

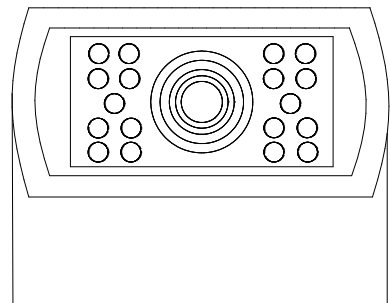
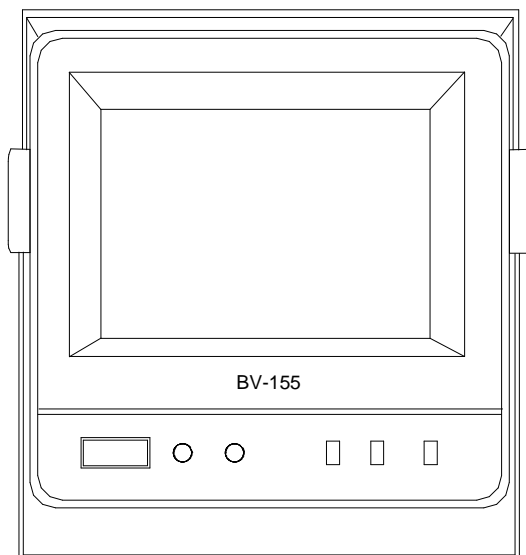
VEHICLE CCTV SYSTEM

BV-155

Model:

BV-155M MONITOR

BV-100C 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

BV-100C CAMERA

- 290,000 pixel image sensor
- Wide-angle lens (110° Diag.)
- Auto White Balance (AWB)
- Back Light Compensation (BLC)
- 0.1 Lux sensitivity (18 IR-LED)
- Automatic electronic iris provides a clearer, more consistent image in low and bright light
- Compact design and lightweight ease installation in most vehicles.
- Durable, waterproof construction
- Waterproof cable connection
- Wind deflector reduces build up of dirt on lens

BV-155M 5.5" CRT MONITOR

- Brightness/Contrast control
- Two camera inputs and Camera Selector Switch
- Power/stand-by switch
- Mirror/Normal selection switch
- Day/Night Switch

CONTENTS OF 1 COMPLETE SYSTEM

BV-100C CCD CAMERA:

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

BV-155M MONITOR:

- 1-Monitor
- 1-Snap-on sun visor
- 1-Monitor bracket
- 1-Power harness with locking connector
- 1-Range markers
- 4-Thumb screws

Special cable: 1-20 metre cable with waterproof connector. Oil, gas grease resistant. UV stable
Documents: 1 – Operations manual

BEFORE INSTALLATION

1. This system operates from 10 volts DC to 32 volts DC, negative ground.
2. Please install this system according to the instructions in this manual.
3. Do not disassemble the camera or the monitor. This voids the warranty. Disassembling the camera will compromise the waterproof seal.
4. Connect the system to an ignition switched power source. Connection to a battery source will reduce battery life.

WARNING

1. 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.
2. Keep monitor away from leaking water, rain, moisture etc. It is NOT waterproof. Any moisture inside the monitor could cause extensive damage.
3. Use the thumbscrews to mount the monitor to bracket.
4. Do not cover air ducts. Monitor needs proper ventilation to prevent overheating.

INSTALLATION INSTRUCTIONS

BV-100C CAMERA

1. Attach camera bracket (see Fig. 1) to upper portion of vehicle. Attachment point must be sturdy enough to support camera and bracket.
2. Attach camera to bracket using screws provided. Adjust angle as indicated in Fig. 2. (Use rear bumper and back of vehicle as a reference point.)
3. 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.3.)

