

Broadcast A/V Division

CV226

Lipstick HD Camera 3G/HD-SDI



User Manual

[Firmware Version 0.43]

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1. General Information

Thank you for your purchase of a Marshall Miniature or Compact Camera.

The Marshall Camera team recommends thoroughly reading this guide for a deep understanding of on-screen-display (OSD) menus, breakout cable operation, settings adjustment explanation, troubleshooting, and other critical information.

Please carefully remove all contents of box, which should include the following components:

CV226 includes:

- Camera with breakout cable (Power/RS485/Audio)
- 12V Power Supply

The CV226 Camera utilizes an all-weather rated body with IP67 rated CAP that can be removed (rotate counter-clockwise) to reveal M12 lens which also can be rotated to adjust fine-focus position of lens on lens mount. Also, can be swapped out with other M12 lenses containing specific focal lengths to change AOV.

Each camera comes set to default at 1920x1080p @ 30fps out of the box, which can be changed in the OSD Menu to a variety of resolutions and framerates.

> To RESET Camera to default settings (1920x1080p30fps) power-cycle the camera then use the following combo on OSD Joystick: UP, DOWN, UP, DOWN, then push and HOLD joystick in for 5 seconds then release.

2. Menu Structure

Setup	Sub Menu	Sub Menu		
	AUTO			
	ATW			
	PUSH			
WB CONTROL		COLOR TEN	COLOR TEMPERATURE	
	MANUAL	RED	GAIN	
		BLUE GAIN		
	AUTO	BRIGHTNESS	0~20	
	MANUAL	AGC LIMIT	0~20	
AE CONTROL (EXPOSURE)	SHUTTER		NORMAL	
	FLICKERLESS	SHUTTEN	DEBLUR	
		DSS	OFF, X2~32	
		WI	DR	
	BACK LIGHT	BL	_C	
		SP	OT	
BACK LIGHT	ACE	LOW, MIDI	DLE, HIGH	
	ECLIPSE	LEVEL		
	ECEIFSE	COLOR		
	RANGE	10%, 20%, 30%		
IMAGE STABILIZER	FILTER	LOW, MIDDLE, HIGH		
	AUTO C	OFF, HALF, FULL		
	COLOR LEVEL	0~20		
	SHARPNESS	0~	20	
	MIRROR	ON, OFF		
	FLIP	ON, OFF		
	D-ZOOM	1.0X ~ 16.0X		
	DEFOG	AUTO		
		MANUAL		
IMAGE CONTROL	DNR	OFF, LOW, M	IDDLE, HIGH	
	MOTION	DET W	NDOW	
		SENSITIVITY	0~20	
		MOSTION OSD	ON, OFF	
	SHADING	0~10	00%	
	BLACK LEVEL	0~	32	
	GAMMA	0.3~0.8		
	FRAME RATE			

Setup	Sub Menu	Sub Menu
	CAM VERSION	
	CAM TITLE	
	PRIVACY	
DISPLAY CONTROL	CAM ID	0~255
	BAUDRATE	2400~115200
	LANGUAGE	ENG, CHN
	DEFECT DET	
RESET	ON/CHANGE	USER/FACTORY
EXIT		

3. WB CONTROL _____

Select WB CONTROL using the UP or DOWN button. You can change between AUTO, ATW, PUSH, and MANUAL using the LEFT or RIGHT button



- AUTO: Controls the automatic adjustment of the light source's color temperature to 3,000 ~ • 8,000°K.
- **ATW:** Continuously adjusts camera color balance in accordance with any change in color temperature. Compensates for color temperature changes within the range of 1,900 ~ 11,000°K.
- **PUSH:** Color temperature will be manually adjusted by pushing the OSD button. Place the white paper in front of the camera when OSD button is pressed to Obtain the optimum result.
- **MANUAL:** Select this fine-tune White Balance manually. •

You can adjust the blue and red tone level manually.

- **COLOR TEMP:** Select color temperature from LOW, MIDDLE, or HIGH. »
- BLUE GAIN: Adjust the Blue tone of the image. »
- **RED GAIN:** Adjust the Red tone of the image. »

Adjust White Balance first by using the AUTO or ATW mode before switching to MANUAL mode.

White Balance may not work properly under the following conditions. In this case, select the ATW mode.

- When the ambient illumination of the subject is dim.
- If the camera is directed towards a fluorescent light or is installed in place where illumination changes dramatically, White Balance operation may become unstable.

4. AE CONTROL

Select AE CONTROL using the UP or DOWN button. You can select the AUTO, MANUAL, SHUTTER, or FLICKERI FSS mode from the sub menu.

