< **0~20 steps, 10** >

9] **CR LEVEL** : The value of the box is between green and red

("0" is green and "20" is red)

< **0~20 steps, 10** >

10] **TRANS** : Set the transparency

< **0~3 steps, 2** >

② **POLYGON** : The use of the privacy function to the customer mode

< **OFF/ON ◀** >

1] **ZONE NUM** : Select to the desired box

< **0~7 steps, 0** >

2] **ZONE DISP** : Set the position and size that User want to value

< **OFF/ON ◀** >

3] **POS0-X** : Adjust the left and right of the top left corner

< **0~121 steps, 80** >

4] **POS0-Y** : Adjust the up and down of the top left corner

< **0~69 steps, 5** >

5] **POS1-X** : Adjust the left and right of the top right corner

< **0~121 steps, 88** >

6] **POS1-Y** : Adjust the up and down of the top right corner

< **0~69 steps, 5** >

7] **POS2-X** : Adjust the left and right of the bottom right corner

< **0~121 steps, 88** >

8] **POS2-Y** : Adjust the up and down of the bottom right corner

< **0~69 steps, 13** >

8] **POS3-X** : Adjust the left and right of the bottom left corner

< **0~121 steps, 80** >

9] **POS3-Y** : Adjust the up and down of the bottom left corner

< **0~69 steps, 13** >

10] **Y LEVEL** : The value of the box is between black and white

("0" is black and "20" is white)

< **0~20 steps, 10** >

11] **CB LEVEL** : The value of the box is between yellow and blue

("0" is yellow and "20" is blue)

< **0~20 steps, 10** >

12] **CR LEVEL** : The value of the box is between blue and pink

("0" is blue and "20" is pink)

< **0~20 steps, 10** >

13] **TRANS** : Set the transparency

< **0~3 steps, 2** >

9. **DIS** : Digital Image Stabilizer function

< **OFF/ON ◀** >

1) **RANGE** : Maximum stabilizer Range

(Up to 30% is a range of the input Image in accordance with the digital zoom is set up to 1.4 times the required use.)

< **10%,20%,30%** >

2) **FILTER** : Select "High" is more sensitive (Correction is not good)

< **LOW/MIDDLE/HIGH** >

3) **AUTO C** : Such as vibration like High Frequency is be Correction, Such as vibration like Low Frequency is be the screen functions to be move naturally.

① **FULL** : During movement, it is always corrected to be positioned at the center of image direction

② **HALF** : The Center Correction region Full Compensation is fixed and Periphery only compensation

< **OFF/HALF/FULL** >

10. **MOTION** : Select On to activate motion detection, surveillance box on/off

< **OFF/ON ◀** >

1) **SENSITIVITY** : Select the level of sensitivity detected in surveillance

< **0~20 steps, 3** >

2) **DET H-POS** : Set to move Detection area box into left and right

< **0~20 steps, 0** >

3) **DET V-POS** : Set to move Detection area box into up and down.

< **0~20 steps, 0** >

4) **DET H-SIZE** : Set Detection area box's size into right and left

< **0~20 steps, 60** >

5) **DET V-SIZE** : Set Detection area box's size into up and down

< **0~20 steps, 34** >

6) **MOTION OSD** : On/Off the Motion detection control box

< **OFF/ON** >

7) **ALARM** : Using the Alarm device and the connect with Port GPIO

< **OFF/ON** >

## 11. SYSTEM : OFF/ON ◀

- 1) VERSION : display the version of camera software  
< V4.07.24-G >
- 2) COM. ◀
  - ① CAM ID : Set to Camera's ID  
< 0~255 steps, 0 >
  - ② BAUDRATE : A measure of the Data transmission speed  
< (2400,4800,9600,57600,115200), 115200 >
- 3) IMAGE RANGE : Setting a range of screen  
< FULL/COMP/USER ◀ >
  - ① FULL : SDI FULL Range output
  - ② COMP : SDI compression Range output
  - ③ USER : OFFSET(0~32 steps, 16)
- 4) COLOR SPACE : HD-CrCb, YUV, HD-CrCb
- 5) GELOCK : < Disable / Master / Slave >
  - ① Disable : No Input / No Output
  - ② Master : Menu setup to "Back Panel : Master"
  - ③ Slave : Menu setup to "Back Panel : Slave"

