AIDA
IMAGING

UHD 6G-SDI POV Camera

UHD6G-200

OPERATION GUIDE

WARNING

To prevent damage which may result in fire or electric shock hazard, do not expose this appliance to rain or moisture.

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.
2. Incorrectly connecting the power supply or replacing battery may cause explosion,cause excessive heat or fire
3. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.
4. Do not place conductive objects (e.g. screw drivers, coins, metal items, etc.) or containers filled with water on top of the camera. Doing so may cause personal injury due to fire, electric shock, or falling objects.
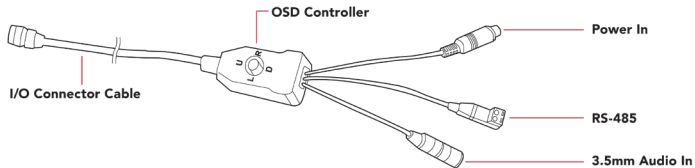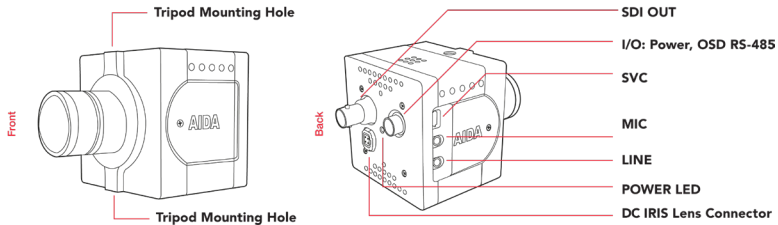
5. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock
6. If any unusual smells or smoke come from the unit, stop using the product. Immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.
7. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way.
8. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

PRECAUTION

Please read this Operation Guide before installing and using the camera & retain this copy for your reference.

1. Always follow the instructions in the operations guide when applying power. Fire and equipment damage can occur if power is applied incorrectly. For the correct power supply,refer to the specifications page.
2. Do not use camera if fumes, smoke or a strange odor is emitted from the camera, or if it seems not functional correctly. Disconnect the power source immediately and consult with your supplier.
3. Do not use the camera in extreme environments where high temperatures or high humidity exists. Use the camera under conditions where temperatures are between 32°F ~ 104°F, and humidity is below 90%.
4. If installed close to a TV, radio transmitter, magnet, electric motor transformer or audio speakers the magnetic field generated may interfere with or distort the image.
5. Try to avoid fluorescent light reflections, unstable light conditions, direct pointing toward the sun. Use caution when operating the camera in the vicinity of spotlights or other bright lights and light reflecting objects.
6. To prevent damage, do not drop the camera or subject it to strong shock or vibration.

Front

Tripod Mounting Hole

Tripod Mounting Hole

Back

SDI OUT

I/O: Power, OSD RS-485

SVC

MIC

LINE

POWER LED

DC IRIS Lens Connector

OSD Controller

I/O Connector Cable

Power In

RS-485

3.5mm Audio In

FEATURES

- 4K UHD 1/2.5 Progressive Scan CMOS sensor captures sharp and vivid UHD video even under low light conditions.
- Advanced digital imaging processor provides vivid and detailed images by utilizing Dynamic Range, Auto White Balance, and Noise Reduction.
- Superb motion-compensated temporal noise reduction filter for motion video without blurring.
- OSD control breakout cable with power input and RS-485 for remote communication.
- Flawlessly relays multi-channel embedded audio via SDI output.
- Interchangeable lens design compatible with CS and C mount lenses.
- Perfectly suited for broadcast, pro audio/video, and security.
- Conforming with SMPTE 292M, 424M, and 2081-10.
- Versatile, compact, and rugged design.

