CabCAM

Operating Instructions

2.4G Digital 7" Wireless Color LCD Monitor

Please read this manual thoroughly before operating the device, keep it for future reference.

V 1.2

Contents

⚠   Special Notice

The product is aimed at assisting in safe driving and provides the driver with a broader field of vision. As the driver, you are solely responsible for the appropriate operation of your vehicle and the safety of your passengers and pedestrians, and you should abide all state and local traffic laws and regulations. Do not over use any features of this system that it might distract you from safe driving. The top priority of your driving should always be the safe operation of your vehicle. A&I Products Inc will not accept any responsibility/recourse whatsoever for accidents and/or injuries resulting from failure to observe these precautions or safety instructions.

1. Precautions

● Storage and Keeping

(1) Do not expose the monitor to excessive heat or cold. The storage temperature of this device is -30~+80℃, and the operating temperature is -20~+70 ℃. The humidity is RH90%.

(2) Never use this device near a bathtub, wash basin, kitchen, damp basement, swimming pool or similar places.

(3) Never use this device in environments with excessive moisture, dust or smoke.

(4) Avoid dropping or striking this device.

(5) Avoid using this device in enclosed spaces, areas with excessive vibration or subject to severe impacts.

(6) Never puncture, scratch or use abrasive cleaning materials on this device.

(7) Do not place cables where they may be pinched or stepped on.

(8) Leave at least a 2" space between the monitor and walls, cabinets or other objects to allow adequate air circulation around the device.

(9) The monitor is not designed to be waterproof.

● Operating Precautions

(1) The device may be powered by a 12 or 24 volt automotive battery or vehicle electrical system.

(2) Make sure all cables are connected properly. Observe polarity. Improper cable connections may damage the monitor. Remove the power cable connections when you do not intend to use the device.

⚠ Warning!

1. High voltage is present within the monitor. The opening of the case should be by professionals.

2. Do not watch the video while driving unless you are monitoring the rear view camera display.

⚠ Special Notice

Occasionally, a few highlights or dark spots may occur on the LCD screen. This is a very common phenomenon in active matrix display technology, and doesn't necessarily indicate any defects or faults. Never try to repair this device by yourself. In case of any problems, please turn off the display at once and notify our company or authorized dealer. The monitor is a complex device. Any disassembly or modification may lead to damage and void the warrantee.

● Maintenance

(1) Remove all the cable connections from the monitor before cleaning the device.
(2) Use a mild household detergent and clean the unit with a slightly damp, soft cloth. Never use strong solvents such as thinner or benzine, as they might damage the finish of the device.

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

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This symbol is intended to alert the user not to waste electrical and electronic equipment.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your warrantee and necessitate expensive repairs.

● Declaration of conformity

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

2. Features

① TFT LCD monitor with wide angle view and high resolution display.
② NORMAL, MIRROR, FLIP and MIR-FLIP viewing available.
③ Split mode, auto-scan mode and single-display mode available.
④ Auto pairing: Auto pairing happens when camera is activated.
⑤ Support 4-channel composite and single-channel recording in AVI signal format.
⑥ Auto dim function available.
⑦ Full-function remote control.
⑧ 4 wireless camera input.
⑨ Multiple video formats: PAL / NTSC.
⑩ Wide voltage input: 10 - 32V.
⑪ On-board speaker.
⑫ Auto switch to the working channel when trigger is activated
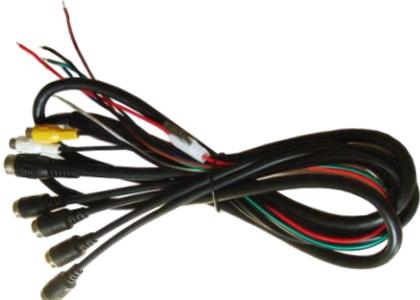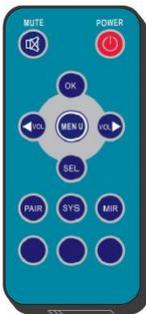
3. Technical Specifications

Item	Technical Specification
LCD size	7"
Resolution	800 x 3 (RGB) x 480
Contrast	500:1
Brightness	400 cd/m²
Viewing Angle	U: 50 / D: 70, R/L: 70
Dot pitch	0.0642(W) x 0.1790(H)
Aspect Ratio	16:9
Channel	4 channels
Operating Frequency	2400 - 2483.5MHz
Receiving Sensitivity	-89dBm
Decompression Form	MPEG4
Modulation	2.4G FSK/GFSK
Time Delay	120ms
Transmitting Distance	120M
Micro-SD /TF Card	Max. 128GB
System Format	PAL / NTSC
Power Supply	DC 10-32V
Power Consumption	Max. 6W
Loudspeaker	1.5W/8Ω
Operating Temperature	-20~+70ºC,RH90%
Storage Temperature	-30~+80ºC,RH90%

