

VEHICLE CCTV SYSTEM

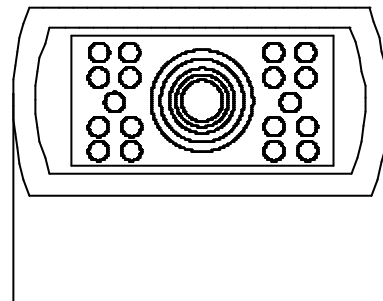
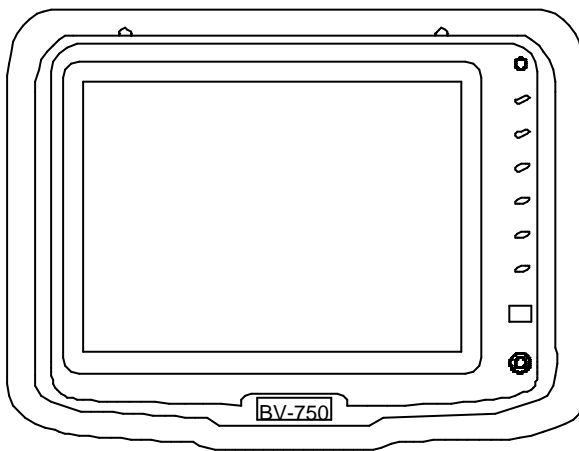
VBV-750

Model:

VBV-750M MONITOR

VBV-700CM CONTROL MODULE

VBV-700C CAMERA



INTRODUCTION

The vehicle CCTV system has been designed to provide years of trouble-free operation. Please read this manual thoroughly. This manual contains instructions to ease the installation of the camera and monitor. The vehicle CCTV system is a supplement to standard rear-view mirror systems, and will provide additional rear-view vision when installed and maintained properly. The vehicle CCTV system is not intended in any way to be a substitute for careful, cautious, defensive driving or for the consistent adherence to all applicable traffic laws and motor safety regulations. This product is not intended to be a substitute for rear view mirrors or for any other motor vehicle or boat equipment mandated by law.

FEATURES**VBV-700C CAMERA**

270,000 pixel image sensor
0.1Lux sensitivity
Automatic electronic iris provides a clearer, more consistent image in low and night light
Wide-angle lens provides a broad viewing area (110°Diag.)
Durable, waterproof construction
Wind deflector reduces build up of dirt on lens
Waterproof cable connection

VBV-750M TFT LCD COLOUR 5.0" MONITOR

Day/night switch
Menu button for Picture, System, Option, and Clock
Camera 1/Camera 2
Power/stand-by switch

E-700CM CONTROL BOX

Audio/Video input and output terminal
Up to two cameras can be connected to the control box.

CONTENTS OF 1 COMPLETE SYSTEM**BV-700C CCD CAMERA:**

-Camera
-Camera bracket
-Attachment screws with washers
-Wind deflector

VBV-750M MONITOR:

-Monitor
-Monitor bracket

E-700CM CONTROL BOX

-Power cable
-Control Box
-Special Cable: 1-20 meter cable with waterproof connector. Oil, gas, grease resistant. UV stable

BEFORE INSTALLATION

This system operates from 10 volts DC to 32 volts DC, negative ground. Please install this system according to the instructions in this manual. Do not disassemble the camera or the monitor. This voids the warranty. In assembling the camera will compromise the Waterproof seal.
Connect the system to an ignition switched power source. Connection to an alternate source will reduce battery life.

WARNING

To prevent electrical shock, DO NOT OPEN THE MONITOR CASE. There are potentially lethal voltages inside the monitor. There are no user serviceable parts inside. If evidence of tampering is detected, the warranty will be considered void.
Keep monitor away from leaking water, rain, moisture etc. It is NOT waterproof. Any moisture inside the monitor could cause extensive damage. Use the thumbscrews to mount the monitor to bracket.

INSTALLATION INSTRUCTIONS**BV-700C CAMERA**

Attach camera bracket (see Fig. 1) to upper portion of vehicle. Attachment point must be sturdy enough to support camera and bracket.
Attach camera to bracket using screws provided. Adjust angle as indicated in q. 2. (Use rear bumper and back of vehicle as a reference point.)
Wind deflector may be installed. This deflector is designed to reduce the build up of dust, dirt and moisture on the camera lens. (See Fig.2)

VBV-750M MONITOR

Attach monitor inside vehicle in a location convenient to the driver (e.g. centre dash, overhead or in dash). (See Fig.3.)
Use a compression plate or rear-mounting bracket to attach the monitor bracket to the dash or overhead. (See Fig. 3.)
Adjust mounting angle of the monitor to allow driver to easily view the screen from all seat positions. (See Fig. 4.)

