Marshall

Broadcast A/V Division

CV566, CV568, CV366, CV368

Compact & Miniature HD Genlock Cameras

User Manual

Table of Contents

1. General Information

Thank you for your purchase of a Marshall Miniature or Compact Genlock 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:

CV566/568 includes:
- CV566 camera with 3.6mm lens(interchangeable), CV568 camera with 4.4mm lens(interchangeable)
- Camera Breakout Cable (Power/RS485/Audio)
- 12V Power Supply

CV366/368 includes:
- Camera with CS/C mount (lens sold separately)
- C-Mount Lens Adaptor (only used when using C-mount lens)
- Camera Breakout Cable (Power/RS485/Audio)
- 12V Power Supply

The CV566 ships with a 3.6mm lens installed and is interchangeable to any number of Marshall M12 lenses.
The CV568 ships with a 4.4mm lens installed and is interchangeable to 1/1.8” M12 lenses.

Each camera comes set to default at 1920x1080i @ 59.94fps out of the box; which can be changed in the OSD Menu to a variety of resolutions and framerates.

If the camera is accidentally changed to a resolution or framerate that your monitor or equipment doesn’t accept, please follow the instructions below to reset camera to factory default:

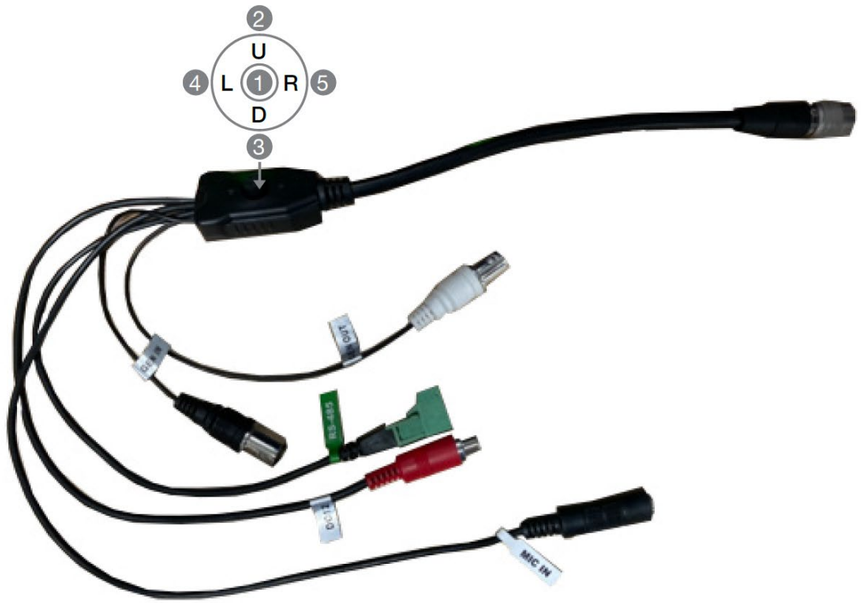
1. Plug the camera into power source and connect breakout cable to rear camera panel (locking connection), Power LED should illuminate.
2. Push OSD joystick button UP, DOWN, UP, DOWN and PUSH and HOLD for five seconds.
3. Camera should reset to 1920x1080i @ 59.94fps.
4. If camera does not reset, repeat steps after a power-cycle.

2. Menu Structure

SETUP	SUB MENU	SUB MENU
WB CONTROL	AWB	
	ATW	
	ONE PUSH	
	INDOOR	
	OUTDOOR	
	MANUAL	BLUE
		RED
AE CONTROL	BLACK BALANCE	AUTO
		MANUAL
	AUTO	AGC MAX
		AE BRIGHT
		LENS MODE
	SHUT FIX	SHUTTER
		AGC MAX
		AE BRIGHT
	AGC FIX	AGC
		AE BRIGHT
	MANUAL	LENS MODE
		SHUTTER
DAY / NIGHT	DAY	AGC
	NIGHT	
AUDIO	MIC/LINE	
	AUDIO LEVEL	
	MIC ATTENUATOR	
	SAMPLE BITS	
GENLOCK		
	MODE	
	SYNC OUTPUT	
	H-SYNC PHASE	
	V-SYNC PHASE	
	PHASE SET	

