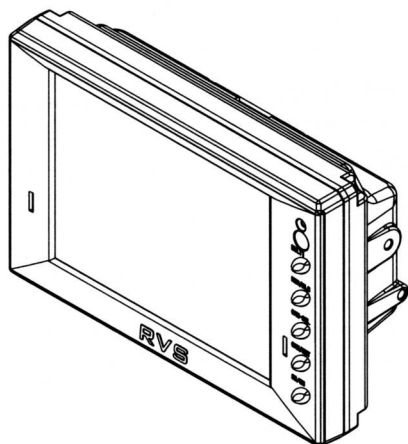


REAR VISION SYSTEMS

CAR VISION RVS-6400D MONITOR

INSTRUCTION/INSTALLATION MANUAL



■ MAIN FEATURES

- **AUTO BRIGHTNESS CONTROL**
Automatically adjusts the monitor screen brightness according to the ambient brightness. No troublesome adjustments and extra wiring are needed.
- **EXPOSURE COMPENSATION SWITCH**
Just press this switch for proper exposure in bright light conditions in the daytime or back light conditions.
- **CONNECTABLE TO 3 CAMERAS**
Up to three cameras can be connected. Images are selectable with switch operation on the front or wired trigger input.
- **NO NEED TO SELECT BATTERY VOLTAGE**
No need to worry whether the vehicle is a 12-volt or 24-volt system. (Negative grounding only.)
- **ELECTRIC DISTANCE MARKS**
When the vehicle is put into reverse, distance marks are displayed to indicate safe distance.
- **EXTERNAL VIDEO OUTPUT CONNECTOR**
You can output video signals from this connector to a VCR.
- **MULTI-DIVISION DISPLAY**
One, two or three camera vision show on display are selectable.

Please read this manual carefully before attempting to install and operate this equipment. (Present this manual to the customer.)

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UNIT PARTS

◀◀

This colour monitor is supplied with the following accessories. Make sure that there are no missing accessories.

Monitor

1

Mounting bracket

1

Accessories

1 M5 X 16 bolt (black with washer)

2 M5 hexagonal nut with flange

3 Knob screw

4 Flat washer for knob screw

5 Spring washer for knob screw

6 Bush for knob screw

5 (for vehicle)

5 (for vehicle)

4 (for monitor)

4 (for monitor)

4 (for monitor)

4 (for monitor)

Monitor hood

1

Spare fuse (Model 60) 5A

4

Power supply harness

1 set

Instruction/installation manual (This manual)

