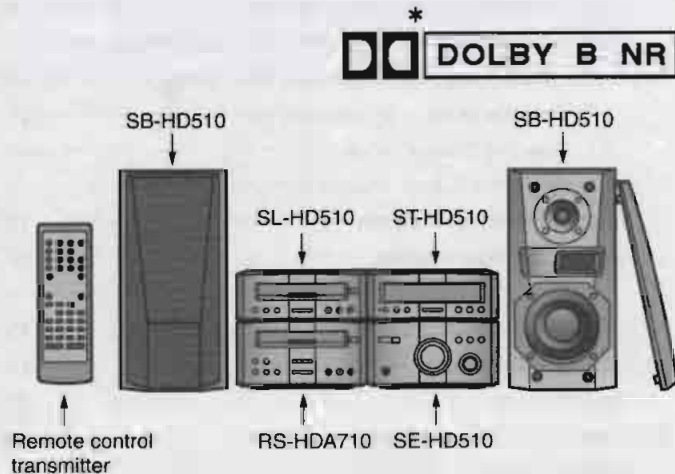


Service Manual

Cassette Deck



RS-HDA710 RS-HD310

AR-1 Mechanism Series

Colour

(N).....Gold Type

Area

E.....Europe.

System : SC-HD510

SC-HD310

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

Note: Refer to the service manuals for Model No. SE-HD510, SE-HD310 (ORDER NO.AD0001015C2, AD0001018C2) for information on "ACCESSORIES" and "PACKAGING".

Specification

●Audio Section

Track system 4 track, 2 channel STEREO

Frequency response

(Dolby B NR off) (Rec./Play)

TYPE I (Normal) 30Hz-16kHz (DIN)

TYPE II (High) 30Hz-16kHz (DIN)

TYPE IV (Metal) 30Hz-16kHz (DIN)

S/N (Signal level=max recording level, TYPE II type tape)

NR off 56dB (A weighted)

Dolby B NR on 64dB (A weighted)

●Motors

Capstan drive DC servo motor

Reel table drive DC motor

Wow and flutter 0.1% (WRMS)

Fast forward and rewind times Approx.52 seconds with C-60 cassette tape

●General

Dimensions (WxHxD): 196x105.8x236.1mm

Weight

1.5kg

Power supply

DC13V/10V

Power consumption

10W

Notes:

1.Dimensions and weight are approximate.

2.Design and specifications are subject to change without notice.

*Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"DOLBY", and the double-D symbol are trade marks of Dolby Laboratories Licensing Corporation.

●System/SC-HD510:

Tuner:ST-HD510, Compact Disc Player:SL-HD510, Amplifier:SE-HD510, **Cassette Deck:RS-HDA710**, Speaker:SB-HD510 (Made in MAES.)

●System/SC-HD310:

Tuner:ST-HD310, Compact Disc Player:SL-HD310, Amplifier:SE-HD310, **Cassette Deck:RS-HD310**, Speaker:SB-HD310 (Made in MAES.)

Technics®

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⚠ 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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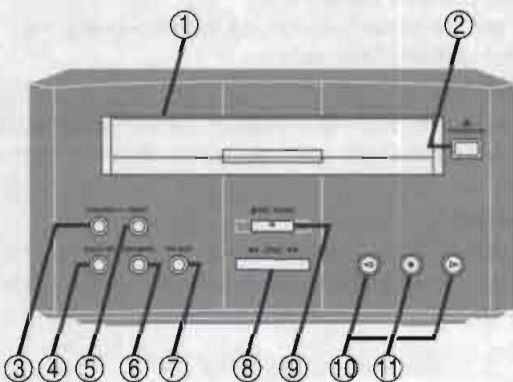
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1 Before Repair

These equipments (RS-HDA710/HD310), which are components of these systems, are supplied with power from the amplifiers (SE-HD510/310) through the tuners (ST-HD510/310). When repairing these equipments or checking operation of the systems, be sure to connect the amplifiers and tuners with it.

These equipments, even in the state of it as a single equipment, permits power supply and operation check. When operating it as a single equipment without the amplifier and tuner, refer to the paragraph of "Measurements and Adjustments".

2 Operating Instructions



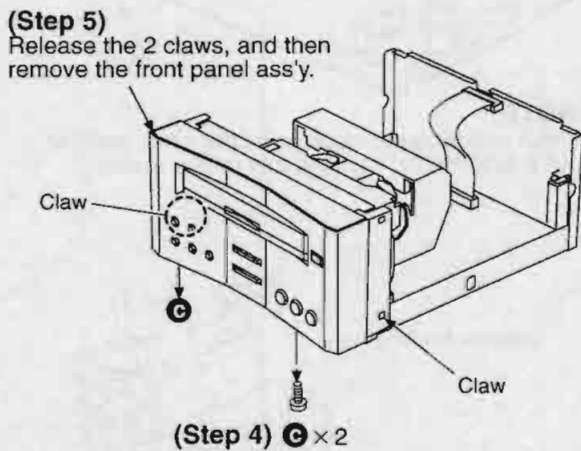
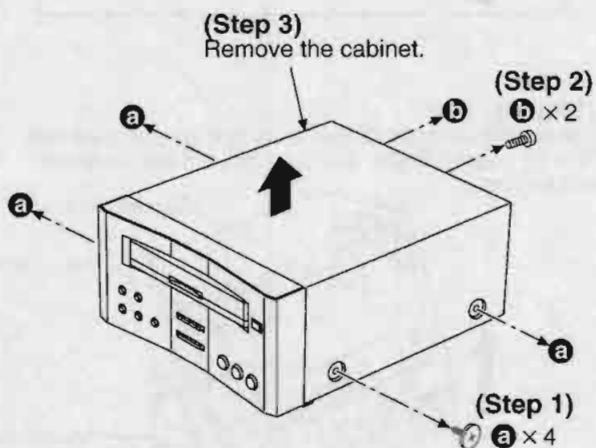
- ① Cassette holder
- ② Cassette tray open/close button (▲ OPEN/CLOSE)
- ③ Counter button (COUNTER)
- ④ Dolby noise reduction button (DOLBY NR)
- ⑤ Counter reset button (RESET)
- ⑥ Reverse mode select button (REV MODE)
- ⑦ Tape Program Sensor button (TPS SKIP)
- ⑧ Fast forward/rewind buttons (◀◀ [TPS] ▶▶)
- ⑨ Record pause button and indicator (● REC PAUSE)
- ⑩ Playback buttons and indicators (◀, ▶)
- ⑪ Stop button (■)

The color of the indicator depends on the operation taking place.
If stopped, fast forwarding or rewinding: orange
If playing, recording, or carrying out TPS: green

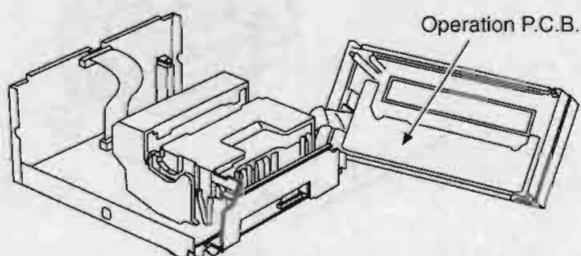
3 Operation Checks and Component Replacement Procedures

- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
- For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.

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

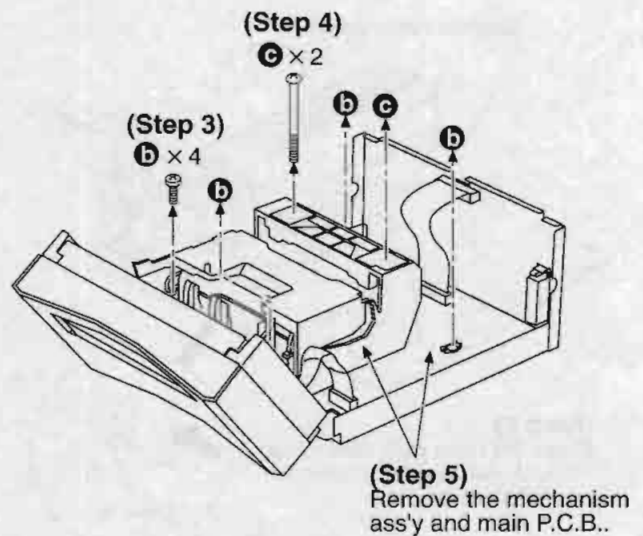
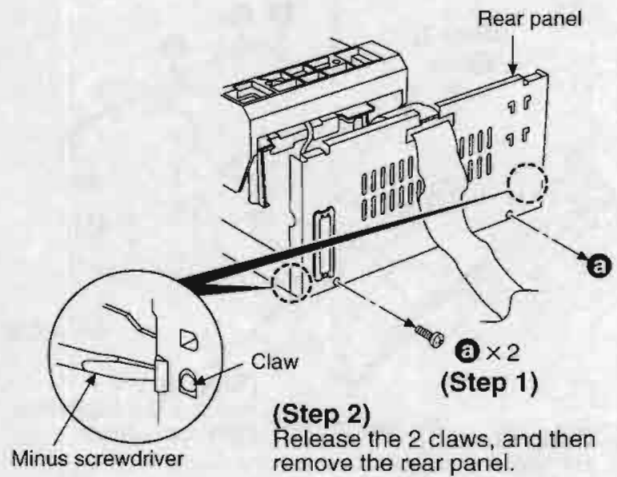


- Check the operation P.C.B. as shown below.

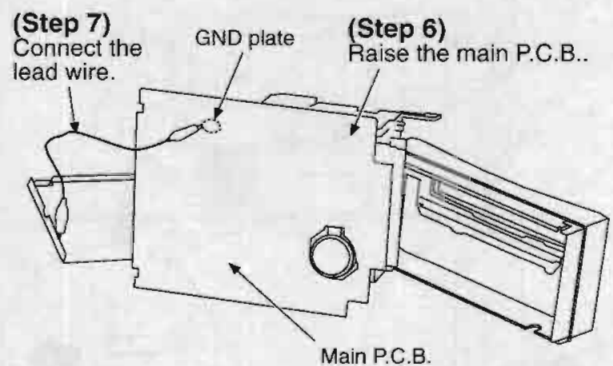


3.2. Checking for the main P.C.B.

- Follow the (Step 1) - (Step 5) of item 3.1.

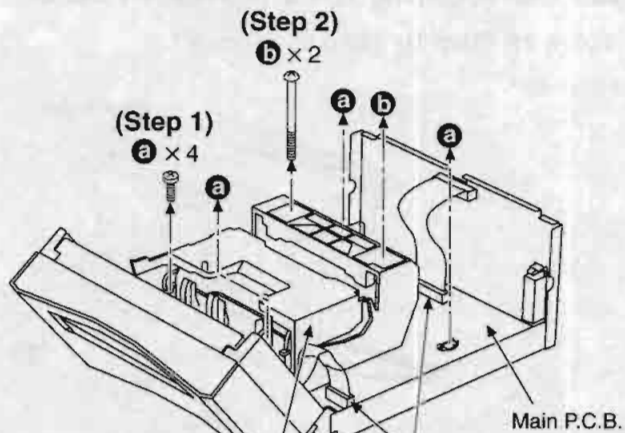


- Check the main P.C.B. as shown below.



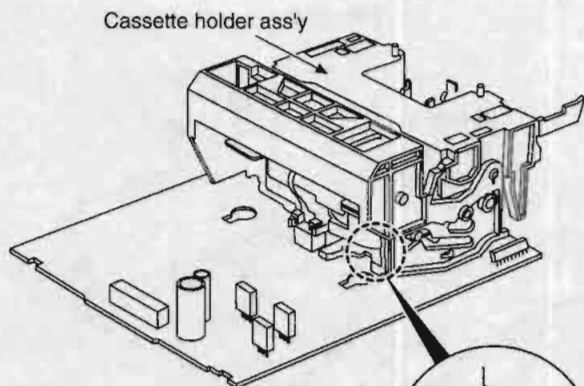
3.3. Replacement for the cassette holder ass'y

• Follow the (Step 1) - (Step 5) of item 3.1.

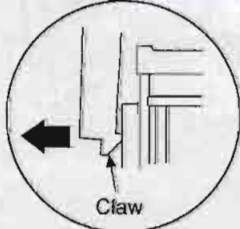
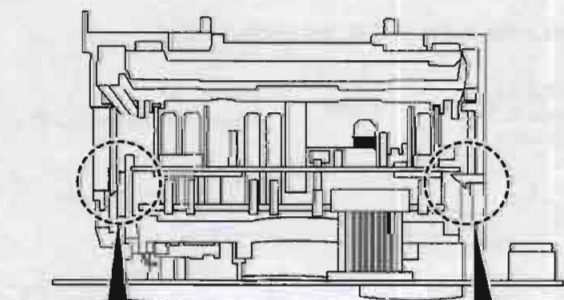


(Step 3) Remove the flat cables from connectors.

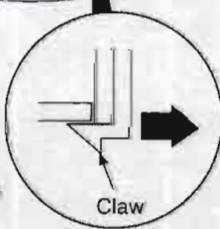
(Step 4) Remove the mechanism ass'y and main P.C.B..



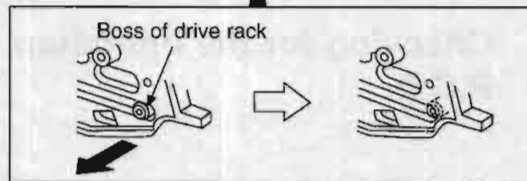
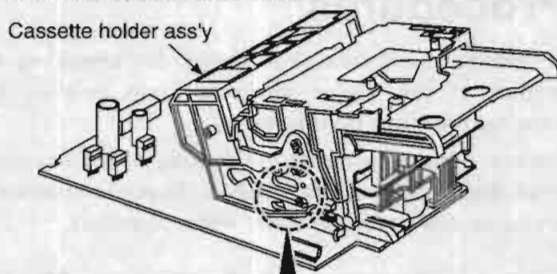
(Step 5) Press the drive rack with minus screwdriver, and then open the cassette holder ass'y.



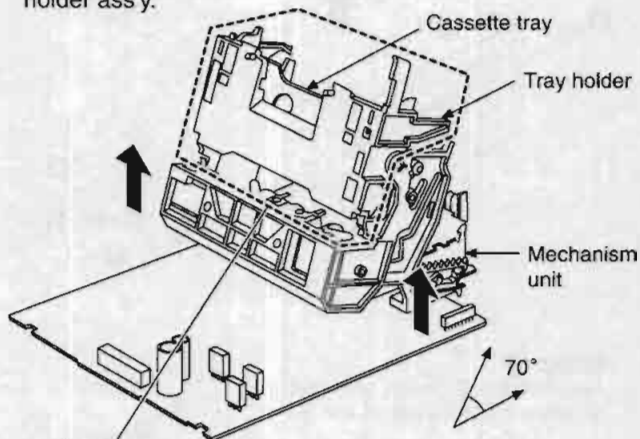
(Step 6) Release the 2 claws.



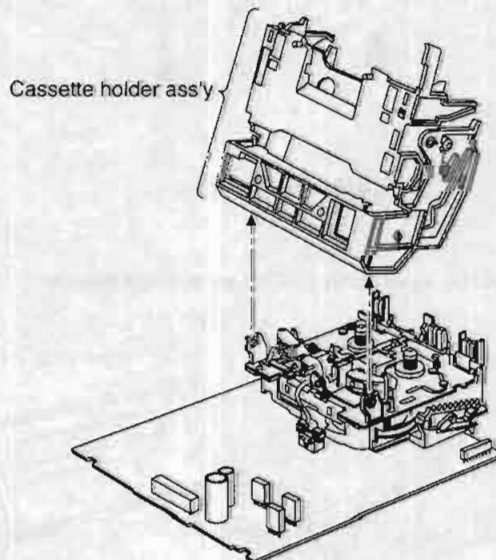
(Step 7) Remove the cassette holder ass'y from the boss of drive rack.



