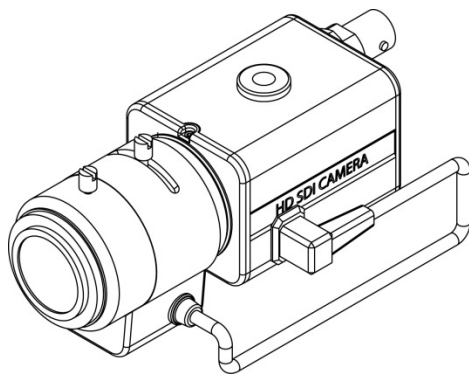


# HD SDI 1080p Super Mini Box Camera



## USER MANUAL

### FEATURES

- SDI 1080p - 1920 x 1080
- 2 Megapixel
- 1/2.8" Sony Exmor
- **2.8~12.0mm Auto Iris Vari-focal Lens – Made in Korea**
- **0.02 Lux @ F1.2**
- OSD Control
- 250mA
- 12V DC

*\*Fixed or Vari-focal lens can also be installed on this camera.  
We recommend using high quality megapixel lens in order to  
get the best result in terms of picture.*





**Please read the Manual before attempting to use this product.**

*Specifications and appearance are subject to change without notice.*



## CAUTION

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN!**



**TO REDUCE THE RISK OF ELECTRICAL SHOCK,  
DO NOT OPEN COVERS (OR BACK).  
NO USER SERVICEABLE PARTS INSIDE.  
REFER SERVICING TO QUALIFIED  
SERVICE PERSONNEL.**



**Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems).**

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

## CAUTION

### **1. Never point the camera toward the sun**

Do not expose the lens directly to the sun or to strong light as this may damage the pick-up device.

### **2. Handle this camera with care**

Avoid any shock or bumping of the camera. Improper handling could damage the camera.

### **3. Requires a proper operating environment**

This camera is designed for indoor use. The allowable temperature range for operation of this camera is between 14°F ~ 122°F / -10°C ~ 50°C.

### **4. Clean the front face or lens**

It is recommended that the surface be cleaned every 3~6 months. Cleaning should be done by using a chamois, a very fine soft cloth, lens tissue, or cotton tipped applicator and ethanol to carefully remove any fingerprint or dust.

### **5. Check the power source voltage**

The power source voltage should be within the specified range. (Camera must meet the specifications). Camera must be connected to a surge protector at all times.

### **6. Objects and liquid entry**

Never push objects of any kind into this camera as this may touch dangerous voltage points of short out parts that could result in a fire or electric shock. Never spill any kind of liquid on the video product.

## 7. Servicing

Do not attempt to service this video product by yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all service to qualified servicing personnel.

## 8. Damage requiring service

Unplug this video product from the wall outlet and refer service to qualified servicing personnel under the following conditions:

- a. When the power supply cord or plug is damaged.
- b. If liquid has been spilled, or objects have fallen into the video product.
- c. If the video product has been exposed to rain or water.
- d. If the video product has been dropped or the cabinet has been damaged.
- e. When the video product exhibits a distinct change in performance.

## LIMITED WARRANTY

OKINA USA products are covered under warranty for three (3) years from the date of purchase. The warranty will automatically be voided if any of the following occurs:

### 1. Camera sticker is removed

If the camera sticker is removed, we will not be able to confirm any information regarding when and where the product was purchased. We have no other way to verify the purchase record without the serial number on the camera sticker; therefore, it should not be removed.

### 2. Camera is modified in any way

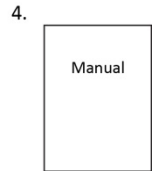
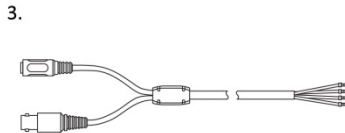
If the camera is scratched, damaged, or modified in a manner not described in this manual, the warranty will be voided immediately. It is the customer's responsibility to keep the camera in good condition.

### 3. Video or power cable is cut

The video cable and the power cable should not be tampered with. Cutting or modifying of the cables will result in termination of the warranty.