1

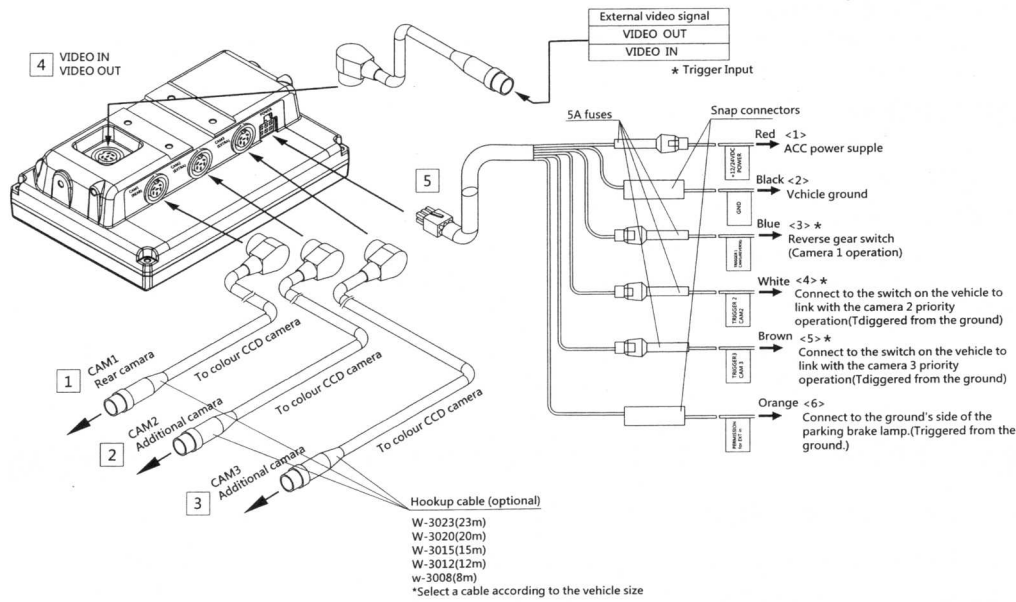
WIRING

BASIC WIRING CHART



CAUTION

Be sure to connect the camera to monitor the rear to the CAM1 (REAR) connector.



WIRING (Cont.)

WIRING CONNECTIONS

1 CAM1 (REAR)

Connector to connect a camera for rear view.

2 CAM2 (EXTRA)

Connector to connect an additional camera. You can check the images taken by this additional camera using the select switch.

3 CAM3 (EXTRA)

Connector to connect an additional camera. You can check the images taken by this additional camera using the select switch.

4 VIDEO IN

Connector to input external video signals. You can see the images externally input to this connector on the monitor.

5 VIDEO OUT

The image being displayed on the LCD monitor is output from this connector. You can connect this connector with a VCR or additional monitor.

6 POWER

Connect the attached power supply harness with this connector. Refer to "POWER SUPPLY HARNESS CONNECTIONS" for connection.

POWER SUPPLY HARNESS CONNECTIONS

<1> ACC power supply (DC24/12V) (Red)

<2> Vehicle ground (Black)

<3> Reverse gear switch connection line (DC24/12V) (Blue)

By connecting this line to the vehicle's reverse gear switch, the camera image appears on the monitor when the gear is shifted into reverse.

<4> Camera 2 priority switching line (White)

Connecting this line to the ground gives priority to the camera 2 (additional). However, images taken by the camera 2 aren't displayed when the reverse gear switch connection line (<3>) has been activated.

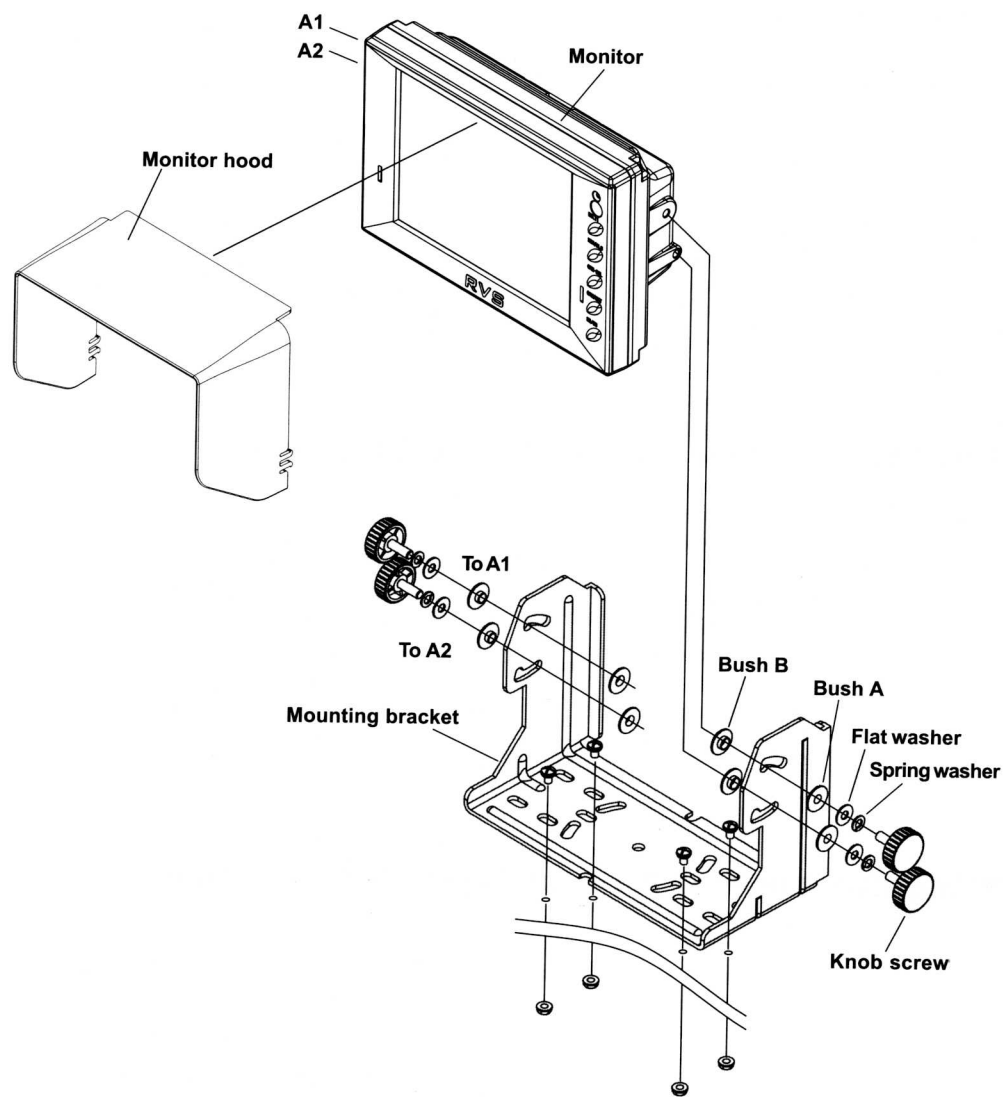
<5> Camera 3 priority switching line (Brown)