⚠ Special Notice

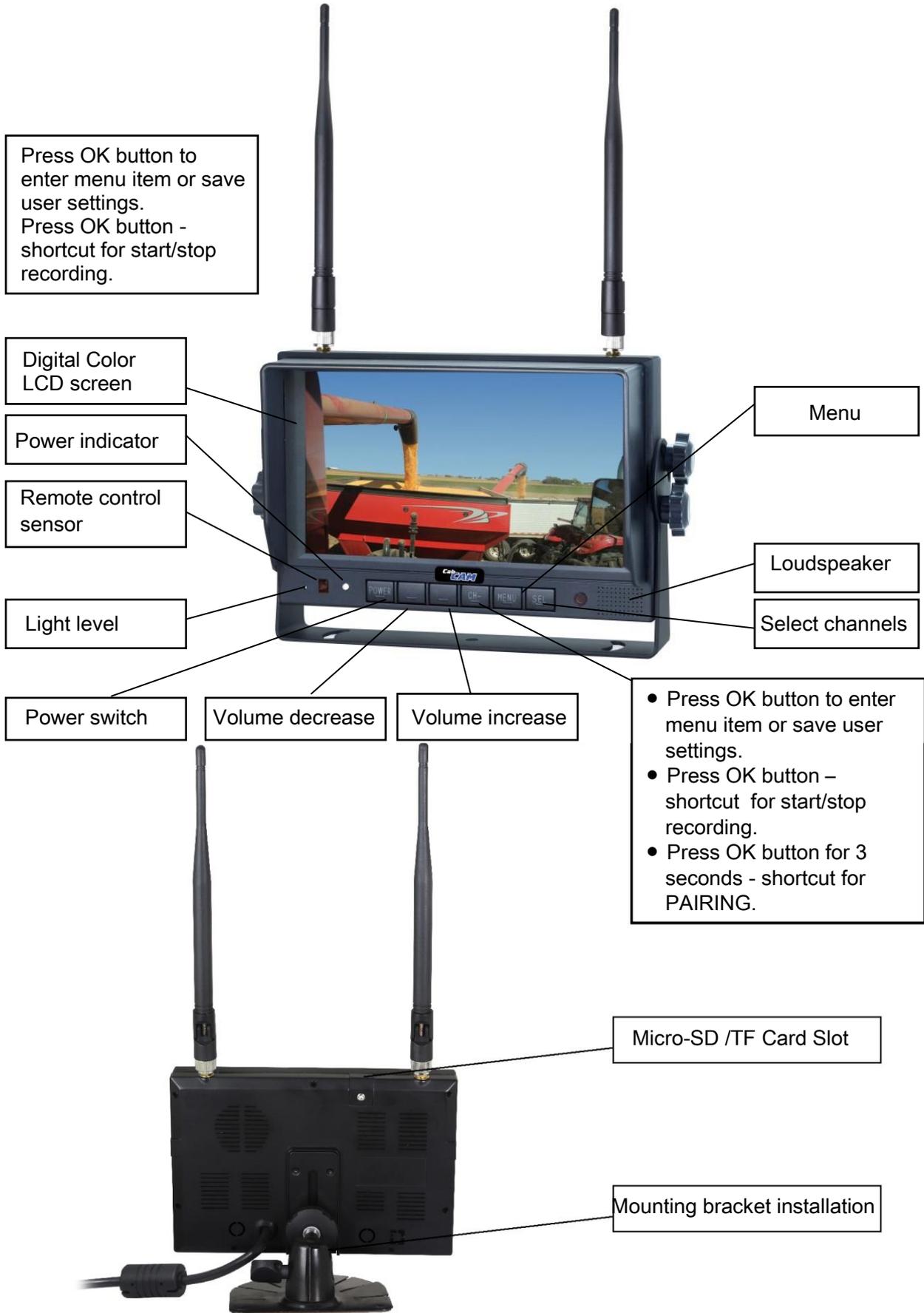All specifications are subject to change without notice.

4. Accessories
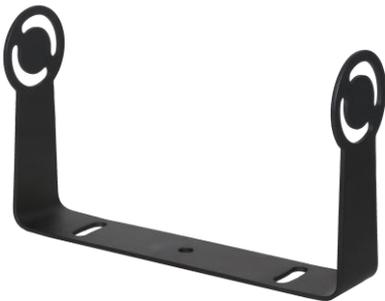
U-Support Bracket	Center Mount Bracket
Sun Shield	Power Cable
Angle Adjustment Screws	IR Remote Control

⚠ Special Notice
Accessory supply may be different for different application.

5. Parts Identification

Press OK button to enter menu item or save user settings.
Press OK button - shortcut for start/stop recording.

