

## PROBLEM SYMPTOMS TABLE

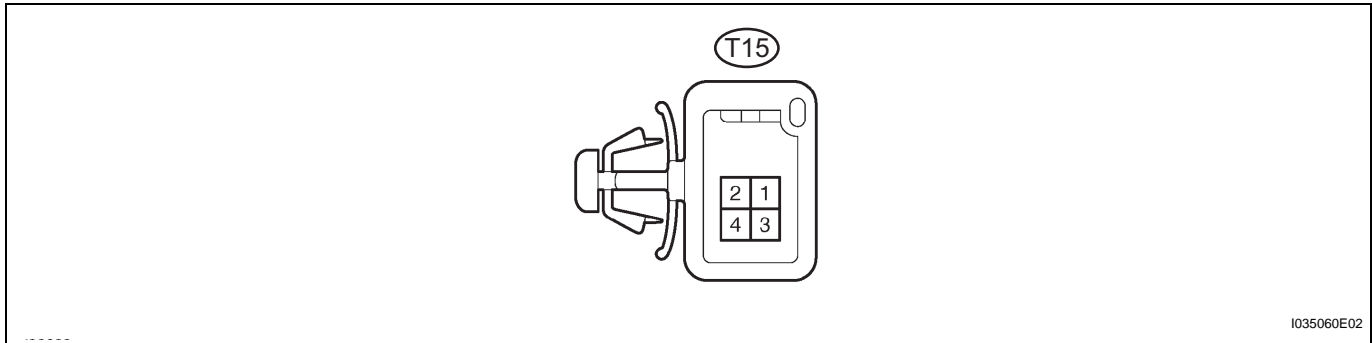
### REAR VIEW MONITOR SYSTEM

Symptom	Suspected area	See page
When shift lever is in R position, rear view monitor image is not displayed (Screen is not black).	1. Power source circuit	<a href="#">PM-27</a>
	2. Reverse signal (CAN communication system)	<a href="#">PM-22</a>
	3. Replace television camera ECU	<a href="#">PM-32</a>
When shift lever is in R position, rear view monitor image is not displayed (Screen is black).	1. Display signal circuit between television camera assembly and television camera ECU	<a href="#">PM-24</a>
When shift lever is not in R position, rear view monitor image is displayed.	1. Reverse signal (CAN communication system)	<a href="#">PM-22</a>
	2. Replace television camera ECU	<a href="#">PM-32</a>
Problem with the rear view monitor image (color, disorder of picture).	1. Display signal circuit between television camera assembly and television camera ECU	<a href="#">PM-24</a>
	2. Display signal circuit between television camera ECU and multi-display	<a href="#">PM-24</a>
	3. Replace multi-display assembly	<a href="#">AV-234</a>

## TERMINALS OF ECU

### 1. TELEVISION CAMERA ASSEMBLY

- (a) Disconnect the T15 camera connector.



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- (b) Measure the voltage and resistance of each terminal of the wire harness side connector.

**Standard:**

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified value
CGND (T15-3) - Body ground	W - Body ground	Power ground	Always	Below 1 Ω
CB+ (T15-4) - CGND (T15-3)	B - W	Power source	IG switch ON, shift lever R position	Approx. 6 V

If the result is not as specified, there may be a malfunction on the wire harness side.

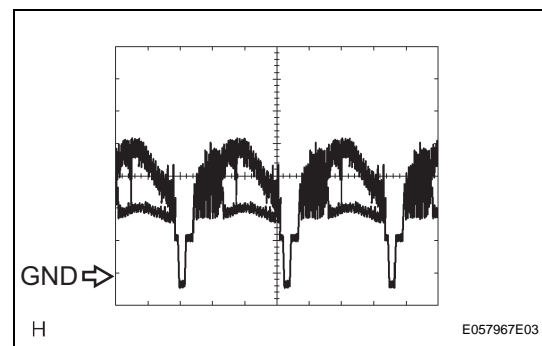
- (c) Reconnect the T15 camera connector.  
 (d) Measure the voltage and frequency of each terminal of the connector.

**Standard:**

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified value
CV+ (T15-2) - CV- (T15-1)	R - Shielded	Display signal	IG switch ON, shift lever R position	See waveform 1

If the result is not as specified, the camera may have a malfunction.

