ORDER NO. AD9903064C8

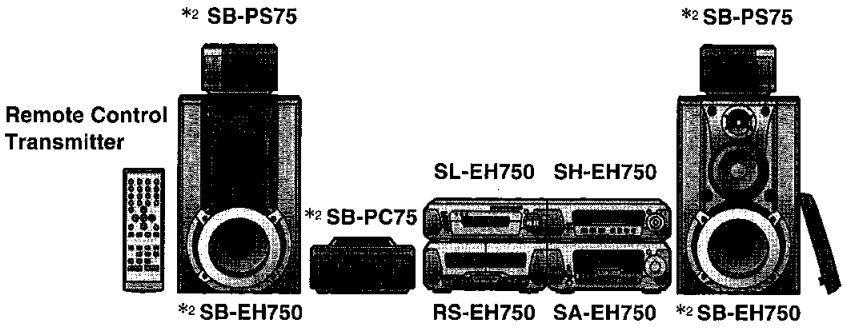
Service Manual

Stereo Cassette Deck

Cassette Deck

RS-EH750

DOLBY B NR *1



Colour
(S) ..... Silver Type

Area
(E) ..... Europe.

System	SC-EH750
Sound Processor	SH-EH750
Tuner/Amplifier	SA-EH750
CD Changer	SL-EH750
Cassette Deck	**RS-EH750**
Front Speakers*2	SB-EH750
Center Speaker*2	SB-PC75
Surround Speakers*2	SB-PS75

Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.

AR-2 MECHANISM SERIES

Specifications

Deck system:	Stereo cassette deck
Track system:	4 track, 2 channel
Recording system:	AC bias
Bias frequency;	100 kHz
Erasing system:	AC erase
Heads:	
Deck 1	
(Playback head);	Permalloy head
Deck 2	
(Recording/Playback head);	Permalloy head
(Erasing head);	Double gap ferrite head
Motors:	
Deck 1, 2	
Capstan drive;	DC servo motor
Tape speed:	4.8 cm/sec.
Wow and flutter:	0.16 % (WRMS)
Fast forward and rewind times:	Approx. 110 seconds with C-60 cassette tape
Frequency response (Dolby NR off):	
TYPE I (NORMAL);	20 Hz–16 kHz (DIN)
TYPE II (HIGH);	20 Hz–16 kHz (DIN)
TYPE IV (METAL);	20 Hz–16 kHz (DIN)
S/N (Signal level = max recording level, TYPE II type tape:	
NR off;	56 dB (A weighted)
Dolby B NR on;	66 dB (A weighted)
Input sensitivity and impedance:	
REC (IN);	400 mV/23 kΩ
Output voltage and impedance:	
PLAY (OUT);	280 mV/360 Ω
Dimensions (W× H ×D):	294x118.5x281 mm
Weight:	2.1 kg

Notes: Specifications are subject to change without notice.
Weight and dimensions are approximate.
*1: Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol DD are trade marks of Dolby Laboratories Licensing Corporation.
*2: Made in Singapore.

⚠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.

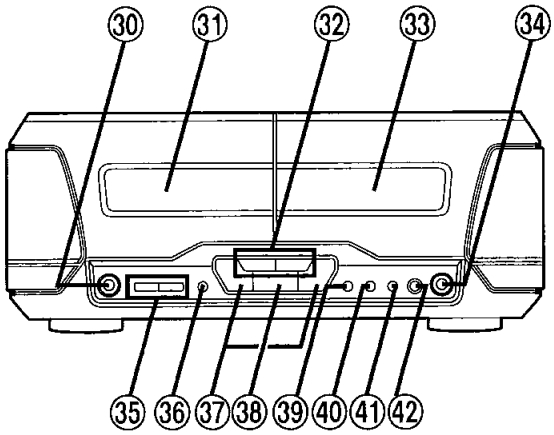
Technics®

■ Contents

NOTE:

Refer to the service manual for Model No. SA-EH750 (ORDER No. AD9903063C2) for information on "Accessories", "Connections", "Installation", "Operations" and "Packaging".

■ Location of Controls



㉚ **Deck 1 cassette holder open button (▲ OPEN)**
㉛ **Deck 1 cassette holder**
㉜ **Fast forward/rewind buttons (◀◀ , ▶▶)**
㉝ **Deck 2 cassette holder**
㉞ **Deck 2 cassette holder open button (▲ OPEN)**
㉟ **Counter reset, display buttons (COUNTER, RESET, DISPLAY)**
㊱ **Deck 1/deck 2 select button (DECK 1/2)**
㊲ **Playback buttons and indicators (◁, ▷)**
The color of the indicators depends on the operation taking place.
If stopped, fast forwarding or rewinding: orange
If playing or recording: green
While carrying out TPS or recording is on standby: flashes green
㊳ **Stop button (■)**
㊴ **Dolby noise reduction button (DOLBY NR)**
㊵ **Reverse mode select button (REV MODE)**
㊶ **Tape edit button (TAPE EDIT)**
㊷ **Record pause button (● REC PAUSE)**

■ Operation Checks and Component Replacement Procedures

NOTE **1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**

2. For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

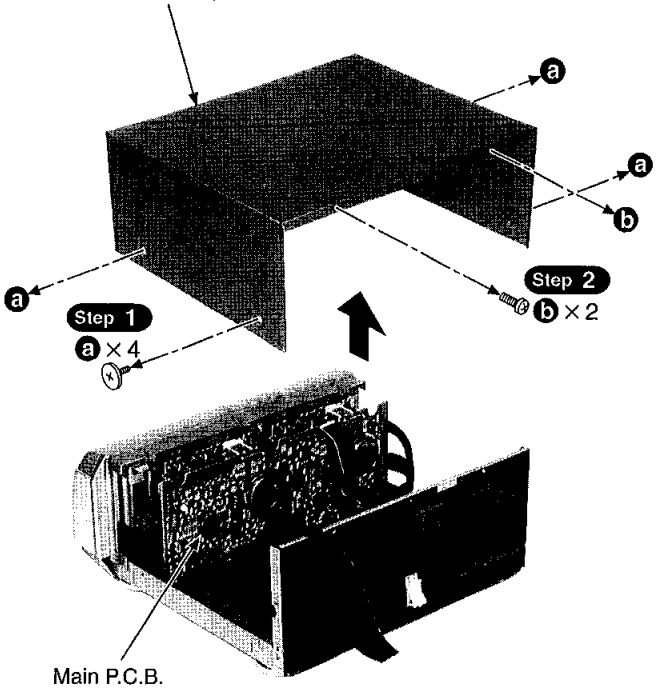
3. Select item from the following index when checks or replacement are required.

• Contents

■ Checking Procedures for each P.C.B.

1. Checking for the main P.C.B.

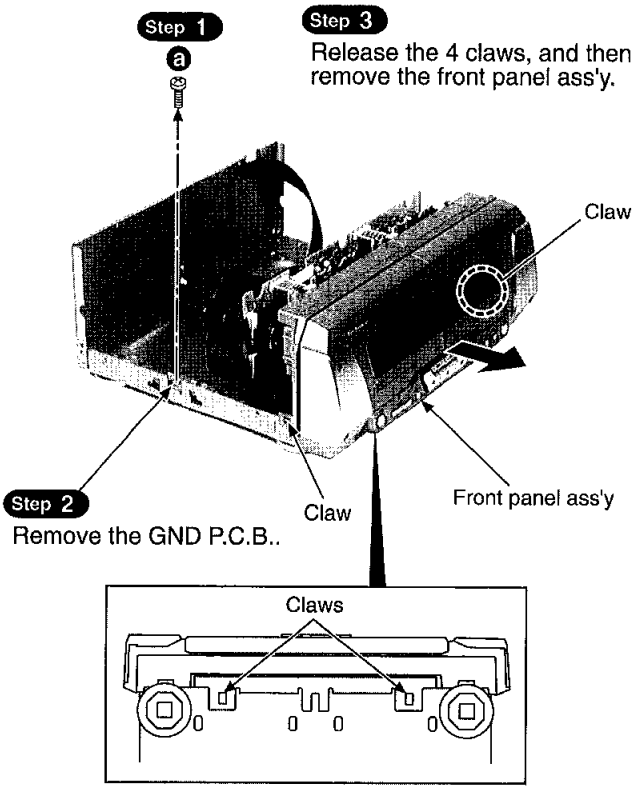
Step 3
Remove the top cabinet.



· Check the main P.C.B. as shown above.

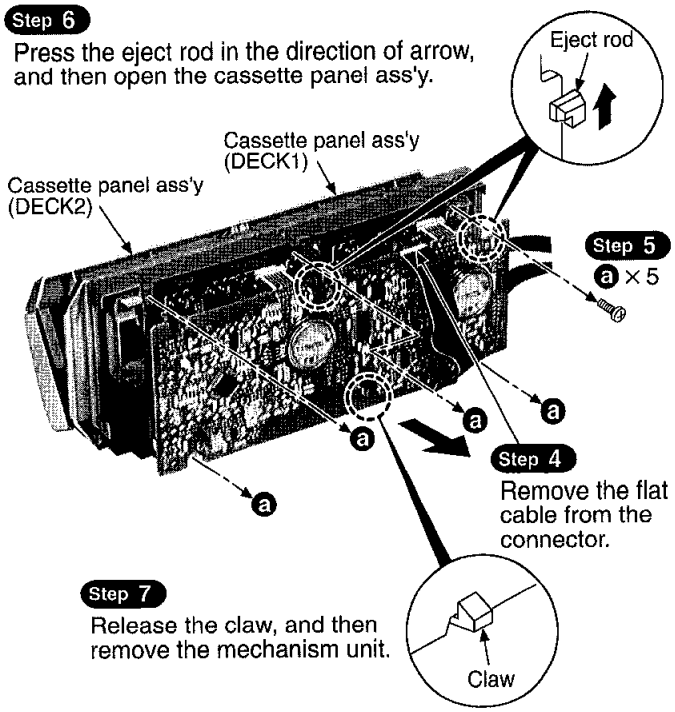
2. Checking for the operation P.C.B.

· Follow the Step 1 ~ Step 3 of the item 1 in checking procedure for each P.C.B. on page 3.

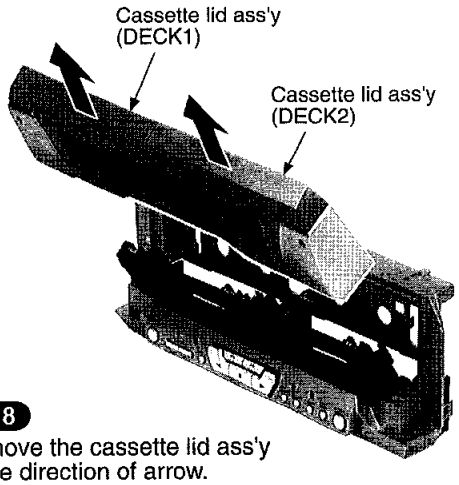


(Bottom side)

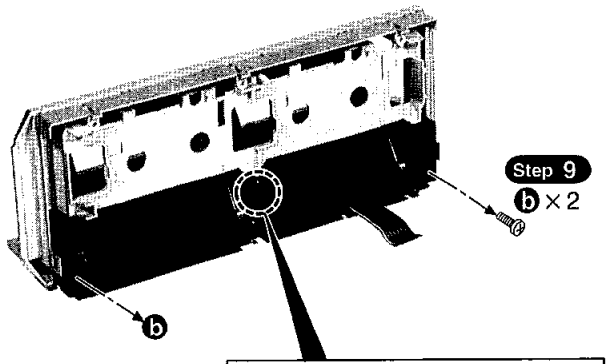
Step 6
Press the eject rod in the direction of arrow, and then open the cassette panel ass'y.



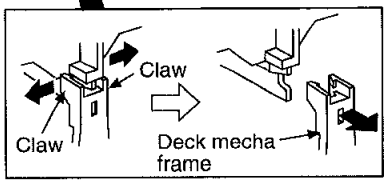
Step 7
Release the claw, and then remove the mechanism unit.

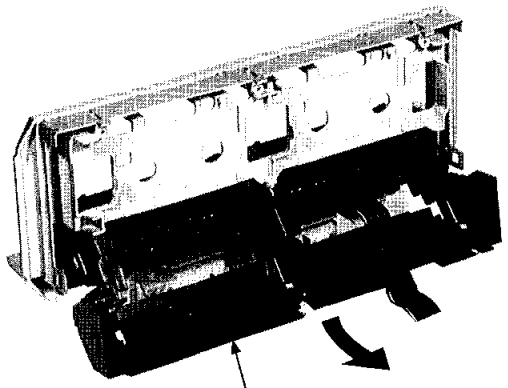


Step 8
Remove the cassette lid ass'y in the direction of arrow.

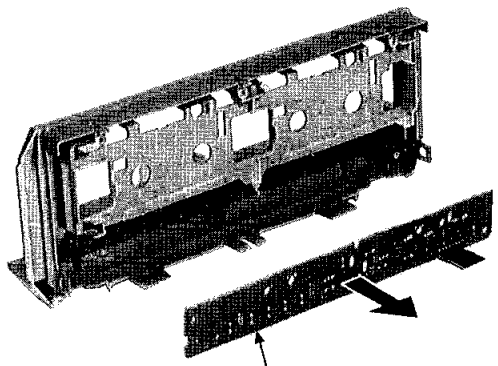


Step 10
Release the 2 claws, and then remove the deck mecha frame.





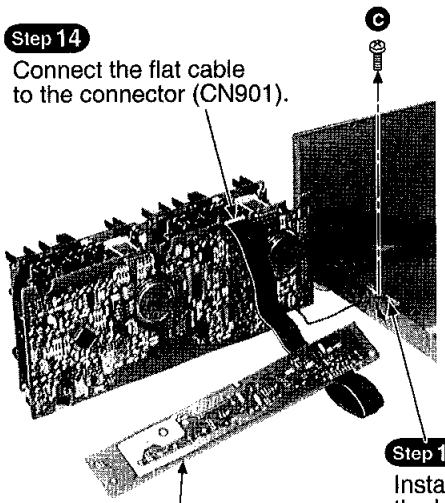
Step 11
Remove the deck mecha frame in the direction of arrow.



Step 12
Remove the operation P.C.B..

· Check the operation P.C.B. as shown below.

Step 14
Connect the flat cable to the connector (CN901).

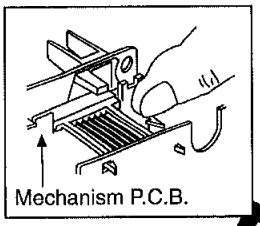


Step 13
Install the GND P.C.B. to the bottom chessis, and then tighten screw (ⓒ).

