● MUTE (Mute):
Press to select ENABLE/MUTE sound.

● POWER (Power Switch):
Press to turn on/off the monitor.

● ⇆(Horizontal Turning of Picture):
Press to turn picture horizontally.

● ↕(Vertical Turning of Picture):
Press to turn picture vertically.

● CH+ (Setting Selection Up):
Press to select the upper setting.

● CH- (Setting Selection Down):
Press to select the lower setting or to display the scale.

● ◁ ○
Press to decrease Brightness.

● ○ ▷
Press to increase Brightness.

● MENU :
Press to show menu.

● MODE (Picture Mode):
Press to select different picture modes (PERSONAL / STANDARD / SOFT / VIVID / LIGHT).

● CALL (Call):
Press to display video channel source.

● TIMER:
Press to set the timer to shut down the monitor (10, 20, 30, 40 and max 90 minutes).

● LANG(Language Selection):
Press to select language display of English, Deutsch, Français, Español, Português,
Italiano, Nederlands or Русский options .

● SYS:
Press to select AUTO / PAL / NTSC.

● SEL :
Press to select CAM channels.

7. Basic Operation

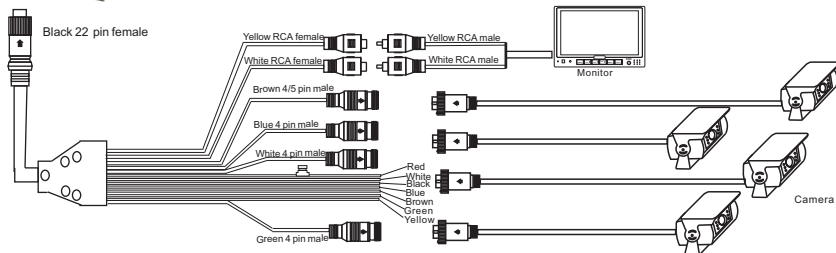## 7.1. Connection of AV Adapter and Controller Cable

Hold the cable , align the side of jack
marked with ⇨ on the female 22-pin
connector with the male 22-pin connector
marked with ⇦ then firmly plug together.

① Black 4 pin male for Camera1.
② Black 4 pin male for Camera 2.
③ Black 4/5 pin male for Camera 3.
④ Black 4 pin male for Camera 4.
⑤ Single red wire to power wire of DC / 10-32V.
⑥ Single black wire to GND.
⑦ Single brown wire to positive power wire of the
back-up light.
⑧ Single white wire to positive power wire of left light .
⑨ Single blue wire to positive power wire of right light .
⑩ Single green wire to any other trigger control.
⑪ Yellow RCA for video output.
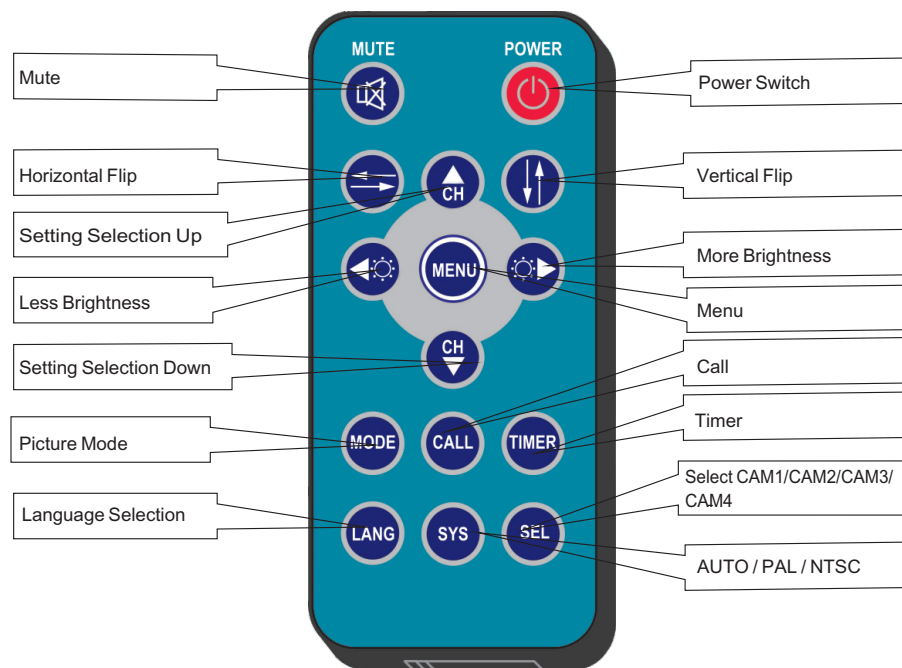⑫ White RCA for audio output.
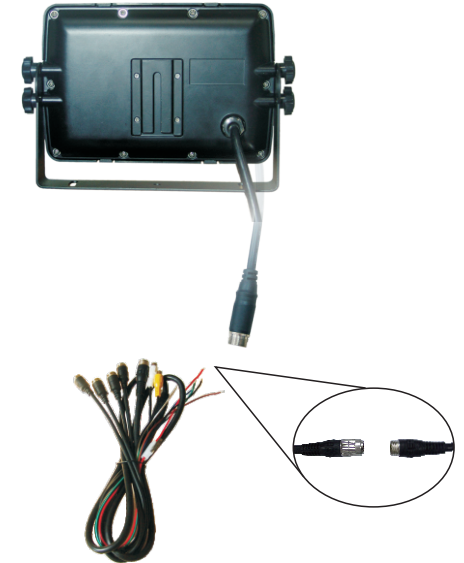
Black 4/5 pin male for Camera 1 / Camera 2 / Camera 3 / Camera 4.
Single red wire to positive power supply of DC/10-32V.
Single black wire to GND.
Single brown wire to positive power wire of back-up light.
Single white wire to positive power wire of left light .
Single blue wire to positive power wire of right light .
Single green wire to any other trigger control.
Yellow RCA female for video output .
White RCA female for audio output.

