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. 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.
5. When installing the camera, fasten it securely and firmly. A falling camera may cause personal injury.
Warning continues

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.

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.
• 2.1 Megapixel CMOS progressive sensor provides superb image quality and excellent color reproduction.
• SMPTE 292M & 424M standard high definition video format including 59.94Hz.
• ‘Self-Adaptive’ resolution and frame rate feature allows camera to self-adopt to the external reference sync signal.
• Highly compatible with Tri Level reference.
• Versatile, compact and rugged design.
• Built in OSD control button & control via SONY VISCA protocol.
• Embedded audio via SDI & HDMI.
• Wide range of white balance.
• High Dynamic Range & Noise Reduction.
• Simultaneous SDI and HDMI Output.

### FEATURES

**MENU OPERATION**

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.
OSD MENU

**MENU**
- *LENS*  
  DC IRIS  
- WB CONTROL  
  ATW  
- EXPOSURE  
  AUTO  
- BACKLIGHT  
- DAY/NIGHT  
  COLOR  
- AUDIO  
  OFF  
- GENLOCK  
- IMAGE CONTROL  
- SPECIAL  
- RESET  
- EXIT

**LENS**
- DC IRIS  
  MANUAL IRIS

**WHITE BALANCE**
- AUTO  
  TW  
  SH  
  MANUAL

**EXPOSURE**
- AUTO  
  HUTTER PRI.  
  KER-LESS  
  MANUAL

**BLACK-LIGHT**
- SPOT  
  HDR  
  LC  
  OFF

**ACE**

**DAY/NIGHT**
- COLOR  
  HIGHT

**AUDIO MIC**
- MIC  
  IN  
  OFF

**GEN-LOCK**
- MODE, OUTPUT EN, H-SYNC, PHASE SET

**IMAGE CONTROL**
- CONTRAST, SATURATION, MIRROR, FLIP, D-ZOOM

**NOISE REDUCTION, GAMMA, FRAME RATE**

**SETTING**
- SOFTWARE VERSION, CAM ID, BAUDRATE, LANGUAGE, DEFECT DET

**RESET**
- SPOT  
  DR  
  OFF

**EXIT**
LENS

DC IRIS
Select “DC IRIS” when using the DC Iris lens (CS/C Mount).
Iris will be controlled by the camera.

MANUAL IRIS
Select “MANUAL IRIS” when using the manual iris lens (CS/C Mount).
Iris needs to be manually set from the lens.

WHITE BALANCE

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

- AUTO: Camera will automatically adjust the white balance if the color temperature falls within 3,000°K ~ 8,000°K.
- ATW: Wider range of color temperature than “AUTO” mode. Camera will automatically adjust the white balance if the color temperature falls within 1,900°K ~ 11,000°K.
- PUSH: Push mode is used if “AUTO” or “ATW” cannot produce the proper white balance. Place a white paper in front of the camera when using the “PUSH” mode to self-adopt.
- MANUAL: Manual mode has “COLOR TEMP”, “RED GAIN”, and “BLUE GAIN” options for user preferred settings.

* Adjust white balance using “AUTO” and “ATW” modes before using “PUSH” or “MANUAL” modes. White balance may not work properly if the camera is facing toward a light source.
Camera exposure level can be adjusted using four different modes.

AUTO
Auto mode will adjust the exposure level automatically. Detailed fine tuning options are available under this menu.

- **EXP. COMPENSATION**: 0~20
  Exposure level can be adjusted by the light meter.
- **GAIN**: AUTO, -3dB ~ +30dB
  Electronic brightness can be adjusted by “GAIN” control.
- **AGC LIMIT**: 0~20
  “AGC LIMIT” sets the maximum gain value to control the video noise caused by Auto Gain Control.
- **SHUTTER**: OUTDOOR, INDOOR, DE-BLUR
  Shutter speed is automatically controlled by the camera.
  Select “OUTDOOR” when camera is used in outdoor environment.
  Select “INDOOR” when camera is used in indoor environment.
  Select “DE-BLUR” when camera is used in indoor environment.
  Shutter value is increased and Iris is opened more than “INDOOR” mode.
- **AGC LIMIT**: OFF, x2, x4, x8, x16, x32, x64
  “SENS-UP” mode controls the digital slow shutter to allow extra light into the camera and adjust the picture quality.
Shutter priority mode provides more detailed shutter speed option. All other controls are tuned for the selected shutter speed.