## PACKAGE CONTENTS

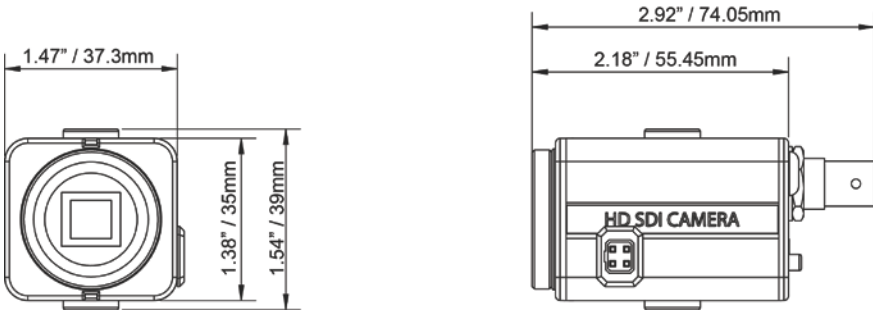
1. One (1) HD21T-8AVF Camera
2. One (1) 2.8~12.0mm Auto Iris Vari-focal Lens
3. CVBS (BNC) Output and 12V DC Power Input Wire
4. One (1) User Manual



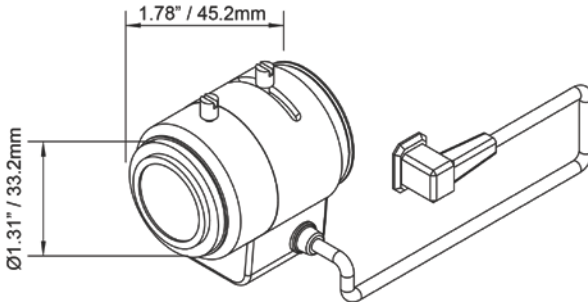
\* For any returns, please include all components listed above with original packaging in **Resalable Condition**. **Absolutely No Returns** will be accepted if any component is missing/damaged.

## DIMENSIONS (Unit: inches / mm)

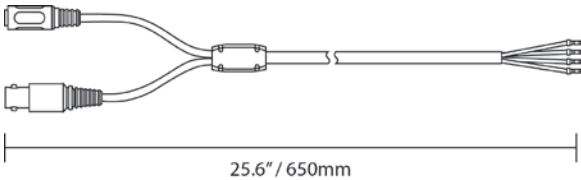
### Camera



### Lens

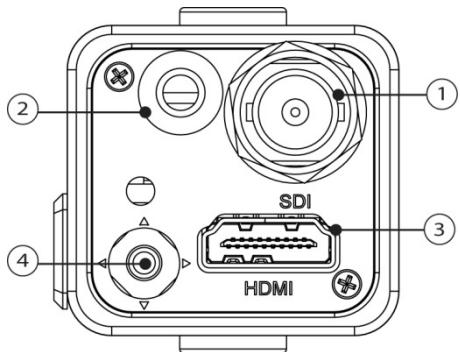


### CVBS (BNC) Output and 12V DC Power Input Wire



## PARTS AND FUNCTIONS

- ① SDI output
- ② CVBS (BNC) Output & 12V DC Power Input Wire
- ③ HDMI output
- ④ OSD Direction Button



# HARDWARE RS485 WITH PTZ KEYBOARD SETUP

Default protocol is Pelco-D and default baud rate is 9600 for RS485 communication between camera and PTZ controller.

*NOTE: It is highly recommended that you run an additional cable for your RS485 communication from your camera. Some models may have RS485 setting in menu. Please leave RS485 baud rate setting at 38400.*

## OSD

### OSD Main Menu

SETUP	
1. LENS	DC
2. EXPOSURE	↓
3. WHITE BAL	ATW
4. DAY&NIGHT	AUTO↓
5. NR	↓
6. SPECIAL	↓
7. ADJUST	↓
8. RESET	↓
9. EXIT	↓

#### 1. LENS

LENS	DC	INDOOR / OUTDOOR
	VIDEO	N/A
	MANUAL	

Manual: Iris is adjusted manually.

DC: Iris is adjusted automatically by the camera according to light conditions.

