NAVIGATION CHECK MODE

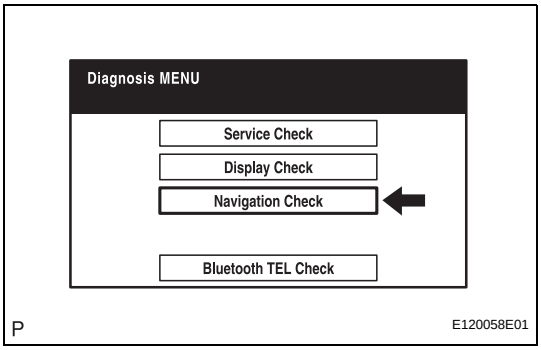
HINT:

- This mode displays GPS satellite information.
- Illustrations may differ from the actual vehicle depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle.

1. ENTER DIAGNOSTIC MODE (See page NS-49)

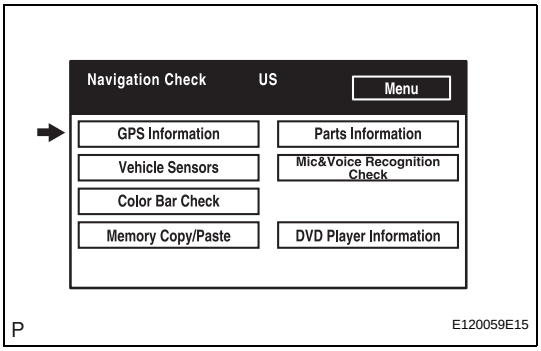
2. NAVIGATION CHECK

(a) Select "Navigation Check" from the "Diagnosis MENU" screen.



3. GPS INFORMATION

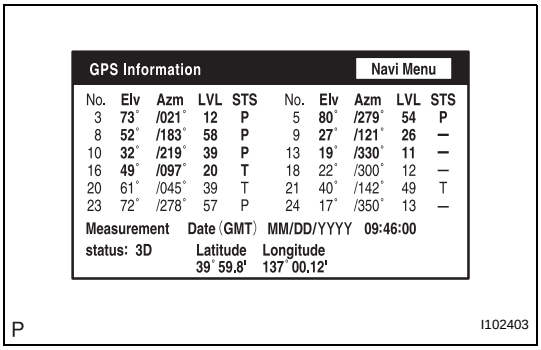
(a) Select "GPS Information" from the "Navigation Check" screen.



(b) When GPS information is displayed, check the GPS conditions.

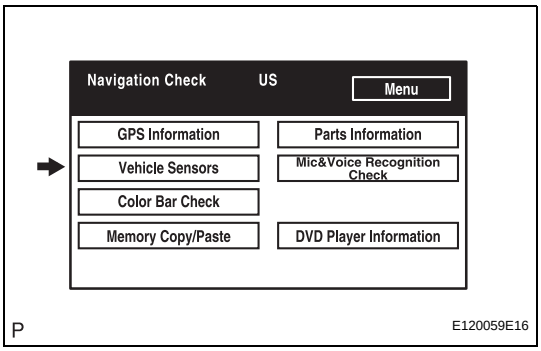
HINT:

- This screen is updated once per second when input signals to the vehicle are changed.
- For details of this function, refer to DIAGNOSIS DISPLAY DETAILED DESCRIPTION (See page NS-30).

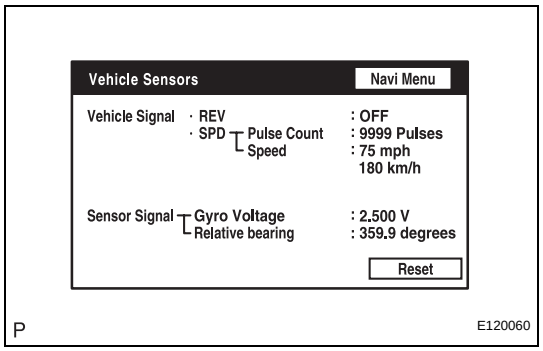


4. VEHICLE SENSORS

(a) Select "Vehicle Sensors" from the "Navigation Check" screen.



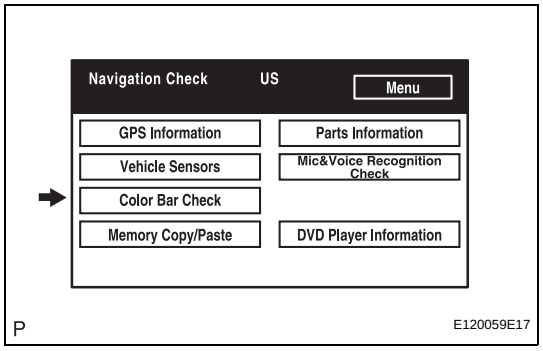
NS



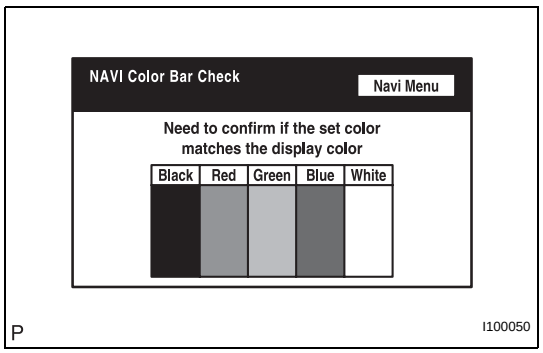
(b) Check all the signals and sensors when vehicle signal information is displayed.
HINT:
- This screen is updated once per second when input signals to the vehicle are changed.
- This screen displays vehicle signals input to the built-in navigation ECU.
- For details of this function, refer to DIAGNOSIS DISPLAY DETAILED DESCRIPTION (See page NS-30).

5. COLOR BAR CHECK

(a) Select "Color Bar Check" from the "Navigation Check" screen.