BV-155M MONITOR

1. Attach monitor inside vehicle in a location convenient to the driver (e.g. center of dash, overhead or in dash) (Fig.4.)
2. Use a compression plate to attach the monitor bracket to the dash or overhead.
3. Adjust mounting angle of the monitor to allow driver to easily view the screen from all seat positions. (Fig. 5)

AFFIXING DISTANCE MARKERS TO THE MONITOR SCREEN

1. Clean monitor screen surface of fingerprints. Set the camera into the "DOWN" position. Place distance indicators behind the vehicle at (3) feet, (6) feet and (9) feet along the width of the vehicle. These distances are measured from the rear bumper.
2. Attach the markers to the monitor screen over the images of the distance indicators. These markers represent a distance of (3) feet, (6) feet and (9) feet from the back of the vehicle.
3. Affix the "STOP" marker on monitor screen over the image of the rear bumper to locate the rear bumper.
4. The Monitor screen is now "calibrated" for distances behind the vehicle of (3) feet, (6) feet and (9) feet.

CABLE

1. The camera-to-cable connection and the monitor pigtail are waterproof. Be sure to orient the cables properly.
2. Do not run the cable over sharp edges or corners. Do not kink the cable. Keep the cable away from hot and rotating parts.
3. Place all excess cable in convoluted tubing.
4. Wire the cable securely.

WIRING CAMERA AND MONITOR

1. See connection diagram for connections to ignition, ground and back up circuit. (See Fig. 6.)
2. Wiring camera: Drill a 22mm - 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.
3. Wiring Monitor: Insert extension cable into camera #1 position. If 2 cameras are used, be sure to mark each extension cable properly and plug second cable into camera #2 position. Bundle excess cable together using a cable tie or vinyl tape. This will avoid possible damage to cable during operation.
4. The red wire is connected to an ignition power source, the black wire is connected to chassis ground, and the brown wire is connected to the vehicles back up circuit.

FUNCTIONS AND OPERATION

MONITOR

1) POWER SWITCH

Press the power switch to turn the monitor on or off.

2) STANDBY LED

When the red LED is turned on, it indicates power on.

Putting the gear into the reverse, the view of camera 1 shall be shown on the monitor.

3) CONTRAST CONTROL

Variable control of contrast. Should be adjusted if the "DAY/NIGHT" switch does not achieve the most desirable picture.

4) BRIGHT CONTROL

Variable control of contrast. Should be adjusted if the "DAY/NIGHT" switch does not achieve the most desirable picture.

5) CAMERA SELECTOR (CA1)

Press the camera selector to select the camera connected to the camera 1.

6) CAMERA SELECTOR (CA2)

Press the camera selector to select the camera connected to the camera 2.

7) NIGHT / DAY SWITCH

Normally, this switch should be in the out position. When you view the picture at night or in a tunnel etc., Depress the switch to reduce the picture brightness.

8) CAMERA 1

Input connection to camera extension cable.

9) Camera 2

Input connection to addition camera extension cable.

10) VIDEO OUTPUT

Connect Video output connector to a second monitor or VCR input with a RCA phone type connector cable.

11) AUDIO OUTPUT

Connect Audio output connector to a second monitor or VCR input with a RCA phone type connector cable.

12) EXTERNAL SPEAKER

Connection centre pin is positive audio output.

13) MIRROR / NORMAL SELECTION SWITCH

When the switch is in MIR position, the picture will be shown reverse.

When the switch neither is in NOR position, the picture will be displayed normally.

* Camera 1 & Camera 2 are operated individually.

14) POWER CONNECTION:

- PIN 1: Ground - Black
- PIN 2: +12/24Vdc ignition - Red
- PIN 3: Reverse circuit - Orange
- PIN 4: Dimmer - White

CAMERA

Waterproof Camera. (See Fig. 7)

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 22mm - 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

