

OWNER'S MANUAL

* PLEASE READ CAREFULLY BEFORE USING AND KEEP WELL.



**7" TFT LCD COLOR
Rear Vision Monitor**

**Model: ZM-CRV17NP
ZM-CRV27NP
ZM-CRV47NP
ZM-CRVQ47NP**

Owner's Record

The model and serial numbers are located at the rear.
Record the serial number in the space provided below.
Refer to these numbers whenever you call upon your dealer regarding this product.

Model No. **ZM-CRV17NP / ZM-CRV27NP / ZM-CRV47NP / ZM-CRVQ47NP**

Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.
To avoid electric shock, do not open the cabinet. Refer servicing to qualified personnel only.



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.

You are cautioned that any changes or modifications not express approved in this manual could void your authority to operate this equipment.

INDEX

○ FEATURES	4
○ SUGGESTIONS	5
○ {ZM-CRV17NP/ZM-CRV27NP/ZM-CRV47NP}	
OPERATIONS	6~10
○ {ZM-CRVQ47NP}	
OPERATIONS	11~16
○ INSTALLATION	17
○ SYSTEM CONNECTIONS	18~21
○ SPECIFICATIONS	22

FEATURES

ZM-CRV17NP	ZM-CRV27NP
<ul style="list-style-type: none"> - High Resolution 7 "TFT LCD panel - Free Input Voltage (DC 10V ~ DC 32V) - NTSC / PAL Compatibility - 1 Camera Input / 1 AV Input - Automatic Picture Display (1 Triggering functions) - Automatic Brightness Sensor (DAY/NIGHT) - Built-in Speaker - OSD with μ-com 	<ul style="list-style-type: none"> - High Resolution 7 "TFT LCD panel - Free Input Voltage (DC 10V ~ DC 32V) - NTSC / PAL Compatibility - 2 Camera Inputs - Automatic Picture Display (2 Triggering functions) - Automatic Brightness Sensor (DAY/NIGHT) - Built-in Speaker - OSD with μ-com
ZM-CRV47NP	ZM-CRVQ47NP
<ul style="list-style-type: none"> - High Resolution 7 "TFT LCD panel - Free Input Voltage (DC 10V ~ DC 32V) - NTSC / PAL Compatibility - 4 Camera Inputs - Automatic Picture Display (4 Triggering functions) - Automatic Brightness Sensor (DAY/NIGHT) - Built-in Speaker - OSD with μ-com 	<ul style="list-style-type: none"> - High Resolution 7 "TFT LCD panel - Free Input Voltage (DC 10V ~ DC 32V) - NTSC / PAL Compatibility - 4 Camera Inputs/ 1AV Input/1Video Output - Automatic Picture Display (5 Triggering functions) - Single / Split / Triple / Quad Display Modes - Automatic Brightness Sensor (DAY/NIGHT) - Built-in Speaker - OSD with μ-com

SUGGESTIONS

TFT LCD Color Monitor

▪ **Safety**

- Use only DC 10V to 32V.
- In case that dust or liquid was soaked into the case, please turn off power and consult the experienced technician before using.
- Do not cover air duct for preventing from considerable rise in temperature.

▪ **Installation**

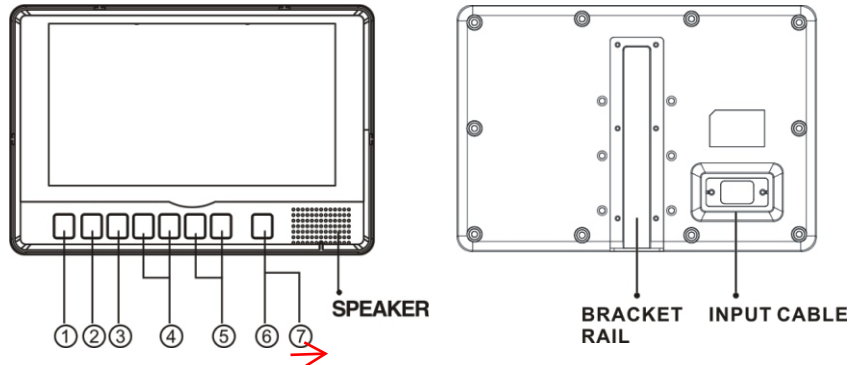
- Do not install the unit in an extremely hot or humid place (radiator, air duct, etc.) or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

▪ **General cleaning information**

- If your vehicle has been parked in direct sun light resulting in a considerable rise in temperature inside the vehicle, allow the unit to cool off before operating.
- Clean the unit with a slightly damp soft cloth. Use a mild household detergent. Never use strong solvents such as thinner or benzine as they might damage the finish of the unit.

Model no : ZM-CRV17NP/ZM-CRV27NP/ZM-CRV47NP

OPERATIONS



1. POWER



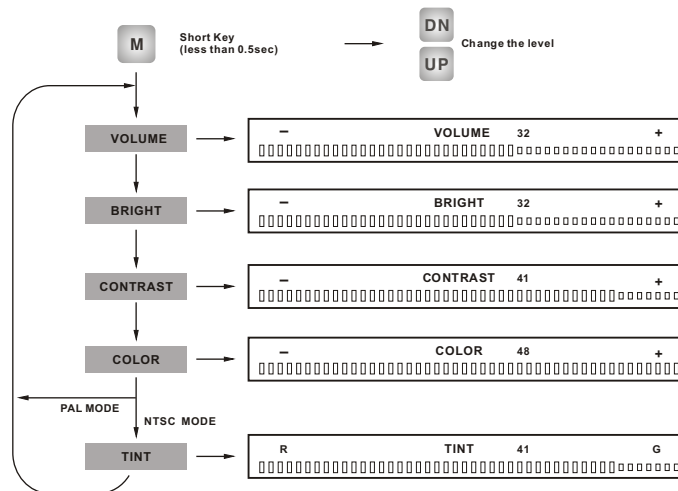
- Press once to turn unit on
- Press again to turn unit off

2. MENU



▪ HOT KEY Function

- Press MENU button to adjust Bright, Contrast, Color or Tint
- SELECTABLE OSD MENU DISAPPEARS WITHIN 5 SECONDS IF THERE IS NO NEW BUTTON PRESSED.