OSD MENU

```
   MAIN MENU

*WB CONTROL        >
 AE CONTROL        >
 DAY /NIGHT        >
 AUDIO             >
 IMAGE CONTROL     >
 SPECIAL           >
 SETUP             >
 RESET             >
 EXIT
```

L- Left | **R-** Right | **U-** Up | **D-** Down | ■- Select

1. **Move the Cursor Up/Down to Choose Menu**
   To move from item to item in the menu, move the joystick to the Up/Down.
2. **Change the Value**
   To change the value of the selected item, move the joystick to the Left/Right.
3. **Shift to the Sub Menu of the Chosen Menu**
   To go into sub menu, press SEL key. The menu items with > always have its sub menu.

```
    EXPOSURE
  *AE MODE        AUTO
    SHUTTER
    IRIS
    AGC
    AGC MAX       HIGH
    SENS UP       OFF
    AE BRIGHT     6    ◀■■■□▶
    IRIS SPEED    3    ◀■■■□▶
    FLK CONTROL   OFF
    LENS MODE     INDOOR
    RETURN
```

AUTO

Auto mode will adjust the exposure level automatically.

Detailed fine tuning options are available under this menu.

- **AGC MAX** : OFF, LOW, MIDDLE, HIGH, DMIN, DMID, DMAX

  "AGC MAX" sets the maximum gain value to control the video noise caused by Auto Gain Control.

- **SENS UP** : OFF, x2 ~ x10

  "SENS UP" mode controls the digital slow shutter to allow extra light into the camera and adjust the picture quality.

- **AE BRIGHT** : 0~20

  Auto Exposure brightness level can be adjusted.

```
    EXPOSURE
  *AE MODE        SHUT FIX
    SHUTTER       AUTO
    IRIS
    AGC
    AGC MAX       HIGH
    SENS UP       OFF
    AE BRIGHT     6    ◀■■■□▶
    IRIS SPEED    3    ◀■■■□▶
    FLK CONTROL   AUTO
    LENS MODE     INDOOR
    RETURN
```

SHUT FIX

SHUT FIX mode provides more detailed shutter speed option.

All other controls are tuned for the selected shutter speed.

- **SHUTTER** : AUTO, 1/30 ~ 1/10,000 (Shutter speed can be set)
- **AGC MAX** : OFF, LOW, MIDDLE, HIGH, DMIN, DMID, DMAX

  "AGC MAX" sets the maximum gain value to control the video noise caused by Auto Gain Control.

- **SENS UP** : 0~20

  "SENS UP" mode controls the digital slow shutter to allow extra light into the camera and adjust the picture quality.

- **AE BRIGHT** : 0~10

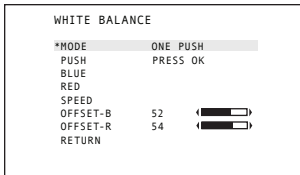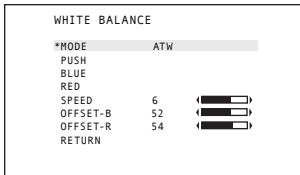 Auto Exposure brightness level can be adjusted

```
EXPOSURE
*AE MODE          AGC FIX
  SHUTTER
  IRIS
  AGC             AUTO
  AGC MAX         HIGH
  SENS UP
  AE BRIGHT       6    (■■■■   )
  IRIS SPEED      3    (■■■■■  )
  FLK CONTROL     AUTO
  LENS MODE       INDOOR
  RETURN
```

AGC FIX

AGC FIX mode provides more detailed gain option.

All other controls are tuned for the selected gain value.

- **AGC** : AUTO, 0dB ~ 27dB, d2X ~ d9X
  Gain level can be set.
- **AGC MAX** : OFF, LOW, MIDDLE, HIGH, DMIN, DMID, DMAX
  "AGC MAX" sets the maximum gain value to control the video noise caused by Auto Gain Control.
- **AE BRIGHT** : 0~10
  Auto Exposure brightness level can be adjusted.
- **IRIS SPEED** : 0 ~ 5
  Electronic Iris speed can be controlled. (DC Iris lens only)
- **LENS MODE** : INDOOR, OUTDOOR, MANUAL
  Lens setting will be optimized for the selected environment. (DC Iris lens only)
- **FLK CONTROL** : AUTO, ON, OFF
  "FLK CONTROL" mode provides a proper image sensor frequency to match the power frequency in order to minimize video flicker.

```
WHITE BALANCE

*MODE        ATW
 PUSH
 BLUE
 RED
 SPEED       6      [====  ]
 OFFSET-B    52     [====  ]
 OFFSET-R    54     [====  ]
 RETURN
```

ATW

Auto trace white mode will adjust white balance within 1,900˜K ~ 11,000˜K temperature.

