

# ● **A/V SWITCHER**

PLEASE READ THIS OWNER'S MANUAL CAREFULLY  
BEFORE ATTEMPTING TO OPERATE THIS PRODUCT.

A/V SWITCHER

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

**EDM-40**

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# PRECAUTIONS

- Be sure not to obstruct the driver's field of vision when installing this product.
- Do not install this product on or around an airbag housing.
- Be sure that wiring harnesses and cables are protected when installing near sharp corners.
- This product is designed for a certain range of voltages and currents. Utilize approved power sources when installing.

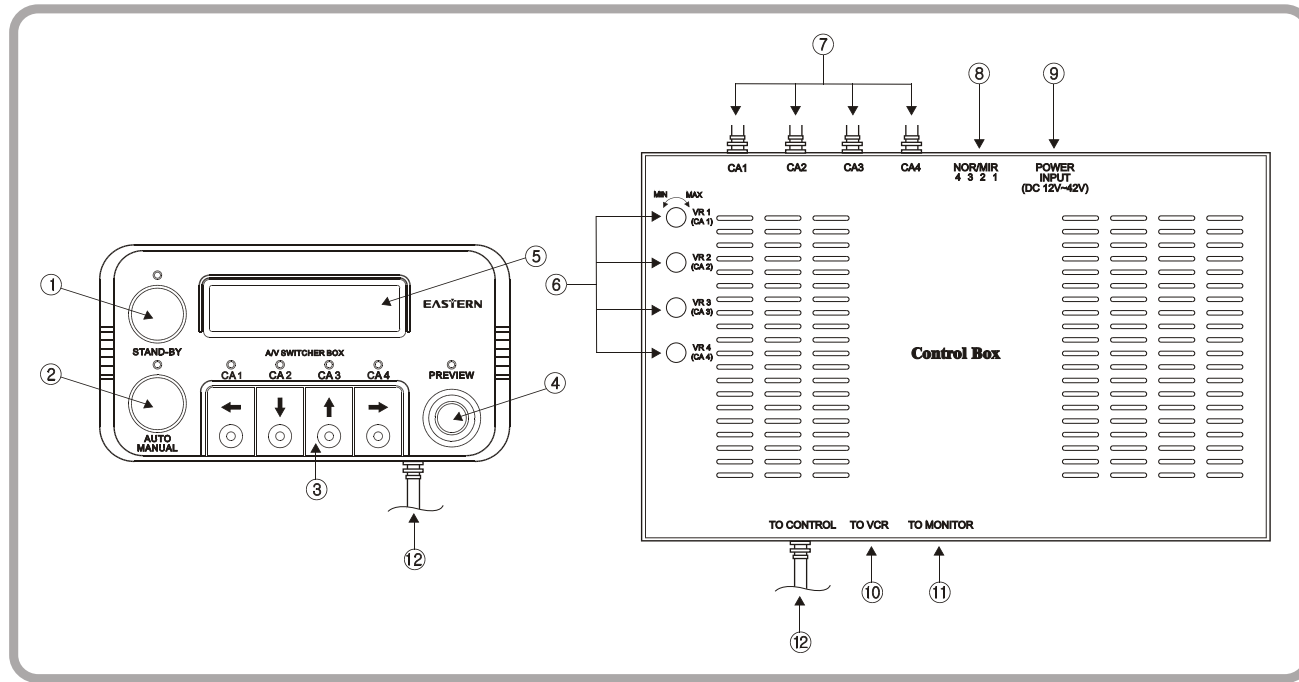
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# FEATURES

- This product is designed to exceed the rugged standards of the commercial vehicle industry.
- The rear view image is automatically selected and displayed when the vehicle is put in Reverse.
- This product can control up to four cameras.
- A monitor and VCR can be simultaneously connected.
- The "Trigger" signal can scan four cameras sequentially.
- The "Dimmer" signal automatically controls monitor brightness.
- Set-up is easy with the remote mounted control panel.
- DIP switches control the "normal" and "mirror" image for each camera.
- The audio signal from each camera is controlled by adjustments on the control box.

# EDM-40 CONTROL BOX AND REMOTE CONTROL PANEL



# CONTROL KEY

## 1. STAND-BY button

STAND-BY and OPERATION modes are alternately selected by pressing this button. STAND-BY is the default operating mode. The red LED is lit in STAND-BY mode. And "STAND-BY" is displayed on the LCD panel.

Selecting OPERATION mode allows normal operation based on the last settings.

## 2. AUTO/MANUAL button

Select AUTO and MANUAL scan modes with this button.

- MANUAL mode  
Select each camera directly by pressing the dedicated button (CA1: Camera 1, CA2: Camera 2, CA3: Camera 3, CA4: Camera 4). A green LED indicates the camera being displayed.