BV-700CM CONTROL-BOX

Attach monitor inside vehicle. Attachment point must be sturdy enough to support the box. (See Fig.5)

ABLE

The camera-to-cable connection is waterproof. The cable-to-control-box connection is not waterproof. Be sure to orient the cable properly. The cylindrical end attaches to the camera. The rectangular box end attaches to the control-box. (See Fig. 6.)

Do not run the cable over sharp edges or corners. Do not kink the cable. Keep the cable away from hot and rotating parts.
Place all excess cable in convoluted tubing.
Wire the cable securely.

WIRING CAMERA AND MONITOR

See wiring diagram for connections to ignition, ground and back up circuit. (See Fig. 5.)

Wiring camera: Drill a 20mm - diameter hole into vehicle body near the camera and bracket. Connect camera connector to extension cable in vehicle. Push extra cable into vehicle (be careful not to kink cable) and fit grommet into hole. Apply sealant around grommet to increase resistance to water penetration.
Wiring control-box: Insert extension cable into camera #2 (R) position. If 1 camera is used, be sure to mark each extension cable properly and plug second and third cable into camera #1 position. Bundle excess cable together using a cable tie or vinyl tape. This will avoid possible damage to cable during operation. The red wire is connected to an ignition power source, the black wire is connected to chassis ground, the brown wire is connected to the vehicles back up circuit and the white is connected to the parking light for dimmer effect.

FUNCTIONS AND OPERATION**MONITOR (see Fig.7)****1) POWER LED**

When the red LED is turned on, it indicates power on. Putting the gear into the reverse, the view of camera 2 shall be shown on the monitor.

2) Power ON/OFF Switch**3) ? +? - CONTROL BUTTON**

This button can adjust a speaker's volume and also Menu adjusts.

- Turning up the option, press this button and it will be up gradually. While the option being up, the marks below are shown on the monitor.
- Turning down the option, press this button and it will be down gradually. While the option being down, the marks below is shown on the monitor

The function above is preceded than any others.

4) 'MENU' Button

If you press the button "MENU", the list of function will be shown on the monitor.

- PICTURE
- SYSTEM
- OPTION
- CLOCK

Selectable function lists disappear within seconds if there is no new input sign. You can choose or select easily any function on the menu lists.

5) SEL.**SELECT CONTROL BUTTON**

Use these buttons in order to select the option.

6) Camera selector button

Following the turns below, it can be selected that CA1, CA2. The OSD indicates which camera is operating now.

7) REMOTE-CONTROLLER SENSOR

The monitor is to be operated by a remote-controller. To operate the system with the remote-controller turn the remote-controller towards the sensor on the face of monitor.

8) Earphone Jack**9) BRACKET RAIL**

Mounting bracket is adjustable.

METHOD OF ADJUST**1. PICTURE CONTROL**

- 1) Press the "MENU" button
- 2) Select "PICTURE"
- 3) Move the cursor to the "CONTRAST, BRIGHT, COLOR, SHARP AND TINTS" with the SEL button.
- 4) Press the "? + or ? -" button.
- 5) Select one of five options.
- 6) Choose it with the "? + or ? -" button.
- 7) Press the "MENU" button

2. SYSTEM CONTROL

- 1) Press the "MENU" button
- 2) Select "SYSTEM"
- 3) Move the cursor to the "INPUT, COLOR SYSTEM, BLUE BACK, LANGUAGE," with the SEL button.
- 4) Press the "? + or ? -" button.
- 5) Select one of five options.
- 6) Choose it with the "? + or ? -" button.
- 7) Press the "MENU" button

3. OPTION CONTROL

- 1) Press the "MENU" button
- 2) Select "SEL"
- 3) Move the cursor to the "HORIZONTAL, VERTICAL" with the SEL button.
- 4) Press the "? + or ? -" button.
- 5) Select one of two options.
- 6) Choose it with the "? + or ? -" button.
- 7) Press the "MENU" button Press the "MENU" button

4. CLOCK CONTROL

- 1) Press the "MENU" button
- 2) Select "CLOCK"
- 3) Move the cursor to the "TIME, ON TIME, OFF TIME, ATTENTION, CH-TIME" with the SEL - button.
- 4) Press the "? + or ? -" button.
- 5) Select one of five options.
- 6) Choose it with the "? + or ? -" button.
- 7) Press the "MENU" button Press the "MENU" button

REMOTE CONTROLLER (see Fig.8)

1) MODE (Mode): Press this button; users can realize the five picture statuses of Standard, Soft, Vivid, light and Personal.