Digital Color LCD screen

Power indicator

Remote control sensor

Light level

Menu

Loudspeaker

Select channels

Power switch

Volume decrease

Volume increase

- Press OK button to enter menu item or save user settings.
- Press OK button – shortcut for start/stop recording.
- Press OK button for 3 seconds - shortcut for PAIRING.

Micro-SD /TF Card Slot

Mounting bracket installation

6. Remote Control Operation

Press to select MUTE or enable sound

Press OK button to enter menu item or save user settings.
Press OK button – shortcut for start/stop recording.

Volume decrease and menu selection left

Jump key selector. Fast jump to the display mode specified by SYSTEM

Fast pairing when camera is activated

Press to turn on/off the monitor

Press to show menu or exit menu

Volume increase and menu selection right

MIR-Flip selection

PAL / NTSC TV system selector

MUTE

POWER

OK

VOL MENU VOL

SEL

PAIR SYS MIR

- **MUTE (Mute)**

  Press to select MUTE or enable sound

- **POWER (Power switch)**

  Press to turn on / off the monitor.

- **OK**

  Press OK button to enter menu item or save user settings. Press OK button - shortcut for start / stop recording.

- **MENU**

  Press to display menu or exit menu

- **◁ VOL**

  Volume decrease and menu selection left

- **▷ VOL**

  Volume increase and menu selection right

- **SEL**

  Jump key selector. Fast jump to the display mode specified by SYSTEM SETUP - JUMP KEY

- **PAIR**

  Fast pairing when camera is activated

- **SYS**

  PAL / NTSC TV system selector

- **MIR**

  MIR-Flip selection

7. Basic Operation

7.1 Installation of Center Mounting Bracket:

① Adjust monitor level by sliding the support to the desired height.

② Adjust the angle of the monitor and tighten the knob on the center mounting bracket.

Support attaching piece

Knob
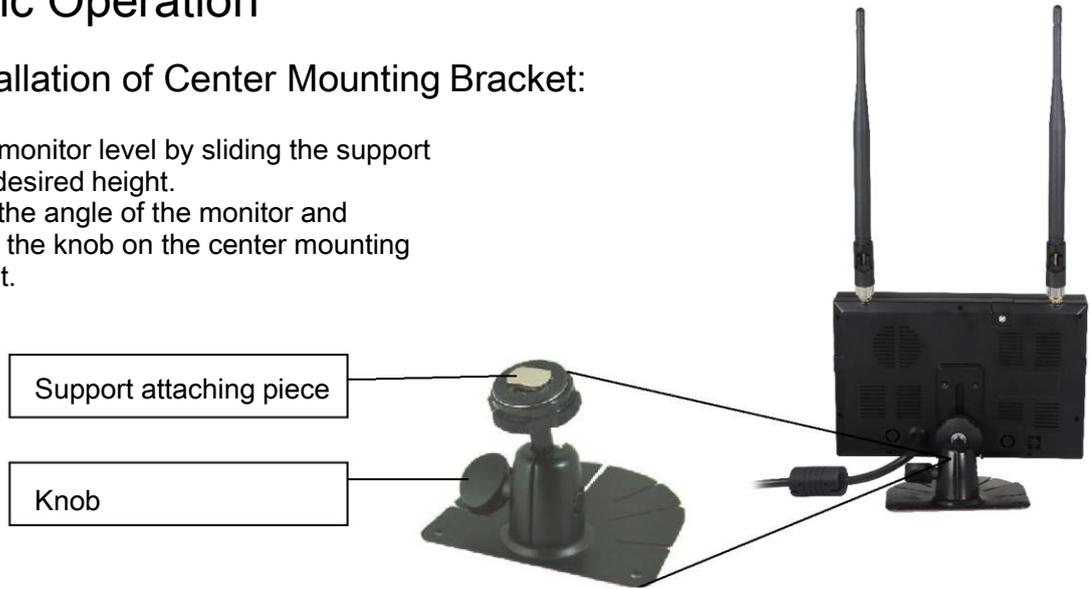
7.2 Installation of U-support Bracket

le adjustment
ews

Red wire to positive power supply of DC/10-32V. Black wire to Ground.

Brown wire to positive power wire of reversing light.

White wire to positive power wire of left light . Blue wire to positive power wire of right light . Green or yellow wire to other positive power wire.