- **SPEED** : 0 ~ 7
  White balance adjust speed can adjusted.
- **OFFSET-B** : 0 ~ 100
  "OFFSET-B" adjusts Blue gain within the range of 0 to 100.
- **OFFSET-R** : 0 ~ 100
  "OFFSET-R" adjusts Red gain within the range of 0 to 100.

```
WHITE BALANCE

*MODE        ONE PUSH
 PUSH        PRESS OK
 BLUE
 RED
 SPEED
 OFFSET-B    52     [===   ]
 OFFSET-R    54     [===   ]
 RETURN
```

ONE PUSH

One push mode is used if AWB or ATW cannot produce the proper white balance.
Place a white paper in front of the camera when using the one push mode to self adapt.

- **PUSH**
  Press Select button to enable "ONE PUSH" white balance adjustment. Place a white paper in front of the camera when using the "ONE PUSH" mode to self-adopt.

* Camera provides a wide range of white balance options.
  Check your color temperature before adjusting this mode.

```
WHITE BALANCE

*MODE         INDOOR
 PUSH
 BLUE
 RED
 SPEED
 OFFSET-B     52    (■■■■□□)
 OFFSET-R     54    (■■■■□□)
 RETURN
```

INDOOR

"INDOOR" mode will adjust white balance to indoor lighting conditions.

OUTDOOR

"OUTDOOR" mode will adjust white balance to outdoor lighting conditions.

```
WHITE BALANCE

*MODE         MANUAL
 PUSH
 BLUE         50    (■■■□□□)
 RED          50    (■■■□□□)
 SPEED
 OFFSET-B
 OFFSET-R
 RETURN
```

MANUAL

"MANUAL" mode will adjust white balance manually.

- **BLUE** - 0 ~ 100
  Select blue gain within the range of 0 to 100.
- **RED** - 0 ~ 100
  Select Red gain within the range of 0 to 100.

```
DAY & NIGHT

*MODE         DAY (COLOR)
 NIGHT COLOR  OFF
 COLOR BURST  OFF
 RETURN
```

Adjust color or B&W setting from this menu.

- **MODE** : DAY(COLOR), NIGHT(B&W)
  Set camera to either color mode or B&W mode.
- **NIGHT COLOR** : ON, OFF
  When "NIGHT COLOR" is turned ON, camera stays on color mode even
  "NIGHT(B&W)" is selected from the MODE.
- **COLOR BURST** : ON, OFF
  Color burst signal ON or OFF can be set for CVBS signal. (Not applicable)

```
NOISE REDUCTION

*MODE         2D + 3D
 DNR LEVEL    AUTO
 DNR APERTURE 2
 RETURN
```

NOISE REDUCTION

Camera noise level can be adjusted from this menu.

- **DNR MODE** : OFF, 2D, 3D, 2D+3D
  Digital noise reduction can be applied from this menu.
- **DNR LEVEL** : AUTO, LOW, MIDDLE, HIGH
  Noise reduction level can be adjusted from this menu.
- **DNR APERTURE** : 0 ~ 4
  Motion artifacts tightness can be adjusted.
  0 = Most ghost artifact 4 = Least ghost artifact

```
PRIVACY MASK
*MODE          ON
 TYPE          SQUARE
 MASK NO.      MASK 1
  DISPLAY      ON
  COLOR        BLACK
  POLY PIXEL
  POSITION-X   2      ◀▮▮▭▭▶
  POSITION-Y   5      ◀▮▮▮▭▶
  SIZE-X       20     ◀▮▭▭▭▶
  SIZE-Y       11     ◀▮▮▭▭▶
 DEFAULT
 RETURN
```

Privacy zone can be setup from this menu.