# CONTROL KEY

- **AUTO mode**

The cameras cycle sequentially in AUTO mode. A green LED above the AUTO/MANUAL button indicates AUTO mode. Each camera displays according to the SCAN TIME setting entered. A green LED above each camera indicates that view is being displayed. Selecting a specific camera while in AUTO mode temporarily reverts the control panel to MANUAL mode. Press the AUTO/MANUAL button again to return to AUTO scanning mode. Refer to the Menu Setup Guide on page 11 for more information about setting up SCAN TIME.

### **3. Camera Selection buttons: CA1/CA2/CA3/CA4**

Select an individual camera by pressing the specific camera button. Selecting a camera in AUTO mode switches the unit to MANUAL mode.

# CONTROL KEY

## 4. PREVIEW button

Pressing the PREVIEW button causes each camera image to display once sequentially. A green LED above the button indicates the unit is in PREVIEW mode. Each camera displays according to the PREVIEW TIME setting entered.

Refer to the Menu Setup Guide on page 12 for more information about setting up PREVIEW TIME.

## 5. LCD panel

This panel displays characters on a field sixteen characters wide and two rows tall. The 26 Roman letters, numbers 0–9, and a space (■) are displayed.

## 6. Volume control Adjusters: CA1/CA2/CA3/CA4

Using a Philips screwdriver, adjust the audio levels from each camera using the four potentiometers on the top of the control box.

# CONTROL KEY

## 7. Camera Input Connectors: CA1/CA2/CA3/CA4

Connect cameras to the control box using the four water-proof female connectors. The control box supplies power to each camera. See the connector pin description below.



Pin No.	Description
1	Power - 12VDC
2	Audio Input
3	NOR / MIR
4	Video Input
5	Ground

## 8. NOR/MIR Option Selection DIP switches

When the switch is set to the NOR position, the camera image is a normal display. Switching to the MIR position generates a reversed, or mirrored image.



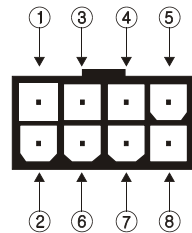
Image Option Switch (MIRROR Position) – Switch OFF State

Image Option Switch (NORMAL Position) – Switch ON State

# CONTROL KEY

## 9. POWER INPUT (DC 12V ~ 42V) : Power Input Connector

Insert this connector into the receptacle until locked. To remove the connector, press down on the clip at top and gently pull the connector away from the control box.



Pin No.	Description
1	RED - Power ( 12~ 42VDC )
2	BLK - Ground
3	GRN - CA1 Trigger ( 12~ 42VDC )
4	YEL - CA2 Trigger ( 12~ 42VDC )
5	BLU - CA3 Trigger ( 12~ 42VDC )
6	WHT - CA4 Trigger ( 12~ 42VDC )
7	BRN - Preview ( 12~ 42VDC )
8	ORG - Dimmer ( 12~ 42VDC )*

※ The dimmer trigger signal can only be applied to the EBM-50 monitor.

# CONTROL KEY

## 10. TO VCR : VCR Output Connector

Insert this connector into the receptacle until locked. To remove the connector, press down on the clip at top and gently pull the connector away from the control box.

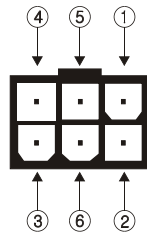


Pin No.	Description
1	Power ( 12VDC 1.5A Max )
2	Ground
3	Video Out
4	Audio Out

# CONTROL KEY

## 11. TO MONITOR : Monitor Output Connector

Insert this connector into the receptacle until locked. To remove the connector, press down on the clip at top and gently pull the connector away from the control box.



Pin No.	Description
1	Power ( DC 12V 1.5A Max )
2	Ground
3	Video OUT
4	Audio OUT
5	Trigger OUT
6	Dimmer OUT ※

※ The dimmer trigger signal can only be applied to the EBM-50 monitor.

# CONTROL KEY

## 12. TO CONTROL : Control Panel Connector

Connect the male connector from the Control Box to the female connector from the Control Panel.

## PROGRAMMING THE CONTROL PANEL

While in STAND-BY mode, press and hold the STAND-BY button for five seconds. An abbreviated menu will appear on the Control Panel and a full menu will appear on the monitor. The selection menu consists of the following options:

- TRG/DELAY TIME
- SCAN TIME
- ID
- PREVIEW TIME

Use the up arrow/CA3 (↑) and down arrow/CA2 (↓), and the left arrow/CA1 (←) and right arrow/CA2 (→), to toggle between the menu options. Use the PREVIEW button to select a menu option.

## TRG / DELAY TIME

The selected camera image normally displays for a pre-set time. Setting the delay indicates how long a camera's signal is kept on display after the trigger is cut.

The trigger function can operate up to four cameras when they are connected to such vehicle or machinery functions as turn or backup signals.