OPERATIONS

3. SELECT



- Use **SELECT** button to select the display image.

ZM-CRV17NP : CAM1 → AV → CAM1 → AV....

ZM-CRV27NP : CAM1 → CAM2 → CAM1 → CAM2....

ZM-CRV47NP : CAM1 → CAM2 → CAM3 → CAM4 → CAM1....

- Use **SELECT** button to select the option in **SET UP MENU**.

4. UP/DN



- Use **UP/ DN** button to adjust **Brightness, Contrast, Color or Tint level**.

- Press UP button to increase Brightness, Contrast, Color or Tint level.

- Press DN button to decrease Brightness, Contrast, Color or Tint level.

- Pressing "**DN**", "**UP**" buttons adjust camera position (Available on "**TILT CAMERA**" only)

5. - / +



- Use **+ / -** button to adjust speaker volume.

- Press - to decrease speaker volume.

- Press + to increase speaker volume.

- Use **+ / -** button to adjust setting or navigate through the menu.

6. DAY/NIGHT SENSOR



- **Automatic Brightness Control**

- The brightness of the monitor is adjusted automatically with the CDS according to the circumstance.

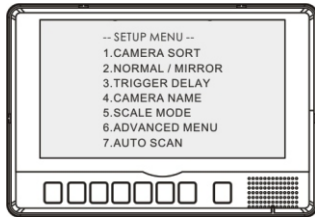
(It works only when DAY / NIGHT option is set as "AUTO" in menu.)

7. REMOTE-CONTROLLER SENSOR

- The monitor is operated by a remote-controller.

- Point the remote-controller towards the sensor on the front of the monitor in order to operate it. (N/A ZM-CRV17NP)

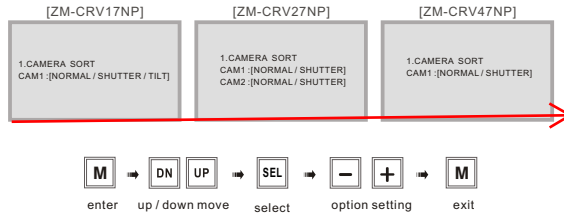
OPERATIONS



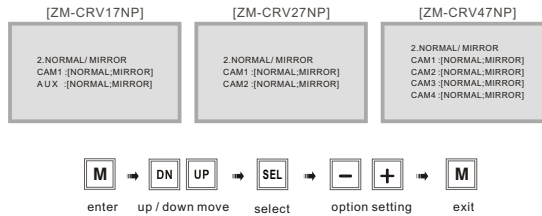
SET UP MENU

- PRESS MENU BUTTON FOR A WHILE (OVER 2 SEC.) TO ENTER SETUP MENU.
- SELECTABLE OSD MENU DISAPPEARS WITHIN 5 SECONDS IF THERE IS NO NEW BUTTON PRESSED.

1. CAMERA SORT

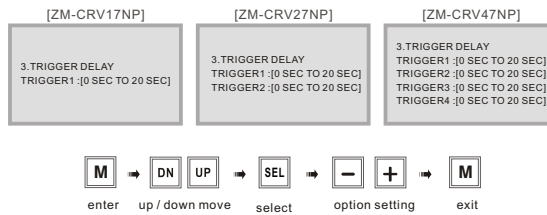


2. NORMAL / MIRROR



- Each camera's Normal / Mirror view can be selected.

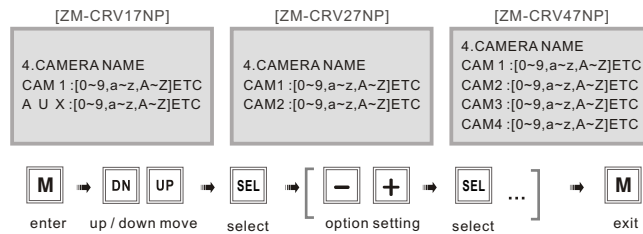
3. TRIGGER DELAY



OPERATIONS

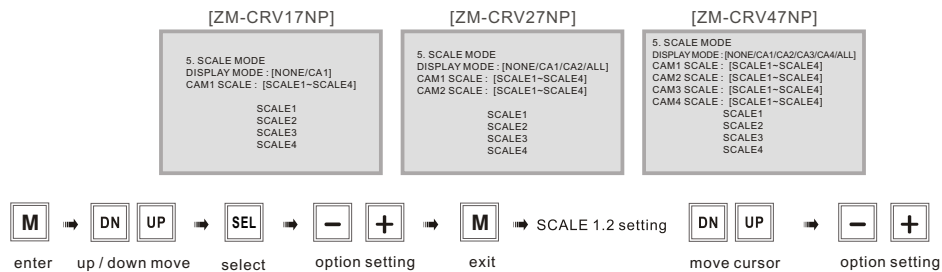
- 1/2/4 Trigger(ZM-CRV17NP/ZM-CRV27NP/ZM-CRV47NP) signals can be connected and each trigger source can be selected.
- When the trigger signal is activated, the selected source's image will be displayed on the monitor screen.
- Each trigger's delay time can be adjusted from 0 sec to 20 sec.

4. CAMERA NAME



- Each camera can be named and the selected camera name is displayed via OSD.

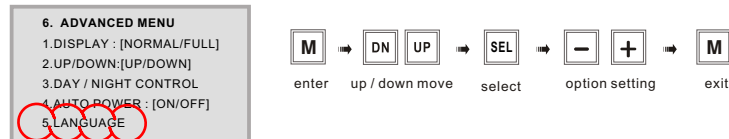
5. SCALE MODE



- When the trigger signal is activated, the selected scale is displayed on the monitor screen.