Black 22 male

Black 22 pin female

Yellow RCA female | Yellow RCA male
White RCA female | White RCA male
Monitor

Brown 4/5 pin male
Blue 4 pin male
White 4 pin male
—Red
—White
—Black
—Blue
—Brown
—Green
—Yellow
Green 4 pin male

Camera

6. Remote Control Operation

Mute

Power Switch

Horizontal Flip

Vertical Flip

Setting Selection Up

More Brightness

Less Brightness

Menu

Setting Selection Down

Call

Picture Mode

Timer

Language Selection

Select CAM1/CAM2/CAM3/CAM4

AUTO / PAL / NTSC

MUTE   POWER

CH

MENU

CH

MODE   CALL   TIMER

LANG   SYS   SEL

7.2.Reversing Display:

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

CAM1
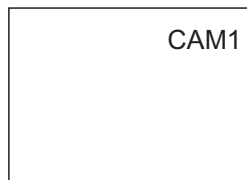
7.2.2. When the blue wire is connected to the positive wire of the right turn light, the monitor automatically switches to CAM2 (right side camera) when the right turn indicator is activated.

CAM2
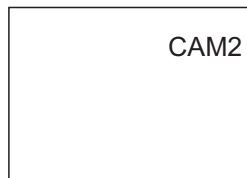
⚠ Notice

1. Please align the remote control with the infrared-receiving window on the monitor to operate.
2. Never disassemble the remote control or allow it to drop, or become wet.
3. Press the control buttons firmly. Allow 2 seconds for the picture to change.

5. Parts Identification

Color LCD screen

Power indicator

Remote control sensor

Light level sensor

Menu

Loudspeaker

| Power switch | Brightness increase | Brightness decrease | Channel selection - | AV1/AV2/AV3/AV4 Selector |

Mounting bracket installation

7.2.3. When the brown wire is connected to the positive wire of back-up light, the monitor automatically switches to CAM 3 (back-up camera) when the back-up light is turned on. The distancing grid will also be displayed.
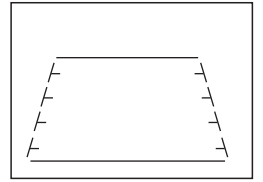
7.2.4. When the green wire is activated, the monitor automatically switches to CAM4.