Connecting this line to the ground gives priority to the camera 3 (additional). However, images taken by the camera 3 aren't displayed when the reverse gear switch connection line (<3>) or the camera 2 priority switching line (<4>) has been activated.

<6> Parking brake detection line (Orange)

Connecting this line to the ground's side of the parking brake allows you to view the image input to the VIDEO IN connector using the front switches while the vehicle is parked with its parking brake pulled.

INSTALLATION

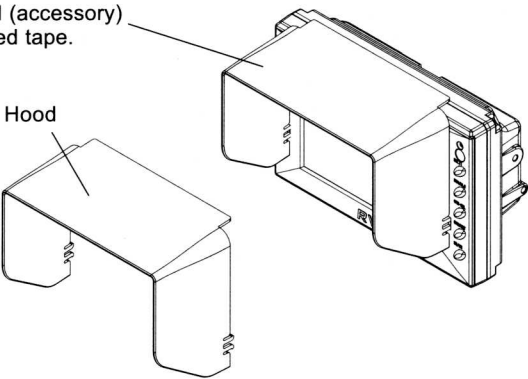


INSTALLATION (Cont.)

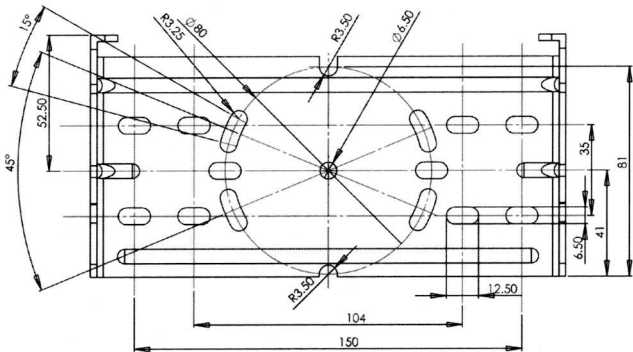
- **Monitor hood**

Attach this monitor hood when sunlight strikes the screen making the displayed image hard to see.