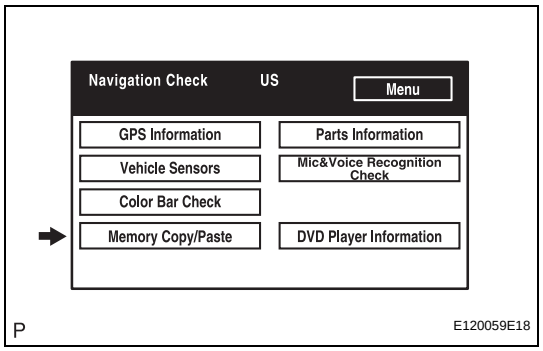


(b) Check each color of the color bar when the "NAVI Color Bar Check" screen is displayed.
HINT:
- Colors will not be displayed full-screen as in "Display Check Mode".
- This screen displays the built-in navigation ECU display color.



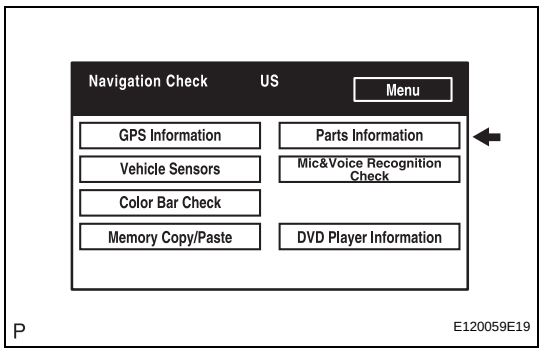
6. MEMORY COPY/PASTE CHECK

HINT:
This function cannot be used.

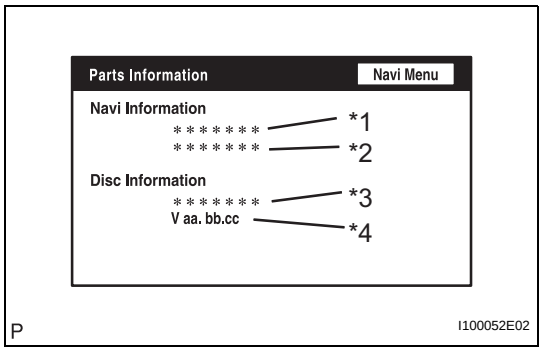


7. PARTS INFORMATION

(a) Select "Parts Information" from the "Navigation Check" screen.



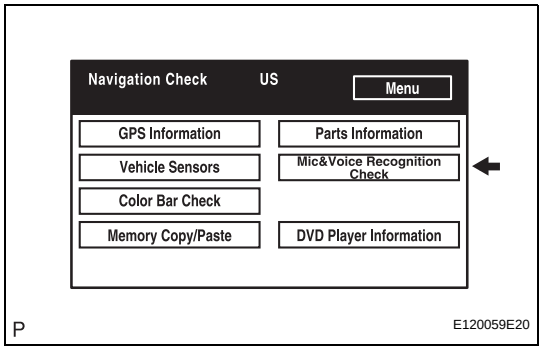
NS



(b) Check the navigation and disc information when the "Parts Information" screen is displayed.

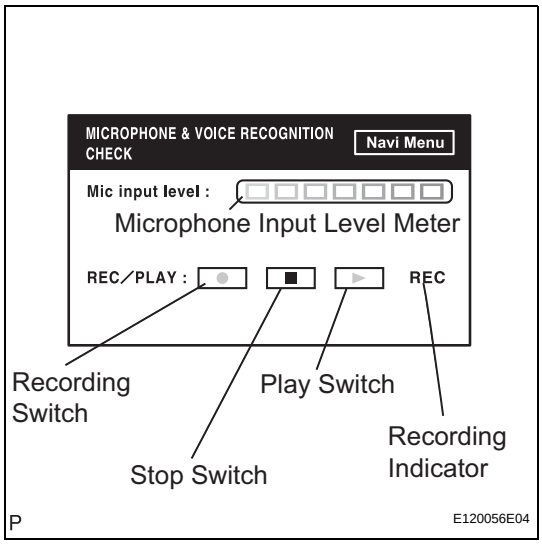
Screen Description:

Display	Contents
Navigation Manufacturer/*1	Radio and navigation assembly manufacturer is displayed.
Navigation Version/*2	Radio and navigation assembly version is displayed.
Disc Manufacturer/*3	Map disc manufacturer is displayed.
Disc Version/*4	Map disc version is displayed.



8. MIC & VOICE RECOGNITION CHECK

(a) Select "Mic & Voice Recognition Check" on the "Display Check" screen to display "MICROPHONE & VOICE RECOGNITION CHECK" screen.



(b) When voice is input into the microphone, check that the microphone input level meter changes according to the input voice.

(c) Push the recording switch and perform voice recording.

(d) Check that the recording indicator remains on while recording and that the recorded voice is played normally.

HINT:

- For details of this function, refer to DIAGNOSIS DISPLAY DETAILED DESCRIPTION.
- This function is controlled by the built-in navigation ECU.

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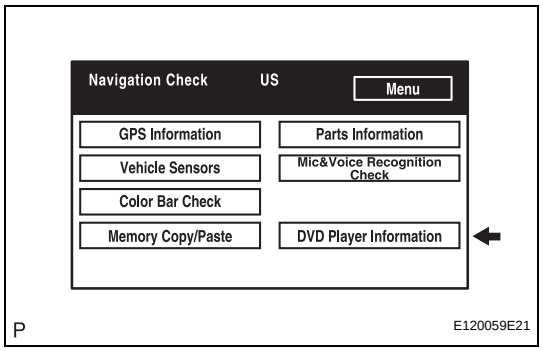
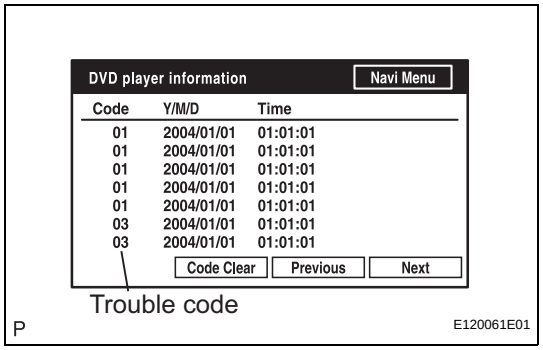


9. DVD PLAYER INFORMATION CHECK

(a) Select "DVD Player Information" from the "Navigation Check" screen.