MENU	
WB CONTROL	ATW
AE CONTROL	
BACK LIGHT	
IMAGE STABILIZER	OFF
IMAGE CONTROL	
DISPLAY CONTROL	
RESET	ON
EXIT	

- MODE: Select the desired exposure mode.
 - » AUTO: Exposure level is automatically controlled.
 - MANUAL: Adjust BRIGHTNESS, GAIN, SHUTTER, and DSS manually.

 - » FLICKERLESS: Shutter and DSS is controlled automatically.
- **BRIGHTNESS:** Adjust the brightness level.
- the usable level.

Camera will raise up the gain to the selected gain limit under dark conditions.

- **SHUTTER:** Controls the shutter speed.
- light level. Slow shutter speed limited to x32.



AE CONTROL MODE BRIGHTNESS AGC LIMIT DSS RETURN

AUTO 10 ||.....| 13 ||.....| AUTO OFF

SHUTTER: Shutter can be set manually and DSS is controlled automatically.

• AGC LIMIT: Controls the amplification/gain process automatically if the illumination falls under

DSS: When luminance condition is low, DSS can adjust the picture quality by maintaining the

5. BACK LIGHT

Select BACK LIGHT using the UP or DOWN button. You can select the BACK LIGHT, ACE, or ECLIPSE mode from the sub menu.

			~
MENU		BACK LIC	зНТ
WB CONTROL	ATW	BACK LIGHT	WDR
AE CONTROL		ACE	LOW
BACK LIGHT		 ECLIPSE	ON
IMAGE STABILIZER	OFF	RETURN	
IMAGE CONTROL			
DISPLAY CONTROL			
RESET	ON		
EXIT			

- **BACK LIGHT:** Allows the camera to adjust the exposure of the entire image to properly expose the subject in the foreground.
 - » WDR: Enables user to view both object and background more clearly when background is too bright.
 - **BLC:** Enables a back light compensation feature. »
 - **SPOT:** Enables a user to select a desired area on a picture and view the area more clearly » when background is too bright.
- ACE: Brightness correction of the dark image area.
- ECLIPSE: Highlight the bright area with a masking box with a selected color.

6. IMAGE STABLIZER _____

Select IMAGE STABILIZER using the UP or DOWN button. You can select the RANGE, FILTER, and AUTO C from the sub menu.

MENU	
WB CONTROL	ATW
AE CONTROL	
BACK LIGHT	
IMAGE STABILIZER	OFF
IMAGE CONTROL	
DISPLAY CONTROL	
RESET	ON
EXIT	

- Correction.
- Vibration, Half = Minor Vibration.

		IMAGE STABLIZER	
	RANGE	30%	
	FILTER	MIDDLE	
	AUTO C	FULL	
•	RETURN		

• IMAGE STABILIZER: Reduces image blurriness due to vibration caused by hand shake or camera movement. The image will be digitally zoomed in to compensate the shifted pixels.

» **RANGE:** Set the digital zoom level for image stabilizing. Max 30% = x1.4 Digital Zoom.

» **FILTER:** Select the level of correction hold filter for the worst case of image. High = Less

» AUTO C: Select the image auto centering level according to a vibration type. Full = Severe

7. IMAGE CONTROL

Select IMAGE CONTROL using the UP or DOWN button. You can adjust all image related features from the sub menu.

MENU		IMAGE CON	TROL
WB CONTROL AE CONTROL BACK LIGHT IMAGE STABILIZER IMAGE CONTROL DISPLAY CONTROL	ATW OFF	COLOR LEVEL SHARPNESS MIRROR FLIP D-ZOOM DEFOG	15 10 OFF OFF 1.0X OFF
RESET EXIT	ON	DNR MOTION SHADING BLACK LEVEL GAMMA FRAME RATE RETURN	LOW OFF OFF 0 0.55 HD1080p60

- COLOR LEVEL: Adjust the color level value for a fine color tune. •
- SHARPNESS: Adjust the image sharpness for a smooth or a sharp edge expression. •
- MIRROR: Video output is rotated horizontally. •
- FLIP: Video output is rotated vertically. •
- D-ZOOM: Digitally zoom the video output up to 16x.
- DEFOG: Increases the visibility in extreme weather conditions, such as fog, rain or in a very ٠ strong luminous intensity.
- DNR: Reduces the video noise at low ambient light. •
- MOTION: Observes the object movement by motion zone and sensitivity that are pre-set with • sub menu. The motion detection icon can be displayed.
- SHADING: Correct the inconsistent brightness level in the image. •
- BLACK LEVEL: Adjusts video output black level in 33 steps. ٠
- GAMMA: Adjusts video output gamma level in 33 steps.
- FRAME RATE: Change video output specification. •

