

# Haloview

# User Manual



## M7101

2.4G Digital 7" LCD Wireless Monitor

Please read all instructions carefully before using, and keep the manual for future reference.

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## 1 Precautions

### ● Storage

1. Do not expose the monitor to extreme heat, cold, or sudden temperature changes. The storage temperature of this device is -30 to +80°C or -22 to +176°F. The operating temperature is -20 to +70°C or -4 to 158°F with the humidity under RH90%.
2. Never use this device in environments with excessive moisture, dust or smoke.
3. Avoid dropping or striking this device.
4. Never puncture, scratch or use abrasive cleaning materials on this device.
5. Leave at least a 2" space between the monitor and walls, cabinets or other objects to allow adequate air circulation around the device.
6. The monitor is not designed to be waterproof.

### ● Operating Precautions

1. The device can be powered by a 10 -32 volt automotive battery or vehicle electrical system.
2. 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.

### ● 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.

**FC RED**

## 2 Accessories



**U-Support Bracket X 1**



**Center Mount Bracket X 1**



**Sun Shield X 1**



**Trigger Wires X 1**



**Angle Adjustment  
Screws X 4**



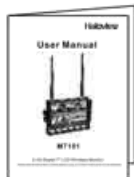
**Cigarette Lighter X 1**



**Camera conversion  
cable X 1**



**BMW connector  
adaptor X 1**



**User Manual X 1**

### **Special Notice**

Accessories supplied in kit may be different for each application.

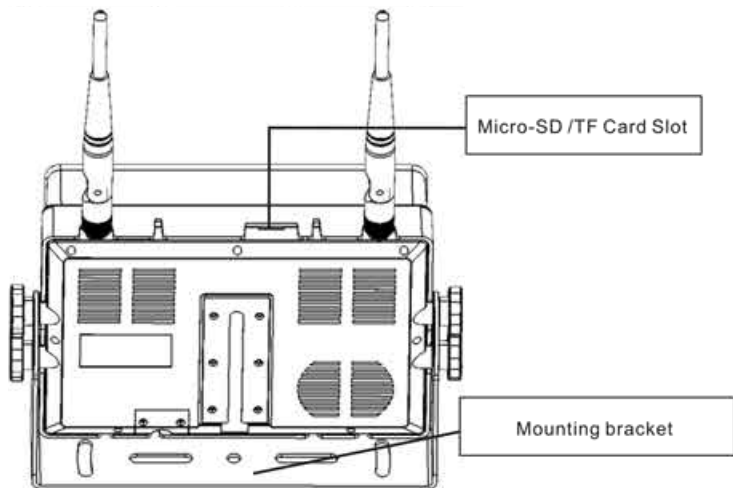
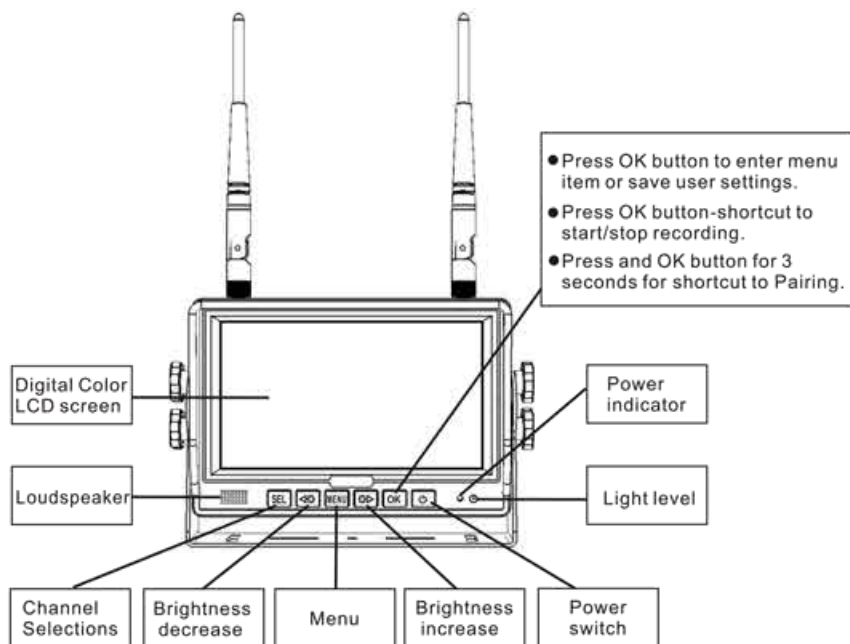
### 3 Features