2) POWER (Power switch):

Press this button is to turn off the monitor, press it again is to turn on the machine.

3) MUTE (Mute):

Press this button, sound disappears, press it again or ? + or ? - is to resume normal sound.

4) CALL (Call):

Press this button is to display AV character currently watching.

5) TIMER:

Time setup of sleep off, it is used to set the time off within 120 minutes.

6) C / E / R / P / G:

Press this button can realize the switch of Chinese, English, Russian, Arabic and German menu.

7) CALE:

Press this button is to show Year, Month, Day and Week. Press ? SEL or ? SEL is to adjust the Year, press ? + or ? - is to adjust the Month.

8) VIDEO (CA1 / CA2 shift):

Press this button is to realize switch between CA1 and CA2 pictures.

↔ : Press this button is to flip the picture horizontally.

↑↓ : Press this button is to flip the picture vertically.

CAMERA**1. Waterproof connector (See Fig.9)****CAUTION**

1. DO NOT OPEN THE CAMERA CASE. This will break the camera's Waterproof seal. If evidence of tampering is detected, the warranty Will be considered void.
2. Do not recommend mounting the camera near the lower area of the vehicle (e.g. bumper). This reduces the view of the camera and increases the chance of physical damage to the camera.
3. Use only the Inner Hexagonal screw and washers to mount the camera.

MAINTENANCE

Remove dust and dirt with a damp soft cloth. Heavier dirt should be removed with a damp soft cloth and mild detergent. Do not use strong cleaning agents containing gasoline, thinner, benzene or alcohol. These substances may damage the exterior surface of the monitor.

CAUTION

1. Before drilling, be sure no cable or wiring is on the other side. Be sure to drill a 20mm - diameter hole only.
2. Feed as much cable as possible into vehicle and clamp securely. This reduces the possibility of it being hooked or snagged.
3. Keep all cables away from HOT, ROTATING and ELECTRICALLY NOISY components.
4. To increase protection of cable, place all excess wire and extension cable in convoluted tubing.
5. Do not twist camera cable and do not cut camera pigtail or cable.

SPECIFICATIONS**VBV-700C CAMERA**

PICK-UP DEVICE	INTERLINE TRANSFER TYPE CCD
TV SYSTEM	PAL
PICTURE ELEMENTS	500(H) x 580(V) PAL
SENSING AREA	4.9mm x 3.7mm
IMAGE SIZE	1/3 INCH
SYNCHRONIZATION	INTERNAL
HORIZONTAL RESOLUTION	380 TV LINES
REQUIRED ILLUMINATION	0.1 LUX MINIMUM / F1.2
SIGNAL TO NOISE RATIO	MINIMUM 50DB(AT AGC OFF)
POWER SUPPLY	12VDC
POWER CONSUMPTION	2.4W(AT 12V DC)
CURRENT CONSUMPTION	MAX. 350Ma
LENS ANGLE	110°
OPERATION TEMP	-20°C TO +70°C
STORAGE TEMP	-30°C TO +60°C

VBV-750M MONITOR

PICTURE TUBE:	5.0" INCH, COLOUR TFT-LCD
DEFLECTION ANGLE:	45°(LEFT/RIGHT), 10°(TOP), 30°(DOWN)
POWER SOURCE:	12-24VDC (WITH USE OF CONTROL-BOX) 12 VDC (WITHOUT USE OF CONTROL-BOX)
POWER CONSUMPTION:	~ 8W/700MA MAXIMUM
OUTPUT VOLTAGE:	9.6VDC
TV SYSTEM:	PAL/NTSC
VIDEO INPUT/OUTPUT:	COMPOSITE VIDEO SINGLE 1VP-P 75 OHM
RESOLUTION:	960(H) X 234(V)
CONTRAST:	150:1
VIEWING ANGLE (U X D X R/L)	15 X 35 X 50
OPERATING TEMPERATURE:	-10°C ~ TO +60°C
STORAGE TEMPERATURE:	-25°C ~ +70°C
WEIGHT:	0.43 KG
DIMENSIONS: (W X H X T)mm	163 X 125 X 30.5

