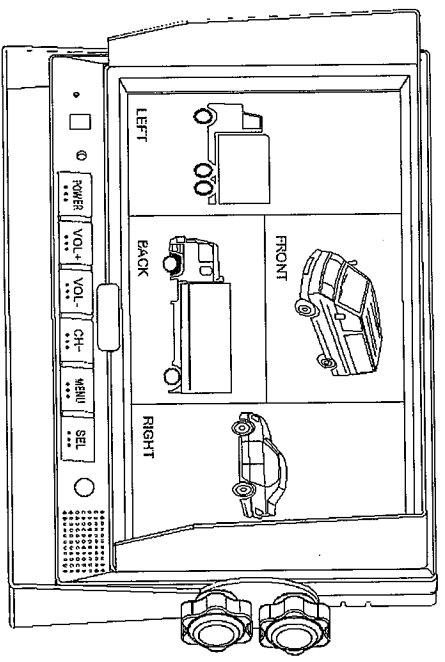
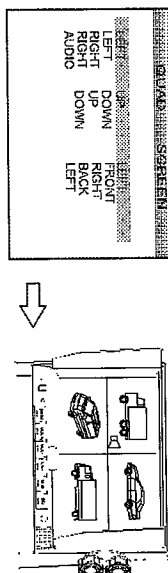


Operating Instructions



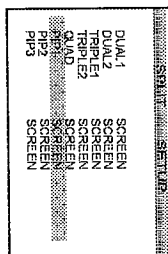
7-inch color LCD monitor with built-in quad
Please read this manual thoroughly before operating the device,
and keep it for future reference.
V1.1

Each camera can be set to show on different corner, so does the speaker.

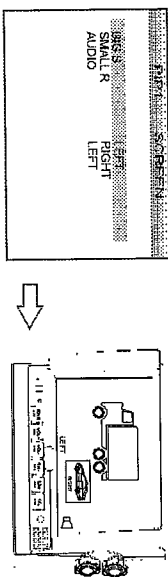


7.7.6 PIP1 SCREEN

Press MENU to go back to split master menu, and then press SEL to select PIP1 SCREEN, and press VOL+/VOL- to enter.

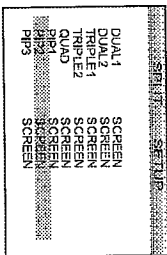


Background image and picture in picture with speaker on can be any of the camera.



7.7.7 PIP2 SCREEN

Press MENU to go back to split master menu, and then press SEL to select PIP2 SCREEN, and press VOL+/VOL- to enter.



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°C, and the operating temperature is -20--+65°C. The humidity is RH90%.
2. Never make this device under affection of moisture, dust or oil smoke etc.
3. Avoid dropping or striking this device.
4. Avoid using this device in areas with excessive vibration or subject to severe impacts.
5. Never extrude or fractionize this device with sharp objects.
6. Do not place cables where they may be pinched or stepped on.
7. The monitor is not designed to be waterproof.

Operating Precautions

1. The device may be powered by a 12-32 volt automotive battery.
2. Make sure all cables are connected properly. Improper cable connections may damage the monitor. Remove the power cable connections when you do not intent to use the unit.
3. Operate the unit according to the instruction.

Warning!

1. The monitor is a complex device, never try to repair this device yourself. In case of any problems, please turn off the display and notify our company or an authorized dealer.

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

Maintenance

1. Remove all the cable connections to the monitor before cleaning the unit.
2. Clean the unit using a mild household detergent and a slightly damp soft cloth. Never use strong solvents such as thinner or benzene as they might damage the finish of the device.

Declaration of conformity

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

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

CE
E13

2. Produce Features

1. 1 DVD/AV input and 4 camera inputs; camera title can be set: (maximum 8 characters).
2. Single, dual, triple, quad image and PIP functions.
3. Boot-strap display can be set as single or split views.
4. Four trigger wires control auto switching between cameras.
5. With trigger wire for dual picture, the relative cameras can be combined optionally.
6. Priority of trigger wire can be set up.
7. Backup distance grid & left/right turning indicator arrow available.
8. Volume, brightness, color, contrast and sharp of each camera can be separately set up.
9. Mirror/normal image for each camera can be separately selected.
10. Auto switch to blue screen when there is no video input.
11. Live video output: connected monitor can display synchronously.
12. REC video output, and picture can be single or split.
13. Auto-controlled day and night brightness mode.
14. Auto scan available and image switching time from 1~30 seconds.
15. Operates from 10~32V.
16. Supports max. 4x300mA power output.
17. Power short protection.
18. On-board speaker.