Red
Black
Brown
Blue
White
Green
Yellow

Camera
DC/ 12V

+
−

Battery

Automobile application

Video inputs

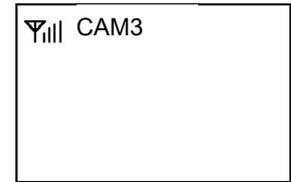## 7.3 Reversing Display:

7.3.1   When the green wire is activated, the monitor automatically switches to CAM1.
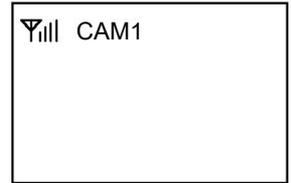
7.3.2   When the white wire is connected to the positive wire of the left turn light , the monitor automatically switches to CAM2(left side camera) when the left light is activated.
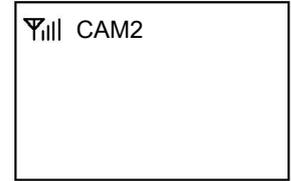

7.3.3   When the blue wire is connected to the positive wire of the right turn light, the monitor automatically switches to CAM3 (right side camera) when the right light is activated.

7.3.4   When the brown wire is connected to the positive wire of reversing light, the monitor automatically switches to CAM4(back-up camera) when the reversing light is activated. The distance label will be displayed.
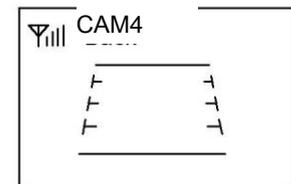

7.3.5   When the yellow wire is connected to the positive wire, the monitor automatically switches to quad or split display. Connection may vary due to different applications.
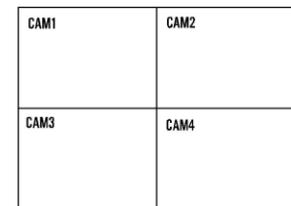
7.4 Volume selection under quad view

7.4.1   Check the volume icon on the top right area under single channel mode. It stands for audio out for the selected channel.
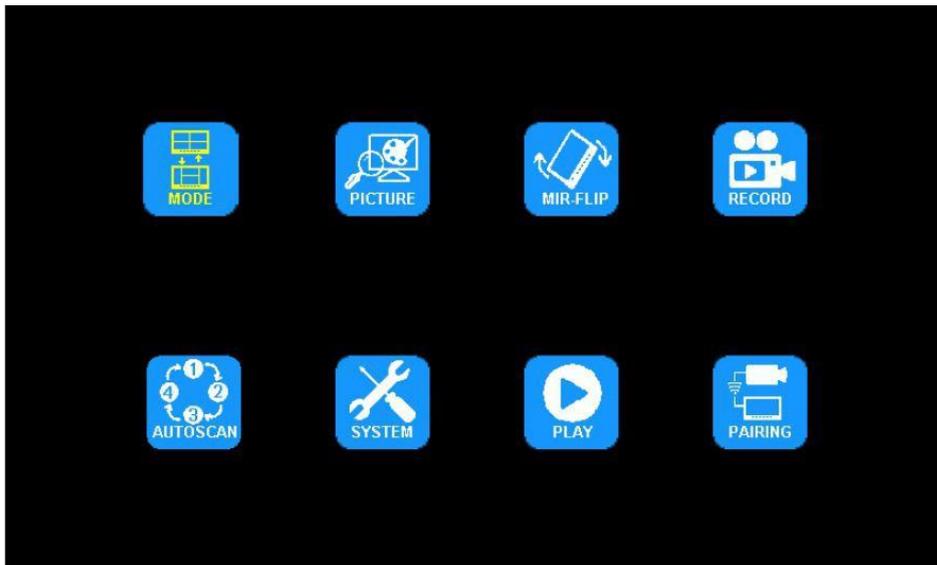
7.4.2   Press ◁ or ▷ to select the channel for audio out.

CAM1 🔊	CAM2
CAM3	CAM4
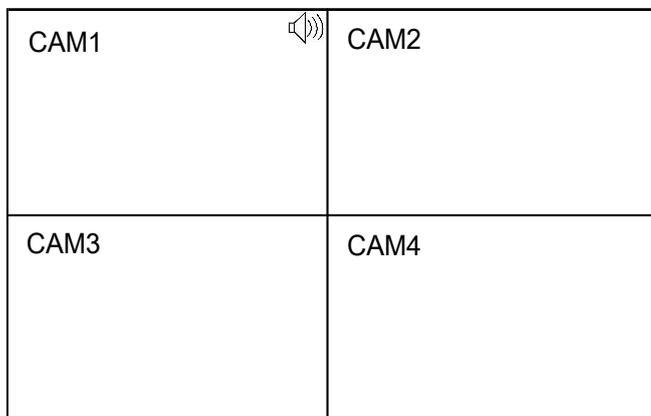
8. Menu

- MENU is only allowed for operation under single image mode, not quad mode.
- Press MENU to display the following options and settings:

① MODE
② PICTURE
③ MIR-FLIP
④ RECORD
⑤ AUTOSCAN
⑥ SYSTEM
⑦ PLAY
⑧ PAIRING

(1) Press ◁ or ▷ to select MODE. Press OK to enter. Press ◁ or ▷ to select SPLIT/QUAD mode. Select OFF to exit SPLIT/QUAD mode. Press MENU to return to main menu.

