

NESSA®

NRC-80H

Heavy Duty Hybrid AHD Rear View Camera



USER MANUAL

HYBRID

960P AHD / 900 TVL

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1.0 INTRODUCTION

Thank you for purchasing Nesa's NRC-80H camera. We are certain that our product will give you trouble-free operation while providing you with safety features that enhance your driving experience.

DISCLAIMER

Our products are to assist and aid the driver, not to replace the manual function of the person operating the vehicle.

Although the NRC-80H is a visual aid and will allow you to view what is behind the vehicle, it does not remove the responsibility of driving the vehicle from the driver. Legal responsibility and safe driving practise remains with the driver at all times. You have purchased this product with the understanding that its use is as an aid only. We highly recommend that you have this product professionally installed to ensure that it will provide the functions it is set out to perform.

CAUTION

- Ensure you are using your rear camera within your countries' road laws. Please make sure you are familiar with your local road legislation before use.

1.1 COMPONENT LIST

- NRC-80H reverse camera
- 10m extension cable
- RCA adapter
- Screws and Allen key
- Camera programming module
- Installation guide and user manual

IMPORTANT NOTICE

- Please read this manual carefully before using the product.
- Wire connection points should always be insulated.
- Wiring should always be installed away from heat sources and electrical components.

- Please perform tests after finishing installation to ensure camera is working correctly.
- This camera is intended for use as an aid when reversing your vehicle. Drivers must always use extreme caution when operating a vehicle.
- Specifications are subject to change without notice.

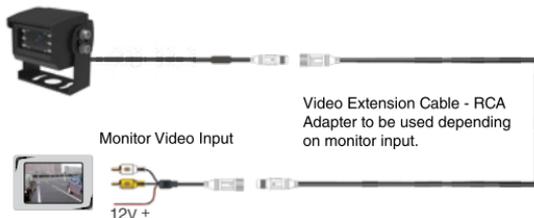
WARNING

- Do not disassemble the camera or cut the camera cable as this voids the warranty. Disassembling the camera will compromise the waterproof seal.

1.2 TECHNICAL SPECIFICATIONS:

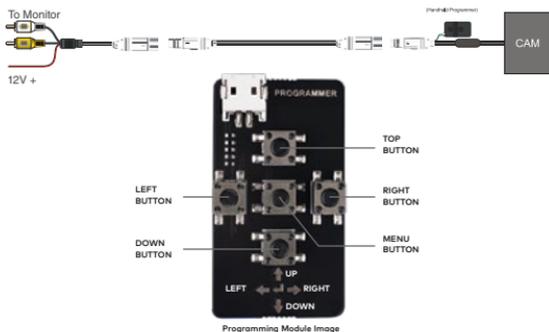
Signal System:	NTSC / PAL
Horizontal Resolution:	900 TVL / 960 AHD
Minimum Illumination:	0.0 Lux
Diagonal Angle:	150°
Waterproof Rating:	IP69K
Nominal Voltage:	12V / 24V
Working Temperature:	-30°C to 85°C

2.0 WIRING DIAGRAM



Front view option: NRC-80H functions as a rear view camera as standard.

NRC-80H cable harness and programmer



3.0 TESTING

3.1 HOW TO TEST

1. Apply the parking brakes. (Safety Precaution)
2. Turn ignition on. (DO NOT TURN ON VEHICLE)
3. Shift into reverse gear.
4. Image should appear on the monitor.

4.0 TROUBLESHOOTING

PROBLEM	SOLUTION
"No Signal" appears while reversing	<ol style="list-style-type: none"> 1. Check video input connections 2. Check camera power connections
Video image is not sharp	Check camera lens for debris

5.0 CARE AND MAINTENANCE

Always keep camera clear from dirt and mud. Clean camera with a soft moist cloth.

6.0 USING CONTROLLER TO CHANGE OUTPUT RESOLUTION

The NRC-80H camera has **PAL** and **AHD** settings by default. Default settings can be quickly changed by using the camera programming module (supplied).

The camera programming module has to be connected with the camera connector as shown in above figure.

NOTE : Please note **AHD** output will only work with **AHD** compatible monitors. **CVBS** output can work with both **AHD** and **CVBS** compatible monitors.

6.1 "QUICK CHANGE" DEFAULT SETTINGS

5. After the camera is connected with the programming module and the monitor please follow below steps.
6. Press the Down button for 5 seconds, Camera output will switch to **PAL** from **NTSC**. Repeat the same step to revert to **PAL**.
7. Press the LEFT key for 5 seconds, the output of camera will change from **AHD** to **CVBS**. Repeat the same step to revert to **AHD**.