(b) Check for DTCs.
HINT:
- This is a DVD player check function in the radio and navigation assembly (built-in navigation ECU).
- For details of this function, refer to DIAGNOSIS DISPLAY DETAILED DESCRIPTION (See page NS-30).

NS

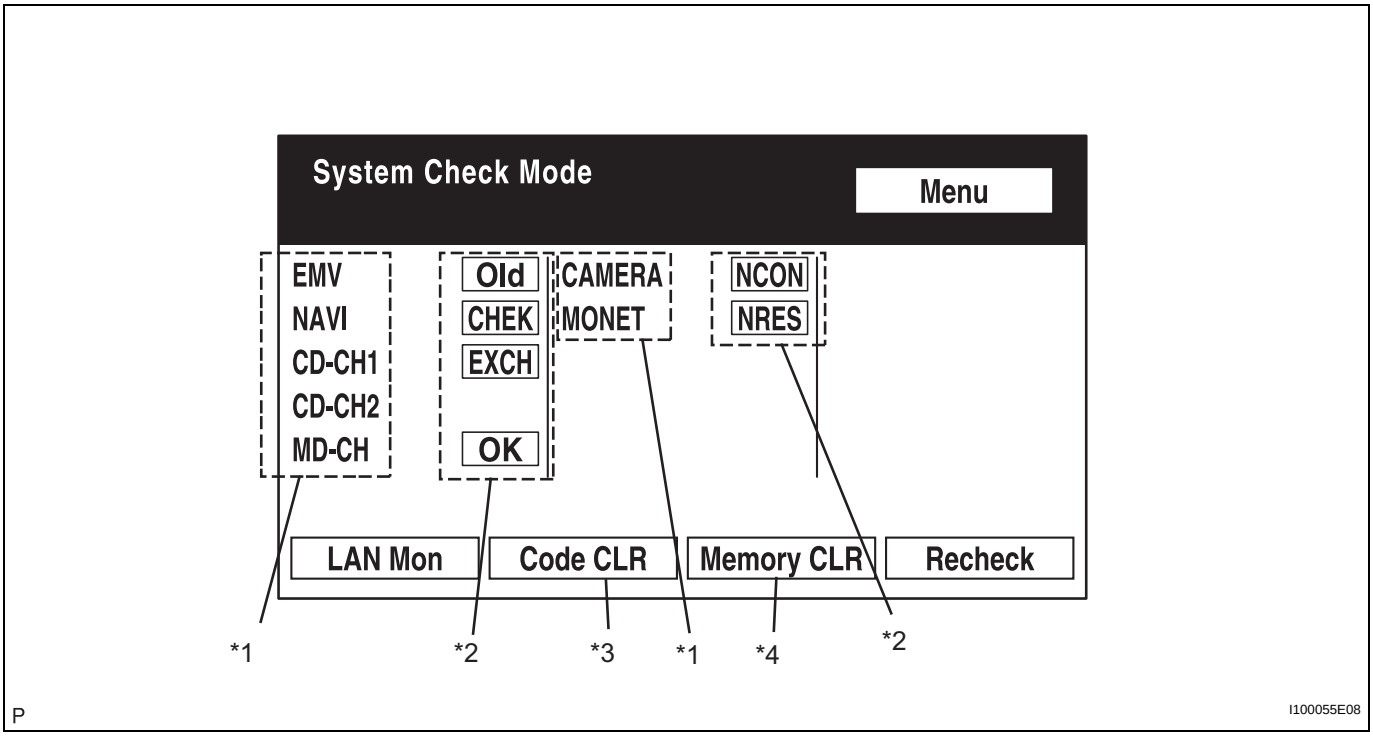
DIAGNOSIS DISPLAY DETAILED DESCRIPTION

HINT:

- This section contains a detailed description of displays within diagnostic mode.
- Illustrations may differ from the actual vehicle depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle.

1. SYSTEM CHECK

(a) System Check Mode Screen



(1) Device Names and Hardware Address/*1

HINT:

- Registered device names are displayed.
- If a device name is unknown to the system, its physical address is shown instead.

Address No.	Name	Address No.	Name
110	EMV	120	AVX
128	1DIN TV	140	AVN
144	G-BOOK	178	NAVI
17C	MONET	190	AUDIO H/U
1AC	CAMERA-C	1B0	Rr-TV
1C0	Rr-CONT	19D	BT-HF
1C4	PANEL	1C6	G/W
1C8	FM-M-LCD	1D8	CONT-SW
1EC	Body	118	EMVN
1F1	XM	1F2	SIRIUS
230	TV-TUNER	240	CD-CH2
250	DVD-CH	280	CAMERA
360	CD-CH1	3A0	MD-CH

Address No.	Name	Address No.	Name
17D	TEL	440	DSP-AMP
530	ETC	1F6	RSE
1A0	DVD-P	1D6	CLOCK
238	DTV	480	AMP

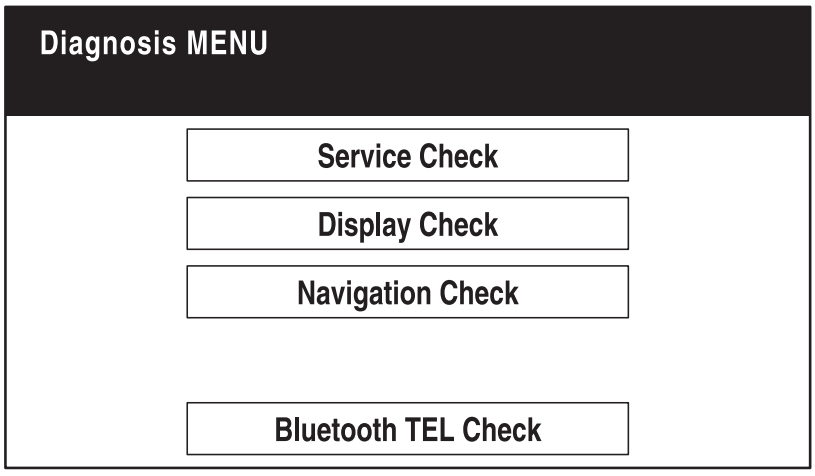
(2) Check Result/*2
HINT:
Result codes for all devices are displayed.