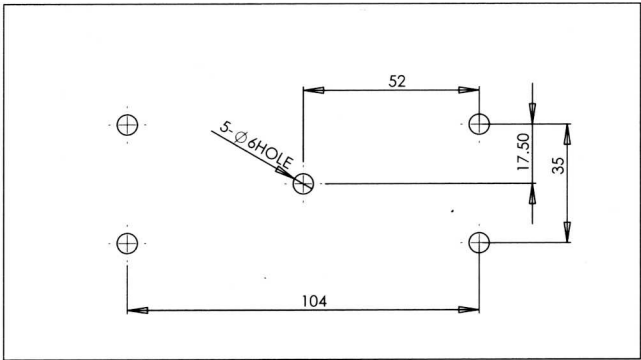
Attach the hood (accessory) with double-sided tape.



- **Bottom view of the mounting bracket (Unit : mm)**



- **Installation holes in the mounting bracket (Unit : mm)**



PARTS NAMES & FUNCTIONS

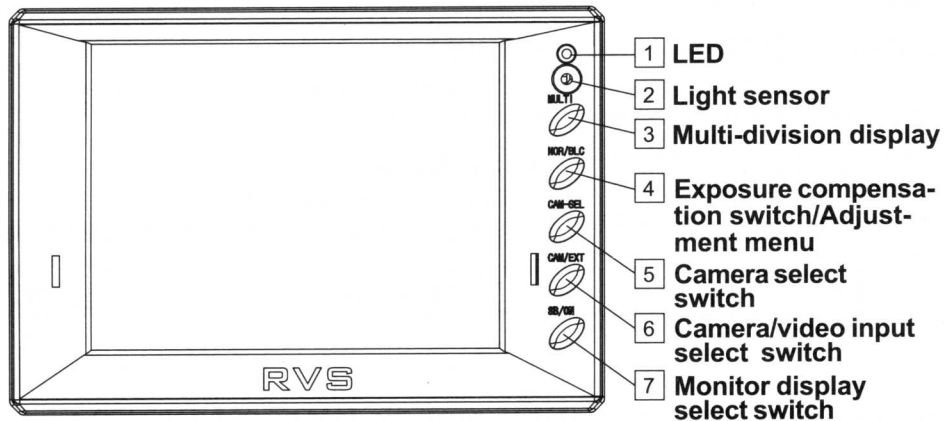
PARTS NAMES OF THE MONITOR

Usually there is no need to operate these switches.



CAUTION

Never attempt to operate the monitor switches while driving.



PARTS NAMES & FUNCTIONS (Cont.)

FUNCTIONS OF THE MONITOR

1 LED

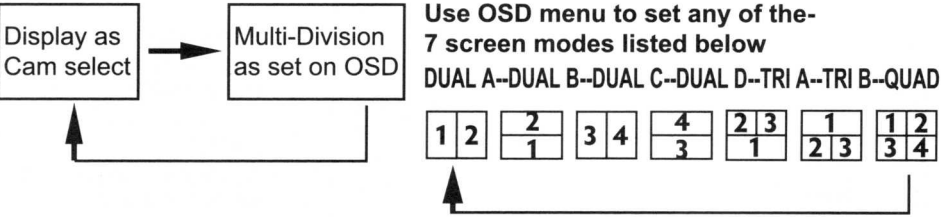
This LED turns on when the monitor operates. It illuminates at half intensity when the monitor is in the standby state.

2 Light sensor

This sensor detects the ambient light and there is no need to manipulate this sensor. Do not block or damage this sensor. Sticking a tool into this sensor hole may damage the monitor, resulting in a breakdown.

3 Multi-division display (Multi)

When you press this switch, the display will show division screen, every time you press this switch the screen are switched in order.