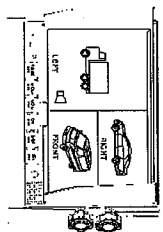
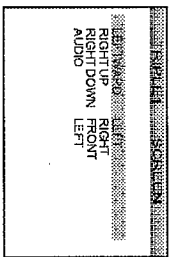
3. Technical Specifications

1. Dimension: 7" TFT-LCD color monitor with built-in quad
2. TV System: NTSC/PAL
3. Resolution: 1440(W)x 234(H)
4. Brightness: 350cd/m²
5. Contrast: 400 : 1
6. Viewing angle: U: 45°/D: 65°, R/L: 65°
7. Aspect ratio: 16: 9
8. Operating Temperature: -20 °C~+65 °C
9. Storage Temperature: -30°C~+80°C
10. Power consumption: max. 25W
11. Power for cameras: max. 4x300mA, 12V
12. Video inputs: 4 video inputs for cameras: peak value: 1Vp-p, impedance: 75 ohm.
1 DVD input: peak value: 1Vp-p, impedance: 75 ohm.
1 DVD input: peak value: 1Vp-p, impedance: 4.7K ohm.
13. Audio inputs: 4 audio inputs for cameras: peak value: 1Vp-p, impedance: 4.7K ohm.
1 DVD input: peak value: 1Vp-p, impedance: 4.7K ohm.
14. Video outputs: 1 REC video output: peak value: 1Vp-p, impedance: 75 ohm.
1 LIVE video output: peak value: 1Vp-p, impedance: 75 ohm.
15. Audio output: 1 REC audio output: peak value: 1Vp-p, impedance: 4.7K ohm.



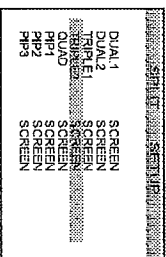
All specifications are subject to change without notice.

Any camera can be set to show on right or left screen. It also sets speaker of the camera as on.

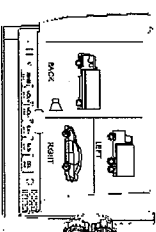
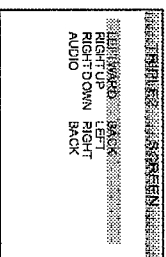


7.7.4 TRIPLE2 SCREEN

Press MENU to go back to split master menu, and then press SEL to select TRIPLE2 SCREEN, and press VOL+/VOL- to enter.

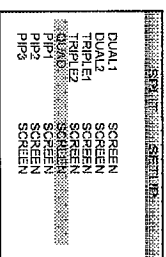


Any camera can be set to show on right or left screen. It also sets speaker of the camera as on.

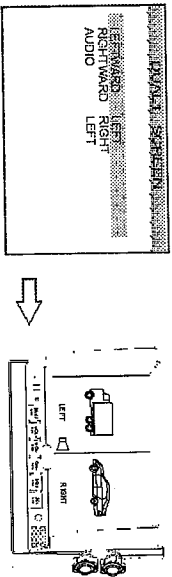


7.7.5 QUAD SCREEN

Press MENU to go back to split master menu, and then press SEL to select QUAD SCREEN, and press VOL+/VOL- to enter.

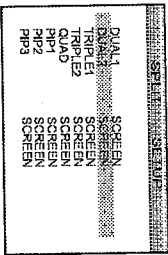


Any camera can be set to show on right or left screen. It also sets speaker of the camera as on.

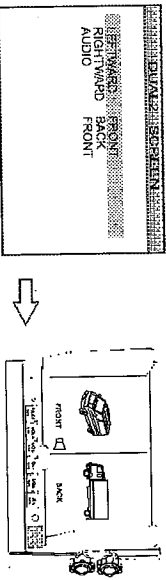


7.7.2 DUAL2 SCREEN

Press MENU to go back to split master menu, and then press SEL to select DUAL2 SCREEN, and press VOL+/VOL- to enter.

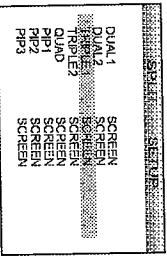


Any camera can be set to show on right or left screen. It also sets speaker of the camera as on.