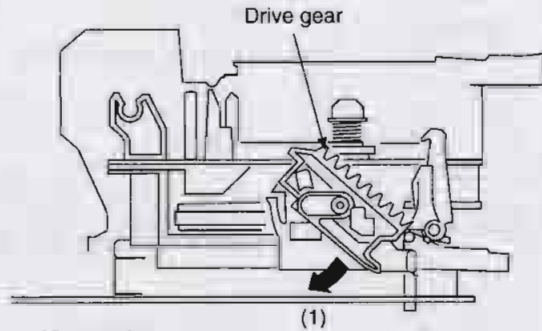
(Step 8) Locate the cassette holder ass'y and mechanism unit at a 70 degree angle, and then pull out the cassette holder ass'y.



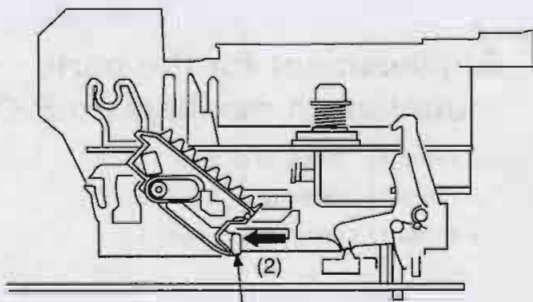
NOTE: When removing the cassette holder ass'y, avoid to pull it with holding cassette tray or tray holder.



Installation of the cassette holder ass'y after replacement

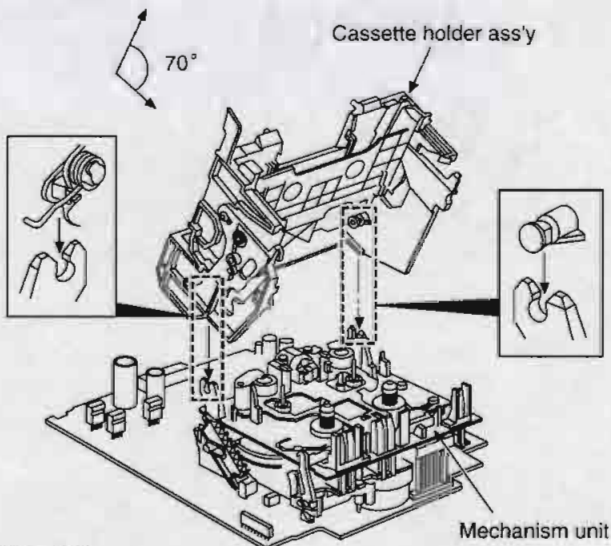


(Step 1)
Tilt the drive gear in the direction of arrow (1).



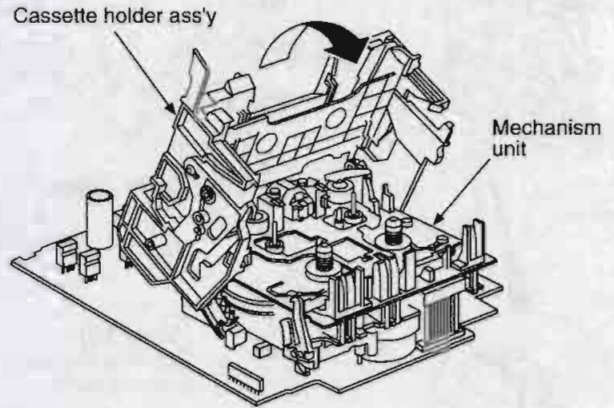
Force this point of drive rack.

(Step 2)
Force the drive rack fully in the direction of arrow (2).



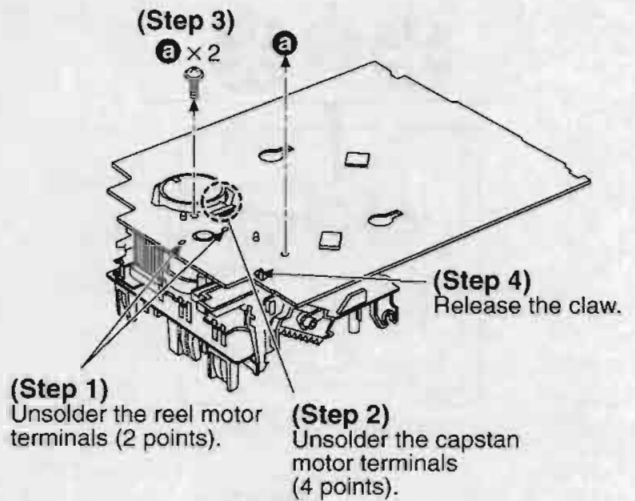
(Step 3)
Locate the cassette holder ass'y and mechanism unit at a 70 degree angle, and then install the cassette holder ass'y.

(Step 4)
Tilt the cassette holder ass'y in the direction of arrow, and then secure it to the mechanism unit.



3.4. Replacement for the belt, reel motor ass'y and capstan motor ass'y

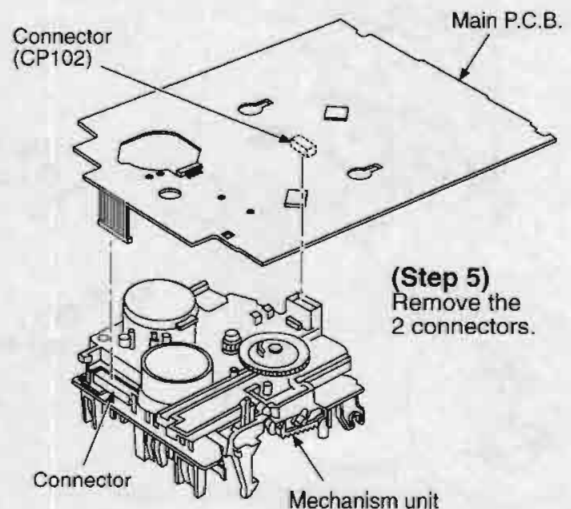
- Follow the **(Step 1) - (Step 5)** of item 3.1.
- Follow the **(Step 1) - (Step 8)** of item 3.3.



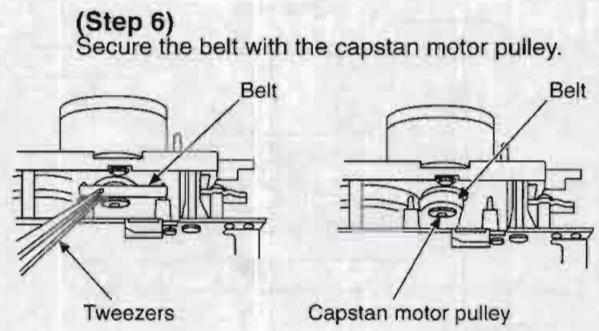
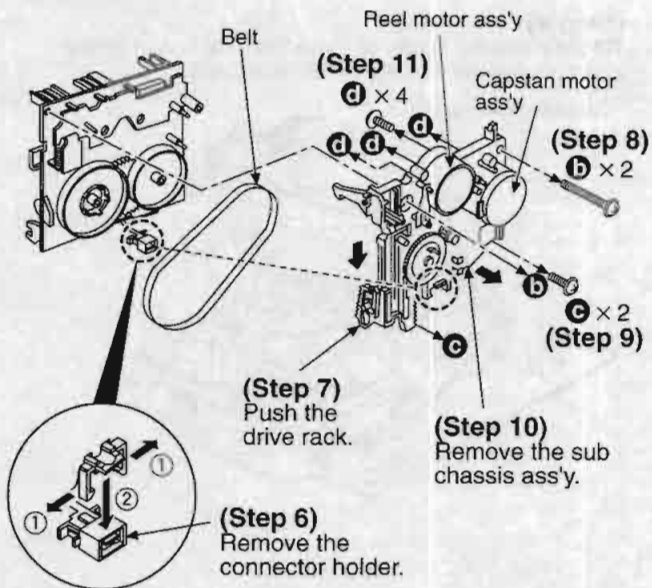
(Step 1)
Unsolder the reel motor terminals (2 points).

(Step 2)
Unsolder the capstan motor terminals (4 points).

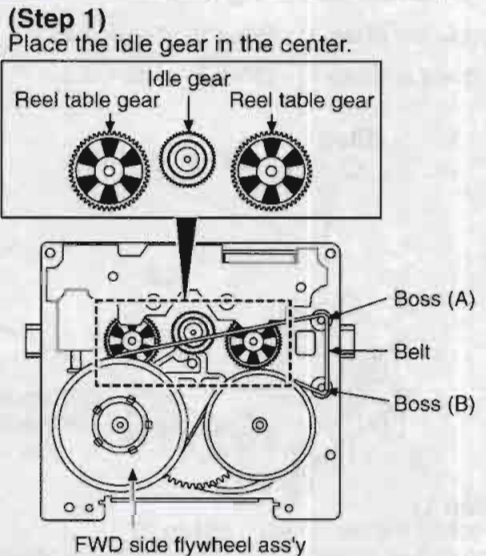
(Step 4)
Release the claw.



(Step 5)
Remove the 2 connectors.

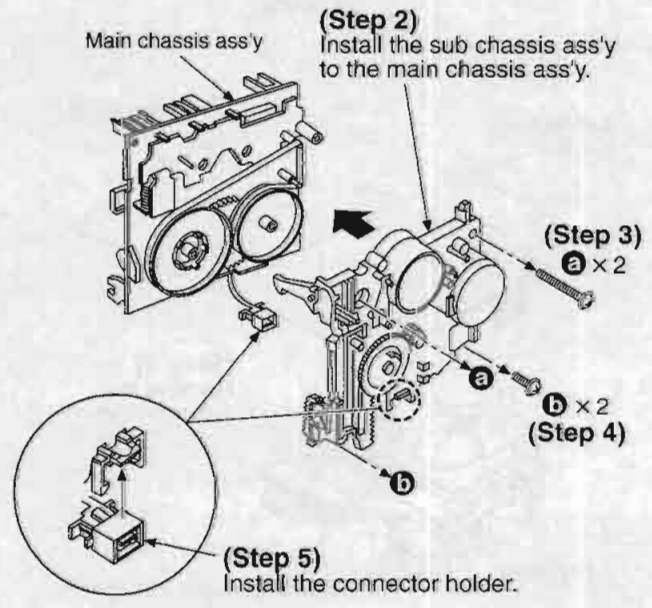
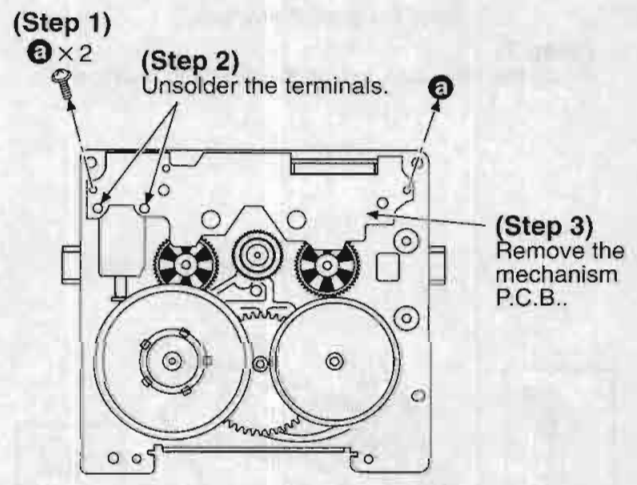


Installation of the sub chassis ass'y after replacement



3.5. Replacement for the parts mounted on mechanism P.C.B.

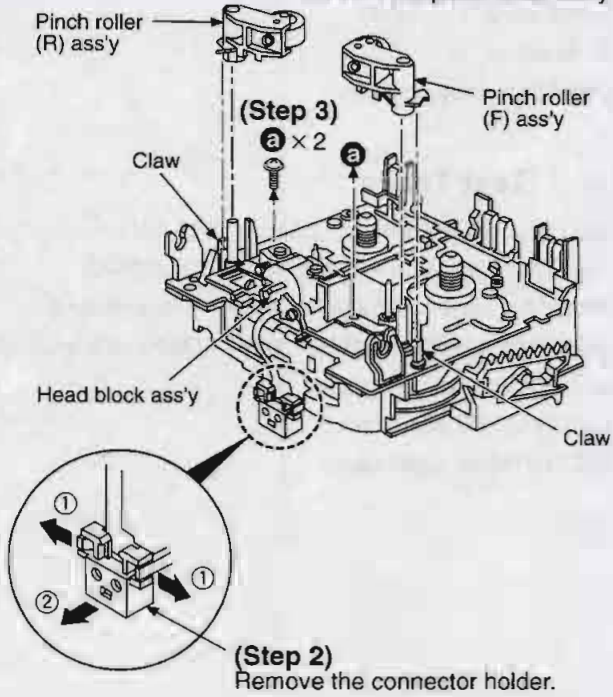
- Follow the (Step 1) - (Step 5) of item 3.1.
- Follow the (Step 1) - (Step 8) of item 3.3.
- Follow the (Step 1) - (Step 10) of item 3.4.



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

- Follow the (Step 1) - (Step 5) of item 3.1.
- Follow the (Step 1) - (Step 8) of item 3.3.
- Follow the (Step 1) - (Step 5) of item 3.4.

(Step 1)
Release the 2 claws, and then
remove the pinch roller ass'y.



4 Measurements and Adjustments

These units RS-HDA710/HD310 are designed to operate on power supplied from the Amplifiers (SE-HD510/310) through Tuners (ST-HD510/310).

When connecting the unit to other system components, do not connect to the Amplifier (SE-HD510/310) directly. Be sure to connect this unit through the Tuner (ST-HD510/310).

When operating the units RS-HDA710/HD310 alone for testing and servicing, without having power supplied from the Amplifiers (SE-HD510/310) and Tuners (ST-HD510/310), use the following method.

4.1. To Supply Power Source

Supply 10V DC power to test points between TP601 and TP602, and supply 13V DC power to test points between TP603 and TP602. (As shown in Fig.1.)

Note:When operated alone, these units automatically enter the TEST mode, causing indicators to blink.

4.2. To Check Signals

Connect an oscilloscope or a built-in amplifier speaker between line output for Rch(TP204) and A.GND, and line out for Lch(TP203) and A.GND and check if the signals are outputting from this unit. (As shown in Fig.1.)

(MAIN P.C.B.)

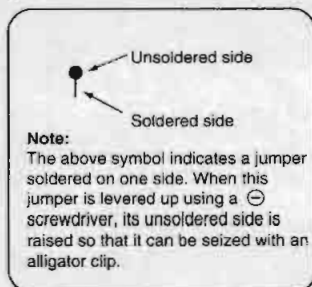
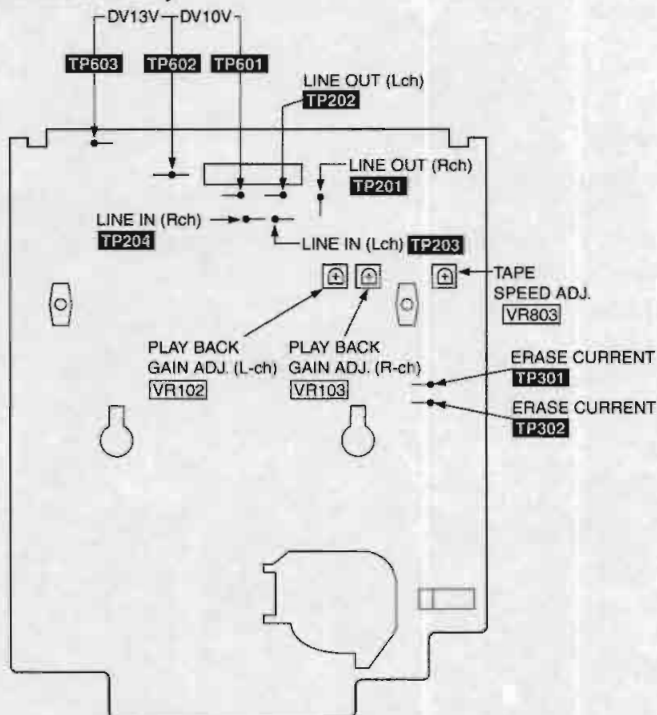


Fig.1

4.2.1. Measurement Condition

- Make sure head is clean.
- Make sure capstan and pressure rollers are clean.
- Judgeable room temperature is in $20 \pm 5^{\circ}\text{C}$ ($68 \pm 9^{\circ}\text{F}$)

4.2.2. Measuring Instruments

- EVM(Electric Voltmeter)
- AF oscillator
- Digital frequency counter

4.2.3. Test Tapes

- Head azimuth adjustment(12.5kHz); QZZ-AER
- Tape speed adjustment(3kHz, -10dB); QZZCWAS
- Recording/ playback frequency response adjustment; QZZCFM(315Hz/0dB, 315Hz/-20dB, 12.5kHz~63Hz/-20dB) QZZCRA(Normal blank tape) QZZCRX(CrO2 blank tape) QZZCRZ(Metal blank tape)

4.3. Head Azimuth Adjustment

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.