VBV-700CM CONTROL BOX

POWER INPUT	12-32 VDC
POWER OUTPUT	11-12 VDC, 2A
POWER OUTPUT	MAX: 20 W
VIDEO SYSTEM	PAL
VIDEO OUTPUT	1VP-P 75 OHM
VOLTAGE OUTPUT	12 VDC
OPERATING TEMPERATURE	-10°C TO +60°C
STORAGE TEMPERATURE	-25°C TO +80°C
CASE MATERIAL	ALNICO
WEIGHT	~0.5 KG
DIMENSIONS (W X H X D)mm	146 X 37 X 79

DISCLAIMER

The use of the VBV-750 Vehicle CCTV system does not guarantee or promise that the user will not be in an accident or otherwise not collide with an object. The vehicle CCTV system is not intended in any way to be a substitute for careful and cautious driving or for the consistent adherence to all applicable traffic laws and motor safety regulations. This product is not intended to be a substitute for rear-view mirrors or for any other motor vehicle or boat equipment mandated by law.

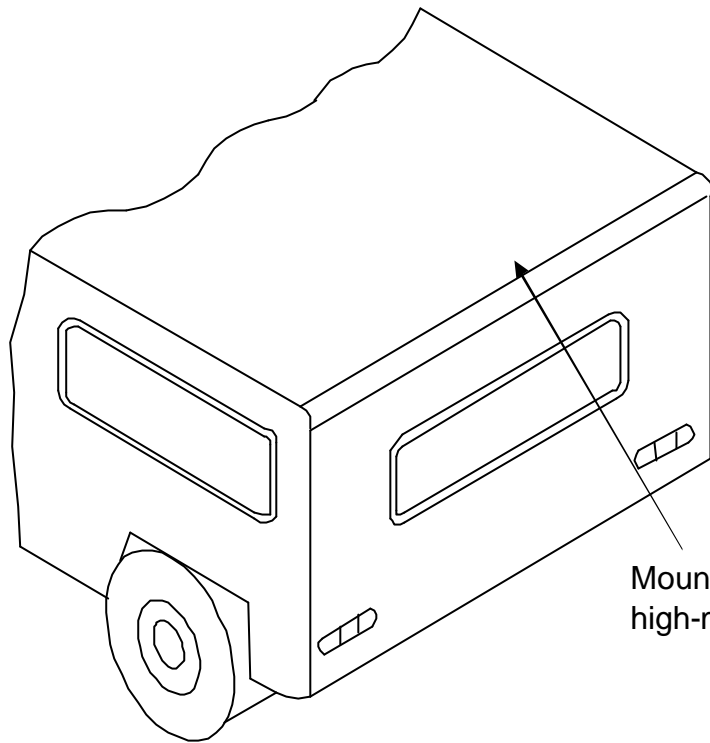
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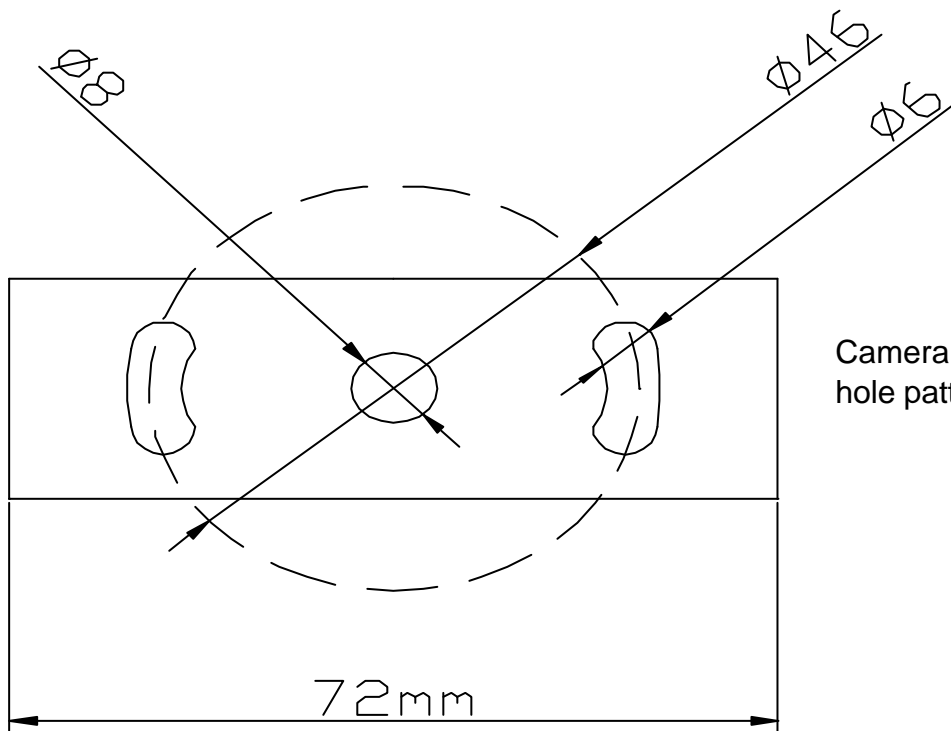
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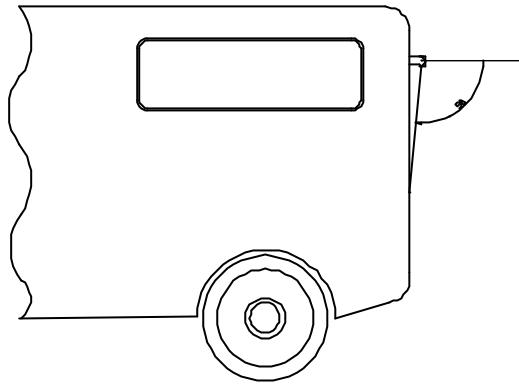