* This is the just electrical scale that is measuring distance from the vehicles.

6. ADVANCED MENU



OPERATIONS

6.1 DISPLAY

- FULL

- Display the image in the ratio of 16:9.



◀◀ FULL DISPLAY

- NORMAL

- Display the image on the screen in the ratio of 4:3.



◀◀ NORMAL DISPLAY

6.2 UP/DOWN

- Converted image display (top and bottom)



6.3 DAY/NIGHT CONTROL

- DAY/NIGHT : Select DAY/NIGHT ON / OFF / AUTO
- DAY/NIGHT LEVEL: Adjust the sensitiveness of DAY/NIGHT level. →
- DAY/NIGHT BRIGHT: Adjust the BRIGHTNESS level. →

6.4 AUTO POWER

- When "ON" is selected, turning the ignition key on leads the monitor to POWER-ON mode.
- When "OFF" is selected, turning the ignition key on leads the monitor to STAND-BY mode.

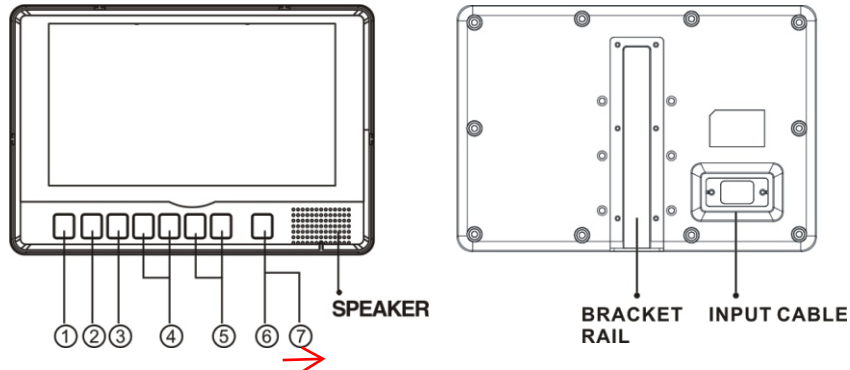
6.5 LANGUAGE

- Multi lingual OSD can be selected. →

7. AUTO SCAN

- The auto scanning time of each camera can be adjusted (0 ~ 20 sec).

OPERATIONS



1. POWER



- Press once to turn unit on
- Press again to turn unit off

2. MENU



- Press once to enter main menu mode
- Press again to exit menu mode
- SELECTABLE OSD MENU DISAPPEARS WITHIN 5 SECONDS IF THERE IS NO NEW BUTTON PRESSED.

3. SELECT



- Use **SELECT** button to select the display image.
ZM-CRVQ47NP : CAM1 → CAM2 → CAM3 → CAM4 →
AUX → 2SPLIT → SPLIT → QUAD → CAM1 →
- Use **SELECT** button to select option.
- Use **SELECT** button for PAUSE in AUTOSCAN mode.

4. UP/DN



- While in Menu mode, the "UP" and "DN" buttons navigate through the available menu options.



- Pressing "DN", "UP" buttons adjust camera position (Available on "TILT CAMERA" only)

OPERATIONS

5. - / +



▪ **Use + / - button to adjust speaker volume.**

- Press - to decrease speaker volume.
- Press + to increase speaker volume.



▪ **Use + / - button to adjust setting in certain Menu modes.**

6. DAY/NIGHT SENSOR



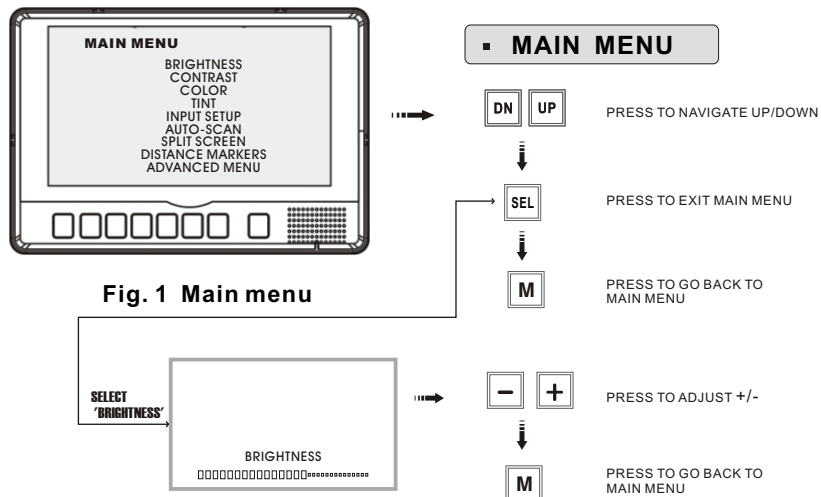
▪ **Automatic Brightness Control**

- The brightness of the monitor is adjusted automatically with the CDS according to the circumstance.