SETUP	SUB MENU	SUB MENU
IMAGE CONTROL	LENS SHADING	
	CONTRAST	
	BRIGHTNESS	
	SATURATION	
	HUE	
	EDGE ENHANCE	
	AUTO SATURATE	
	AUTO EDGE	
	BLACK WHITE LV	BLACK LEVEL
		WHITE LEVEL
	GAMMA CORRECT	
	DNR	DNR MODE
		DNR LEVEL
PICTURE STYLE	MATRIX	
	WHITE BALANCE	
	GAMMA	
	DETAIL	
SPECIAL	DZOOM	
	DEFOG	
	DIS	
	BACKLIGHT	
	BINNING	
	DEFECT PIXEL	
	DISP FUNCTION	
	WDR	
	PRIVACY	
SETUP	CAM TITLE	
	COMMUNICATION	CAM ID
		ID DISPLAY
		BAUD RATE
	MODEL	
	S/W VER	
	OUTPUT FORMAT	
RESET	USER/FACTORY	
EXIT		

3. OSD Joystick and Button



566/568

366/368

I/O Cable (included in box)

1. SET Used to access the menu and confirm selection.
2. UP Used to move the cursor up.
3. DOWN Used to move the cursor down.
4. LEFT Used to move the cursor left and change the value.
5. RIGHT Used to move the cursor to the right and change the value.

*Press SET button to access the **Main Menu***

MAIN MENU

WB CONTROL	>
AE CONTROL	>
DAY/NIGHT	>
AUDIO	>
GENLOCK	>
IMAGE CONTROL	>
SPECIAL	>
PICTURE STYLE	>
SETUP	>
RESET	>
EXIT	

Use the UP & DOWN buttons to select the desired item.

Use the LEFT and RIGHT buttons to change the sub-item.

4. WB Control

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

- **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°K to 11,000°K.
  - **BLUE OFFEST**: Adjust the Blue tone within the ATW mode.
  - **RED OFFSET**: Adjust the Red tone within the ATW mode.
- **ONE 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 optimum result.
- **MANUAL:** Select this to fine-tune White Balance manually.
  You can adjust the blue and red tone level manually.
  - **BLUE:** Adjust the Blue tone of the image. (0~255)
  - **RED:** Adjust the Red tone of the image. (0~255)
- **INDOOR:** Select this to adjust white balance to indoor lighting condition.
- **OUTDOOR:** Select this to adjust white balance to outdoor lighting condition.

MAIN MENU

WB CONTROL	>
AE CONTROL	>
DAY/NIGHT	>
AUDIO	>
GENLOCK	>
IMAGE CONTROL	>
SPECIAL	>
PICTURE STYLE	>
SETUP	>
RESET	>
EXIT	

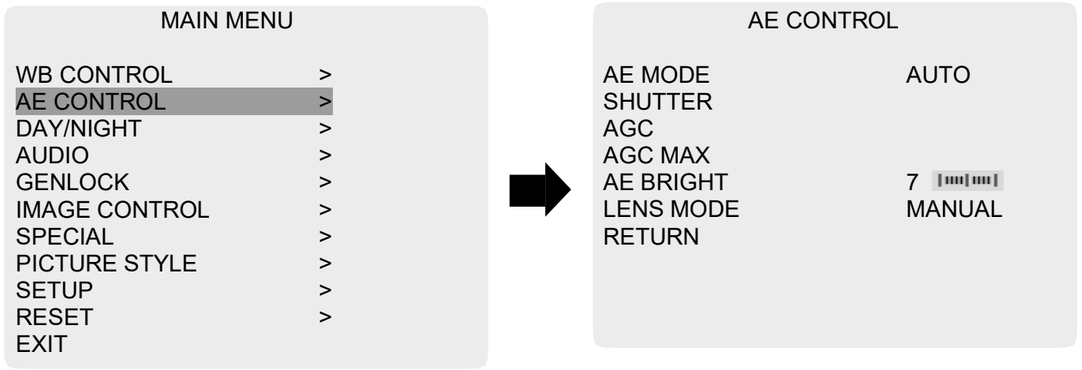
WB CONTROL

MODE	*MANUAL*
PUSH	
BLUE	*50*
RED	*50*
BLUE OFFSET	*50*
RED OFFSET	*50*
RETURN	>

1. *Adjust White Balance first by using the ATW mode before switching to MANUAL mode.*
2. *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, the White Balance operation may become unstable.*

5. AE Control

Select AE CONTROL using the UP or DOWN button. You can select one sub-mode using the UP or DOWN buttons.