Note:

When select OFF to exit split /quad mode, split/quad trigger display is disabled. Monitor will switch to single image mode.
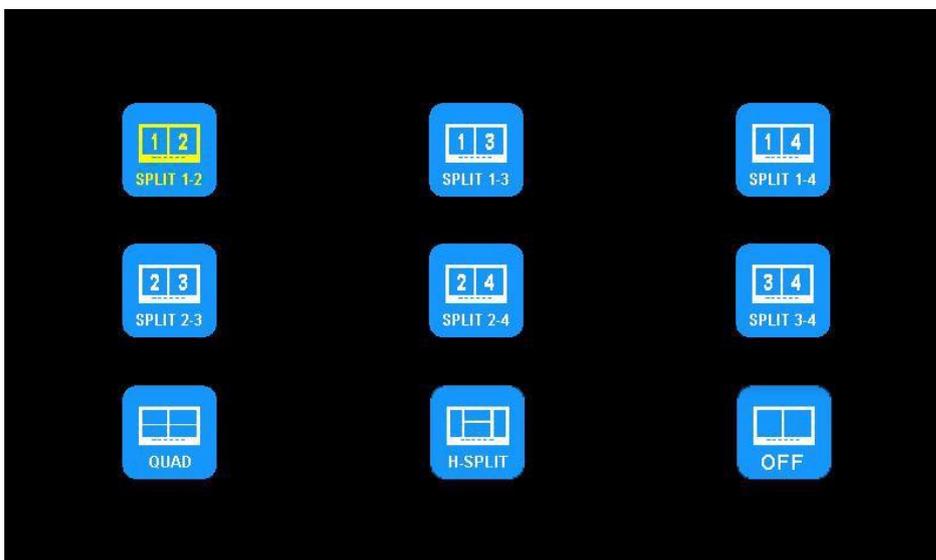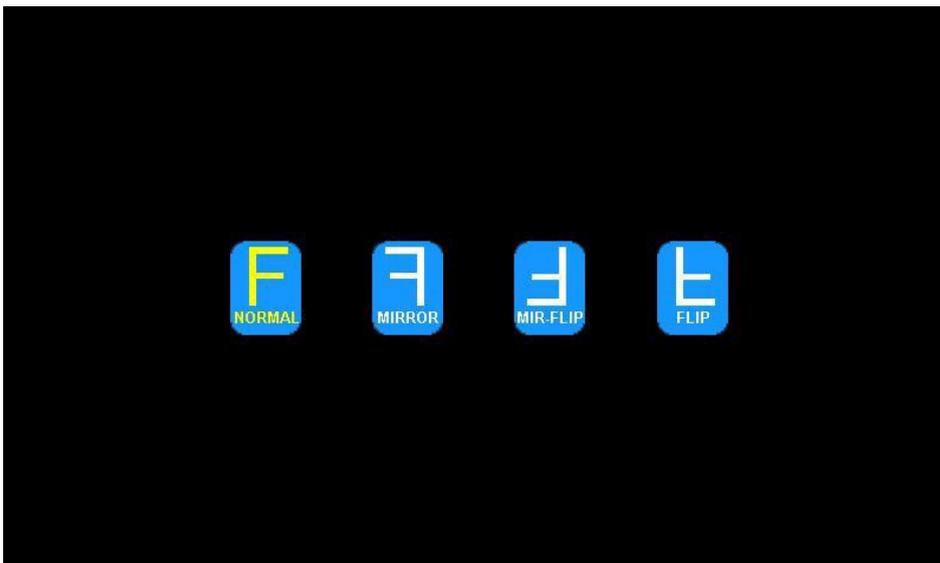
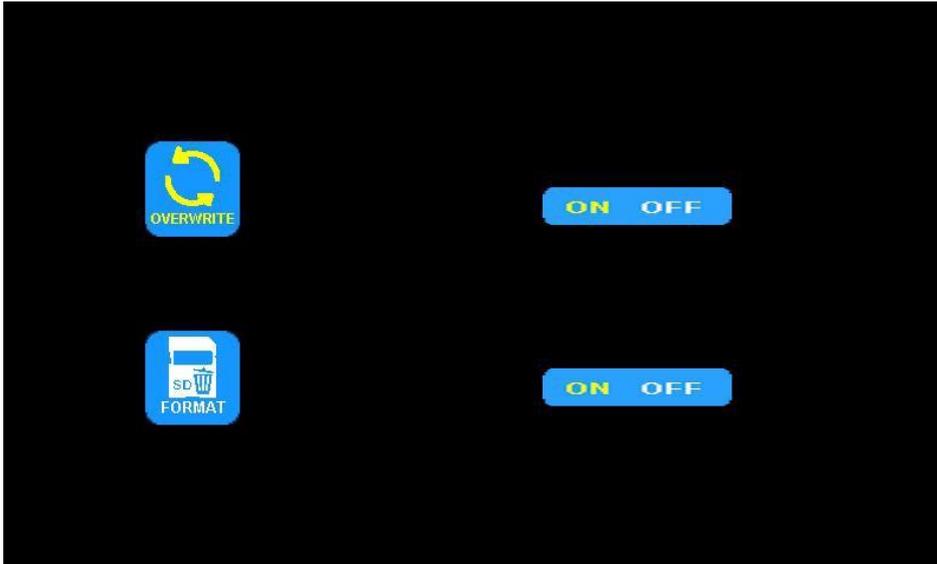(2) Press ◁ or ▷ to select PICTURE, press OK to enter.