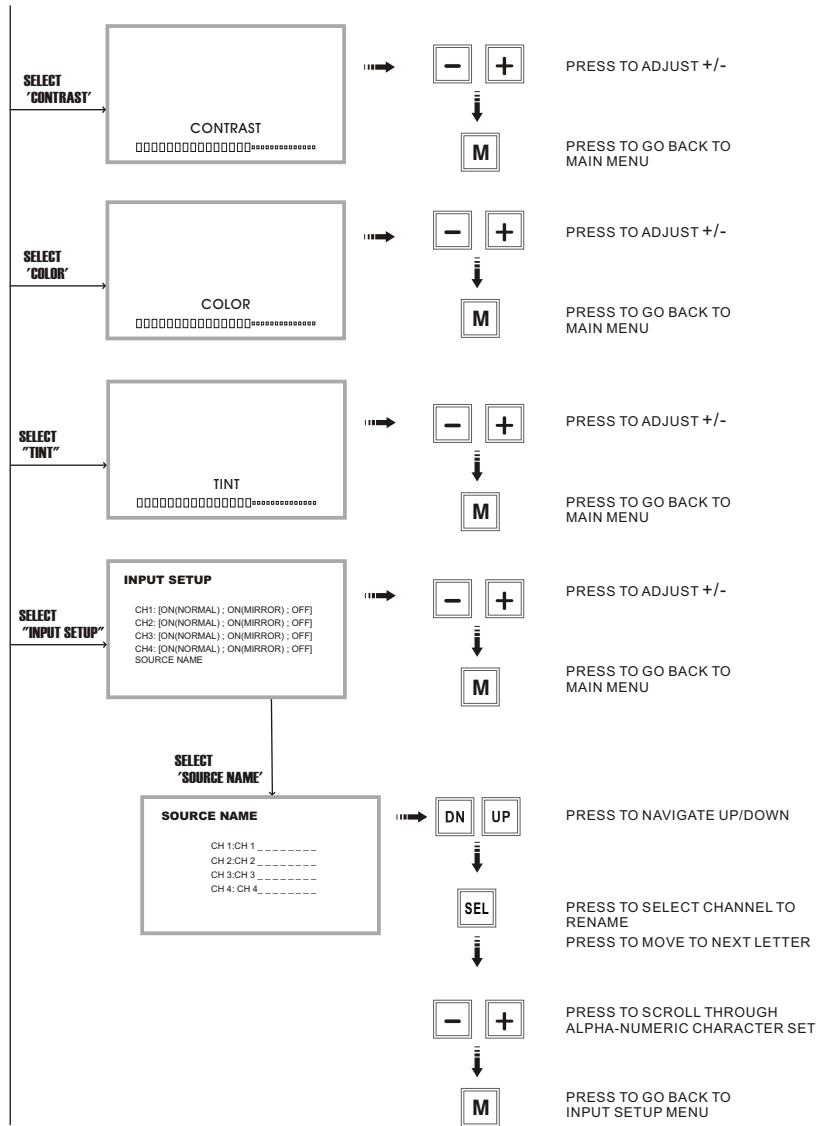
(It works only when DAY / NIGHT option is set as "AUTO" in menu.)

7. REMOTE-CONTROLLER SENSOR

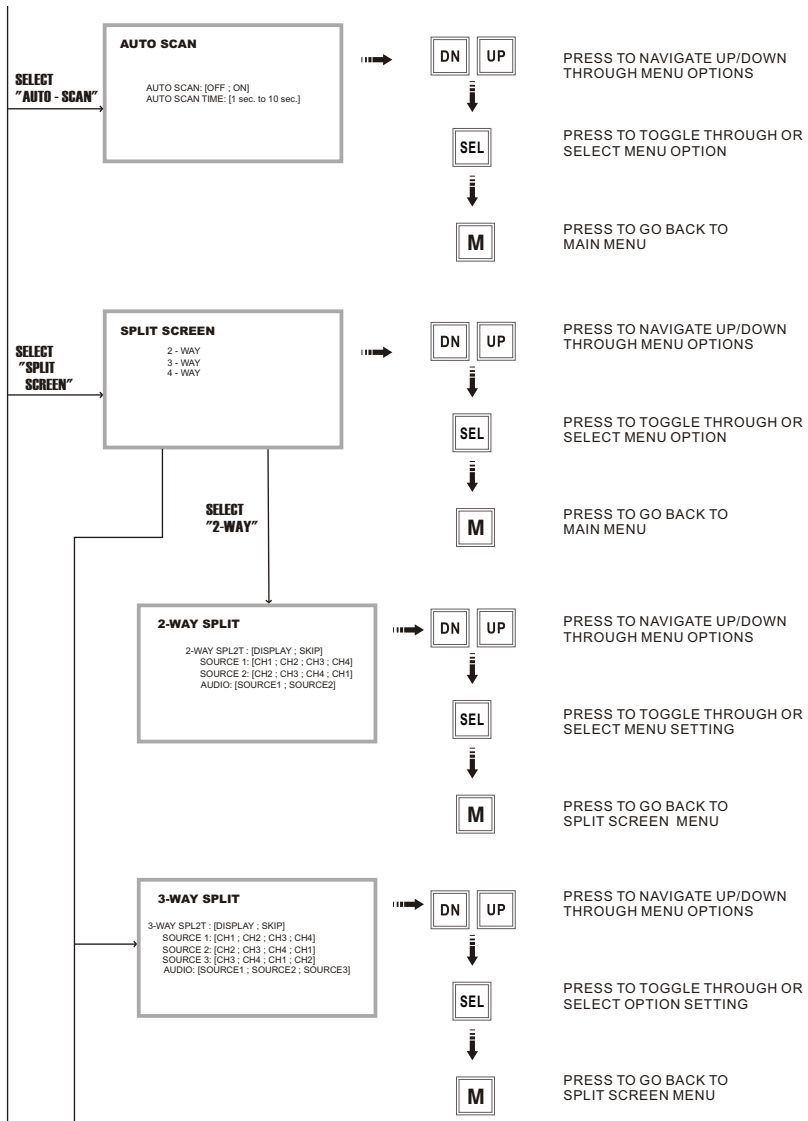
- The monitor is operated by a remote-controller.
- Point the remote-controller towards the sensor on the front of the monitor in order to operate it. ➔