1. NORMAL, MIRROR, FLIP and MIR-FLIP viewing available.
2. Split mode, auto-scan mode and single-display mode available.
3. Auto pairing: Auto pairing happens when camera is activated.
4. Support 4-channel composite and single-channel recording in AVI signal format.
5. Auto dim function available.
6. 4 wireless camera inputs.
7. Multiple video formats: PAL / NTSC.
8. Wide voltage input: 10 - 32V.
9. Low Power Consumption: Camera will default to low power consumption mode once it is disconnect to the monitor for over 30 seconds. Monitor and camera can be awakened at the same time by pressing the power button of the monitor.

### 4 Specifications

LCD size	7" 16:9
Resolution	800 x 3 (RGB) x 480
Contrast	500:1
Brightness	400 cd/m <sup>2</sup>
Viewing Angle	U: 50 / D: 70, R/L: 70
Aspect Ratio	16:9
Channel	4 channels
Operating Frequency	2400 - 2483.5 MHz
Receiving Sensitivity	-89 dBm
Decompression Form	MPEG4
Latency	120ms
Transmitting Distance	120 M
Micro-SD /TF Card	Max. 128G
System Format	PAL / NTSC
Power Supply	DC 10-32V
Power Consumption	Max. 6W
Loudspeaker	1W/8Ω
Operating temperature	-20~+70°C,RH90%
Storage temperature	-30~+80°C,RH90%

## 5 Functions of each part



## 6 Basic Operation

### 1) Installation of Center Mounting Bracket:

- ① Adjust monitor height by sliding monitor up or down in slot, then tight knob.
- ② Adjust monitor angle by loosening lower knob on center mounting bracket, tilting monitor to desired angle, and re-tighten knob.



### 2) Installation of U-support Bracket





## 7 Trigger Wire Function



### 7 PIN Cable Wiring Instruction

Power Wire	
Red Wire	DC IN 10-32V (Positive Wire)
Black Wire	GND (Negative Wire)
Trigger Wire	
Brown Trigger Wire	When it's activated, the monitor automatically switches to CAM1. All buttons invalid once Brown Trigger Wire triggered
Blue Trigger Wire	When it's activated, the monitor automatically switches to CAM2. (left side camera). All buttons invalid once Blue Trigger Wire triggered
Purple Trigger Wire	When it's activated, the monitor automatically switches to CAM3. (right side camera). All buttons invalid once Purple Trigger Wire triggered
Green Trigger Wire	When it's activated, the monitor automatically switches to CAM4. (rear view camera). All buttons invalid once Green Trigger Wire triggered
Yellow Trigger Wire	When it's activated, the monitor automatically switches to quad or split display. Connection depends on the application request. All buttons invalid once Yellow Trigger Wire triggered.

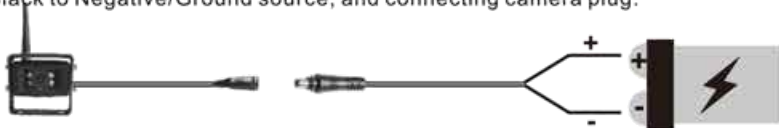
### Trigger Function Introduction

1. When brown/blue/purple/green/yellow wires triggered at the same time by 10-32V, the monitor will display CAM4 as a default priority choice.
2. The proper installation of trigger wires will save battery power. The system will use very little power when monitor is in standby mode. Once any trigger wire is triggered, corresponding channel of CAM will be activated and displayed on the monitor. The system will reenter low power consumption status when triggered wire deactivated.
3. For multi cameras, trigger wires can help switch screen display automatically without pressing SEL button to avoid diverting the driver's attention during driving.

## 8 Wiring Instruction

### Camera Wiring

Power on the camera by connecting the Red positive wire to 10 - 32 VDC power source, Black to Negative/Ground source, and connecting camera plug.



