# TROUBLESHOOTING

# 1. DIAGNOSIS FUNCTION

Error codes over tuner and connected equipment are displayed on the screen of tuner.

- (a) Diagnosis mode
  - (1) Diagnosis start-up:

For shifting to diagnosis mode, push "CD" switch 3 times with pressing "1" and "6" of PRESET switch at the same time while the audio power is OFF and ACC is ON.

To exit from diagnosis mode, press "CD" switch for 2 seconds or turn the ignition key OFF.

(When "1-190" is displayed, the mode is transferred to LAN check mode.)

(2) LAN check:

When starting up the diagnosis mode, the mode turns to LAN check mode, the screen displays the code numbers (physical address) of tuner and connected equipment. Smaller codes are displayed in order, displayed code numbers are switched by operating TUNE "UP" or "DOWN" switch. In LAN check mode, by pressing "5" of PRESET switch for more than 2 secs., diagnosis memory of each equipment can be deleted, when deletion is completed, the mode returns to LAN check mode.



## Code No. (physical address) List

Code No. (physical address)	Equipment name	
190	Radio receiver assembly (Audio head unit)	

(b) System check

- When pressing "1" of PRESET switch in LAN check mode, the mode turns to the system check mode, the system performs self diagnosis of connected equipment and displays the results.("SYS" (showing the system is under detection) is displayed.)
- Perform the operation shown in the following illustration, then read the result of the inspection.

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HINT:

- It sometimes takes approx. 40 secs. till the system inspection is completed.
- The chart below is an example of when diagnosis code "21" appears on the physical address (190) equipment. (ROM error occurs on the radio receiver.)
- The smaller code numbers (physical address) are displayed in order (code No., diagnosis code, support code of diagnosis code (object equipment)).
- When no error is detected in the system, "00" is displayed.
- When an error code is detected, up to 6 codes per one system are displayed. Pressing TUNE "UP" or "DOWN" switches the display.
- In the system check mode, when pressing "6" of PRESET switch the mode returns to LAN check mode.



(c) Diagnosis memory

 In LAN check mode, when pressing "2" of PRESET switch the mode turns to the diagnosis memory mode. ("CODE" is displayed.)

The results of self diagnosis performed over tuner and connected equipment are memorized and displayed.

- (2) Perform the operation shown in the following illustration, then read the result of the inspection. HINT:
- The smaller code numbers (physical address) are displayed in order (code No., periodic communication number when error occurs, diagnosis code, and support code of diagnosis code (object equipment)).
- When no error is detected in the system, "00" is displayed. When an error code is detected, up to 6 codes per one system are displayed. Pressing TUNE "UP" or "DOWN" switches the display. Each diagnosis code is same as code in the system check mode.
- When pressing "6" of PRESET switch, the mode returns to LAN check mode.
- The following illustration below is an example of when diagnosis code "D1" appears on the code (190) and (360) equipment. (Communication error occurs between the radio receiver and CD changer.)



- (d) Diagnosis memory clear
  - (1) After error is fixed, start up the diagnosis mode.
  - (2) Continue pressing "5" of PRESET switch for 2 secs. (CLr is displayed.)
  - (3) Press the "2" of PRESET switch and transfer to the diagnosis memory mode and check that the normal code (00) is output.

### 2. DIAGNOSIS CODE LIST

- If there is "O" in the column of system check, an error can be detected when the mode is switched to the system check mode.
- If there is "O" in the column of diagnosis mode, each unit is monitoring whether or not it has failure. In case of detecting failure, it memorizes DTC.

Parts Name	DTC	Diagnosis item	Diagnosis content	Countermeasure and inspected parts	-	Diagnosis memory
	42	FM tuner error	There is an error in FM tuner		Х	0
	50	Cassette error	There is an error in cassette deck.       Radio receiver check.         Cassette can not be ejected from Head Unit.       Radio receiver check.		Х	0
	51	Cassette eject error			х	0
Head Unit (190)	D1	Transmitter error	Communication with the equipment that is communicating has failed successively.	Radio receiver check. Wire harness and connecter check.	0	0
	D2	Periodic communication no response	Error in periodic communication.	• Wire harness and connector	x	0
	FF	Diagnosis no response	Result of diagnosis is not issued from start to finish.	Radio receiver check	. 0	х

### NOTICE:

When replacing the internal mechanism (computer part) of the audio system, be careful that no part of your body or clothing comes in contact with the terminals of the leads from the IC, etc. of the replacement part (spare part).

