Service Manual
Stereo Cassette Deck

DOLBY B NR

Please file and use this manual together with the service manual for Model No. RS-TR280, Order No. AD9601015C.

Notes:
- This service manual is provided to indicate the main differences between the original No. RS-TR280 and the subsequent model No. RS-TR180.
- The DOLBY NOISE REDUCTION P.C.B. was cut off and the MECHANISM CONTROL P.C.B. in the model No. RS-TR280 was partly changed. This is the way the model No. RS-TR280 has been completed.

AR-2 MECHANISM SERIES
Specifications (IHF '78)

I Cassette Deck Section

Deck system
Stereo cassette deck
Track system
4-track, 2-channel
Recording system
AC bias
Bias frequency
80 kHz (approx.)
Erasing system
AC erase
Heads
DECK 1 Playback head (Permalloy) x 1
DECK 2 Recording/Playback head (Permalloy) x 1
Erasering head (Double-gap ferrite) x 1
Motors
DECK 1 Capstan/Reel table drive (DC servo motor) x 1
DECK 2 Capstan/Reel table drive (DC servo motor) x 1
Tape speed
4.6 cm/sec. (1-7/8 ips)
Wow and flutter
0.18% (WRMS)
Fast forward and rewind times
Approx. 120 seconds with C-60 cassette tape
Frequency response (Dolby NR off)
TYPE I (NORMAL) 40 Hz - 14 kHz, ±3 dB
20 Hz - 17 kHz
TYPE II (HIGH POSITION) 40 Hz - 14 kHz, ±3 dB
20 Hz - 17 kHz
TYPE IV (METAL) 40 Hz - 15 kHz, ±3 dB
20 Hz - 18 kHz

S/N (signal level = max recording level, TYPE II type tape)
NR off 54 dB (A weighted)
Dolby B NR on 64 dB (A weighted)
Input sensitivity and impedance
REC (IN) 320 mV/47 kΩ
Output voltage and impedance
PLAY (OUT) 320 mV/500 Ω

II General
Power consumption
18 W
Power supply
AC 120 V, 60 Hz
Dimensions (W x H x D)
430 x 131 x 286 mm
(16-15/16" x 5-1/8" x 11-1/4")
Weight
3.8 kg (8.9 lb)

Notes:
Specifications are subject to change without notice. Weight and dimensions are approximate.

WARNING
This 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 or repaired 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.

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Schematic Diagram

A MAIN CIRCUIT .......................................................... 3, 4
B MECHANISM CONTROL CIRCUIT (DECK 2) .................. 5~7
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E POWER SWITCH CIRCUIT ................................................. 8
F MECHANISM CIRCUIT (DECK 1) ........................................ 8
G MECHANISM CONTROL CIRCUIT (DECK 1) ................. 5, 8

* This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S701 : Power switch (STAND BY ON)
- S707 : DECK 1 cassette holder open switch (OPEN)
- S708 : Dolby noise-reduction switch (DOLBY NR)
- S709 : Reverse-mode select switch (REVERSE MODE)
- S710 : Synchro-start switch (SYNCHRO START)
- S711 : Tape-to-tape recording-speed switch (SPEED)
- S714 : Stop switch (■)
- S715 : Forward-side playback switch (■)
- S716 : Reverse-side playback switch (■)
- S717 : Fast forward switch (■)
- S718 : Rewind switch (■)
- S719 : DECK 2 cassette holder open switch (OPEN)
- S720 : Record pause switch (REC PAUSE)
- S721 : Tape deck select switch (DECK 1/2)
- S723 : Counter reset (COUNTER RESET)
- S951 : DECK 1 mode detect switch
- S952 : DECK 1 half detect switch
- S953 : DECK 1 CrO2 tape detect switch
- S971 : DECK 2 mode detect switch
- S972 : DECK 2 half detect switch
- S973 : DECK 2 CrO2 tape detect switch
- S974 : DECK 2 reverse side record prevention tab detect switch
- S975 : DECK 2 forward side record prevention tab detect switch
- S976 : DECK 2 METAL tape detect switch

* Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.

No mark : Playback  ( ) : Recording

* Important safety notice.

Components identified by △ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

* Caution!

IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
Cover the parts boxes made of plastics with aluminum foil.
Ground the soldering iron.
Put a conductive mat on the work table.
Do not touch the legs of IC or LSI with the fingers directly.

* Voltage and signal line

- Positive voltage line
- Negative voltage line
- Playback signal Line
- Recording signal Line
MECHANISM CONTROL CIRCUIT (DECK1)
(P.C.Board: on page 11)

DECK 1
- L ch
- PLAYBACK HEAD
- R ch

DECK 2
- L ch
- R/P HEAD
- R ch
- ERASE HEAD

PLAYBACK SIGNAL (GAIN)

MECHANISM CONTROL CIRCUIT (DECK2) (P.C.Board: on page 9)
Printed Circuit Board Diagram

- This circuit board diagram may be modified at any time with the development of new technology.

**B MECHANISM CONTROL P.C.B.(DECK2)**
(REP2262A–T)
### Changes in Replacement Parts List

(Ref: pages 47~50 and 58 of RS-TR280 service manual)

**Notes:** Important safety notice:
- Components identified by a mark have special characteristics important for safety.
- Components indicate only those components which have purposes of fire-retardant (resistor), high-quality sound (capacitor), low-noise (resistor), etc. are used.
- When replacing any of the components, be sure to use only manufacturer's specified parts shown in the parts list.
- The parenthesized indications in the Remarks column specify the area. (Refer to the cover page for area.)
- Parts without these indications can be used for all areas.

<table>
<thead>
<tr>
<th>Ref. No.</th>
<th>Part Number</th>
<th>Part Name &amp; Description</th>
<th>Remarks</th>
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<td><strong>INTEGRATED CIRCUIT</strong></td>
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<td>Q301, Q302</td>
<td>2SK1103PTX</td>
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<td>R1</td>
<td>ERJ6GEY1J473V</td>
<td>RESISTOR, 1/10 W 47 kΩ</td>
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<tr>
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<td>ECUV1H101KCN</td>
<td>CAPACITOR, 50 V 100 pF</td>
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<td><strong>CABINET PARTS</strong></td>
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