■ Main Component Replacement Procedures

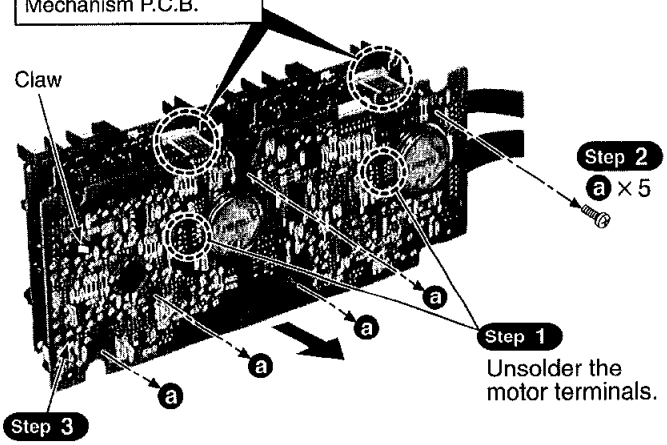
1. Replacement for the motor ass'y, capstan belt and winding belt

- Follow the Step 1 ~ Step 3 of the item 1 in checking procedure for each P.C.B. on page 3.
- Follow the Step 1 ~ Step 7 of the item 2 in checking procedure for each P.C.B. on pages 3 and 4.



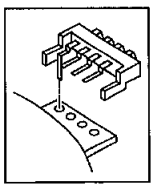
NOTE

When removing the main P.C.B., remove it with holding the mechanism P.C.B..

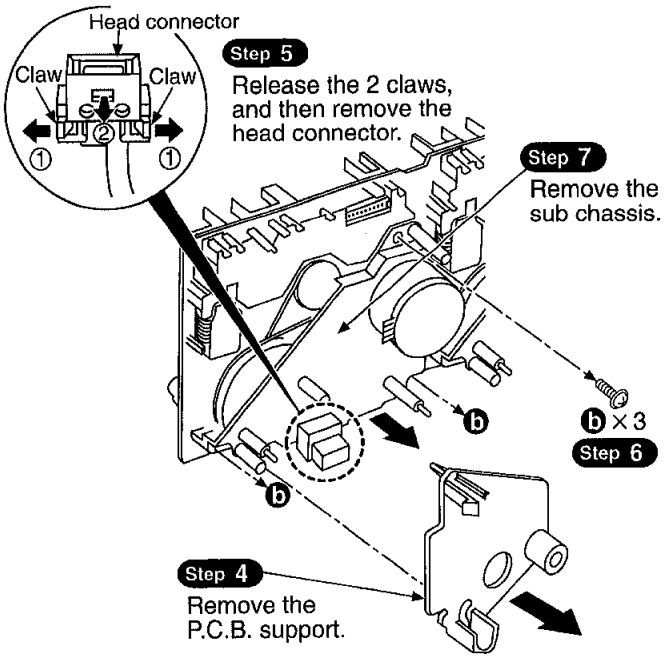


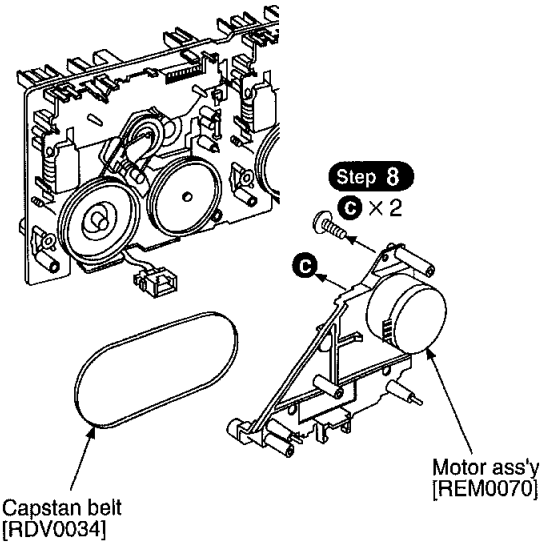
NOTE

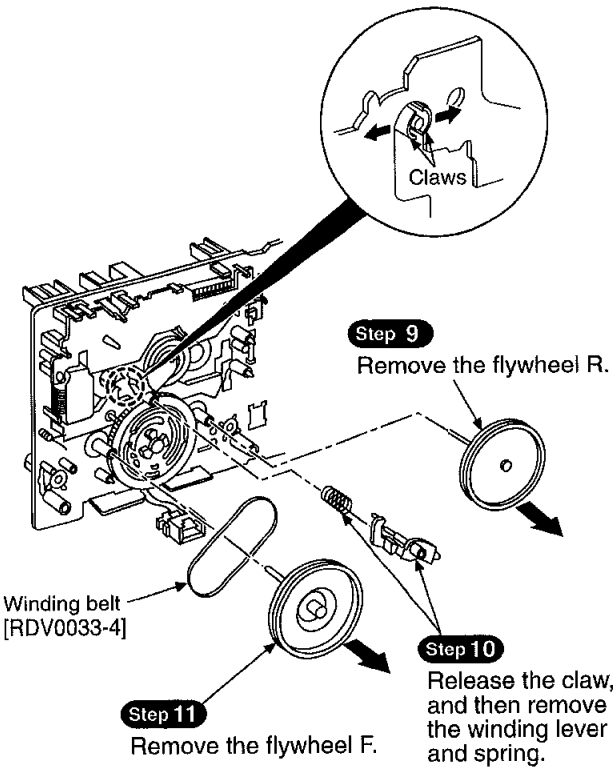
Handle the connector with care so that the shape of terminals different from others.



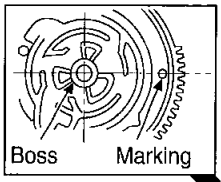
※ The illustration below shows DECK2 mechanism. For DECK1 mechanism, perform the same procedure as DECK2.



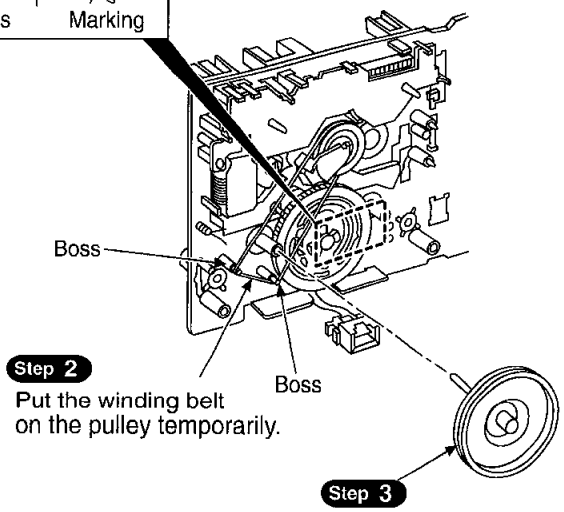




Installation of the belt

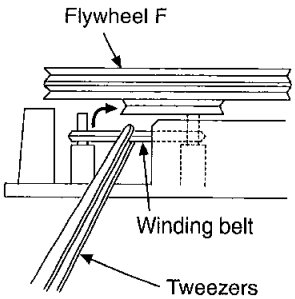


Step 1
The boss and marking should be positioned horizontally.

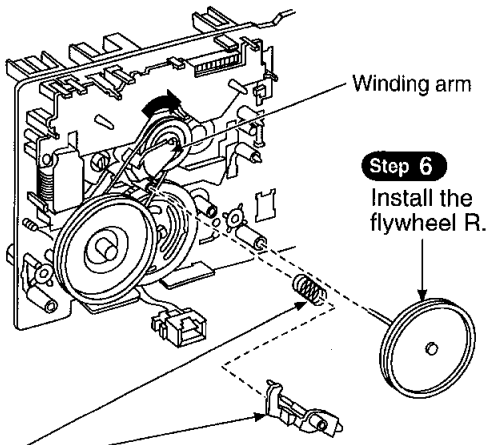


Step 2
Put the winding belt on the pulley temporarily.

Step 3
Install the flywheel F.

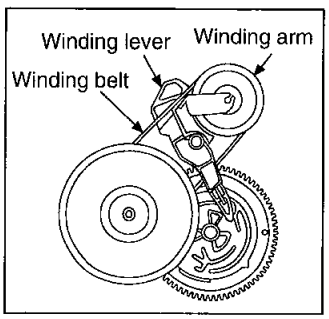


Step 4
Put the winding belt on the flywheel F.



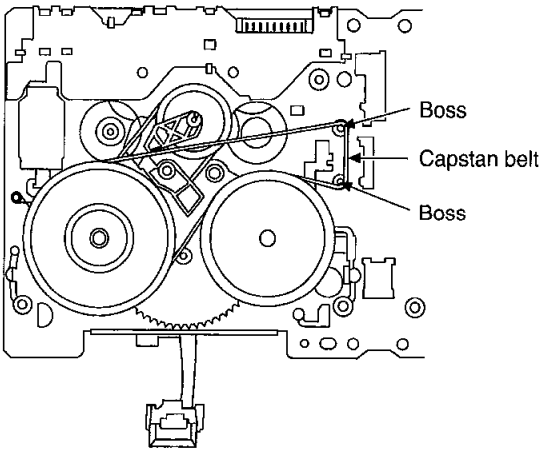
Step 6
Install the flywheel R.

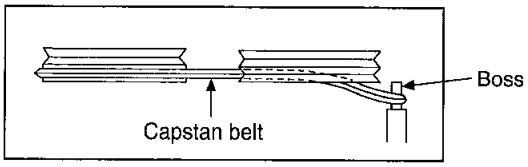
Step 5
Install the winding lever and spring while pressing the winding arm in the direction of arrow.
(The winding lever must be inserted completly and latched with claws.)



NOTE
The winding lever should be positioned as shown right.

Step 7
Put the capstan belt temporarily as shown below.

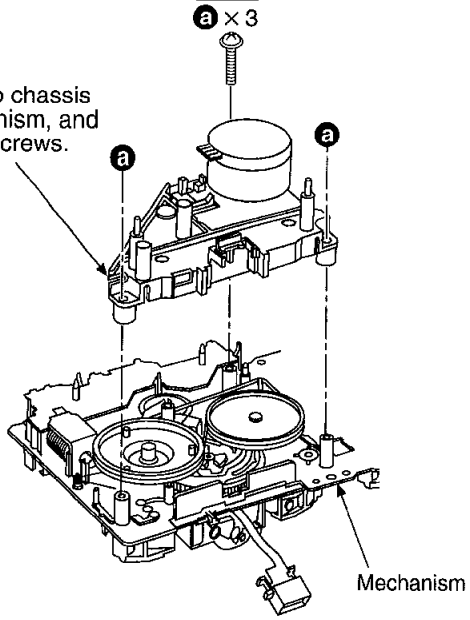


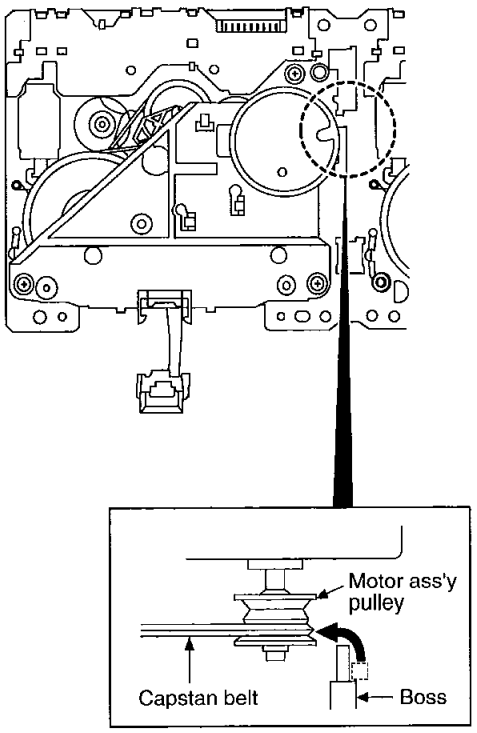


(Side view)

Step 9
ⓐ × 3

Step 8
Install the sub chassis to the mechanism, and then tighten screws.



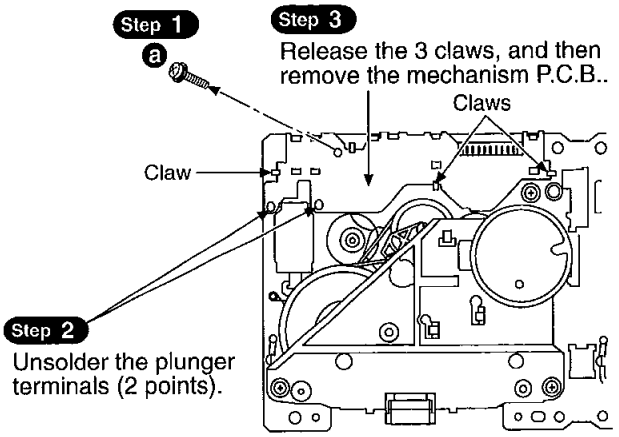


Step 10
Put the capstan belt on the motor ass'y pulley.

2. Replacement for the components parts on the mechanism P.C.B.

- Follow the Step 1 ~ Step 3 of the item 1 in checking procedure for each P.C.B. on page 3.
- Follow the Step 1 ~ Step 5 of the item 2 in checking procedure for each P.C.B. on pages 3 and 4.
- Follow the Step 1 ~ Step 4 of the item 1 in main component replacement procedures on page 5.

※ The mechanism as shown below is for DECK2.
For the one of DECK1, perform the same procedures.