- Press ◁ or ▷ to select BRIGHTNESS / CONTRAST / HUE / VOLUME, press
  OK to enter. Press ◁ or ▷ to adjust. Press OK to exit. Press MENU return to
  main menu.

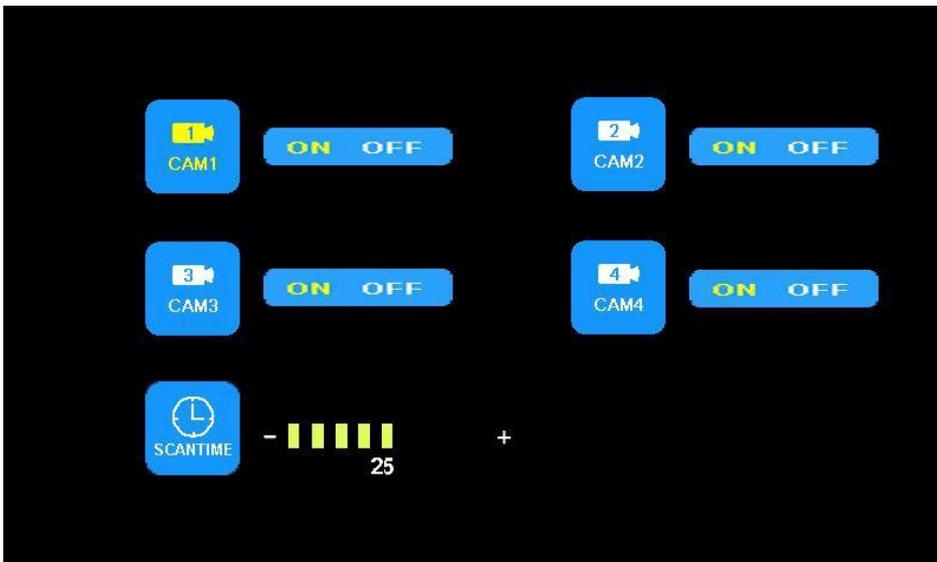(3) Press ◁ or ▷ to select MIR-FLIP, press OK to select.

Press ◁ or ▷ to select NORMAL / MIRROR / MIR-FLIP / FLIP. Press MENU
return to main menu.

(4) Press ◁ or ▷ to select RECORD. Press OK to enter.

- Press ◁ or ▷ to select OVERWRITE / FORMAT, press OK to enter. When the icon turns yellow, press ◁ or ▷ to select ON or OFF. Press OK to exit. Press MENU return to main menu.

- OVERWRITE: Previous video file will be overwritten when disk is full.

- FORMAT : Micro SD card must be formatted before being used. All files in Micro SD card will be lost once disk is formatted.
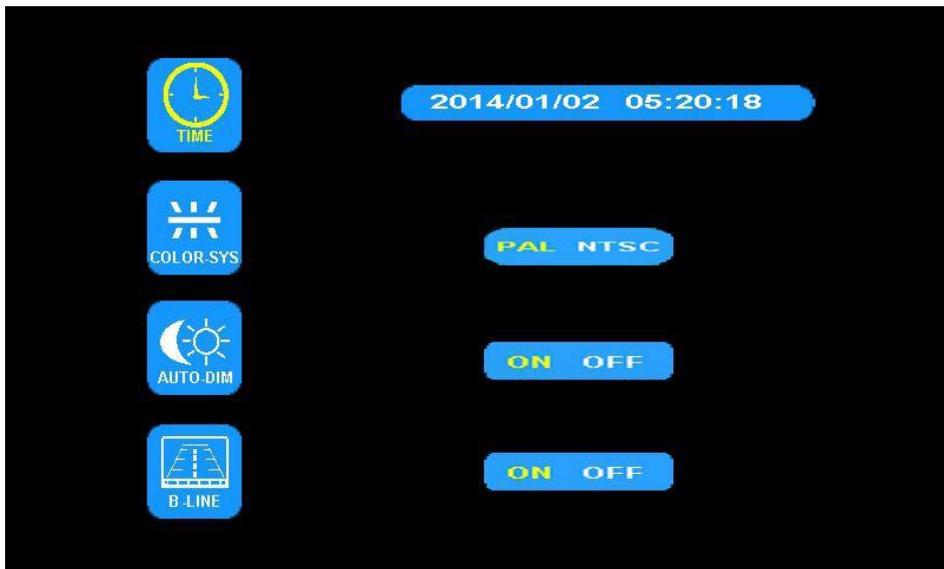
(5) Press ◁ or ▷ to select AUTOSCAN, Press OK to enter.