- **EXP. COMPENSATION**: 0~20
  Exposure level can be adjusted by the light meter.
- **GAIN**: AUTO, -3dB ~ +30dB
  Electronic brightness can be adjusted by “GAIN” control.
- **AGC LIMIT**: 0~20
  “AGC LIMIT” sets the maximum gain value to control the video noise caused by Auto Gain Control.
- **SHUTTER**: 1/2 ~ 1/40,000
  Shutter speed can be set from this menu.
EXPOSURE-FLICKER

Flicker-less mode provides a proper image sensor frequency to match the power frequency in order to minimize video flicker.

- **EXP. COMPENSATION**: 0~20 (Exposure level can be adjusted by the light meter)
- **GAIN**: AUTO, -3dB ~ +30dB
  
  Electronic brightness can be adjusted by “GAIN” control.
- **AGC LIMIT**: 0~20
  
  “AGC LIMIT” sets the maximum gain value to control the video noise caused by Auto Gain Control.
- **SHUTTER**: AUTO (Shutter speed is automatically controlled by the camera)

* ‘FLICKER-LESS’ mode may not be suitable if camera is used in extreme bright environment.

EXPOSURE

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<tr>
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<th>MANUAL IRIS</th>
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<tbody>
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<td><em>EXPOSURE</em></td>
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<td>DAY/NIGHT</td>
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<td>SPECIAL</td>
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<td>RESET</td>
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<tr>
<td>EXIT</td>
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</tbody>
</table>

**EXPOSURE**

- **EXP. COMPENSATION**: 10
- **GAIN**: AUTO
- **AGC LIMIT**: 13
- **SHUTTER**: 1/90
Flicker-less mode provides a proper image sensor frequency to match the power frequency in order to minimize video flicker.

- **GAIN**: AUTO, -3dB ~ +30dB
  
  Electronic brightness can be adjusted by “GAIN” control.

- **SHUTTER**: 1/2 ~ 1/40,000
  
  Shutter speed is automatically controlled by the camera.
**BACK-LIGHT**

Camera provides multiple options for BACK-LIGHT requirements.

**SPOT**

“SPOT” is spot metering feature. It will evaluate the light around the focus point. Focus point can be adjusted by the following menu.

- AE HOR POS
- AE VER POS
- AE WIDTH
- AE HEIGHT

**HDR**: LOW, MIDDLE, HIGH

“HDR” reproduces a greater dynamic range for clear view of both bright and dark areas.

**BLC**: LOW, MIDDLE, HIGH ("BLC" mode will express darker area brighter.)

* Enabling “BLC” may cause overexposure in bright area.

ACE: LOW, MIDDLE, HIGH ("ACE" feature is digital HDR mode.) It utilizes “GAMMA” and “CONTRAST” to adjust both bright and dark image areas.

**DAY & NIGHT**

**DAY/NIGHT**

**COLOR**

Select “COLOR” mode to stay in color at all time.

**NIGHT**

Select “NIGHT” mode to stay in black and white mode.

* “COLOR” mode will not detect infrared light whereas “NIGHT” will detect infrared light for better visibility during extreme low light conditions.
AUDIO MIC

**AUDIO**

Camera supports external analog audio input (3.5mm). Audio will be embedded to both SDI and HDMI outputs.

MIC: Camera will receive MIC level audio input by selecting “MIC” mode.
- **AUDIO LEVEL**: -12dB ~ +59dB
  Audio level can be manually adjusted from this menu.
- **MIC ATTENUATION**: ON, OFF
  Audio input attenuation can be controlled from this menu to minimize the audio noise level.
- **SAMPLE RATE**: 16, 20, 24, 32
  Audio sample bit rate can be adjusted from this menu.

LINE: Camera will receive Line level audio input by selecting “LINE” mode.
- **AUDIO LEVEL**: -12dB ~ +59dB
  Audio level can be manually adjusted from this menu.
- **MIC ATTENUATION**: ON, OFF
  Audio input attenuation can be controlled from this menu to minimize the audio noise level.
- **SAMPLE RATE**: 16, 20, 24, 32
  Audio sample bit rate can be adjusted from this menu.
GEN-LOCK

Camera is equipped with an external Tri-Level reference signal input for seamless switching. Up to 3G-SDI reference signal can be accepted and camera will self-adjust to both resolution and frame rate based on the reference signal.

- **MODE**
  Enable or Disable the external reference signal.

- **OUTPUT EN**
  Enable or Disable the reference signal loop out.

- **H-SYNC PHASE**
  Adjust H-Sync pixel offset for a fine tuning.

- **PHASE SET**
  Enable “PHASE SET” to apply the changes made from “H-SYNC PHASE”.
Camera provides multiple options to adjust image quality.