BV-100C CAMERA

VIDEO PICK-UP DEVICE	CCD
IMAGE SIZE	1/3 inch
SYNCHRONIZATION	INTERNAL
REQUIRED ILLUMINATION	0.1 Lux MINIMUM
VIDEO OUTPUT	1V (p-p), 75 ohm
OPERATING VOLTAGE	12 Vdc
POWER CONSUMPTION	MAX 2.4W (AT 12 Vdc)
RESOLUTION	420 TV LINES
OPERATION TEMP	-20°C TO +70°C
WEIGHT	0.2Kg
DIMENSION (W x H x D) mm	70 x 44 x 54

BV-155M MONITOR

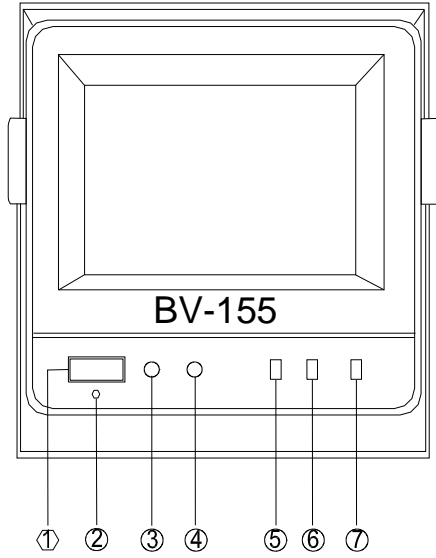
VIDEO SYSTEM	CCIR
PICTURE TUBE	5.5 INCH PICTURE
PICTURE RESOLUTION	600TV LINES
POWER CONSUMPTION	MAX. 1A
OPERATION TEMPERATURE	-10°C TO +50°C
OPERATION VOLTAGE	DC10 V ~ DC32 V
WEIGHT APPROX.	1.46Kg
DIMENSION (W x H x D) mm	154 x 143 x 190

DISCLAIMER

The use of the BV-155 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.

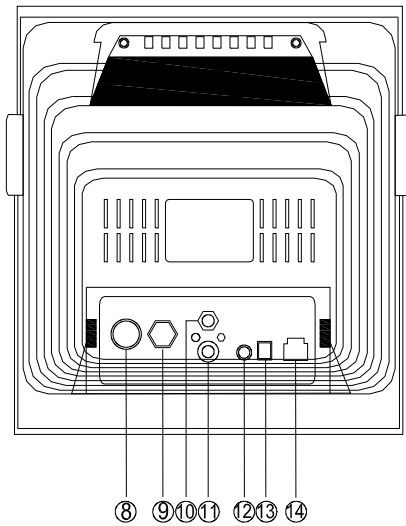
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Front View

- 15. Power Switch (ON/Standby)
- 16. Standby LED
- 17. Contrast Control
- 18. Brightness Control
- 19. Camera 1
- 20. Camera 2
- 21. Day/Night switch



Rear View

- 1. Camera 1 input
- 2. Camera 2 input
- 3. Video output
- 4. Audio output
- 5. External Speaker
- 6. Mirror/Normal Switch
- 7. Power socket
 - Ground (BLACK)
 - Positive (RED)
 - Reverse (BROWN)
 - Dimmer (WHITE)