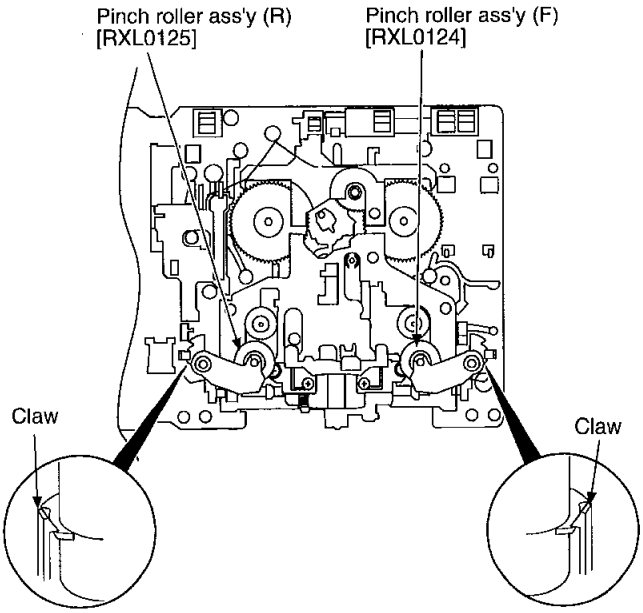


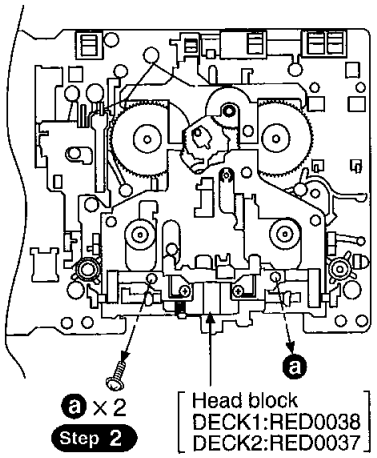
3. Replacement for the pinch roller ass'y and head block

- Follow the Step 1 ~ Step 3 of the item 1 in checking procedure for each P.C.B. on page 3.
- Follow the Step 1 ~ Step 5 of the item 2 in checking procedure for each P.C.B. on pages 3 and 4.
- Follow the Step 1 ~ Step 5 of the item 1 in main component replacement procedures on page 5.

※ The mechanism as shown below is for DECK2.
For the one of DECK1, perform the same procedures.

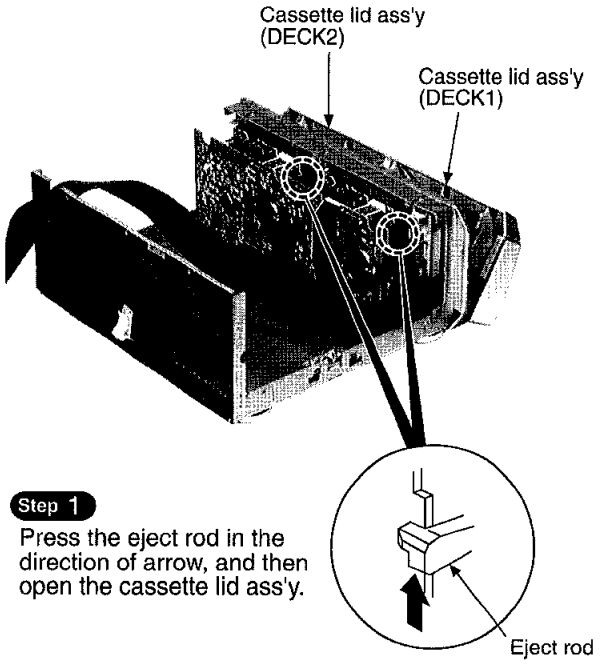
Step 1
Release the 2 claws, and then remove the pinch roller (R), (F).



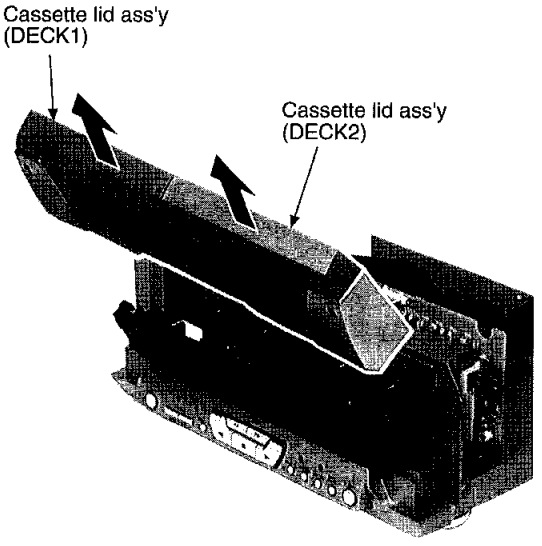


4. Replacement for the cassette lid ass'y

· Follow the Step 1 ~ Step 3 of the item 1 in checking procedure for each P.C.B. on page 3.



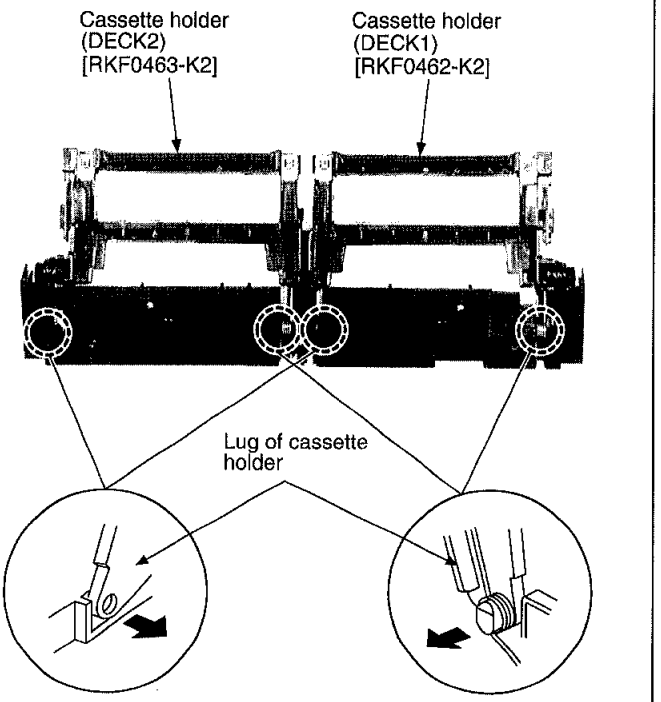
Step 1
Press the eject rod in the direction of arrow, and then open the cassette lid ass'y.



Step 2
Remove the cassette lid ass'y in the direction of arrow.

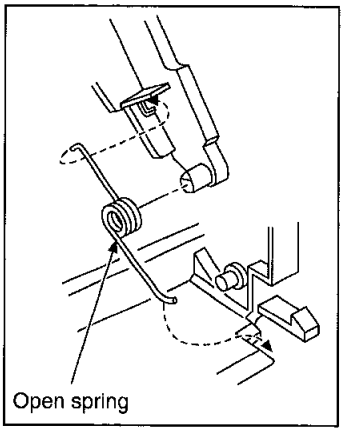
5. Replacement for the cassette holder

· Follow the Step 1 ~ Step 3 of the item 1 in checking procedure for each P.C.B. on page 3.
· Follow the Step 1 ~ Step 9 of the item 2 in checking procedure for each P.C.B. on pages 3 and 4.



· Release the lug of cassette holder in the direction of arrow.

■ Open spring installation



■ Service Mode Function of Cassette Mechanism

This unit is equipped with a service mode function of cassette mechanism. Use this function during maintenance to check faults of the items below.

• Cassette tapes to be prepared

Metal tape: Recorded music tape with only one erase-prevention tab intact (use middle portion of tape).
Normal tape: Recorded music tape with both erase-prevention tabs intact
CrO_2 tape: (use middle portion of tape).

• Selecting Service Mode

1. Turn on the power to the unit.
2. Check that no tape is inserted in the cassette deck. (Service mode cannot be selected with a tape inserted in the cassette deck.)
   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. 1**.)
3. The LED indicator for Direction flashes, the service mode has been activated.

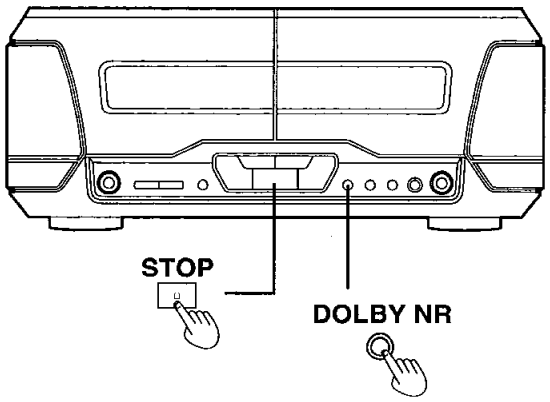
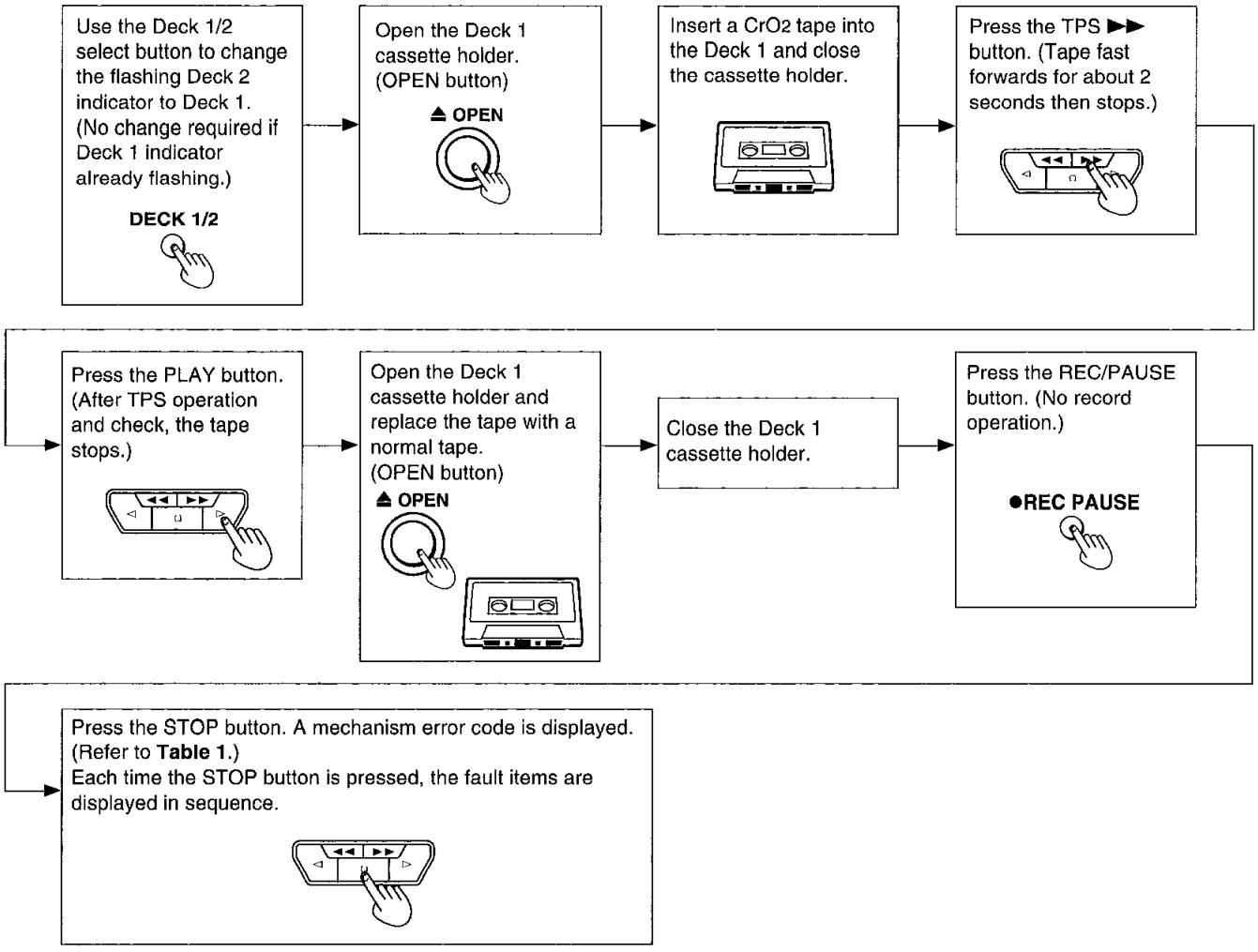


Fig. 1

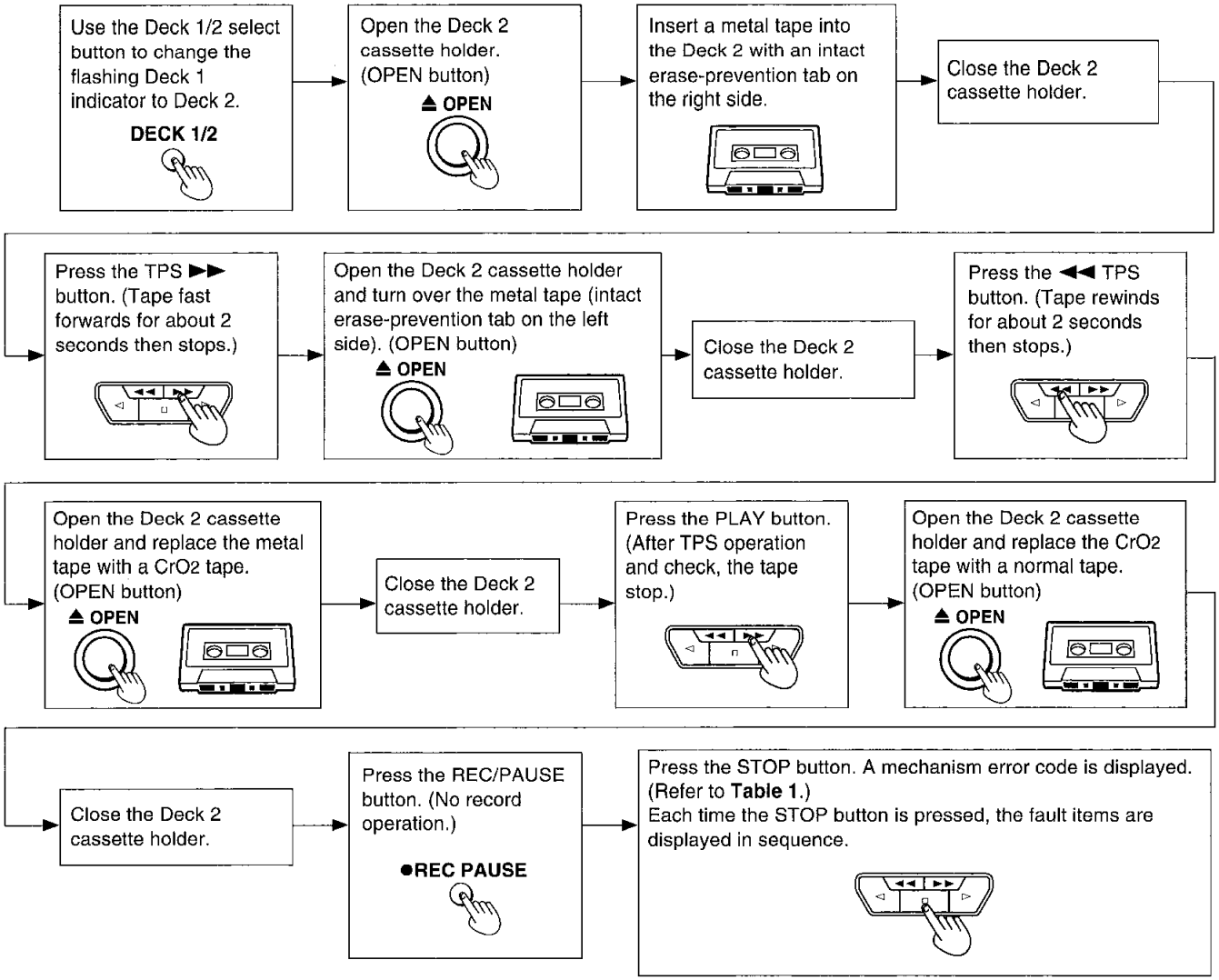
• Deck 1 Mechanism Check



• Table 1

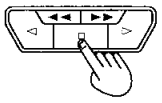
FL display	Symptom	Cause
H01	Cassette deck does not operate correctly.	Faultly cassette deck mechanism mode detection switch (Deck 1: S951, Deck 2: S971) and plunger. (Check and replace)
H02	Unit does not record, or the unit goes into recording mode even when the erasure-prevention tabs have been removed from the cassette.	Faultly erasure-prevention tab detection switch (S974, S975) or short-circuit. (Check and replace)
H03	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 when no cassette is loaded in the deck.	Faultly tape detection switch (Deck 1: S952, Deck 2: S972) or short-circuit. (Check and replace)
H06	Cassette deck does not detect CrO_2 tape.	Faultly CrO_2 tape detect switch (S973) (Check and replace)
H07	Cassette deck does not detect Metal tape.	Faultly Metal tape detect switch (S976) (Check and replace)
F01	When the tape PLAY button is pressed, tape advances only slightly and then stops.	Reel pulse error. (Faultly Hall IC) (Check and replace)
F02	TPS (tape program search) does not work.	Faultly TPS signal detection or faultly plunger control. (Check and replace mechanism control IC)