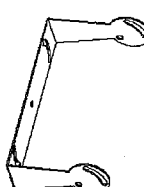
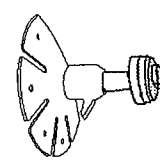

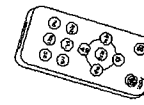


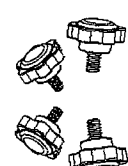


7.7.3 TRIPLE1 SCREEN

Press MENU to go back to split master menu, and then press SEL to select TRIPLE1 SCREEN, and press VOL+/VOL- to enter.



4. Accessories

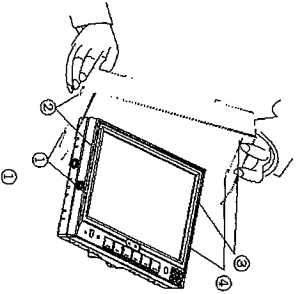
 <p>U-Support Bracket</p>	 <p>Center Mount Bracket</p>
 <p>AV and Power Supply Conversion Cable</p>	 <p>IR Remote Control</p>
 <p>Sun Shield</p>	 <p>Front Panel AV Input Adapter</p>
 <p>Angle Adjustment Screws</p>	

 Special Notice
Accessories may be different for different applications.

4.1 Installation

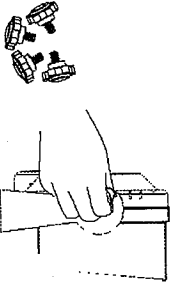
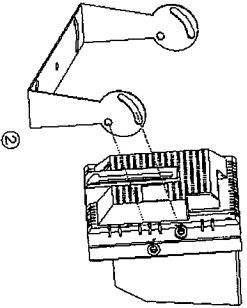
4.1.1 Installation of sun shield

As illustrated, insert the hooks ①、②、③、④ of the sun shield into the monitor.



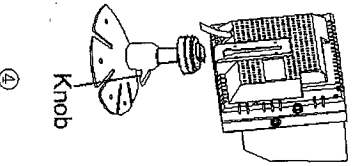
4.1.2 Installation of U-support bracket

- ① As illustrated in the picture, align the bracket with monitor.
- ② Adjust the bracket to proper angle and tighten screws.



4.1.3 Installation of center mount bracket

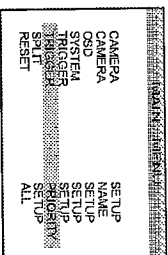
- ① Loosen the knob on top of the center mounting bracket in picture ④.
- ② Adjust monitor level by sliding the support to the desired height.
- ③ Adjust the angle of the monitor and tighten the knob on the center mount bracket.



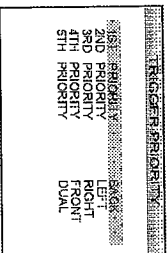
- ① Left, right, front or back-up camera could be displayed on either right ward or left ward on the screen. However, one camera could not be shown on both right ward and left ward. It could be only "RIGHT-LEFT", "RIGHT-BACKUP", "RIGHT-FRONT" etc.
- ② Audio setup. Supposed LEFT is selected, the audio output is from left-side camera. So does RIGHT, FRONT and BACK.

7.6 Trigger Priority

Press MENU to go back to master menu, and then press SEL to select TRIGGER PRIORITY as illustrated below:



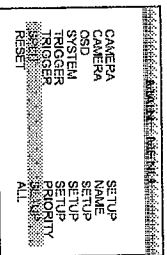
- ① Press VOL+VOL- to enter TRIGGER PRIORITY:



- ② Press SEL to select 1st TRIGGER PRIORITY, and then press VOL+VOL- to set up which camera would be 1st trigger priority. Every priority level can be set up as LEFT, RIGHT, FRONT BACK or DUAL. Default priority settings are BACK, LEFT, RIGHT, FRONT and DUAL respectively from the first to the fifth.

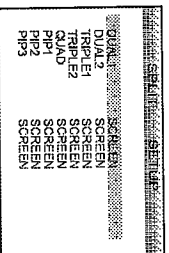
7.7 SPLIT menu

Press MENU to go back to master menu, and then press SEL to select SPLIT SETUP, and press VOL+VOL- to enter.



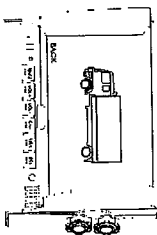
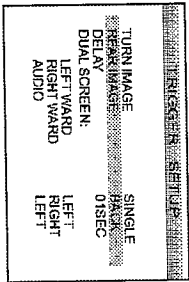
7.7.1 DUAL1 SCREEN

Press SEL to select DUAL1 SCREEN, and then press VOL+VOL- to select.