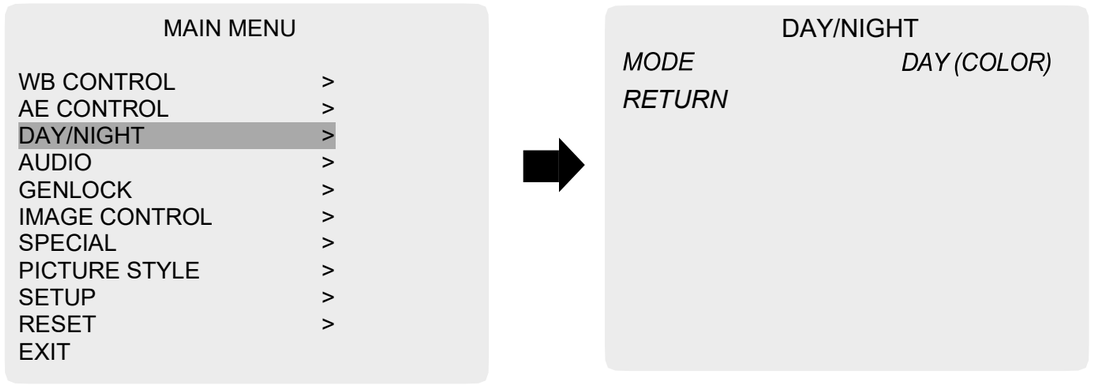


- **AUTO:** Adjusts the exposure level automatically. Detailed fine-tuning options are available under this menu.
- **SHUT FIX:** Provides more detailed shutter speed options. All other controls are tuned for the selected shutter speed.
- **AGC FIX:** Provides more detailed gain option. All other controls are tuned for the selected gain.
- **MANUAL:** Adjusts the exposure level manually.
  1. **SHUTTER:** Speed can be set at auto or manual. (NTSC: 1/30~1/10,000, PAL: 1/25~1/10,000)
  2. **AGC:** Electronic gain level can be controlled. (0dB~48dB)
  3. **AGC MAX:** Used to set maximum gain value to control the video noise caused by Auto Gain Control. (0~15)
  4. **AE BRIGHT:** Select this to adjust auto exposure brightness levels. (0~24)
- **LENS MODE:** Adjusts lens mode for the installed lens.
  (This option is for DC IRIS lens only, available on CV366 and CV368)

6. DAY / NIGHT

Select DAY / NIGHT using the UP or DOWN button. You can select one sub-mode from COLOR, and NIGHT using the RIGHT or LEFT buttons.

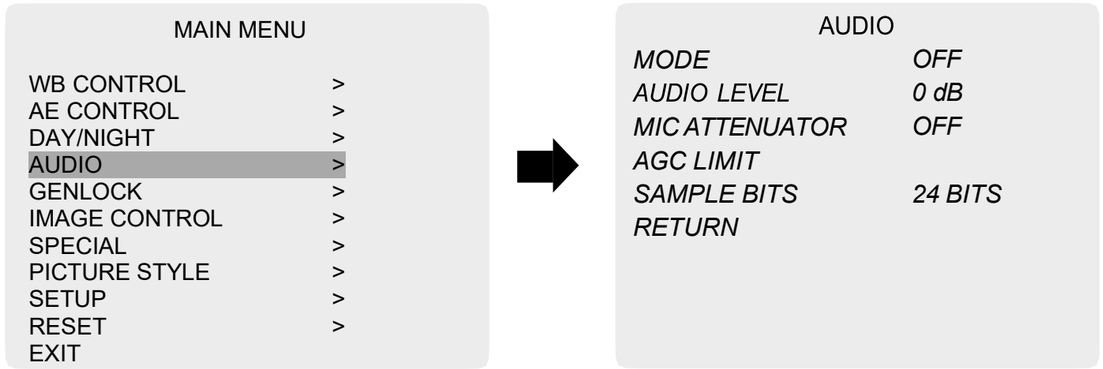
- **MODE:** Set camera to either color mode or B&W mode. (Day, Night)
- **DAY:** When set to DAY mode, camera stays in color (and IR cut filter is engaged for CV366 & CV566).
- **NIGHT:** When set to NIGHT mode, camera stays in B&W (and IR cut filter is removed for CV366 & CV566).



