



3G-SDI/HDMI FULL HD
Gen-lock Camera

GEN3G-200

OPERATION GUIDE

**CAUTION:**

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, 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.

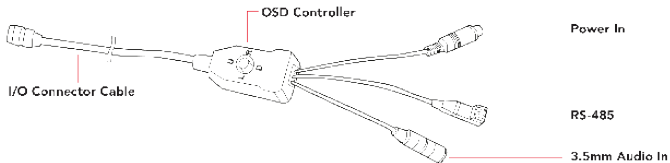
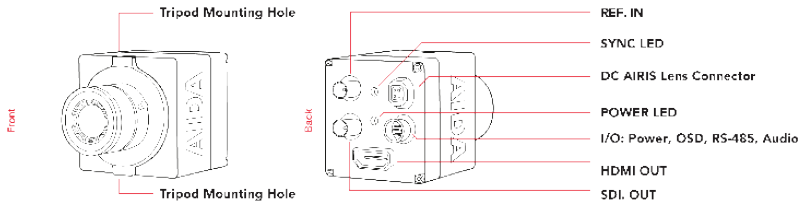
Warning continues

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

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.



FEATURES

- 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.

MENU OPERATION

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.

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 M◀IUAL

EXPOSURE

AUTO ◀BUTTER PRI. F◀KER-LESS MA◀AL

BLACK-LIGHT

SPOT ◀HDR ◀EC OFF

ACE

DAY/NIGHT

COLOR ◀NIGHT

AUDIO MIC

MIC ◀INE 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

MENU

*LENS	MANUAL IRIS	
WB CONTROL	ATW	
EXPOSURE	AUTO	
BACKLIGHT		>
DAY/NIGHT	COLOR	
AUDIO	OFF	
GENLOCK		>
IMAGE CONTROL		>
SPECIAL		>
RESET		
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.

MENU

LENS DC IRIS

*WHITE BALANCE

WB BALANCE

*COLOR TEMP	5000K	
RED GAIN	32	
BLUE GAIN	32	
RETURN		

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.

MENU

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

EXPOSURE

*EXP. COMPENSATION	10	
GAIN	AUTO	
AGC LIMIT	13	
SHUTTER	AUTO	
SENS-UP	OFF	
RETURN		

EXPOSURE

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.

MENU

LENS	MANUAL IRIS
WB CONTROL	ATW
*EXPOSURE	SHUTTER PRI
BACKLIGHT	>
DAY/NIGHT	COLOR
AUDIO	OFF
GENLOCK	>
IMAGE CONTROL	>
SPECIAL	>
RESET	
EXIT	

EXPOSURE

*EXP. COMPENSATION	10	◀		▶
GAIN	AUTO			
AGC LIMIT	13	◀		▶
SHUTTER	1/90			
RETURN				

EXPOSURE

SHUTTER PRI.

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.

MENU

LENS	MANUAL IRIS
WB CONTROL	ATW
*EXPOSURE	FLICKER
BACKLIGHT	>
DAY/NIGHT	COLOR
AUDIO	OFF
GENLOCK	>
IMAGE CONTROL	>
SPECIAL	>
RESET	
EXIT	

EXPOSURE

*EXP. COMPENSATION	10	◀		▶
GAIN	AUTO			
AGC LIMIT	13	◀		▶
SHUTTER	1/90			
RETURN				

EXPOSURE

FLICKER-LESS

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.

MENU

LENS	MANUAL IRIS	
WB CONTROL	ATW	
*EXPOSURE	MANUAL	
BACKLIGHT		>
DAY/NIGHT	COLOR	
AUDIO	OFF	
GENLOCK		>
IMAGE CONTROL		>
SPECIAL		>
RESET		
EXIT		

EXPOSURE

MANUAL

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.

EXPOSURE

*GAIN	2	◀ [] ▶
SHUTTER	1/90	
RETURN		

BACK-LIGHT

MENU	
LENS	MANUAL IRIS
WB CONTROL	ATW
EXPOSURE	MANUAL
*BACKLIGHT	>

BACK LIGHT

*BACK LIGHT	SPOT
ACE	OFF
RETURN	

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

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

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.

```

MENU
  LENS          MANUAL IRIS
  WB CONTROL    ATW
  EXPOSURE      MANUAL
  BACKLIGHT     >
  DAY/NIGHT     COLOR
  *AUDIO        MIC
  GENLOCK       >
  IMAGE CONTROL >
  SETTING       >
  RESET
  EXIT

```

```

AUDIO MIC
  *AUDIO LEVEL  +20dB
  MIC ATTENUATION OFF
  SAMPLE RATE   24 RATE
  RETURN

```

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.

```

MENU
  LENS          MANUAL IRIS
  WB CONTROL    ATW
  EXPOSURE      MANUAL
  BACKLIGHT     >
  DAY/NIGHT     COLOR
  AUDIO         MIC
  *GENLOCK      >
  IMAGE CONTROL >
  SETTING       >
  RESET
  EXIT

```

```

GENLOCK
*MODE      ON
OUTPUT EN  ON
H-SYNC PHASE 0
PHASE SET  ON
RETURN

```

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".

MENU

LENS	MANUAL IRIS	
WB CONTROL	ATW	
EXPOSURE	MANUAL	
BACKLIGHT		>
DAY/NIGHT	COLOR	
AUDIO	MIC	
GENLOCK		>
*IMAGE CONTROL		>
SETTING		>
RESET		
EXIT		

IMAGE CONTROL



*CONTRAST	11	
SATURATION	10	
MIRROR	OFF	
FLIP	OFF	
D ZOOM	1.0X	
NOISE REDUCTION	LOW	
GAMMA CORRECT	DEFAULT	
FRAME RATE	HD1080P60	
RETURN		

IMAGE CONTROL

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

MENU	
LENS	MANUAL IRIS
WB CONTROL	ATW
EXPOSURE	MANUAL
BACKLIGHT	>
DAY/NIGHT	COLOR
AUDIO	MIC
GENLOCK	>
IMAGE CONTROL	>
*SETTING	>
RESET	
EXIT	

SETTING

*SOFTWARE VERSION	G.0.6.0
CAM ID	1
BAUDRATE	9600
LANGUAGE	ENG
DETECT DET	ON
RETURN	

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.
Camera supports SONY VISCA and PELCO protocols.
- 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

LENS	MANUAL IRIS	
WB CONTROL	ATW	
EXPOSURE	MANUAL	
BACKLIGHT		>
DAY/NIGHT	COLOR	
AUDIO	MIC	
GENLOCK		>
IMAGE CONTROL		>
SETTING		>
*RESET		
EXIT		

REESET

*MODE	FACTORY
RESET	
SYSTEM INFO	
SAVE AS USER	
RETURN	

RESET

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 μ m x 2.75 μ m
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)
LENS	
Lens	CS Mount (Default 4mm HD Lens)

AUDIO INPUT

Input	3.5mm Analog Audio Input through I/O Cable
Sample Rate	16/24/32 Bits

STANDARD

SMPTE	SMPTE 292M, SMPTE 424M
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SYNCHRONIZATION

Gen-lock	External Tri-Level Input
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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:

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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 from 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.

가자채 영림(유동영) : POV Camera
인증번호 : 88-aID-HD-100A
인증 받은 자의 상호 : (주)에이저블러스텍
제조년월 :
제조자/제조국가 : (주)에이저블러스텍 / 한국



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.