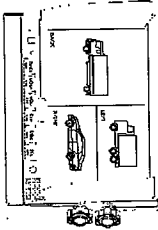


7.5.2 Backup display

Press **SEL** to select **REAR IMAGE**, and then press **VOL+ /VOL-** to select the display mode when backing up. If it is **BACK**, the monitor shows image from backup camera when reversing trigger is activated; if it is **B-L:R**, it shows images from back-up, left-side and right-side cameras on one screen when reversing.



BACK

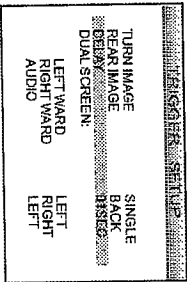


B-L:R

E.G.: Images of **BACK** and **B-L:R**:

7.5.3 Trigger off delay

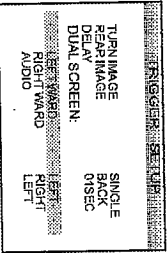
Press **SEL** to select **DELAY**, and then press **VOL+ /VOL-** to set up the delay time (from 0-60 seconds) as illustrated below:



E.G.: If delay time is 5 seconds, the image will still be displayed for 5 seconds after the trigger wire is cut off.

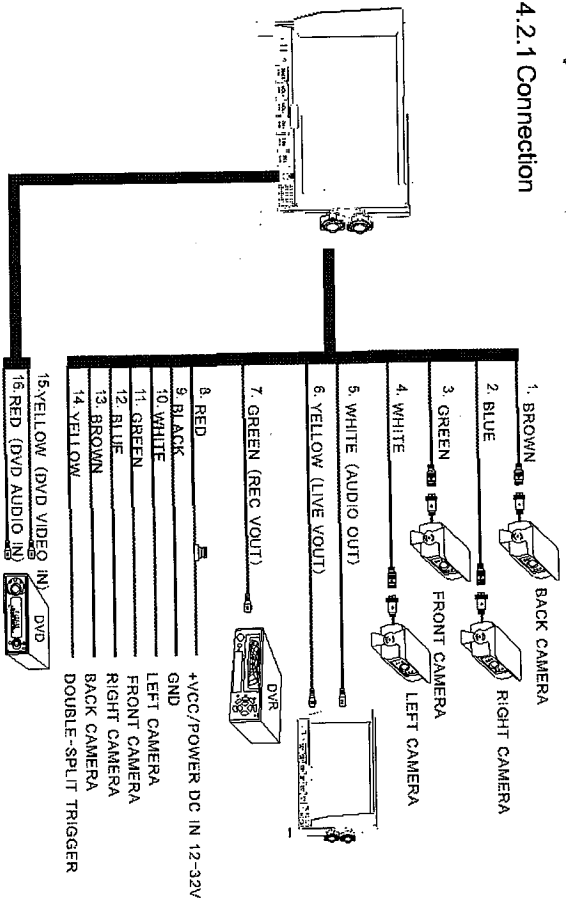
7.5.4 Dual screen display

Press **SEL** to select **LEFT**, and then press **VOL+ /VOL-** to select the camera to be displayed on the **LEFT WARD**. So does **RIGHT WARD**.



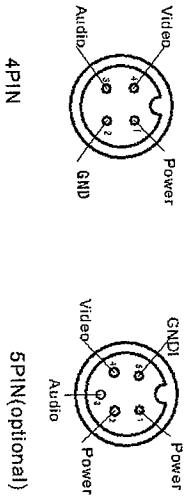
4.2 System connection

4.2.1 Connection



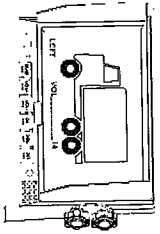
1. CAMERA BACK (brown 5 pin male)
Connecting to the back-up camera
2. CAMERA RIGHT (blue 4 pin male)
Connecting to the right-side camera
3. CAMERA FRONT (green 4 pin male)
Connecting to the front camera
4. CAMERA LEFT (white 4 pin male)
Connecting to the left-side camera
5. AUDIO OUT (white RCA)
6. LIVE V OUT (yellow RCA)
Live video output to other monitor
7. REC V OUT (green RCA)
Record video output to recorder or other monitor
8. VCC (red wire)
Connecting to the anode of power
9. GND (black wire)
Connecting to the cathode of power
10. CAMERA L TRIGGER (white wire)
Left-turn trigger wire, connecting to the positive wire of left-turn light
11. CAMERA F TRIGGER (green wire)
Front trigger wire, connecting to the positive wire of brake
12. CAMERA R TRIGGER (blue wire)
Right-turn trigger wire, connecting to the positive wire of right-turn light
13. CAMERA B TRIGGER (brown wire)
Back-up trigger wire, connecting to the positive wire of back-up light
14. SPLIT (yellow wire)
Trigger wire for dual picture, connecting to the positive wire of gate control
15. DVD video Input (yellow RCA)
16. DVD audio Input (red RCA)