• Deck 2 Mechanism Check



• Exiting Self-Check 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.



■ Schematic Diagram

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

Notes:

- **S900** : Stop switch (■)
- **S901** : DECK 2 cassette holder open switch (▲OPEN)
- **S903** : Tape edit switch (TAPE EDIT)
- **S904** : Record pause switch (●REC PAUSE)
- **S905** : Dolby noise reduction switch (DOLBY NR)
- **S906** : Fast forward switch (►►)
- **S907** : Forward side playback switch (►)
- **S909** : Reverse side playback switch (◄)
- **S910** : Rewind switch (◄◄)
- **S911** : Reverse mode select switch (REV MODE)
- **S912** : DECK 1/DECK 2 select switch (DECK 1/2)
- **S913** : Counter display switch (COUNTER DISPLAY)
- **S914** : Counter reset switch (COUNTER RESET)
- **S915** : DECK 1 cassette holder open switch (▲OPEN)
- **S951** : DECK 1 mode detect switch
- **S952** : DECK 1 half detect switch
- **S953** : DECK 1 CrO_2 tape detect switch
- **S971** : DECK 2 mode detect switch
- **S972** : DECK 2 half detect switch
- **S973** : DECK 2 CrO_2 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
- **VR101** : DECK 1 Playback gain adjustment VR (R-ch)
- **VR102** : DECK 2 Playback gain adjustment VR (L-ch)
- **VR103** : DECK 2 Playback gain adjustment VR (R-ch)
- **VR104** : DECK 1 Playback gain adjustment VR (L-ch)
- **VR801** : DECK 1 tape speed adjustment VR (normal)
- **VR803** : DECK 2 tape speed adjustment VR (normal)

