



User's guide

*BACKEYE*® *EDM-50*  
**MULTI CONTROL BOX FOR  
REAR VISION MONITOR**  
**(MULTIPLE DISPLAY MODE)**

PLEASE READ CAREFULLY BEFORE USING AND KEEP FOR REFERENCE.

# 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 supplier regarding this product.

Model No.: EDM-50

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 expressly approved in this manual could void your authority to operate this equipment.



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## FEATURES

- EDM-50 multi control box is designed to be compatible with any rear vision monitor.
  
- Free Input Voltage (DC 10V ~ DC 32V)
- NTSC / PAL Compatibility
- 4 Camera Inputs / 1 AV Input / 1AV Output
- Multiple Display Mode (Single, Split, Triple, Quad)
- Automatic Picture Display (5 Triggering functions)
- Auto Scanning function
- OSD with  $\mu$ -com



## PRECAUTIONS

# *TFT LCD Color Monitor*

### ▪ **Safety**

- Use only DC 10V to 32V.
- If dust or liquid gets into the case, please turn off power and consult an experienced technician before using.
- Do not cover air duct as this can cause a considerable rise in temperature.

### ▪ **Installation**

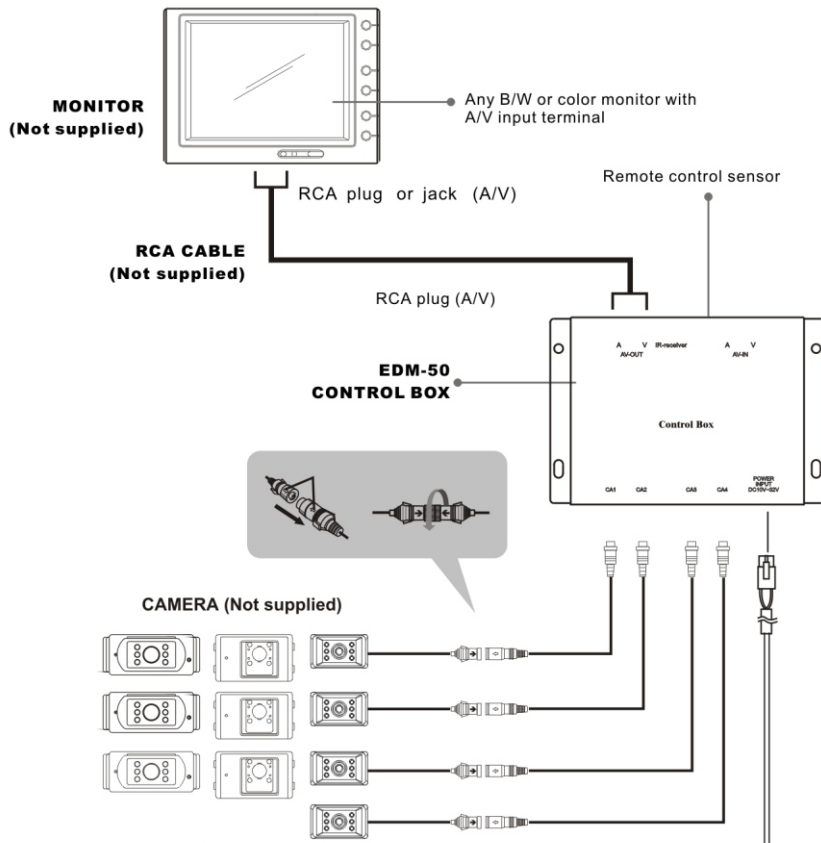
- Do not install the unit in an extremely hot or humid place, (radiator, air duct, etc.) or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