(Supply part No. of azimuth adjusting screw: RHD17015)

3. Playback the azimuth adjustment portion(12.5kHz) of test tape(QZZ-AER). Adjust the azimuth adjusting screw until the outputs of the L/Rch are maximized. (Refer to Fig. 3.)

Make sure that the difference in the peak level between the left and right channels does not exceed 0.5dB.

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(315Hz, 0dB) of test tape(QZZCFM). Check if level difference between forward and reverse direction is within 1.5dB.

6. After the adjustment, apply screwlock to the azimuth adjusting screw.

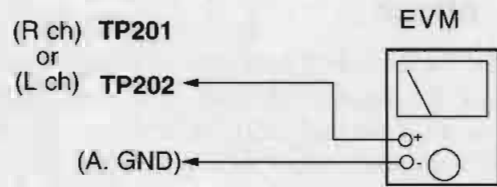


Fig. 2

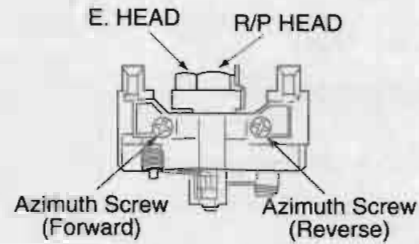


Fig. 3

4.4. Tape Speed Adjustment

Normal speed (Standard value; 3000 ± 45Hz)

1. Connect the measuring instrument as shown in Fig. 4.
2. Playback the middle portion of the test tape(QZZCWAT).
3. Adjust VR803 for the output value shown below. (Refer to Fig.1)

Adjustment target: 3000 ± 15Hz

Standard value: 3000 ± 45Hz

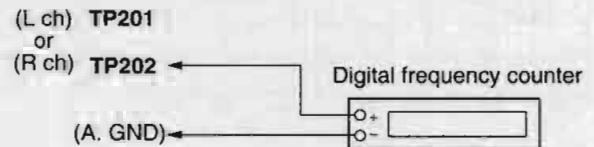


Fig. 4

4.5. Playback Gain Adjustment

1. Connect the measuring instrument as shown in Fig 5.
2. Find the start of the 315Hz/0dB section of the test tape(QZZCFM), insert the tape, and play it back(FWD).
3. Adjust VR103(Rch) [VR102(Lch)] so that the output is within the standard value. (Refer to Fig.1).

Standard value: 280mV ± 0.5dB

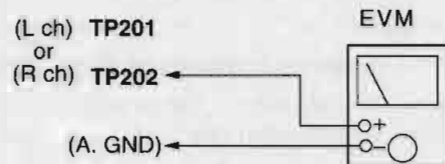


Fig 5

4.6. Erase Current Confirmation

1. Connect the measuring instrument as shown in Fig. 6.
2. Insert the blank tape, 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.

Standard value	EVM reading
Normal tape: 75 ± 25 mA	(75 ± 25 mA)
CrO2 tape: 110 ± 25 mA	(110 ± 25 mA)
Metal tape: 180 ± 25 mA	(180 ± 25 mA)

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

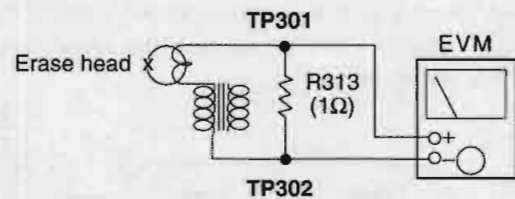


Fig. 6

4.7. Playback frequency response check

1. Connect the measuring instrument as shown in Fig. 7
2. Playback the 315Hz/-20dB and 12.5kHz to 63Hz/-20dB sections of the test tape(QZZCFM) and then, using the 315 Hz/-20dB playback output as a reference(0 dB), confirm that the playback frequency response is within the range shown in Fig. 8.

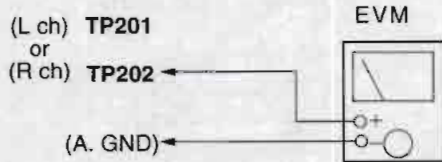


Fig. 7

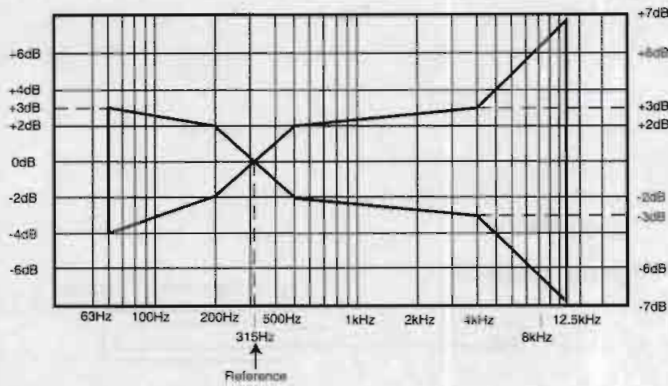


Fig. 8

4.8. Recording/playback frequency response and gain check

Normal tape check

1. Connect the measuring instrument as shown in Fig.9.
2. Set the playback frequency of the recorded signals at 1kHz as the reference response(0 dB).
3. Playback the recorded signals to confirm that the output is within the range of the overall frequency response shown in Fig. 10.

CrO2/Metal tape check

4. Repeat steps 3 to 5 for each tape and confirm that the output for each is within the range of the overall frequency response shown in Fig. 11.

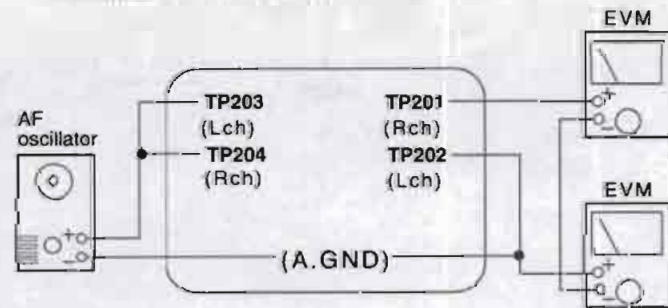


Fig.9

Normal Overall Frequency response chart(NR OFF)

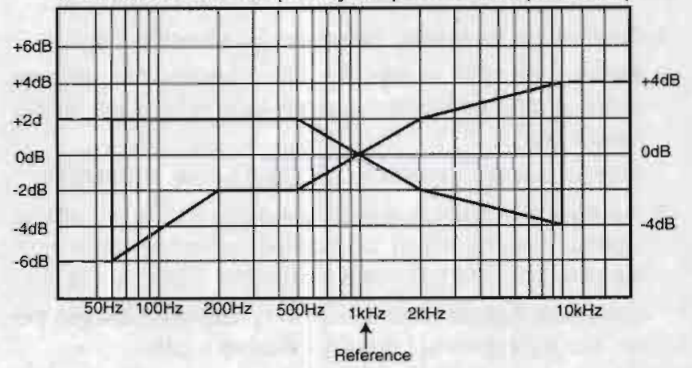


Fig. 10

CrO2/Metal Overall frequency response chart(NR OFF)

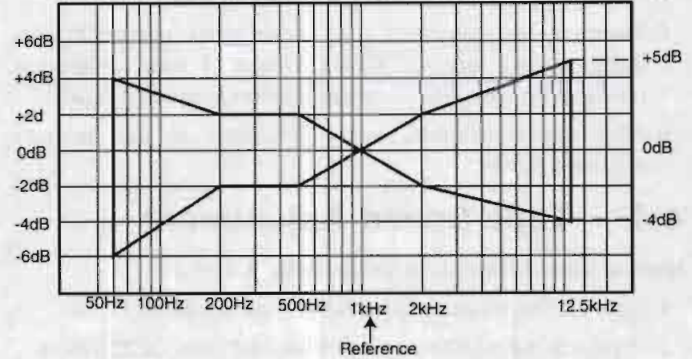


Fig. 11

5 Service Mode Function of Cassette Mechanism

These units are equipped with a service mode function of cassette mechanism using the LED indicators[R.PLAY(◀), F.PLAY(▶)]. Use this function during maintenance to check faults of the items below.

5.1. Cassette tapes to be prepared

Metal tape: Recorded music tape remaining the only one erase-prevention tab(use middle portion of the tape).

Normal, CrO₂ tape: Recorded music tape remaining the both erase-prevention tabs(use middle portion of the tape).

5.2. Selecting Service Mode

1. Turn on the power to the unit. (If RS-HDA710/HD310 units are removed from system, turn it on according to

"Measurements and Adjustments".)

2. Check that no tape is inserted in the cassette deck. Press the ■ button for about 2 seconds, and keep pressing ▶▶ [TPS] button, also let go of the STOP button and wait over 2 seconds. (As shown in Fig. 12.)
3. The LED indicator for REC PAUSE flashes, the service mode has been activated.

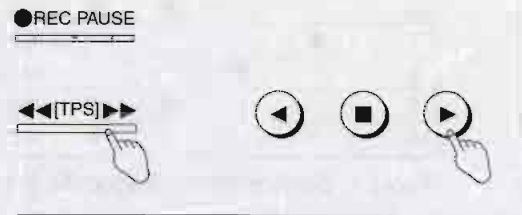
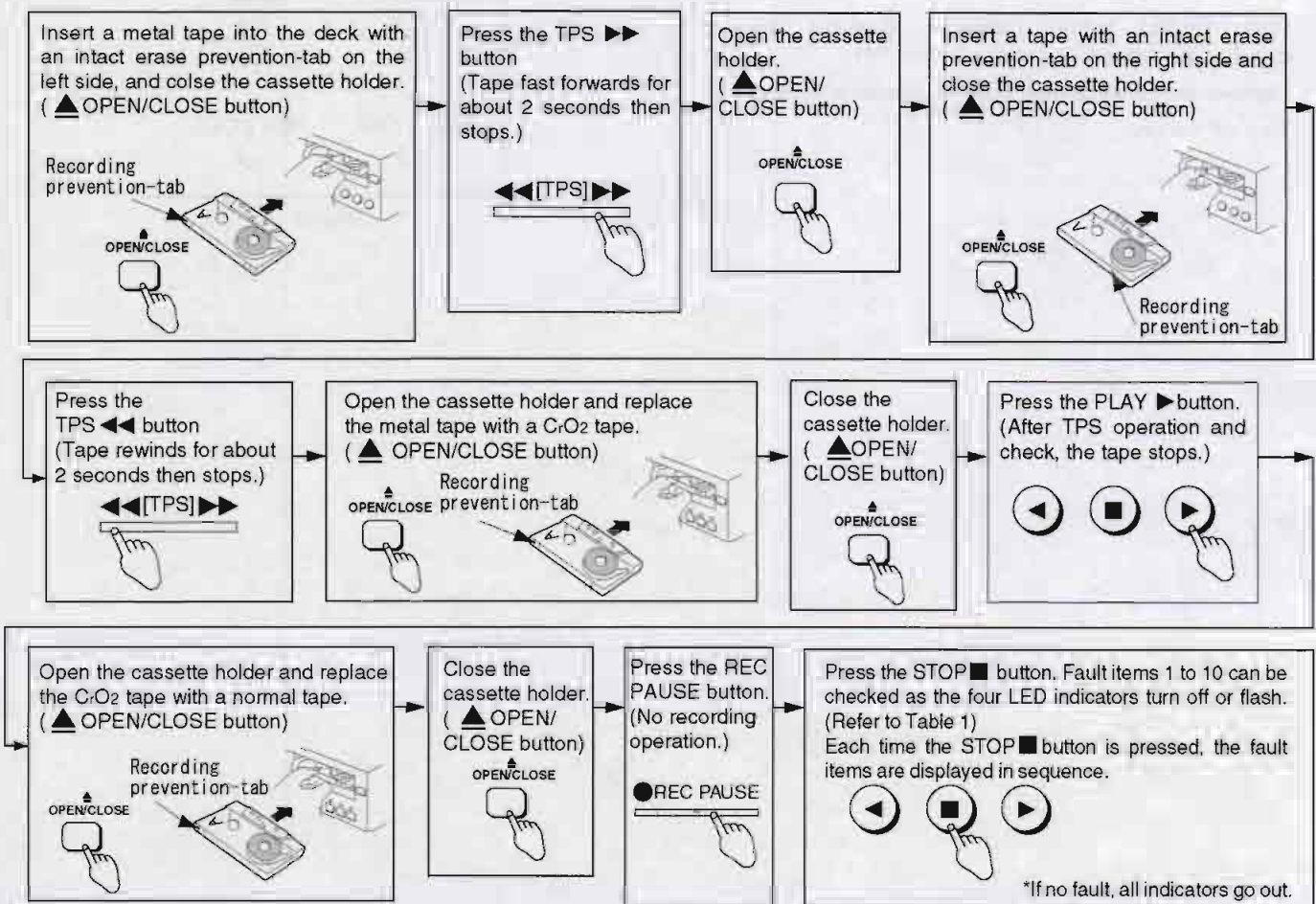


Fig. 12



* : Service mode diagnostic items are as shown in Fig. 13.

Service Mode Diagnostic items

No.	LED indicator status (off/flashing)				Fault location
	orange		green		
	◀	▶	◀	▶	
1.	●	-	-	-	MODE detect switch
2.	-	●	-	-	REC prevention switch
3.	●	●	-	-	Half detect switch
4.	-	-	●	-	Deck OPEN switch
5.	-	-	-	●	Deck CLOSE switch
6.	-	-	●	●	CrO ₂ tape detect switch
7.	●	-	-	-	Metal tape detect switch
8.	-	●	-	-	Reel pulse detect system (Hall IC, etc.)
9.	-	-	●	-	TPS operation
10.	-	-	-	●	Reel motor

Table 1: Service Mode Diagnostic Items

Notes:

"●" : Flashing

"- " : off

*If no fault, all indicators go out.

Fig. 13

5.3. Exiting Self-Check Mode

1. Press RESET button (Diagnostic contents stored in memory are erased.)(As shown in Fig. 14)
2. Remove the cassette tape from the cassette holder.
3. Turn off the unit.