- 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**

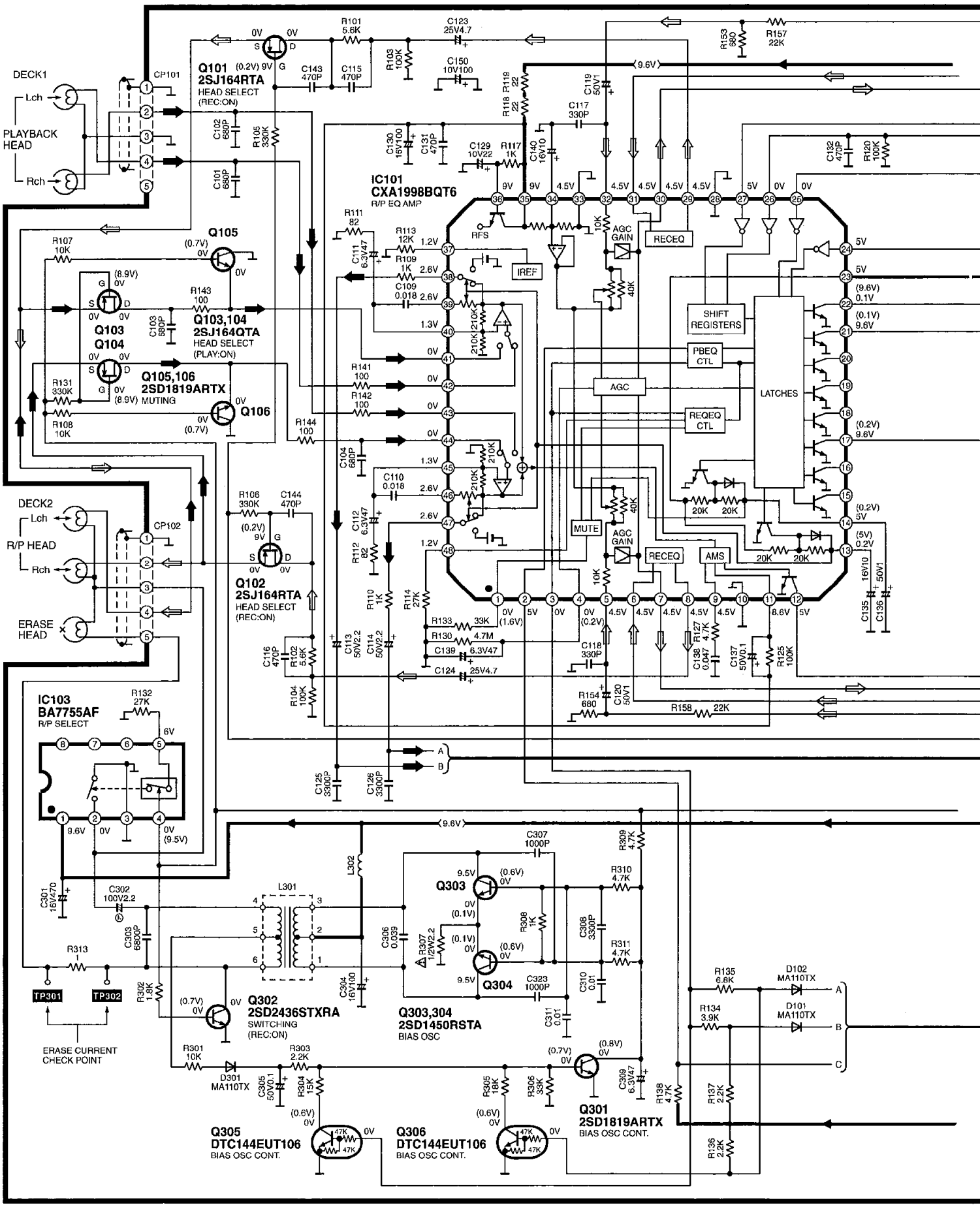
  : Positive voltage line

  : Playback signal Line

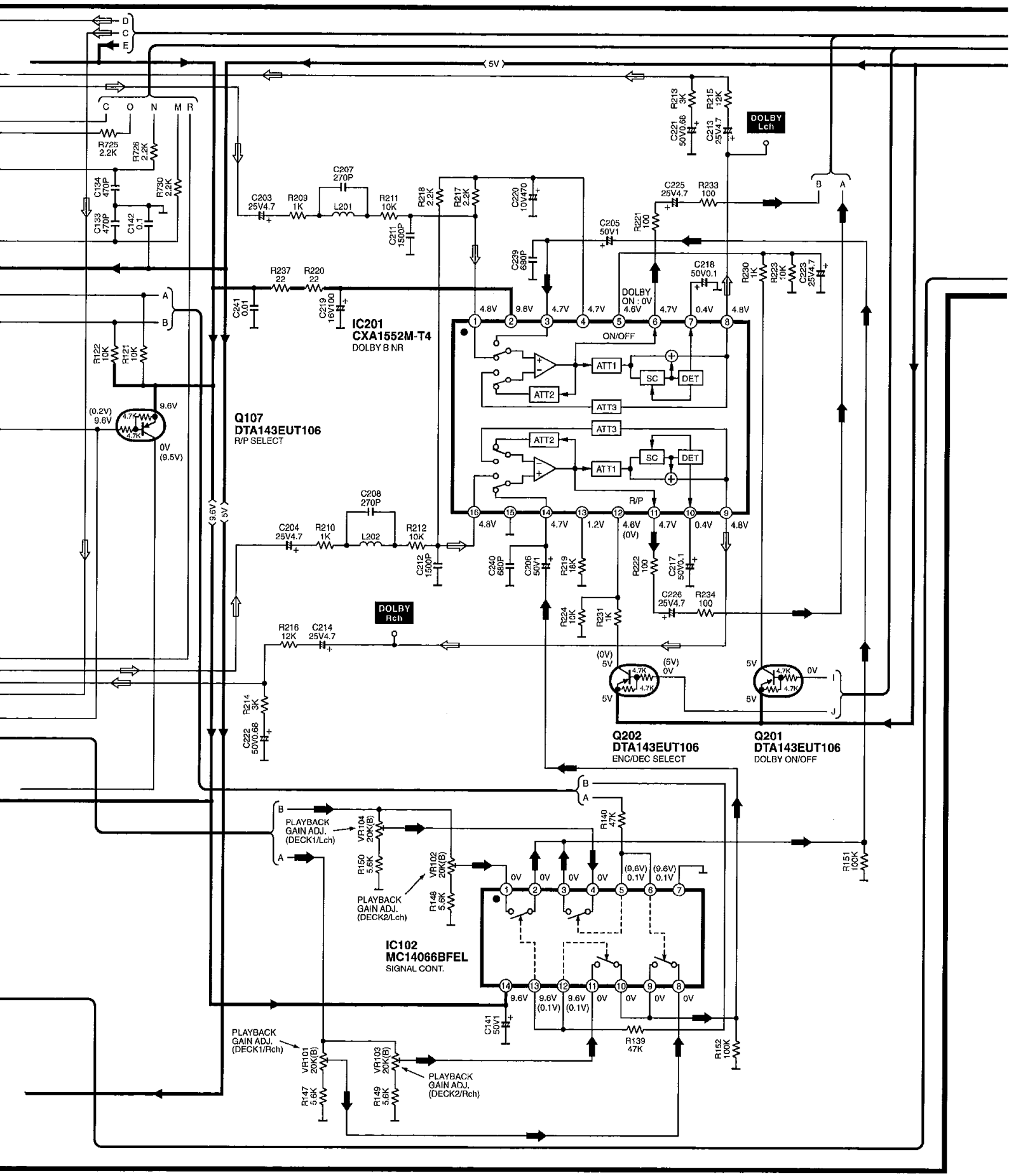
  : Recording signal Line

A MAIN CIRCUIT

: PLAYBACK SIGNAL LINE
:POSITIVE VOLTAGE LINE
: RECORDING SIGNAL LINE

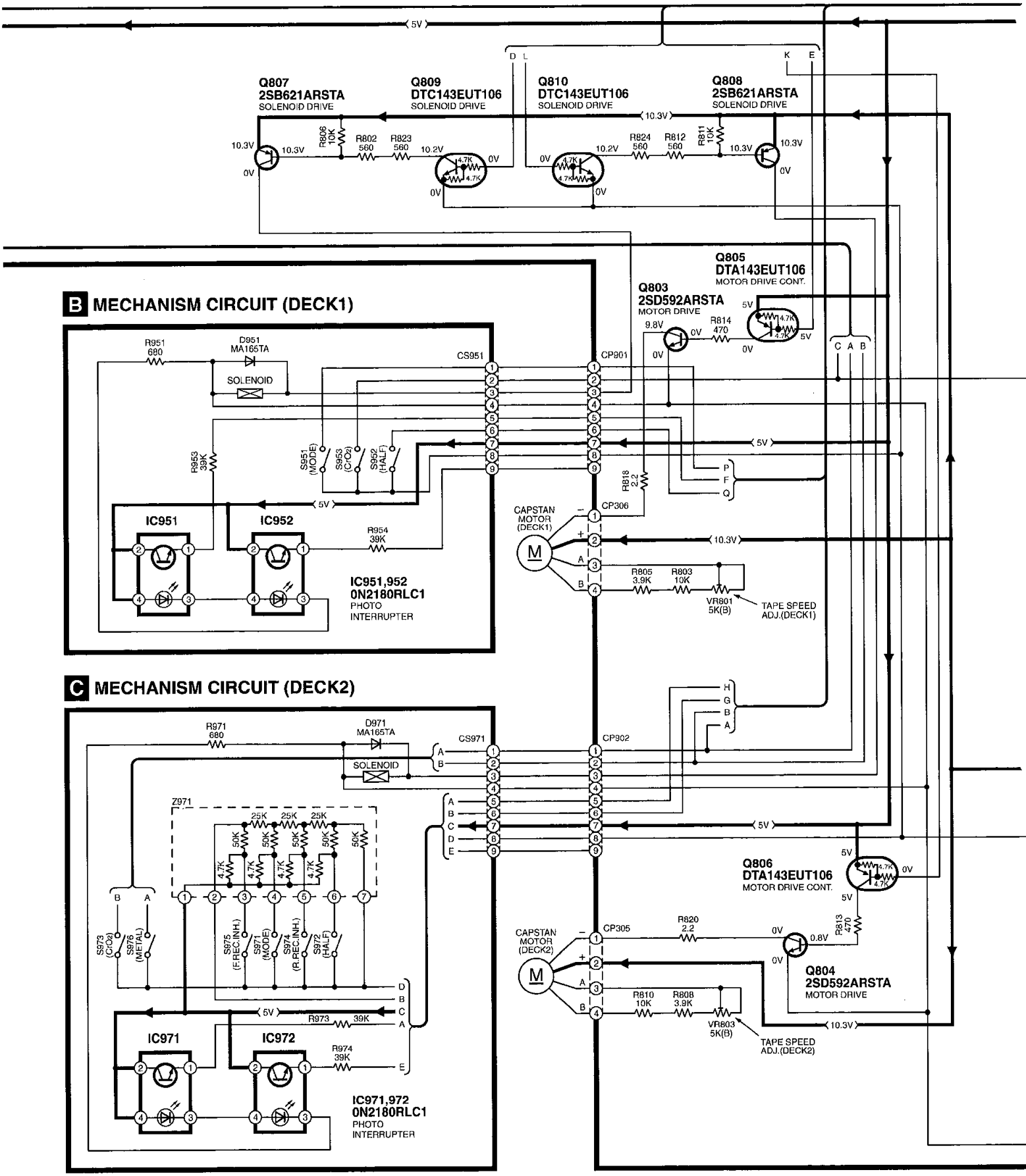


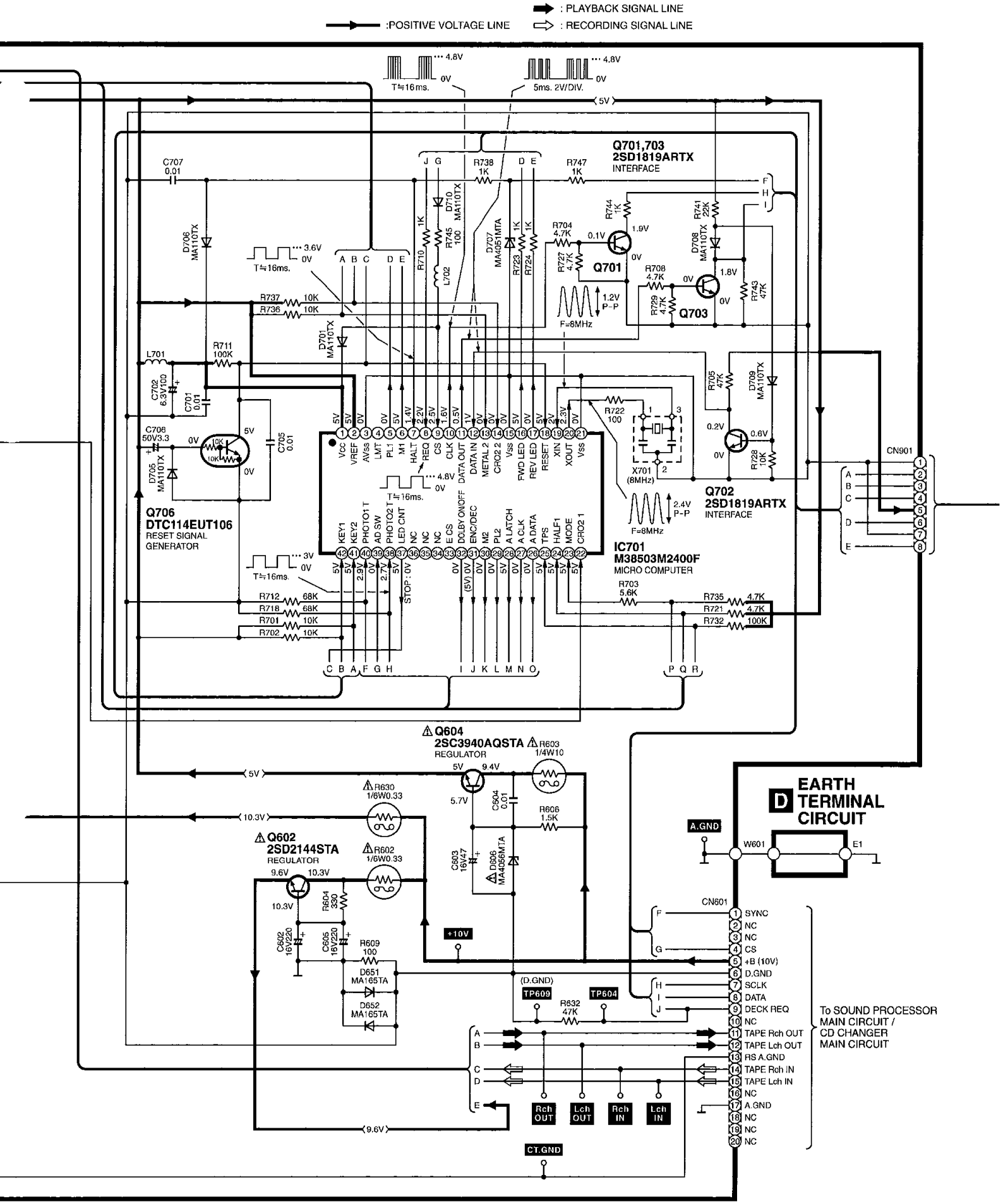
: PLAYBACK SIGNAL LINE
:POSITIVE VOLTAGE LINE : RECORDING SIGNAL LINE



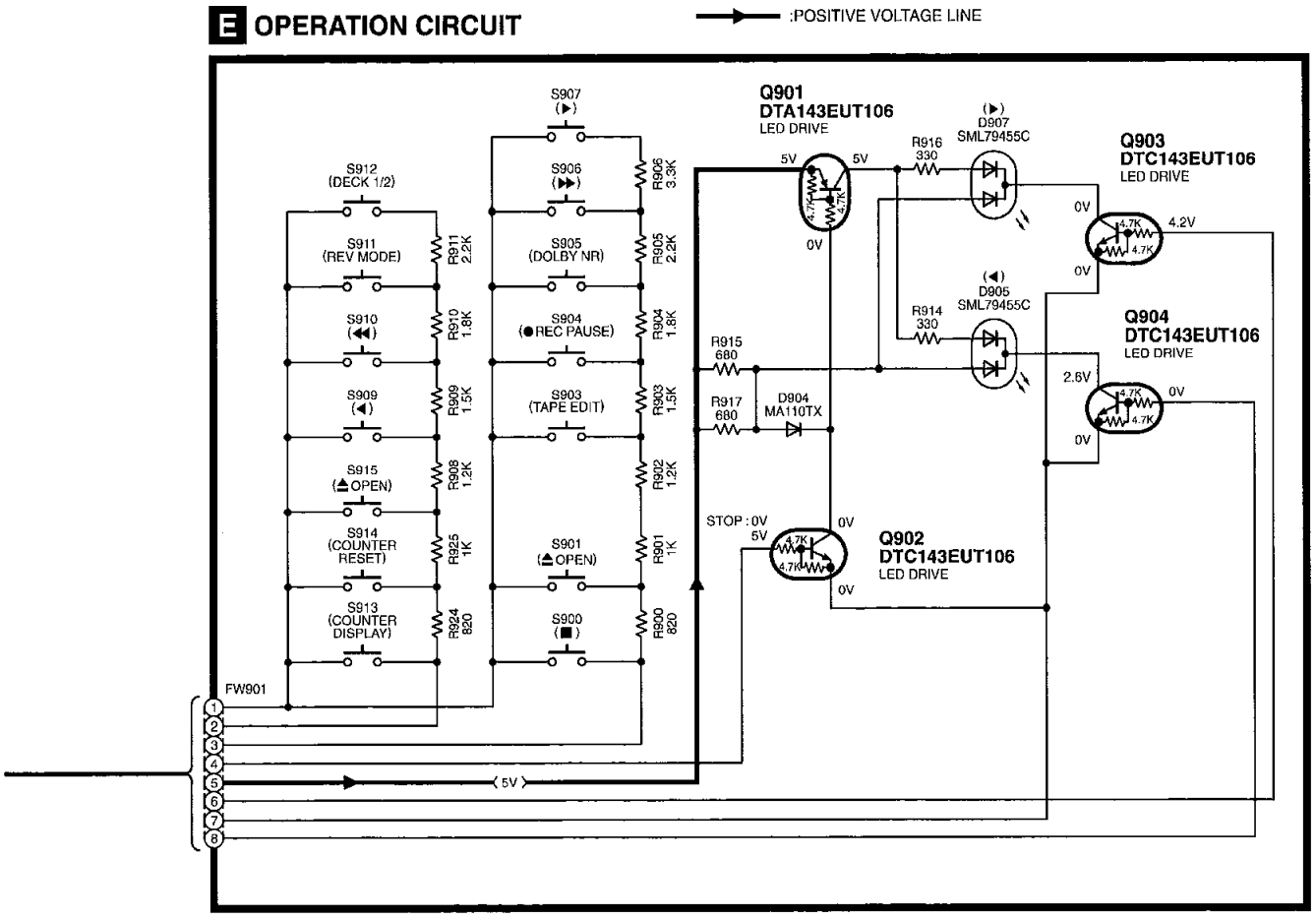
A MAIN CIRCUIT

:POSITIVE VOLTAGE LINE




: PLAYBACK SIGNAL LINE
:POSITIVE VOLTAGE LINE
: RECORDING SIGNAL LINE
Q701,703
2SD1819ARTX
INTERFACE
Q701
Q703
Q702
2SD1819ARTX
INTERFACE
Q706
DTC114EUT106
RESET SIGNAL
GENERATOR
IC701
M38503M2400F
MICRO COMPUTER
Q604
2SC3940AQSTA
REGULATOR
Q602
2SD2144STA
REGULATOR
D EARTH TERMINAL CIRCUIT
A.GND
W601
E1
CN901
CN601
1 SYNC
2 NC
3 NC
4 CS
5 +B (10V)
6 D.GND
7 SCLK
8 DATA
9 DECK REQ
10 NC
11 TAPE Rch OUT
12 TAPE Lch OUT
13 RS A.GND
14 TAPE Rch IN
15 TAPE Lch IN
16 NC
17 A.GND
18 NC
19 NC
20 NC
To SOUND PROCESSOR MAIN CIRCUIT / CD CHANGER MAIN CIRCUIT
Rch OUT
Lch OUT
Rch IN
Lch IN
CT.GND
TP609
TP604
+10V
X701 (8MHz)
F=8MHz
1.2V P-P
2.4V P-P

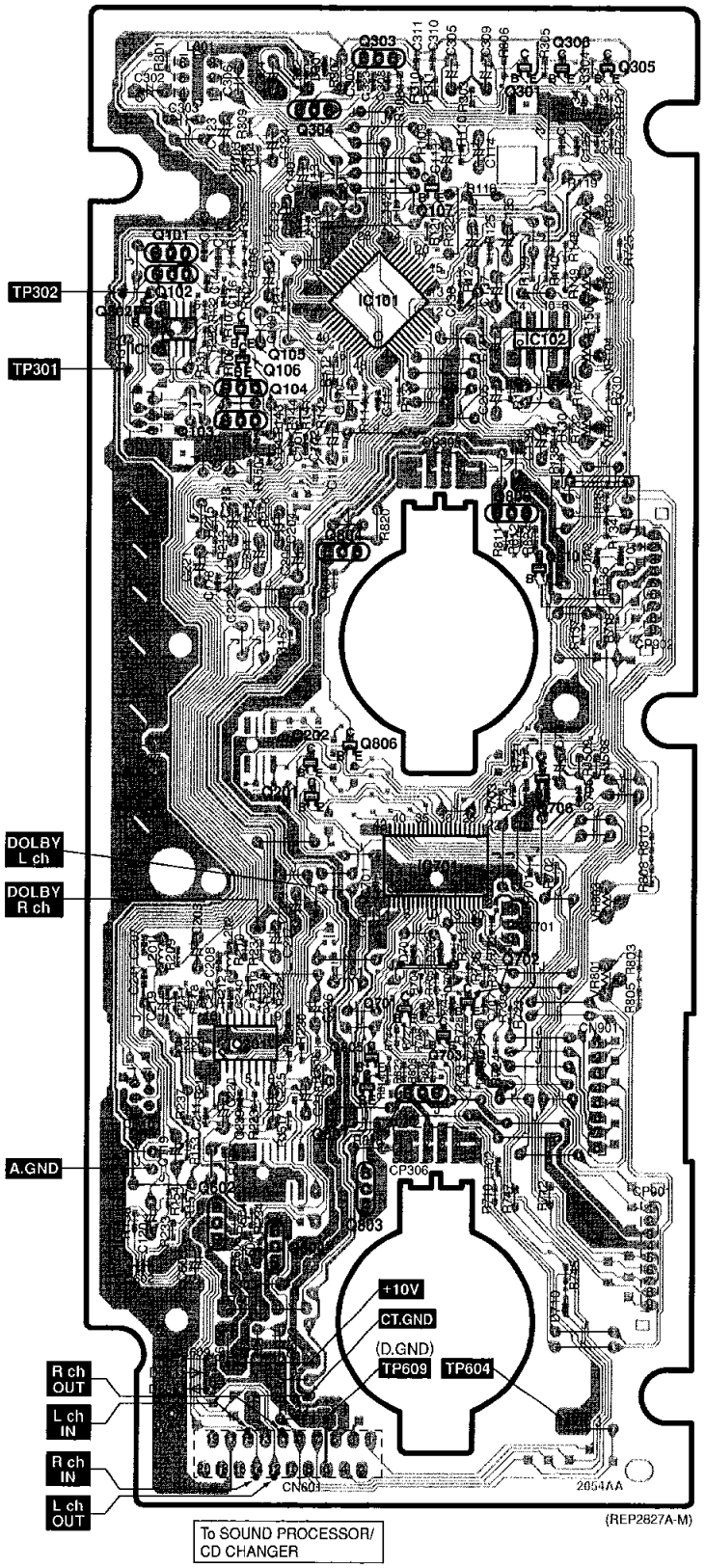
E OPERATION CIRCUIT



■ Printed Circuit Board Diagram

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

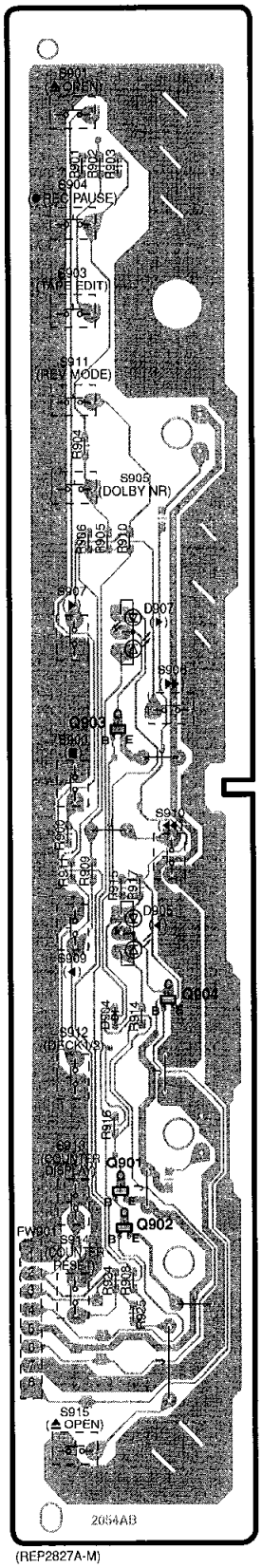
A MAIN P.C.B.