Result	Meaning	Action
OK	The device did not respond with a DTC (excluding communication DTCs from the AVC-LAN).	-
EXCH	The device responds with a "replace"-type DTC.	Look up the DTC in "Unit Check Mode" and replace the device.
CHEK	The device responds with a "check"-type DTC.	Look up the DTC in "Unit Check Mode".
NCON	The device was previously present, but does not respond in diagnostic mode.	1. Check power supply wire harness of the device. 2. Check the AVC-LAN of the device.
Old	The device responds with an "old"-type DTC.	Look up the DTC in "Unit Check Mode".
NRES	The device responds in diagnostic mode, but gives no DTC information.	1. Check power supply wire harness of the device. 2. Check the AVC-LAN of the device.

(3) Code Clear/*3
- Present DTCs are cleared.
- Press the "Code CLR" switch for 3 seconds.

(4) Memory Clear/*4
- Present and past DTCs and registered connected device names are cleared.
- Press the "Memory CLR" switch for 3 seconds.

(b) Diagnosis MENU Screen

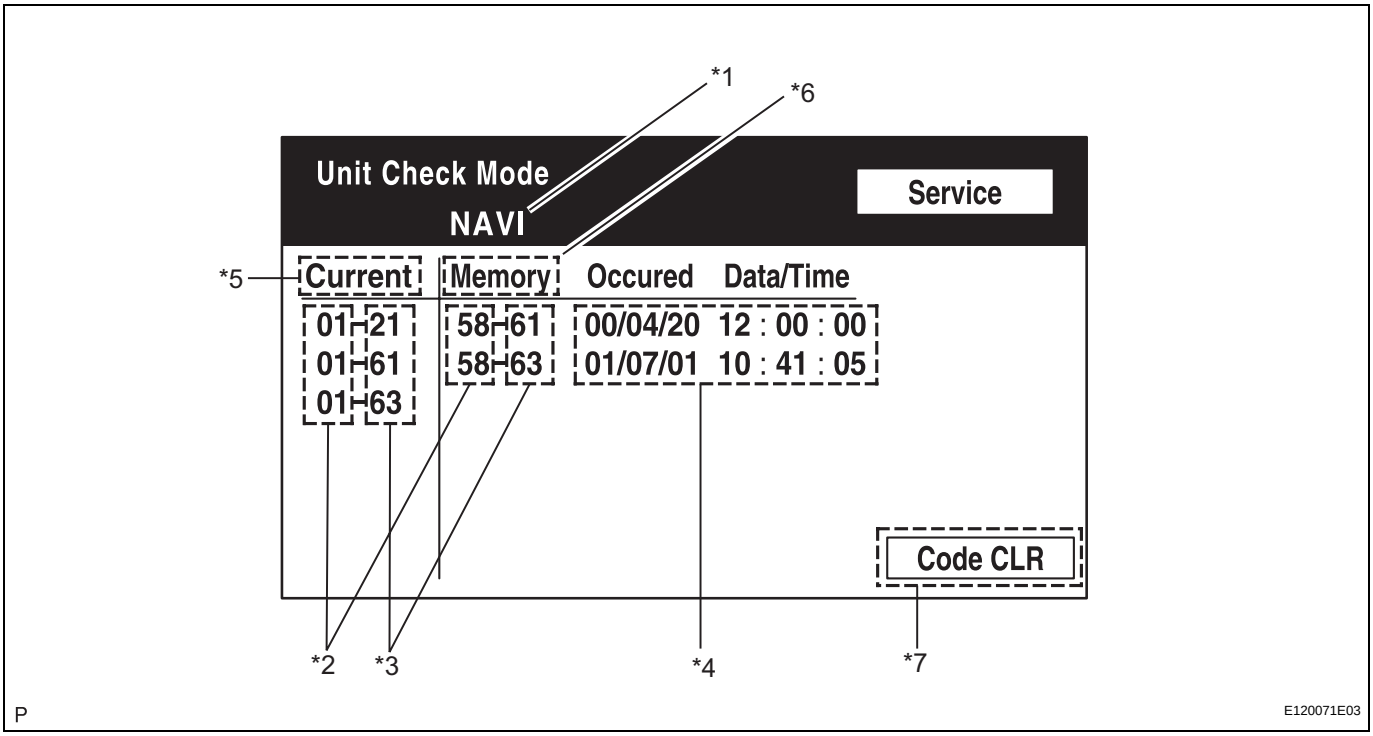


P E120070E01

NS

HINT:
Each item is grayed out or not displayed based on the device settings.