Mount camera assembly
high-mounted. Centred.

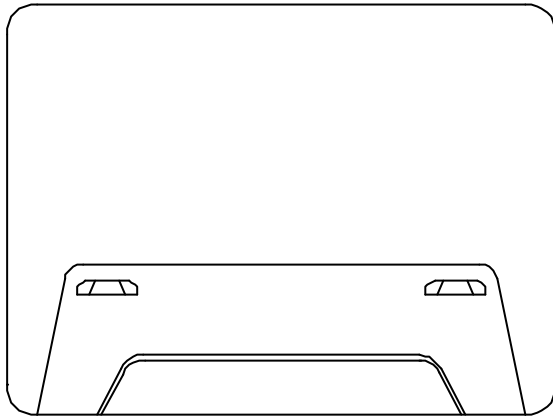


Camera mounting
hole pattern.

Fig 1



Approximately 90-degree field of view



Back of vehicle, viewing at monitor screen

Fig. 2

Optional wind deflector

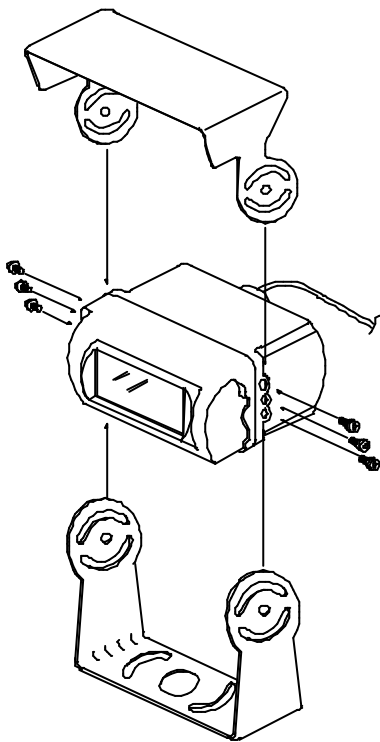
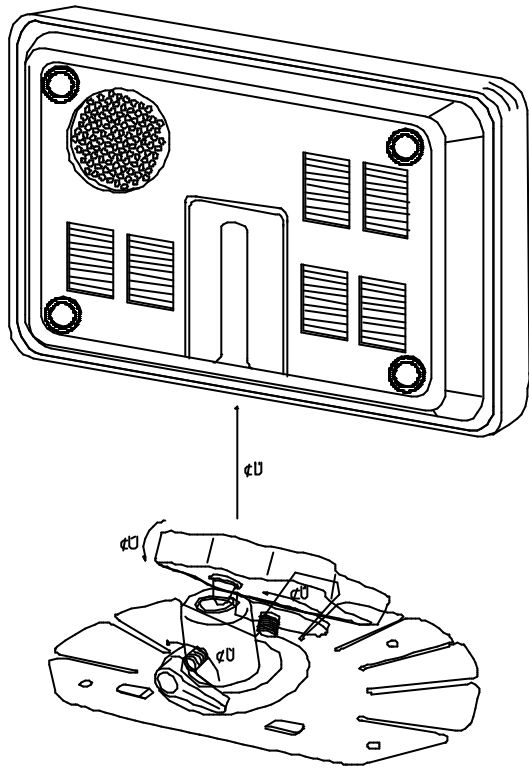


Fig. 3



Steel Plate for reinforcement (recommended for secure mounting).