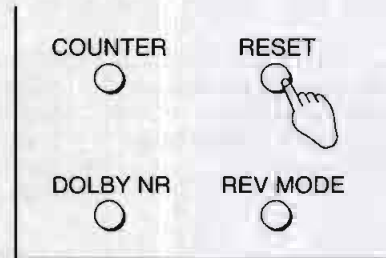
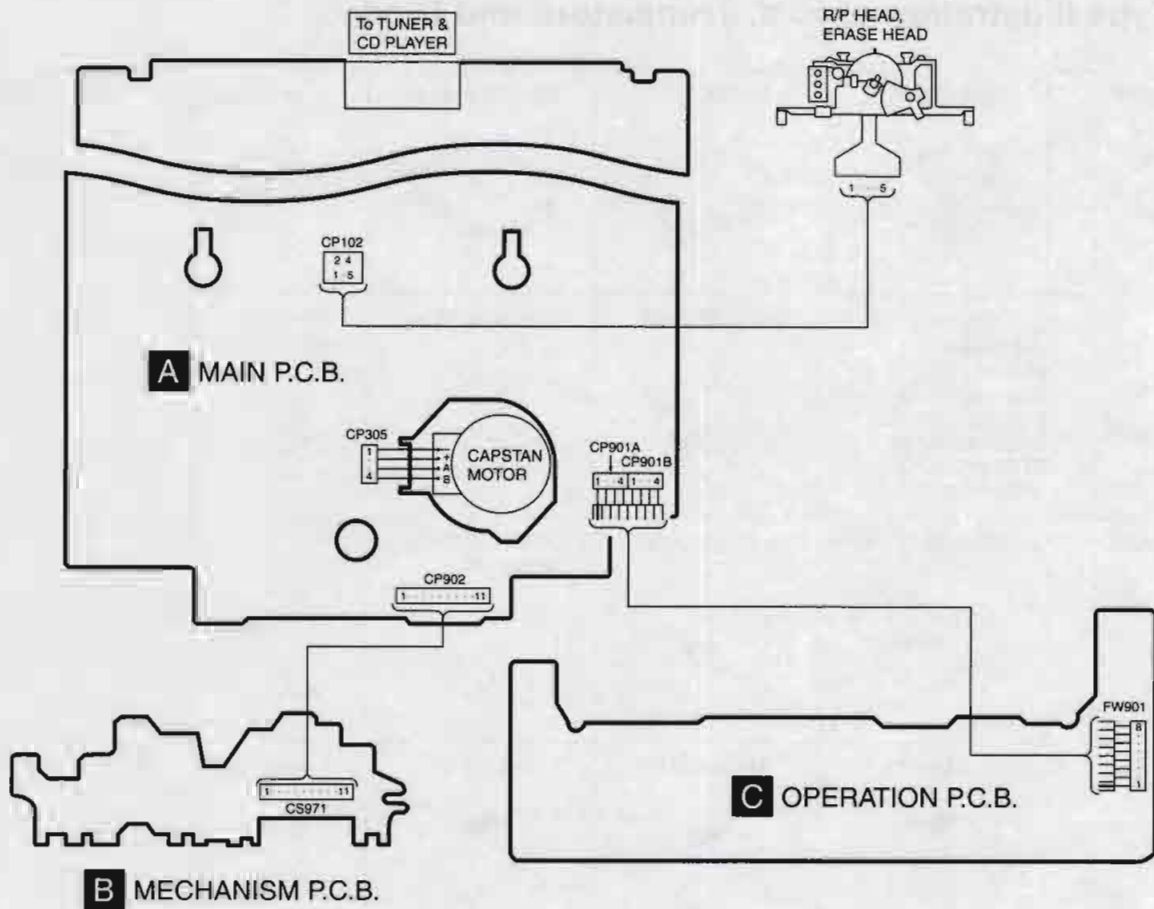


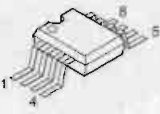
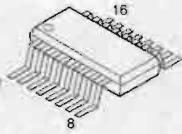
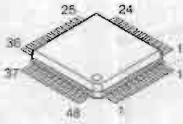

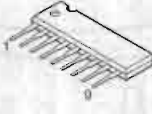
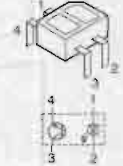
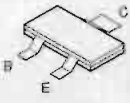
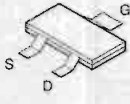
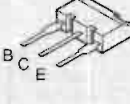
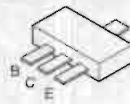
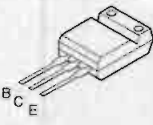
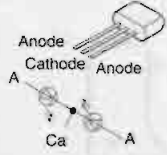
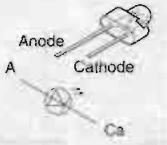
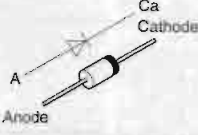
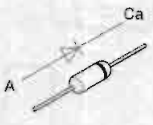
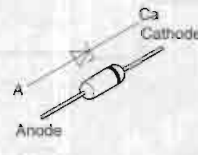
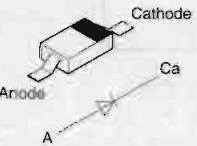
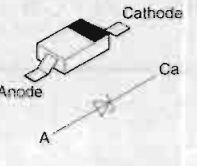
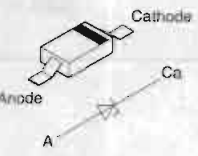
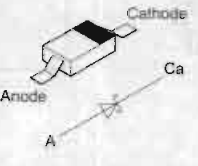
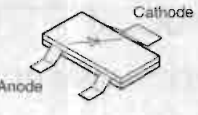
Fig. 14

6 Wiring Connection Diagram



7 Schematic Diagram Notes

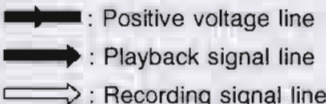
7.1. Type Illustration of IC's, Transistors and Diodes

<p>BA7755AF</p> 	<p>CXA1552M-T4</p> 	<p>A1898QT6BC</p> 	<p>M37478M4458F</p> 	<p>BA6418N</p> 	<p>RVSGP2S24BC</p> 
	<p>2SD1328TX 2SD601ATX 2SD601ARTX DTA114EUT106 DTC114EUT106 DTC143ZUA106 DTC144EUT106 UN5214TX</p>	<p>2SJ163PQRTX</p> 	<p>2SD1862QRTV6</p> 	<p>2SA1797QT101 2SD874QRSTX</p> 	<p>2SD2137PQTA</p> 
<p>SML79420C</p> 	<p>LNJ201LPQJA</p> 	<p>RL1N4003N02</p> 	<p>RVD1SS133TA MA723TA</p> 	 <p>MTZJ10BTA MTZJ5R1BTA MTZJ5R6BTA MTZJ9R1CTA</p>	
<p>MA111TX MA112TX</p> 	<p>MA8039TX</p> 	<p>MA8047MTX</p> 	<p>MA728TX</p> 	<p>MA704ATX</p> 	

7.2. Schematic Diagram Notes

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

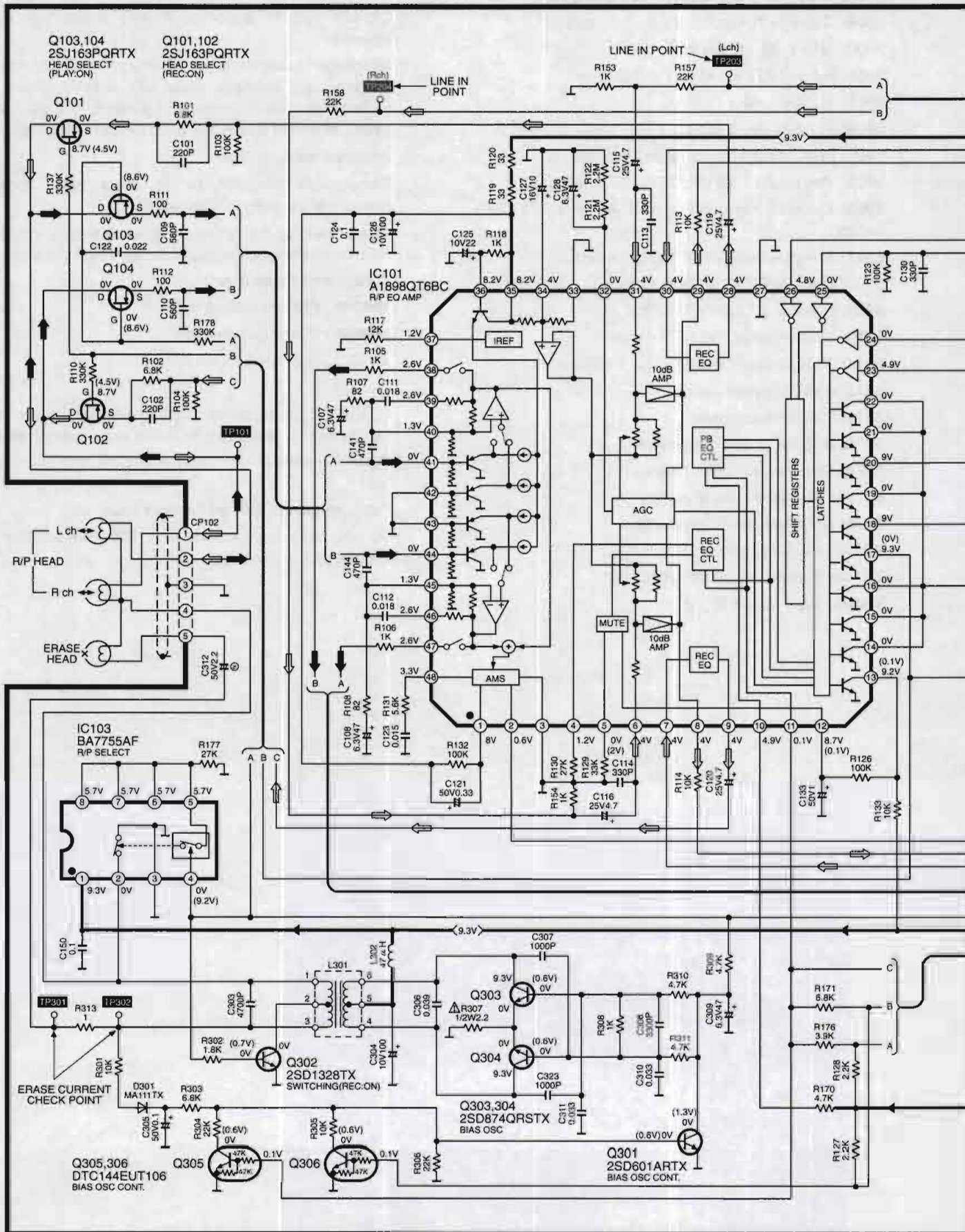
Notes:

- **S803:** Cassette holder open detection switch.
- **S804:** Cassette holder close detection switch.
- **S900:** Stop (■) switch.
- **S901:** Rewind ([TPS] ◀◀) switch.
- **S902:** R. play (◀) switch.
- **S903:** F. play (▶) switch.
- **S904:** Fast forward ([TPS] ▶▶) switch.
- **S905:** Rec pause (● REC PAUSE) switch.
- **S906:** Cassette tray open/ close (▲ OPEN/ CLOSE) switch.
- **S907:** Reverse-mode (REV MODE) switch.
- **S908:** Dolby NR (DOLBY NR) switch.
- **S909:** Counter (COUNTER) switch.
- **S910:** Counter reset (RESET) switch.
- **S911:** Tape program sensor (TPS SKIP) switch.
- **S971:** Mode detection switch.
- **S972:** Half detection switch.
- **S973:** ATS/CrO2 detection switch.
- **S974:** Reverse rec. inhibit switch.
- **S975:** Forward rec. inhibit switch.
- **S976:** ATS/Metal detection switch.
- **VR102:** Playback gain adj. (Lch) V.R..
- **VR103:** Playback gain adj. (Rch) V.R..
- **VR803:** Tape speed adj. V.R..
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise. 1K=1,000 (Ω), 1M=1,000k (Ω)
- Capacity are in micro-farads (μF) unless specified otherwise.
- All voltage values shown in circuitry are under no signal condition and playback mode with volume control at minimum position otherwise specified. ()...Voltage values at record mode. For measurement us EVM.
- Important safety notice:
Components identified by \triangle mark have special characteristics important for safety.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
- Voltage and signal lines

 - ➔ : Positive voltage line
 - ➔ : Playback signal line
 - ➔ : Recording signal line
- 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.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.