6.2 MENU CHANGE INSTRUCTIONS

1. After the camera is connected with the programming module and the monitor please follow the below steps.

TO CHANGE LANGUAGE (IF REQUIRED) : DEFAULT LANGUAGE IS ENGLISH.

1. Press the OK key and the screen will change to the **MAIN MENU**.
2. Using UP or DOWN key navigate to the item no **7, SPECIAL** and press the OK key which will open up a new sub Menu page.
3. Using UP and DOWN key go to menu option 5 and press the LEFT or RIGHT key to change to desired Language.

- Press DOWN key to reach menu option **RETURN**. Press OK key to return to **MAIN MENU**. Using UP and DOWN key reach to menu option **SAVE & EXIT**, press the OK key which will save the settings and will navigate out of the programming menu.

6.3 CHANGE THE DEFAULT MIRROR IMAGE TO REAL IMAGE (TO USE CAMERA AS FORWARD FACING OR USE WITH DVR).

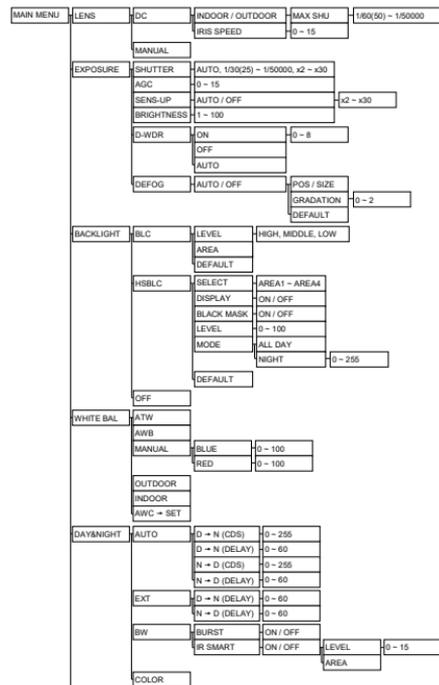
- Press the OK key to enter into **MAIN MENU**.
- Press UP and DOWN key to reach menu option **7, SPECIAL** and press the OK key which will open sub menu page.
- Using UP and DOWN key select option **2, D-EFFECT**. Press OK button to enter the sub menu.
- Pressing UP and DOWN key, select option **2** and press OK key which will open **V- FLIP**, using LEFT and RIGHT key, change the orientation of the image to REAL image.

Test the image by pressing "Test" in camera view and you should be able to read text confirming REAL Image

- To change back to MIRROR image, follow the same above mentioned steps.

6.4 HYBRID CAMERA

OSD MENU TREE

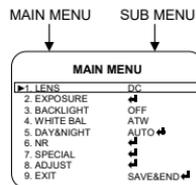


NR	ZDNR	HIGH, MIDDLE, LOW, OFF			
	SDNR	HIGH, MIDDLE, LOW, OFF			
SPECIAL	CAM TITLE	ON / OFF			
	D-EFFECT	FREEZE	ON / OFF		
		MIRROR	ROTATE / V-FLIP / MIRROR / OFF		
		NEG. IMAGE	ON / OFF		
	MOTION	SELECT	AREA1 - AREA4		
			DISPLAY	ON / OFF	
		SENSITIVITY	0 - 100		
		COLOR	GREEN / RED / WHITE / BLUE		
			0.25 / 0.50 / 0.75 / 1.00		
		ALARM	VIEW TYPE	ALL / OUTLINE / BLOCK / OFF	
			OSD VIEW	ON / OFF	
			ALARM OUT	ON / OFF	
			ALARM SIG.	HIGH / LOW	
			TIME	0 - 15	
	DEFAULT				
PRIVACY	SELECT	AREA1 - AREA4			
		DISPLAY	COLOR / INV. / MOSAIC / OFF		
	COLOR	CYAN / GREEN / YELLOW / BLUE / RED / BLACK / WHITE / USER			
		0.25 / 0.50 / 0.75 / 1.00			
	DEFAULT				
LANGUAGE	ENG / ARB / HEB / JPN / KOR / TUR / NED / POR / RUS / POL / SPA / ITA / FRA / GER / CHN2 / CHN1				
DEFECT	LIVE DPC	AGC LEVEL	0 - 255		
		LEVEL	0 - 100		
		POS / SIZE			
	WHITE DPC	START	ON / OFF		
			DPC VIEW	ON / OFF	
		LEVEL	0 - 60		
		AGC	0 - 14		
		SENS-UP	X2 - X30		
	BLACK DPC	START	ON / OFF		
			DPC VIEW	ON / OFF	
		LEVEL	0 - 255		
		POS / SIZE			
START					
ADJUST	SHARPNESS	LEVEL	0 - 10		
		START AGC	0 - 255		
		END AGC	0 - 255		
		MONITOR			
	LCD	GAMMA	0.45 - 1.00, USER		
		BLUE GAIN	0 - 100		
		RED GAIN	0 - 100		
	CRT	BLUE GAIN	0 - 100		
		RED GAIN	0 - 100		
	LSC	ON / OFF			
VIDEO. OUT	NTSC / PAL				
OUT. MODE	AHD / CVBS				
EXIT	SAVE&END				
	NOT SAVE				
	RESET				