### Monitor Wiring

#### Wiring Without Trigger Wires

This is the most commonly used method for users who have the single camera system. (one monitor and one camera). Connect the monitor with BMW connector adaptor, connect the DC connector of BMW connector adaptor to cigarette lighter. Power the monitor by vehicle 12V through cigarette lighter.



For more cameras, extra cameras can be paired separately to CAM1/CAM2/CAM3/CAM4. Please refer to page 17 PAIRING. CAM4 will be the only channel which will display parking lines. If you need parking lines, please pair a camera to CAM4. You can easily switch camera display by pressing SEL button.

#### Wiring With Trigger Wires

If you are familiar with automobile wiring, you can try wiring with trigger wires.



Red wire connects to automobile positive power supply, 10 - 32VDC.  
Black wire connects to automobile negative power supply, GND.

Blue trigger wire connects to positive wire of left turn signal light. When left turn signal light turned on, the display will automatically switch to CAM2.

Purple trigger wire connects to positive wire of right turn signal light. When right turn signal light turned on, the display will automatically switch to CAM3.

Green trigger wire connects to positive wire of rear view signal light. When rear view signal light turned on, the display will automatically switch to CAM4.

Brown trigger wire and Yellow trigger wire connects to other positive wires, which depends on your application requirements.

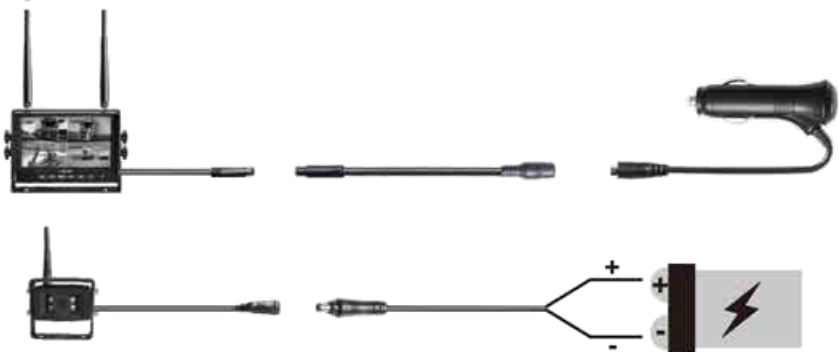
**Note:** If power supply is only energized when the ignition is on, then your monitor will not operate unless the automobile is running.

## 9 Installation

### Please find best signal reception position before installation

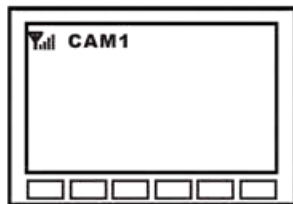
The metal body of the vehicle can attenuate wireless signal strength sharply. It is necessary to test the signal strength before installation.

① Please connect monitor and camera as below picture

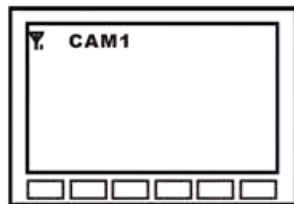


② Pairing the camera to the monitor, please refer to page 17 PAIRING. 4 cameras can be paired separately to CAM1/CAM2/CAM3/CAM4.

③ Put the monitor and the camera at the intended position to test signal strength.

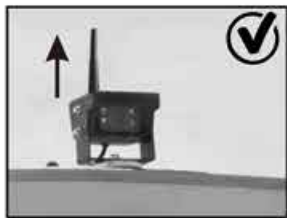
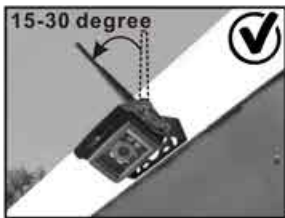


Good signal



Poor signal

If signal strength of the position that you planned to install a camera is under 3 bars, please change to another position, or mount the camera higher to make sure the antenna highest of the top without being blocked. Please refer to below pictures:



**Installation Position 1:** Mount the camera higher than your vehicle's roof, keeping the antenna vertical.

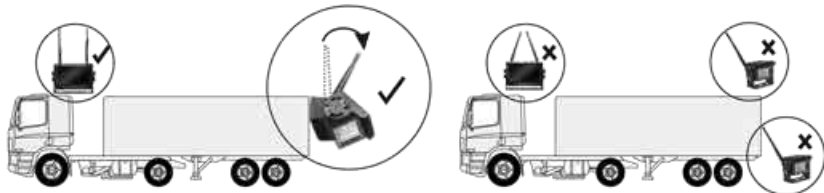
**Installation Position 2:** Mount the camera lower but as close as possible to vehicle's roof, and move the antenna outward **15-30 degree**. The antennas proximity to any metal surfaces on the vehicle may affect signal strength.

### ⚠ Special Notice

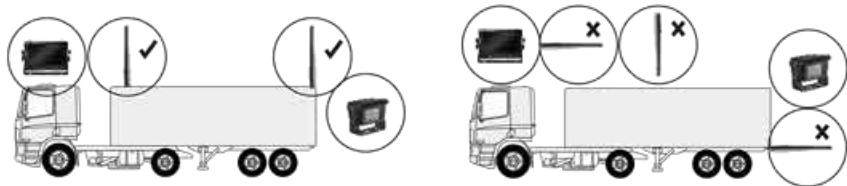
After position adjustment, you can start installation if your signal strength is still above 3 bars.

## Installation

- 1) Antennas should be vertically lined to the ground. Make sure there is no obstacle around antennas.



- 2) Magnet based extension antenna should be attached on the top of the vehicle. Make sure there is no obstacle around or between 2 antennas.





You need install only one antenna on the right side (②) if connect one or two cameras for single/ split display.

If you connect four cameras with the monitor and need quad-view display, you need to install both antennas (①&②).

## 10 Menu

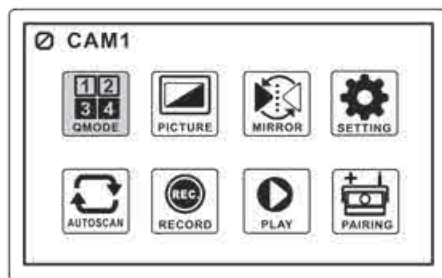
### 10.01 Button Function



Button	Function
SEL	Switch among cameras
◀⚙	Decrease brightness
MENU	Enter menu or return to previous menu
⚙▶	Increase brightness
OK	Function① : "Start recording"and"pause recording" Function② : "Start playing"and"pause playing" in video playback interface. Function③ : Press for 3 seconds to enter pairing status Function④ : Press OK button to enter menu item or save user settings.
⏻	Turn on/off monitor and standby

## 10.02 Menu

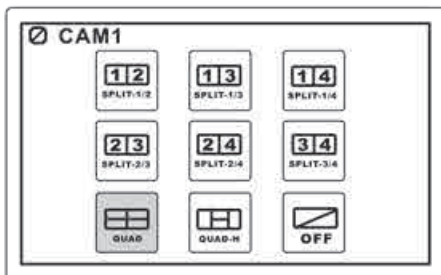
Press menu button to enter below interface.



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


## 10.03 Qmode

1) Press MENU button to enter menu interface. Press ◀⚙ or ⚙▶ and OK button to enter QMODE.

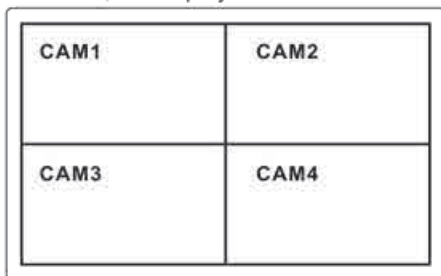


2) Press ◀⚙ or ⚙▶ to select display mode.

3) After setting, press SEL button to change display mode. For example,

If you set QUAD mode "  "

Pressing SEL button 4 times, the display will switch CAM1 to QUAD.





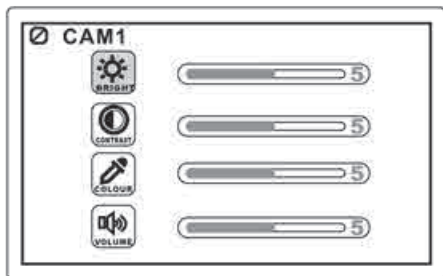
#### 4) Quad or Split Audio Setting

When the monitor display Quad or Split picture, you can press  or  button to play audio of any of the CAM channel.