MODE : ON, OFF
Enable "PRIVACY ZONE" ON or OFF.
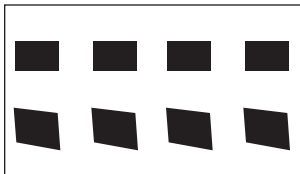**TYPE :** SQUARE, POLYGON
Select privacy zone shape.
MASK NO : MASK1 ~ MASK8
Select privacy zone mask number.
DISPLAY : ON, OFF
Turn ON or OFF the selected privacy mask zone.
COLOR : WHITE, GREEN, BLUE, RED, CYAN, MAGENTA, YELLOW, GRAY-1 ~ 6,
MOSAIC, BLACK. (Select privacy zone mask color)

POLY SELECT : L- TOPP, L- BOTTOM, R- TOP, R-BOTTOM
Change the shape of the polygon by selecting the corner of the polygon.
POSITION-X & POSITION-Y
Change the size of the selected corner from *"POLY SELECT"* menu.
SIZE-X & SIZE-Y
Change the size of the privacy square.
DEFAULT
Set privacy zone to default value.

```
EFFECT
  LENS SHADING     ON
 *GAMMA CORRECT    ON           >
      GAMMA CORRECTION OPTION
       *FRONT GM EN     DEFAULT
        REAR GM EN
        REAR GM INV     DEFAULT
        BAY LUT EXTEND  UNIFORM
        BAY LUT EXTEND  UNIFORM
        Y LUT EXTEND    UNIFORM
        BYLUT XSAMPLE    64X256LUT
        RGBLUT XSAMPLE   64X256LUT
        RETURN
```

Camera image control can be adjusted from EFFECT menu.

LENS SHADING : ON, OFF

Optical vignetting issue can be corrected from this menu.

GAMMA CORRECT : ON, OFF (1.0)

Gamma level can be adjusted.

- **Y LUT EXTEND :** UNIFORM, EXTEND-F2C

  Tuning and engineering purpose LUT correction.
- **BYLUT XSAMPLE :** 64x256LUT, 32x256LUT, 64x256LUT, 128x256LUT, 256x256LUT

  Tuning and engineering purpose LUT correction.
- **RGBLUT XSAMPLE:** 64x256LUT, 32x256LUT, 64x256LUT, 128x256LUT, 256x256LUT

  Tuning and engineering purpose LUT correction.

```
EFFECT
  LENS SHADING     ON
  GAMMA CORRECT    ON           >
 *CONTRAST         11    ◄▬▬▬▬□►
  BRIGHTNESS       11    ◄▬▬▬▬□►
  SATURATION       12    ◄▬▬▬▬□►
  HUE              10    ◄▬▬▬▬□►
  EDGE ENHANCE     5     ◄▬▬□▬▬►
  AUTO SATURATION  MIDDLE
  AUTO EDGE        ON
  DEFAULT
  RETURN
```

- **CONTRAST** : 0 ~ 20 (Contrast level can be adjusted)
- **BRIGHTNES**S : 0 ~ 20 (Brightness level can be adjusted)
- **SATURATION** : 0 ~ 20 (Saturation level can be adjusted)
- **HUE** : 0 ~ 20 (Hue level can be adjusted)
- **EDGE ENHANC**E : 0 ~ 20 (Image sharpness level can be adjusted)
- **AUTO SATURATE** : OFF, LOW, MIDDLE, HIGH

  Decrease saturation automatically when noisy scene is detected.
- **AUTO EDGE** : ON, OFF

  Decrease edge enhancement (sharpness) automatically when noisy scene is detected.
- **DEFAULT** : See *Effects* menu to default value.

```
SPECIAL
*DZOOM            OFF
 DEFOG            OFF
 DWDR             OFF
 MOTION DETECT    OFF
 BACKLIGHT        OFF
 BINNING          OFF
 DEFECT PIXEL     ON         ›
 DISP. FUNCTION              ›
 FLICKER DETECT   OFF
 PRIVACY                     ›
 RETURN
```

```
D-ZOOM
*ZOOM CONTROL               ›
 PIP              OFF
 PIP SIZE         1/16
 PIP POSITION               ›
 DZOOM SAVE
 DEFAULT
 RETURN
```

Camera special functions can be adjusted from SPECIAL menu.