6.5 SETTING UP THE MENU

Settings can be changed using the OSD Programming Controller.

1. Press the menu button to access the **SETUP** mode. The **SETUP** menu is displayed on the monitor.
2. Please select any function you wish to activate by using the **UP / DOWN** buttons on the programming controller. The cursor can be moved up or down by using the **UP / DOWN** selections. Position the cursor to point to the function you wish to operate.



*Please see Programming Module Image on Page 4 for which buttons to press.

MAIN MENU: Use **UP / DOWN** button.

SUB MENU: Use **LEFT / RIGHT** button.

3. Change the status of the selected feature using the **LEFT / RIGHT** buttons. When the **LEFT** or **RIGHT** selection is done, available values and modes are displayed in order.
4. When completed, move the cursor indicator to **EXIT** position and press the menu button to finish the setting.

NOTE: If **↔** appears at the mode you wish to operate, it means that there is a sub-menu which can be selected by OSD programming controller.

6.6 LENS

MAIN MENU	
▶ 1. LENS	DC
2. EXPOSURE	▲
3. BACKLIGHT	OFF
4. WHITE BAL	ATW
5. DAY&NIGHT	AUTO ▲
6. NR	▲
7. SPECIAL	▲
8. ADJUST	▲
9. EXIT	SAVE&END ▲

- MANUAL - When manual lens is used.
- DC - When DC IRIS lens is used

- MODE: INDOOR - Adjusts the **MAX SHUTTER**
 OUTDOOR - Adjusts the **MAX SHUTTER**

You can select the **MAX SHUTTER** from 1/60 to 1/50,000 sec
(NTSC), and 1/50 to 1/50,000 sec **(PAL)**.

DC LENS MODE	
▶ 1. MODE	INDOOR ▲
2. IRIS SPEED	8
3. RETURN	RET ▲

INDOOR MODE	
▶ 1. MIN. SHU	1/30
2. MAX SHU	FLK
3. RETURN	RET ▲

- IRIS SPEED: Adjusts the **IRIS SPEED** 0 ~ 15.
- RETURN: Return to the **MAIN MENU** or **SAVE & EXIT**.

6.7 EXPOSURE

MAIN MENU	
1. LENS	DC
▶ 2. EXPOSURE	▲
3. BACKLIGHT	OFF
4. WHITE BAL	ATW
5. DAY&NIGHT	AUTO ▲
6. NR	▲
7. SPECIAL	▲
8. ADJUST	▲
9. EXIT	SAVE&END ▲

EXPOSURE	
▶ 1. SHUTTER	AUTO ▲
2. AGC	15
3. SENS-UP	AUTO ▲
4. BRIGHTNESS	40
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET ▲

- SHUTTER:
 - DC: When lens mode is on DC, shutter will be deactivated.
 - MANUAL
 - A. **AUTO**: The shutter speed is controlled automatically.

- B. **FLK**: Please select FLK mode when flickering occurs on the screen, due to an imbalance between illumination and frequency.

- C. **FIXED**: The shutter speed is controlled manually.
 - You can select the speed from 1/30 to 1/50,000sec.
(NTSC), 1/25 to 1/50,000 sec. **(PAL)**

- AGC (Auto Gain Control) - Adjusts the **AGC** 1 ~ 15.