7. AUDIO

Select AUDIO using the UP or DOWN button and enter ON using SEL button. You can select one sub-mode using the UP or DOWN buttons.

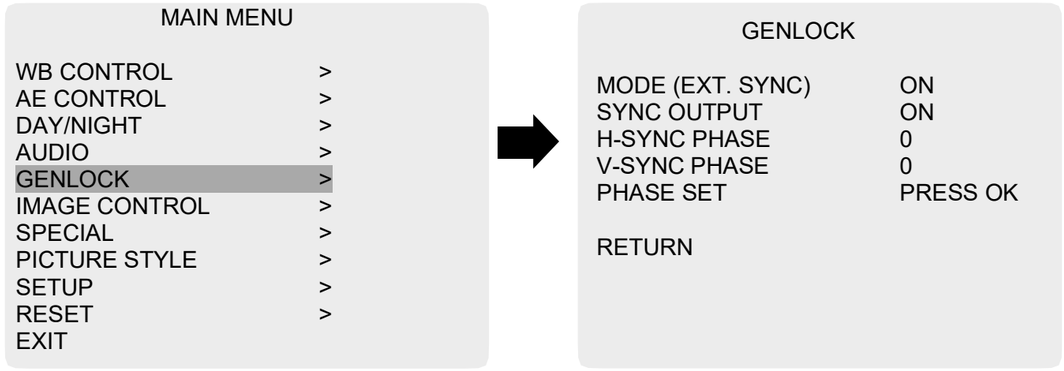
- **MIC / LINE:** Select MIC or LINE for the audio input source.
- **AUDIO LEVEL:** Select this to adjust audio levels manually.
- **MIC ATTENUATOR:** Audio attenuation can be controlled from this menu to minimize the audio noise level
- **AGC LIMIT:** Audio gain limit can be controlled while MIC ATTENUATOR is in used.
  1. **SAMPLE BITS:** Select the bit depth of audio



8. GENLOCK

Select GENLOCK using the UP or DOWN button.

You can enable/disable GENLOCK and phase adjustment using the RIGHT or LEFT buttons.

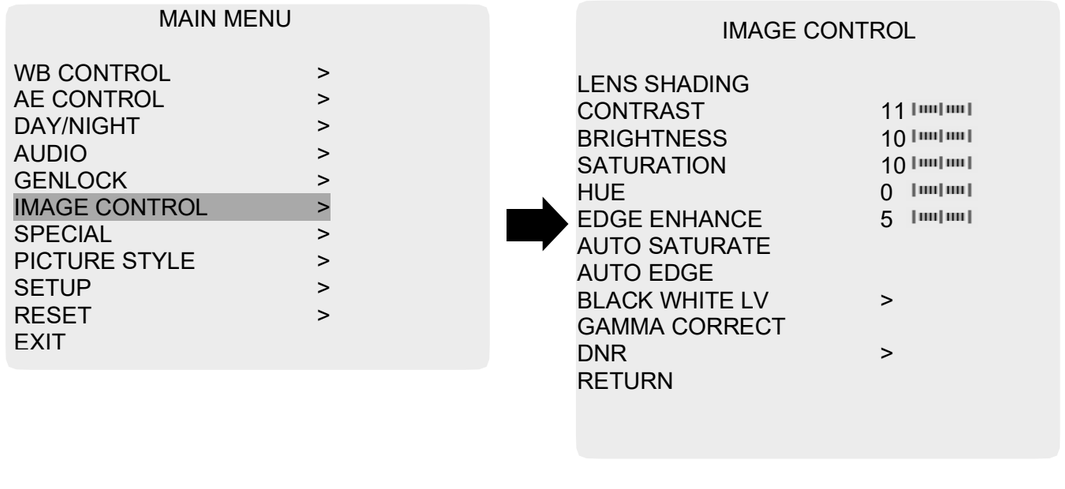


- **MODE(EXT. SYNC):** Turn ON of OFF the tri-level genlock sync feature. When the camera is properly synchronized the blue LED from the back of the camera will light up.
- **SYNC OUTPUT:** Turn ON the SYNC OUTPUT to enable genlock daisy chain feature.
- **H-SYNC PHASE:** Adjust the pixel shifting from this menu.
- **V-SYNC PHASE:** Adjust the line shifting from this menu.
- **PHASE SET:** When H-sync and/or V-sync is adjusted, press OK from this menu to apply the changes.