D ZOOM : ON, OFF (Digital Zoom and PIP function can be enabled from this menu)

- **ZOOM CONTROL :** RATIO, POSITION, RETURN
  Adjust the digital zoom ratio and position.
  Use LEFT / RIGHT button to adjust the ratio, then press select.
  USE LEFT / RIGHT/ UP / DOWN button to adjust the image position, then press select.
  Press select to exit.
- **PIP :** ON, OFF (Turn ON or OFF the PIP window)
- **PIP SIZE :** 1/16, 1/25 (Change the size of PIP window)
- **PIP POSITION :** POSITION, RETURN (Adjust the PIP window location)
  USE LEFT / RIGHT/ UP / DOWN button to adjust the image position,then press select.
  Press select to exit.
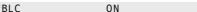- **DEFAULT :** Set privacy zone to default value.

```
DEFOG SETUP
*STRENGTH        4   ◄■■■■■□►
 THRESHOLD
 AUTO LEVEL
 RETURN
```

DEFOG : ON, OFF, AUTO

"DEFOG" menu improves foggy image.

- **STRENGTH :** 0 ~ 16
  Change defog strength.
- **THRESHOLD :** 0 ~ 3
  Threshold value sets minimum sensitivity value for automatic defog control.
  Higher value makes defog-on control reluctant.
- **AUTO LEVEL :** LOW, MID, HIGH
  Auto level value sets maximum strength value for automatic defog control.
  Higher value makes defog effect to be stronger.

```
BACKLIGHT - BLC
*BLC            ON
 SIZE/POSITION
 DISPLAY        ON
 DEFAULT
 RETURN
```

DIS : Digital image stabilization can be turned ON or OFF.

BACK-LIGHT : OFF, BLC, HLM - Camera back-light compensation can be adjusted.

BLC : OFF, ON - BLC enables back light compensation.

- **SIZE/POSITION** : SIZE, POSITION, RETURN
  Adjust BLC area window size.
- **DISPLAY** : OFF, ON
  BLC area display can be turned ON or OFF
- **DEFAULT** : Set BLC menu to default value.

```
BACKLIGHT - HLM
  AREA              ON
 *AREA DISPLAY      ON
  SIZE/POSITION             >
  LEVEL             3    ◀▮■■■▶
  BLACK MASK        ON
  DEFAULT
  RETURN
```

HLM : OFF, ON
HLM can be adjusted.

- **AREA DISPLAY :** ON, OFF
  HLM AREA DISPLAY can be turned ON or OFF.
- **SIZE/POSITION :** SIZE, POSITION, RETURN
  Adjust BLC area window size.
- **LEVEL :** 0 ~ 20
  Amount of masking area can be adjusted.
- **BLACK MASK :** OFF, ON
  Masking area highlight can be turned ON or OFF.
- **DEFAULT :** Set HLM menu to default value.

```
DEFECT PIXEL
 *STATIC PROGRESS    PRESS OK
  SDPC UPDATE        PRESS OK
  SDPC CLEAR         PRESS OK
  RETURN
```

BINNING : OFF, ON
Binning can be turned ON or OFF.
DEFECT PIXEL : OFF, ON, ON (FIXED), STATIC
Defective Pixel Correction feature can be operated. It is turned ON by default and will run both dynamic and static *DPC* function.

```
DISPLAY FUNCITON
*FREEZE          OFF
 MIRROR          MIRROR
 IMAGE EFFECT    NEGATIVE
 ROTATION        ROT
 PICTURE STYLE   VIVID
 RETURN
```

DISPLAY FUNCTION : OFF, ON

Adjust image display features from this menu.