Fig. 4.

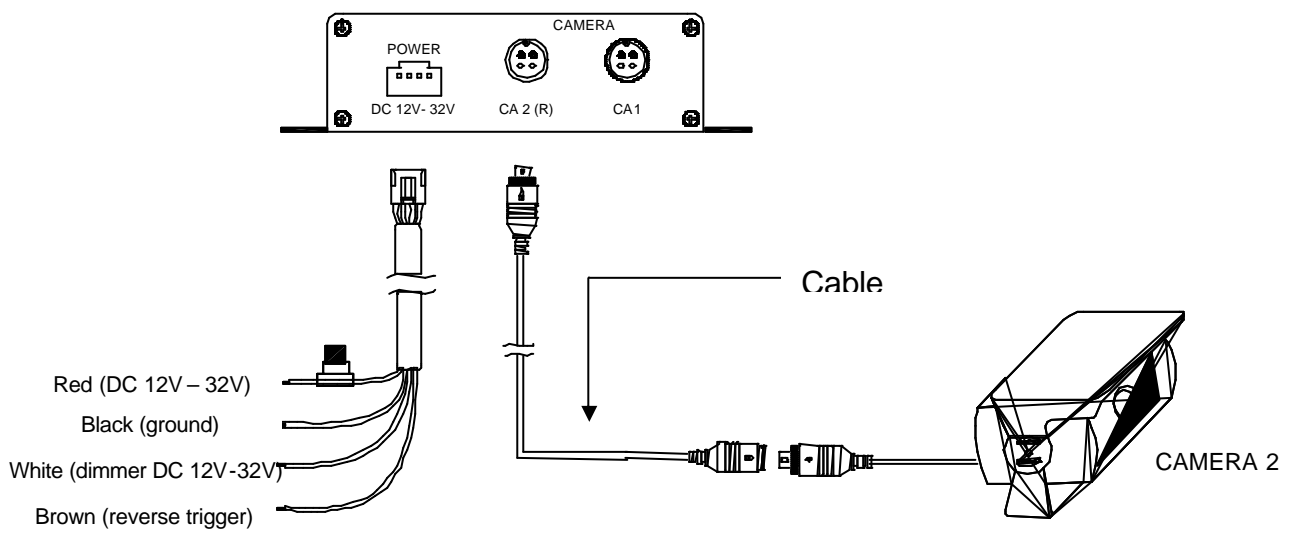
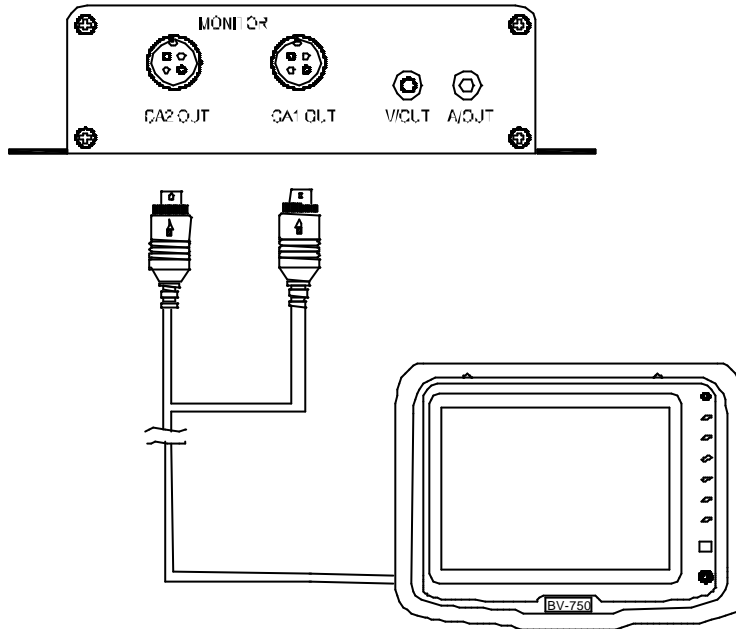
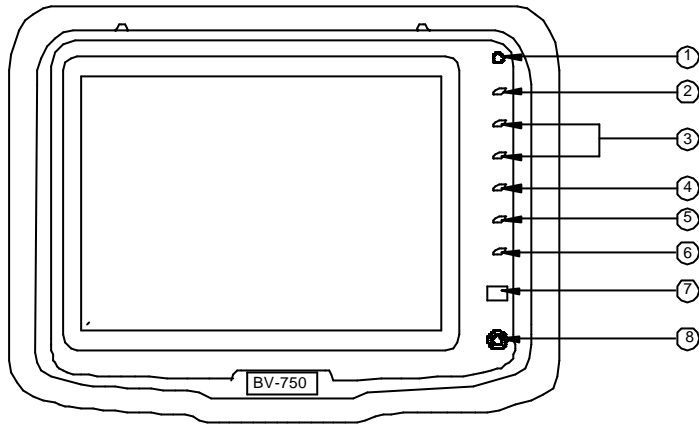
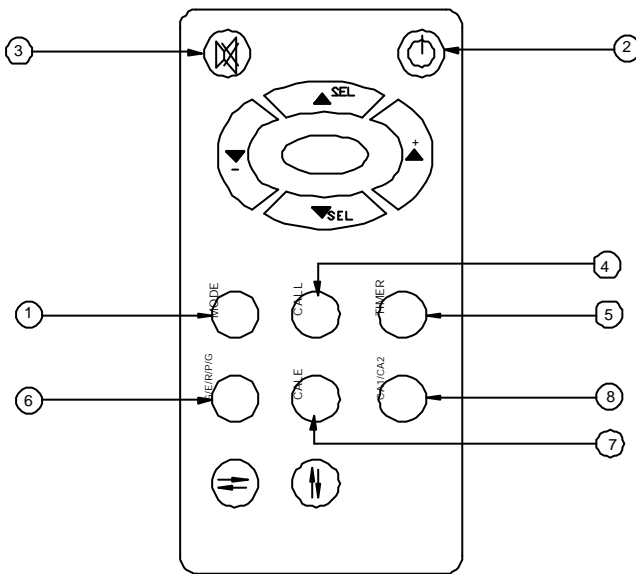