■ ELECTRICAL PARTS LOCATION

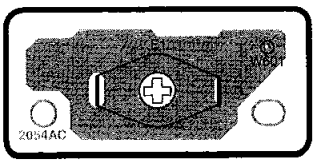
Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
A MAIN P.C.B.							
IC101	2C	R102	2B	R307	1B	C115	2B
IC102	3C	R103	2B	R308	1C	C116	2B
IC103	3B	R104	2B	R309	2B	C117	3C
IC201	6B	R105	2B	R310	1C	C118	4B
IC701	5C	R106	2B	R311	1C	C119	6B
Q101	2B	R107	3B	R313	3A	C120	7B
Q102	2B	R108	3B	R602	7B	C123	2B
Q103	3B	R109	2C	R603	7B	C124	2B
Q104	3B	R110	2C	R604	7B	C125	2D
Q105	3B	R111	2B	R606	7B	C126	2C
Q106	3B	R112	3B	R609	7B	C129	2B
Q107	2C	R113	2B	R630	7B	C130	2B
Q201	5B	R114	3C	R632	8B	C131	2B
Q202	5B	R117	2B	R701	5C	C132	2D
Q301	1C	R118	2C	R702	5C	C133	2D
Q302	2B	R119	2D	R703	5C	C134	2D
Q303	1C	R120	2D	R704	6C	C135	2C
Q304	2B	R121	2C	R705	6C	C136	2C
Q305	1D	R122	2C	R708	6C	C137	2C
Q306	1C	R125	2C	R710	7C	C138	2C
Q602	7B	R127	2C	R711	5C	C139	3C
Q604	7B	R130	3C	R712	7C	C140	2B
Q701	6C	R131	3B	R718	4D	C141	3C
Q702	6C	R132	2B	R721	5C	C142	2C
Q703	6C	R133	3C	R722	5C	C143	2B
Q706	5C	R134	3D	R723	6C	C144	2B
Q803	7C	R135	3D	R724	6C	C150	3B
Q804	4B	R136	4D	R725	2D	C203	5B
Q805	6C	R137	4D	R726	2D	C204	3B
Q806	4B	R138	3C	R727	6C	C205	3C
Q807	6C	R139	2C	R728	6C	C206	4B
Q808	3C	R140	2C	R729	6C	C207	5B
Q809	6C	R141	3B	R730	3D	C208	5B
Q810	4C	R142	3B	R732	3D	C211	6B
D101	4D	R143	3B	R735	5C	C212	6B
D102	4D	R144	3B	R736	6C	C213	3B
D301	1B	R147	3D	R737	6C	C214	4B
D606	7B	R148	2C	R738	6C	C217	5B
D651	7B	R149	2C	R741	6C	C218	6B
D652	7B	R150	3D	R743	6C	C219	6B
D701	5C	R151	3C	R744	6C	C220	6B
D705	5D	R152	4B	R745	7D	C221	4B
D706	5C	R153	6B	R747	7C	C222	4B
D707	6C	R154	7B	R802	6C	C223	5B
D708	6C	R157	7B	R803	6D	C225	6B
D709	6C	R158	7A	R805	6D	C226	6B
D710	7C	R209	5B	R806	6C	C239	6B
VR101	3D	R210	5B	R808	5D	C240	6B
VR102	2D	R211	6B	R810	5D	C241	6B
VR103	2D	R212	6B	R811	4C	C301	5B
VR104	3D	R213	4B	R812	4C	C302	1B
VR801	6D	R214	3B	R813	4B	C303	2B
VR803	5D	R215	3B	R814	6C	C304	1B
L201	5B	R216	3B	R818	6C	C305	1C
L202	5B	R217	6B	R820	3C	C306	1B
L301	1B	R218	6B	R823	6C	C307	1C
L302	1B	R219	6B	R824	4C	C308	1C
L701	6B	R220	6B	RJ504	6B	C309	1C
L702	6C	R221	6B	RJ507	3B	C310	1C
X701	5C	R222	6B	RJ508	5D	C311	1C
CN601	8B	R223	6B	RJ509	5D	C323	1C
CN901	6D	R224	6B	RJ516	6B	C602	7B
CP101	6B	R230	6B	RJ517	6B	C603	7B
CP102	3B	R231	5B	C101	3B	C604	7B
CP305	3C	R233	7B	C102	3B	C605	7B
CP306	6C	R234	7B	C103	3B	C701	5C
CP901	7D	R237	6B	C104	3B	C702	5C
CP902	4D	R301	1B	C109	3B	C705	5C
TP301	3A	R302	3B	C110	3B	C706	5C
TP302	2A	R303	1C	C111	2B	C707	6C
TP604	8D	R304	1D	C112	3B		
TP609	8B	R305	1C	C113	2C		
R101	2B	R306	1C	C114	2C		

E OPERATION P.C.B.



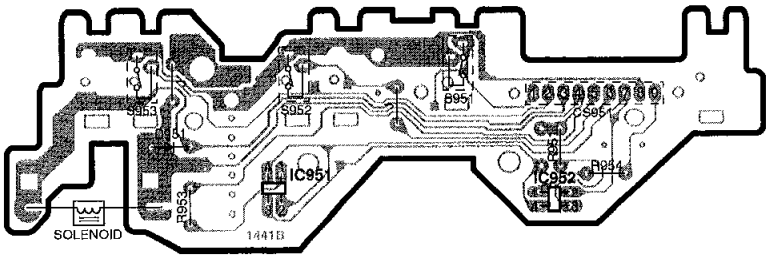
(REP2827A-M)

D EARTH TERMINAL P.C.B.



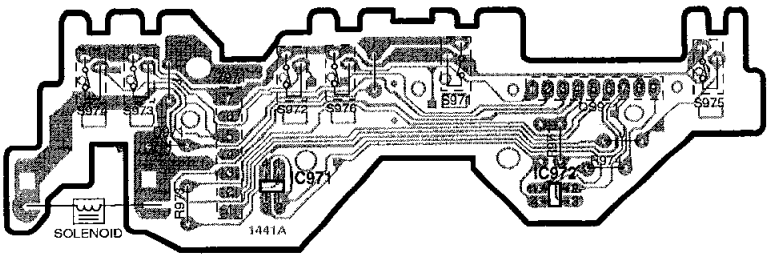
(REP2827A-M)

B MECHANISM P.C.B. (DECK1)



(REP2132B)

C MECHANISM P.C.B. (DECK2)

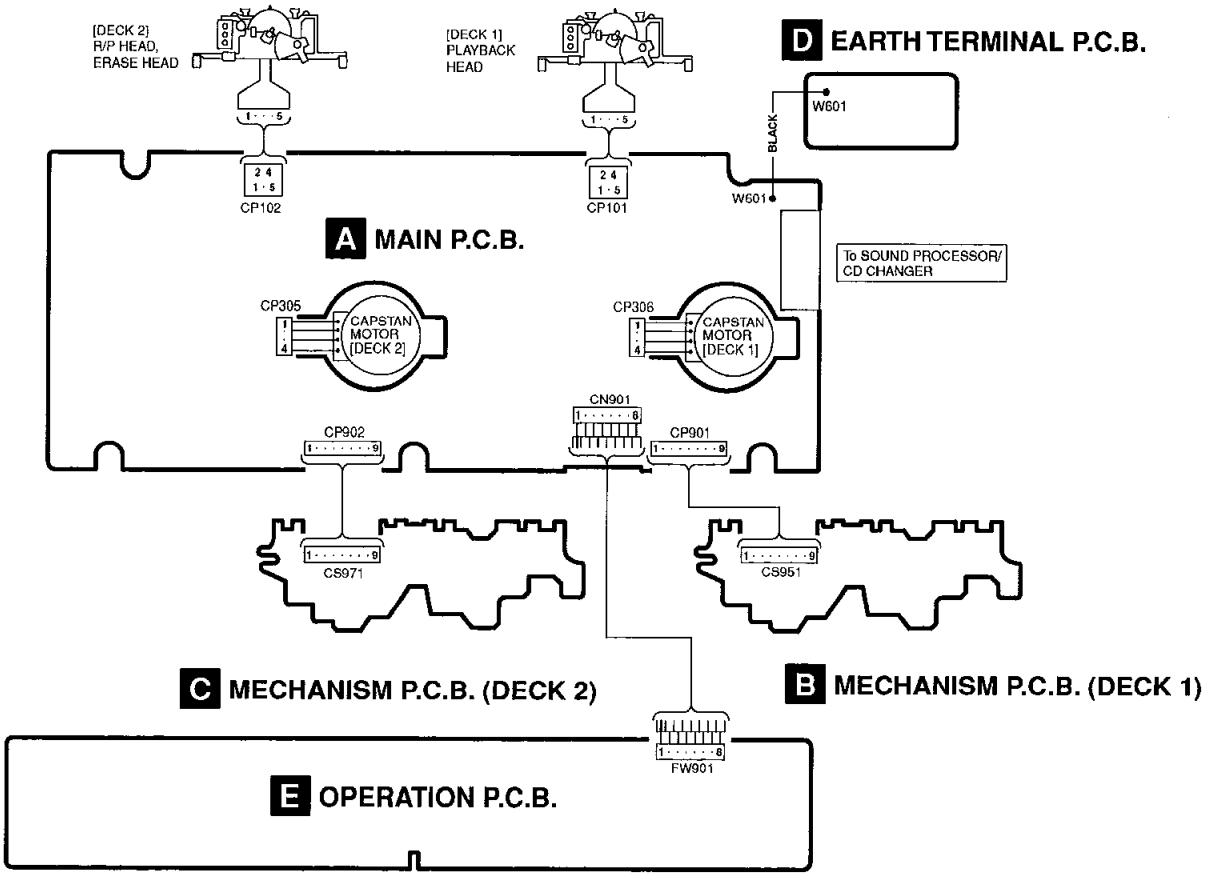


(REP2131D)

■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
B MECHANISM P.C.B.(DECK1)							
IC951	3D	CS951	3F	S953	3D	R954	3F
IC952	3E	S951	3E	R951	3E		
D951	3D	S952	3D	R953	3D		
C MECHANISM P.C.B.(DECK2)							
IC971	5D	S971	5E	S975	5F	R973	5D
IC972	5E	S972	5D	S976	5D	R974	5F
D971	5D	S973	5D	CS971	5F		
Z971	5D	S974	5C	R971	5E		
D EARTH TERMINAL P.C.B.							
W601	1E	E1	2D				
E OPERATION P.C.B.							
Q901	7B	S904	2B	S915	8B	R909	5B
Q902	7B	S905	3B	FW901	7A	R910	4B
Q903	5B	S906	5B	R900	5B	R911	5B
Q904	6B	S907	4B	R901	2B	R914	6B
D904	6B	S909	6B	R902	2B	R915	5B
D905	6B	S910	5B	R903	2B	R916	6B
D907	4B	S911	3B	R904	3B	R917	5B
S900	5B	S912	6B	R905	4B	R924	7B
S901	2B	S913	7B	R906	4B	R925	7B
S903	3B	S914	7B	R908	7B		

■ Wiring Connection Diagram



■ Type Illustration of IC's, Transistors and Diodes

CXA1552M-T4 16PIN MC14066BFEL 14PIN M38503M2400F 42PIN	BA7755AF	CXA1998BQT6	0N2180RLC1	2SD1450RSTA
2SB621ARSTA 2SD592ARSTA	2SD1819ARTX 2SD2436STXRA DTA143EUT106 DTC114EUT106 DTC143EUT106 DTC144EUT106	2SC3940AQSTA	2SD2144STA	2SJ164QTA 2SJ164RTA
MA165TA	MA4051MTA MA4056MTA	SML79455C	MA110TX	