HINT:

This inspection procedure is a simple troubleshooting which should be carried out on the vehicle during system operation and was prepared on the assumption of system component troubles (except for the wires and connectors, etc.).

Always inspect the trouble taking the following items into consideration.

- Open or short circuit of the wire harness
- Connector or terminal connection fault

	Problem	No.
Radio	No power coming in.	1
	Power coming in, but radio not operating.	2
	Noise present, but AM - FM not operating.	3
	Any speaker does not work.	4
	Either AM or FM does not work.	5
	Reception poor (Volume faint).	5
	Few preset tuning bands.	5
	Sound quality poor.	6
	Cannot set station select button.	6
	Preset memory disappears.	7
Tape Player	Cassette tape cannot be inserted.	8
	Cassette tape inserted, but no power.	9
	Power coming in, but tape player not operating.	10
	Any speaker does not work.	11
	Sound quality poor (Volume faint).	12
	Tape jammed, malfunction with tape speed or auto-reverse.	13
	APS, SKIP, RPT buttons not operating.	14
	Cassette tape will not ejected.	15
CD Player	CD cannot be inserted.	16
	CD inserted but no power.	17
	Power coming in, but CD player not operating.	18
	Sound jumps.	19
	Sound quality poor (Volume faint).	20
	Any speaker does not work.	21
	CD will not be ejected.	22
Antenna	Antenna-related.	23
Noise	Noise produced by vibration or shock while driving.	24
	Noise produced when engine starts.	25

NO POWER COMING IN

s tape player operating normally?	Yes	s → Ra	dio assemb	bly faulty		
	Yes	s ► Ra	dio assemb	olv faulty	_	
heck if ACC fuse is OK?	N	G ► Re	place fuse.			
ОК						
ACC applied to radio?	N	o → AC	C wire har	ness faulty.		
Yes						
heck if GND (wire harness side) to radio is OK?	N	G GI	ND wire har	rness faulty.		
ок						
adio assembly faulty.						
Radio POWER COM	ING ON,	, BUT I	RADIO N	OT OPERAT	ING	
o maximum and when the power is switched ON?						
Is tape player operating normally?	,	Yes	ls power fr	or the antenna	No	Radio assembly
No				out from the radio		aulty.
		L		Yes		
oes continuity exist in speaker wire harness?	No S	Speaker	wire harnes	s faulty.	Go to N	lo.23. If radio side
Yes		•			」 「	faulty
emporarily install another speaker	Yes S	Speaker f	aulty.		Radio a faulty.	assembly
Functions OK?						
No						
Padio assembly faulty						
Radio assembly faulty.						

1

Radio

3	Radio	NOISE PRESENT, BUT AM-FM NOT OPERATING					
	er for the antenna being outpu r radio assembly?	from the Radio assembly faulty.					
	Yes						
Go to I	No.23.						
	If radio faulty	Radio assembly faulty.					
Is tape	player operating normally?	Yes → Radio assembly faulty.					
F	No						
Hiss n	oise from speaker?	No Power amplifier faulty. Recheck system after repair.					
<b></b>	Yes						
Radio	assembly faulty. Recheck syst	em after repair.					
4	Radio	ANY SPEAKER DOES NOT WORK					
Is tape	player operating normally?	Yes Radio assembly faulty.					
	No						
Is hiss	noise produced by non-function	oning speaker? Yes Radio assembly faulty.					
	No						
Does c	harness? No Speaker wire harness faulty.						
	Yes						
	arily install another speaker. ns OK?	Yes ► Speaker faulty.					
L	No						
Radio a	assembly faulty.						

5 Radio

#### EITHER AM OR FM DOES NOT WORK, RECEPTION POOR (VOLUME FAINT), FEW PRESET TUNING BANDS



6 Radio

SOUND QUALITY POOR





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8	Tape Player     CASSETTE TAPE CANNOT BE INSERTED					
Is ther	e a foreiç	n object inside tape p	layer? Yes Remove foreign object.			
		No				
Is radio	o operatii	ng normally?	Yes Radio assembly faulty.			
		No				
Check	t if DOME	fuse is OK?	NG → Replace fuse.			
		ок				
ls +B	applied to	o radio assembly?	+B wire harness faulty.			
		Yes				
	Check if GND (wire harness side) to radio assembly is OK?		radio assembly GND faulty.			
		ОК				
Radio	assembl	y faulty.				
9	Таре	Player	CASSETTE TAPE INSERTED, BUT NO POWER			
Is rad	Is radio operating normally?		Yes Radio assembly faulty.			
L		No				
Check	t if ACC f	vuse is OK?	NG Replace fuse.			
		ок				
Is AC	C applied	d to radio assembly?	No ACC wire harness faulty.			