CAM4
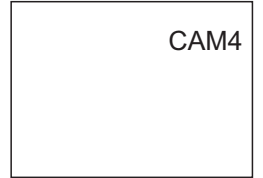
8. Menu

● Press MENU to display the following options and settings:
  ① PICTURE
  ② OPTION
  ③ SYSTEM
  ④ AUTO SCAN

(1) Picture

BRIGHT, CONTRAST, COLOR, VOLUME, AUTO DIM and SCALE ADJUST options will display on the screen as illustrated below:

● Press ▽ to select BRIGHT.

```
PICTURE

BRIGHT              50
CONTRAST            50
COLOR               50
VOLUME              50
AUTO DIM            OFF
SCALE ADJUST        OFF
```
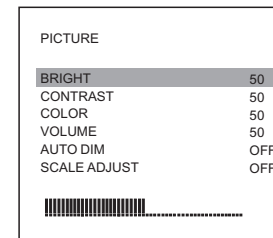
Press + / − to adjust the brightness Level.

● When auto dim is turned on in dark environment, OSD turns into dim mode for dim setting；When auto dim is turned on / off in bright environment, OSD display normal mode.

```
PICTURE

DIM BRIGHT          40
DIM CONTRAST        45
DIM COLOR           40
VOLUME              50
AUTO DIM            ON
SCALE ADJUST        OFF
```

Dim mode

```
PICTURE

BRIGHT              50
CONTRAST            50
COLOR               50
VOLUME              50
AUTO DIM            ON
SCALE ADJUST        OFF
```
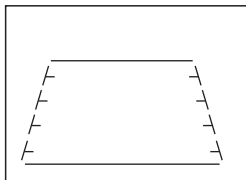
Normal mode

● Press ▽ to select SCALE ADJUST.

```
PICTURE

BRIGHT              50
CONTRAST            50
COLOR               50
VOLUME              50
AUTO DIM            OFF
SCALE ADJUST        OFF
```

Press +/- to select ↑↓ or ⇆ for scale adjustment ↑↓.

● Exit menu and again press ▽ to display the grid line.

If ↑↓ is selected, press +/- to adjust the scale up/down; I f ⇆ is selected, press+/-to adjust the scale left/right.

4. Accessories

U- Support Bracket	Center Mount Bracket
AV and Power Supply Adapter Cable	IR Remote Control
Sun Shield	Angle Adjustment Screws
Cigarette Lighter Power Adapter	Power Adapter

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

2. Product Features

(1) TFT LCD monitor with wide angle view and high resolution display.

(2) Picture image may be adjusted for Horizontal, Vertical, Mirror and Normal viewing.

(3) Select from 8 languages for user operation.

(4) Automatic backlighting for buttons, and automatic brightness control.

(5) Full-function remote control.

(6) Multiple video formats available: AUTO/PAL/NTSC.

(7) Up to 4 CAM inputs, 1 video output and 1 audio output .

(8) Operates from DC / 10 - 32V. Supports 12V or 24V automobile battery.

(9) Automatically switches to back-up, left, right or front camera views.

(10) Automatic scanning function

(11) On-board speaker.

(12) With touch buttons.

(13) The scale can be adjusted for left, right, up and down.

3. Technical Specifications

(1) 7" TFT- LCD Color monitor with digital panel.

(2) Audio output: 1.5W.

(3) Loudspeaker: one 15 x 24mm round loudspeaker.

(4) Power supply: Automobile storage battery (DC / 10-32V).

(5) Power consumption: about 6W .

(6) Outer dimension: 197.2mm (W) × 132mm (H) × 30.5mm (T).

(7) Dot pitch: 0.0642 (H) × 0.1790 (V).

(8) Resolution: 800 × 3 (RGB) × 480.

(9) Contrast: 500:1.

(10) Brightness: 400cd/m^2.

(11) Viewing angle: U: 50° / D: 70°, R/L: 70°/70°.

(12) Operating temperature: -20~+70ºC,RH90%.

(13) Storage temperature: -30~+80ºC, RH90%.

⚠ Special Notice

All specifications are subject to change without notice.

---

(2) Option

LANG , SCALE , CAM1 , CAM2, CAM3 , CAM4 options display on the screen as illustrated below :

● Press ▽   to select LANG.

```
OPTION

LANG                    ENGLISH
SCALE                   ON
CAM1                    NORMAL
CAM2                    NORMAL
CAM3                    NORMAL
CAM4                    NORMAL
```

Press + / − to select English, Deutsch, Français, Español, Português, Italiano, Nederlands or Русский options .