- **CONTRAST**: 0 ~ 64
  “CONTRAST” controls the range between dark and bright areas.

- **SATURATION**: 0 ~ 20
  “SATURATION” sets the level of color vividness.

- **SHARPNESS**: 0 ~ 20
  Image outline or edges will be clearer and pronounced.

- **MIRROR**: ON, OFF
  Image is rotated horizontally.

- **FLIP**: ON, OFF
  Image is rotated horizontally.

- **D.ZOOM**: 1.0X ~ 16.0X
  Digitally zoom in to an area up to 16 times.

- **NOISE REDUCTION**: OFF, LOW, MIDDLE, HIGH
  Reduce noise level at low ambient light.

- **GAMMA**: LOW, MIDDLE, HIGH, STANDARD, STRAIGHT
  Gamma curve can be adjusted from this menu.

- **FRAME RATE**
  Camera provides 14 different resolution and frame rate settings.
  - 1080p25 / 29.97 / 30 / 50 / 59.94 / 60
  - 1080i50 / 59.94 / 60
  - 720p25 / 30 / 50 / 59.94 / 60
## Setting

Camera software and remote control information is under this menu. You can remotely access the features via RS485.

- **Software Version**
  Camera software information.

- **CAM ID**: 0~255
  Set camera ID for remote camera control access.

- **BAUDRATE**: 2,400 ~ 115,200
  Set baud rate for remote camera control access.

- **LANGUAGE**:
  Camera menu language can be set to either English or Chinese.

- **DETECT DET**: Camera provides an auto pixel correction.
  
  * Please consult with your authorized dealer or factory before using "DEFECT DET".

### Menu

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<th>Setting</th>
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### Setting

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<tr>
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<td>G.0.6.0</td>
</tr>
<tr>
<td>CAM ID</td>
<td>1</td>
</tr>
<tr>
<td>Baudrate</td>
<td>9600</td>
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<tr>
<td>Language</td>
<td>ENG</td>
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<tr>
<td>Detect DET</td>
<td>ON</td>
</tr>
<tr>
<td>Return</td>
<td></td>
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</tbody>
</table>
Camera setting can be defaulted to the “FACTORY” setting. User can also save the desired setting as the “USER” setting.

**CHANGE**
Before defaulting the camera setting, make sure to select the desired setting.

- **FACTORY**
  - Select “FACTORY” if factory default setting is needed.
  - *“FRAME RATE”, “CAM ID”, “BAUDRATE” will not change.*

- **USER** : Select “USER” if user saved setting is needed.
- **SAVE** : To save a user desired setting, Select “USER” from above menu and “SAVE”.

**ON**
Press the menu button from your controller to set the camera to either “FACTORY” or “USER”.
Make sure to select the right mode from “CHANGE” before defaulting the camera.
## VIDEO
- **Image Sensor**: 1/3" inch Progressive CMOS
- **Sensor Size**: 5.346mm x 3.003mm (16:9)
- **Effective Pixels**: Horizontal: 1920, Vertical: 1080
- **Pixel Size**: 2.75 µm x 2.75 µm
- **Resolution**: 1080p & 1080i: 1920 x 1080
  - 720p & 720i: 1280 x 720
- **Resolution Rate**: 1080 60p/59.94p/50p/30p/29.97p/25p
  - 1080 60i/59.94i/50i
  - 720 60p/59.94p/50p/30p/25p
- **Output**: HD-SDI/3G-SDI (1 BNC) / HDMI 1.3a
- **Color Space**: 4:2:2 (YCbCr) 10bit
- **Min. Illumination**: 0.2Lux (Day), 0.1Lux (Night), 0.005Lux (Slow Shutter ON)
- **White Balance**: Auto & Manual (9,000 K - 11,000 K)

## AUDIO INPUT
- **Input**: 3.5mm Analog Audio Input through I/O Cable
- **Sample Rate**: 16/24/32 Bits

## STANDARD
- **SMPTE**: SMPTE 292M, SMPTE 424M

## SYNCHRONIZATION
- **Gen-lock**: External Tri-Level Input

## PHYSICAL
- **Camera Control**: RS-485 VISCA, OSD Button
- **Operation Temp**: 32° F - 104° F
- **Dimension**: 49mm x 49m x 71mm / 1.92” x 1.92” x 2.79”
  - (With default 4mm Lens)
- **Weight**: 180g / 0.39lbs (With default 4mm Lens)
- **Power**: 6W at 12VDC (+9 - +15VDC)

*Specification are subject to change without notice.*
QUESTIONS

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
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 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 interference in which case the user will be required to correct the interference at his own expense.