



CV566, CV568, CV366, CV368

Compact & Miniature HD Genlock Cameras

User Manual

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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 SUB MENU
WB CONTROL	ATW	BLUE OFFSET RED OFFSET
	ONE PUSH	
	INDOOR	
	OUTDOOR	
MANUAL		BLUE RED
		AGC MAX
	AUTO	AE BRIGHT LENS MODE SHUTTER
	SHUT FIX	AGC MAX AE BRIGHT AGC
AE CONTROL	AGC FIX	AE BRIGHT LENS MODE SHUTTER AGC
	MANUAL	
	DAY	
	NIGHT	
AUDIO	MIC/LINE	
	AUDIO LEVEL	
	MIC ATTENUATOR	
	SAMPLE BITS MODE	
GENLOCK	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	
	MATRIX		
PICTURE STYLE	WHITE BALANCE		
	GAMMA		
	DETAIL		
	DZOOM		
SPECIAL	DEFOG		
	DIS		
	BACKLIGHT		
	BINNING		
	DEFECT PIXEL		
	DISP FUNCTION		
	WDR		
	PRIVACY		
	CAM TITLE		
	SETUP	COMMUNICATION	CAM ID ID DISPLAY BAUD RATE
		MODEL	
		S/W VER	
OUTPUT FORMAT			
RESET	USER/FACTORY		
EXIT			

3. OSD Joystick and Button



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



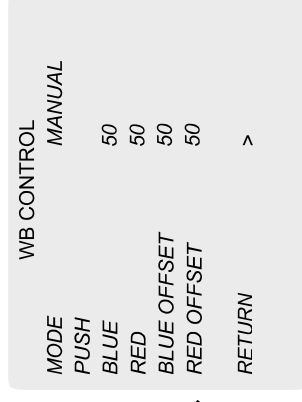
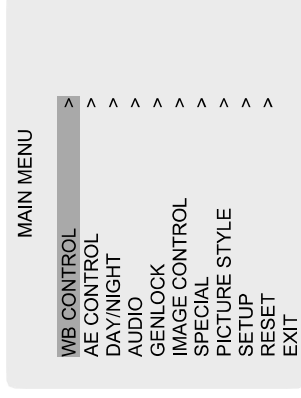
Use the UP & DOWN buttons to select the desired item.

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.

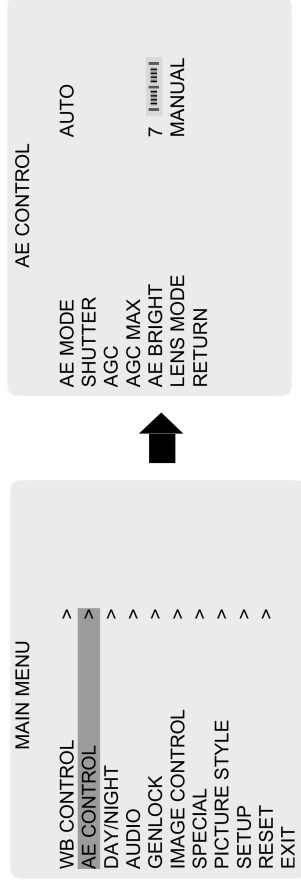
- **ATW:** Continuously adjusts camera color balance in accordance with any change in color temperature. Compensates for color temperature changes within the range of 1,900°K to 11,000°K.
- **BLUE OFFSET:** Adjust the Blue tone within the ATW mode.
- **RED OFFSET:** Adjust the Red tone within the ATW 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.



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.

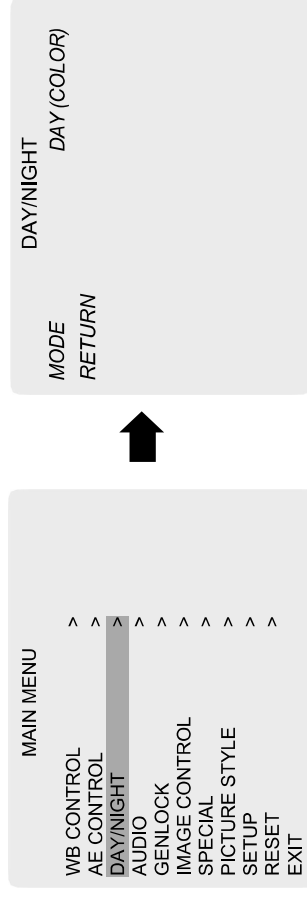


- **AUTO**: Adjusts the exposure level automatically. Detailed fine-tuning options are available under this menu.
- **SHUT FIX**: Provides more detailed shutter speed options. All other controls are tuned for the selected shutter speed.
- **AGC FIX**: Provides more detailed gain option. All other controls 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 MAX**: 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).