The TRG/DELAY functions can be set between 0 and 5 seconds.

To set the delay time:

1. Place the camera in STAND-BY mode by pressing the STAND-BY button once.
2. Next, press and hold the STAND-BY button for five seconds.
3. Press the PREVIEW button to access the cameras. Note that the settings for all four cameras appear even though four cameras might not be connected to the switcher.
4. Use the up (↑) or down (↓) arrow keys to select a camera.
5. Press the PREVIEW button to move the blinking cursor over the time setting.
6. Use the up (↑) and down (↓) arrow keys to select a time between 0 and 5 seconds.
7. Press the PREVIEW button to accept the time.
8. Either use the up or down arrow keys to enter the delay function of another camera or press the STAND-BY button to accept.

# SCAN TIME

This function controls the output time of each camera when operated in AUTO mode. The range is from 0 to 9 seconds. Selecting 0 seconds skips that camera.

To set the scan time:

1. Place the camera in STAND-BY mode.
2. Press and hold the STAND-BY button for five seconds.
3. Press the down (↓) arrow key once.
4. Press the PREVIEW button to access the cameras. Note that the settings for all four cameras appear even though four cameras might not be connected to the switcher.
5. Use the up (↑) and down (↓) arrow keys to select a camera.
6. Press the PREVIEW button to move the blinking cursor over the time setting.
7. Use the up (↑) and down (↓) arrow keys to select a time between 0 and 9 seconds.
8. Press the PREVIEW button to accept the time.
9. Either use the up or down arrow keys to enter the scan time of another camera or press the STAND-BY button to accept.

# ID

This function allows you to input a 15 character description for each camera. The camera ID will display on the monitor and a connected VCR.

The 26 Roman letters, numbers 0–9, and a space (■) can be entered. Using the up (↑) and down (↓) arrow keys change characters (space (■), 0–9, and letters; in that order). Using the left (←) and right (→) arrow keys moves the cursor position.

To enter a camera ID:

1. Place the Control Panel in STAND-BY mode.
2. Press and hold the STAND-BY button for five seconds.
3. Press the down (↓) arrow key twice.
4. Press the PREVIEW button.
5. Use the arrow keys (up and down to enter a character, left and right to move the cursor) to navigate and enter the ID.
6. Press the PREVIEW button again to accept the ID entered.
7. Either use the up or down arrow keys to enter the ID of another camera or press the STAND-BY button to accept.

# PREVIEW TIME

An Operator can sequentially preview each camera image one time by pressing the PREVIEW button. The range is 0 to 5 seconds. Selecting 0 seconds skips the camera from being previewed.

To set the scan time:

1. Place the camera in STAND-BY mode.
2. Press and hold the STAND-BY button for five seconds.
3. Press the up (↑) arrow key once.
4. Press the PREVIEW button to access the cameras. Note that the settings for all four cameras appear even though four cameras might not be connected to the switcher.
5. Use the up (↑) and down (↓) arrow keys to select a camera.
6. Press the PREVIEW button to move the blinking cursor over the time setting.
7. Use the up (↑) and down (↓) arrow keys to select a time between 0 and 5 seconds.
8. Press the PREVIEW button to accept the time.
9. Either use the up or down arrow keys to enter the preview time of another camera or press the STAND-BY button to accept.

# SPECIFICATIONS

<b>Model No.</b>	EDM-40
<b>Voltage Input</b>	12VDC (nominal)-42VDC (maximum trigger)
<b>Power Output</b>	55W <sub>max</sub>
<b>1. Monitor</b>	800mA (0.8A)
<b>2. Camera</b>	200mA (0.2A) (per camera, four cameras maximum)
<b>Connections</b>	Up to four cameras
<b>Output</b>	To VCR (12VDC, 1.5A (max)), audio/video output To Monitor (12VDC, 1.5A (max)), audio/video output
<b>Construction material:</b>	Control Box Steel, 18ga. Control Panel Plastic
<b>Dimensions</b>	Control Box: 8.18" (W) x 5.08" (D) x 1.65" (H) 208mm (W) x 129mm (D) x 42mm (H) Control Panel: 5.62" (W) x 2.95" (D) x 1.65" (Hmax) 143 mm (W) x 75 mm D x 42mm (Hmax)
<b>Weight</b>	5.3 lb (2.4kg)
<b>Storage Temperature</b>	-17°F - 176°F (-25°C-80°C)
<b>Operating Temperature</b>	32°F - 140°F (0°C-60°C)
<b>Supplied Accessories</b>	Qty. 1 - Power Cable, 2m (6.56ft) Qty. 1 - Monitor Cable Kit Qty. 1 - VCR Cable Kit Qty. 1 - Mounting Bracket Qty. 1 - Screw Kit Qty. 1 - Instruction Manual