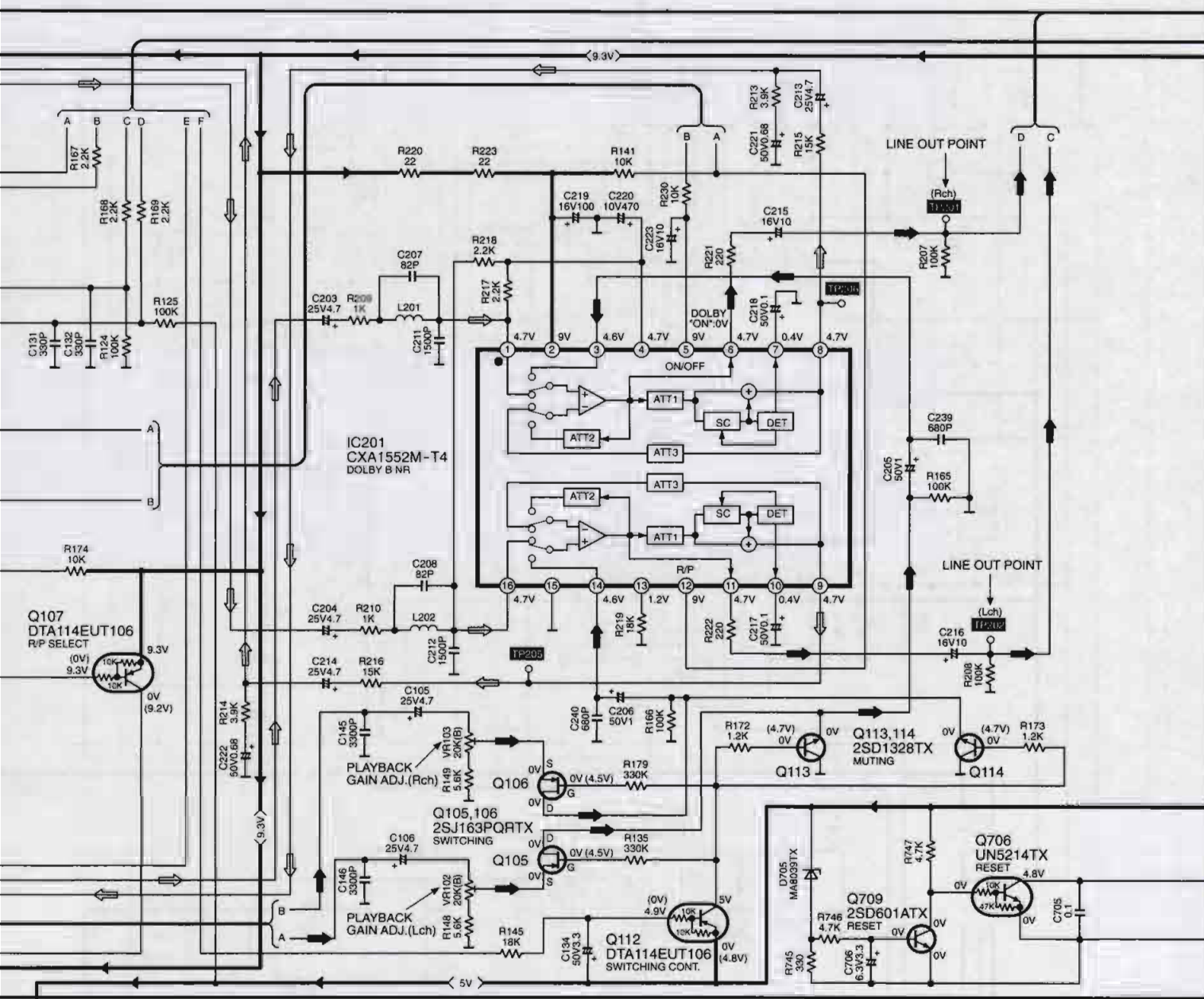
8 Schematic Diagram

A MAIN CIRCUIT

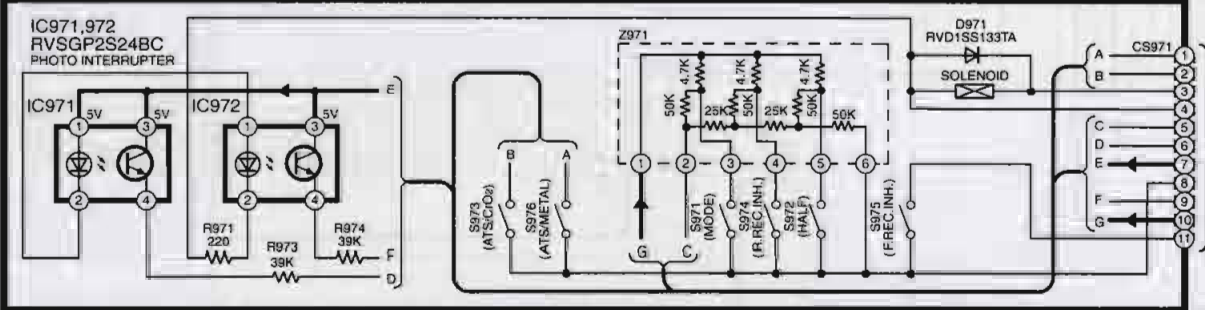
→ : POSITIVE VOLTAGE LINE ⇨ : RECORDING SIGNAL LINE ⇩ : PLAYBACK SIGNAL LINE



→ : POSITIVE VOLTAGE LINE ⇨ : RECORDING SIGNAL LINE ➡ : PLAYBACK SIGNAL LINE

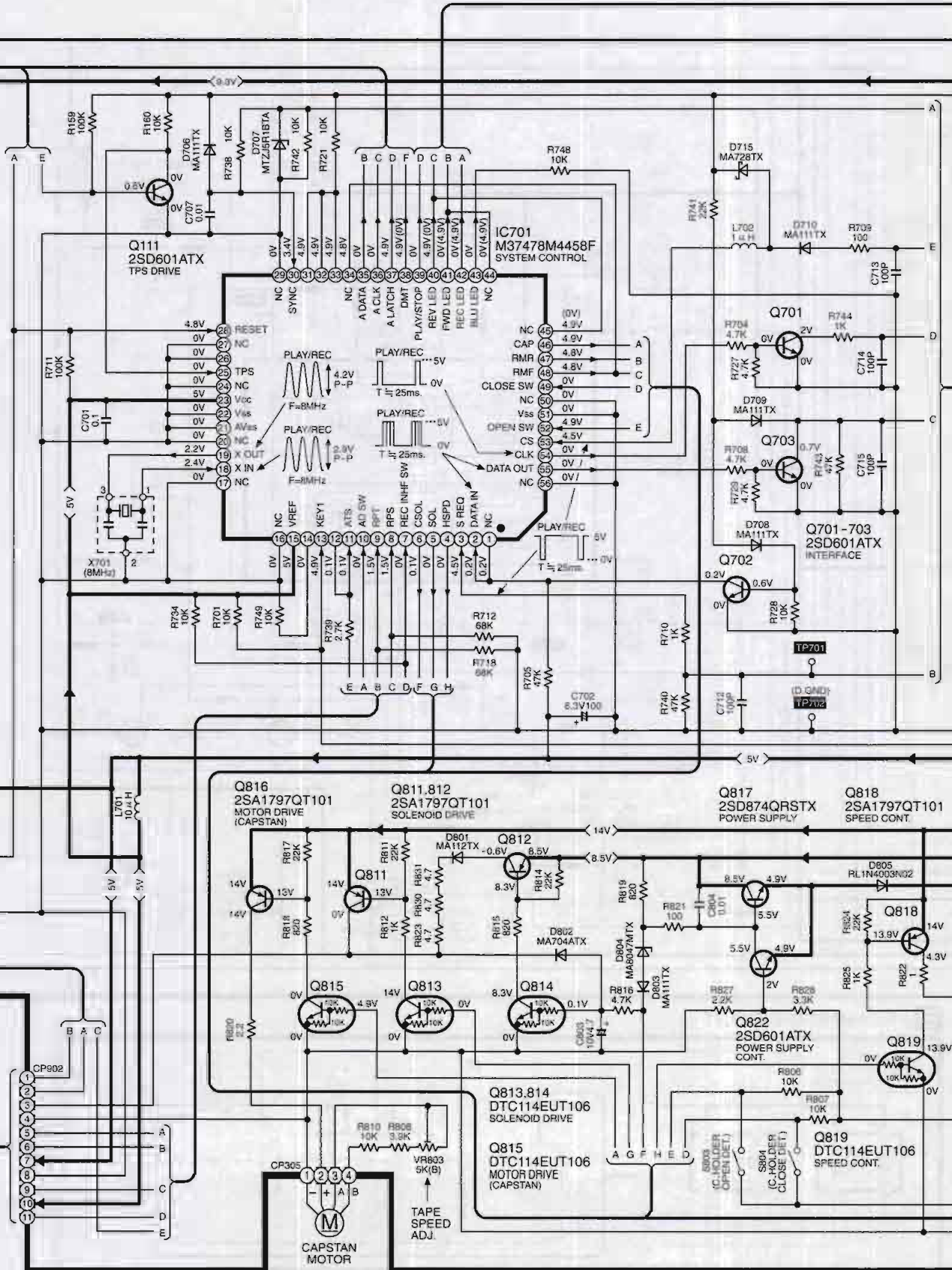


B MECHANISM CIRCUIT



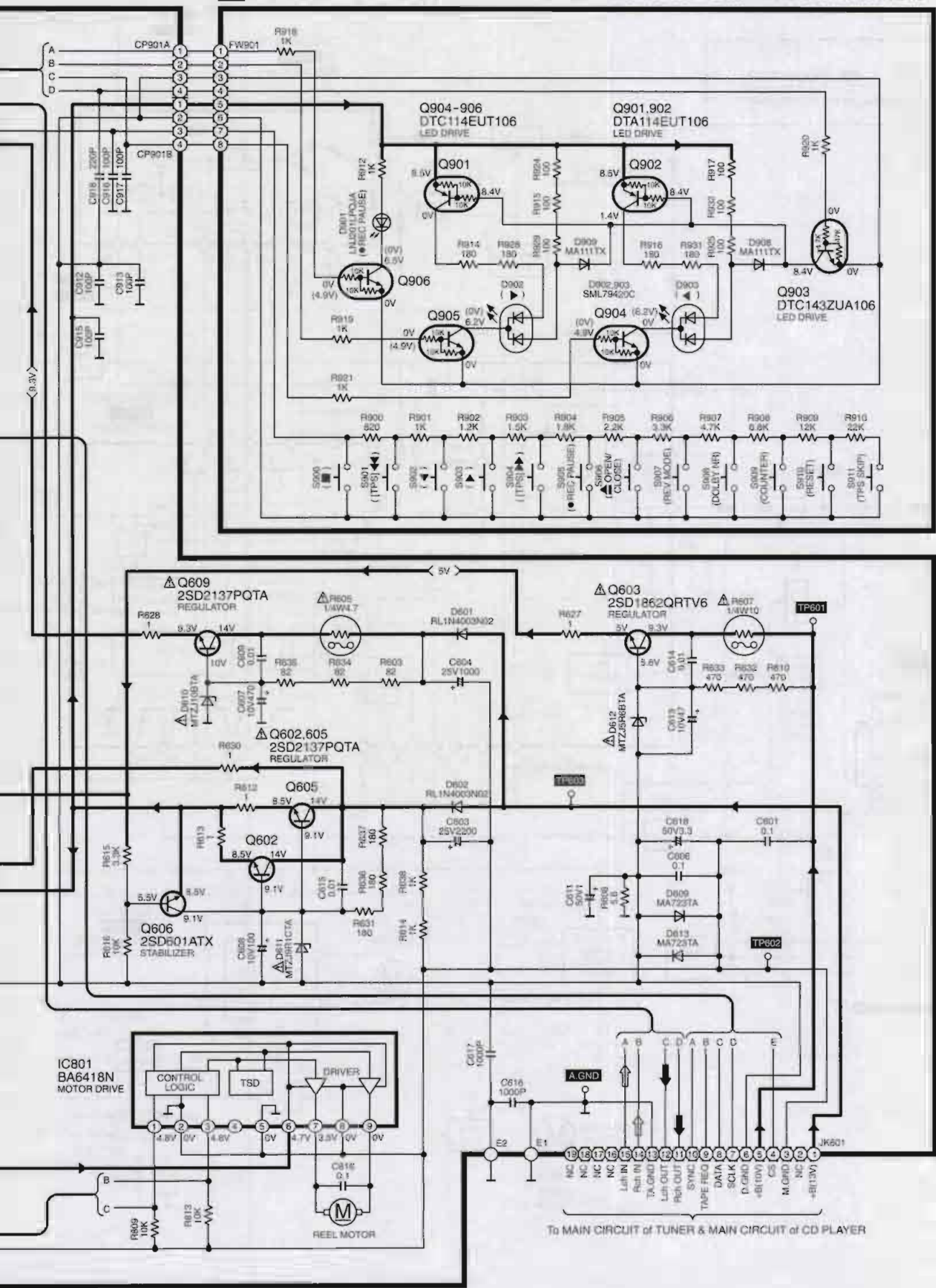
A MAIN CIRCUIT

→ POSITIVE VOLTAGE LINE



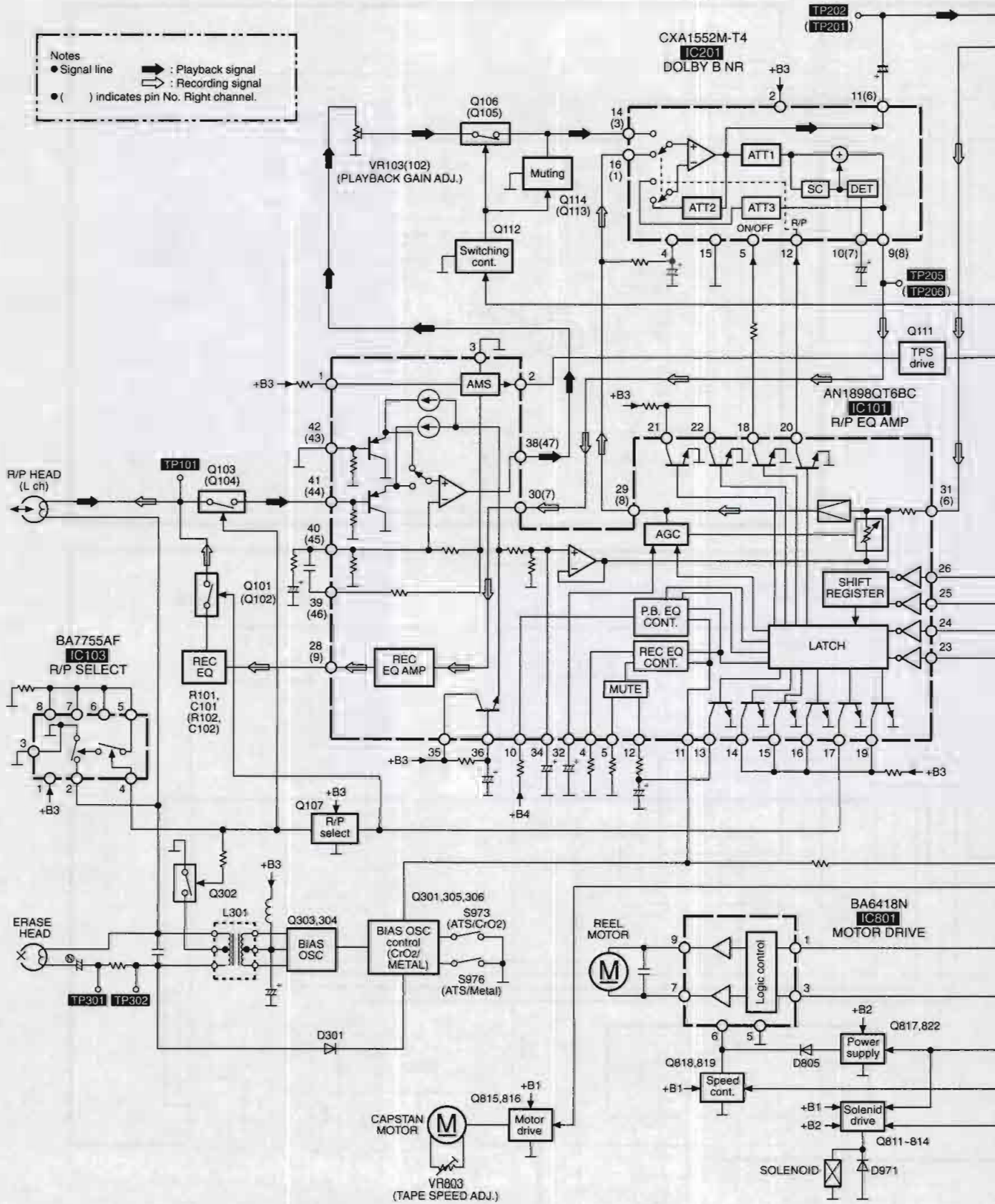
C OPERATION CIRCUIT

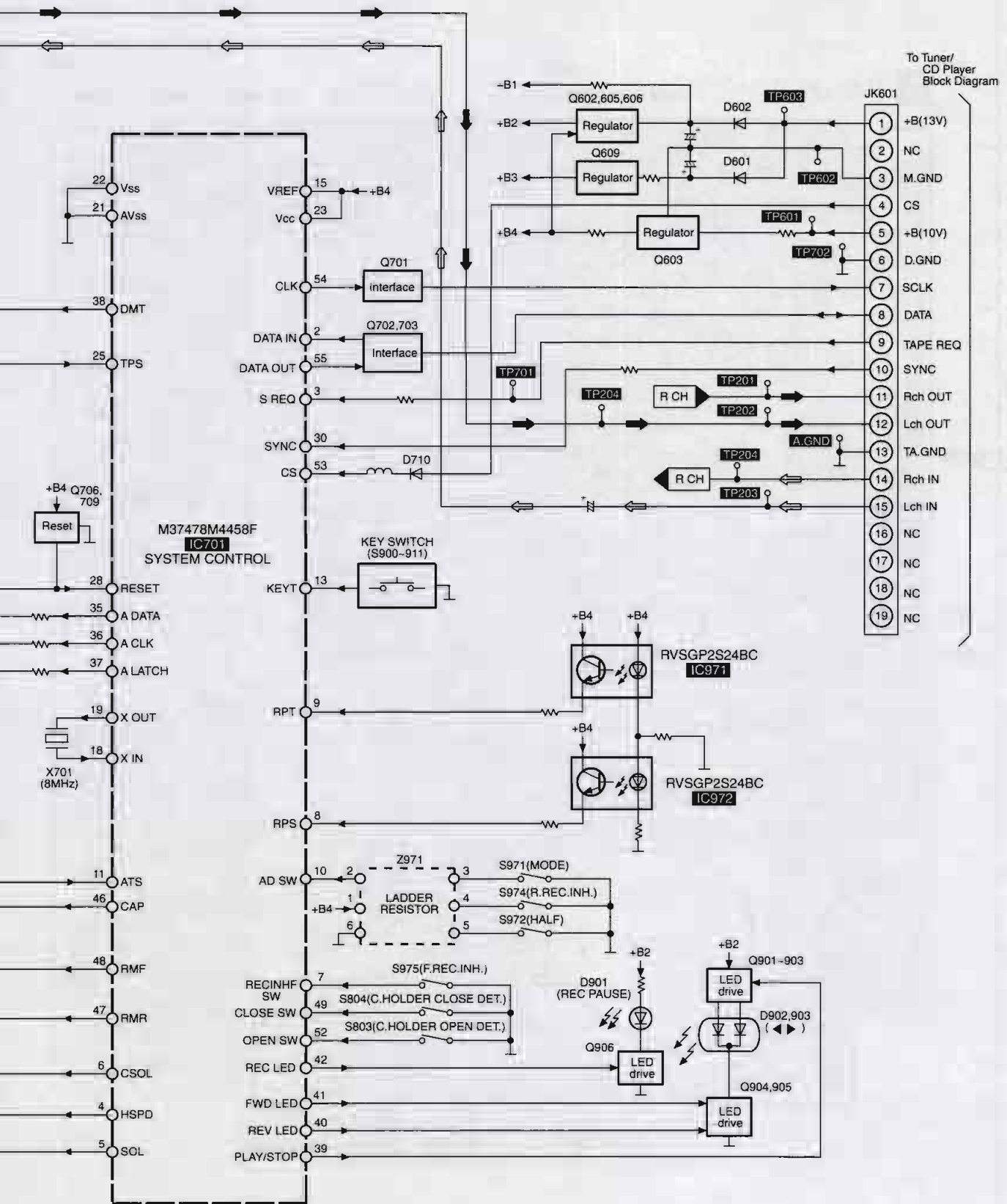
⇨ RECORDING SIGNAL LINE
 ⇨ POSITIVE VOLTAGE LINE
 ⇨ PLAYBACK SIGNAL LINE



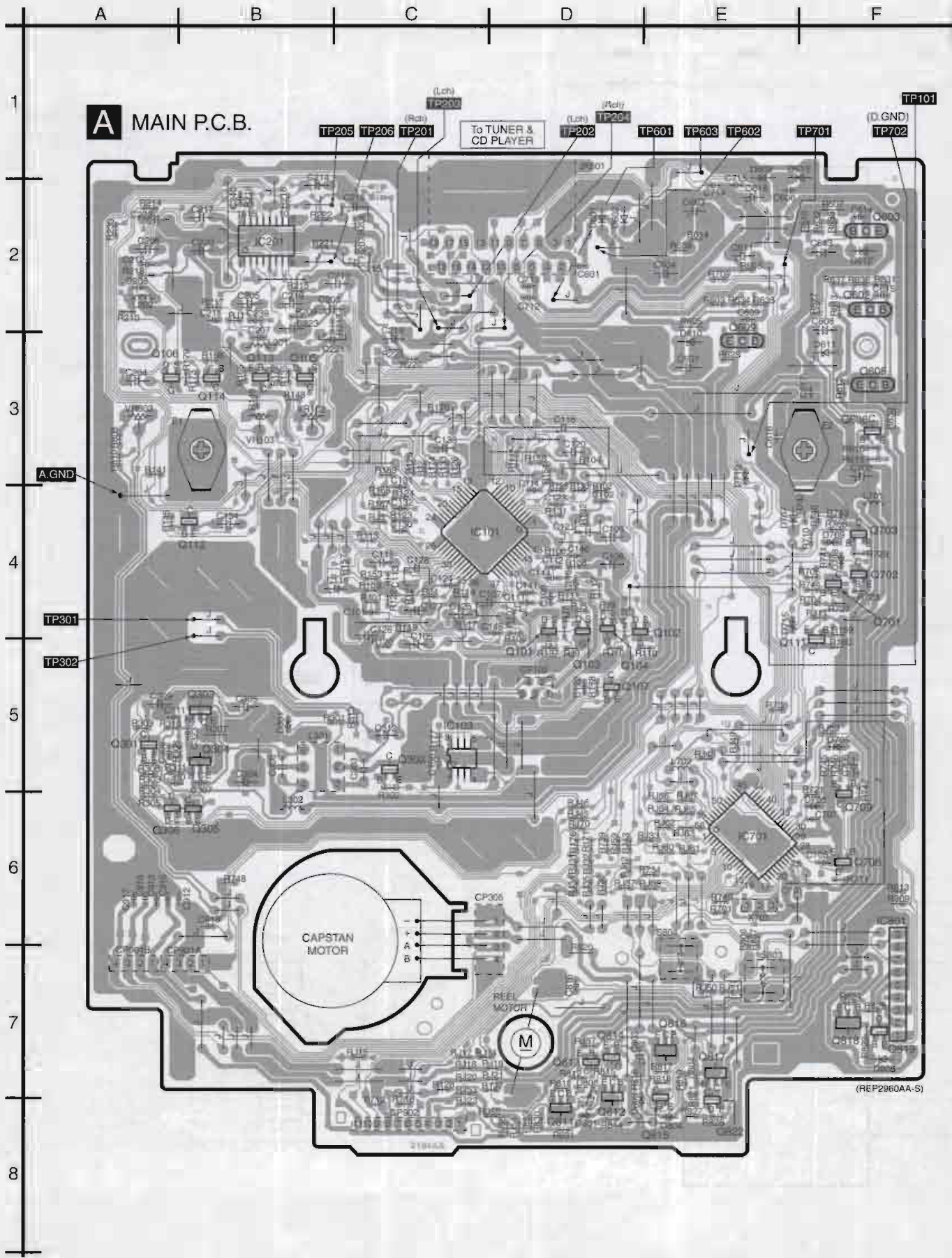
9 Block Diagram

Notes
 ● Signal line ➡ : Playback signal
 ➤ : Recording signal
 ● () indicates pin No. Right channel.





10 Printed Circuit Board Diagram



A MAIN P.C.B.

To TUNER & CD PLAYER

TP205 TP206 TP201

TP601 TP603 TP602

TP701

TP101

(D.GND) TP702

A.GND

TP301

TP302

CAPSTAN MOTOR

REEL MOTOR (M)

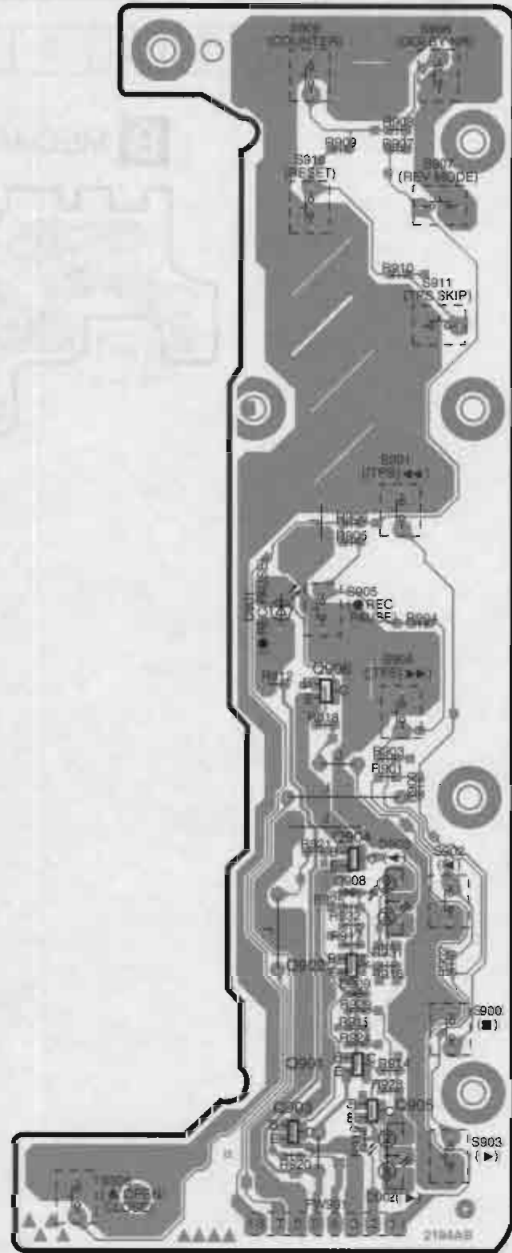
(REP2960AA-S)

G | H | I | J | K | L

■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
A MAIN P.C.B.									
IC101	4C	CP305	8D	R303	5A	R828	8E	C130	4C
IC103	5C	CP901A	7B	R304	5A	R830	8D	C131	3C
IC201	2B	CP901B	7A	R305	6A	R831	8D	C132	4C
IC701	6E	CP902	8C	R306	5A	RJ1	2B	C133	3C
IC801	7F	R101	4C	R307	5B	RJ2	3C	C134	4B
Q101	4D	R102	4D	R308	5A	RJ3	4C	C141	4D
Q102	4D	R103	4C	R309	5A	RJ4	4C	C144	4D
Q103	4D	R104	3D	R310	5A	RJ5	4D	C145	4D
Q104	4D	R105	4D	R311	5A	RJ6	4D	C146	4D
Q105	3B	R106	4D	R313	5C	RJ7	4D	C150	5C
Q106	3A	R107	4D	R603	2E	RJ8	4D	C203	2B
Q107	5D	R108	4D	R605	2E	RJ9	5D	C204	3A
Q111	4F	R110	5E	R607	2F	RJ10	5D	C205	2B
Q112	4B	R111	4D	R608	2E	RJ11	4F	C206	2A
Q113	3B	R112	4D	R610	2F	RJ14	7C	C207	3B
Q114	3B	R113	4C	R612	3F	RJ15	7C	C208	2A
Q301	5A	R114	3D	R613	2F	RJ17	7C	C211	2B
Q302	5C	R117	4C	R614	2E	RJ18	7C	C212	2A
Q303	5B	R118	4C	R615	3F	RJ19	7D	C213	2C
Q304	5B	R119	4C	R616	3F	RJ20	7C	C214	2B
Q305	6B	R120	5C	R627	2F	RJ21	7D	C215	2C
Q306	6A	R121	4C	R628	3E	RJ23	8C	C216	2C
Q602	2F	R122	4C	R630	3F	RJ31	6D	C217	2B
Q603	2F	R123	4C	R631	2F	RJ32	6D	C218	2B
Q605	3F	R124	4C	R632	2F	RJ33	6E	C219	3C
Q606	3F	R125	3C	R633	2F	RJ34	6D	C220	2B
