Service Manual

Cassette Deck

RS-DV250
AR-2 Mechanism series

Colour
(S)........Silver Type

Area
(E)........Europe.

Specifications

<table>
<thead>
<tr>
<th>System</th>
<th>SC-E497E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound Processor</td>
<td>SH-EH720</td>
</tr>
<tr>
<td>C/D Player</td>
<td>SH-AE730</td>
</tr>
<tr>
<td>Cassette Deck</td>
<td>RS-DV250</td>
</tr>
<tr>
<td>Remote Control Transmitter</td>
<td>SB-PC38</td>
</tr>
</tbody>
</table>

Because of unique interconnecting cables, all requires service, send or bring is the entire system.

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Notes: Specifications are subject to change without notice.

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WARNING

The service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

http://servis-manual.com/
This unit is equipped with a service mode function of cassette mechanism, so that if the unit operates incorrectly, the fault displayed using an error code on the FL display of the Tuner/Amplifier (SA-EH770). The system control IC and FL display are part of the Tuner/Amplifier so make sure the system has been connected properly before using this function. Use this function during maintenance to check faults of items below.

5.1 Cassette tape to be prepared

5.2 Selecting service mode

5.3 Deck 1 mechanism check

5.4 Deck 2 mechanism check

5.5 Exiting service mode
5.1 Cassette tape to be prepared

Metal tape:
Recorded music tape with only one erasure prevention tab intact./ (use middle portion of tape)

Normal tape: /CrO2 tape:
Recorded music tape with both erasure prevention tabs intact./ (use middle portion of tape)
5.2 Selecting service mode

1. Turn on the power to the unit.

2. Make sure that no tape is inserted in the cassette deck. (Service mode cannot be selected with a tape inserted in the cassette deck.)

3. Press the DOLBY NR button for about 2 seconds, and keep pressing it, also press the STOP button for about 2 seconds. Refer to Fig. 5-1.

Fig. 5-1.
5.3 Deck 1 mechanism check

1. Press the Deck 1/deck 2 select button to change the flashing Deck 2 indicator to Deck 1. Refer to Fig. 5-2. (No change required if Deck 1 indicator already flashing.)

2. Press the Deck 1 cassette holder open button to open the Deck 1 cassette holder. Refer to Fig. 5-2.

3. Insert a CrO2 tape into the Deck 1 and close the cassette holder.

4. Press the Fast forward button. Refer to Fig. 5-2. (Tape fast forwards for about 2 seconds then stops.)

5. Press the PLAY button. Refer to Fig. 5-2. (After TPS operation and check, the tape stops.)

6. Open the Deck 1 cassette holder and replace the tape with a normal tape.

7. Close the Deck 1 cassette holder.

8. Press the Record pause button. Refer to Fig. 5-2. (No record operation.)

9. Press the STOP button. Refer to Fig. 5-2. A mechanism error code is displayed. Refer to Table 5-1. Each time the STOP button is pressed, the fault items are displayed in sequence.

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### Table 5-1.

<table>
<thead>
<tr>
<th>FL display</th>
<th>Symptom</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>H01</td>
<td>Cassette deck does not operate correctly.</td>
<td>Faulty cassette deck mechanism mode detect switch (Deck 1: S951, Deck 2: S971), plunger and capstan motor. (Check and replace)</td>
</tr>
<tr>
<td>H02</td>
<td>Unit does not record or the unit goes into recording mode even when the erasure prevention tabs have been removed from the cassette.</td>
<td>Faulty erasure prevention tabs detect switch (S974, S975) or short-circuit. (Check and replace)</td>
</tr>
<tr>
<td>H03</td>
<td>Tape does not play even when the tape deck play button is pressed. The motor operates when the tape deck play button is pressed even if cassette is loaded in the deck.</td>
<td>Faulty tape detect switch (Deck 1: S952 Deck 2: S972) or short-circuit. (Check and replace)</td>
</tr>
<tr>
<td>H06</td>
<td>Cassette deck does not detect CrO2 tape.</td>
<td>Faulty CrO2 tape detect switch (Deck 1: S953, Deck 2: S973). (Check and replace)</td>
</tr>
<tr>
<td>H07</td>
<td>Cassette deck does not detect Metal tape.</td>
<td>Faulty Metal tape detect switch (S976). (Check and replace)</td>
</tr>
<tr>
<td>F01</td>
<td>When the tape play button is pressed, tape advances only slightly and then stops.</td>
<td>Reel pulse error (Faulty Hall IC). (Check and replace)</td>
</tr>
<tr>
<td>F02</td>
<td>TPS (tape program search) does not work.</td>
<td>Faulty TPS signal detection or faulty plunger control. (Check and replace mechanism control IC)</td>
</tr>
</tbody>
</table>
5.4 Deck 2 mechanism check