● Press ▽   to select SCALE.

```
OPTION

LANG                    ENGLISH
SCALE                   ON
CAM1                    NORMAL
CAM2                    NORMAL
CAM3                    NORMAL
CAM4                    NORMAL
```

Press   + / −   to select ON / OFF. Scale refers to the reversing distance indicator displayed on the monitor.

● Press ▽ to select CAM1.

```
OPTION

LANG                    ENGLISH
SCALE                   ON
CAM1                    NORMAL
CAM2                    NORMAL
CAM3                    NORMAL
CAM4                    NORMAL
```

Press   + / −   to select NORMAL / MIRROR.

(3) System

COLOR-SYS, BLUE BACK, HORIZONTAL, VERTICAL, ZOOM functions will display on the screen
As illustrated below :

● Press ▽ to select COLOR-SYS .

```
SYSTEM

COLOR -SYS        AUTO
BLUE  BACK        ON
HORIZONTAL        ↕
VERTICAL          ↕↕
ZOOM              16:9
```

Press + / − to select AUTO / PAL / NTSC.

● Press ▽ to select ZOOM.

```
SYSTEM

COLOR -SYS        PAL
BLUE  BACK        ON
HORIZONTAL        ↕
VERTICAL          ↕↕
ZOOM              16:9
```

Press + / − to select 4:3 .

(4) Auto Scan

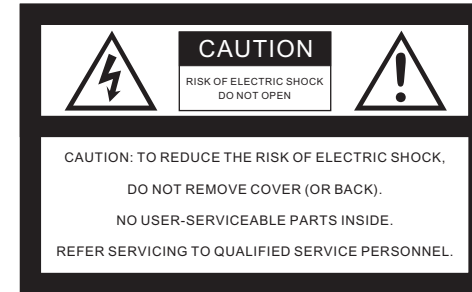AUTO SCAN, SCAN TIME, CAM1 , CAM2, CAM3, CAM4 options display on the screen as illustrated below :

● Press ▽ to select SCAN TIME.

```
AUTO SCAN

AUTO SCAN         ON
SCAN TIME         5S
CAM1              OFF
CAM2              OFF
CAM3              OFF
CAM4              OFF
```

Press + / − to select 1S~90S .

● Maintenance

(1) Remove all the cable connections from the monitor before cleaning the unit.
(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 neccessitate expensive repairs.

● Declaration of conformity

FC

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.

C E

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) Avoid dropping or striking this device.

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

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

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

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

(7) The device is designed to be water-resistant, but not for underwater application.

● 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 unit.


⚠ 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.

---

9. Waterproof Camera
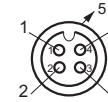
1. 12V DC
2. GND
3. Audio Output
4. Video Output
5. Shell

● Specification

Image Device	1/3" CMOS PC3089	
TV System	PAL	NTSC
Effective Pixels	756 x 504 pixels	
Sensing Area	4.80 mm 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/Normal Image Switch	
IR CUT	Yes	

10. 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.

Symptom	Possible Causes/Solutions
No picture, no sound	Improper connection of automobile adapter. Use of un-authorized power supply. Power switch is on OFF position.
No picture	Check whether AV cable is properly connected.
No sound	Check whether audio wire is properly connected or the sound volume is turned off or set too low.
Dark picture	Check whether brightness and contrast are adjusted correctly; Check whether the environments temperature is too low.
No color	Adjust the color settings.
Upside down or lateral inverted picture	Use the remote control horizontal /vertical selection switch to set proper orientation
No reversing function (i.e. Picture)	The black wire of the monitor AV cable to the reversing light may be loose. The red wire from the monitor may be loose.

Contents

⚠ Special Notice

Backing Up Your Vehicle

The product is intended to assist in safe driving and allows the driver to have a broader field of vision during backup. You, as the driver, are solely responsible for the safe operation of your vehicle and the safety of your passengers and pedestrians, and abiding all state and local traffic regulations. Do not use any features of this system to the extent it distracts you from safe driving. Your first priority while driving should always be the safe operation of your vehicle. A&I Products will not accept any responsibility whatsoever for accidents and/or injuries resulting from failure to observe these precautions or safety instructions.

Operating Instructions

Digital LCD Color Monitor

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

V1.5