AIDA
IMAGING

HD-100
HD HDMI POV Camera

Operation Guide
Ver. 1.0 / JUNE 2019

$\boxed{\normalsize \text{⚡}}$	**CAUTION**	$\boxed{\normalsize \text{!}}$
	RISK OF ELECTRIC SHOCK. DO NOT OPEN.	

CAUTION:

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Warning
This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.

Precaution
This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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, fire, electric shock, or damage to the product.
3. Do not connect multiple cameras to a single adapter. Exceeding the capacity may cause excessive heat or fire.
4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.

6. 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.
7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.
8. 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.
9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way.
10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.
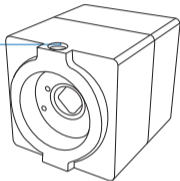
Precaution

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

BACK

Tripod
Mounting
Hole

AUTO IRIS Lens
Connector

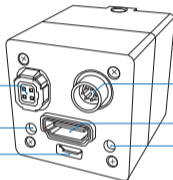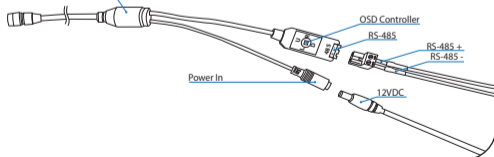I/O: Power, OSD
RS-485

POWER LED

HDMI OUT

SVC

HDMI LED

I/O Connector Cable

OSD Controller

RS-485

RS-485 +
RS-485 -

Power In

12VDC

- Full HD Progressive Scan sensor captures sharp and vivid color under different light conditions.
- Advanced digital image processor provides vivid and detailed imaged by utilizing WDR, White Balance, and Noise Reduction.
- Motion-compensated temporal noise reduction filter leads to effective noise reduction for motion video without blur.
- HDMI seamless video performance.
- Black Level Set-up provides the better color transition from digital to analog.
- Auto White Balance and shutter speed provides the optimized performance in a variety of situations.
- Built-in OSD controls for customizable image settings.
- Versatile, compact, and rugged design.

```
MAIN MENU

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

❶ Move the Cursor Up/Down to Choose Menu

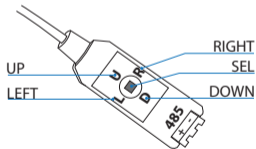*To move from item to item in the menu, move the joystick to the Up/Down.*

❷ Change the Value

To change the value of the selected item, move the joystick to the Left/Right.

❸ 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.

RIGHT
SEL
UP
LEFT
DOWN
485

```
      WB CONTROL
 ★ MODE              ATW
    PUSH
    BLUE
    RED
 RETURN
```

AWB
Auto white balance mode will adjust white balance within
3,000ºK ~ 8,000ºK temperature.

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

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.

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

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

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

```
   AE CONTROL

 * AE MODE        AUTO
   SHUTTER
   IRIS
   AGC
   AGC MAX        13   ◄▭▭▭►
   SENS UP        OFF
   AE BRIGHT      7    ◄▭▭▭►
 FLK CONTROL      OFF
 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.

```
    AE CONTROL
  ★ AE MODE        AUTO
    SHUTTER
    IRIS
    AGC
    AGC MAX        13  ▭▭▭
    SENS UP        OFF
    AE BRIGHT      8   ▭▭▭
  FLK CONTROL      OFF
  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** : 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** : 0~10
  Auto Exposure brightness level can be adjusted.