EXPOSURE	
1. SHUTTER	AUTO ▲
▶ 2. AGC	15
3. SENS-UP	AUTO ▲
4. BRIGHTNESS	40
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET ▲

- INCREASE SENSITIVITY

- Low light sensitivity is greatly improved with the use of this function.

- Low light sensitivity level is adjustable from 2 to 30 times.

- When **SENS-UP** level is higher, the picture becomes brighter while noise is increased at the same rate of **SENS-UP**.

AUTO : Adjustable **SENS-UP** level between x2 ~ x30.

OFF : **SENS-UP** is disabled.

✕ Default setting is <x4>

EXPOSURE	
1. SHUTTER	AUTO ▲
2. AGC	15
▶ 3. SENS-UP	AUTO ▲
4. BRIGHTNESS	40
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET ▲

EXPOSURE	
1. SHUTTER	AUTO ▲
2. AGC	15
3. SENS-UP	AUTO ▲
▶ 4. BRIGHTNESS	40
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET ▲

- BRIGHTNESS - Adjusts the brightness in 1 ~ 100. (Default 40).

5. D-WDR (Digital Wide Dynamic Range) - **D-WDR** Function scans both dark and bright clearly. This model achieves its best set up for different levels of backlight or contrast lighting situations.

EXPOSURE	
1. SHUTTER	AUTO
2. AGC	15
3. SENS-UP	AUTO
4. BRIGHTNESS	40
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET

- Adjusts the level in 0 ~ 8. (Default 2)



(A) Original Image

(B) D-WDR ON

6. DEFOG - Images in low visibility environments such as fog or rain or in a very strong luminous intensity have DR (dynamic range), lower than ordinary images. Contrast-based defog function is used to overcome such shortcoming.

EXPOSURE	
1. SHUTTER	AUTO
2. AGC	15
3. SENS-UP	AUTO
4. BRIGHTNESS	40
5. D-WDR	OFF
6. DEFOG	OFF
7. RETURN	RET

- POS / SIZE: Determines the coordinate of the vertical / Horizontal position and size.

DEFOG	
1. POS / SIZE	
2. GRADATION	0
3. DEFAULT	
4. RETURN	RET

- GRADATION: Adjusts the gradation 0 ~ 2.

- DEFAULT: Initialize all settings of the defog.

- RETURN: Return to **EXPOSURE** or **SAVE & EXIT**.

7. RETURN: Return to the **MAIN MENU** or **SAVE & EXIT**.



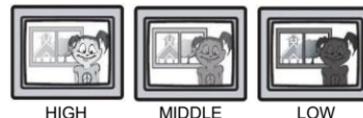
(A) Original Image

(B) DEFOG ON

6.8 BACKLIGHT

MAIN MENU	
1. LENS	DC
2. EXPOSURE	
3. BACKLIGHT	OFF
4. WHITE BAL	ATW
5. DAY&NIGHT	AUTO
6. NR	
7. SPECIAL	
8. ADJUST	
9. EXIT	SAVE&END

1. BLC - Used for backlight environment.
(HIGH / MIDDLE / LOW)



HIGH

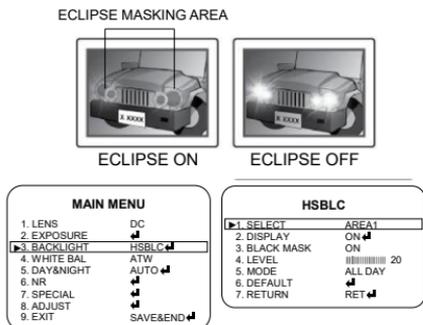
MIDDLE

LOW

BLC	
1. LEVEL	
2. AREA	
3. DEFAULT	
4. RETURN	RET

MAIN MENU	
1. LENS	DC
2. EXPOSURE	
3. BACKLIGHT	BLC
4. WHITE BAL	ATW
5. DAY&NIGHT	AUTO
6. NR	
7. SPECIAL	
8. ADJUST	
9. EXIT	SAVE&END

2. HSBLC - Can mask the head lights to view car license number plates more clearly.

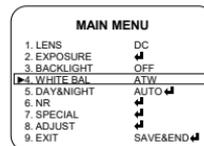


- SELECT: You can select up to 4 areas.
- DISPLAY: Determines whether to use the **HSBLC** selected in **AREA SELECT**.
- ON: Determines the coordinate of the vertical / horizontal position and size.
- BLACK MASK: **BLACK MASK ON / OFF**
- LEVEL: Adjusts the level 0 ~ 100.
- MODE: **ALL DAY / NIGHT** Adjusts the **AGC** level 0 ~ 255 when selecting **NIGHT**.
- DEFAULT: Initialize all settings of the HSBLC.
- RETURN: Return to the MAIN MENU or **SAVE & EXIT**.