4 Exposure compensation switch (NOR/BLC) /Adjustment menu

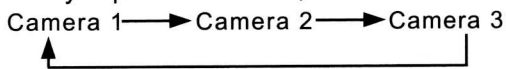
- 1) Exposure compensation switch
When you press this switch, the exposure compensation function of the camera will operate for approx. 5 seconds. This function automatically ceases in approx. 5 seconds. Never operate this switch while driving, regardless of whether you move the vehicle forward or backward. This switch is for easier viewing of images on the monitor when it is difficult to see camera images that are taken in bright light in the daytime.
- 2) Adjustment menu
When you hold down this switch for 2 seconds or longer, the adjustment menu will appear. When you press this switch while the adjustment menu is being displayed, the adjustment value of the menu item being selected will increase. When you leave the monitor alone after the adjustment menu appears, the menu will disappear in approx. 5 seconds.

CAUTION

- The monitor adjustment menu is not displayed while the gear is in reverse or the camera 2 or camera 3 is in operation. Be sure to pull over at a safe place when setting the monitor adjustment menu.

5 Camera select switch (CAM-SELECT)

When more than one camera is connected, use this switch to switch the images supplied from the camera 1 (rear), camera 2 (additional), and camera 3 (additional). Every time you press this switch, these cameras are switched in order.



- The cameras are switched in the order shown above at every press of this switch.

When you press this switch while the monitor adjustment menu is being displayed, the adjustment value of the menu item being selected will decrease.

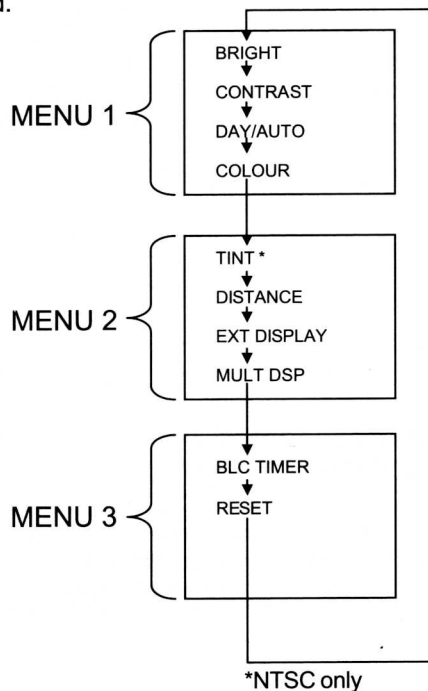
6 Camera/video input select switch (CAM/EXT)

You can switch the camera image and the externally supplied video image.

Every time you press this switch while the parking brake detection line is connected, the camera image and the externally supplied video image are switched.

- Externally supplied video images are displayed only when EXT DISPLAY has been set to ON in the menu.

When you press this switch while the adjustment menu is on the screen, the menu items will be switched.



*NTSC only

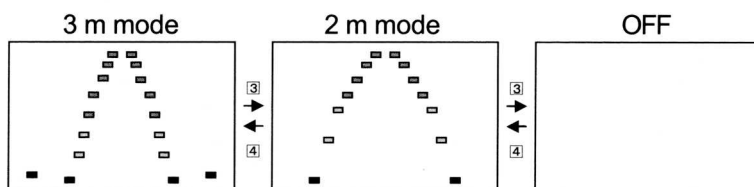
- The menu items are switched in the order shown above at every press of this switch.

7 Monitor display select switch (SB/ON)

Every time you press this switch, the monitor state is switched between standby and on. The monitor displays images in the on state. Leave this switch in the standby position for normal use. When you put the change lever in the reverse position with this switch set to the standby position, the rear view provided by the camera 1 (rear) will be displayed on the monitor and the distance marks will appear.

■ Description of the monitor adjustment menu

- BRIGHT : Use to adjust the brightness of the video signal.
- CONTRAST : Use to adjust the contrast of the video signal.
- DAY/AUTO : Use to switch the brightness mode of the LCD backlight. Selecting AUTO enables the function to automatically control the brightness of the LCD backlight. Selecting DAY fixes the brightness of the LCD backlight to its maximum.
- COLOUR : Use to adjust the color intensity of the video signal.
- TINT : Use to adjust the tint of the video signal.
- DISTANCE : Use to change the pattern of the distance marks that are displayed when the gear is in reverse. There are two display patterns of distance marks. One is for the camera installed at a height of 3 m and the other is 2 m. Choose either of them depending on the installation height of the camera. When you want to hide the distance marks, select OFF.