9. IMAGE CONTROL

Select IMAGE CONTROL using the UP or DOWN button.

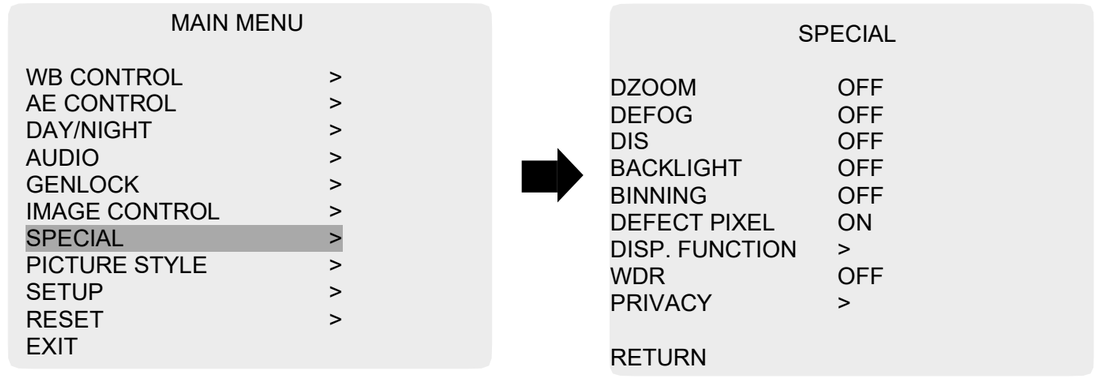
You can select LENS SHADING, CONTRAST, HUE, and image related menu using the UP or DOWN buttons.



- **LENS SHADING:** Corrects inconsistent brightness level in the image.
- **CONTRAST:** Adjust the image contrast level.
- **BRIGHTNESS:** Adjust the image brightness level.
- **SATURATION:** Adjust the image saturation level.
- **HUE:** Adjust the image hue level.
- **EDGE ENHANCE:** Adjust the image sharpness level.
- **AUTO SATURATE:** Decrease saturation automatically when noise scene is detected.
- **AUTO EDGE:** Adjust sharpness level automatically.
- **BLACK WHITE LEVEL:** Adjust the image black level and white level value.
- **GAMMA CORRECT:** Adjust the image output gamma level.
- **DNR:** Reduces video noise at low ambient light
  Select the DNR level from Auto, LOW, MIDDLE, and HIGH using the LEFT or RIGHT button.

10. SPECIAL

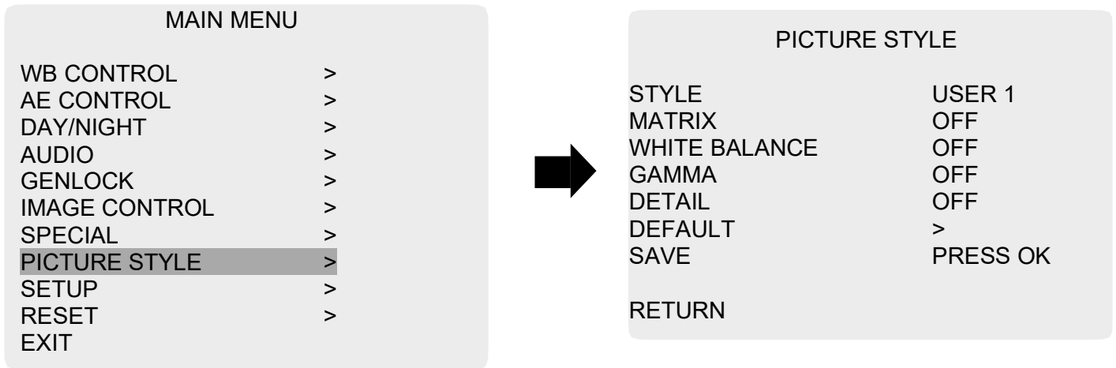
Select SPECIAL using the UP or DOWN button.
You can select DEFOG, MOTION DETECT, BACKLIGHT, DEFECT PIXEL, and FLICKER DETECT using the UP or DOWN buttons.