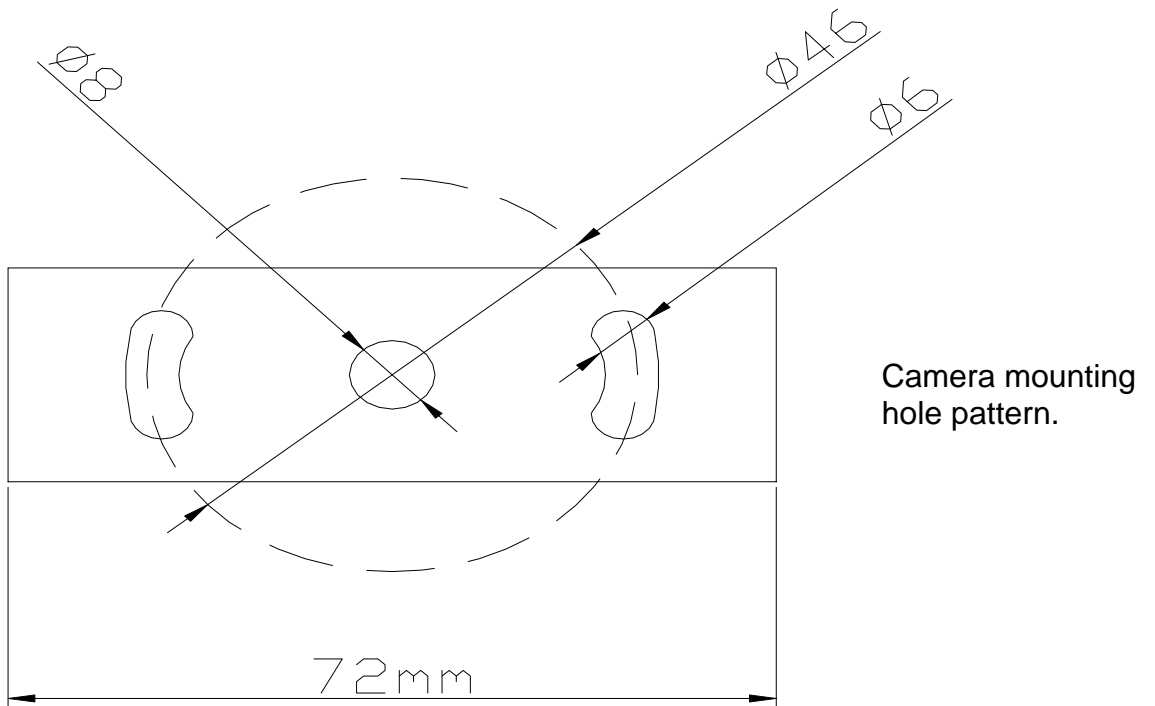
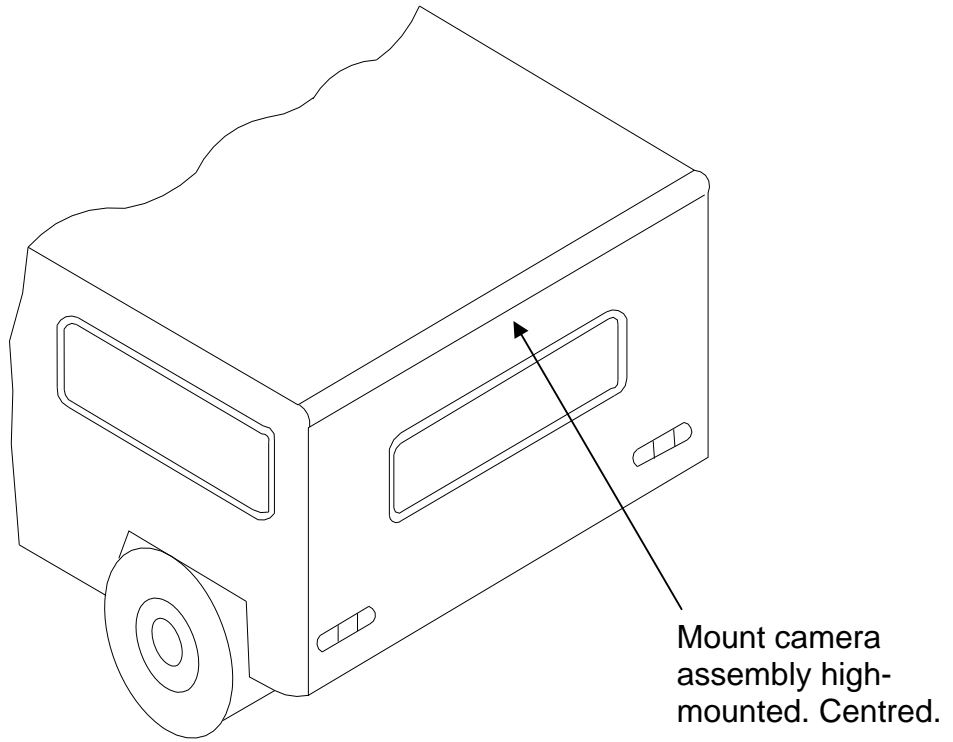