Q609	3E	R126	3C	R634	2E	RJ35	6D	C221	3B
Q701	4F	R127	7D	R635	2E	RJ36	6D	C222	2A
Q702	4F	R128	7C	R636	2F	RJ37	6D	C223	2B
Q703	4F	R129	4D	R637	2F	RJ38	6E	C239	2B
Q706	6F	R130	4D	R638	2E	RJ42	6D	C240	2B
Q709	6F	R131	4D	R701	6E	RJ43	6D	C303	5C
Q811	8D	R132	4D	R704	4F	RJ45	6D	C304	5B
Q812	7D	R133	3C	R705	4F	RJ46	6D	C305	5B
Q813	7D	R135	3B	R708	4F	RJ48	5E	C306	5B
Q814	7D	R137	5D	R709	2E	RJ49	5E	C307	5B
Q815	8E	R141	3A	R710	4F	RJ50	7E	C308	5A
Q816	7E	R145	4A	R711	6F	RJ51	7E	C309	5A
Q817	7E	R148	3B	R712	8C	RJ53	7C	C310	5A
Q818	7F	R149	3B	R718	8C	RJ54	8D	C311	5A
Q819	7F	R153	4C	R721	6F	RJ55	8D	C312	5C
Q822	8E	R154	3D	R727	4F	RJ56	8D	C323	5B
D301	5B	R157	4C	R728	4F	RJ57	7D	C601	2D
D601	2D	R158	3D	R729	4F	RJ59	6D	C603	2E
D602	2D	R159	4F	R734	6E	RJ60	6E	C604	2E
D609	1D	R160	5F	R738	5E	RJ61	6E	C606	2E
D610	3E	R165	3B	R739	6D	RJ62	6E	C607	3E
D611	3F	R166	3B	R740	4F	RJ63	6E	C608	2F
D612	2F	R167	4C	R741	4F	RJ64	6E	C609	2E
D613	1F	R168	4C	R742	4F	RJ65	6E	C611	2E
D705	5F	R169	3C	R743	4F	RJ66	6E	C613	2F
D706	6F	R170	3C	R744	4F	RJ67	6E	C614	2F
D707	4E	R171	6D	R745	5F	RJ69	5F	C615	2F
D708	4F	R172	3B	R746	5F	RJ70	6D	C616	3E
D709	4F	R173	3B	R747	5F	C101	4C	C617	3F
D710	3E	R174	3C	R748	6B	C102	4D	C618	2E
D715	4E	R176	6D	R749	6E	C105	5C	C701	6E
D801	8D	R177	5C	R806	6E	C106	4D	C702	3F
D802	7D	R178	5D	R807	6E	C107	4D	C705	6F
D803	8D	R179	3B	R808	3A	C108	4D	C706	5F
D804	8E	R207	2C	R809	6F	C109	4D	C707	6F
D805	7F	R208	2C	R810	3A	C110	4D	C712	2D
VR102	3B	R209	2B	R811	7D	C111	4D	C713	2D
VR103	3B	R210	2A	R812	7D	C112	4D	C714	2E
VR803	3A	R213	2C	R813	6F	C113	4C	C715	2E
L201	3B	R214	2A	R814	8D	C114	4D	C803	7D
L202	2A	R215	2B	R815	7D	C115	4C	C804	7E
L301	5B	R216	2B	R816	7D	C116	3D	C816	7D
L302	6B	R217	2B	R817	7E	C119	4C	C912	6B
L701	4F	R218	2A	R818	7E	C120	3D	C913	6A
L702	5E	R219	2B	R819	7E	C121	4D	C915	6A
X701	6E	R220	3C	R820	7D	C122	5D	C916	6A
S803	7E	R221	2B	R821	7E	C123	4D	C917	6A
S804	7E	R222	2B	R822	7F	C124	4C	C918	6B
JK601	2D	R223	3C	R823	8D	C125	4C		
E1	3B	R230	2A	R824	7F	C126	4C		
E2	3F	R301	5C	R825	7F	C127	4C		
CP102	5D	R302	5C	R827	8E	C128	4C		

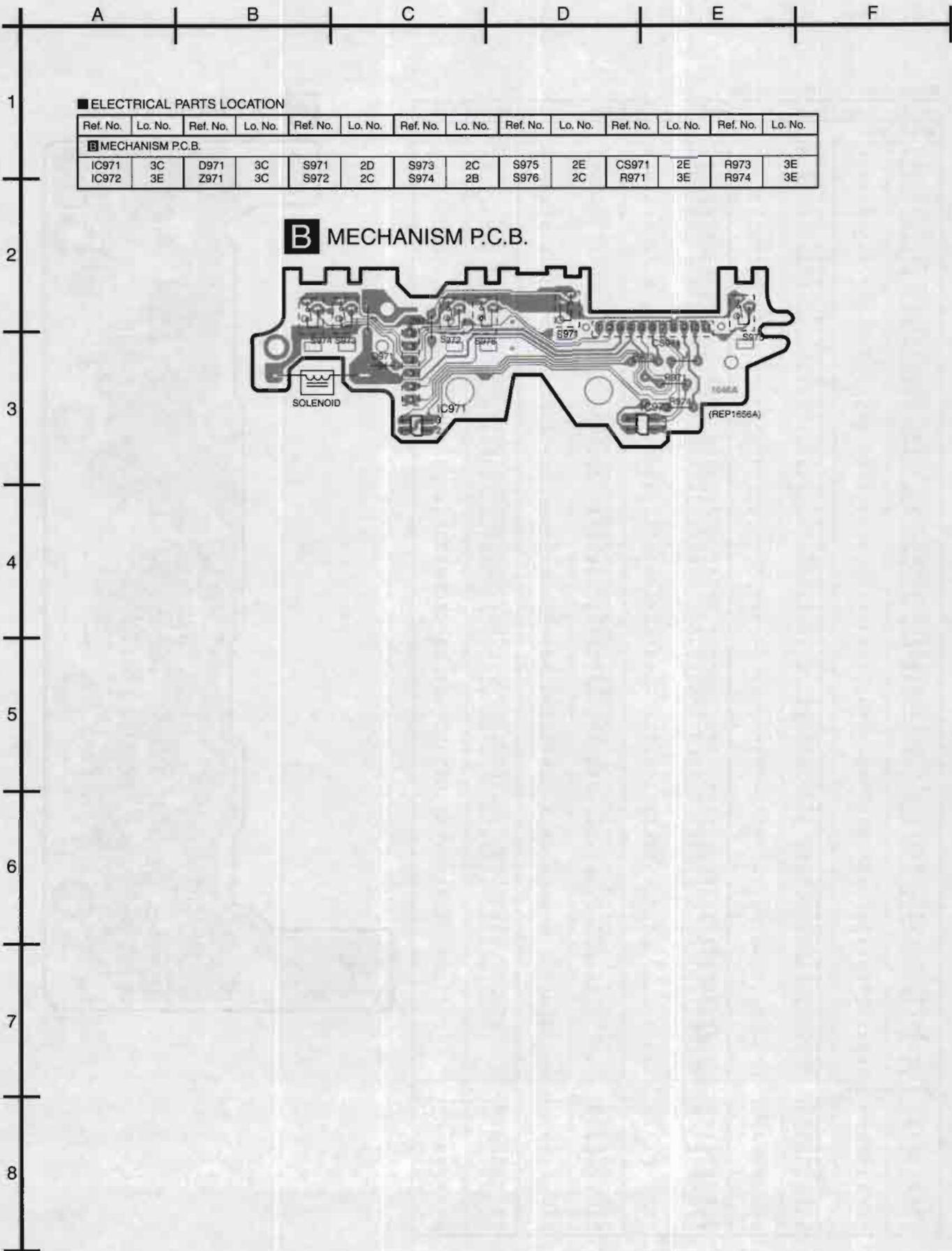
C OPERATION P.C.B.



REP2960AB-S1

C OPERATION P.C.B.