(When OSD Menu's value and Back Panel's value are at the same option, Genlock function is good working)
- 6) FREQ : select AC type power frequency  
< 60Hz, 50Hz, 59.9Hz >
- 7) FRAME RATE : Select the SDI output resolution and frame
  - ① 50HZ : < 1080-25P, 1080-30P, 1080-50i >  
< 720-50P >
  - ② 59.9HZ : < 1080-29.9P, 1080-59.9P, 1080-59.9i >  
< 720-59.9P >
  - ③ 60HZ : < 1080-30P, 1080-60P, 1080-60i >  
< 720-60P >
- 8) SHADING-EDT ◀ : Compensate for differences in the screen brightness by Lens bending. Illuminate the full screen in white paper with ON, compensated data is stored. Using the "SHADING" ON, the stored data is running  
< □□□□□□□□ >
- 9) EDTECT-DET ◀ : Compensate sensor's (White dot) dead cell defect. After cover the lens to make the screen dark, press right key (ON)  
< THRS----0000000000 >  
< CNT----0000000000 >
- 10) COLOR BAR : Print out COLOR BAR pattern.  
SDI and CVBS output simultaneously  
< OFF/ON >
- 11) CVBS : ON/OFF for Composite Video Signal  
< OFF/ON >
- 12) LANGUAGE : Supported < ENG, KOR, JAN, CHN(S), CHN >

## 13) CAM TITLE ◀ : Make a Camera's name

※  
○○○○○○○○○ : 0~9, A~Z  
U , D - CHAR SELECT  
L , R - POSITION

- 14) LVDS DELAY : Adjusted to LVDS delay the time  
< 0~12 steps, 12 >

## 12. EXIT

### 3. Genlock Description

Menu / System / Genlock		
Disable		Genlock Signal : No Input / No Output
Master		Genlock Output Mode : Menu setup to “Back Panel : Sync Out”
Slave		Genlock Output Mode : Menu setup to “Back Panel : Sync In”
Genlock Resolution Supported		
50hz	1920 x 1080 x 25p	1920 x 1080 x 50p
59.94hz	1920 x 1080 x 29.97p	1920 x 1080 x 59.94p
60hz	1920 x 1080 x 30p	1920 x 1080 x 60p
Genlock LED		
Slave	ON	Genlock Sync Lock : Operation OK
	OFF	Genlock Sync Lock : Operation has a problem
	BLINK	Genlock Sync not Supported (Not Supported Resoltuion or other signal)
TEST		
Oper. 1)	Setup No. 1 Camera to Genlock Master in Menu. (Back Panel : Sync Out) Resolution setup	
Oper. 2)	Setup No. 2 Camera to Genlock Slave in Menu. (Back Panel : Sync In)	
Oper. 3)	No. 1 Camera a LED ON / No. 2 Camera LED OFF	
Oper. 4)	Connection of Sync Line with No. 1 and NO.2 Cameras	
Oper. 5)	No. 2 Camera a LED ON in 5 seconds	
Caution on Setup		
Ref. 1)	Resolution mode is off when Genlock mode is slave	
Ref. 2)	720p/ 50i/ 60i setup is not available on Genlock non-supporting Resolution	
Ref. 3)	On conection of one master and multiple slaves, repeater is required for sync signal	
Ref. 4)	Genlock Sync out Outputs Tri-Level 1.2Vp.p	

## ***4. Precaution of Installment***

1. It showed HD-SDI & HDMI display in blue or black.  
If the SDI OUT & HDMI connection is bad or wrong.  
If the resolution setting is not suit for device.  
Or it is not normal CABLE or limit transmission distance.
  - ◆ Check SDI OUT & BNC JACK connection & HDMI connection.
  - ◆ Check the resolution of Camera and device.
2. HD-SDI display shows not properly.  
There will be defect on display because of the mismatching Impedence, If user don't use 75Ω BNC cable for HD- SDI
  - ◆ Please check Camera output's BNC CABLE and both connected jack and also DVR's Input, Also Check that connected device's BNC is 75 Ω with all of products
  - ◆ Change the cable and the HD-SDI of part
  - ◆ Please use 75 Ω in BNC adaptor for extension cable.
  - ◆ HD-SDI CABLE's limited range.  
5C-HFBT(Maximum up to 100m)
3. There is cross line, breaking and disconnection On HD-SDI display.  
If HD-SDI out BNC's connection is bad, Cause is that the short circuit of cable, not proper cable or excess the limited range.
  - ◆ Please check it is proper cable for HD- SDI, The Cable distance is normal.
  - ◆ Please check the connection of BNC between HD-SDI and BNC(bad connection, connected condition)
4. If the HD-SDI display's output is not on the correct location right of left.  
If the resolution mode setting is not proper, when user connects it to the receiver directly or monitor's resolution setting is not correct.
  - ◆ Please check the resolution output value of camera.
  - ◆ Please check the monitor and DVR resolution setting value.
  - ◆ Some of monitor can't support 1080 60P, 1080i resolution.