### ▪ **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.



# SYSTEM CONNECTIONS



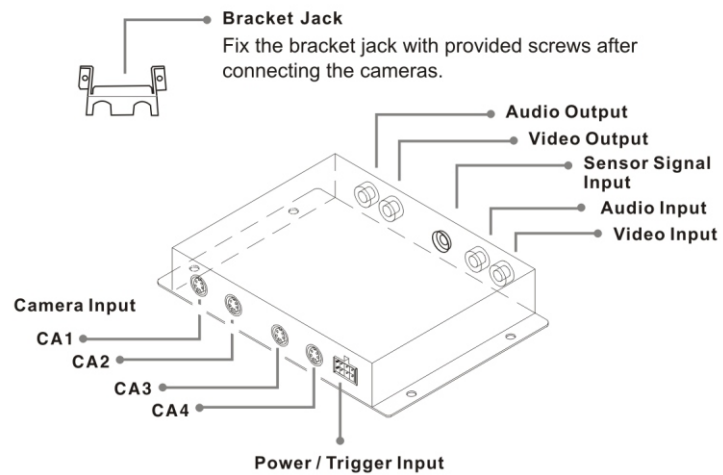
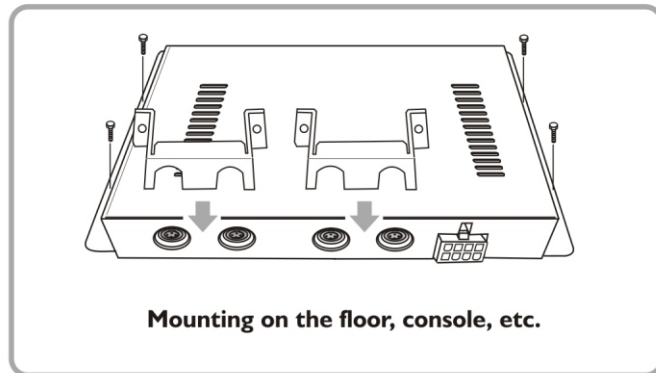
POWER/TRIGGER WIRE FUNCTIONS

| REF # | WIRE COLOR | DESCRIPTION             |
|-------|------------|-------------------------|
| 1     | RED        | POWER IN DC (10 TO 32V) |
| 2     | GREEN      | TRIGGER 1               |
| 3     | WHITE      | TRIGGER 2               |
| 4     | BROWN      | TRIGGER 5 (SPLIT)       |
| 5     | BLACK      | GROUND                  |
| 6     | YELLOW     | TRIGGER 4               |
| 7     | BLUE       | TRIGGER 3               |
| 8     | ORANGE     | TRIGGER OUT             |



## INSTALLATION

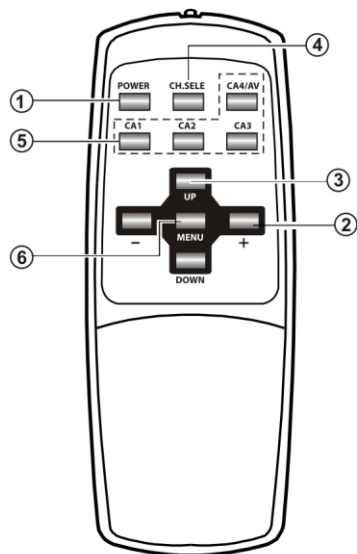
- Install the control box in a place which can stand more weight than 5 Kgs (11 lb).
- Fix the control box with the screws provided as in the drawings below.





## OPERATIONS

### ■ Remote Control



#### ① POWER button

- Press POWER button to turn the control box on or off.

\* When the trigger signal is activated, the selected source's image will be displayed on the monitor screen automatically. (Please refer to TRIGGER MODE in SETUP MENU for further information)

#### ② - / + button

- Press - / + button to adjust BRIGHT or CONTRAST level.
- Press - / + button to select the content of the selected line in each sub menu.

#### ③ UP / DOWN button

- Press UP / DOWN button to adjust TILT (PAN) camera position upward or downward.  
(Available only when TILT (PAN) camera is connected to CA1, CA2, or CA3 input)
- Press UP/ DOWN button to move the cursor up or down in SETUP MENU and each sub menu.

#### ④ CH. SELE button

- Press CH. SELE button to select the display image.  
Sequential pressing shows the image of each camera in turn as, below.  
( CAM1→ CAM2→ CAM3→ CAM4→ AUX→ SPLIT2→ SPLIT3→ SPLIT4 )  
\* OSD indicates which image is displayed on the screen.

- Press CH. SELE button to select the items, highlighted.
- Press CH. SELE button to start or stop scanning each display mode sequentially.  
Available only when AUTO SCAN in menu is ON.

#### ⑤ CA1, CA2, CA3, CA4/AV button

- Press CA1, CA2 or CA3 button to select each camera.
- Press CA4 / AV button to select CA4 and press again to select any AV device connected.



## OPERATIONS

### ⑥ MENU button

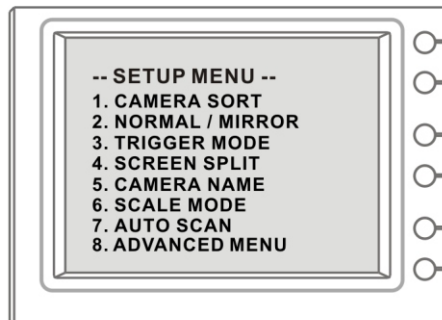
- Press MENU button for less than 0.5 second to go to BRIGHT or CONTRAST mode.  
Use - / + button to adjust BRIGHT or CONTRAST level.