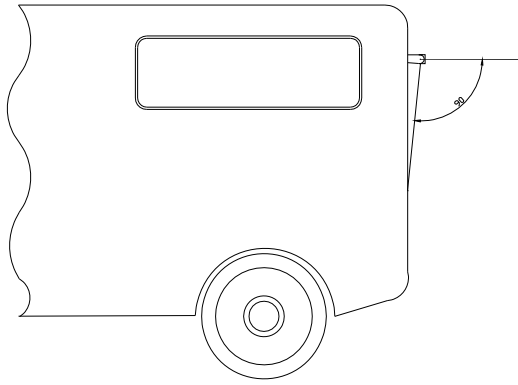
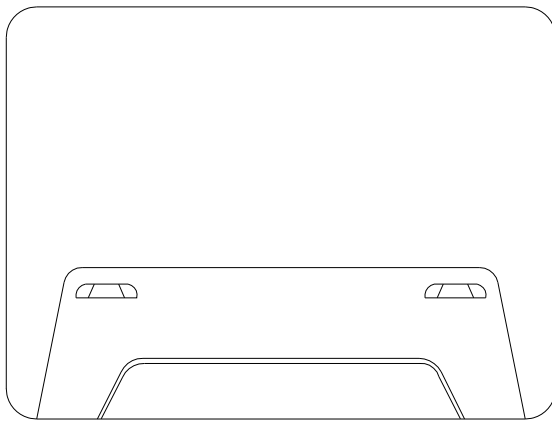