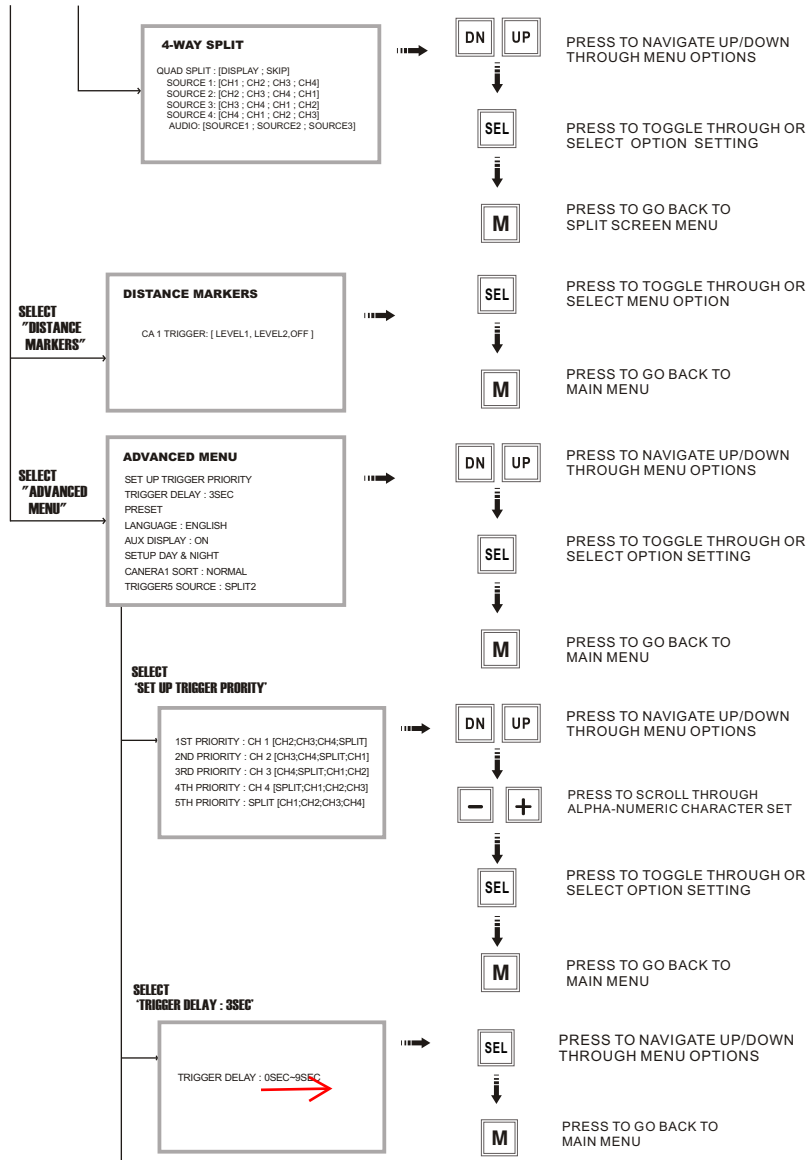
OPERATIONS



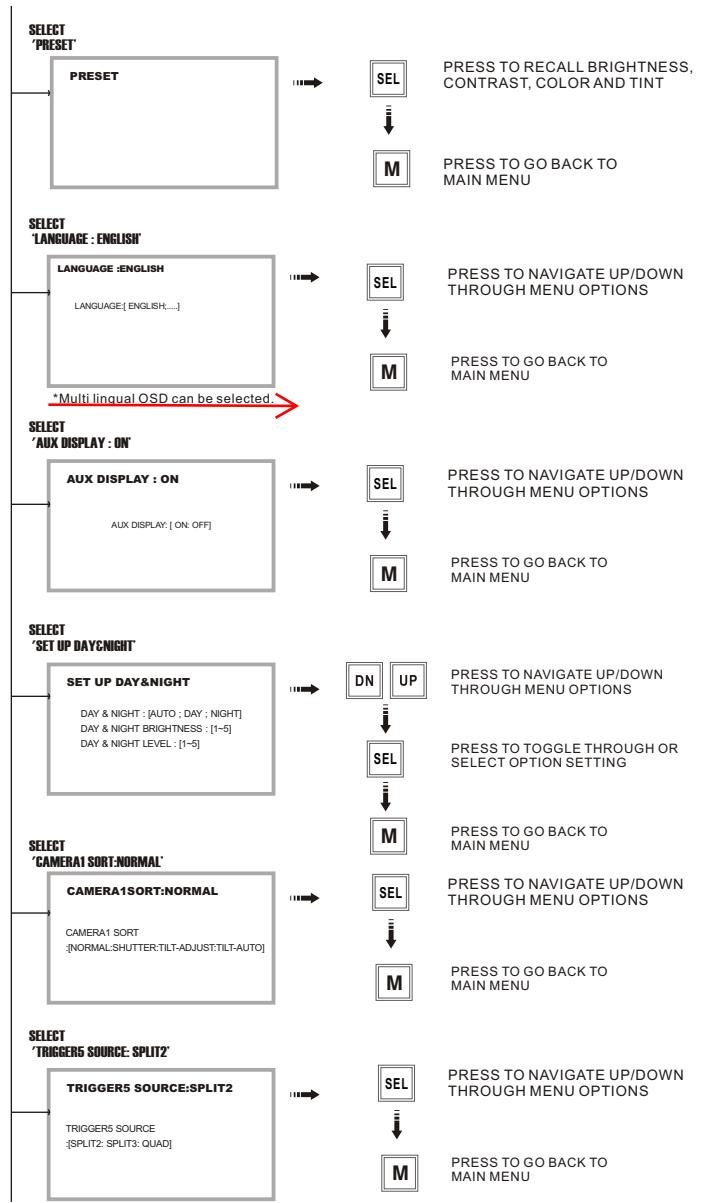
OPERATIONS



OPERATIONS

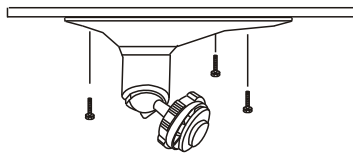


OPERATIONS



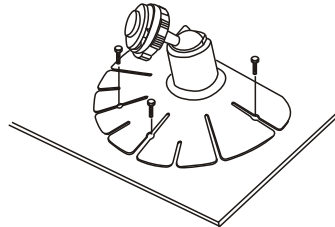
INSTALLATION

- Install the monitor on a place which can stand more weight than 5Kg (10.1b.)
 - Clean the place before installation.
 - Remove the protective paper covering the bottom of the bracket.
 - Stick the provided bracket on the surface and fix it firmly with the screws.