Yes

Radio assembly faulty.

10	Tape Player	POWER COMING IN, BUT TAPE PLAYER NOT OPERATING				
Functio	ons OK if different cassette tap	be inserted?	Yes Cassette tape faulty.			
	No					
Is radio operating normally?			Yes Radio assembly faulty.			
	No					
Does o	continuity exist in speaker wire	e harness?	No Speaker wire harness faulty.			
	Yes					
	orarily install another speaker.		Yes Speaker faulty.			
	No					
Radio	assembly faulty.					
11	Tape Player	ANY SPEAKER I	DOES NOT WORK			
Is radio operating normally?			Yes			
is radi	o operating normally?		Yes Radio assembly faulty.			
IS radi	o operating normally?		<ul> <li>Radio assembly faulty.</li> </ul>			
L		tioning speaker?	Yes Radio assembly faulty.			
L	No	tioning speaker?	Radio assembly faulty.			
Is hiss	No v s noise produced by non-funct		Radio assembly faulty.			
Is hiss	No s noise produced by non-funct No		Yes Radio assembly faulty.			
Is hiss Does	No s noise produced by non-funct No continuity exist in speaker wire	e harness?	Yes Radio assembly faulty.			
Is hiss Does	No s noise produced by non-funct No continuity exist in speaker wir Yes orarily install another speaker.	e harness?	Yes   Radio assembly faulty.     No   Speaker wire harness faulty.			

12	Таре	player	SOUND QUALIT	Y POOR				
Functi	Functions OK if different cassette tape inserted?			Yes	Cassette tape faulty.			
	No							
Opera	Operates normally after cleaning the tape head?			Yes	Tape head dirty.			
		No						
Is radi	o operating	g normally?		Yes	Radio assembly faulty.			
		No						
Is spea	aker prope	rly installed?		No -	Install properly.			
		Yes		_				
Tempo	rarily insta	ll another speaker. Fur	actions OK?	Yes	Speaker faulty.			
		No						
Radio	assembly	faulty.						
13	Tape F	Player	TAPE JAMMED, AUTO-REVERSE	MALFU	NCTION WITH TAPE SPEED OR			
Functi	ons OK if c	lifferent tape (90 mins.	or shorter) is inserted?	Yes	Cassette tape faulty.			
		No		-				
Is there a foreign object inside tape player?			er?	Yes	Remove foreign object.			
	No			_				
Opera	tes normal	ly after cleaning the tag	be head?	Yes	Tape head dirty.			
		No						
Radio	assembly	faulty.						

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14	Tape Player	APS, SKIP, RPT BUTTONS NOT OPERATING			
Functio	ons OK if different cassette tap	e inserted? No Radio assembly faulty.			
	Yes				
	tte tape faulty. {Less than 3 senant 15 secs. of silence (SKIP).	cs. of silence between songs (APS, RPT). }			
[					
15	Tape Player	CASSETTE TAPE WILL NOT BE EJECTED			
Is tape	e player operating normally?	No → Cassette tape jammed.			
	Yes				
Is radio	o operating normally?	Yes Radio assembly faulty.			
	No				
Check	if DOME fuse is OK?	NG Replace fuse.			
	ОК				
ls +B a	applied to radio assembly?	No → +B wire harness faulty.			
	Yes				
Radio	assembly faulty.				

16	CD Player	CD CANNOT BE INSERTED
Is CE	already inserted?	Yes ► Eject CD.
	No	
Is auto	search button of radio opera	ting normally? Yes Is +B applied to CD player? No Radio assembly
		Yes
		Check if GND wire harness side NG
	No	to CD player is OK?
		OK
		CD player faulty.
Chec	k if DOME fuse is OK	NG ► Replace fuse.
	, OK	
ls +B	applied to radio asser	nbly? No +B wire harness faulty.
	Yes	
Check	if GND (wire harness side)	o radio assembly is OK?
<b></b>	OK	
Radio	o assembly faulty.	
17	CD Player	CD INSERTED, BUT NO POWER
Is rac	dio operating normally	Yes Is ACC applied to CD player? No Radio assembly
		Yes
	No	CD player faulty.
Chec	★ k if ACC fuse is OK?	NG Replace fuse.
	OK	
Is AC	C applied to radio ass	embly? No
L	Yes	
Radio	assembly faulty.	