- **DZOOM:** Digitally zoom the video by the desired ratio.
- **DEFOG:** This feature will help increase visibility in extreme weather conditions, such as fog, rain or in a very strong luminous intensity.
- **DIS:** This feature enables digital image stabilization.
- **BACKLIGHT:** Adjust backlight compensation by choosing either BLC HLM from this menu.
- **BINNING:** Enable or disable pixel binning.
- **DEFECT PIXEL:** Advanced defective pixel correction menu.
- **DISP FUNCTION:** Display effect such as freeze, mirror, flip, and picture style can be applied from this menu.
- **WDR:** This feature enables user to view both object and background more clearly when background is too bright.
- **PRIVACY:** Mask areas you want to hide on the screen by applying the privacy zones.

11. PICTURE STYLE

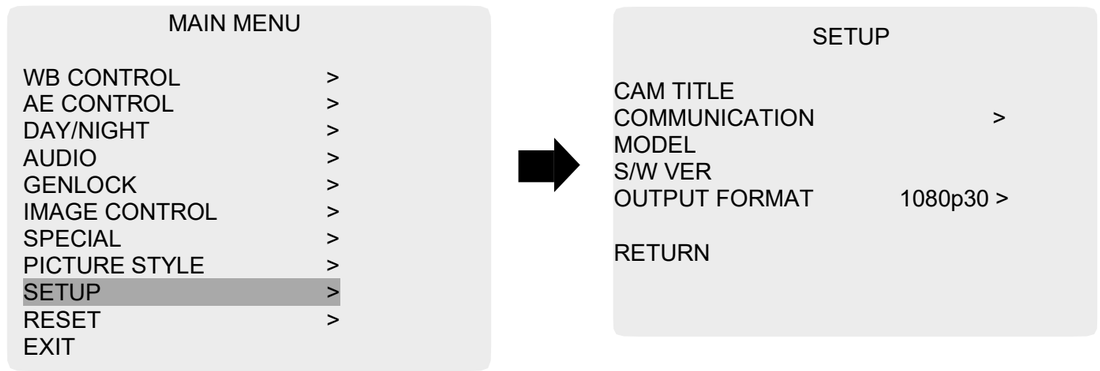
Select PICTURE STYLE menu for color matrix tuning.
You can adjust settings using the UP or DOWN buttons.



- **STYLE:** 6 different settings can be assigned.
- **MATRIX:** Matrix feature can be configured.
  1. **STYLE:** 4 predefined color matrix styles are available to choose from.
  2. **MASTER LEVEL:** Fine adjustment of master color gain(saturation).
  3. **MASTER PHASE:** Fine adjustment of master color hue.
  4. **COLOR SEL:** Select color to be adjusted. 6 colors to choose from.
  5. **COLOR LEVEL:** Fine level adjustment of selected color.
  6. **COLOR PHASE:** Fine phase adjustment of selected color.
- **WB:** Adjust camera white balance within the selected picture style.
  WB feature is identical as the one from the main menu. When Picture Style WB is enabled, main menu WB will be disabled.
- **GAMMA:** Adjust camera gamma value within the selected picture style.
  Gamma feature is identical as the one from the main menu. When Picture Style Gamma is enabled, main menu Gamma will be disabled.
- **DETAIL:** Adjust camera peak levels(sharpness) balance within the selected picture style.
  1. **H-PEAK LEVEL:** Adjust horizonal peak level.
  2. **V-PEAK LEVEL:** Adjust vertical peak level.
  3. **VIDEO DEPENDANT:** Adjust image crispening.
  4. **CLIP & CLIP LEVEL:** Adjust sharpness peak clip.
- **DEFAULT:** Reset the selected user number to the default value.
- **SAVE:** Save the selected user settings.

12. SETUP

CAMERA setup can be adjusted from this menu.
You can select CAMERA ID, Communication, System Info, and Output Format using the UP or DOWN buttons