### 10.04 Picture

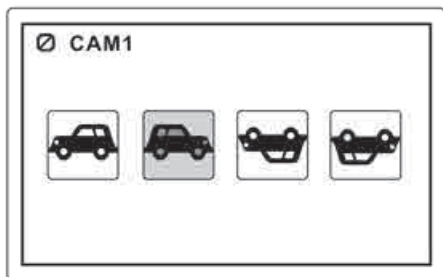
- 1) Press MENU button to enter menu interface.
- 2) Press  or  to select PICTURE, Press OK to enter.



- 3) Press  or  to select BRIGHTNESS/CONTRAST/COLOR/VOLUME, Press OK to confirm. Press  or  to adjust settings.

### 10.05 Mirror

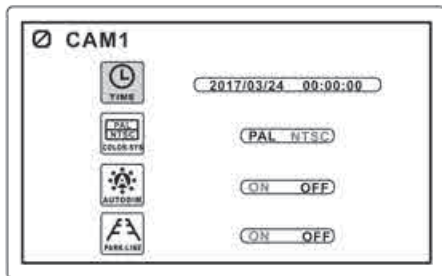
- 1) Press MENU button to switch to enter menu interface. Press  or  to select MIRROR. Press OK button to enter MIRROR setting.







- 2) Press  or  to select NORMAL/MIRROR/MIR-FLIP/FLIP.

## 10.06 Setting

- 1) Press MENU button to enter menu interface. Press  or  to select SETTING.  
Press OK button to enter SETTING.

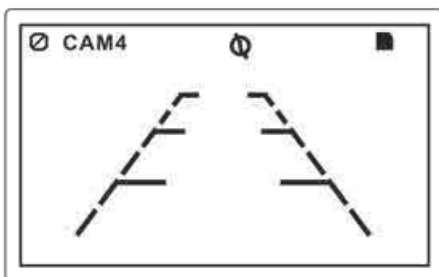


ICON	FUNCTION
	Set current time. Please make sure your setting is correct, otherwise the time display on recorded videos will be incorrect.
	Set video format of the camera. Please refer to below table.
	When the option is turned "ON", monitor will automatically decrease brightness in low light. Or you can turn "OFF" the auto-dim function.
	Turn "ON" or turn "OFF" the parking lines. Parking lines only display on CAM4. If you need parking lines, please pair camera to CAM4.

Video Format	Country
<b>PAL</b>	Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, China, Cyprus, Czechoslovakia, Denmark, Dubai, Egypt, Finland, France, Germany, Gibraltar, Greece, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Jordan, Kuwait, Luxembourg, Malaysia, Netherlands, New Zealand, Norway, Sultanate of Oman, Poland, Portugal, San Marino, Saudi Arabia, Singapore, Spain, Sweden, Switzerland, Turkey, United Kingdom,
<b>NTSC</b>	Bolivia, Canada, Chile, Colombia, Costa Rica, Ecuador, Japan, South Korea, Mexico, United States



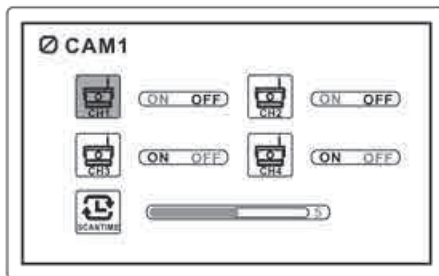
2) Press  or  and OK button to set TIME/PAL-NTSC/AUTODIM/PARKLINE.





3) **Note:** Parking lines only display on CAM4. If you need parking lines, please pair camera to CAM4.

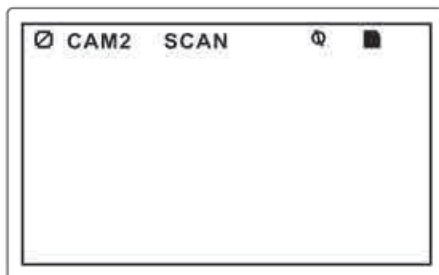
## 10.07 Autoscan

1) Press MENU button to enter menu interface. Press  or  and OK button to enter AUTOSCAN setting.