The display patterns are switched in the order shown above at every press of the switch [3] or [4].



CAUTION

- The distance marks displayed on the monitor don't show the absolute distance from the bumper. Use these marks as your guide.

-
- EXT DISPLAY :Use to enable to display externally supplied video images.
Selecting OFF disables to display externally supplied video images.
Selecting ON enables to display externally supplied video images.
- Select OFF for normal use.
 - BLC TIMER : Use to change the operating time of the camera's exposure compensation function that is activated by press of the NOR/ BLC switch.
Selecting 5s allows the exposure compensation function to operate for approx. 5 seconds.
Selecting 10s allows the exposure compensation function to operate for approx. 10 seconds.
 - RESET : Use to reset the adjustment values of the menu items.
The respective menu items are reset to the following default values.

Menu item	Default value
BRIGHT	15
CONTRAST	15
DAY/AUTO	AUTO
COLOUR	15
TINT	15
DISTANCE	3m
EXT DISPLAY	OFF
BLC TIMER	5s



- The monitor adjustment menu is not displayed while the gear is in reverse or the camera 2 or camera 3 is in operation. Be sure to pull over at a safe place when setting the monitor adjustment menu.

To dealers and installers

Some settings of the LCD monitor can be changed using the Installer mode OSD.
Change these settings if requested by the user or required due to the installation conditions.

Before changing the settings:

- (1) Read carefully the following instructions.
- (2) Please make sure your equipment first.

Factory default		
<div>4</div>	<div>5</div>	<div>6</div>
Blue(Camera 1)	White(Camera 2)	Brown(Camera 3)
HIGH active	LOW active	LOW active

<Instructions for manipulating the setting switches>

1.Switching of the cable input polarity

You can change the polarity of the voltage that is detected at the time of input of each line.

When set the camera are High active, the monitor power voltage level is detected to switch the cameras. In this position, the cameras are not switched when the ground voltage (GND) is detected or the line is open.

When the setting are Low active. the ground voltage (GND) of the vehicle is detected to switch the cameras. In this position, the cameras are not switched when the monitor power voltage level is detected or the line is open.

Keep these setting in the factory default position during normal use.

2.How to select and set OSD menu

(a) Into "installer mode"

Push the MULTI and CAM/EXT key simultaneously.

TRIGGER 1 HIGH LOW	CYCLE 1 3	TRIGGER 1 CAM 1
TRIGGER 2 HIGH LOW	CYCLE 2 3	RESET RST
TRIGGER 3 HIGH LOW	CYCLE 3 3	
CYCLE MUL 3	CYCLE EXT 3	

TRIGGER 1 HIGH LOW item push **NOR/BLC** key to switch
 CYCLE ☐ item push **NOR/BLC** key can select 0~20 sec.(default 3)
 TRIGGER 1 item push **NOR/BLC** key can select 3 mode

CAM 1

1

 - DUAL B

2

1

 - TRI A

2

3

1

(b) select trigger level. then push SB/ON key to reboot the system.

Additional Function

1. Cycling Display

a. Start the cycling routine:

Press the "MULTI" button 3 seconds

the monitor will start cycling.

b. Stop the cycling routine:

Press any key to stop it

c. Adjustable Time-Out for each video source

On Install mode (Press "MULTI" + "CAM/EXT")

user can adjust the Time-Out range 0~20 sec.

When any source set to 0 will be skip,

If all source set to 0 this cycling function will be un-active.

CYC MUL— Multi-Display

CYC 1— CAM1

CYC 2— CAM2(Ext)

CYC 3— CAM3(Ext)

CYC 4— Ext-Video(CAM4)

OTHERS

EXTERNAL VIEW



● Monitor

(Unit : mm)