*Note: Fixed or Vari-focal lens can be installed on this camera. We recommend using high quality megapixel lens in order to get the best result in terms of picture quality.*

#### 2. EXPOSURE

EXPOSURE			
SHUTTER	AUTO , 1/30,1/60(1/50),FLK,1/250,1/500,1/1000,1/2000,1/5000,1/10000, 0, 1/50000,X2,X4,X6,X8,X10,X15,X20,X25,X30		
AGC	MIDDLE,HIGH,LOW		
SENS-UP	AUTO	SENS-UP	X2,X4,X6,X8,X10,X15,X20 ,X30,X60
		RETURN	RET
	OFF		
BRIGHTNESS	0~100		
ACCE	OFF,LOW,MIDDLE.HIGH		
DEFOG	OFF,LOW,MIDDLE.HIGH		

BACKLIGHT	OFF		
	BLC	GAIN	MIDDLE,HIGH,LOW
		AREA	POSITION   SIZE,RET,AGAIN
		DEFAULT	
		RETURN	RET
	HBLC	SELECT	AREA1,AREA2,AREA3,AREA4
		DISPLAY	ON,OFF
		LEVEL	0~100
		MODE	ALL DAY,NIGHT
		BLACK MASK	ON,OFF
		DEFAULT	
RETURN	RET		
RETURN	RET		

**SHUTTER:**

AES (auto electronic shutter): The camera automatically sets the optimum shutter speed.

FL: Flicker less mode avoids interference from light sources (recommended for video-iris or DC-iris lenses only).=

FIXED: Forces a fixed shutter speed.

**AGC:**

Regulate the gain or amplification of the video signal, mainly used in low-light conditions with the iris fully open. **\*This can only be used when DAY&NIGHT is not set to AUTO.**

**SENSE UP:**

Allow user selectable digital show shutter speed in order to allow extra light into a camera thereby providing higher sensitivity in low light conditions.

**ACCE (DWDR):**

Stand for Adaptive Contrast and Color Enhancement which is equivalent to dynamic range reduction technique.

The contrast ratio of the image can be effectively expressed and the edge information can be improved in order to enhance the overall visibility of the image.

**DEFOG:**

It improves the clarity of images taken in poor conditions, such as fog, smoke, rain or snow. Applied to live or recorded color video, it provides real time results and displays visual details that would normally have been difficult to distinguish.

**3. WHITE BALANCE**

WHITE BAL		
ATW		
AWC > SET		
INDOOR		
OUTDOOR		
MANUAL	BLUE	0~100
	RED	0~100
	RETURN	RET

#### 4. DAY & NIGHT

DAY & NIGHT		
AUTO	DELAY	0~60
	N-D(AGC)	0~100
	N-D(AGC)	0~100
	RETURN	
COLOR		
B/W	BURST	ON,OFF
	Ir SMART	ON,OFF
	IR LED	ON,OFF
	IR PWM	0~100
	RETURN	RET
EXT		

#### 5. NR

NR			
2DNR	ON,OFF		
3DNR	ON	S-LEVEL	0~100
		E-LEVEL	0~100
		RETURN	RET
LEVERL	0~100		
SMART NR	ON,OFF		
RETURN	RET		

#### SMART NR:

Avoid over exposure problem when the camera is focus on area with wall.

#### 6. SPECIAL

SPECIAL					
CAM TITLE	OFF				
	ON	0123456789ABCDEFGHIJKLMN OPQRSTU VWXYZ <> CLR POS END			
D-EFFECT	FREEZE	OFF,ON			
	MIRROR	OFF,MIRROR,V-FLIP,ROTATE			
	D-ZOOM	OFF			
		ON	PIP	OFF,ON	
			D-ZOOM	X2.0~62.0	
			PAN&TILT	D-ZOOM	
DEFAULT					
RETURN					
	NEG.IMAGE	OFF,ON			
	RETURN				
MOTION	OFF				
	ON	SELECT	AREA1,AREA2,AREA3		
		DISPLAY	OFF		
			ON	POSITION	
		SENSITIVITY	0~100		
MOTION VIEW	OFF,ON				

		DEFAULT	
		RETURN	RET
PRIVACY	OFF		
	ON	SELECT	ARE1~ARE8
		DISPLAY	ON/POSITION
		COLOR	1~16
		DEFAULT	
RETURN	RET		
LANGUAGE	English/ Chinese/ Japanese		
DEFECT	LIVE DPC	ON,OFF	
	LEVEL	0~60	
	STATIC DPC	ON,OFF	
	START		
	LEVEL	0~60	
	SENS-UP	X2,X4,X6,X8,X10,X15,X20,X30,X60	
	RETURN	RET	
RS485	CAM ID	0~255	
	ID DISPLAY	OFF	
		ON	CAM.001~CAM255
	BAUDRATE	9600,19200,38400,2400,4800	
RETURN	RET,END		
RETURN	RET		