```
        AE CONTROL
  ★ AE MODE        AUTO
      SHUTTER
      IRIS
      AGC
      AGC MAX      13  ▭
      SENS UP      OFF
      AE BRIGHT    8   ▭
    FLK CONTROL    OFF
    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.

```
        AE CONTROL
  ★ AE MODE          AUTO
     SHUTTER
     IRIS
     AGC
     AGC MAX         13    ▭▭▭
     SENS UP         OFF   ◁▭▭▷
     AE BRIGHT       8     ▭▭▭
  FLK CONTROL        OFF
  RETURN
```

➤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.

```
    DAY & NIGHT
 * MODE          DAY (COLOR)
   NIGHT COLOR
   COLOR BURST
   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)

```
   IMAGE CONTROL
LENS SHADING      OFF
CONTRAST          11
BRIGHTNESS        11
SATURATION        10
HUE               0
EDGE ENHANCE      5
AUTO SATURATE     MIDDLE
AUTO EDGE         ON
BLACK LEVEL       0
★ GAMMA CORRECT   DEFAULT
DNR
RETURN
```

Camera image control can be adjusted from EFFECT menu.

>**LENS SHADING** : ON, OFF
Optical vignetting issue can be corrected from this menu.

>**BLACK LEVEL** : -64 ~ 64
Gamma level can be adjusted.

>**GAMMA CORRECT**: DEFAULT, 0.4 ~ 1.0
Gamma level can be adjusted.

>**DNR**
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.

```
      IMAGE CONTROL
  LENS SHADING      OFF
★ CONTRAST          11 ▭▭▭▭
  BRIGHTNESS        11 ▭▭▭▭
  SATURATION        10 ▭▭▭▭
  HUE               0  ▭▭▭▭
  EDGE ENHANCE      5  ▭▭▭▭
  AUTO SATURATE     MIDDLE
  AUTO EDGE         ON
  BLACK LEVEL       0  ▭▭▭▭
  GAMMA CORRECT     DEFAULT
  DNR
  RETURN
```

> CONTRAST : 0 ~ 20
  Contrast level can be adjusted.
> BRIGHTNESS: 0 ~ 20
  Brightness level can be adjusted.
> SATURATION : 0 ~ 20
  Saturation level can be adjusted.
> HUE: 0 ~ 20
  Hue level can be adjusted.
> EDGE ENHANCE : 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
  Set EFFECT menu to default value.

Camera special functions can be adjusted from SPECIAL menu.

```
      SPECIAL

  ★ DZOOM          ON        >
    DEFOG          OFF
    DWDR           OFF
    MOTION DETECT  OFF
    BACKLIGHT      OFF
    BINNING        OFF
    DEFECT PIXEL   ON        >
    DISP. FUNCTION           >
    FLICKER DETECT ON
    PRIVACY                  >
    RETURN
```

```
      D-ZOOM

  ★ ZOOM CONTROL            >
    PIP            OFF
    PIP SIZE       1/16
    PIP POSITION             >
    DZOOM SAVE
    DEFAULT
    RETURN
```

DZOOM : 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,
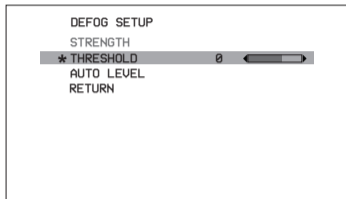 *then press select.*
  Press select to exit.

> **DEFAULT**
  Set privacy zone to default value.

```
DEFOG SETUP
STRENGTH
★ THRESHOLD        0  ⟨▭▭▭  ⟩
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.*

DWDR
Wide Dynamic range can be adjusted from the sub menu.

MOTION DETECT
Camera can detect a motion within the selected areas.

```
   BACKLIGHT - BLC
 ★ BLC              ON
   SIZE/POSITION
   LEVEL            128 ◄────►
   DISPLAY          ON
   DEFAULT
   RETURN
```

```
   BACKLIGHT - HLM
   AREA
 ★ AREA DISPLAY     ON
   SIZE/POSITION       >
   LEVEL            3 ◄────►
   BLACK MASK       ON
   DEFAULT
   RETURN
```

BACKLIGHT : OFF, BLC, HLM
Camera backlight compensation can be adjusted.

BLC : OFF, ON
BLC enables back light compensation.

> **SIZE/POSITION** : SIZE, POSITION, RETURN
Adjust BLC area window size.

> **LEVEL**
Backlight level compensation level can be adjusted from this menu.
Higher level will compensate more from the selected area.