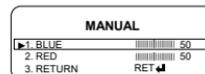
3. OFF

6.9 WHITE BALANCE

This is useful when the camera is installed in different artificial lighting conditions where a standard 'White Balance' condition is not suitable for all.



1. ATW (Auto Tracking White Balance): This mode can be used within the colour temperature range 2,000K - 20,000K.
2. AWB (Auto White Balance): Shows the **AWB** encompassing all the colour temperature spaces without separately specifying a white area in-line with the colour temperature.
3. MANUAL: In the Manual mode, the user can choose the colour and temperature. The user can adjust the colour and temperature by changing the red and blue gain.



4. OUTDOOR: A colour temperature is fixed for use in the outdoor environment.
5. INDOOR: A colour temperature is fixed for use in the indoor environment.
6. AWC → SET: This mode is used to fix the colour temperature value once it is set under a certain colour temperature environment. When **AWC** → **SET** of the **OSD MENU** is on, the colour temperature is fixed in 1-2 seconds.

If one or more values of each OPD Block are included in the **ATW** area, the colour temperature is fixed by the corresponding **OPD** data. Otherwise, it becomes fixed by all the **OPD** data.

6.10 BLACK AND WHITE IMAGE

You can display pictures in colour or black / white.

MAIN MENU	
1. LENS	DC
2. EXPOSURE	↕
3. BACKLIGHT	OFF
4. WHITE BAL	ATW
5. DAY&NIGHT	AUTO ↕
6. NR	↕
7. SPECIAL	↕
8. ADJUST	↕
9. EXIT	SAVE&END ↕

- AUTO: Automatically turns between Day and Night mode according to the CDS operation.

You can select the duration time of the Day / Night mode by changing 0 ~ 60.

- D → N: To adjust LUX level for switching Day to Night
- N → D: To adjust LUX level for switching Night to Day

- EXIT: Colour or black / white is controlled by the signal coming from an external GPIO port.
- BW: The picture is always in black and white.
 - BURST: ON / OFF
 - IR AMART: ON / OFF
 - Adjusts the level 0 ~ 15. (Default 3)
- COLOUR: The picture is always in colour.

6.11 NR (NOISE REDUCTION)

Noise Reduction (NR) is used in order to obtain a high quality output image and enhance compression efficiency. Offers Edge Preserving **2D NR** and Motion Adaptive **3D NR**.

MAIN MENU	
1. LENS	DC
2. EXPOSURE	↕
3. BACKLIGHT	OFF
4. WHITE BAL	ATW
5. DAY&NIGHT	AUTO ↕
6. NR	↕
7. SPECIAL	↕
8. ADJUST	↕
9. EXIT	SAVE&END ↕

- 2D NR: Cuts off the noise in low light conditions.

NR	
1. 2DNR	ON ↕
2. 3DNR	ON ↕
3. RETURN	RET ↕

- 3D NR: Cuts off the noise in low light conditions.
- RETURN: Return to the **MAIN MENU** or **SAVE & EXIT**.

9. SPECIAL

- CAM TITLE: If you enter a title, the title will appear on the monitor.
 - Position the arrow to point to **SPECIAL** using the **UP** and **DOWN** selection.
 - Select **ON** by using the **LEFT** and **RIGHT** selection. When you press the button to complete **ON**, it will display **CAM TITLE**.

NOTE: If **OFF** is selected, **CAM TITLE** will not appear on the monitor, even if it has been input.

SPECIAL	
1. CAM TITLE	ON
2. D-EFFECT	OFF
3. MOTION	OFF
4. PRIVACY	OFF
5. LANGUAGE	ENG ↕
6. DEFECT	↕
7. RETURN	RET ↕

CAM TITLE	
0	1 2 3 4 5 6 7 8 9
A	B C D E F G H I J K
L	M N O P Q R S T U V
W	X Y Z ↩ ← → + { }
-	_ / = & : - .
↩	↪ CLR POS END



3. Up to 15 letters are available for the **CAM TITLE**.

- Move the cursor to the letters by using the **UP** and **DOWN** selections.

- Set an ID from 0-9, A-Z by using the **UP**, **DOWN**, **LEFT** and **RIGHT** selections.