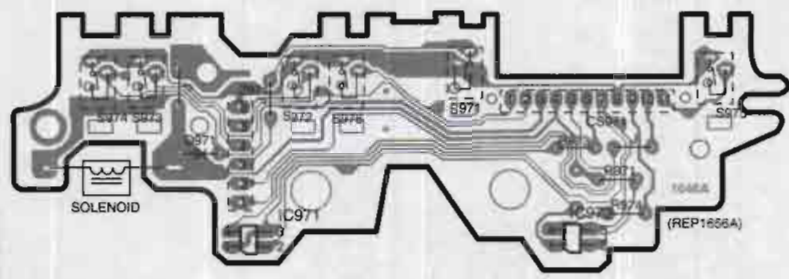
Q901	6L	D909	6L	S909	2K	R906	4L	R918	5K
Q902	6L	S900	6L	S910	2K	R907	2L	R919	6L
Q903	6K	S901	4L	S911	3L	R908	2L	R920	7K
Q904	5L	S902	5L	FW901	7K	R909	2L	R921	5K
Q905	6L	S903	7L	R900	5L	R910	2L	R924	6L
Q906	4K	S904	4L	R901	5L	R912	4K	R925	5L
D901	4K	S905	4K	R902	6L	R914	6L	R928	6L
D902	7L	S906	7J	R903	5L	R915	6L	R929	6L
D903	5L	S907	2L	R904	4L	R916	6L	R931	6L
D908	5L	S908	2L	R905	4L	R917	6L	R932	5L



■ ELECTRICAL PARTS LOCATION

Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.	Ref. No.	Lo. No.
■ MECHANISM P.C.B.													
IC971	3C	D971	3C	S971	2D	S973	2C	S975	2E	CS971	2E	R973	3E
IC972	3E	Z971	3C	S972	2C	S974	2B	S976	2C	R971	3E	R974	3E

B MECHANISM P.C.B.



11 Terminal Function of IC's

11.1. IC701(M37478M4458F): SYSTEM CONTROL

Pin No.	Mark	I/O Division	Function
1	NC	—	—
2	DATA IN	I	Serial data signal input terminal from system control IC
3	S-REQ	I	Serial request signal input terminal from system control IC
4	HSPD	O	Speed cont. (Q819) signal output terminal
5	SOL	O	Signal output terminal to solenoid drive (Q813)
6	CSOL	O	Signal output terminal to solenoid drive (Q814)
7	RECINH-SW	I	Deck forward side tape recording prevention tab detect switch signal input terminal
8	RPS	I	Deck reverse side reel rotation detect pulse signal input terminal
9	RPT	I	Deck forward side reel rotation detect pulse signal input terminal
10	AD-SW	I	Deck2 reel switch signal input terminal
11	ATS	I	Deck tape selector signal input terminal
12	—	—	—
13	KEY1	I	Key switch signal input terminal
14	—	—	—
15	VREF+5V	I	Reference voltage input terminal
16	NC	—	Not used, connected to GND
17	—	—	—
18	XIN	I	Crystal oscillator terminal(f=8 MHz)
19	XOUT	O	—
20	NC	—	Not used, connected to GND
21	AVss	—	GND terminal
22	Vss	—	GND terminal
23	Vcc	I	Power supply input terminal
24	NC	—	Not used, connected to GND
25	TPS	I	Signal input for tune presence det. in TPS operation
26	—	—	Not used, connected to GND
27	NC	—	Not used, connected to GND
28	RESET	I	Reset signal input terminal
29	NC	—	Not used, connected to GND
30	SYNC	I	Synchronizing signal output to ST-HD510/310
31 ~ 33	—	—	Connected to power supply through resistor
34	NC	—	—
35	ADATA	O	Serial data output terminal to IC101
36	ACLK	O	Serial clock output terminal to IC101
37	ALATCH	O	Latch signal output terminal to IC101
38	DMT	O	Muting signal output terminal to switching cont. (Q112)
39	PLAY/STOP	O	Signal output terminal to LED drive(Q903)
40	REVLED	O	Signal output terminal to LED drive(Q904)
41	FWDLED	O	Signal output terminal to LED drive(Q905)
42	RECLEL	O	Signal output terminal to LED drive(Q906) ("H": REC)
43	BLU-LED	O	Signal output terminal to LED drive (Q708) (Connected to GND through resistor)
44	NC	—	Not used, connected to LED drive
45	—	—	—

Pin No.	Mark	I/O Division	Function
46	CAP	O	Signal output terminal to capstan motor drive(Q815)
47	RMR	O	Signal output terminal to reel motot drive(IC801)
48	RMF	O	Signal output terminal to reel motor drive(IC801)
49	CLOSE-SW	I	Deck cassette holder "CLOSE" det. switch signal input terminal
50	NC	—	Not used, connected to GND
51	Vss	—	GND terminal
52	OPEN-SW	I	Deck cassette holder "OPEN" det. switch signal input terminal
53	CS	I	Serial finish signal input terminal from system control IC
54	CLK	O	Serial clock signal output terminal to system control IC
55	DATA OUT	O	Serial data output terminal to system control IC
56	NC	—	Not used, connected to GND

12 Replacement Parts List

Notes: *Important safety notice:

Components identified by Δ 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 manufacture's specified parts shown in the parts list.

*Capacity values are in microfarads(F) unless specified otherwise, P=Pico-farads(pF) F=Farade(F)

*Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM), 1M=1,000k(OHM)

*The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RHD30007-S	SCREW	4	
2	RKM0412A-N	CABINET	1	
3	XTBS3+10JFZ1	SCREW	2	
4	REX0904	SYSTEM CONNECT. ASS'Y (19P)	1 (310)	
4	REX0949	SYSTEM CONNECT. ASS'Y (19P)	1 (710)	
5	RHD30069	SCREW	2	
6	RKA0114-K	FOOT	4	
6-1	RKA0083-K	CUSHION	4	
8	RGG0176-N	AL PANEL	1 (310)	
8	RGG0176A-N	AL PANEL	1 (710)	
9	RGK1228-N	CASSETTE LID	1	
10	RGL0485-Q	REC INDICATOR	1	
11	RGF0777-N	SUB PANEL	1	
12	RGU1844-N	REC BUTTON	1	
13	RGU1842-N	PLAY BUTTON	1 (310)	
13	RGU1858-N	PLAY BUTTON	1 (710)	
14	RMB0640	SPRING	1	
15	XTBS26+8J	SCREW	8	
16	XTBS3+8JFZ1	SCREW	6	
17	XTB3+12JFZ	SCREW	4	
18	XTB3+5JFZ	SCREW	4	
19	XTW2+6S	SCREW	2	
20	RGL0482-Q	PLAY INDICATOR(F)	1 (310)	
21	RGL0484-Q	PLAY INDICATOR(R)	1 (310)	
101	RXP0045-2	FLYWHEEL(F) ASS'Y	1	
101-1	RMQ0420	WASHER	1	
102	RXP0048-1	FLYWHEEL(R) ASS'Y	1	
102-1	RMQ0421	WASHER	1	
103	RML0272	SWITCH LEVER	1	
104	RXQ0265-2	HEAD P.C.B. ASS'Y	1	
104-1	RMB0266-1	FWD/REV ROD SPRING	1	
104-2	RXM0036	FWD/REV ROD	1	
106	RFKRSTR979	HEAD BLOCK ASS'Y (REC/P.B)	1	
106-1	RHD17015	AZIMUTH SCREW	2	
106-2	RMB0352-1	HEAD HOLD SPRING	1	
106-3	RMQ0360A	CONNECTOR HOLDER	1	
107	RDV108ZA	BELT	1	
108	RDK0019A-1J	MAIN GEAR	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
109	RMB0261	HEAD P.C.B. RETURN SPRING	1	
110	RMB0262	BRAKE ROD RETURN SPRING	1	
111	RMB0263	SPRING (F)	1	
112	RMB0264	SPRING (R)	1	
113	RUW1472A	TRIGGER LEVER SPRING	1	
114	RML0267A	TRIGGER LEVER	1	
115	RML0268A-2	FWD/REV LEVER	1	
116	RMM0091A	BRAKE ROD	1	
117	RMS0398-1	MOVING IRON CORE	1	
118	RSJ0003	SOLENOID	1	
119	RUS6092C	CASSETTE HOLD SPRING	1	
120	RXG0036	REEL TABLE GEAR	2	
121	RXL0106	IDLE GEAR	1	
122	RXP0052	PINCH ROLLER(F) ASS'Y	1	
122-1	RMB0259	PINCH ROLLER(F) SPRING	1	
123	RXP0053	PINCH ROLLER(R) ASS'Y	1	
123-1	RMB0260	PINCH ROLLER(R) SPRING	1	
124	RDG0206A-1	LOADING GEAR	1	
125	RDG0209A	INTERMEDIATE GEAR	1	
126	REM0036-1	CAPSTAN MOTOR ASS'Y	1	
127	REM0043	REEL MOTOR ASS'Y	1	
128	RHD26013	SCREW	4	
129	RMQ0537	DRIVE GEAR	1	
130	RMQ0314A	SPACER	1	
131	RXG0037	FRICITION GEAR ASS'Y	1	
132	RMQ0536	DRIVE RACK	1	
133	RYF0334B-K3	CASSETTE HOLDER ASS'Y	1	
133-1	RMC0310	CASSETTE HOLD SPRING	2	
133-2	RMB0397-1	HOLDER SPRING	1	
134	RFKJSCH404AK	SUB CHASSIS ASS'Y	1	
135	RFKJSCH404BK	MAIN CHASSIS ASS'Y	1	
136	XTW26+6L	SCREW	2	
137	RMB0268	HOLDER HOOK SPRING	1	
138	RML0271A	HOLDER HOOK LEVER	1	
139	XTW2+6S	SCREW	2	
140	RXR0018	REEL TABLE	2	
141	XTW2+5L	SCREW	2	
142	XTW26+12S	SCREW	2	
C101,02	ECUV1H221KBN	50V 220P	2	
C105,06	ECEA1EKS4R7	25V 4.7U	2	
C107,08	ECEA0JKS470	6.3V 470	2	
C109,10	ECUV1H561KBN	50V 560P	2	
C111,12	ECUV1E183KBN	25V 0.018U	2	
C113,14	ECUV1H331KBN	50V 330P	2	
C115,16	ECEA1EKS4R7	25V 4.7U	2	
C119,20	ECEA1EKS4R7	25V 4.7U	2	
C121	ECEA1HKS33	50V 0.33U	1	
C122	ECUV1E223KBN	25V 0.0220	1	
C123	ECUV1E153KBN	25V 0.015U	1	
C124	ECUVNE1042FN	25V 0.1U	1	
C125	ECEA1AKS220	10V 22U	1	
C126	RCE1AKA101BG	10V 100U	1	
C127	ECEA1LCKS100	16V 10U	1	
C128	ECEA0JKS470	6.3V 47U	1	
C130-32	ECUV1H331KBN	50V 330P	3	
C133	ECEA1HKS010	50V 1U	1	
C134	RCE1HKA3R3BG	50V 3.3U	1	
C141	ECUV1H471KBN	50V 470P	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C144	ECUV1H471KBN	50V 470P	1	
C145,46	ECUV1H332KBN	50V 3300P	2	
C150	ECUVNE104ZFN	25V 0.1U	1	
C203,04	ECEA1EKS4R7	25V 4.7U	2	
C205,06	ECEA1HKS010	50V 1U	2	
C207,08	ECUV1H820JCN	50V 82P	2	
C211,12	ECUV1H152KBN	50V 1500P	2	
C213,14	ECEA1EKS4R7	25V 4.7U	2	
C215,16	ECEA1CKS100	16V 10U	2	
C217,18	ECEA1HKS0R1	50V 0.1U	2	
C219	ECEA1CKS101	16V 100U	1	
C220	ECA1AM471	10V 470U	1	
C221,22	ECEA1HKA68B	50V 0.68U	2	
C223	ECEA1CKS100	16V 10U	1	
C239,40	ECUV1H681KBN	50V 680P	2	
C303	ECQP2A472JZT	100V 4700P	1	
C304	RCE1AKA101BG	10V 100U	1	
C305	ECEA1HKS0R1	50V 0.1U	1	
C306	ECQB1H393JF3	50V 0.039U	1	
C307	ECUV1H102KBN	50V 1000P	1	
C308	ECUV1H332KBN	50V 3300P	1	
C309	ECEA0JKS470	6.3V 47U	1	
C310,11	ECUV1E333KBN	25V 0.033U	2	
C312	ECEA1HSN2R2	50V 2.2U	1	
C323	ECUV1H102KBN	50V 1000P	1	
C601	ECUVNE104ZFN	25V 0.1U	1	
C603	ECA1EM222	25V 2200U	1	
C604	ECA1EM472	25V 1000U	1	
C606	ECUVNE104ZFN	25V 0.1U	1	
C607	ECA1AM471	16V 470U	1	
C608	RCE1AKA101BG	10V 100U	1	
C609	ECUV1H103KBN	50V 0.01U	1	
C611	ECEA1HKS010	50V 1U	1	
C613	RCE1AKA470BG	10V 47U	1	
C614,15	ECUV1H103KBN	50V 0.01U	2	
C616,17	ECUV1H102KBN	50V 1000P	2	
C618	RCE1HKA3R3BG	50V 3.3U	1	
C701	ECUVNE104ZFN	25V 0.1U	1	
C702	ECEA0JKS101	6.3V 100U	1	
C705	ECUVNE104ZFN	25V 0.1U	1	
C706	ECST0JY335RR	6.3V 3.3U	1	
C707	ECUV1H103KBN	50V 0.01U	1	
C712-15	ECUV1H101KCN	50V 100P	4	
C803	ECST1A475RR	10V 4.7U	1	
C804	ECUV1H103KBN	50V 0.01U	1	
C816	ECUVNE104ZFN	25V 0.1U	1	
C912,13	ECUV1H101KCN	50V 100P	2	
C915-17	ECUV1H101KCN	50V 100P	3	
C918	ECUV1H221KBN	50V 220P	1	
CP102	RJS2A0205-2S	CONNECTOR (5P)	1	
CP305	RJR0113	CONNECTOR (4P)	1	
CP901A,1B	RJS1A6604	CONNECTOR (4P)	2	
CP902	RJT071K11A	CONNECTOR (11P)	1	
CS971	RJU071H11M	CONNECTOR (11P)	1	
D301	MA111TX	DIODE	1	
D601,02	RL1N4003N02	DIODE	2	
D609	MA723TA	DIODE	1	
D610	MTZJ10B	DIODE	1	△
D611	MTZJ9R1C	DIODE	1	△
D612	MTZJ5R6B	DIODE	1	△
D613	MA723TA	DIODE	1	
D705	MA8039H	DIODE	1	
D706	MA111TX	DIODE	1	
D707	MTZJ5R1B	DIODE	1	
D708-10	MA111TX	DIODE	3	
D715	MA728TX	DIODE	1	
D801	MA112TX	DIODE	1	
D802	MA704ATX	DIODE	1	
D803	MA111TX	DIODE	1	
D804	MA8047M	DIODE	1	
D805	RL1N4003N02	DIODE	1	
D901	LNJ201LPQJA	LED	1	