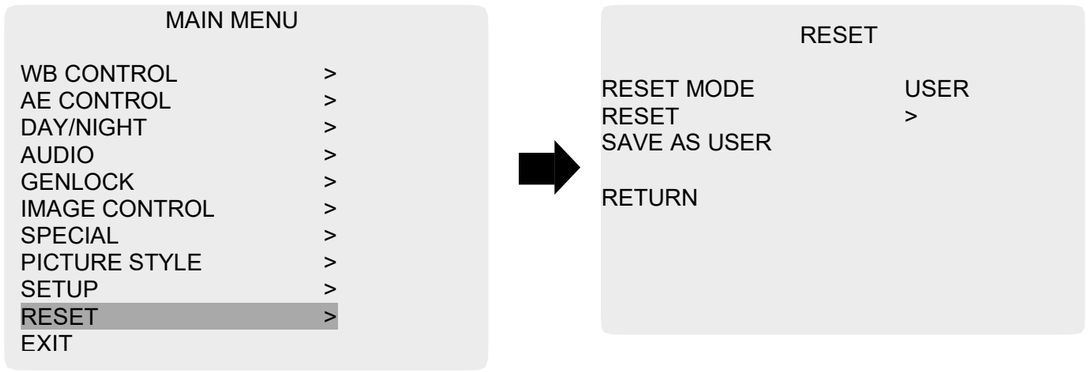


- **CAM TITLE:** Camera title can be turned ON or OFF.
- **COMMUNICATION:** VISCA communication can be adjusted.
  1. **CAM ID:** Camera ID can be setup. (0~254)
  2. **ID DISPLAY:** Camera ID display can be displayed.
  3. **BAUDRATE:** Camera baudrate can be set. (2400, 4800, 9600, 19200, 38400, 115200)
- **MODEL:** Displays product module number.
- **S/W VER:** Displays software version number.
- **OUTPUT FORMAT:** Camera resolution and frame rate can be set.
  (1080 by default)
  Select the FRAME RATE using the LEFT or RIGHT buttons.
  Available Frame Rates are:
  1920 x 1080p 60, 59.94, 50, 30. 29.97, 25, 24, 23.98
  1920 x 1080i 60, 59.94, 50
  1280 x 720p 60, 59.94, 50

13. RESET

Select RESET using the UP or DOWN button.

• **RESET**: Reset the camera settings the factory defaults or user setting value.



- **RESET MODE**: Set the camera setting to either “FACTORY” or “USER”.
  1. **USER:** Select “USER” if user saved setting value is needed.
  2. **FACTORY:** Select “FACTORY” if factory default setting is needed.
- **RESET**: Reset the camera to the mode set on RESET MODE.
- **SAVE AS USER**: Save the current camera settings as “USER”.

To perform a blind resolution & framerate RESET using OSD Menu joystick use below button combinations:
1. To reset camera to 1920 x 1080i 59.94fps use this joystick sequence:
UP, DOWN, UP, DOWN, ENTER (push and hold)

2. To reset camera to 1280 x 720p 59.94fps use this joystick sequence: UP, DOWN, LEFT, RIGHT, ENTER (push and hold)

14. EXIT

Select EXIT using the UP or DOWN button.

- **SAVE**: Exit the setup after saving the value changes.

15. TROUBLESHOOTING

Before sending the camera for repair, please check below to make sure that the camera is installed correctly. If it still does not perform adequately, please consult with your supplier.

Problem	Solutions
Nothing appears on the screen.	a. Check that all connected devices are powered on. b. Confirm that the voltage is correct. c. Confirm that the power supply provides enough current to power the camera. d. Check that all video cables are correctly connected.
The picture is not clear.	a. Check that your monitor is correctly adjusted. b. Confirm that the glass in front of the lens is clean. If there is dust, dirt, or fingerprints on the glass, the image quality will be affected. To clean the glass, use a soft, dry, and non-abrasive cloth or a commercially available lens cleaning set. c. Correctly adjust the focus.
The picture has interference.	a. The camera may be close to a high voltage source, such as a power generator. b. The BNC cable is not terminated properly. c. The video cables are not connected properly.
The picture is flickering continually.	a. Check the termination and set the impedance at 75Ω properly. b. Ensure that the camera is not pointing towards the Sun or any light source. c. Check if there is any intermediate device. d. Check if the distance of the video cable exceeds the maximum transferable limitation.
The camera is not synchronizing with the reference signal.	a. Make sure Tri-Level reference signal is used. b. Locking takes up to 1 minute depending on the signal strength. Make sure the sync LED is solidly lit. c. Check if the cable and connectors used in reference sync are in good condition. d. Make sure the cable length used in reference sync does not exceed 100 ft. e. Make sure OUTPUT EN is on when using the genlock output.

WARRANTY

For Warranty information please refer to Marshall website page:

https://marshall-usa.com/company/warranty.php

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