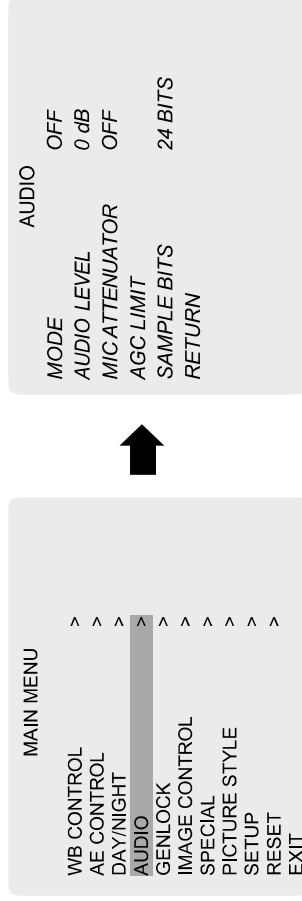


7. AUDIO

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.

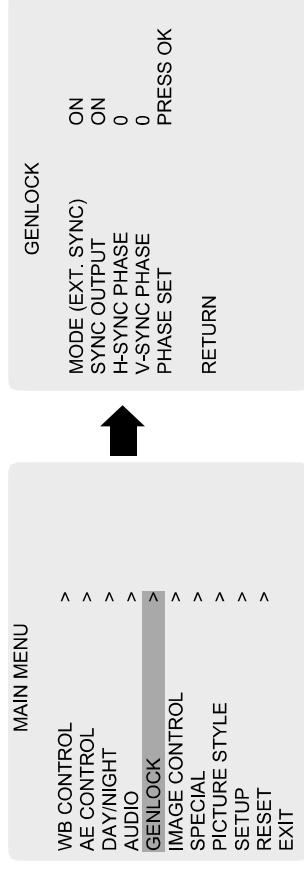
1. **SAMPLE BITS:** Select the bit depth of audio



8. GENLOCK

Select **GENLOCK** using the **UP** or **DOWN** button.

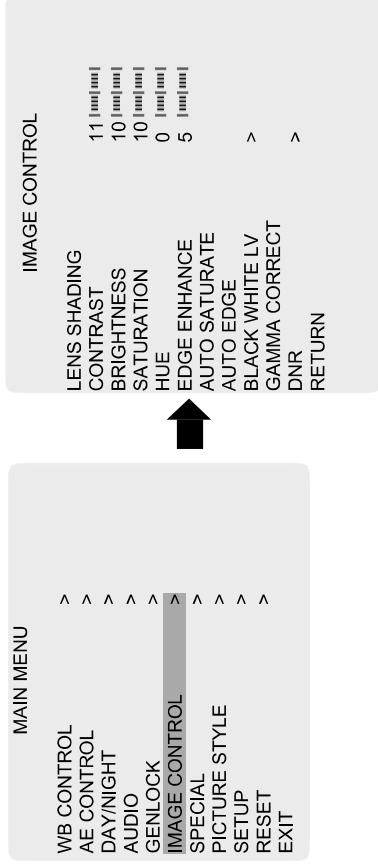
You can enable/disable **GENLOCK** and phase adjustment using the **RIGHT** or **LEFT** buttons.



- **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

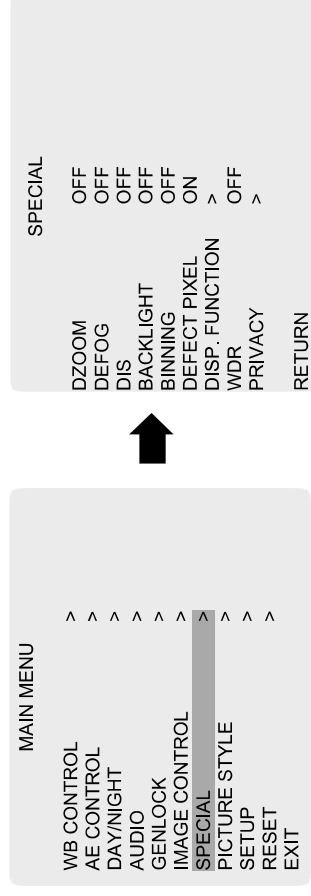
Select **IMAGE CONTROL** using the **UP** or **DOWN** button.
 You can select **LENS SHADING**, **CONTRAST**, **HUE**, and **image related menu** using the **UP** or **DOWN** buttons.