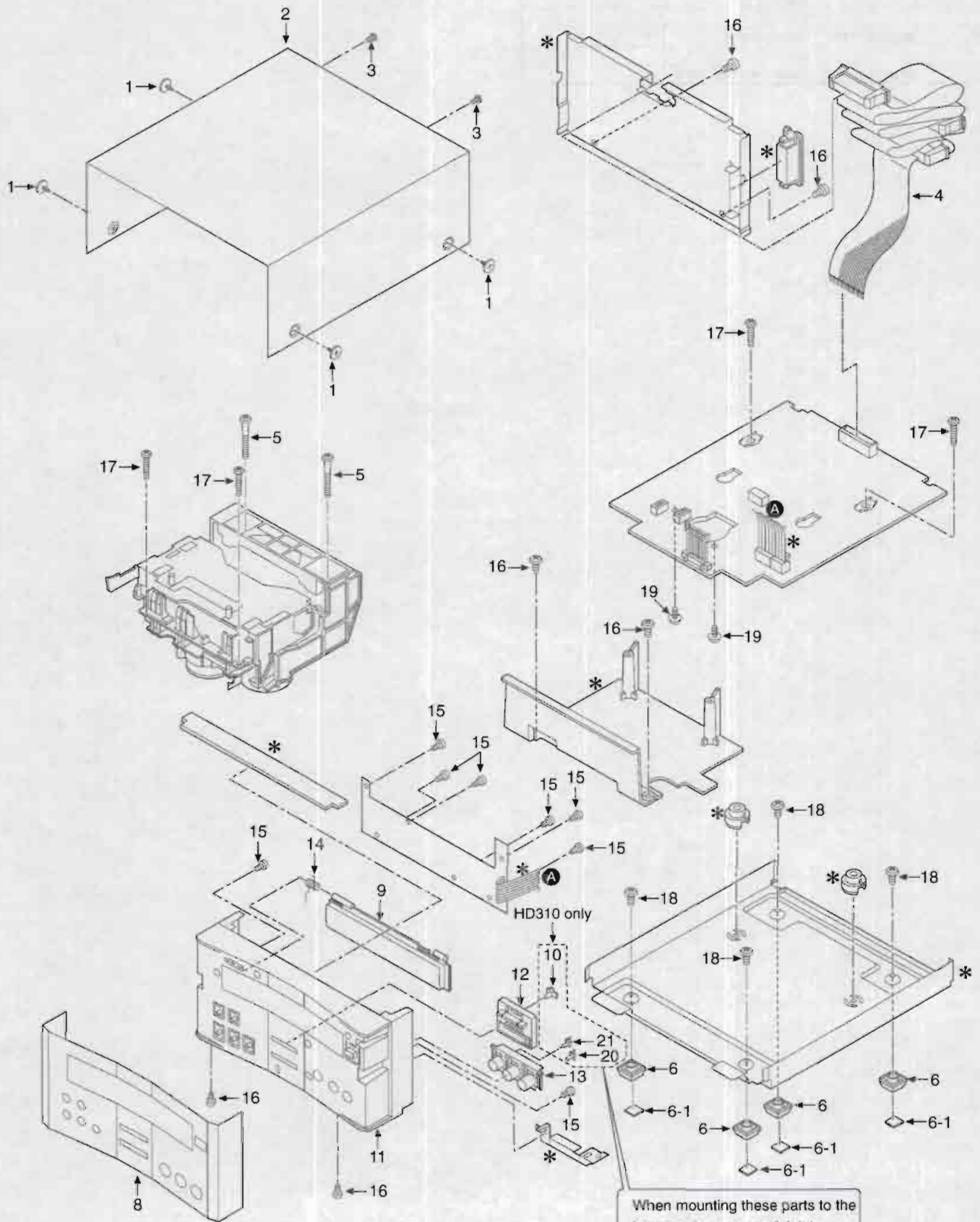
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
D902,03	SML79420C	LED	2	
D908,09	MA111TX	DIODE	2	
D971	RVD1SS133TA	DIODE	1	
DECK1	RAA2613	DECK MECHA. ASS'Y	1	
IC101	A1898QT6BC	IC	1	
IC103	BA7755AF	IC	1	
IC201	CXA1552M-T4	IC	1	
IC701	M37478M4458F	IC	1	
IC801	BA6418N	IC	1	
IC971,72	RVSGP2S24BC	IC	2	
JK601	RJS2A5519-1	SYSTEM CONNEC TOR (19P)	1	
L201,02	SLQX303-1KT	COIL	2	
L301	RL08C006M-T	COIL	1	
L302	RLQZB470KT-D	COIL	1	
L701	RLQA100JT-Y	COIL	1	
L702	RLQZP1R0KT-Y	COIL	1	
P2	RPG4717	PACKING CASE (AMPLIFIER)	1	
P3	RPN1265	CUSHION	1	
P6	SPP740-1	PROTECTION BAG (AMPLIFIER)	1	
PCB1	REP2960AA-S	MAIN P.C.B. ASS'Y	1	(RTL)
PCB2	REP2960AB-S	PANEL P.C.B. ASS'Y	1	(RTL)
PCB3	REP1656A	MECHA. SW. P.C.B. ASS'Y	1	(RTL)
Q101-06	2SJ163PQRTX	TRANSISTOR	6	
Q107	DTA114EUT106	TRANSISTOR	1	
Q111	2SD601ATX	TRANSISTOR	1	
Q112	DTA114EUT106	TRANSISTOR	1	
Q113,14	2SD1328QRSTX	TRANSISTOR	2	
Q301	2SD601A	TRANSISTOR	1	
Q302	2SD1328QRSTX	TRANSISTOR	1	
Q303,04	2SD874QRSTX	TRANSISTOR	2	
Q305,06	DTC144EUT106	TRANSISTOR	2	
Q602	2SD2137PQTA	TRANSISTOR	1	△
Q603	2SD1862QRTV6	TRANSISTOR	1	△
Q605	2SD2137PQTA	TRANSISTOR	1	△
Q606	2SD601ATX	TRANSISTOR	1	
Q609	2SD2137PQTA	TRANSISTOR	1	△
Q701-03	2SD601ATX	TRANSISTOR	3	
Q706	UN5214TX	TRANSISTOR	1	
Q709	2SD601ATX	TRANSISTOR	1	
Q811,12	2SA1797QT101	TRANSISTOR	2	
Q813-15	DTC114EUT106	TRANSISTOR	3	
Q816	2SA1797QT101	TRANSISTOR	1	
Q817	2SD874QRSTX	TRANSISTOR	1	
Q818	2SA1797QT101	TRANSISTOR	1	
Q819	DTC114EUT106	TRANSISTOR	1	
Q822	2SD601ATX	TRANSISTOR	1	
Q901,02	DTA114EUT106	TRANSISTOR	2	
Q903	DTC143ZUA106	TRANSISTOR	1	
Q904-06	DTC114EUT106	TRANSISTOR	3	
R101,02	ERJ6GEYJ682V	1/10W 6.8K	2	
R103,04	ERJ6GEYJ104V	1/10W 100K	2	
R105,06	ERJ6GEYJ102V	1/10W 1K	2	
R107,08	ERJ6GEYJ820V	1/10W 82	2	
R110	ERJ6GEYJ334V	1/10W 330K	1	
R111,12	ERJ6GEYJ101V	1/10W 100	2	
R113,14	ERJ6GEYJ103V	1/10W 10K	2	
R117	ERJ6GEYJ123V	1/10W 12K	1	
R118	ERJ6GEYJ102V	1/10W 1K	1	
R119,20	ERJ6GEYJ330V	1/10W 33	2	
R121,22	ERJ6GEYJ225V	1/10W 2.2M	2	
R123-26	ERJ6GEYJ104V	1/10W 100K	4	
R127,28	ERJ6GEYJ222V	1/10W 2.2K	2	
R129	ERJ6GEYJ333V	1/10W 33K	1	
R130	ERJ6GEYJ273V	1/10W 27K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R131	ERJ6GEYJ562V	1/10W 5.6K	1	
R132	ERJ6GEYJ104V	1/10W 100K	1	
R133	ERJ6GEYJ103V	1/10W 10K	1	
R135	ERJ6GEYJ334V	1/10W 330K	1	
R137	ERJ6GEYJ334V	1/10W 330K	1	
R141	ERJ6GEYJ103V	1/10W 10K	1	
R145	ERJ6GEYJ183V	1/10W 18K	1	
R148,49	ERJ6GEYJ562V	1/10W 5.6K	2	
R153,54	ERJ6GEYJ102V	1/10W 1K	2	
R157,58	ERJ6GEYJ223V	1/10W 22K	2	
R159	ERJ6GEYJ104V	1/10W 100K	1	
R160	ERJ6GEYJ103V	1/10W 10K	1	
R165,66	ERJ6GEYJ104V	1/10W 100K	2	
R167-69	ERJ6GEYJ222V	1/10W 2.2K	3	
R170	ERJ6GEYJ472V	1/10W 4.7K	1	
R171	ERJ6GEYJ682V	1/10W 6.8K	1	
R172,73	ERJ6GEYJ122V	1/10W 1.2K	2	
R174	ERJ6GEYJ103V	1/10W 10K	1	
R176	ERJ6GEYJ392V	1/10W 3.9K	1	
R177	ERJ6GEYJ273V	1/10W 27K	1	
R178,79	ERJ6GEYJ334V	1/10W 330K	2	
R207,08	ERJ6GEYJ104V	1/10W 100K	2	
R209,10	ERJ6GEYJ102V	1/10W 1K	2	
R213,14	ERJ6GEYJ392V	1/10W 3.9K	2	
R215,16	ERJ6GEYJ153V	1/10W 15K	2	
R217,18	ERJ6GEYJ222V	1/10W 2.2K	2	
R219	ERJ6GEYJ183V	1/10W 18K	1	
R220	ERJ6GEYJ220	1/10W 22	1	
R221,22	ERJ6GEYJ221V	1/10W 220	2	
R223	ERJ6GEYJ220	1/10W 22	1	
R230	ERJ6GEYJ103V	1/10W 10K	1	
R301	ERJ6GEYJ103V	1/10W 10K	1	
R302	ERJ6GEYJ182V	1/10W 1.8K	1	
R303	ERJ6GEYJ682V	1/10W 6.8K	1	
R304	ERJ6GEYJ223V	1/10W 22K	1	
R305	ERJ6GEYJ103V	1/10W 10K	1	
R306	ERJ6GEYJ223V	1/10W 22K	1	
R307	ERDS1FJ2R2	1/2W 2.2	1	△
R308	ERJ6GEYJ102V	1/10W 1K	1	
R309-11	ERJ6GEYJ472V	1/10W 4.7K	3	
R313	ERJ6GEYJ1R0V	1/10W 1	1	
R603	ERJ6GEYJ820V	1/10W 82	1	
R605	ERD2FCJ4R7	1/4W 4.7	1	△
R607	ERD2FCG100	1/4W 10	1	△
R608	ERJ6GEYJ5R6V	1/10W 5.6	1	
R610	ERJ6GEYJ471V	1/10W 470	1	
R612,13	ERJ6GEYJ1R0V	1/10W 1	2	
R614	ERJ6GEYJ102V	1/10W 1K	1	
R615	ERJ6GEYJ332V	1/10W 3.3K	1	
R616	ERJ6GEYJ103V	1/10W 10K	1	
R627,28	ERJ6GEYJ1R0V	1/10W 1	2	
R630	ERDS2FJ1R0	1/4W 1	1	
R631	ERJ6GEYJ181V	1/10W 180	1	
R632,33	ERJ6GEYJ471V	1/10W 470	2	
R634,35	ERJ6GEYJ820V	1/10W 82	2	
R636,37	ERJ6GEYJ181V	1/10W 180	2	
R638	ERJ6GEYJ102V	1/10W 1K	1	
R701	ERJ6GEYJ103V	1/10W 10K	1	
R704	ERJ6GEYJ472V	1/10W 4.7K	1	
R705	ERJ6GEYJ473V	1/10W 47K	1	
R708	ERJ6GEYJ472V	1/10W 4.7K	1	
R709	ERJ6GEYJ101V	1/10W 100	1	
R710	ERJ6GEYJ102V	1/10W 1K	1	
R711	ERJ6GEYJ104V	1/10W 100K	1	
R712	ERJ6GEYJ683V	1/10W 68K	1	
R718	ERJ6GEYJ683V	1/10W 68K	1	
R721	ERJ6GEYJ103V	1/10W 10K	1	
R727	ERJ6GEYJ472V	1/10W 4.7K	1	
R728	ERJ6GEYJ103V	1/10W 10K	1	
R729	ERJ6GEYJ472V	1/10W 4.7K	1	
R734	ERJ6GEYJ103V	1/10W 10K	1	
R738	ERJ6GEYJ103V	1/10W 10K	1	
R739	ERJ6GEYJ272V	1/10W 2.7K	1	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R740	ERJ6GEYJ473V	1/10W 47K	1	
R741	ERJ6GEYJ223V	1/10W 22K	1	
R742	ERJ6GEYJ103V	1/10W 10K	1	
R743	ERJ6GEYJ473V	1/10W 47K	1	
R744	ERJ6GEYJ102V	1/10W 1K	1	
R745	ERJ6GEYJ331V	1/10W 330	1	
R746,47	ERJ6GEYJ472V	1/10W 4.7K	2	
R748,49	ERJ6GEYJ103V	1/10W 10K	2	
R806,07	ERJ6GEYJ103V	1/10W 10K	2	
R808	ERJ6GEYJ392V	1/10W 3.9K	1	
R809,10	ERJ6GEYJ103V	1/10W 10K	2	
R811	ERJ6GEYJ223V	1/10W 22K	1	
R812	ERJ6GEYJ102V	1/10W 1K	1	
R813	ERJ6GEYJ103V	1/10W 10K	1	
R814	ERJ6GEYJ223V	1/10W 22K	1	
R815	ERJ6GEYJ821V	1/10W 820	1	
R816	ERJ6GEYJ472V	1/10W 4.7K	1	
R817	ERJ6GEYJ223V	1/10W 22K	1	
R818,19	ERJ6GEYJ821V	1/10W 820	2	
R820	ERDS2FJ2R2	1/4W 2.2	1	
R821	ERJ6GEYJ101V	1/10W 100	1	
R822	ERJ6GEYJ1R0V	1/10W 1	1	
R823	ERJ6GEYJ4R7V	1/10W 4.7	1	
R824	ERJ6GEYJ223V	1/10W 22K	1	
R825	ERJ6GEYJ102V	1/10W 1K	1	
R827	ERJ6GEYJ222V	1/10W 2.2K	1	
R828	ERJ6GEYJ332V	1/10W 3.3K	1	
R830,31	ERJ6GEYJ4R7V	1/10W 4.7	2	
R900	ERJ6GEYJ821V	1/10W 820	1	
R901	ERJ6GEYJ102V	1/10W 1K	1	
R902	ERJ6GEYJ122V	1/10W 1.2K	1	
R903	ERJ6GEYJ152V	1/10W 1.5K	1	
R904	ERJ6GEYJ182V	1/10W 1.8K	1	
R905	ERJ6GEYJ222V	1/10W 2.2K	1	
R906	ERJ6GEYJ332V	1/10W 3.3K	1	
R907	ERJ6GEYJ472V	1/10W 4.7K	1	
R908	ERJ6GEYJ682V	1/10W 6.8K	1	
R909	ERJ6GEYJ123V	1/10W 12K	1	
R910	ERJ6GEYJ223V	1/10W 22K	1	
R912	ERJ6GEYJ102V	1/10W 1K	1	
R914	ERJ6GEYJ181V	1/10W 180	1	
R915	ERJ6GEYJ101V	1/10W 100	1	
R916	ERJ6GEYJ181V	1/10W 180	1	
R917	ERJ6GEYJ101V	1/10W 100	1	
R918-21	ERJ6GEYJ102V	1/10W 1K	4	
R924,25	ERJ6GEYJ101V	1/10W 100	2	
R928	ERJ6GEYJ181V	1/10W 180	1	
R929	ERJ6GEYJ101V	1/10W 100	1	
R931	ERJ6GEYJ181V	1/10W 180	1	
R932	ERJ6GEYJ101V	1/10W 100	1	
R971	ERDS2FJ221	1/4W 220	1	
R973,74	ERDS2FJ393	1/4W 39K	2	
RJ1-11	ERJ6GEYOR00	1/10W 0	11	
RJ14,15	ERJ6GEYOR00	1/10W 0	2	
RJ17-21	ERJ6GEYOR00	1/10W 0	5	
RJ23	ERJ6GEYOR00	1/10W 0	1	
RJ31-38	ERJ6GEYOR00	1/10W 0	8	
RJ42,43	ERJ6GEYOR00	1/10W 0	2	
RJ45,46	ERJ6GEYOR00	1/10W 0	2	
RJ48-51	ERJ6GEYOR00	1/10W 0	4	
RJ53-57	ERJ6GEYOR00	1/10W 0	5	
RJ59-67	ERJ6GEYOR00	1/10W 0	9	
RJ69,70	ERJ6GEYOR00	1/10W 0	2	
S803,04	RSH1A024-U	SW, OPEN/CLOSE DET.	2	
S900-11	EVQ11G05R	SW, PUSH	12	
S971	RSH1A018-3U	SW, MODE	1	
S972-76	RSH1A019-2U	SW, HALF/ATS/ REC. INH	5	
VR102,03	EVNDXAA00B24	V. R., P. B. GAIN ADJ.	2	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
VR803	EVNDXAA00B53	V.R., TAPE SPEED ADJ.	1	
X701	EF0EC8004T4	OSCILLATOR	1	
Z971	EXBF6L306SYV	COMBINATION PART	1	

13 Cabinet Parts Location



When mounting these parts to the buttons, be sure to stick it by either hot deposition or bonding.

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

14 Mechanism Parts Location

Note: When changing loading mechanism parts, apply the specified grease to the areas marked "x" as shown in the drawing.

Ref.no.	Part No.
①	SZZOL18
②	RZZOL02
③	RZZOL05