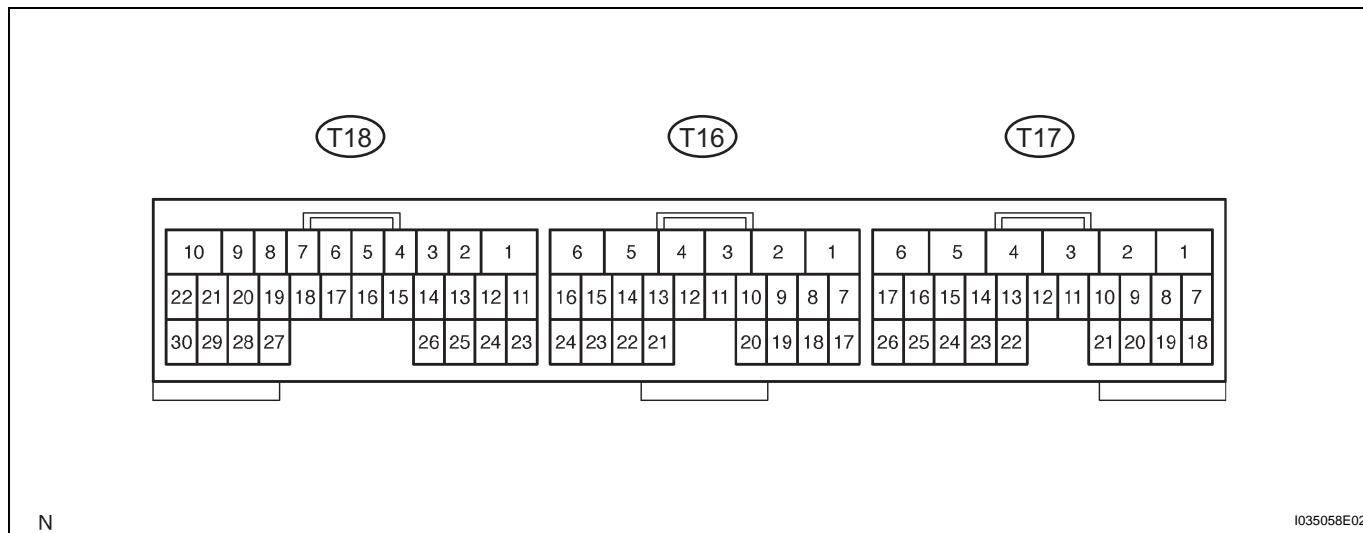
- (e) Reference:  
 Oscilloscope waveform  
 (1) Waveform 1



Item	Content
Measure terminal	CV+ - CV-
Measure set	0.2 V/DIV, 0.2 μS/DIV
Condition	Ignition switch: ON, Shift lever: R position

## 2. TELEVISION CAMERA ECU

(a) Disconnect the T16, T17 and T18 ECU connector.



(b) Measure the voltage and resistance of each terminal of the wire harness side connector.

### Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified value
TX+ (T16-17) - Body ground	GR - Body ground	AVC-LAN control bus	Always	10 kΩ or higher
TX- (T16-18) - Body ground	B - Body ground	AVC-LAN control bus	Always	10 kΩ or higher
TX1- (T16-23) - Body ground	Y - Body ground	AVC-LAN control bus	Always	10 kΩ or higher
TX1+ (T16-24) - Body ground	R - Body ground	AVC-LAN control bus	Always	10 kΩ or higher
+B (T17-1) - GND1 (T17-6)	L - W-B	Battery Supply	Always	10 to 14 V
IG (T17-2) - GND1 (T17-6)	B - W-B	IG signal input	IG switch ON	10 to 14 V
ACC (T17-3) - GND1 (T17-6)	P - W-B	ACC signal input	IG switch ON or ACC	10 to 14 V
GND1 (T17-6) - Body ground	W-B - Body ground	Power ground	Always	Below 1 Ω

If the result is not as specified, there may be a malfunction on the wire harness side.

- (c) Reconnect the T16, T17 and T18 ECU connector.  
 (d) Measure the voltage and frequency of each terminal of the connector.