- **FREEZE :** OFF, ON

  Image freeze can be turned ON or OFF.
- **MIRROR :** OFF, MIRROR, V-FLIP, BOTH(H/V) Image mirror or flip can be operated.
- **IMAGE EFFECT :** OFF, NEGATIVE, GREY MODE, REDDISH-1 ~ 4,

  BLUISH-1 ~ 4, GREENISH-1 ~ 4.ROTATION : OFF, ROT_L 1:1

  Several color effects can be applied.
- **ROTATION :** OFF, ROT_L FULL, ROT_L 1:1, ROT_R Full, ROT_R 1:1

  Image can be rotated either left or right side.
- **PICTURE STYLE :** OFF, STANDARD, VIVID, CLEAR, VIVID CLEAR, NEUTRAL

  Different types of picture style can be applied.

```
SPECIAL
 DZOOM
 DEFOG           OFF
 DIS             OFF
 BACKLIGHT       OFF
 BINNING
 DEFECT PIXEL    OFF
 DISP. FUNCTION  RT      ZOOM
*FLICKER DETECT  ON
 RETURN
```

FLICKER DETECT : OFF, ON

"FLICKER DETECT" mode provides a proper image sensor frequency
to match the power frequency in order to minimize video flicker.

```
SETUP
*CAM TITLE      OFF
 RS485                      >
 MENU COLOR                 >
 FACTORY RESET              >
 SYSTEM INFO                >
 OUTPUT FORMAT   1080P60    >
 RETURN
```

Camera setup can be adjusted from this menu.

CAM TITLE : OFF, ON

Camera title can be turned ON or OFF.

RS-485 :

VISCA communication control can be adjusted.

- **CAM ID :** 0 ~ 7
  Camera ID can be setup.
- **ID DISPLAY :** OFF, ON
  Camera ID can be setup.
- **BAUDRATE :** 2400, 4800, 9600, 19200, 38400
  Camera baudrate can be set.

SYSTEM INFO : ON, OFF, AUTO

Camera information can be found under this menu.

OUTPUT FORMAT : ON, OFF, AUTO

Camera resolution and frame rate can be set

MENU COLOR :

OSD menu color can be adjusted.

Supported formats are:
* 1080p by default

4K2160P - 30 / 29.97 25 / 24	**1080P** - 60 / 59.94 50 30/ 29.97 / 25 / 24	**1080I** - 60 / 59.94 / 50 **720P** - 60 / 59.94 / 50

AUDIO

Audio input [MIC or LINE] can be selected, and level can be adjusted under this menu.

VIDEO

Image Sensor	1/1.7" Progressive CMOS
Sensor Size	Diagonal 9.93mm(17:9)
Effective Pixels	Horizontal: 4096, Vertical: 2160
Pixel Size	1.85 µm x 1.85 µm
Resolution	4096 x 2160, 3840 x 2160,
	1920 x 1080, 1280 x 720
Resolution Rate	4K (4096 X 2160) 60/59.94/50/30/29.97/25/24
	3840p 60/59.94/50/30/29.97/25/24p
	1080p 60/59.94/50/30/29.97/25p/24p
	1080i 60/59.94/50i
	720 60/59.94/50p
Output	HDMI 2.0
Color Space	4:2:2 (YCbCr) 10bit

LENS

Lens	C/CS Mount
	(with 4K 3.6mm - 11mm varifocal lens)

AUDIO INPUT

Input	3.5mm TRS Stereo
	Mic-in & Line in over I/O Cable
Sample Rate	16/24/32 Bits

STANDARD

SMPTE	SMPTE 292M, SMPTE 424M

PHYSICAL

Camera Control	RS-485 VISCA, OSD Button
Operation Temp	15° F - 120° F
Dimension	51mm x 51m x 102mm / 2.01" x 2.01" x 4.01"
Weight	384g / 0.84lbs
Power	12VDC (+9 - +15VDC)

Specification are subject to change without notice.

Visit us:

www.aidaimaging.com/support

E-mail us:

support@aidaimaging.com

Give us a Call:

Toll Free: 844.631.8367 | **Tel:** 909.333.7421

Operating Hours: Mon-Fri | 8:00am – 5:00pm PST

AIDA
IMAGING