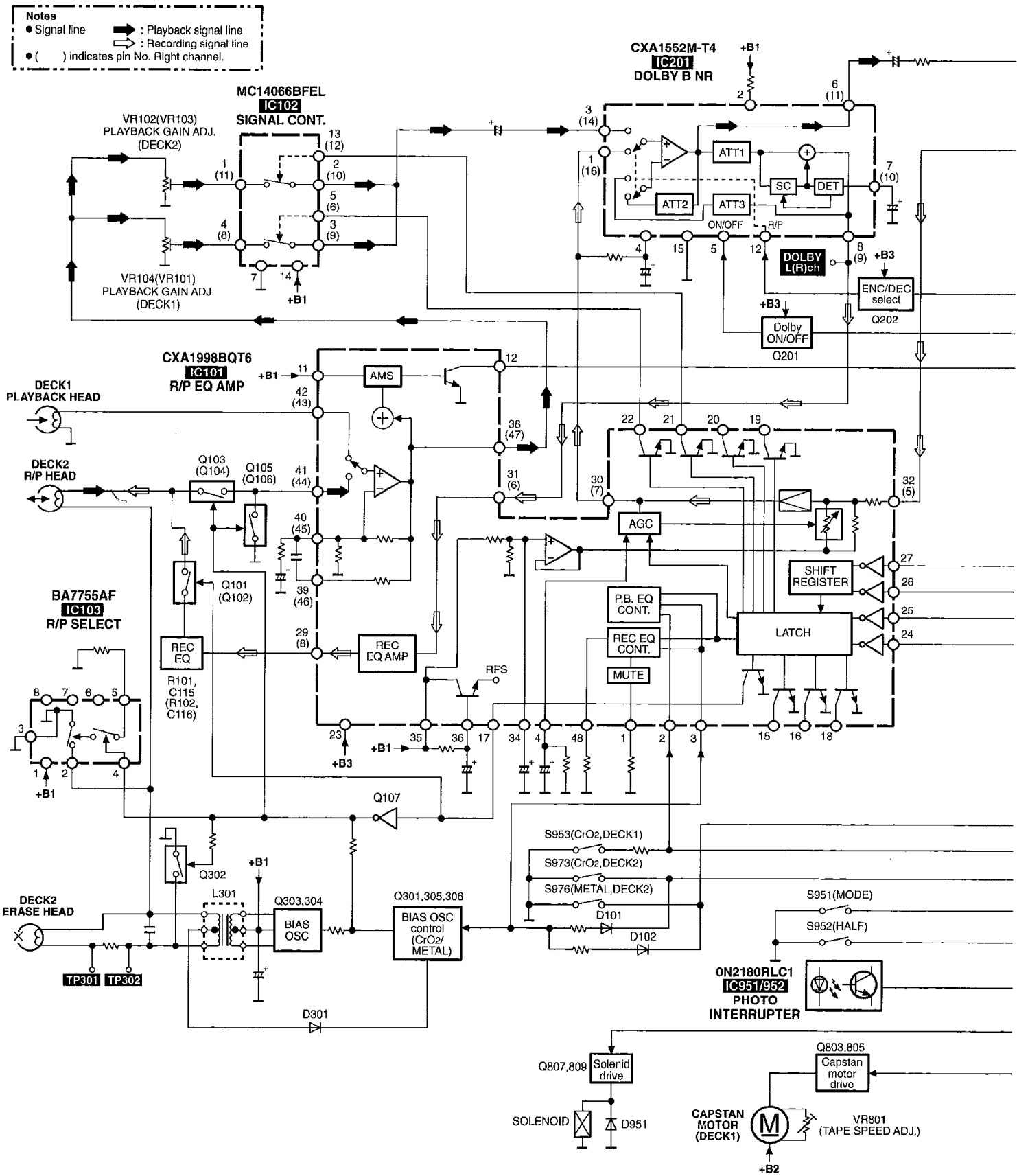
■ Terminal Function of IC's

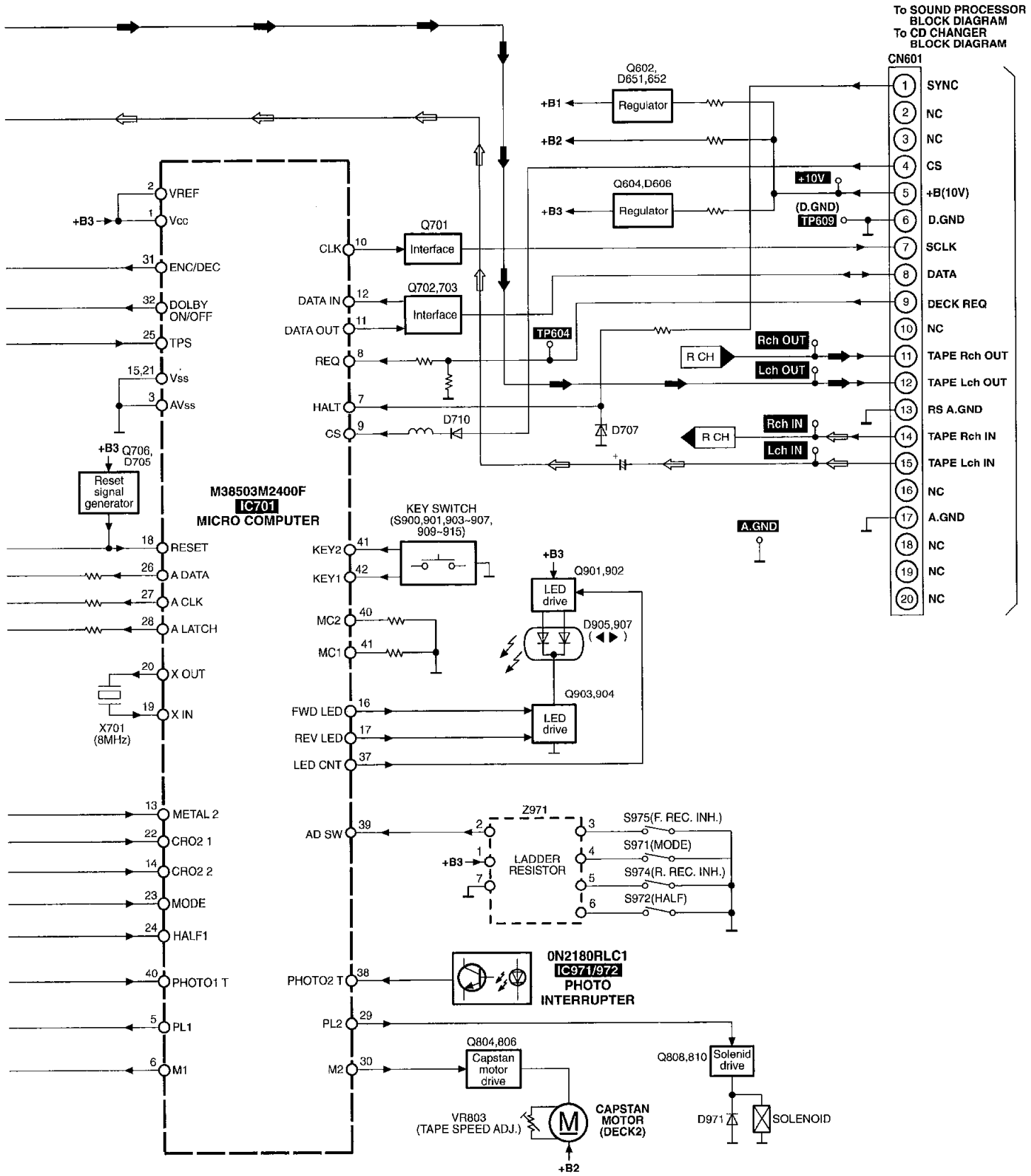
● IC701 (M38503M2400F) : Micro Computer

Pin No.	Terminal Name	I/O	Function
1	Vcc	I	Power supply terminal
2	VREF	I	Reference voltage input
3	AVss	–	GND terminal
4	LMT	O	Muting control signal output (Not used, open)
5	PL1	O	DECK 1 solenoid control signal output
6	M1	O	DECK 1 motor drive signal output
7	HALT	I	Power failure detect signal input
8	REQ	I	Serial communication request signal input
9	CS	I	Serial communication complete signal input
10	CLK	O	Serial communication clock signal output
11	DATA OUT	O	Serial communication data signal output
12	DATA IN	O	Serial communication data signal input
13	METAL 2	I	DECK 2 tape detect switch signal (METAL) input
14	CrO_2 2	I	DECK 2 tape detect switch signal (CrO_2) input
15	Vss	—	GND terminal
16	FWD LED	O	LED drive control signal (FWD) output
17	REV LED	O	LED drive control signal (REV) output
18	RESET	I	Reset signal input
19	XIN	I	Clock signal input (8 MHz)
20	XOUT	O	Clock signal output (8 MHz)

Pin No.	Terminal Name	I/O	Function
21	Vss	–	GND terminal
22	CrO_2 1	I	DECK1 tape detect switch signal input (CrO_2)
23	MODE	I	DECK1 mechanism switch signal input (MODE)
24	HALF1	I	DECK 1 mechanism switch signal input (Half)
25	TPS	I	TPS signal input
26	A DATA	O	Serial data signal output for IC101
27	A CLK	O	Serial clock signal output for IC 101
28	A LATCH	O	Serial latch signal output for IC 101
29	PL2	O	DECK 2 solenoid control signal output
30	M2	O	DECK 2 motor drive signal output
31	ENC/DEC	O	DOLBY NR record/playback mode select signal output
32	DOLBY ON/OFF	O	DOLBY NR ON/OFF control signal output
33	E CS	–	EEPROM chip select signal output (Not used, open)
34~36	NC	–	Not used, open
37	LED CNT	O	LED color control signal output
38	PHOTO2 T	I	DECK 2 reel pulse detect signal input
39	AD SW	I	DECK 2 mechanism switch signal input (Half, Mode, F REC INH., R REC INH.)
40	PHOTO1 T	I	DECK 1 reel pulse detect signal input
41	KEY2	I	Operation key signal input 2
42	KEY1	I	Operation key signal input 1

■ Block Diagram




To SOUND PROCESSOR BLOCK DIAGRAM
To CD CHANGER BLOCK DIAGRAM
CN601
1 SYNC
2 NC
3 NC
4 CS
5 +B(10V)
6 D.GND
7 SCLK
8 DATA
9 DECK REQ
10 NC
11 TAPE Rch OUT
12 TAPE Lch OUT
13 RS A.GND
14 TAPE Rch IN
15 TAPE Lch IN
16 NC
17 A.GND
18 NC
19 NC
20 NC
Q602, D651,652
Regulator
+B1
+B2
Q604,D606
Regulator
+B3
+10V
(D.GND)
TP609
TP604
R CH
Rch OUT
Lch OUT
R CH
Rch IN
Lch IN
A.GND
M38503M2400F
IC701
MICRO COMPUTER
VREF
Vcc
ENC/DEC
DOLBY ON/OFF
TPS
Vss
AVss
Q706, D705
Reset signal generator
RESET
A DATA
A CLK
A LATCH
X OUT
X IN
X701 (8MHz)
METAL 2
CRO2 1
CRO2 2
MODE
HALF1
PHOTO1 T
PL1
M1
CLK
DATA IN
DATA OUT
REQ
HALT
CS
Q701
Interface
Q702,703
Interface
D710
D707
KEY SWITCH (S900,901,903~907, 909~915)
KEY2
KEY1
MC2
MC1
Q901,902
LED drive
D905,907
Q903,904
LED drive
FWD LED
REV LED
LED CNT
AD SW
Z971
LADDER RESISTOR
S975(F. REC. INH.)
S971(MODE)
S974(R. REC. INH.)
S972(HALF)
PHOTO2 T
0N2180RLC1
IC971/972
PHOTO INTERRUPTER
PL2
M2
Q804,806
Capstan motor drive
VR803 (TAPE SPEED ADJ.)
CAPSTAN MOTOR (DECK2)
Q808,810
Solenid drive
D971
SOLENOID

■ Measurements and Adjustments

• This unit RS-EH750 is designed to operate on power supplied from system connected.

Measurement Condition

- Dolby NR switch: OFF
- Make sure heads are clean.
- Make sure capstan and pressure roller are clean.
- Judgeable room temperature: 20 ± 5°C (68 ± 9°F)

Measuring instrument

- DC Power Supply
- AF Ocsillator

Measurement Condition

- Head azimuth adjustment (8 kHz, -20 dB): QZZCFM
- Tape speed adjustment (3 kHz, -10 dB): QZZCWAT
- Playback gain adjustment (315 Hz, 0 dB): QZZCFM
- Recording/playback frequency response adjustment:
  QZZCFM (315 Hz/0 dB, 315Hz/-20dB, 12.5 kHz~63 Hz/-20 dB)
  QZZCRA (Normal blank tape)
  QZZCRX (CrO2 blank tape)
  QZZCRZ (Metal blank tape)

Adjustment Points and Test Points

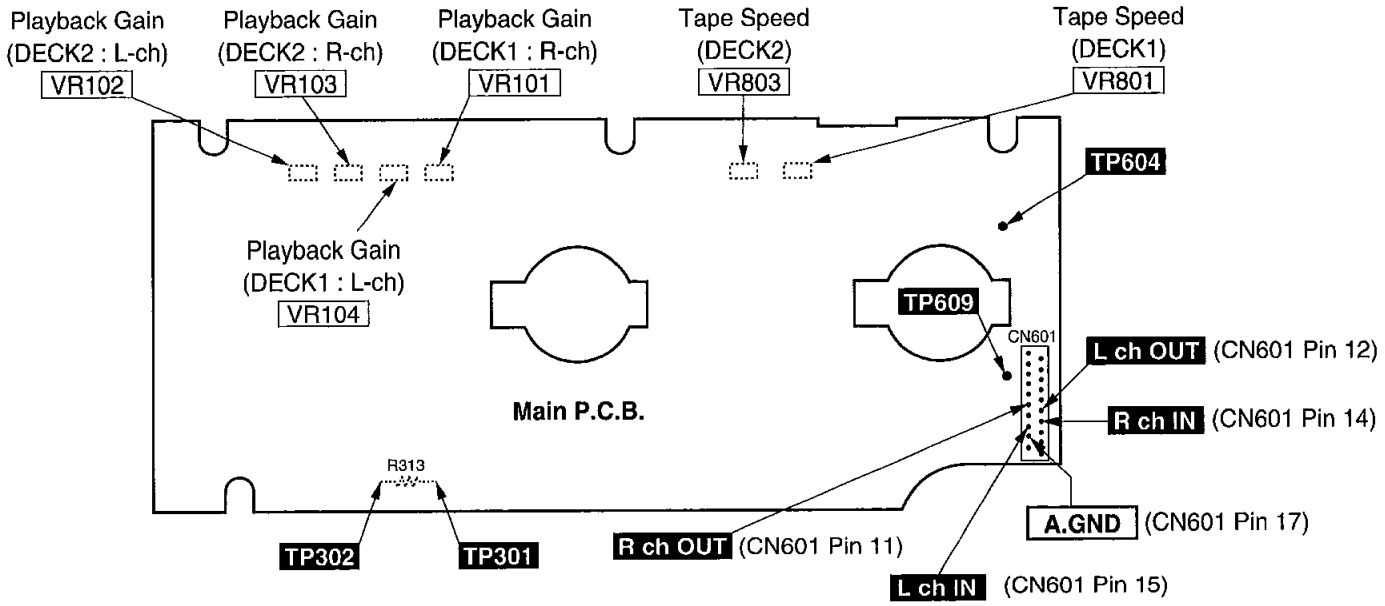


Fig. 1

HEAD AZIMUTH ADJUSTMENT (DECK 1/2)

1. Connect the measuring instrument as shown in Fig. 2.
2. Replace azimuth screws for both forward and reverse direction after removing the screw-locking bond left on the head base.
   Fine adjustment of azimuth can not be performed with remaining the bond on the head base.
   (Supply part No. of azimuth adjusting screw: **RHD17015**)
3. Playback the azimuth adjustment portion (8 kHz, -20 dB) of test tape (QZZCFM). Adjust the azimuth adjusting screw until the outputs of the L/R-ch are maximized. (Refer to Fig. 3.)
   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 screwlock to the azimuth adjusting screw.