Select the FRAME RATE using the LEFT or RIGHT button. Available frame rates are:

720p25, 720p29 (720p29.97), 720p30, 720p50, 720p60, 1080p25, 1080p30, 1080i50, 1080i60, 1080p50, 1080p60. 720p59 (720p59.94), 1080p29 (1080p29.97), 1080i59 (1080i59.94), and 1080p59 (1080p59.94)



8. DISPLAY CONTROL _

Select IMAGE STABILIZER using the UP or DOWN button. You can select the RANGE, FILTER, and AUTO C from the sub menu.

MENU	
WB CONTROL	ATW
AE CONTROL	
BACK LIGHT	
IMAGE STABILIZER	OFF
IMAGE CONTROL	
DISPLAY CONTROL	
RESET	ON
EXIT	

- CAM VERSION: Display the camera firmware version.
- video.
- **PRIVACY:** Mask areas where you want to hide on the screen. •
- **CAM ID:** Select camera ID number from 0~255.
- **BAUDRATE:** Set the camera baudrate of RS-485 communication.
- LANGUAGE: Select English or Chinese OSD menu.
- **DEFECT DET:** Adjust the active pixels by adjusting the threshold value.

Camera lens must be completely covered before activating this menu.

RANGE FILTER AUTO C RETURN **AE CONTROL** 30% MIDDLE **FULL**



• CAN TITLE: Camera title can be entered using the virtual keyboard and it will overlay on the

9. RESET

Select RESET using the UP or DOWN button. You can reset the setting to FACTORY or USER saved settings. Choose ON or CHANGE by using the LEFT or RIGHT button.



• ON: Set the camera reset setting to either FACTORY or USER saved settings which is defined from CHANGE menu.

Please make sure to select the right mode before resetting the camera.

- **CHANGE:** Change reset mode or save the current setting as a USER.
 - **FACTORY:** Select FACTORY if factory default setting is needed. FRAME RATE, CAM ID, » and BAUDRATE will not change.
 - **USER:** Select USER if the USER saved setting needs to be loaded. »
 - **SAVE:** Save the current settings as the USER saved setting. »

10. TROUBLESHOOTING

Problem	
Nothing appears on the screen.	 a. Check that all conr b. Confirm that the vo c. Confirm that the po camera. d. Check that all vide
The picture is not clear.	 a. Check that your m b. Confirm that the gl or fingerprints on t the glass, use a so available lens clear c. Correctly adjust th
The picture has interference.	a. The camera may b generator.b. The BNC cable is rc. The video cables a
The picture is flickering continually.	 a. Check the termination b. Ensure that the calsource. c. Check if there is and the check if the distandary of the distandary of
The camera is not synchronizing with the reference signal.	 a. Make sure Tri-Leve b. Locking takes up to sure the sync LED c. Check if the cable condition. d. Make sure the cab ft. e. Make sure OUTPU

Solutions

nected devices are powered on. oltage is correct.

ower supply provides enough current to power the

eo cables are correctly connected.

nonitor is correctly adjusted. lass in front of the lens is clean. If there is dust, dirt, the glass, the image quality will be affected. To clean oft, dry, and non-abrasive cloth or a commercially ning set.

ne focus.

be close to a high voltage source, such as a power

not terminated properly. are not connected properly.

tion and set the impedance at 75Ω properly. mera is not pointing towards the Sun or any light

ny intermediate device.

nce of the video cable exceeds the maximum tion.

el reference signal is used.

to 1 minute depending on the signal strength. Make is solidly lit.

and connectors used in reference sync are in good

ble length used in reference sync does not exceed 100

JT EN is on when using the genlock output.

Warranty _

Marshall Electronics warranties to the first consumer that this device will, under normal use, be free from defects in workmanship and materials, when received in its original container, for a period of two years from the purchase date. This warranty is extended to the first consumer only, and proof of purchase is necessary to honor the warranty. If there is no proof of purchase provided with a warranty claim, Marshall Electronics reserves the right not to honor the warranty set forth above. Therefore, labor and parts may be charged to the consumer. This warranty does not apply to the product exterior or cosmetics. Misuse, abnormal handling, alterations or modifications in design or construction void this warranty. No sales personnel of the seller or any other person is authorized to make any warranties other than those described above, or to extend the duration of any warranties on behalf of Marshall Electronics, beyond the time period described above.

Due to constant effort to improve products and product features, specifications may change without notice.



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