Fig.1



Approximately 90-degree field of view



Back of vehicle, viewing at monitor screen

Fig. 2

Optional wind deflector

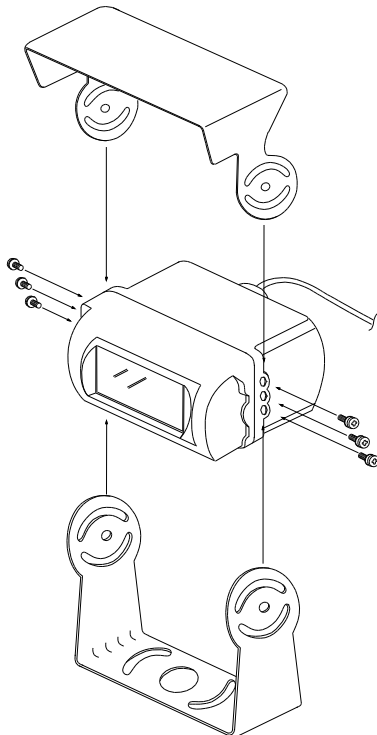
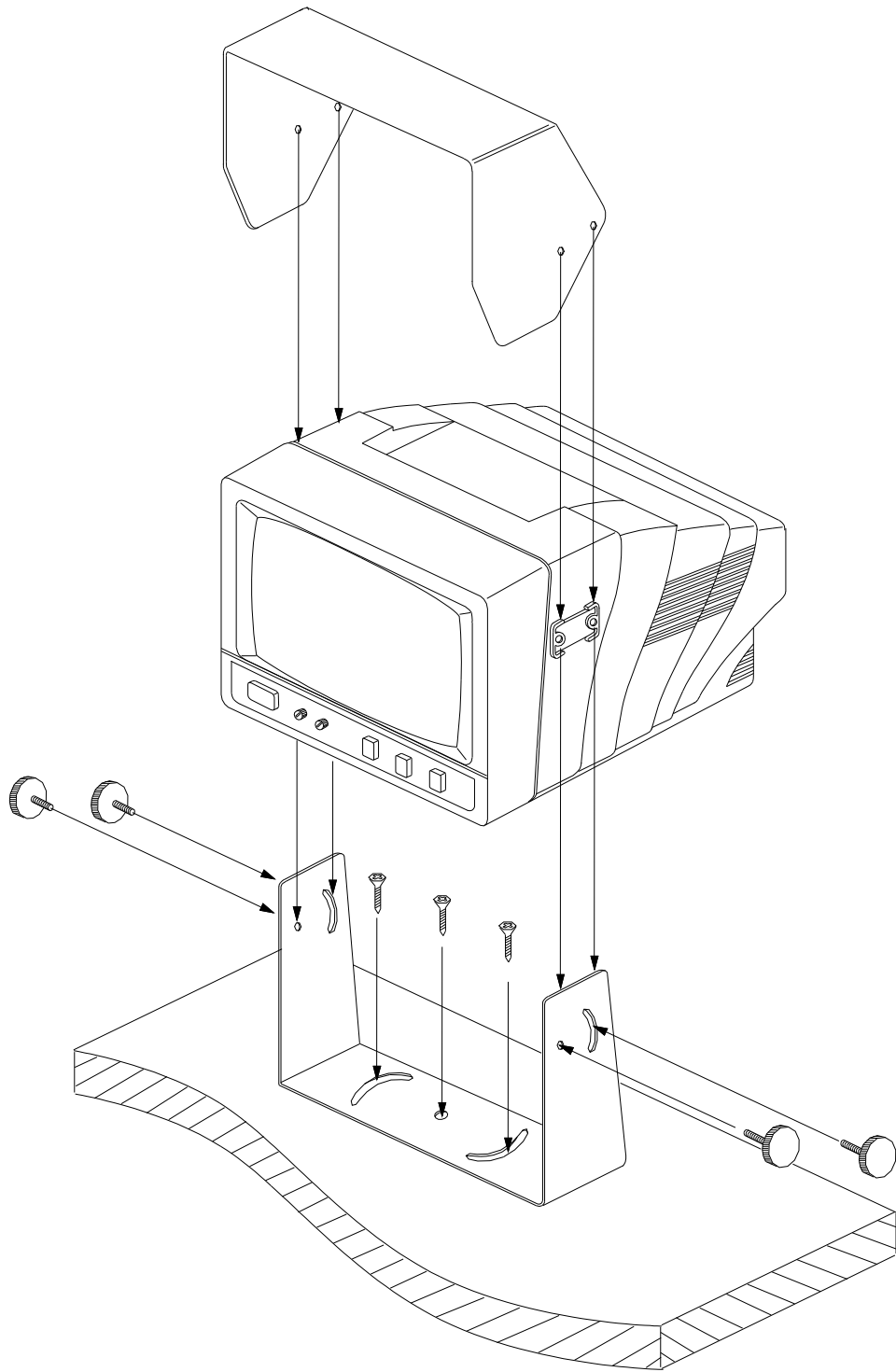
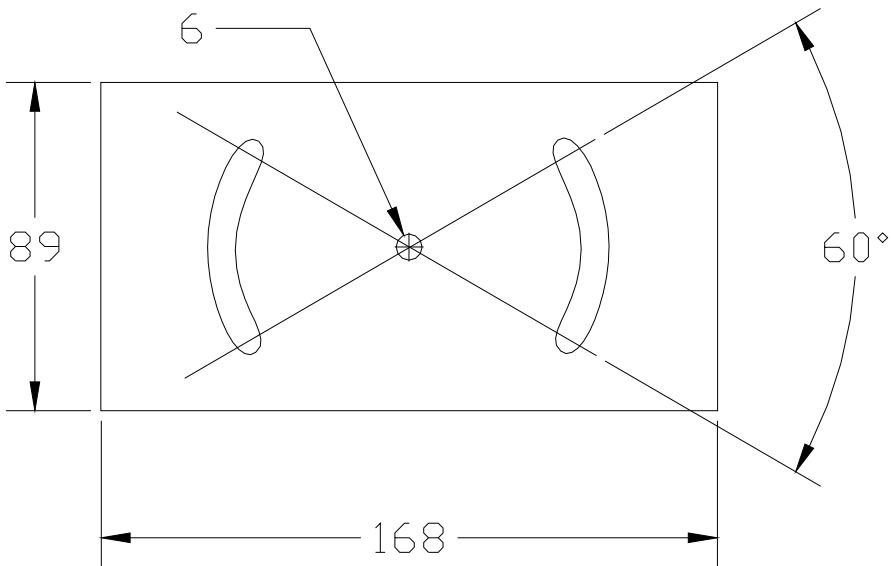
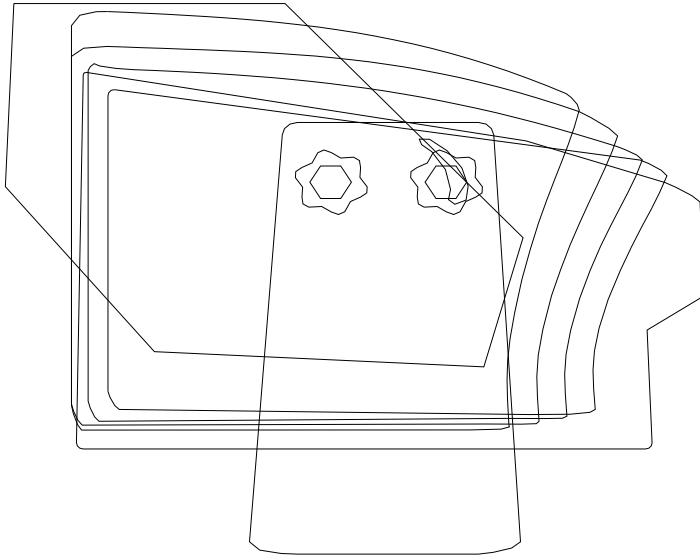