2) Press  or  and OK button to set AUTOSCAN channels and SCANTIME.

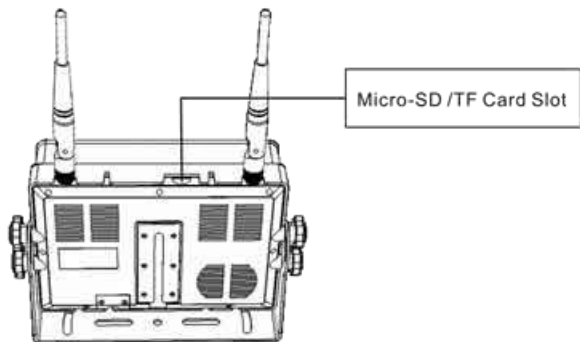
3) Press SEL button to switch to SCAN interface. A SCAN icon will appear on the display. Press again to exit SCAN mode.



## 10.08 Record

### 1) Insert TF Card

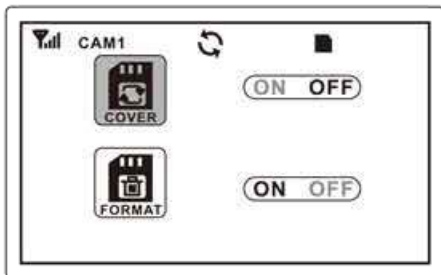
Please insert TF card in TF card slot, max 128G Micro-SD/TF Card



### 2) Format the TF card.

**Note:** TF card must be formatted before using.

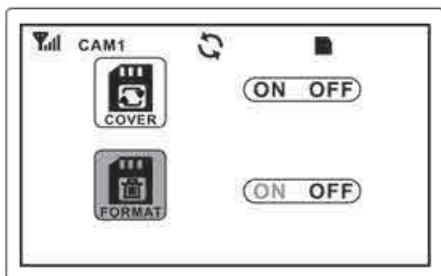
Press MENU button to enter menu interface, and enter RECORD setting



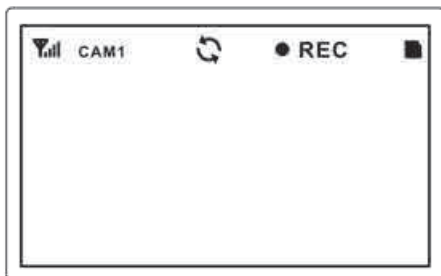
When COVER is turned on, overwrite function will be activated. Previous recorded video files will be overwritten while TF card memory is full.



After TF card formatted, a yellow folder icon will be shown on the screen, indicating TF card is available now.



3) After setting, press OK button to start recording or pause recording

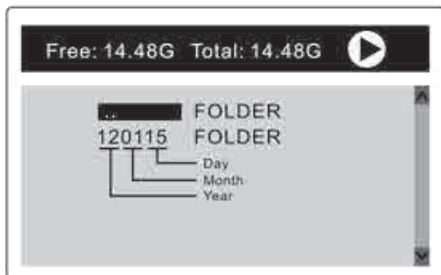


**Note:** Pressing OK button in QUAD or SPLIT display, the monitor will record all displayed channel of CAM at the same time.

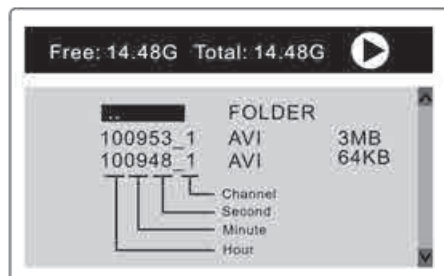
## 10.09 Play Recorded File

Recorded videos can be played by monitor.

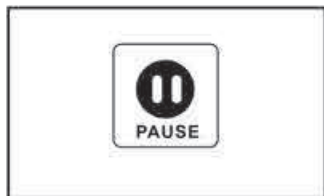
- 1) Press ◀⚙ or ⚙▶ and OK button to enter PLAY.
- 2) Press ◀⚙ or ⚙▶ and OK button to select a file.