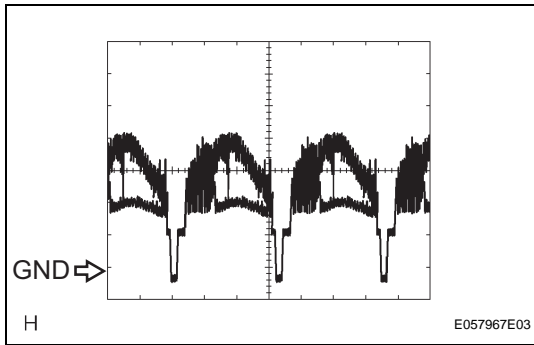
### Standard:

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified value
VG (T16-7) - GND1 (T17-6)	Shielded - W-B	Display signal output ground (Shielded)	Always	Below 1 Ω
R (T16-8) - GND1 (T17-6)	G - W-B	Display signal output (Red)	While displaying map or back monitor	See waveform 2
G (T16-9) - GND1 (T17-6)	W - W-B	Display signal output (Green)	While displaying map or back monitor	See waveform 2
B (T16-10) - GND1 (T17-6)	R - W-B	Display signal output (Blue)	While displaying map or back monitor	See waveform 2
B1 (T16-13) - GND1 (T17-6)	R - W-B	Display signal input (Blue)	While displaying map	See waveform 2
G1 (T16-14) - GND1 (T17-6)	W - W-B	Display signal input (Green)	While displaying map	See waveform 2
R1 (T16-15) - GND1 (T17-6)	G - W-B	Display signal input (Red)	While displaying map	See waveform 2

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified value
VG1 (T16-16) - GND1 (T17-6)	Shielded - W-B	Display signal input ground (Shielded)	Always	Below 1 Ω
SYNC (T16-19) - GND1 (T17-6)	B - W-B	Synchronized signal output	While displaying map or back monitor	See waveform 3
VR (T16-20) - GND1 (T17-6)	Y - W-B	Display signal output ground	Always	Below 1 Ω
VR1 (T16-21) - GND1 (T17-6)	Y - W-B	Display signal input ground	Always	Below 1 Ω
SYN1 (T16-22) - GND1 (T17-6)	B - W-B	Synchronized signal input	While displaying map	See waveform 3
CGND (T18-21) - GND1 (T17-6)	W - W-B	Television camera ground	Always	Below 1 Ω
CB+ (T18-22) - GND1 (T17-6)	B - W-B	Power source to television camera	IG switch ON, shift lever R position	Approx. 6 V
CV- (T18-29) - GND1 (T17-6)	Shielded - W-B	Television camera ground (Shielded)	Always	Below 1 Ω
CV+ (T18-30) - GND1 (T17-6)	R - W-B	Display signal of television camera input	IG switch ON, shift lever R position	See waveform 1

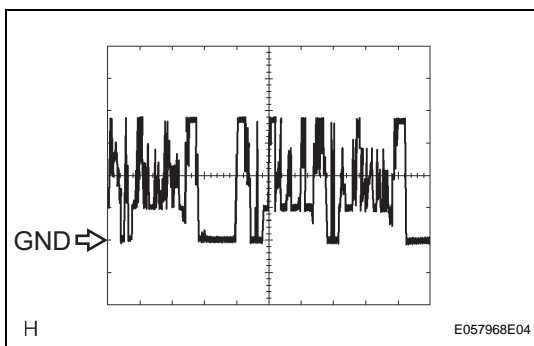
If the result is not as specified, the television camera ECU may have a malfunction.

- (e) Reference:  
Oscilloscope waveform  
(1) Waveform 1



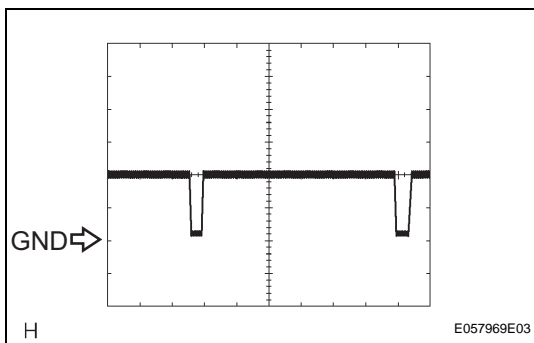
Item	Content
Measure terminal	CV+ - GND1
Measure set	0.2 V/DIV, 0.2 μS/DIV
Condition	Ignition switch: ON, Shift lever: R position

PM



- (2) Waveform 2

Item	Content
Terminal	R, G, B, R1, G1, B1, - GND1
Measure set	200 mV/DIV, 10 μS/DIV
Condition	Image is being displayed (Rear view monitor system or navigation system).



- (3) Waveform 3

Item	Content
Terminal	SYNC, SYN1 - GND1
Measure set	500 mV/DIV, 10 μS/DIV
Condition	Image is being displayed (Rear view monitor system or navigation system).