( BRIGHT → CONTRAST → BRIGHT... )

- Press MENU button for over 1 second to enter into SETUP MENU.  
Use UP / DOWN to move up and down and use - / + button to move left and right in SETUP MENU and each sub menu.
- Press MENU button to go back to the previous menu when in SETUP MENU or each sub menu.

\* SELECTABLE OSD MENU DISAPPEARS WITHIN 5 SECONDS IF THERE IS NO NEW INPUT SIGN.

### MENU ►► SETUP MENU



### 1. CAMERA SORT

CAM1: [NORMAL, SHUTTER, PAN/TILT]  
CAM2: [NORMAL, SHUTTER, PAN/TILT]  
CAM3: [NORMAL, SHUTTER, PAN/TILT]

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select CAM1, CAM2 or CAM3
- Select each camera sort by pressing - / + button in the selected camera
- Exit from the menu by pressing MENU button

**CAUTION!** \* CAM4 is only available with NORMAL CAMERA.  
\* Wrong camera connections may cause any malfunction.



## OPERATIONS

### 2. NORMAL / MIRROR

CAM1: [NORMAL, MIRROR]  
CAM2: [NORMAL, MIRROR]  
CAM3: [NORMAL, MIRROR]  
CAM4: [NORMAL, MIRROR]

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select CAM1, CAM2, CAM3 or CAM4
- Select normal or mirror by pressing - / + button in the selected camera
- Exit from the menu by pressing MENU button

### 3. TRIGGER MODE

TRIGGER SOURCE  
TRIGGER DELAY

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select TRIGGER SOURCE or TRIGGER DELAY menu

#### ▶▶ TRIGGER SOURCE

TRIGGER1: [CAM1, CAM2, CAM3, CAM4, AUX, SPLIT2, SPLIT3, SPLIT4]  
TRIGGER2: [CAM1, CAM2, CAM3, CAM4, AUX, SPLIT2, SPLIT3, SPLIT4]  
TRIGGER3: [CAM1, CAM2, CAM3, CAM4, AUX, SPLIT2, SPLIT3, SPLIT4]  
TRIGGER4: [CAM1, CAM2, CAM3, CAM4, AUX, SPLIT2, SPLIT3, SPLIT4]  
TRIGGER5: [CAM1, CAM2, CAM3, CAM4, AUX, SPLIT2, SPLIT3, SPLIT4]

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select TRIGGER1, 2, 3, 4 or 5
- Select CAM1, CAM2, CAM3, CAM4, AUX, SPLIT2, SPLIT3 or SPLIT4 by pressing - / + button in the selected trigger
- Exit from the menu by pressing MENU button

\* When the trigger signal is activated, the selected source's image is displayed on screen.

\* TRIGGER PRIORITY : TRIGGER1 > TRIGGER2 > TRIGGER3 > TRIGGER4 > TRIGGER5

#### ▶▶ TRIGGER DELAY

TRIGGER1: [ 0 ~ 20 sec ]  
TRIGGER2: [ 0 ~ 20 sec ]  
TRIGGER3: [ 0 ~ 20 sec ]  
TRIGGER4: [ 0 ~ 20 sec ]  
TRIGGER5: [ 0 ~ 20 sec ]

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select TRIGGER 1, 2, 3, 4 or 5
- Determine each trigger delay time by adjusting - / + button
- Exit from the menu by pressing MENU button



## OPERATIONS

### 4. SCREEN SPLIT

```
SPLIT 2
SPLIT 3
SPLIT 4
```

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select SPLIT2, SPLIT3 or SPLIT4
- Exit from the menu by pressing MENU button

#### ▶▶ SPLIT2

```
SOURCE1:[CAM1,CAM2,CAM3,CAM4]
SOURCE2:[CAM1,CAM2,CAM3,CAM4]
AUDIO :[CAM1,CAM2,CAM3,CAM4]
```

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select SOURCE1, SOURCE2 or AUDIO
- Select CAM1, CAM2, CAM3 or CAM4 by pressing - / + button
- Exit from the menu by pressing MENU button

#### ▶▶ SPLIT3

```
SOURCE1:[CAM1,CAM2,CAM3,CAM4]
SOURCE2:[CAM1,CAM2,CAM3,CAM4]
SOURCE3:[CAM1,CAM2,CAM3,CAM4,OFF]
AUDIO :[CAM1,CAM2,CAM3,CAM4]
```

- Set up SPLIT3 or SPLIT4 in the same way with SPLIT2 above

#### ▶▶ SPLIT4

```
SOURCE1:[CAM1,CAM2,CAM3,CAM4]
SOURCE2:[CAM1,CAM2,CAM3,CAM4]
SOURCE3:[CAM1,CAM2,CAM3,CAM4,OFF]
SOURCE4:[CAM1,CAM2,CAM3,CAM4,OFF]
AUDIO :[CAM1,CAM2,CAM3,CAM4]
```

- \* Multiple images can be displayed. (DUAL, TRIPLE AND QUAD IMAGES)
- \* Only one audio can be chosen in each SPLIT mode.