4.2.2 Camera pin-out definition

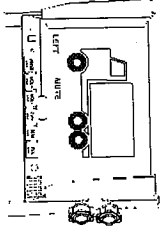


4.2.3 For audio options, refer to Split Setup

AUDIO SETUP	AUDIO OUTPUT	CHARACTER
LEFT	Audio of left camera output	VOL - L: -----14
RIGHT	Audio of right camera output	VOL - R: -----14
FRONT	Audio of front camera output	VOL - F: -----14
BACK	Audio of back camera output	VOL - B: -----14
MUTE	Mute	MUTE: -----



SOUND

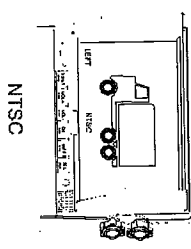
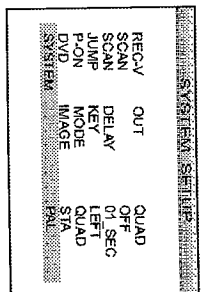


MUTE

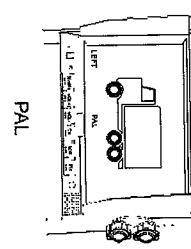
7.4.7 TV system

Press SEL to select SYSTEM, and then press VOL +/VOL - to select "NTSC" or "PAL".

E.G.:



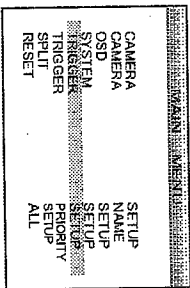
NTSC



PAL

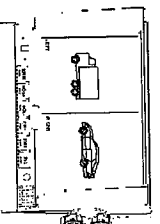
7.5 Trigger wire setup

Press MENU to go back to master menu, and then press SEL to select TRIGGER SETUP as illustrated below:

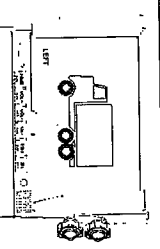


7.5.1 TURN IMAGE

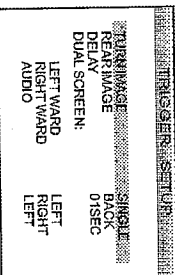
Press SEL to select TURN IMAGE, and then press VOL +/VOL - to select the display mode at turning. When it is set to be DUAL, the images of left and right-side cameras will be displayed; when it is SINGLE, it shows image from either left or right camera.



DUAL



SINGLE



1. COLOR LCD SCREEN
2. SENSOR FOR BACKLIGHT OF BUTTONS
3. REMOTE CONTROL SENSOR
The remote control can only work when pointing to the sensor.
4. POWER INDICATOR
The light is on when monitor is powered and off when standby.
5. POWER SWITCH
When power is connected, the first press will switch on the monitor, and the second press will make the monitor standby.
6. VOL+
Volume increase and menu selection down
7. VOL-
Volume decrease and menu selection up
8. CH-
Display mode (single, dual, triple, quad, PIP) selection
Short press to compile the next character when changing the name of camera
9. MENU
Press to show menu or exit menu.
10. SEL
Jump key selector. Short press makes entry into JUMP KEY setup in SYSTEM SETUP. Longer press (2 seconds) to DVD display.
11. DVD INPUT
Audio/ Video input of GPS/DVD.
12. LOUDSPEAKER
13. INSTALLATION PORT FOR CENTER MOUNT BRACKET

7.4.3 Auto switch time

① Press SEL to select SCAN DELAY:

RECV	OUT	QUAD
SCAN	OFF	OFF
JUMP	KEY	LEFT
P.ON	MODE	QUAD
IMAGE	SR	SR
DVD	IMAGE	PAL
SYSTEM		PAL

② Press VOL+VOL- to set up auto switch time (1~60 seconds).