1. Press the Deck 1/deck 2 select button to change the flashing Deck 1 indicator to Deck 2. Refer to Fig. 5-3.

2. Press the Deck 2 cassette holder open button to open the Deck 2 cassette holder. Refer to Fig. 5-3.

3. Insert a metal tape into the Deck 2 with an intact erasure prevention tab on the right side.


5. Press the Fast forward button. Refer to Fig. 5-3. (Tape fast forwards for about 2 seconds then stops.)

6. Open the Deck 2 cassette holder and turn over the metal tape. (intact erasure prevention tab on the left side.)

7. Close the Deck 2 cassette holder.

8. Press the Rewind button. Refer to Fig. 5-3. (Tape rewinds for about 2 seconds then stops.)

9. Open the Deck 2 cassette holder and replace the metal tape with a CrO2 tape.


11. Press the PLAY button. Refer to Fig. 5-3. (After TPS operation and check, the tape stops.)

12. Open the Deck 2 cassette holder and replace the CrO2 tape with a normal tape.

13. Close the Deck 2 cassette holder.

14. Press the Record pause button. Refer to Fig. 5-3. (No record operation.)

15. Press the STOP button. Refer to Fig. 5-3. A mechanism error code is displayed. Refer to Table 5-1. Each time the STOP button is pressed, the fault items are displayed in sequence.

Fig. 5-3.
5.5 Exiting service mode

1. Press the STOP button for more than 5 seconds (Diagnostic contents stored in memory for both Deck 1 and 2 are erased.)

2. Remove the cassette tape from the cassette holder.

3. Turn off the unit.
13.3 Head azimuth adjustment (Deck 1/2)

1. Connect the measuring instrument as shown in Fig. 13-1.

2. Replace azimuth screws for both forward and reverse directions after removing the screw-locking bond left on the head base. (Supply part No. of azimuth screw: RHD17015)

3. Playback the azimuth adjustment portion (8 kHz, -20 dB) of test tape (QZZCFM). Adjust the azimuth screw until the outputs of the L/R ch are maximized. Refer to Fig. 13-2. Make sure that the difference in the peak level between the left and right channels does not exceed 0.5 dB.

4. Perform the same adjustment in reverse playback mode.

Check of the level difference forward and reverse directions.

5. Playback the playback gain adjustment portion (315 Hz, 0 dB) of test tape (QZZCFM). Check if level difference between forward and reverse direction is within 1.5 dB.

6. After the adjustment, apply screw lock to the azimuth screw.

Fig. 13-1.

Fig. 13-2.
13.4 Tape speed adjustment/(Deck 1/2)

Note:

When connecting the unit to other system components for test, short the section between the test point TP604 and TP609 and turn on the entire system. (The unit is set to the TEST mode, and either Deck 1 or Deck 2 indicator will blink.)

Normal speed (Standard value: 3000 ± 45 Hz)

1. Connect the measuring instrument as shown in Fig. 13-3.

2. Playback the middle portion of test tape. (QZZCWAT)

3. Adjust VR801 (Deck 1) and VR803 (Deck 2) for output value shown below. (For adjustment point, refer to Fig. 13-11.)

   Adjustment target: 3000 ± 15 Hz (Normal speed)

   Standard value: 3000 ± 45 Hz (Normal speed)

Fig. 13-3.

Note:

When the unit is finished for adjusting, disconnect the short section between TP604 and TP609.

@
14.1.1 Connection Diagram Between the Mechanism Ass’y and Power Supply/(MOTOR and Plunger)

Fig. 14-1.

Break the lead wire (+), and then interrupt to Power ON/OFF manually.
14.1.2 Detail View of EJECT Lever /(EJECT lever fixed by rubber band, Plunger rib operation)