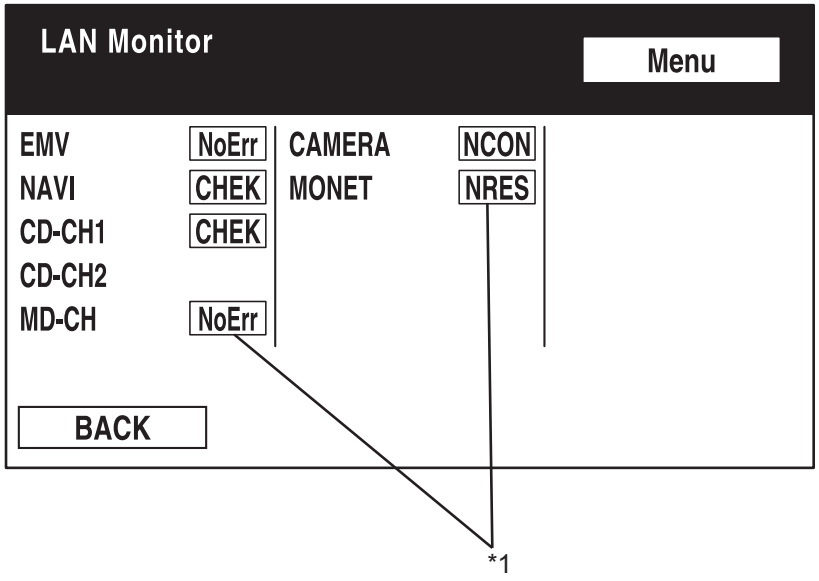
(c) Unit Check Mode Screen



Screen Description:

Display	Contents
Device name/*1	Target device
Segment/*2	Target device logical address
DTC/*3	DTC (Diagnostic Trouble Code)
Timestamp/*4	The time and date of past DTCs are displayed. (The year is displayed in 2-digit format.)
Present Code/*5	DTCs output at the service check are displayed.
Past Code/*6	Diagnostic memory results and recorded DTCs are displayed.
Diagnosis Clear Switch/*7	Pushing this switch for 3 seconds clears the diagnostic memory data of the target device. (Both response to diagnostic system check result and the displayed data are cleared.)

(d) LAN Monitor (Original) Screen



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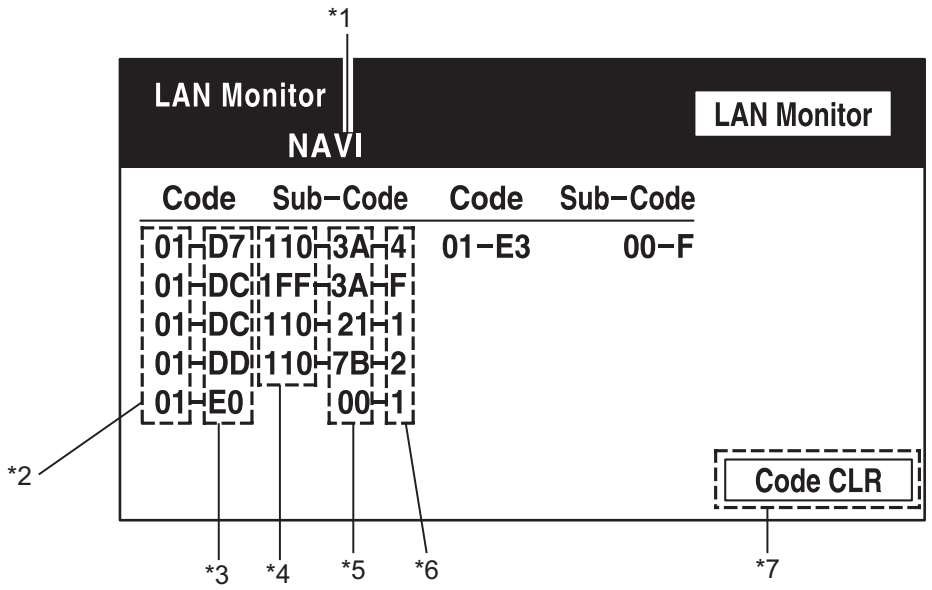
(1) Check Result/*1
HINT:
Check results of all the devices are displayed.

Result	Meaning	Action
No Err (OK)	There are no communication DTCs.	-
CHEK	The device responds with a "check"-type DTC.	Look up the DTC in "Unit Check Mode".
NCON	The device was previously present, but does not respond in diagnostic mode.	1. Check power supply wire harness of the device. 2. Check the AVC-LAN of the device.
Old	The device responded with an "old"-type DTC.	Look up the DTC in "Unit Check Mode".
NRES	The device responds in diagnostic mode, but gives no DTC information.	1. Check power supply wire harness of the device. 2. Check the AVC-LAN of the device.

NS

(e) LAN Monitor (Individual) Screen



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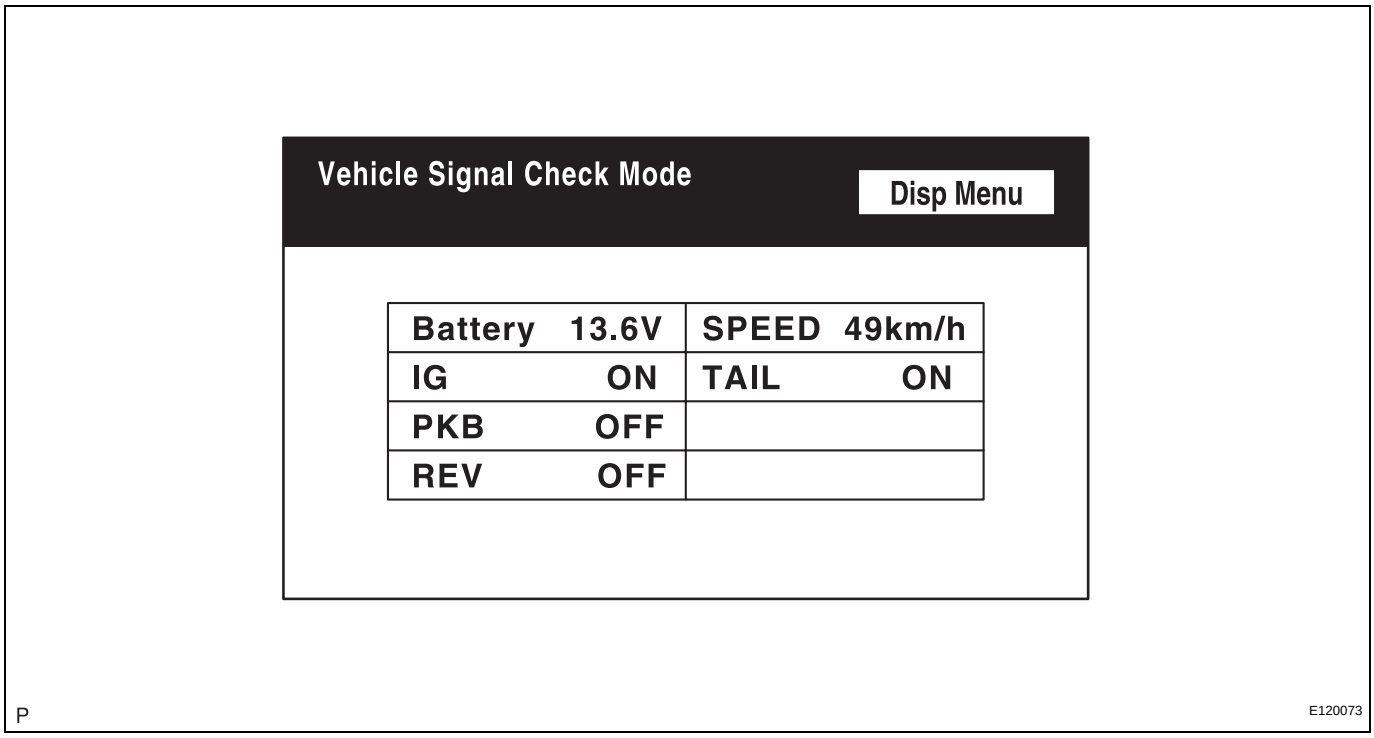
E120072E01