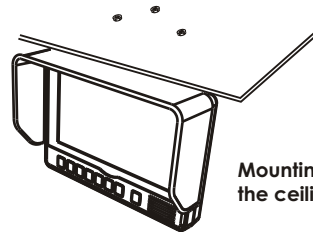
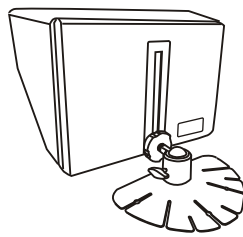


Mounting on the ceiling

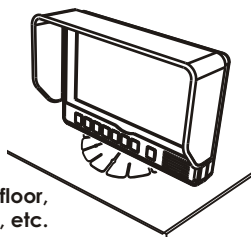
Mounting on the floor, console, etc.



- Adjust the angle of the monitor and fasten the handle screws strongly.



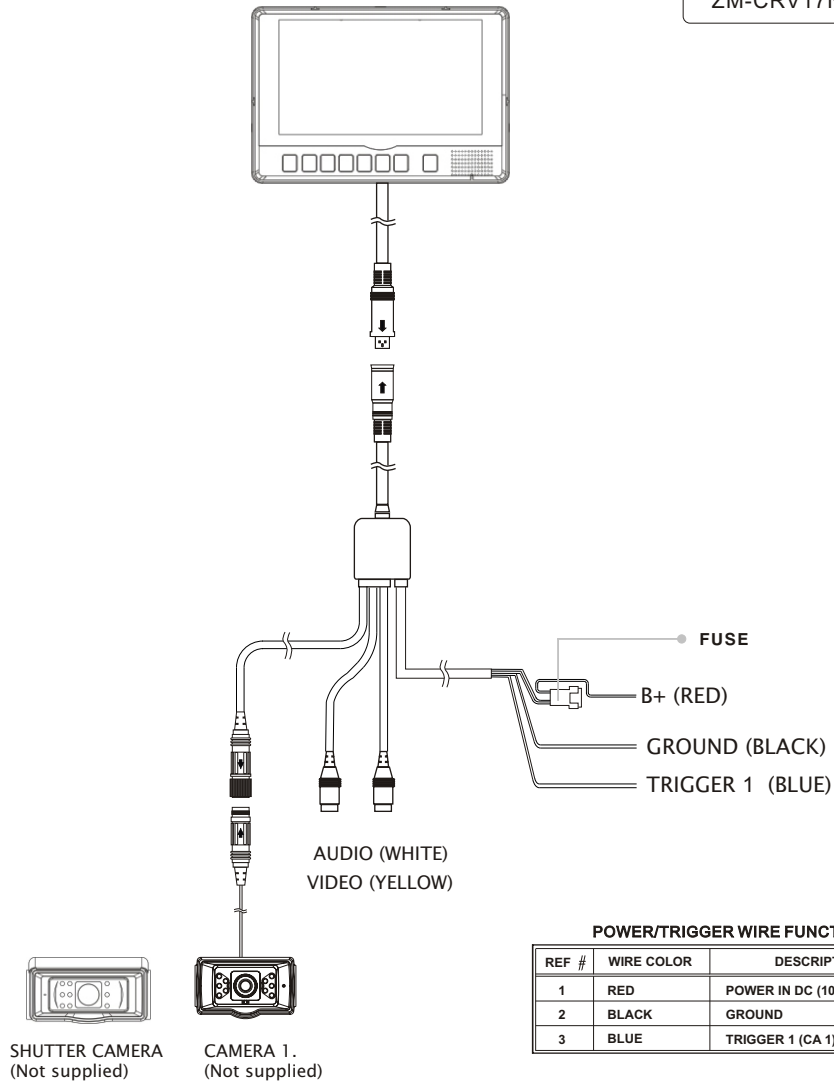
Mounting on the ceiling



Mounting on the floor, console, etc.