Fig. 3



Steel plate for reinforcement (recommended for secure mounting)

Fig.4



Monitor mounting hole pattern.

Fig. 5

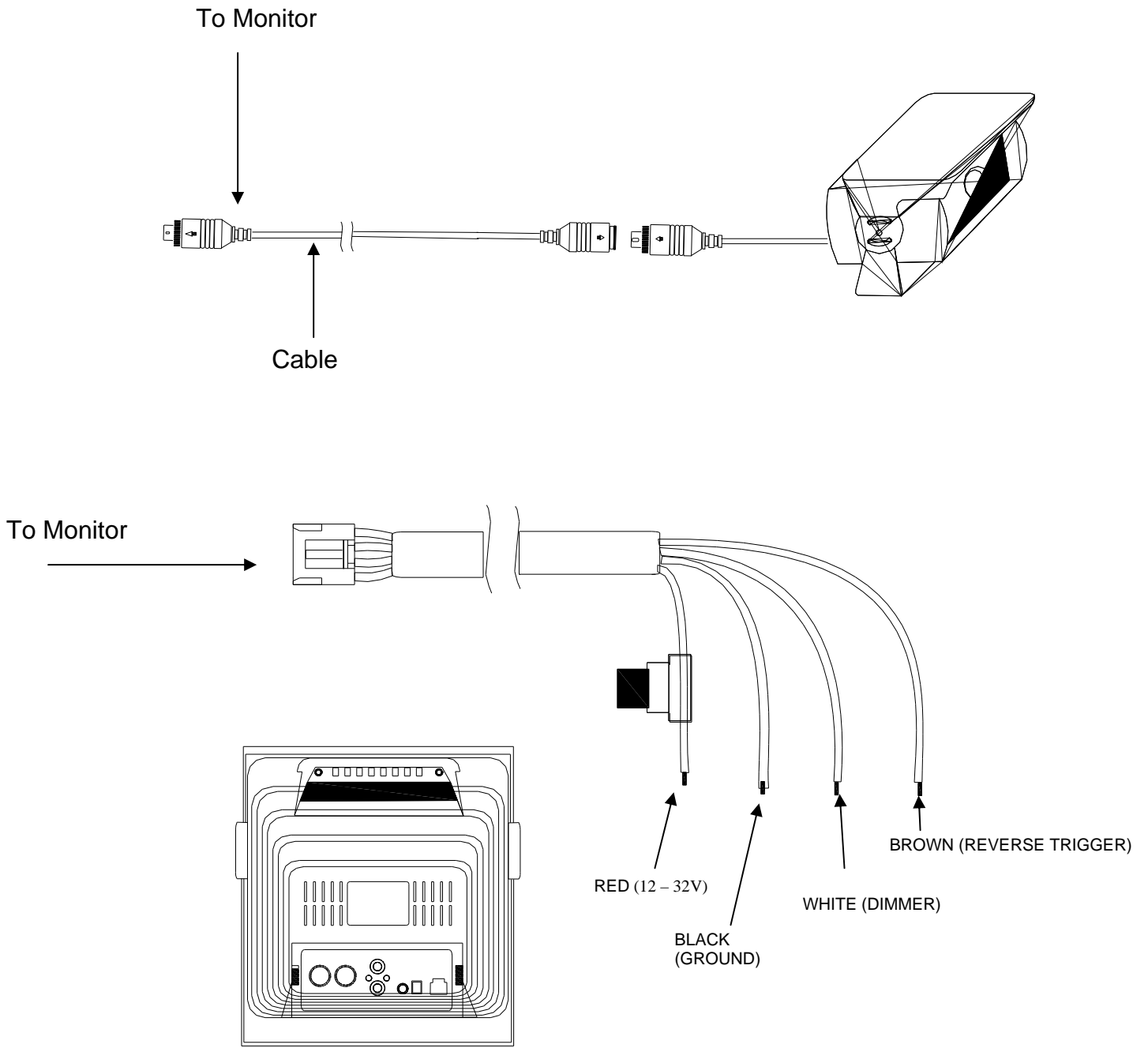


Fig. 6

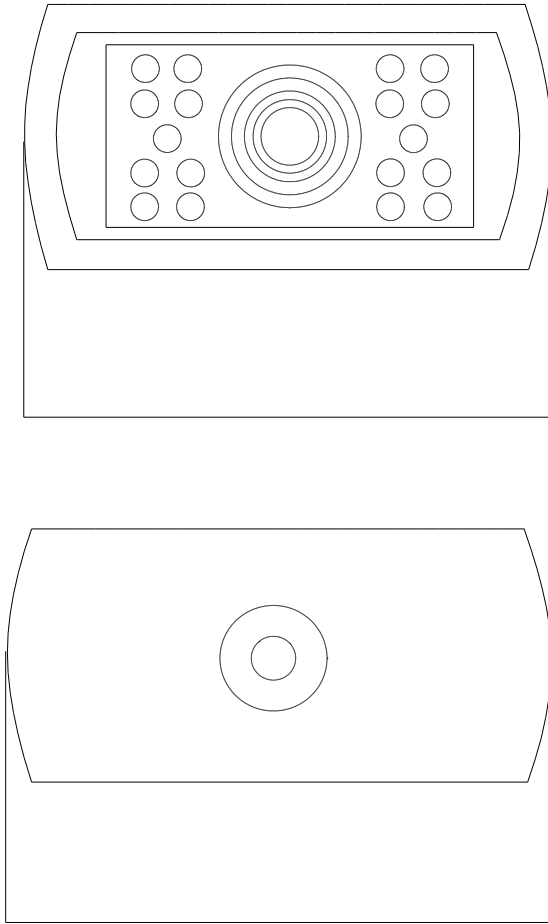


Fig .7

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