- **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

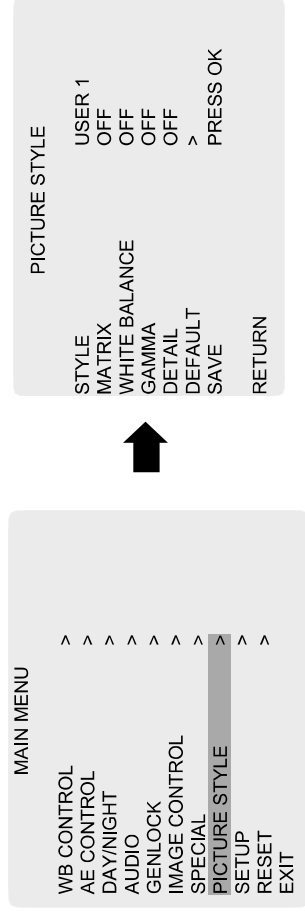
Select **SPECIAL** using the **UP** or **DOWN** button.
 You can select **DEFOG**, **MOTION DETECT**, **BACKLIGHT**, **DEFECT PIXEL**, and **FLICKER DETECT** using the **UP** or **DOWN** buttons.



- **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

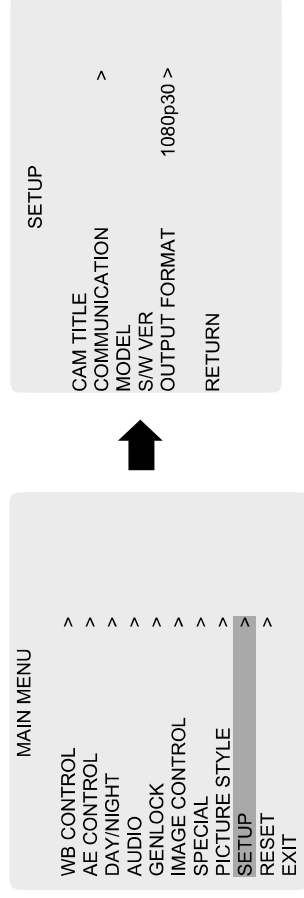
Select **PICTURE STYLE** menu for color matrix tuning.
You can adjust settings using the **UP** or **DOWN** buttons.



- **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 horizontal peak level.
 2. **V-PEAK LEVEL:** Adjust vertical peak level.
- **VIDEO DEPENDANT:** Adjust image crispness.
- **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

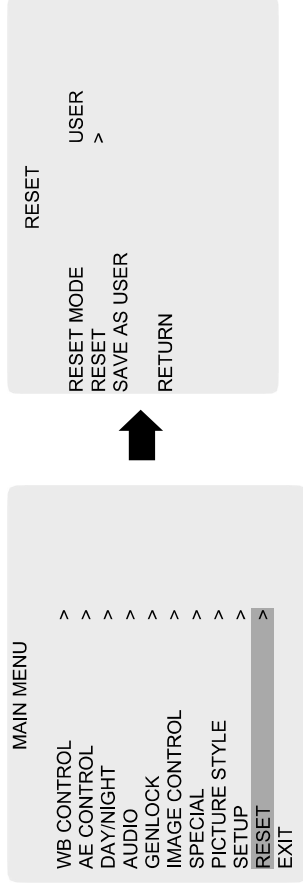
1920 x 1080i 60, 59.94, 50

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".

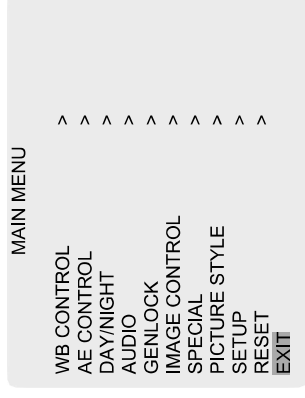
To perform a blind resolution & framerate RESET using OSD Menu joystick use below button combinations:

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.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> 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. <p>To clean the glass, use a soft, dry, and non-abrasive cloth or a commercially available lens cleaning set.</p> <ul style="list-style-type: none"> c. Correctly adjust the focus.
The picture has interference.	<ul style="list-style-type: none"> 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.	<ul style="list-style-type: none"> a. Check the termination and set the impedance at 75 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.	<ul style="list-style-type: none"> 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

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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