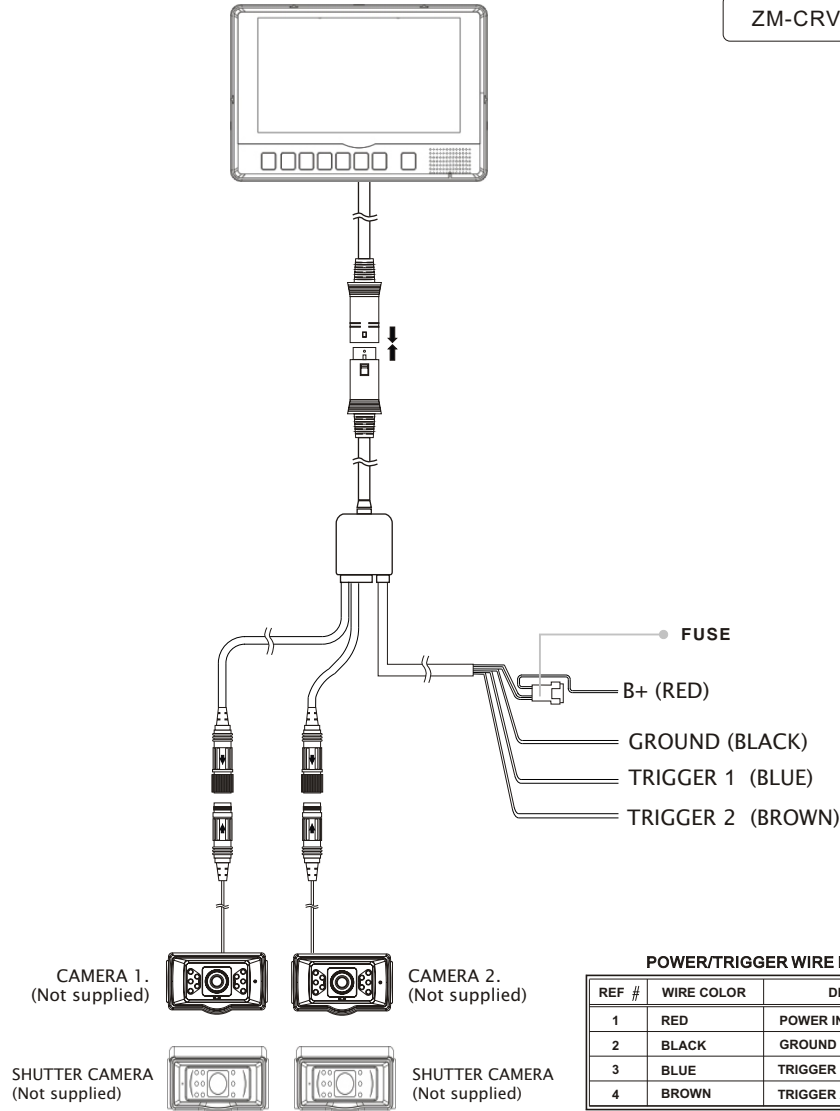
SYSTEM CONNECTIONS

ZM-CRV17NP



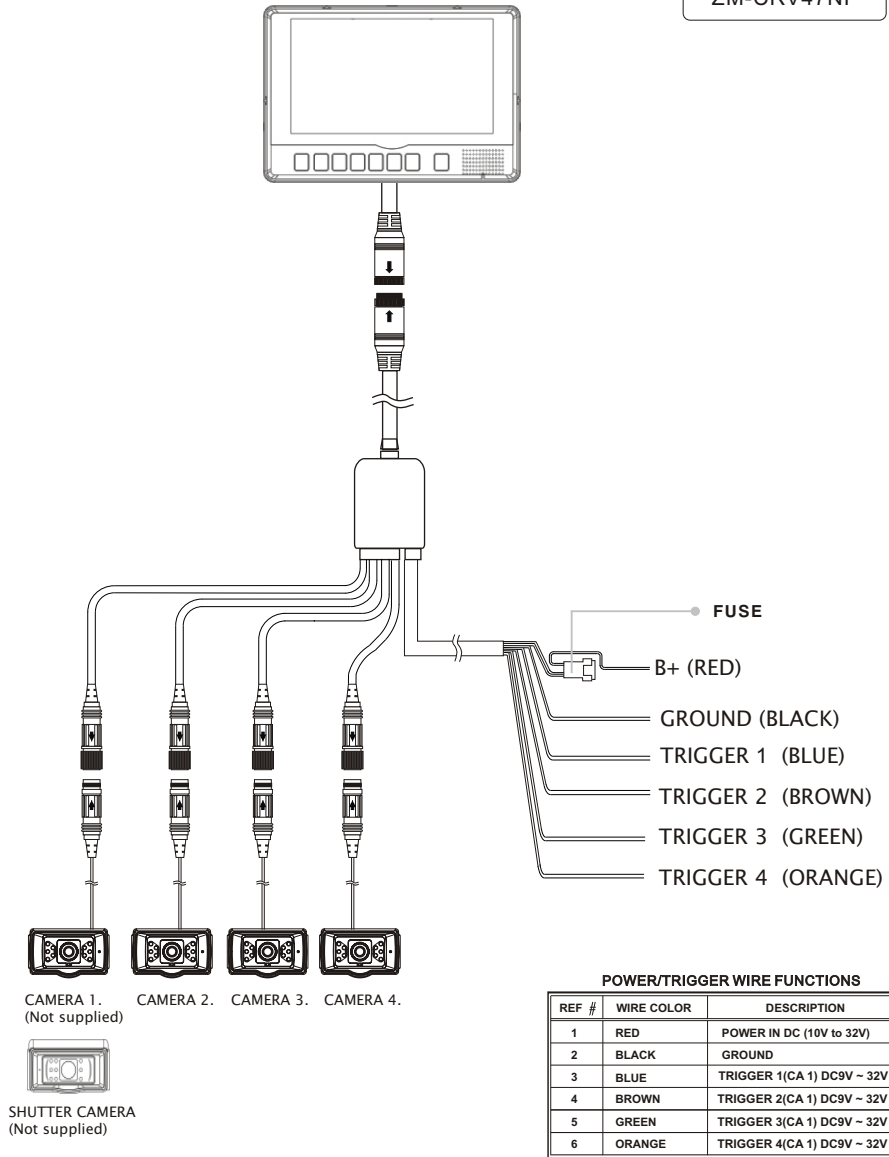
SYSTEM CONNECTIONS

ZM-CRV27NP



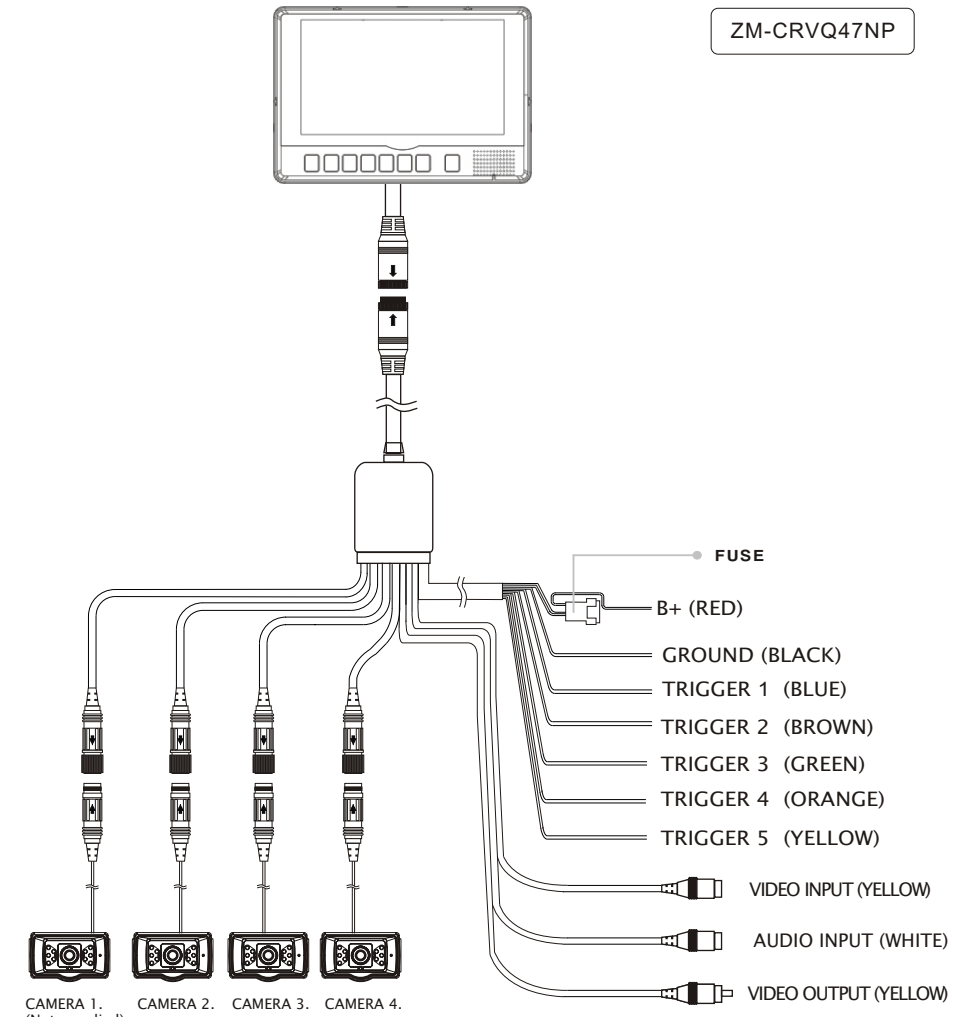
SYSTEM CONNECTIONS

ZM-CRV47NP



SYSTEM CONNECTIONS

ZM-CRVQ47NP



CAMERA 1. (Not supplied) CAMERA 2. CAMERA 3. CAMERA 4.

SHUTTER CAMERA
(Not supplied)

POWER/TRIGGER WIRE FUNCTIONS

REF #	WIRE COLOR	DESCRIPTION
1	RED	POWER IN DC (10V to 32V)
2	BLACK	GROUND
3	BLUE	TRIGGER 1(CA 1) DC9V ~ 32V
4	BROWN	TRIGGER 2(CA 1) DC9V ~ 32V
5	GREEN	TRIGGER 3(CA 1) DC9V ~ 32V
6	ORANGE	TRIGGER 4(CA 1) DC9V ~ 32V
7	YELLOW	TRIGGER 5(SPLIT) DC9V ~ 32V

SPECIFICATIONS

Model No.	ZM-CRV17NP	ZM-CRV27NP	ZM-CRV47NP	ZM-CRVQ47NP
Power Input	DC 10V~32V			
Power Cons.	Max 12 Watt.		Max20 Watt.	
Video System	NTSC, PAL Video signal Compatible			
Sync. System	Internal			
LCD panel size	7.0 Inch Wide Diagonal, 16:9 Format, Color			
Field of view	Top:30°, Bottom:60°, Left: 60°, Right:60°(Typical)			
Screen Size	154(W) X87(H)mm			
Resolution	336,960 Pixels (480 * 3(RGB) * 234)			
Color configuration	R.G.B.Stripe			
Auto con./bright.	Day & Night Sensor Include			