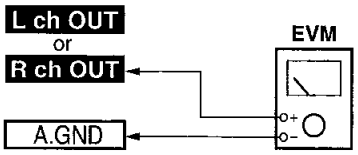


Fig. 2

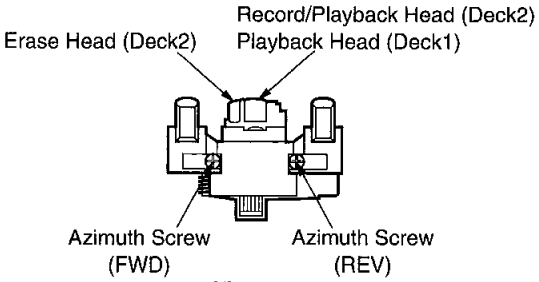


Fig. 3

TAPE SPEED ADJUSTMENT (DECK 1/2)

Note: When connecting the unit to other system components for testing, short the section between the test points TP609 and TP604 and turn on the entire system. (The unit is set to the TEST mode, and either the DECK1 or DECK2 indicators will blink.)

Normal speed (Standard value: 3000 ± 45 Hz)

1. Playback the middle portion of the test tape (QZZCWAT).
2. Adjust Deck 1 = **VR801** and Deck 2 = **VR803** for the output value shown below. (Refer to Fig. 1)

Adjustment target: 3000 ± 15 Hz (NORMAL speed)
Standard value: 3000 ± 45 Hz (NORMAL speed)

Note: When connecting the unit to other system components, disconnect the short between the test points TP609 and TP604.

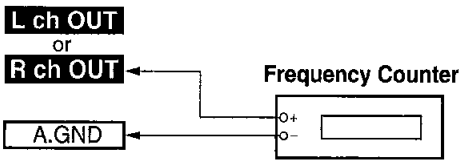


Fig. 4

PLAYBACK GAIN ADJUSTMENT (DECK1/2)

1. Find the start of the 315 Hz/0 dB section of the test tape (QZZCFM), insert the tape into Deck1 and 2, and play it back (FWD)
3. Adjust Deck 2 : **VR102** (L-ch) [**VR103** (R-ch)] and Deck 1 : **VR104** (L-ch) [**VR101** (R-ch)] so that the output is within the standard value. (Refer to Fig. 1.)

Standard value : 265 mV ~ 300 mV

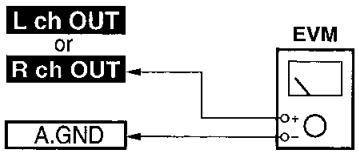


Fig. 5

ERASE CURRENT CONFIRMATION (DECK2)

1. Insert the blank tape into Deck2, and press the REC PAUSE button.
3. Check if the output at this time between the erase current confirmation point TP301 and TP302 (the output on both edged of R313) is within the standard value. (Refer to Fig. 6.)

Standard value		EVM reading
Normal tape	: 85 ± 25 mA	(85 ± 25 mV)
CrO2 tape	: 150 ± 25 mA	(150 ± 25 mV)
Metal tape	: 185 ± 25 mA	(185 ± 25 mV)

Note: The test tape is not required when confirming the erase current.

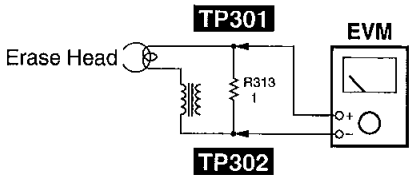


Fig. 6

Playback frequency response check (DECK 1/2)

Playback the 315 Hz/-20 dB and 12.5 kHz to 63 Hz/-20 dB sections of the test tape (QZZCFM) and then, using the 315 Hz/-20 dB playback output as a reference (0 dB), confirm that the playback frequency response is within the range shown in Fig. 8.

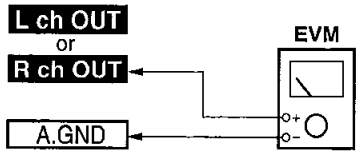


Fig. 7

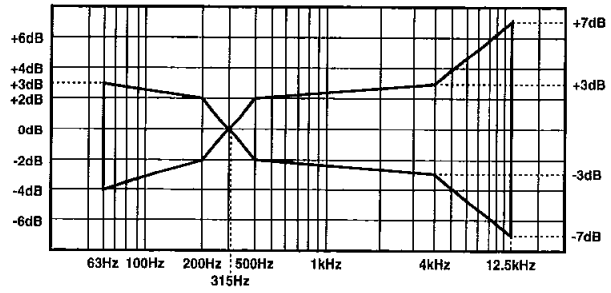


Fig. 8

Recording/playback frequency response and gain check (DECK 2)

Normal tape check

1. Insert a Normal-type blank tape (QZZCRA) into Deck 2.
2. Record signals at 50 Hz, 100 Hz, 200 Hz, 500 Hz, 1 kHz, 2 kHz, 10 kHz and 12.5 kHz (28 mV).
3. Set the playback frequency of the recorded signals at 1 kHz as the reference response (0 dB).
4. Playback the recorded signals to confirm that the output is within the range of the overall frequency response shown in Fig. 10.

CrO_2/Metal tape check

5. Repeat steps 2 to 4 for each tape and confirm that the output for each is within the range of the overall frequency response shown in Fig. 11.

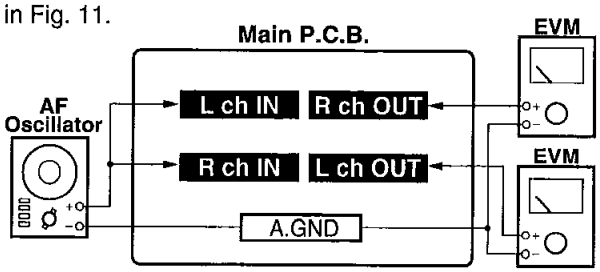
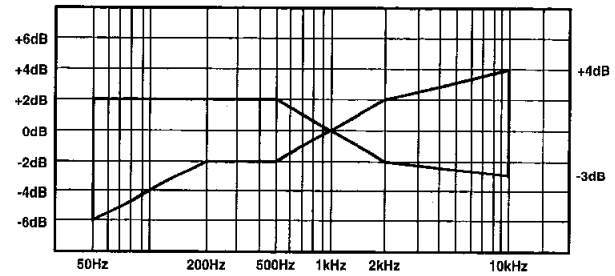


Fig. 9

Normal Tape Overall frequency response chart

(Dolby NR OFF)



(Dolby NR ON)

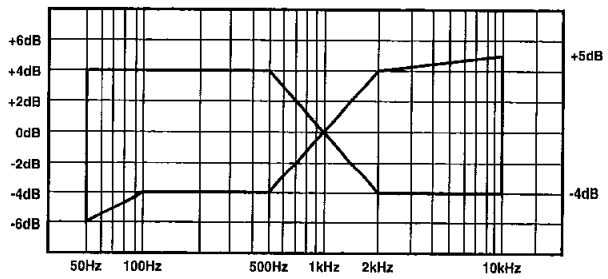
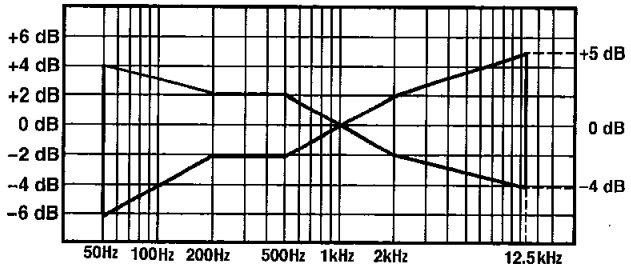


Fig. 10

CrO_2 and Metal Tape Overall frequency response chart

(Dolby NR OFF)



(Dolby NR ON)

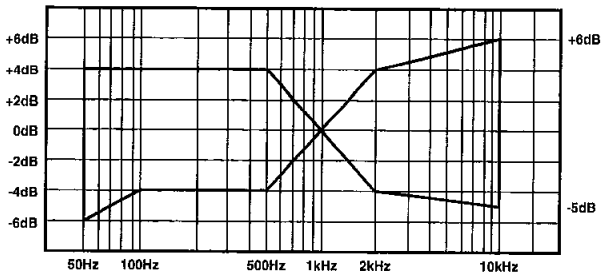
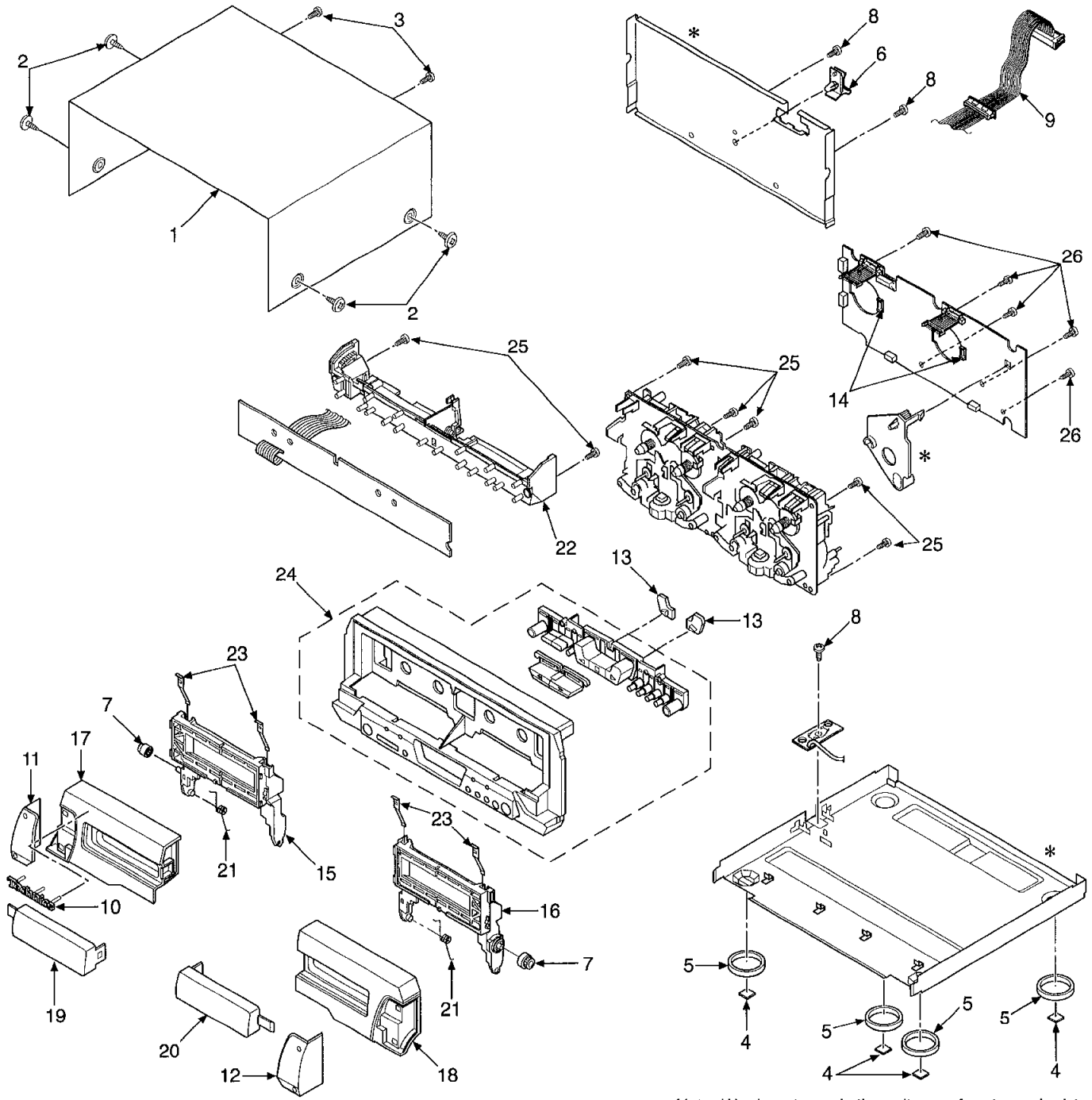


Fig. 11

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R924	ERJ6GEYJ821V	1/10W 820	1	
R925	ERJ6GEYJ102Z	1/10W 1K	1	
R951	ERDS2FJ681	1/4W 680	1	
R953,54	ERDS2FJ393	1/4W 39K	2	
R971	ERDS2FJ681	1/4W 680	1	
R973,74	ERDS2FJ393	1/4W 39K	2	
RJ504	ERJ6GEY0R00	CHIP JUMPER	1	
RJ507-09	ERJ8GEY0R00V	CHIP JUMPER	3	
RJ516,17	ERJ6GEY0R00	CHIP JUMPER	2	
S900,01	EVQ11G05R	SW,OPEN	2	
S903-07	EVQ11G05R	SW,PUSH	5	
S909-15	EVQ11G05R	SW,PUSH	7	
S951	RSH1A018-3U	SW,MODE	1	
S952,53	RSH1A019-2U	SW,HALF,CrO2	2	
S971	RSH1A018-3U	SW,MODE	1	
S972-76	RSH1A019-2U	SW,MECHA.DET.	5	
VR101-04	EVNDCAA03B24	VR,P.B.GAIN ADJ.	4	
VR801	EVNDCAA03B53	VR,TAPE SPEED ADJ.	1	
VR803	EVNDCAA03B53	VR,TAPE SPEED ADJ.	1	
X701	RSXY8M00D01T	CERAMIC RESONATOR	1	
Z971	EXBF7L355SYV	COMPONENT COMBINATION	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

■ Cabnet Parts Location



Note: We do not supply those items of parts marked ∗.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1	RKM0392-S	CABINET	1	
2	RHD30007-K1	SCREW	4	
3	XTBS3+8JFZ1	SCREW	2	
4	RKA0105-K	RUBBER	4	
5	RKA0106-N	FOOT	4	
6	RMN0539	CONECTOR HOLDER	1	
7	RDG0129-1	GEAR	2	
8	XTBS3+8JFZ1	SCREW	3	
9	REX0966	WIRE ASS'Y	1	
10	RGB0025-A	TECHNICS BADGE	1	
11	RGK1131-S	ORNAMENT(L)	1	
12	RGK1132-S	ORNAMENT(R)	1	
13	RGL0441-Q	PANEL LIGHT	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
14	RJR0113	CONNECTOR	2	
15	RKF0462-K2	CASSETTE HOLDER(L)	1	
16	RKF0463-K2	CASSETTE HOLDER(R)	1	
17	RKF0587-S	CASSETTE LID(L)	1	
18	RKF0588-S	CASSETTE LID(R)	1	
19	RKW0577-Q	CASSETTE WINDOW(L)	1	
20	RKW0578-Q	CASSETTE WINDOW(R)	1	
21	RMB0474	SPRING	2	
22	RMQ0577A-2	FRAME	1	
23	RUS757ZA	SPRING	4	
24	RYP0913-S	FRONT PANEL	1	
25	XTBS26+8J	SCREW	7	
26	XTB3+10JFZ	SCREW	5	

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