3) Press  or  to select TIME & CHANNEL, Press OK to enter.



4) Press OK button to PLAY or PAUSE the file.



## Recording Time

For Micro SD cards with 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.

TF \ MODE	8G	16G	32G	64G	128G
SINGLE (640x480x1)	14H	28H	55H	110H	220H
QUAD (320x240x4)	11H	22H	43H	86H	172H
SPLIT (400x480x2)	13H	25H	50H	100H	200H

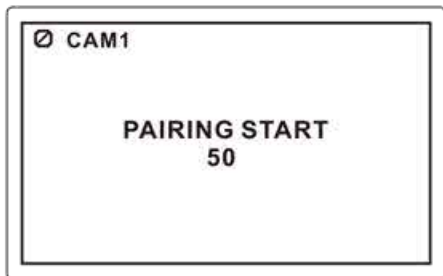
## 10.10 Pairing

1) Press SEL button to select a channel that needs to be paired.

2) Monitor Pairing

Method 1: Enter menu interface and select PAIRING, press OK to confirm, you will have 50 seconds for pairing.

Method 2: Press OK button for 3 seconds to enter PAIRING status, you will have 50 seconds for pairing.



3) Camera Pairing

Method 1: Press the pairing button on the back of the camera.

Method 2: Power off the camera and power on it again.



4) Video will be displayed after pairing complete.

**Note:** If no picture displayed after pairing, please retry pairing steps and power-on again the camera.

## 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 No sound	Improper connection of automobile adapter. Use of unauthorized power supply. Power switch is OFF. Please re-pairing the system. Refer to page 17 PAIRING.
No signal	Check whether the camera is powered on. Please check whether antennas are plugged on both monitor and camera. Please check the angle of the antenna. Please check whether metal obstacles near the antenna. Please re-pairing the system. Refer to page 17 PAIRING.
No sound	Check whether the sound volume is turned off or set too low.
Dark picture	Check whether brightness and contrast are adjusted correctly.
No color	Adjust the HUE settings.
Button invalid	All Button invalid when trigger wire is activated. Please deactivate trigger wire signal to get the button function valid.  For example, you need to turn off LEFT TURN light or REVERSING light to deactivate trigger wire signal of CAM2 or CAM4. MENU button invalid in split display.  If MENU button invalid, please check whether it is under split display. You need to switch to single display by pressing SEL button to get the MENU button valid.
Unable to record	Please check whether TF card inserted Please check whether TF card formatted before recording Please check whether TF card storage full

The monitor is equipped with Anti-Glare screen. Please remove the screen protector to get best picture quality after installation.

## CAMERA SPECIFICATION

Model: CA101

Image Device	1/3" CMOS PC3089	
TV System	PAL	NTSC
Horizontal Sync Frequency	15.625kHz	15.734kHz
Vertical Sync Frequency	50 Hz	60 Hz
Frame Rate	25 f/s	30 f/s
Effective Pixels	756×504 pixels	
Sensing Area	4.80mm×3.73mm	
Video Output	1.0Vp-p, 75 Ohm	
Scanning System	2:1 Interlace	
Sync. System	Internal	
Gamma Consumption	0.45	
AGC	Auto	
White Balance	Auto	
BLC	Auto	
S/N Ratio	Better than 46.5dB	
Electronic Shutter	Auto: 1/60(NTSC)/1/50(PAL)~1/100, 000 Seconds	
Operation Frequency	2400-2483.5MHz	
Transmission Distance (barrier free)	120m	
Transmission Power	18dBm	
Video Codec	MPEG4	
Spread SPECTRUM	FHSS	
Latency	120ms	
RF Bit Rate	4Mbps	
Minimum Illumination	0Lux	
Power Supply	DC10~32V	
Night vision distance	8~10m	
Waterproof rating	IP69K	
Viewing Angle	120°	
Audio	Yes	
SMART IR-CUT	Yes	
Operating Temperature	- 20°C ~ 70°C, RH95%MAX	
Storage Temperature	- 30°C ~ 80°C, RH95%MAX	

**Haloview**  
[www.haloview.com](http://www.haloview.com)