## 7. ADJUST

ADJUST				
SHARPNESS	SHARPNESS	ON,OFF		
	LEVEL	0~100(50)		
	RESOLUTION	ON,OFF		
	RETURN	RET		
MONITOR	LCD	GAMMA	USER,0.45,0.50,0.55,0.60, 0.65,0.70,0.75,0.80,0.85.0. 90,0.95,1.00	
		BLUE GAIN	0~100	
		RED GAIN	0~100	
		RETURN	RET	
	CRT	BLACK LEVEL	0~30	
		BLUE GAIN	0~100	
		RED GAIN	0~100	
RETURN	RETURN			
OSD	TEXT COLOR	1~8		
	OUTLINE	OFF,ON		
	RETURN	RET		
LSC	ON,OFF			
NTSC/PAL	NTSC,PAL			
RETURN	REST,END			
RESET	FACTORY			
	RETURN	RETURN		
EXT				



8. **REST**

RREST	
FACTORY	
RETURN	

9. **EXIT:** Exit menu.

# SPECIFICATION

<b>Model</b>	<b>HD21T-8AVF</b>		
<b>Image Sensor</b>	1/2.8" Sony Exmor IMX122 CMOS		
<b>Resolution</b>	Max.1920 x 1080 (1080P FULL HD)		
<b>DSP</b>	NEXT CHIP 2400		
<b>Min. Illumination</b>	0.02 Lux @ F1.2 – AGC ON		
<b>Video output</b>	SDI / CVBS / HDMI		
<b>Digital Noise Reduce</b>	Yes – 2DNR & 3DNR		
<b>Menu</b>	OSD Button Control		
<b>Day &amp; Night Mode</b>	Auto		
<b>Electronic Shutter</b>	Auto 1/60 (1/50) ~ 1/50,000 sec / Fik		
<b>DWDR Function</b>	OFF / Low / Middle / High		
<b>AGC</b>	Low / High / OFF		
<b>BLC</b>	BLC / HSBLC / OFF		
<b>White Balance</b>	AWC-SET / MANUAL / INDOOR / OUTDOR / ATW		
<b>Camera Title</b>	ON / OFF		
<b>SMART NR</b>	ON / OFF		
<b>SENS-UP</b>	ON / OFF (Selectable range 2X~ 30X)		
<b>Picture-Effect</b>	Mirror		
<b>Language</b>	English / Chinese / Japanese		
<b>Lens</b>	<b>Focal Length</b>	2.8 ~ 12mm Auto Iris Lens – Made in Korea	
	<b>Max. Aperture Ratio</b>	1:12 – 1:2.3	
	<b>Aperture</b>	F1.4 Max.	
	<b>Format</b>	1/2.7"	
	<b>Horizontal View Angle (At 1/2.7")</b>	93° - 28.7°	
	<b>Min. Object Distance</b>	0.2m	
	<b>Back Focal Length (In Air)</b>	6.39mm	
	<b>Lens Mount</b>	CS (1° – 32 UNF)	
	<b>Operation</b>	<b>Zoom</b>	Manual
		<b>Focus</b>	Manual
		<b>Iris</b>	DC Auto-Iris
	<b>Dimensions</b>	Ø1.31" x 1.78"(W) x 1.66"(H) Ø 33.2mm x 45.2mm(W) x 42.1mm(H)	
<b>Operation Temperature</b>	-4°F ~ 176°F / -20°C ~ 80°C		
<b>Power source</b>	12V DC		
<b>Power Consumption</b>	250mA		
<b>Operation Temperature</b>	14°F ~ 122°F / -10°C ~ 50°C		
<b>Storage Temperature</b>	-4°F ~ 158°F / -20°C ~ 70°C		
<b>Dimension</b>	1.47"(W) x 1.54"(H) x 2.92"(D) 37.3mm(W) x 39mm(H) x 74.05mm(D)		
	CVBS output & 12V DC power input wire: 25.6" / 650mm(L)		
<b>Net Weight</b>	< 1 lb / < 453g		

\* Specifications are subject to change without notice.





[www.okinausa.com](http://www.okinausa.com)

**MADE IN TAIWAN**

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