Screen Description:

Display	Contents
Device name/*1	Target device
Segment/*2	Target logical address
DTC/*3	DTC (Diagnostic Trouble Code)
Sub-code (device address)/*4	Physical address stored with DTC (If there is no address, nothing is displayed.)
Connection check No./*5	Connection check number stored with DTC
DTC occurrence/*6	Number of times the same DTC has been recorded
Diagnosis Clear Switch/*7	Pushing this switch for 3 seconds clears the diagnostic memory data of the target device. (Both response to diagnostic system check result and the displayed data are cleared.)

2. DISPLAY CHECK

(a) Vehicle Signal Check Mode Screen



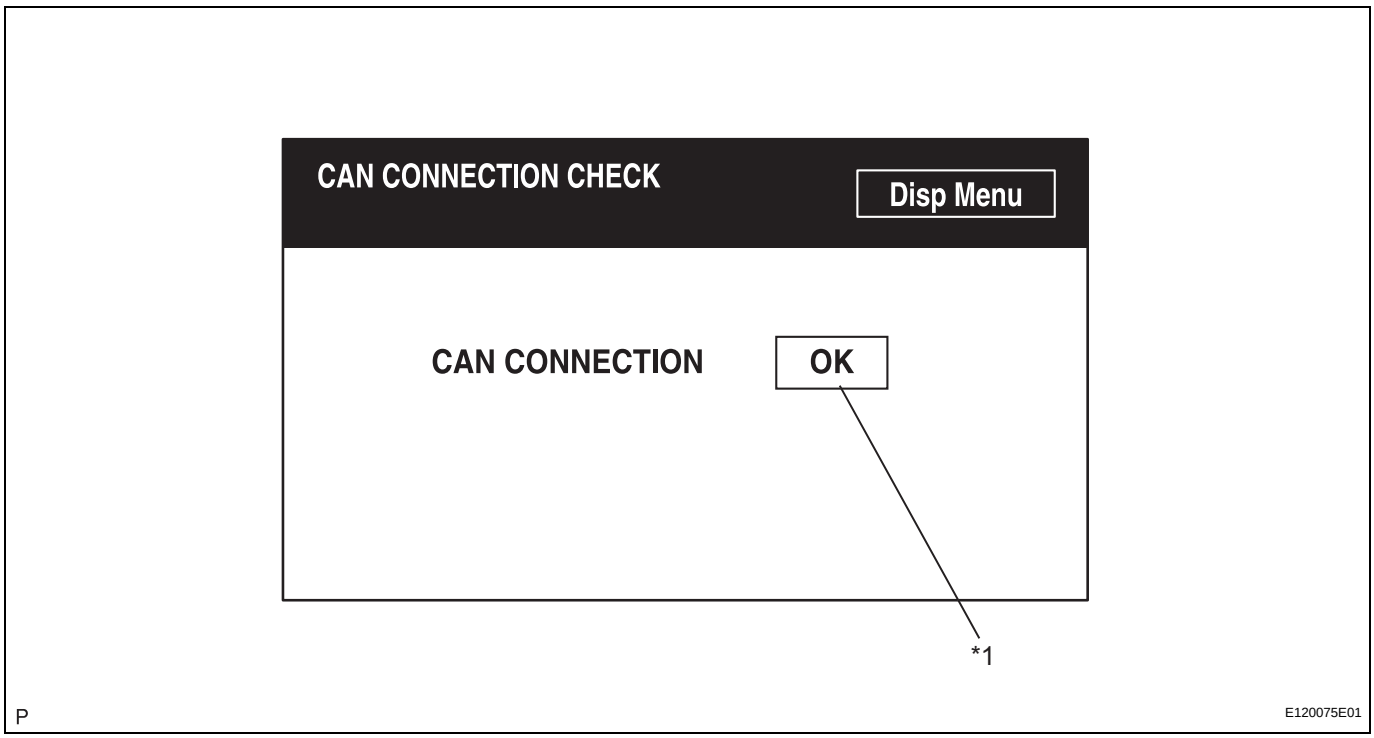
Screen Description:

Name	Contents
Battery	Battery voltage is displayed.
PKB	Parking brake ON/OFF state is displayed.
REV	Reverse signal ON/OFF state is displayed.
IG	IG switch ON/OFF state is displayed.
TAIL	TAIL signal (Light control switch) ON/OFF state is displayed.
SPEED	Vehicle speed is displayed in km/h.

HINT:

- Only items sending a vehicle signal will be displayed.
- This screen is updated once per second when input signals to the vehicle are changed.