- Press ◁ or ▷ to select CAM1/CAM2/CAM3/CAM4/SCANTIME, press OK to enter. When the icon turns yellow, press ◁ or ▷ to select or adjust. Press OK to exit. Press MENU return to main menu.
- No video will be displayed under AUTOSCAN mode if a channel is turned OFF.

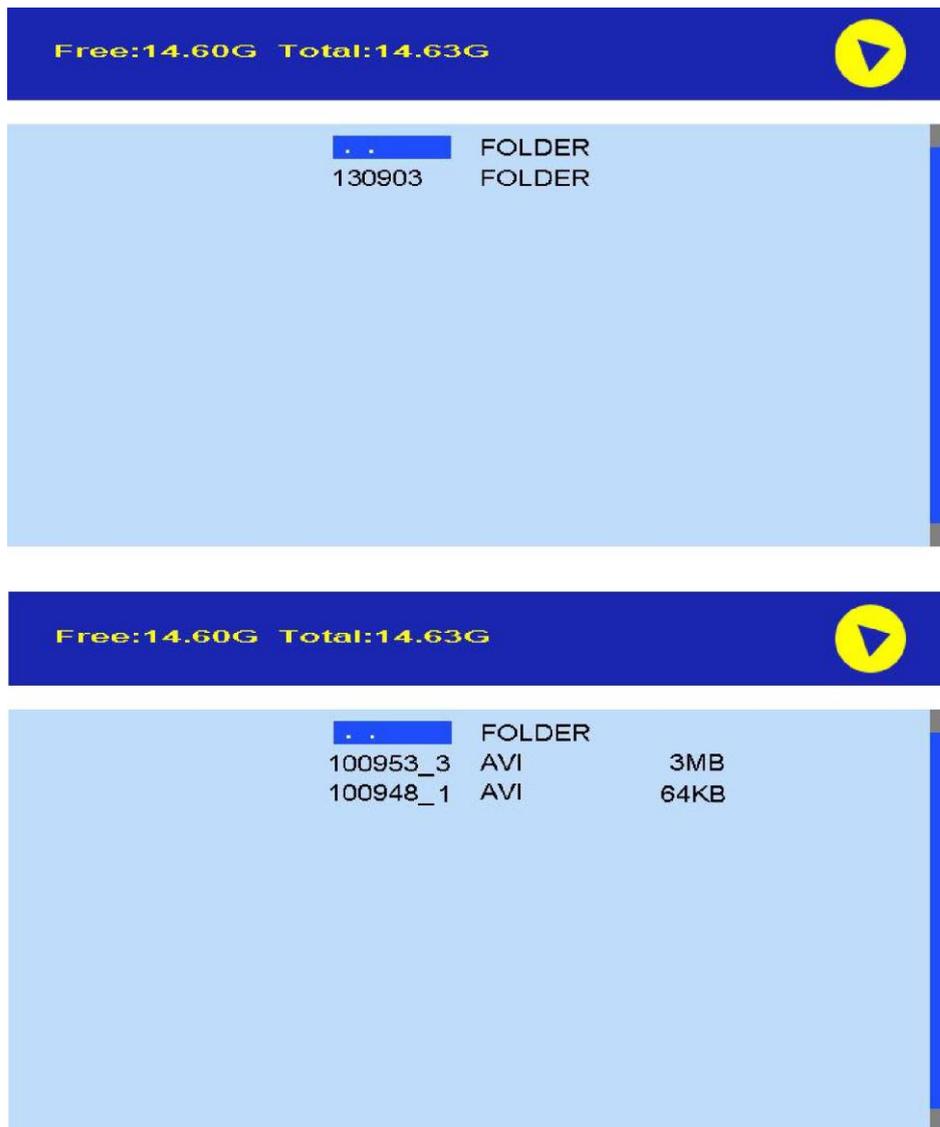- SCANTIME frame is between 5 and 45 seconds, with a step time of 5s.

(6) Press ◁ or ▷ to select SYSTEM, Press OK to enter.

- TIME : Press ◁ or ▷ to select TIME, Press OK to set. Press ◁ or ▷ to adjust. Press OK to continue setting.