Author :



19	CD Player	SOUND SKIPS		
Does sound skip only during strong vibration?			Yes	Skipping caused by vibration.
No Is CD player properly installed?			No	Install properly.
Func	↓ Yes Functions OK if different CD inserted?			CD faulty.
No Has sudden temperature change occurred inside cabin?				► Formation of condensation due to
	No			temp. changes.
CD p	layer faulty.			

20	CD Player	SOUND QUALITY POOF	R (VOLUME	FAINT)
Function OK if different CD inserted?			Yes	CD faulty.
L	No		-	
Is rac	Is radio operating normally?			CD player faulty.
	No		ר No	
Is sp	Is speaker property installed?			Install properly.
	Yes		ר Yes	
Temp Func	Temporarily install another speaker. Functions OK?			Speaker faulty.
<b></b>	No		-	
Rad	io assembly or CD pla	yer faulty.		
		r		
21	CD Player	ANY SPEAKER DOES N		
	CD Player		IOT WORK	CD player faulty.
			Yes	CD player faulty.
Is rac	lio operating normally?			Radio assembly faulty.
Is rac	lio operating normally?	2	] <u>Yes</u> ] <u>Yes</u>	Radio assembly faulty. Recheck system after repair.
Is rac	lio operating normally No s noise produced by no No ere continuity in speake	? on-functioning speaker?	Yes	Radio assembly faulty.
Is rac	lio operating normally No s noise produced by no No ere continuity in speak	on-functioning speaker? er wire harness?	] <u>Yes</u> ] Yes ] No	<ul> <li>Radio assembly faulty.</li> <li>Recheck system after repair.</li> <li>Speaker wire harness faulty.</li> </ul>
Is rac Is his Is the	lio operating normally No s noise produced by no No ere continuity in speake	on-functioning speaker? er wire harness?	] <u>Yes</u> ] <u>Yes</u>	Radio assembly faulty. Recheck system after repair.
Is rac Is his Is the	lio operating normally No s noise produced by no No ere continuity in speak Yes porarily install another	on-functioning speaker? er wire harness?	] <u>Yes</u> ] Yes ] No	<ul> <li>Radio assembly faulty.</li> <li>Recheck system after repair.</li> <li>Speaker wire harness faulty.</li> </ul>



23	Antenna	ANTENNA-RELA T	ANTENNA-RELA TED	
Is antenna extended.			No Extend fully.	
	Yes			
Temporarily install another antenna. Functions OK?			Yes Antenna faulty.	
	No			
Radio	side faulty.		]	
24	Noise	NOISE PRODUCE DRIVING	ED BY VIBRATION OR SHOCK WHILE	
Is speaker properly installed?			No Install properly.	
	Yes			
Is each system correctly installed?				
	Yes			
	ehicle stationary, lightly tap eac e produced?	o system.	Yes Each system faulty.	
	No			
	produced by static electricity ad vehicle body.	cumulating		

25	Noise		CED WHEN ENGINE STARTS
Whistling noise which becomes high-pitched when accelerator strongly depressed, disappears shortly after engine stops.			Generator noise.
	No		
Whining noise occurs when A/C is operating.		operating.	Yes A/C noise.
	No		
Scratching noise occurs during sudden acceleration, driving on rough roads or when ignition switch is turned on.			Yes Fuel gauge noise.
	No		
Clicking sound heard when horn button is pressed, then released. Whirring/grating sound when pushed continuously.			Yes Horn noise.
	No		
Murmuring sound stops when engine stops.		ne stops.	Yes Ignition noise.
	No		
Tick-tock noise, occurs in synch with blinking of flasher.		h blinking of flasher.	Yes Turn signal noise.
	No		
Noise	occurs during window washe	er operation.	Yes Washer noise.
	No		
Scratc continu	hing noise occurs while enginers a while even after engine	ne is running, stops.	Yes Engine coolant temperature gauge noise.
	No		-
Scrapi	ng noise in synch with wiper	beat.	Yes Wiper noise.
	No		
Other	type of noise.		

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