7.4.4 Jump key

Press SEL to select JUMP KEY, and then press VOL+VOL- to set up display mode from "LEFT", "RIGHT", "FRONT", "BACK", "QUAD", "DUAL1", "DUAL2", "TRIPLE1", "TRIPLE2", "PIP1", "PIP2", and "PIP3".

In this case, when monitor is out of "MENU", pressing SEL will switch directly to the JUMP KEY image.

RECV	OUT	QUAD
SCAN	OFF	OFF
JUMP	KEY	LEFT
P.ON	MODE	QUAD
IMAGE	SR	SR
DVD	IMAGE	PAL
SYSTEM		PAL

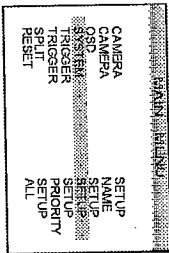
7.4.5 Switch-on mode

Press SEL to select P-ON MODE, and then press VOL+VOL- to set up display from "LEFT", "RIGHT", "FRONT", "BACK", "QUAD", "DUAL1", "DUAL2", "TRIPLE1", "TRIPLE2", "PIP1", "PIP2", "PIP3", and "STANDBY", when monitor is switched on.

RECV	OUT	QUAD
SCAN	OFF	OFF
JUMP	KEY	LEFT
P.ON	MODE	QUAD
IMAGE	SR	SR
DVD	IMAGE	PAL
SYSTEM		PAL

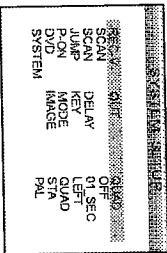
7.4 System setup

Press MENU to go back to master menu, and then press SEL to select SYSTEM SETUP as below:



7.4.1 Record video output

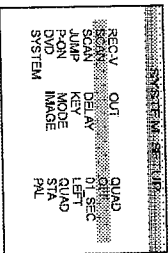
① Press VOL+/VOL- to enter SYSTEM SETUP:



② Press SEL to select REC.V/QUIT, and then press VOL+/VOL- to select LEFT, RIGHT, FRONT, BACK or QUAD. Thus the output image will be left, right, front, back or quad accordingly.

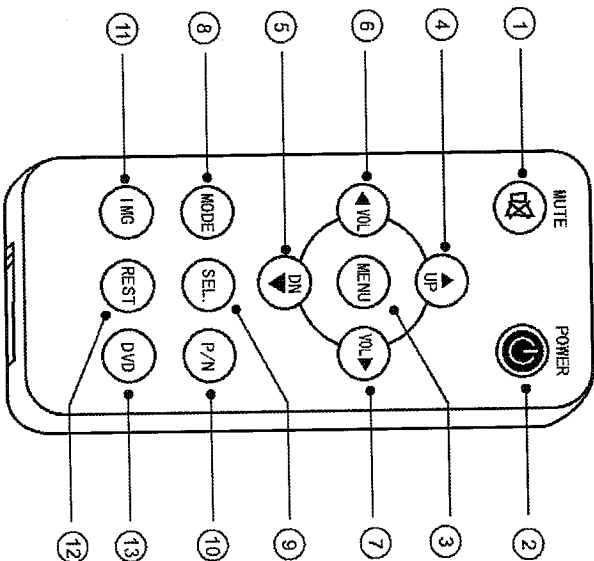
7.4.2 Auto Scan

① Press SEL to select SCAN as below:



② Press VOL+/VOL- to select ON or OFF. When it is ON, cameras will be auto switched in the sequence of LEFT, RIGHT, FRONT, BACK, QUAD, LEFT, RIGHT... If there is no video input in any channel, the channel will be automatically skipped.


6. Remote Control Operation

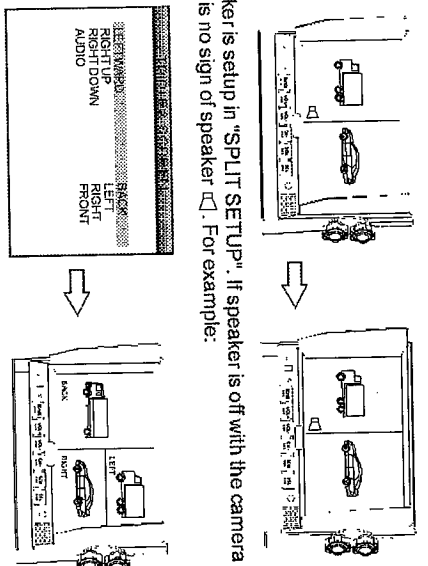


Special Notice

1. Please align the remote control with remote control sensor window on monitor when operating.
2. Never disassemble the remote control or allow it to drop, or become wet.