(b) CAN Connection Check Screen



Screen Description:

Name	Contents
CAN Connection check result/*1	• For systems connected to the CAN system, the results of the CAN connection check are displayed. • "NG" - The ignition switch is ACC or ON and the CAN communication lines are malfunctioning or the CAN bus lines are not connected. • "OK" - The ignition switch is ACC or ON and the CAN communication lines are normal. • Blank - CAN connection check is performed with the ignition switch is ACC or off.

NS

HINT:

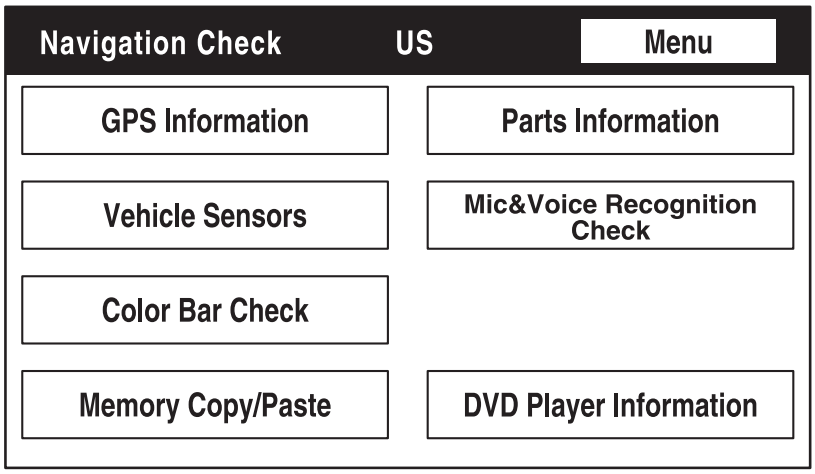
- This function operates only for the systems connected to the CAN system.
- When the ignition switch is turned off, the bus lines are disconnected, or a malfunction occurs in the bus lines while the CAN connection check result is being displayed, the problem will be reflected on the screen in real time.

HINT:

When the ignition switch is turned off, the bus lines are disconnected, or a malfunction occurs in the bus lines while the CAN connection check result is being displayed, the problem will be reflected on the screen in real time.

3. NAVIGATION CHECK

(a) Navigation Check Screen



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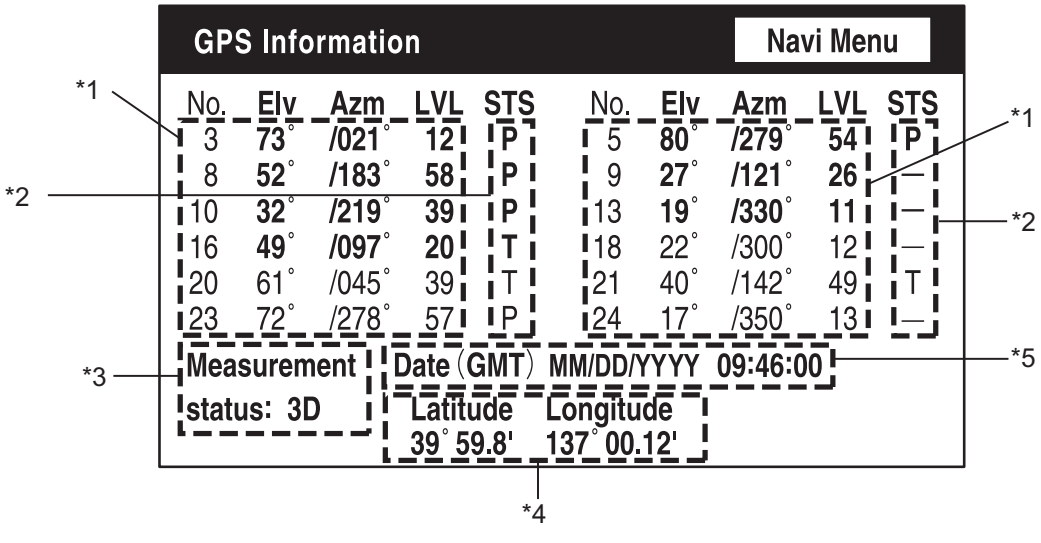
HINT:
Each item is grayed out or not displayed based on the device settings.

(b) GPS Information Screen



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(1) Satellite information/*1
Information from a maximum of 12 satellites is displayed on the screen. This information includes the target GPS satellite number, elevation angle, direction, and signal level.

NS

(2) Receiving condition/*2

(DENSO model):

Display	Contents
T	The system is receiving a GPS signal, but is not using it for location.
P	The system is using the GPS signal for location.
-	The system cannot receive a GPS signal.

(AISIN AW model):

Display	Contents
01H	The system cannot receive a GPS signal.
02H	The system is tracing a satellite.
03H	The system is receiving a GPS signal, but is not using it for location.
04H	The system is using the GPS signal for location.

Measurement information/*3:

Display	Contents
2D	2-dimensional location method is being used.
3D	3-dimensional location method is being used.
NG	Location data cannot be used.
Error	Reception error has occurred.
-	Any other state.

Position information/*4

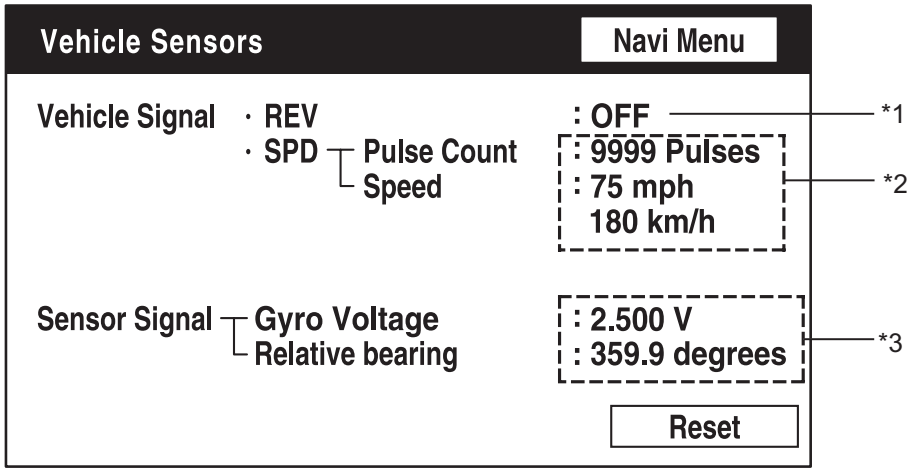
Display	Contents
Position	Latitude and longitude information on the current position is displayed.