O. S. D control	Bright, Contrast, Color, Tint, CA select (CA1/AUX) Mirror/Normal, Scale on/off, Volume Day/Night mode selector, Auto scan, TRIG set	Bright, Contrast, Color, Tint, CA select (CA1/CA2) Mirror/Normal, Scale on/off, Volume Day/Night mode selector, Auto scan, TRIG set	Bright, Contrast, Color, Tint, CA select (CA1/CA2/CA3/CA4) Mirror/Normal, Scale on/off, Volume Day/Night mode selector, Auto scan, TRIG set	Bright, Contrast, Color, Tint, CA select (CA1/CA2/CA3/CA4/ SPLIT1/SPLIT2/SPLIT3/SPLIT4/AUX) Mirror/Normal, Scale on/off, Volume Day/Night mode selector, Auto scan, TRIG set
Power Connector	8Pin Large Connector	13Pin Large Connector	25Pin Large Connector	
Speaker	Approx. 23pi, Impedance: 8Ω, 0.3 Watt Max			
Operating temp.	-10 °C ~ 60 °C(14°F ~140°F)			
Storage temperature	-30 °C ~ 80 °C(-22°F ~185°F)			
Ambient condition	Ip54 (Option)			
Vibration	5.5G			
Dimensions	197(W)X 135(H)X 30.0(D)mm 7.75(W)X 5.31(H)X 1.18(D)inch			
Weight	Approx. 650g			
Supplied acc'y	Stand Bracket (1) Instruction Manual (1) Removable Sun Visor (1) Remote Controller (1) [N/A ZM-CRV17NP]			



THIS SYMBOL MEANS DO NOT DISPOSE OF
AS MUNICIPAL WASTE.
RE-USE OR RECYCLE WHEREVER POSSIBLE.
ELECTRICAL / ELECTRONIC COMPONENTS MAY
CONTAIN SUBSTANCES WHICH ARE HARMFUL TO
THE ENVIRONMENT.
FOR ENVIRONMENTALLY SOUND METHODS OF
DISPOSAL, PLEASE CONTACT YOUR LOCAL
GOVERNMENT AUTHORITY.

printed in korea