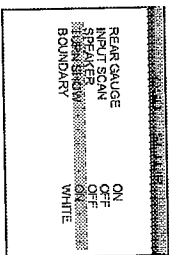
- ① **MUTE**
Press to select MUTE or enable sound
- ② **POWER**
Press to turn on/off the monitor
- ③ **MENU**
Press to show menu or exit menu
- ④ **UP**
Channel or item on menu selection up
- ⑤ **DN**
Channel or item on menu selection down
- ⑥ **VOL-**
Volume decrease and menu selection up
- ⑦ **VOL+**
Volume increase and menu selection down
- ⑧ **MODE**
Display mode (single, dual, triple, quad, PIP) selection
Short press to compile the next character when changing the name of camera
- ⑨ **SEL.**
Jump key selector. Short press makes entry into JUMP KEY setup in SYSTEM SETUP
- ⑩ **P/N**
PAL/NTSC TV system selector
- ⑪ **IMG**
Brightness control switch: STA (standard), BRI (bright), SOF (soft)
- ⑫ **REST**
System reset. Press to resume factory setup default
- ⑬ **DVD**
Press to select or exit DVD

Speaker is setup in "SPLIT SETUP". If speaker is off with the camera showing, there is no sign of speaker . For example:



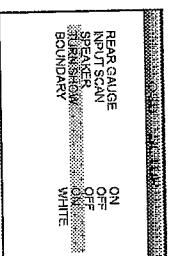
7.3.4 Arrow setup

Press **SEL.** to select **TURN SHOW**, and then press **VOL+/VOL-** to select **ON** or **OFF**. **ON** is applied when the monitor is for reversing, while **OFF** is applied for regular security.

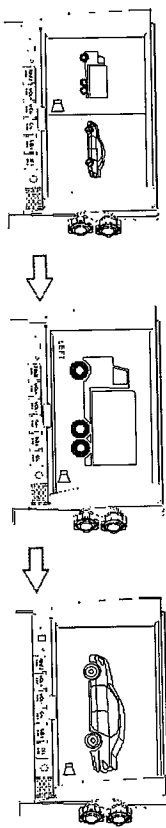


7.3.5 Boundary color

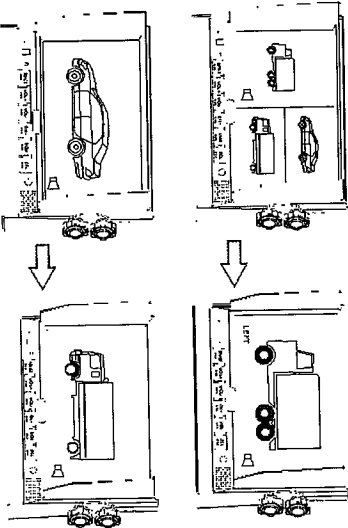
Press **SEL.** to select **BOUNDARY**, and then press **VOL+/VOL-** to select color of the boundary. **WHITE**, **BLACK** and **GRAY** are available.



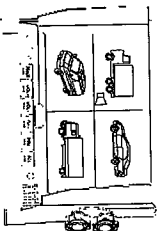
If two cameras connected, the device auto shows split image. Pressing "CH-" switches between split and single image.



If three cameras connected, the device auto shows triple image. Pressing "CH-" switches between triple and single images in turn.

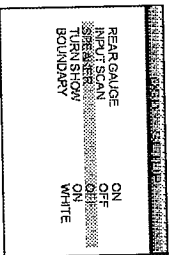



If 4 cameras connected, pressing "CH-" means quad view, split, triple, single and PIP.



7.3.3 SPEAKER

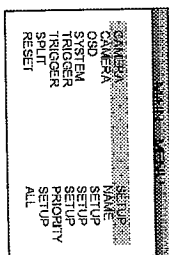
Press SEL to select SPEAKER, and then press VOL+/VOL- to select ON or OFF.



When it is "ON", there will be a sign of speaker  down right with the corresponding image. White speaker sign means "mute".