- Lock in the letters by using the button. When the letter is locked in, the cursor will move to the next space.

- Repeat the above to input **CAM TITLE**.

4. When a name has been chosen, please select a position for the name to display.

- Move the cursor onto **POS** and then press the button.

- The name will appear at the top right corner.

- Find the position you wish to display the name by using the 4 directional selections, and then press the button to finish.

5. Select **END**, press button to complete **CAM TITLE** input.

2. D-EFFECT:

SPECIAL	
1. CAM TITLE	ON
2. D-EFFECT	↕
3. MOTION	OFF
4. PRIVACY	OFF
5. LANGUAGE	ENG ↕
6. DEFECT	↕
7. RETURN	RET ↕

D-EFFECT	
1. FREEZE	OFF
2. MIRROR	OFF
3. NEG. IMAGE	OFF
4. RETURN	RET ↕

- FREEZE: You can view still or moving pictures.

- MIRROR: **ROTATE / V-FLIP / MIRROR / OFF**.

- NEG. IMAGE: Negative **ON / OFF**

- RETURN: Return to **SPECIAL MENU** or **SAVE & EXIT**.

3. MOTION

SPECIAL	
1. CAM TITLE	OFF
2. D-EFFECT	↕
3. MOTION	OFF
4. PRIVACY	OFF
5. LANGUAGE	ENG ↕
6. DEFECT	↕
7. RETURN	RET ↕

- SELECT: You can select up to 4MD areas.

MOTION	
1. SELECT	AREA1
2. DISPLAY	OFF
3. SENSITIVITY	30
4. COLOR	BLUE
5. TRANS	1.00
6. ALARM	TIME
7. DEFAULT	↕
8. RETURN	RET ↕

- DISPLAY: Determines whether to use the MD area selected in **AREA SELECT**.

ON: Determines the coordinate of the vertical / horizontal position and size.

- SENSITIVITY: Determines the coordinate of sensitivity.

- COLOUR: **GREEN, RED, WHITE** and **BLUE**.

- TRANS: Set the colour transparency for displaying a detected area.

- ALARM: Set the alarm output (VIEW TYPE, OSD VIEW, etc)

- DEFAULT: Initialize all setting of the **MOTION**.

- RETURN: Return to **SPECIAL MENU** or **SAVE & EXIT**.

4. PRIVACY

SPECIAL	
1. CAM TITLE	OFF
2. D-EFFECT	↕
3. MOTION	OFF
4. PRIVACY	OFF
5. LANGUAGE	ENG ↕
6. DEFECT	↕
7. RETURN	RET ↕

SELECT: You can select up to 4 **PRIVACY** areas.

PRIVACY	
1. SELECT	AREA1
2. DISPLAY	OFF
3. COLOR	0
4. TRANS	3
5. DEFAULT	RET
6. RETURN	RET

DISPLAY: Determines whether to use the MD area selected in **AREA SELECT**.

COLOUR: **CYAN, GREEN, YELLOW, BLUE, RED, WHITE** and **USER**.

TRANS: Set the colour transparency for displaying a detected area.

DEFAULT: Initialize all setting of the **PRIVACY**.

RETURN: Return to the **SPECIAL MENU** or **SAVE & EXIT**.

5. LANGUAGE

ENG / ARB / HEB / JPN / KOR / TUR / NED / POR / RUS / POL / SPA / ITA / FRA / GER / CHN2 / CHN1.
(Supports up to 16 Languages)

SPECIAL	
1. CAM TITLE	OFF
2. D-EFFECT	RET
3. MOTION	OFF
4. PRIVACY	OFF
5. LANGUAGE	ENG
6. DEFECT	RET
7. RETURN	RET

6. DEFECT

SPECIAL	
1. CAM TITLE	OFF
2. D-EFFECT	RET
3. MOTION	OFF
4. PRIVACY	OFF
5. LANGUAGE	ENG
6. DEFECT	RET
7. RETURN	RET

- LIVE DPC (Live Dead Pixel Correction)

- AGC Level: Adjust the **AGC** level 0 ~ 255.

- LEVEL: Adjust the **LEVEL** 0 ~ 100.

- RETURN: Return to **DEFECT MENU** or **SAVE & EXIT**.