Date information/*5:

Display	Contents
Date	The date/time information obtained from GPS signal is displayed in Greenwich mean time (GMT). The last 4 digits are displayed.

NS

(c) Vehicle Sensors Screen



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Vehicle signal:

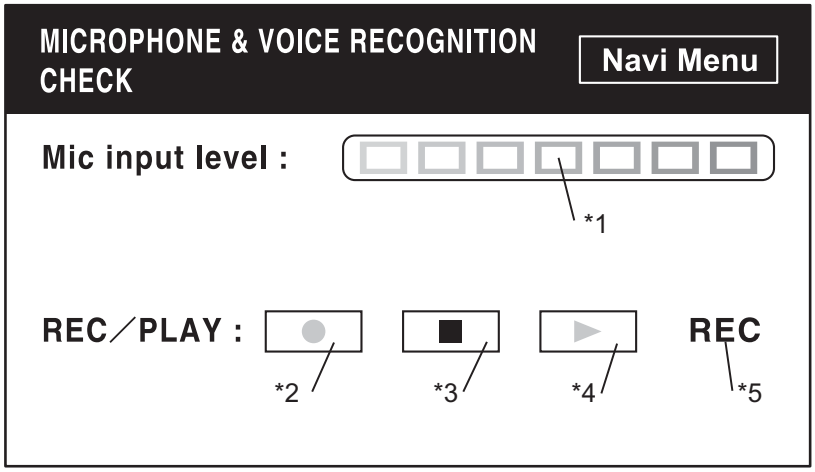
Display	Contents
REV/*1	REV signal ON/OFF state is displayed.
SPD/*2	SPD signal condition is displayed.

Sensor signal:

Display	Contents
Gyro sensor/*3	Gyro sensor output condition is displayed (when the vehicle runs straight or is stationary, the voltage is approximately 2.5 V).

HINT:
Signals are updated once per second only when vehicle sensor signals are changed.

(d) Microphone & Voice Recognition Check Screen



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E125119E01

Screen Description:

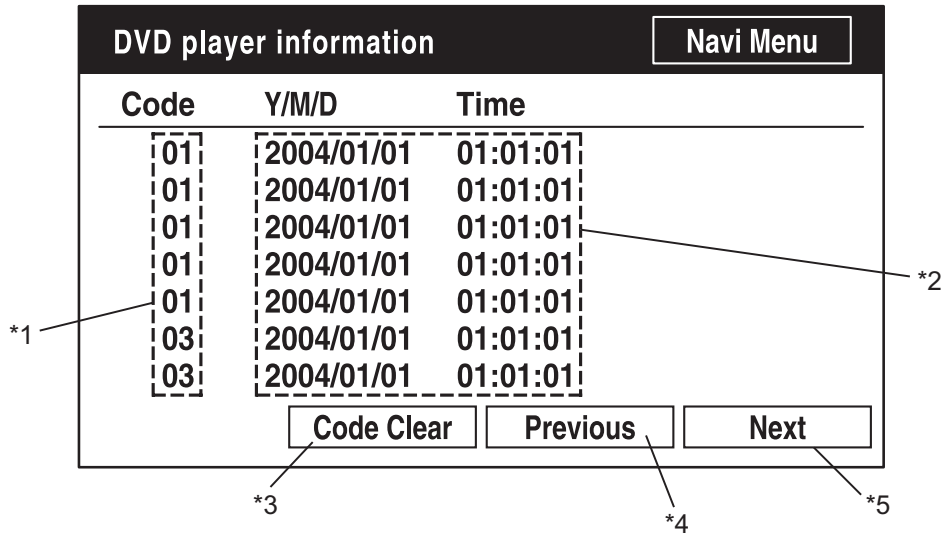
Display	Contents
Microphone input level meter/*1	Monitors the microphone input level every 100 ms and displays the results in 8 different levels.
Recording switch/*2	Starts recording.
Stop switch/*3	Stops recording.
Play switch/*4	Plays the recorded voice.
Recording indicator/*5	Comes on while recording.

HINT:

- The microphone input function is on at all times when this screen is displayed.
- While recording or playing, the switches other than the stop switch cannot be pushed.
- When no voice is recorded, the play switch cannot be pushed.
- Recording will stop after 5 seconds or by pushing the stop switch.

NS

(e) CAN Connection Check Screen



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E120078E01

Screen Description:

Display	Contents
Trouble code/*1	Each code corresponding to the malfunctions is displayed. For details, refer to "Trouble Code Description".
Occurrence time/*2	• The date (year, month, day) and time (hour, minute, second) when the trouble code was detected are displayed as a time stamp. (Greenwich mean time) • The time data to be displayed are received from the GPS receiver.
Trouble code clear switch/*3	All code data being displayed are cleared by pushing this switch for 3 seconds.
Returning switch/*4	The previous page is displayed. If the current displayed page is the first page, this switch cannot be operated.
Proceeding switch/*5	The next page is displayed. If the current displayed page is the last page, this switch cannot be operated.

Trouble Code Description:

Code	Malfunction	Countermeasure
01	Cannot be recognized	Replace radio and navigation assembly.
03	Cannot be read	Follow the inspection procedure for DTC 58-42 (See page NS-98).

HINT:
This is a DVD player check function in the radio and navigation assembly (built-in navigation ECU).