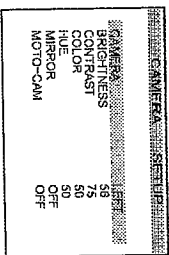
7. Menu

Press MENU to display the master menu:

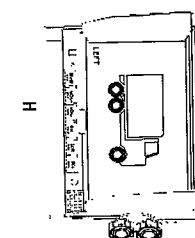
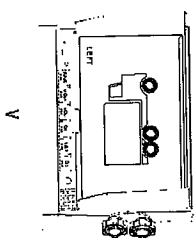
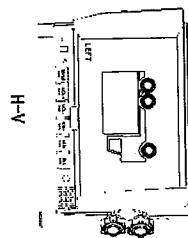
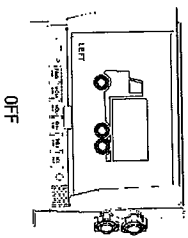


7.1 CAMERASETUP

① Press SEL to select CAMERA LEFT, and then press VOL+/VOL- to enter into CAMERASETUP:



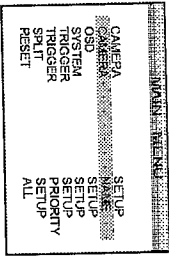
- ② Press VOL+/VOL- to select the camera to be set (LEFT, RIGHT, FRONT or BACK)
- ③ Press SEL to select BRIGHTNESS, and then press VOL+/VOL- to adjust the brightness level (0~100).
- ④ Press SEL to select CONTRAST, and then press VOL+/VOL- to adjust the contrast level (0~100).
- ⑤ Press SEL to select COLOR, and then press VOL+/VOL- to adjust the color level (0~100).
- ⑥ Press SEL to select HUE, and then press VOL+/VOL- to adjust the hue level (0~100).
- ⑦ Press SEL to select MIRROR, and then press VOL+/VOL- to select image display (OFF, H-V, V and H are optional as illustrated below.)



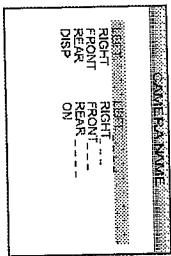
- ③ Press SEL to select MOTO-CAM, and then press VOL+/VOL- to select ON or OFF. When it is ON, the motorized lens cover is open all the time; otherwise, the lens cover only opens when reversing trigger wire is activated.

7.2 CAMERA NAMING

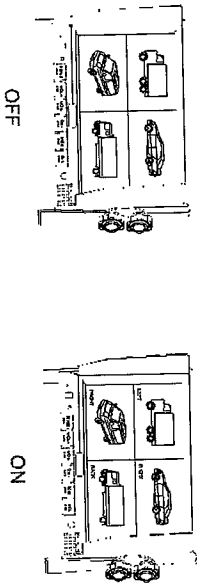
Press MENU to go back to master menu, and then press SEL to select CAMERA NAME.



- ① press VOL+/VOL- to enter CAMERA NAME:

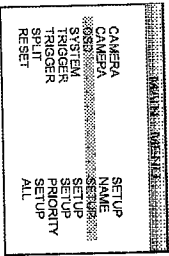


- ② Press SEL to select LEFT, RIGHT, FRONT or BACK (default name of each camera is also "LEFT", "RIGHT", "FRONT" and "BACK"). If you want to rename cameras, the letters can be revised by pressing VOL+/VOL-. Pressing CH- is to select the next letter in one word. There are totally 62 characters available.
- ③ Press SEL to select DISP, and then press VOL+/VOL- to select ON or OFF (default is ON.) When it is ON, title of each camera is displayed; otherwise, it is not.



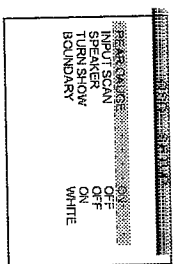
7.3 OSD SETUP

Press MENU to go back to master menu, and then press SEL to select OSD SETUP.



7.3.1 Camera title

- ① Press VOL+/VOL- to enter OSD SETUP:

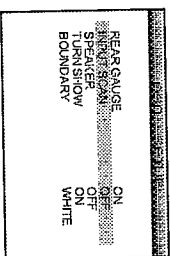


- ② Press SEL to select REAR GAUGE, and then press VOL+/VOL- to select ON or OFF. When it is ON, there is distance grid displayed; otherwise there is not.



7.3.2 INPUT SCAN

- Press SEL to select INPUT SCAN, and then press VOL+/VOL- to select ON or OFF. "ON" stands for that auto recognition of inputs works [To keep going as following, it must be set "ON"].



If only ONE camera connected, the device auto shows single image. Button of "CH-" is not working at this time.