DEFECT	
1. LIVE DPC	ON
2. WHITE DPC	ON
3. BLACK DPC	OFF
4. RETURN	RET

LIVE DPC	
1. AGC LEVEL	64
2. LEVEL	80
3. RETURN	RET

- WHITE DPC (White Dead Pixel Correction)

WHITE DPC	
1. POS / SIZE	RET
2. START	RET
3. DPC VIEW	OFF
4. LEVEL	10
5. AGC	10
6. SENS-UP	x4
7. RETURN	RET

- POS / SIZE: Adjusts the position and size.

- START

- DPC VIEW: **ON / OFF**

- LEVEL: Adjust the **LEVEL** 0 ~ 60.

- AGC: Adjust the **LEVEL** 0 ~ 14.

- SENS-UP: Adjust the **LEVEL** x2 ~x30.

- RETURN: Return to **DEFECT MENU** or **SAVE & EXIT**.

- BLACK DPC (Black Dead Pixel Correction)

BLACK DPC	
1. POS / SIZE	RET
2. START	RET
3. DPC VIEW	OFF
4. LEVEL	255
5. RETURN	RET

- POS / SIZE: Adjust the position and size.

- START

- DPC VIEW: **ON / OFF**

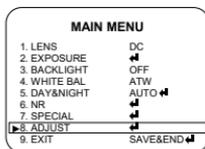
- LEVEL: Adjust the **LEVEL** 0 ~ 255.

- RETURN: Return to **DEFECT MENU** or **SAVE & EXIT**.

- RETURN: Return to **SPECIAL MENU** or **SAVE & EXIT**.

7. RETURN: Return to **MAIN MENU** or **SAVE & EXIT**.

6.12 ADJUST



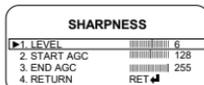
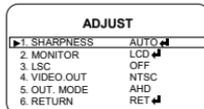
1. SHARPNESS:

- LEVEL: Adjusts the **LEVEL** 0 ~ 255.

- START AGC: When the level is high, the sharpness of picture at night is improved while noise is increased.

- END AGC: Set to 255 level for optimised definition at night.

- RETURN: Return to **ADJUST MENU** or **SAVE & EXIT**.



2. MONITOR

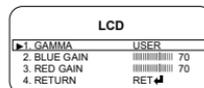
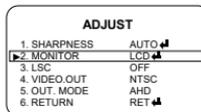
A. LCD

- GAMMA: Adjust **LEVEL** 0.45 ~ 1.00, USER.

- BLUE GAIN: Adjust **LEVEL** 0 ~ 100.

- RED GAIN : Adjust **LEVEL** 0 ~ 100.

- RETURN: Return to **ADJUST MENU** or **SAVE & EXIT**.



B. CRT

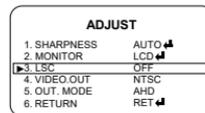
- BLUE GAIN: Adjust **LEVEL** 0 ~ 100.

- RED GAIN : Adjust **LEVEL** 0 ~ 100.

- RETURN: Return to **ADJUST MENU** or **SAVE & EXIT**.

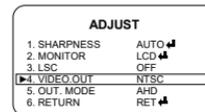
3. LSC

Lens Shading Correction (LSC) corrects the instance where the image gets darkened or blurred on the periphery.

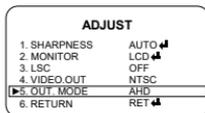


4. VIDEO OUT

NTSC / PAL: Video output can be set to NTSC or PAL according to local TV standard.



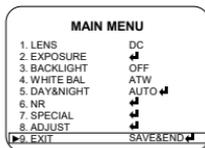
5. OUT.MODE



6. RETURN: Return to MAIN MENU or SAVE & EXIT.

If the version of DVR is 1.0, **DISTANCE** menu is added. **DISTANCE** menu enables to choose **NORMAL** or **LONG** depending on length of cable.

6.13 EXIT



1. **SAVE & EXIT:** Save the current settings and exit the menu.
2. **NOT SAVED:** Do not save the current settings and exit the menu.
3. **RESET:** Reset the camera settings to factory default.

7.0 CARE AND MAINTENANCE

Always keep camera clear from dirt and mud. Clean camera with a soft moist cloth.

8.0 WARRANTY TERMS & CONDITIONS

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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For full warranty terms and conditions, visit:

<https://www.neltronics.com.au/warranty-terms-and-conditions/>

Neltronics Address: 4/50 Jersey St, Jolimont, Western Australia

Ph: +61 08 9383 7833 **Email:** admin@neltronics.com.au

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