Fig. 5



FRONT VIEW

1. Power LED
2. Power ON/OFF Switch
3. ? +, ? - CONTROL BUTTON
4. MENU
5. SEL.
6. CAMERA CA1/CA2
7. REMOTE CONTROLLER SENSOR
8. EARPHONE JACK



FRONT VIEW

1. MODE
2. POWER
3. MUTE
4. CALL
5. TIMER
6. C/E/R/P/G LANG.
7. CALL
8. CA1/CA2

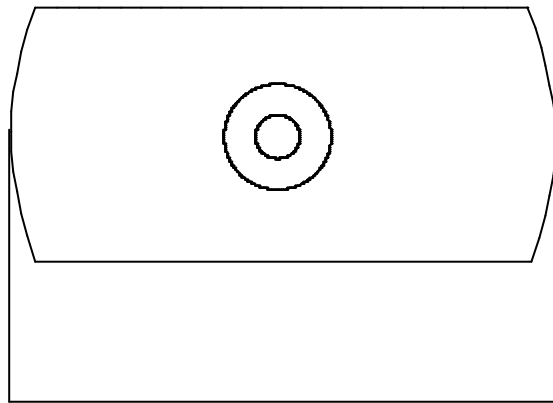
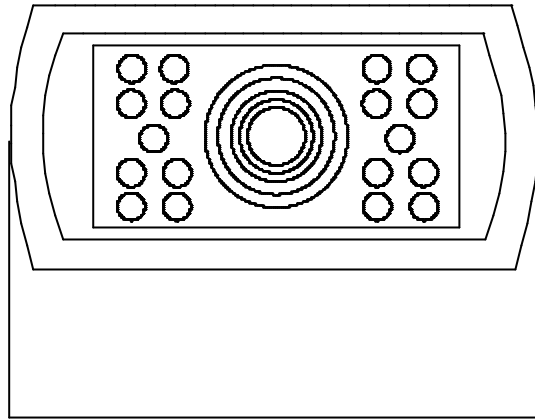


Fig .6

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