- COLOR-SYS: Press ◁ or ▷ to select COLOR-SYS, Press OK to enter, Press ◁ or ▷ to select NTSC/PAL.

- AUTO-DIM: Press ◁ or ▷ to select AUTO-DIM. Press OK to enter, press ◁ or ▷ to select ON/OFF. When set as ON, backlighting automatically adjusts in accordance with the outer brightness.

  ELETRONIC DISTANCE LABEL: Press ◁ or ▷ to select ELETRONIC DISTANCE LABEL. Press OK to enter, press ◁ or ▷ to select ON/OFF to open or close the electronic distance label. When it is on, the electronic distance label will be displayed in reversing channel 4.

(7) Press ◁ or ▷ to select PLAY, Press OK to enter.

Free:14.60G Total:14.63G   ▶

. .	FOLDER
130903	FOLDER

Free:14.60G Total:14.63G   ▶

. .	FOLDER	
100953_3	AVI	3MB
100948_1	AVI	64KB

● Press ◁ or ▷ to select video file, Press OK to enter playback mode.

● Video folder is named in format of YYMMDD. 130903 means the folder is created on Sep3rd, 2013.

● Video files can be searched under daily folder. It is named in format of HHMMSS_ Channel Source. 100953_3 means the file is created for camera 3, at 10:09:53 am.

● All video files are in AVI format with maximum recording time is 10 minutes for each file.

(8) Press ◁ or ▷ to select PAIRING, press OK to enter. Press OK for 3 seconds to enter PAIRING.


- Auto pairing:

① Choose the channel that needs to be set up, the monitor will display the message " PAIRING START 50" .

② Within the countdown of 50 seconds, power on the camera.

③ The monitor and cameras will synchronize themselves with each other after the camera is powered for 5s.

④ If auto pairing is completed, the video will be displayed. If it is failed, a message " No Signal " will be displayed. Repeat the pairing procedure.

- Manual pairing:

① Choose the channel that needs to be set up, the monitor will display the message " PAIRING START 50" .

② Within the countdown of 50 seconds, power on the camera. Press the pairing button on the camera.

③ The monitor and cameras will synchronize themselves with each other.

④ If pairing is completed, the video will be displayed. If it is failed, a message " No Signal" will be displayed. Repeat the pairing procedure.
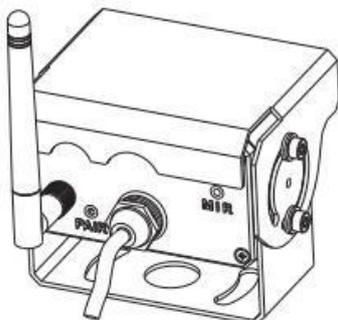
9. Recording Time

With Micro SD cards in different capacities, please refer to the table below for recording time under 3 different image modes.
This table is for reference only. Data may vary under different environments.

MODE \ TF	8G	16G	32G	64G	128G
SINGLE (640x480x1)	14h	28h	55h	110h	220h
QUAD (320x240x4)	11h	22h	43h	86h	172h
SPLIT(400x480x2)	13h	25h	50h	101h	201h

10. Waterproof Camera

Image Device	1/3" CMOS PC3089	
TV System	PAL	NTSC
Effective Pixels	756 x 504 pixels	
Sensing Area	4.80mm x 3.73mm	
Scanning System	2:1 Interlace	
Sync. System	Internal	
Resolution	500TV Lines	
Horizontal Sync Frequency	15.625 kHz	15.734 kHz
Vertical Sync Frequency	50 Hz	60 Hz
Video Output	1.0Vp-p, 75Ohm	
Gamma Consumption	0.45	
AGC	Auto	
S/N Ratio	Better than 46.5dB	
White Balance	Auto	
Electronic Shutter	1/60(NTSC)/1/50(PAL) ~ 1/100,000 Seconds	
BLC	Auto	
Storage Temperature	-40℃ ~ +80℃, RH95%MAX	
Operating Temperature	-30℃ ~ +70℃, RH95%MAX	
Power Supply	DC12V	
Waterproof Rating	IP69K	
Viewing Angle	120°	
Audio	Yes	
Minimum Illumination	0 Lux	
Night Vision Distance	12~15m	
Image Mode	Mirror	
IR-CUT	Yes	

11. Troubleshooting

The symptoms described below do not necessarily mean a failure within the display.
Please check the following items before you initiate request for repair.

Symptoms	Possible Causes/Solutions
No picture	Improper connection of automobile adapter. Use of improper power supply. Power switch is set OFF.
No signal	Check whether the camera has power supply. Pair the monitor and the camera again.
No sound	Check whether the volume is turned off or set too low.
Dark picture	Check whether brightness and contrast are adjusted correctly.
No color	Adjust the HUE settings.