### 5. CAMERA NAME

```
CAM1:[CAM1 ]
CAM2:[CAM2 ]
CAM3:[CAM3 ]
CAM4:[CAM4 ]
```

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select CAM1, CAM2, CAM3 or CAM4
- Select letter by pressing - / + button sequentially
- Press CH.SELE button to move to the next letter
- Exit from the menu by pressing MENU button

\* Each camera can be named and the camera names are displayed on screen.



## OPERATIONS

### 6. SCALE MODE

CAM1: [OFF, SCALE1, SCALE2]  
CAM2: [OFF, SCALE1, SCALE2]  
CAM3: [OFF, SCALE1, SCALE2]  
CAM4: [OFF, SCALE1, SCALE2]  
SCALE 1  
SCALE 2

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select CAM1, CAM2, CAM3, CAM4, SCALE1 or SCALE2
- Select scale OFF, SCALE1 or SCALE2 by pressing - / + button in each camera
- Exit from the menu by pressing MENU button

- \* The distance marker of SCALE1 and SCALE2 can be adjusted.
- \* When the trigger signal is activated, the selected scale is displayed on screen.
- \* This is just the electrical scale that is measuring distance from the vehicle.

### 7. AUTO SCAN

AUTO SCAN: [ON, OFF]  
SCAN CAM1: [0 ~ 20 sec]  
SCAN CAM2: [0 ~ 20 sec]  
SCAN CAM3: [0 ~ 20 sec]  
SCAN CAM4: [0 ~ 20 sec]  
SCAN SPLIT2: [0 ~ 20 sec]  
SCAN SPLIT3: [0 ~ 20 sec]  
SCAN SPLIT4: [0 ~ 20 sec]

- Move cursor up or down by pressing UP / DOWN button
- Press CH.SELE button to select one of AUTO SCAN, SCAN CAM1~4, AUX, SPLIT2~4
- Exit from the menu by pressing MENU button
- Set up the scanning time of each SCAN mode by pressing - / + button if you select ON in AUTO SCAN

### 8. ADVANCED MENU

NTSC MODE, PAL MODE  
AUTO POWER : [ON, OFF]

- Select NTSC or PAL by pressing - / + button to select the right video mode
- Select AUTO POWER ON or OFF by pressing - / + button to select the right operation.
  - \* When "AUTO POWER ON" is selected, the unit is powered on automatically without using remote controller.
  - \* When "AUTO POWER OFF" is selected, the unit is powered on by using remote controller.
- Exit from the menu by pressing MENU button



## SPECIFICATIONS

### ▪ EDM-50

|                      |       |   |
|----------------------|-------|---|
| Power input          | ..... | DC 10V~32V (Car battery)  |
| Power cons.          | ..... | Max. 24 Watt  |
| Video system         | ..... | NTSC, PAL standard signal   |
| Sync. system         | ..... | Internal  |
| Camera input (4 CH)  | ..... | Mini DIN 4, 1Vp-p72Ω  |
| A/V output (1 CH)    | ..... | RCA, Composite video signal, 1Vp-p72Ω<br>RCA, Audio signal, 150mV RMS, 47K.                                       |
| A/V input (1 CH)     | ..... | RCA, Composite video signal, 1Vp-p72Ω<br>RCA, Audio signal, 150mV RMS, 47K.                                       |
| Case material        | ..... | Steel   |
| Operating temp.      | ..... | -10°C ~ +50°C (14°F ~ 122°F)  |
| Storage temp.        | ..... | -25°C ~ +80°C (-13°F ~ 176°F)   |
| Ambient condition    | ..... | Indoor use only   |
| Vibration            | ..... | 5.5 G   |
| Dimension            | ..... | 154 (W) X 105 (D) X 28 (H) mm<br>6.06 (W) X 4.13 (D) X 1.10 (H) inch  |
| Weight               | ..... | Approx. 0.5 Kg  |
| Supplied accessories | ..... | Power cord 2M (1)<br>Screw kits (1)<br>Bracket jack (2)<br>Remote control (1)<br>RX module for remote control (1) |

\* Design and specifications are subject to change without notice.



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.



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