> **DISPLAY** : OFF, ON
BLC area display can be turned ON or OFF.

> **DEFAULT**
Set BLC menu to default value.

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 of 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 FUNCTION
★ FREEZE          OFF
  MIRROR          OFF
  IMAGE EFFECT    OFF
  ROTATION        OFF
  PICTURE STYLE   OFF
  PIC CONTRAST
  PIC SATURATION
  PIC EDGE
  RETURN
```

DISPLAY FUNCTION
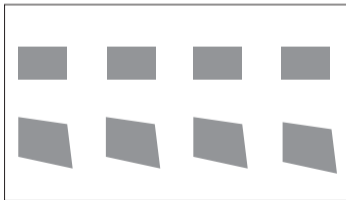
Adjust image display features from this menu.

➤ 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.
   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.

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

PRIVACY

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-TOP, 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.

```
    SETUP
  * CAM TITLE      OFF
    COMMUNICATION              >
    SYSTEM INFO                >
    OUTPUT FORMAT   1080P30     >
    RETURN                     >
                               >
```

Camera setup can be adjusted from this menu.

> **CAM TITLE** : OFF, ON
  Camera title can be turned ON or OFF.

> **COMMUNICATION**
  VISCA communication control can be adjusted.

  > **CAM ID**: 0 ~ 7
    Camera ID can be setup.

  > **ID DISPLAY**: OFF, ON
    Camera ID can be displayed.

  > **BAUDRATE**: 2400, 4800, 9600, 19200, 38400
    Camera baudrate can be set.

> **SYSTEM INFO**
  Camera information can be found under this menu.

> **OUTPUT FORMAT**
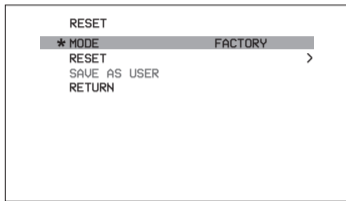 *Camera resolution and frame rate can be set.*
  1080p by default.
  Supported formats are:

1080P	*60 / 59.94 / 50 / 30 / 29.97 / 25 / 24*
1080i	*60 / 59.94 / 50*
720P	*60 / 59.94 / 50*

RESET

★ MODE	FACTORY
RESET	>
SAVE AS USER	
RETURN	

MODE : FACTORY, USER
Camera will reset to factory default or user saved value.
RESET
Reset the camera to the selected mode.
SAVE AS USER
Save the user desired setting from the menu. Mode must be set to User.

Image Sensor	1/3 inch Progressive CMOS
Sensor Size	Diagonal 7.2mm(17:9)
Effective Pixels	Horizontal: 1920, Vertical: 1080
Pixel Size	2.75 µm (H) x 2.75 µm (V)
Resolution	1080p / 1080i : 1920 x 1080 720p : 1280 x 720
Frame Rate	1080p : 60 / 59.94 / 50 / 30 / 29.97 / 25 / 24 1080i : 60 / 59.94 / 50 720p : 60 / 59.94 / 50
Video Signal Output	HDMI 1.3a
White Balance	AWB/AE/AF
Lens	C / CS Mount (Default 4mm Lens)
Audio Input	3.5mm Stereo Mic-in & Line in over I/O Cable
Audio Sample Rate	16/24/32 Bits
Color Space	4:2:2(YCbCr) 10bit
Camera Control	OSD Control Button / via RS-485
Operation Temperature	32°F - 104°F
Dimension & Weight	39mm x 39mm x 50.50mm/ 1.53" x 1.53" x 1.99" 140 g / 0.3 lbs
Power Requirements	6W at 12VDC (+9 - +15VDC)

Specifications are subject to change without notice

AIDA
IMAGING

Disposal of Old Appliances

1. When this crossed-out wheel bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately form the municipal waste stream stream in accordance to laws designated by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful inte rference in which case the user will be required to correct the interfernece at his own expense.